

Initial Environmental Examination

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IND: West Bengal Drinking Water Sector
Improvement Project – Water Distribution Systems
for Haroa Block, North 24 Parganas (OHSRs – Zone
01,12,15,17,18; Pipeline – Zone
01,04,05,06,12,13,14,15,16,17,18,21)

Package No: WBDWSIP/DWW/N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

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CURRENCY EQUIVALENTS

(as of 11 July 2018)

Currency Unit	–	Indian rupee (₹)
₹1.00	–	\$0.014
\$1.00	=	₹68.691

ABBREVIATIONS

ADB	–	Asian Development Bank
DSISC	–	design, supervision and institutional support consultant
EAC	–	expert appraisal committee
EHS	–	environmental health and safety
EIA	–	environmental impact assessment
EMP	–	environmental management plan
GESI	–	gender equality and social inclusion
GRM	–	grievance redress mechanism
GOWB	–	Government of West Bengal
HSGO	–	head, safeguards and gender officer
IEE	–	initial environmental examination
O&M	–	operation and maintenance
OHS	–	occupational health and safety
OHR	–	overhead reservoir
MoEFCC	–	Ministry of Environment, Forest and Climate Change
WBPCB	–	West Bengal Pollution Control Board
NOC	–	No Objection Certificate
PHED	–	Public Health Engineering Department
PIU	–	project implementation unit
PMC	–	Project Management Consultant
PMU	–	project management unit
PPTA	–	project preparatory technical assistance
REA	–	rapid environmental assessment
ROW	–	right-of-way
SEMP	–	site specific environmental management plan
SGC	–	safeguards and gender cell
SPS	–	Safeguard Policy Statement
WHO	–	World Health Organization
WBDWSIP	–	West Bengal Drinking Water Sector Improvement Project

WEIGHTS AND MEASURES

dia	diameter
°C	degree Celsius
g/km	gram per kilometer
g/kmhr	gram per kilometer per hour
kl	kiloliter
km	kilometer
kph	kilometer per hour
lpcd	liter per capita per day
msl	mean sea level
m	meter
mbgl	meter below ground level
µg/m ³	microgram per cubic meter

mg/l	milligrams per liter
mm	millimeter
ppb	parts per billion
ppm	parts per million
km ²	square kilometer

NOTE

In this report, "\$" refers to United States dollars.

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EXECUTIVE SUMMARY

The proposed West Bengal Drinking Water Sector Improvement Project (WBDWSIP) aims to provide safe, reliable and continuous drinking water as per Government of India's standard to about 2.6 million people in the Arsenic, Fluoride, and salinity affected selected areas of North 24 Parganas, South 24 Parganas, East Medinipur and Bankura districts of West Bengal. The Project will adopt a sector approach, and subprojects will be selected and proposed for funding adhering to the agreed Subproject Selection Criteria. Project districts are North 24 Parganas (with two blocks of South 24 Parganas included for distribution network), Bankura and East Medinipur, and subprojects to be covered under the Project will be within these districts only unless otherwise agreed with ADB. Subprojects proposed under the Project stem from a district-wide comprehensive water quality and sustainability planning and completion of the Drinking Water Quality Action Plan (DWQAP) for the concerned district. WBDWSIP will be implemented over a six-year period, 2018-2024.

The Subproject. Provision of water supply distribution system in arsenic (groundwater) affected blocks of Haroa in North 24 Parganas is taken up in this subproject under the WBDWSIP. A parallel subproject, implemented under WBDWSIP, will provide bulk water supply (treated water) to this subproject for further distribution to the households in the project area. Project blocks are located in the eastern side of Kolkata city. Subproject includes the following civil works components: (i) construction of 21 overhead reservoirs (OHRs) covering 21 zones in Haroa; (ii) laying of 851 kilometers (km) distribution network in 21 zones, and (iii) provision of 60,000 household water connections with water meters.

Project implementation arrangements. Public Health Engineering Department (PHED) of Government of West Bengal (GOWB) is the executing and implementing agency for the WBDWSIP. Project Management Unit (PMU) exclusively established in PHED for the WBDWSIP is implementing the project. PMU is assisted by district level Project Implementation Units. Safeguard and Gender Cell (SGC) in the PMU is responsible for safeguards compliance. Project Management Consultant and Project Implementation Unit (PIU)-wise design, supervision and institutional support consultant (DSISC) are assisting PMU and PIUs in implementation and management of the project.

Screening and Assessment of Potential Impacts. ADB requires the consideration of environmental issues in all aspects of the Bank's operations, and the requirements for environmental assessment are described in ADB's Safeguard Policy Statement (SPS), 2009. As per the Government of India, Environmental Impact Assessment (EIA) Notification, 2006, this subproject does not require EIA study or environmental clearance. The potential environmental impacts of the subproject have been assessed using ADB's rapid environmental assessment checklist for Water Supply. The potential negative impacts were identified in relation to pre- construction, construction and operation. **It should be noted that this IEE document has been updated for only the zones where construction has commenced by 30th Nov 2019 in the Haroa Block of North 24-Parganas, these zones are detailed in Sec. II F of this report.**

Categorization. Based on results of the assessment and ADB SPS, the subproject is classified as environmental Category B, i.e., the subproject is judged to be unlikely to have significant adverse environmental impacts. An initial environmental examination is required.

Description of the Environment. The subproject components are located in Haroa block in North 24 Parganas, in the Ganga- Brahmaputra River Delta. 24 Parganas district was a single district before it was bifurcated into two districts – North 24 Parganas and south 24 Parganas in 1986. Topography of this district is plain, gently sloping and altitude ranges from 1 meter (m) to 14 m above mean sea level (MSL). North 24 Parganas district is divided into 22 community development blocks respectively, of which subproject cover 1 block. Being a deltaic district, major physiographic units are: natural levee areas, swamps area and older flood plain. Climate is humid and subtropical, characterized by a hot and dry summer from March to May/June, a south-west monsoon season from June to September, a pleasant post-monsoon from October to November and a cool winter from December to February. Project area is blessed with plenty of water bodies – rivers, streams and ponds, etc. Almost all blocks of North 24 Parganas effected with arsenic contamination in groundwater. Districts are home to environmental sensitive areas like Sundarbans Biosphere Reserve (SBR) and East Kolkata Wetland; however, none of the components are located in or close to these. Small part of Haroa block is in the outer transitional zone of SBR. A No Objection Certificate (NOC) has been obtained from the competent authority. OHR sites are located in small land parcels (~25m x 25m) - one in each zone and pipes (distribution system) will be laid along the public roads. Based on the land availability, OHRs sites are selected in existing PHED premises, or other government land parcels, and in cases where there is no government land, private land parcels are selected. Project sites are mostly located in rural habitations, some of which are densely populated. Sites are mostly vacant or under agricultural use (privatelands), and covered with few trees; measures are suggested to minimize, and conduct compensatory tree plantation at a ratio of 1:5. Overall, there are no notable sensitive environmental features in the project sites. **This IEE has been updated with respect to land availability status as of 30th November 2019. As per present status, OHR location for zone 21 has been shifted from original proposal.**

Potential Environmental Impacts. The subproject is unlikely to cause significant adverse impacts because: (i) the components will involve straightforward construction and operation, so impacts will be mainly localized; (ii) there are no notable sensitive environmental features in the project sites and (iii) predicted impacts are site-specific and likely to be associated with the construction process and are produced because the process is invasive, involving excavation and earth movements. The main design impacts of water supply system in general are due to abstraction of water. This subproject includes only provision of distribution system, and does not include source development or water abstraction or treatment. Treated water for the subproject will be provided from bulk water supply system that is being developed under a parallel subproject, and the environmental impacts of which are assessed through another initial environmental examination (IEE).

Construction activities have been confined to the selected sites, and the interference with the general public and community around is minimal. There will be temporary negative impacts, arising mainly from construction dust and noise, hauling of construction material, waste and equipment on local roads (traffic, dust, safety etc.), mining of construction material, occupation health and safety aspects. During the construction phase of pipeline work along the public roads, impacts arise from the construction dust and noise; from the disturbance of residents, businesses, traffic by the construction work, and from the need to dispose of large quantities of waste soil. The social impacts (access disruptions) due to construction activities are minimal.

Anticipated impacts of water distribution system during operation and maintenance (O&M) will be related to detection and repair of leaks, pipe bursts. These are, however, likely to be minimal, as proper design and selection of good quality pipe material shall mean that leaks are minimal. Leak repair work will be similar to the pipe-laying work. Therefore, no notable operation phase impacts are anticipated from the subproject.

Environmental Management Plan. An environmental management plan (EMP) has been developed to provide mitigation measures to reduce all negative impacts to acceptable levels. Locations and siting of the proposed infrastructures were considered to further reduce impacts.

The EMP includes design and location related measures such as (i) minimizing tree cutting at OHR sites by proper planning; (ii) avoiding any disturbance / encroachment into ponds, water bodies at OHR sites; (iii) energy efficient pumping system, and (iv) noise controls. During construction, the EMP includes mitigation measures such as (i) barricading, dust suppression and control measures (ii) traffic management measures for works along the roads and for hauling activities; (iii) provision of walkways and planks over trenches to ensure access will not be impeded; and (iv) finding beneficial use of excavated materials to extent possible to reduce the quantity that will be disposed of EMP will guide the environmentally-sound construction of the subproject. EMP includes a monitoring program to measure the effectiveness of EMP implementation and include observations on- and off-site, document checks, and interviews with workers and beneficiaries.

The contractor will be required to submit to PIU, for review and approval, a site specific environmental management plan (SEMP) including (i) proposed sites/locations for construction work camps, storage areas, hauling roads, lay down areas, disposal areas for solid and hazardous wastes; (ii) specific mitigation measures following the approved EMP; (iii) monitoring program as per SEMP; and (iv) budget for SEMP implementation. No works are allowed to commence prior to approval of SEMP. A copy of the EMP/approved SEMP will be kept on site during the construction period at all times. The EMP is included in the bid and contract documents. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

Consultation, Disclosure and Grievance Redress Mechanism. The stakeholders have been involved in developing the IEE through discussions on-site and public consultation at several places in the subproject area, after which views expressed have been incorporated into the IEE and in the planning and development of the project. The IEE has been made available at public locations and are disclosed to a wider audience via the ADB and PHED/PMU websites. The consultation process has been continued and expanded during project implementation to ensure that stakeholders are fully engaged in the project and have the opportunity to participate in its development and implementation. A grievance redress mechanism (GRM) is described within the IEE to ensure any public grievances are addressed quickly.

Monitoring and Reporting. The PMU and PIU are responsible for monitoring, and submit semi-annual monitoring reports to ADB. ADB will post the environmental monitoring reports on its website.

Conclusions and Recommendations. Therefore, as per ADB SPS, the project is classified as environmental category B and does not require further environmental impact

assessment. *At present, zone wise designing is being continued for the said package. This IEE has been updated considering designed zones and where construction started till 30th November 2019. Update will be done further with completion of designs of other zones and before start of construction on those zones.*

I. INTRODUCTION

A. Background

1. The proposed West Bengal Drinking Water Sector Improvement Project (WBDWSIP) aims to provide safe, reliable and continuous drinking water as per Government of India's standard to about 2.6 million people in the Arsenic, Fluoride, and salinity affected selected areas of North 24 Parganas, South 24 Parganas, East Medinipur and Bankura districts of West Bengal.

2. The project has adopted a sector approach, and subprojects are selected and proposed for funding adhering to the agreed Subproject Selection Criteria. Project districts are North 24 Parganas (with two blocks of South 24 Parganas included for distribution network), Bankura and East Medinipur, and subprojects covered under the Project are within these districts only unless otherwise agreed with Asian Development Bank (ADB). Subprojects proposed under the Project stem from a district-wide comprehensive water quality and sustainability planning and completion of the Drinking Water Quality Action Plan (DQWAP) for the concerned district. The DQWAP for the project districts supported by the Project were prepared by the executing agency, the Public Health and Engineering Department (PHED) of Government of West Bengal (GOWB), with support of project preparatory consultants from the ADB, and has been adopted by PHED to guide present and future drinking water improvement in the districts.

3. The project is aligned with the following impact: drinking water security ensured in West Bengal. The project envisages to have the following outcome: safe, sustainable, and inclusive drinking water service received in project districts. The Project outputs are as follows:

- (i) **Output 1: Climate resilient drinking water infrastructure constructed.** The project plans to provide a minimum of 70 lpcd of continuous potable water through metered connections to the households in selected areas of the project districts. The distribution systems are being designed on a DMA basis. Both the bulk and the distribution systems have been integrated with modern STWM and monitoring tools, including supervisory control and data acquisition and geographic information systems. Bulk water supply systems, consisting of intakes, water treatment plants, and transmission mains, are being sized to provide water supply enrooted to urban and rural areas. They are to be connected into a grid with the existing and the new systems in the project districts, where feasible, to reduce redundancy, improve resilience, and efficiently manage the system; and
- (ii) **Output 2: Institutions and capacity of stakeholders for drinking water service delivery strengthened.** The project intends to strengthen institutions and the capacity of stakeholders, including the PHED and the project gram panchayats, for sustainable service delivery. Its objective is to support them to operate the STWM system, including water quantity and quality monitoring, electronic billing and collections, meter reading, and accounting. The project is expected to build capacities and skills of the stakeholders on O&M, and support public awareness on water, sanitation, and hygiene. It is to strengthen the sector through introducing and implementing an AMSDF; institutionalizing water and sanitation safety

planning; and developing a regulatory framework for, and piloting, fecal sludge and septage management.

4. WBDWSIP initially targets three districts: North 24 Parganas district is the most Arsenic- affected districts in West Bengal; Bankura is heavily affected by Flouride, and East Medinapur is affected by Salinity. These districts are also one of the most water-stressed districts in West Bengal as they are reliant on depleting groundwater sources. Overall, the Project is intended to meet the requirements of “VISION 2020”, endorsed by the GOWB and in line within the guidelines and implementation frame-work of NRDWP.

5. North 24 Parganas District is the worst arsenic affected district in West Bengal state; 21 of 22 blocks of the district are identified as arsenic affected. Though arsenic contaminated, groundwater is the main source of water supply due to lack of a surface water-based system. PHED proposed to provide a safe and sustainable surface water supply system. Accordingly, provision of water supply in block Haroa in North 24 Parganas, is taken up on priority by the PHED and is proposed for implementation under the Tranche 1 of the WBDWSIP funded by ADB. The objective of the subproject is to provide sustainable water supply at a rate 70 litres per capita per day (lpcd) to each household in all habitations in the selected block. A detailed description of the components is provided in Section II.

B. Purpose of Initial Environmental Examination Report

6. ADB requires the consideration of environmental issues in all aspects of the Bank's operations, and the requirements for environmental assessment are described in ADB's Safeguard Policy Statement (SPS), 2009. The potential environmental impacts of the subproject have been assessed using ADB's rapid environmental assessment (REA) checklist for water supply (**Appendix 1**). Then potential negative impacts were identified in relation to pre-construction, construction and operation of the improved infrastructure, and results of the assessment show that the subproject is unlikely to cause significant adverse impacts. Thus, this initial environmental examination (IEE) has been prepared in accordance with ADB SPS's requirements for environment category B projects.

7. This IEE is based on the preliminary project report prepared by PHED, and a technical due diligence report prepared by the project preparatory technical assistance (PPTA) team and has been updated during implementation stage by design, build and operate (item rate) contractor to reflect changes and latest subproject designs. The IEE is based on field reconnaissance, monitoring data and secondary sources of information as well as stakeholder consultations. Field monitoring (environmental) survey was conducted as part of the environmental management plan (EMP) to establish the baseline environmental conditions prior to commencement of civil works by the contractors. The results are reported as part of the environmental monitoring report and forms the basis to ensure no degradation takes place during subproject implementation. Stakeholder consultation has been an integral part of the IEE.

C. Report Structure

8. This Report contains the following nine (9) sections excluding the executive summary at the beginning of the report:

- (i) Introduction;
- (ii) Description of the project

- (iii) Policy, legal and administrative framework;
- (iv) Description of the environment;
- (v) Anticipated environmental impacts and mitigation measures;
- (vi) Public consultation and information disclosure;
- (vii) Grievance redress mechanism;
- (viii) Environmental management plan, and,
- (ix) Conclusion and recommendation.

II. DESCRIPTION OF THE PROJECT

A. Project Area

9. Proposed project area falls in north 24 Parganas district, eastern side of Kolkata City. New Town Kolkata, developed in the urban fringes adjoining Kolkata town in Barasat block of North 24 Parganas, adjoins the study area. Total population of the project blocks is 214,000 (2011) census and has a geographical area of 152.7 square kilometer (km²)

10. The subproject components locations are in selected blocks of Haroa, Overhead reservoirs (OHRs) are located in each zone, outside habitations, and pipelines (distribution lines) are laid along the public roads.

B. Change in Location from the Original IEE

11. With reference to draft IEE, till report date (30th Nov 2019) OHR location has been changed only in Zone 21.

C. Existing Water Supply Situation

12. Arsenic contamination in groundwater is a serious problem in eastern and northern parts of India, and Uttar Pradesh, Bihar and West Bengal are the worst affected states. Out of 20 districts of West Bengal, eight districts (Malda, Murshidabad, Nadia, North 24 Parganas, South 24 Parganas, Bradhaman, Howrah, Hooghly and Kolkata) are arsenic affected. In terms of administrative blocks, 83 out of 341 administrative blocks are arsenic affected, with a concentration of above 3 milligrams per liter (mg/l). In North 24 Parganas district 2,124 habitations of total 7,334 habitations (~29%) are affected by arsenic contamination with the following degrees of contamination, above the maximum concentration as per the Indian drinking water standards (0.05 mg/L):

- 75% in the category of 50-200 parts per billion (ppb) arsenic content;
- 22% in the category of 200-500 ppb arsenic content;
- 3% in the category of over 500 ppb arsenic content.

D. Proposed Project

13. Following table (**Table 1**) shows the nature and size of the various components of the subproject. The list of overhead reservoir location and present status of land allotment is presented in **Table 2** while the locations are indicated on Google Earth image in **Figure. 1**.

Table 1: Proposed Water Supply Subproject Components

Infrastructure	Function	Description	Location
Overhead reservoirs (OHRs)	Storage of water at higher elevation for further distribution to consumers by gravity	Haroa Block - 21 no. concrete reservoirs - Capacity 250 kl to 1000 kl	One in each zone, on selected land parcels mostly outside habitation areas. OHR locations in Haroa are: Gopalpur, Haroa, Gobaria Abad Amta, Parchandpur, Jinkia, Salipur, Nebutala Abada, Adampur, Laugachi, Tegharia, Puratan Kamarganti, Bantosh, Kalinagar, Baganati, Akandaberia, Chauhata, Khalisadi, Haripur, Gobaria Abad (Khardah Chandpur), Ranigachhi
Distribution network	To distribute water from OHRs to consumers	Haroa block: 851 km DI and HDPE pipes of dia 63 – 400 mm	Pipes are being laid underground along the public roads – main roads and internal roads.
Consumer connection with flow meters	Provide water to consumers and measure water usage	60,000 no. in Haroa block	Water delivery pipe (MPDE of diameter 15 - 20 mm) will be connected to distribution lines and meters will be attached to the delivery pipe at each house with a meter chamber

Table 2: Details of Overhead Reservoirs under the Subproject

Overhead Reservoir Zone	Gram Panchayat	Name of Village	Capacity (kl)	Ownership Status	Land handed over to the Contractor
Design Updated					
OHR-1	Gopalpur-II	Amta	450	Public Health Engineering Department (PHED)	Yes
OHR-2	Gopalpur-II	Nebutala Abada	250	Government Land	Yes
OHR-12	Bokjuri	Parchandpur	350	Private	Yes
OHR-13	Salipur	Chauhata	300	Vested	Yes
OHR-14	Salipur	Khalisadi	300	Government land	Yes
OHR-15	Salipur	Jinkia	250	Private	Yes
OHR-17	Salipur-Borjuri	Salipur	350	PHED	Yes
OHR-18	Gopalpur-I, Haroa-Gopalpur-II	Gopalpur	1,000	PHED	Yes
OHR-21	Khasbalanda-Haroa	Haroa	750	PHED	Yes
Design To be Updated					
OHR-3	Haroa	Adampur	350	Private	In progress
OHR-4	Kulti	Laugachi	400	Private	In progress
OHR-5	Kulti	Tegharia	300	Government land	In progress
OHR-6	Kulti	PuratanKamarganti	250	Private	In progress
OHR-7	Sonarpur-	Kamarganti	600	Private (club ground)	In progress

Overhead Reservoir Zone	Gram Panchayat	Name of Village	Capacity (kl)	Ownership Status	Land handed over to the Contractor
	Sankarpur				
OHR-8	Khasbalanda	Bantosha	350	Private	In progress
OHR-9	Sonarpur-Sankarpur	Kalinagar	300	Private	In progress
OHR-10	Sonarpur-Sankarpur	Baganati	450	Private	In progress
OHR-11	Bokjuri	Akandaberia	300	Private	In progress
OHR-16	Salipur	Haripur	300	Government of West Bengal sponsored Secondary School on Private Land	In progress
OHR-19	Haroa	Gobaria Abad (Khardah Chandpur)	700	Private	In progress
OHR-20	Khasbalanda	Ranigachhi	350	Government land	In progress

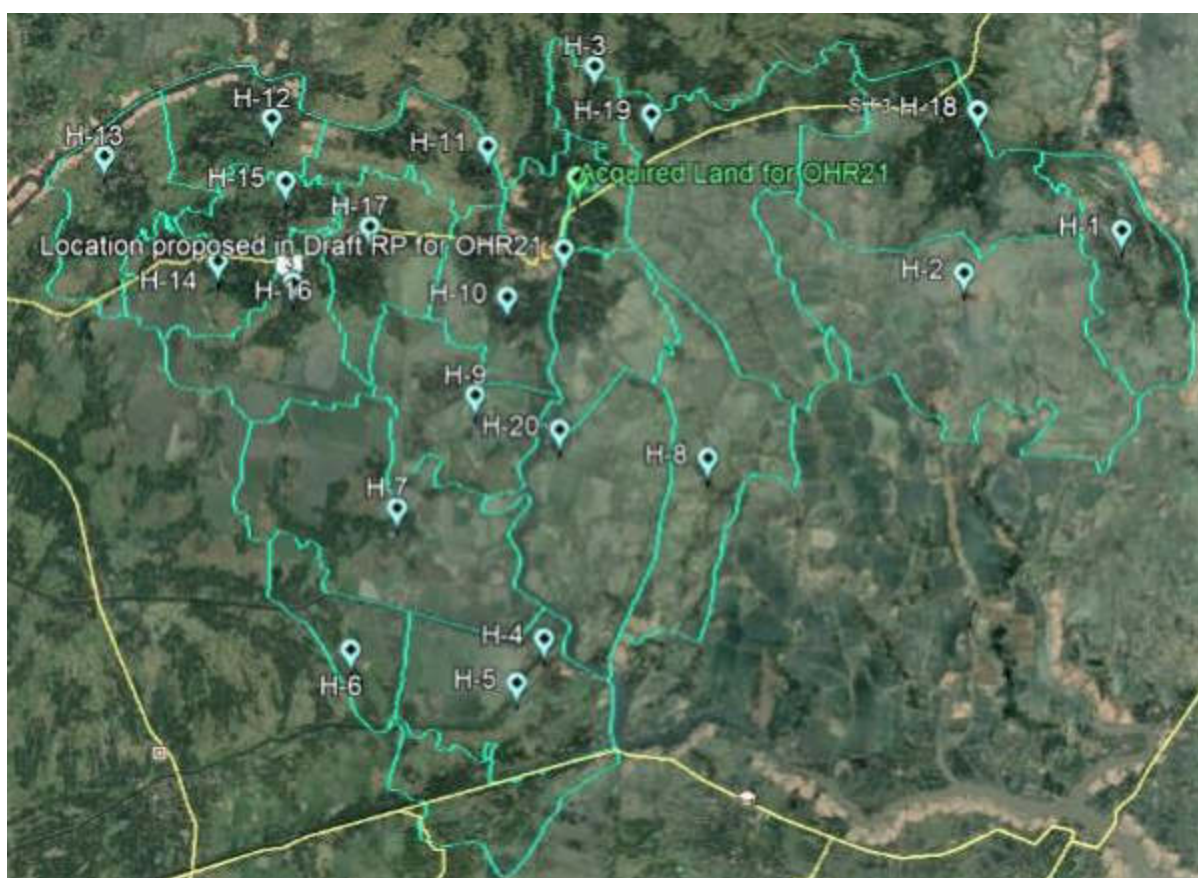


Figure 1: Google Earth Image Showing Location of Overhead Reservoirs

E. Implementation Schedule

14. The project is being implemented on an Item rate contract (Ad measurement contract), with provision of design activity included as part of the contract. Bids were

invited in November 2017, and the contract was awarded in October 2018. After which contractor mobilized, detailed designs were prepared from March 2019, the total period of design and construction is 36 months. After which the Item rate contractor will operate and maintain for a period of 2 years.

F. Present status implementation stage

15. **OHR:** Zone wise present status of implementation stage till 30th November, 2019 is mentioned below;

Zone 1	Piling work in progress and 40% completed
Zone 12	Piling work 30% completed and now no work in progress due to water stagnation
Zone 15	Piling work completed and Pile load test is also completed
Zone 17	Piling work completed
Zone 18	Piling work completed

16. Present IEE report considered for above 5 OHR zones.

17. The land use pattern around the zones, presently under construction, are shown in

18. .



OHR – 1, Amta



OHR – 12, Parchandpur



OHR – 15, Jhinkia



OHR – 17, Shalipur



OHR – 18, Gopalpur

Figure 2: Google Earth Map of Overhead Reservoirs Location Showing Surrounding Land Use

19. **Distribution Network:** More than 200 km out of 851 km of pipe laying has been completed. Till 30th November 2019 work continued for Zones 01, 04, 05, 06, 12, 13, 14, 15, 16, 17, 18 and 21. Present IEE report considered for these 12 pipe line zones.

Table 3: Water distribution pipe length summary

Haraoa Water Distribution Pipe Length (m)Summary											Total Length (m)
Zone ID	Pipe Diameters(mm)										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Updated Information- Design completed											
Zone-01	4982	4689	4473	4508	3432	8118	623	41			30866
Zone-04	16308	8398	5802	2645	1450	3197	8	20			37828
Zone-05	23266	3550	15627	3665	2958	2949	26	0			52041
Zone-06	16645	4360	1888	1273	2719	1041	20	0			27946
Zone-12	16650	3527	2519	2148	1758	1298	0	41			27941
Zone-13	10371	6757	2154	2172	2198	2210	304	54			26220
Zone-14	10726	6832	3645	2019	1198	960	16	0			25396
Zone-15	10243	4662	1565	2146	1154	1158	17	42			20970
Zone-16	3311	12479	3270	2652	3277	1342	0	0			26331
Zone-17	9765	5259	5853	3139	740	1249	74	54			26133
Zone-18	47494	14503	10243	7485	4947	5667	783	145	26		91293
Zone-21	21301	11321	6478	4355	3525	2154	404	871	283		50692
Sub-Total	191062	86337	63517	38207	29356	31343	2275	1268	309		443657
Design to be Updated											
Zone-02	3674	50142	6992	5314	3633	4265	394	68			74482
Zone-03	2218	8229	4832	2707	2418	4574					24978
Zone-07	2079	17170	14528	15413	5607	5673	347	202			61019
Zone-08	1874	28764	2874	7998	1839	6073					49422
Zone-09	4089	16629	5721	3622	4610	4806	111				39588
Zone-10	6674	7726	3873	5086	1610	3757	27		53		28806
Zone-11	2239	6092	4391	1315	1459	4435					19931
Zone-19	3651	24021	4153	7781	17667	6326	4001	2510	1069	62	71241
Zone-20	2108	12692	4679	3393	12072	3033					37977
Sub-Total	28606	171465	52043	52629	50915	42942	4880	2780	1122	62	407444
Total	219668	257802	115560	90836	80271	74285	7180	4006	1431	62	851101

*External diameter

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

20. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for environmental assessment are described in ADB SPS, 2009. This states that ADB requires environmental assessment of all ADB investments.

21. **Screening and Categorization.** ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed project is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories

- (i) **Category A.** Projects could have significant adverse environmental impacts. An environmental impact assessment (EIA) is required to address significant impacts.
- (ii) **Category B.** Projects could have some adverse environmental impacts, but of lesser degree or significance than those in category A. An IEE is required to determine whether significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.
- (iii) **Category C.** Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
- (iv) **Category FI.** Projects involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all projects will result in insignificant impacts.

22. **Environmental Management Plan.** An EMP, which addresses the potential impacts and risks identified by the environmental assessment, shall be prepared. The level of detail and complexity of the EMP and the priority of the identified measures and actions are commensurate with the project's impact and risks.

23. **Public Disclosure.** ADB posts the safeguard documents on its website as per following protocols as well as disclose relevant information in accessible manner to local communities:

- (i) for environmental category A projects, draft EIA report at least 120 days before Board consideration;
- (ii) final or updated EIA and/or IEE upon receipt; and
- (iii) environmental monitoring reports submitted by the implementing agency during project implementation upon receipt.

24. **Consultation and Participation.** ADB SPS require borrower to conduct meaningful consultation¹ with affected people and other concerned stakeholders,

¹ Per ADB SPS, 2009, meaningful consultation means a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle;¹ (ii) provides timely disclosure of relevant and

including civil society, and facilitate their informed participation. The consultation process and its results are to be documented and reflected in the environmental assessment report.

25. **Grievance Redress Mechanism.** ADB SPS require borrowers to establish a mechanism to receive and facilitate resolution of affected people's concerns, complaints, and grievances about the subproject's performance. The grievance mechanism shall be scaled to the risks and adverse impacts of the subproject.

26. **Monitoring and Reporting.** Borrower shall monitor, measure and document the implementation progress of the EMP. If necessary, the borrower shall identify the necessary corrective actions, and reflect them in a corrective action plan. Borrower shall prepare and submit to ADB semi-annual environmental monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. For subprojects likely to have significant adverse environmental impacts during operation, reporting will continue at the minimum on an annual basis until ADB issues a project completion report.

27. **Unanticipated Environmental Impacts.** Where unanticipated environmental impacts become apparent during subproject implementation, ADB SPS requires the borrower to update the environmental assessment and EMP or prepare a new environmental assessment and EMP to assess the potential impacts, evaluate the alternatives, and outline mitigation measures and resources to address those impacts.

28. **Occupational Health and Safety.** ADB SPS requires the borrower² to ensure that workers³ are provided with a safe and healthy working environment, taking into account risks inherent to the sector and specific classes of hazards in the subproject work areas, including physical, chemical, biological, and radiological hazards. Borrower shall take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work, including: (i) identifying and minimizing, so far as reasonably practicable, the causes of potential hazards to workers; (ii) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) providing appropriate equipment to minimize risks and requiring and enforcing its use; (iv) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment; (v) documenting and reporting occupational accidents, diseases, and incidents; and (vi) having emergency prevention, preparedness, and response arrangements in place.

29. **Community Health and Safety.** ADB SPS requires the borrower to identify and assess risks to, and potential impacts on, the safety of affected communities during the design, construction, operation, and decommissioning of the subproject, and shall

adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues

² In case where responsibility is delegated to subproject contractors during construction phase, borrower shall ensure that the responsibilities on occupational health and safety are included in the contract documents

³ Including nonemployee workers engaged by the borrower/client through contractors or other intermediaries to work on project sites or perform work directly related to the project's core functions.

establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts.

30. **Physical Cultural Resources.** Borrower is responsible for siting and designing the subproject to avoid significant damage to physical cultural resources. ADB SPS requires that such resources likely to be affected by the subproject are identified, and qualified and experienced experts assess the subproject's potential impacts on these resources using field-based surveys as an integral part of the environmental assessment process. When the proposed location of a subproject component is in areas where physical cultural resources are expected to be found as determined during the environmental assessment process, chance finds procedures shall be included in the EMP.

31. **ADB SPS International Best Practice Requirements.** ADB SPS requires that, during the design, construction, and operation of the project, the executing agency shall apply pollution prevention and control technologies and practices that are consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. (IFC's General EHS Guidelines 4 and Sector Specific (Water and Sanitation) Guidelines 5). These standards contain performance levels and measures that are normally acceptable and applicable to projects. These standards contain performance levels and measures that are normally acceptable and applicable to projects. When Government of India regulations differ from these levels and measures, the PMU and PIUs will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the PMU and PIUs will provide full and detailed justification for any proposed alternatives that

B. National Environmental Laws

32. **Environmental Assessment.** The Government of India, EIA Notification of 2006 (replacing the EIA Notification of 1994), sets out the requirement for Environmental Assessment in India. This states that Environmental Clearance is required for specified activities/projects, and this must be obtained before any construction work or land preparation (except land acquisition) may commence. Projects are categorized as A or B depending on the scale of the project and the nature of its impacts.

33. Category A projects require Environmental Clearance from the central Ministry of Environment, Forest and Climate Change (MoEFCC). The proponent is required to provide preliminary details of the project in the prescribed manner with all requisite details, after which an expert appraisal committee (EAC) of the MoEFCC prepares comprehensive terms of reference (TOR) for the EIA study. On completion of the study and review of the report by the EAC, MoEFCC considers the recommendation of the EAC and provides the Environmental Clearance if appropriate.

34. Category B projects require environmental clearance from the State Environment Impact Assessment Authority (SEIAA). The State level EAC categorizes the project as

4<https://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES>

5<https://www.ifc.org/wps/wcm/connect/e22c050048855ae0875cd76a6515bb18/Final%2B-%2BWater%2Band%2BSanitation.pdf?MOD=AJPERES>

either B1 (requiring EIA study) or B2 (no EIA study), and prepares TOR for B1 projects within 60 days. On completion of the study and review of the report by the EAC, the SEIAA issues the Environmental Clearance based on the EAC recommendation. The Notification also provides that any project or activity classified as category B will be treated as category A if it is located in whole or in part within 10 km from the boundary of protected areas, notified areas or inter-state or international boundaries.

35. None of the components of this water supply distribution system subproject falls under the ambit of the EIA Notification 2006, and, therefore EIA Study or environmental clearance is not required for the subproject.

36. **Applicable Environmental Regulations.** Besides EIA Notification 2006, there are various other acts, rules, policies and regulations currently in force in India that deal with environmental issues that could apply to infrastructure development. The specific regulatory compliance requirements of the subproject are shown in Error! Reference source not found..

Table 4: Applicable Environmental Regulations

Law	Description	Requirement
Environment (Protection) Act, 1986 and Central Pollution Control Board Environmental Standards.	Emissions and discharges from the facilities to be created or refurbished or augmented shall comply with the notified standards	Appendix 2 provides applicable standards for ambient air quality. Appendix 3 provides vehicular emission norms
Noise Pollution (Regulation and Control) Rules, 2000 amended up to 2010.	Rule 3 of the Act specifies ambient air quality standards in respect of noise for different areas/zones.	Appendix 2 provides applicable noise standards.
Air (Prevention and Control of Pollution) Act, 1981, amended 1987 and its Rules, 1982.	<ul style="list-style-type: none"> - Applicable for equipment and machinery's potential to emit air pollution (including but not limited to diesel generators and vehicles); - Consent to establish (CTE) and consent to operate (CTO) from West Bengal Pollution Control Board (WBPCB); - Compliance to conditions and emissions standards stipulated in the consent to establish and consent to operate. 	
Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7 /001/2009 dated: 10 December 2009	<ul style="list-style-type: none"> - issued based on a study by WBPCB with help of ADB on air pollution from construction activities - lays out norms for control of air pollution from construction activities - prescribes two sets of norms: preventive measures, and practices to be discarded - failure to comply will lead to legal action, stoppage of work etc., -All construction activities under West 	Appendix 4 provides the pollution control measures indicated in the direction

Law	Description	Requirement
	Bengal Drinking Water Sector Improvement Project shall follow the norms	
West Bengal Inland Fisheries Act, 1984	<p>-Act to conserve, develop, propagate, protect, exploitation of inland fish and fisheries.</p> <p>-No discharge of wastewater, pollutants into inland water bodies that may affect fish.</p> <p>-Prohibits conversion of fishery area (any water area, naturally or artificially depressed land, irrespective of ownership, measuring 0.035 hectares (ha) or more, which retains water for more than 6 months and capable of being used as fishery) for any other purpose.</p> <p>-prohibits filling up fishery areas to convert into solid land, e. g., for any construction.</p> <p>-Prohibits dividing water area into parts to make any part less than 0.035 ha.</p> <p>-if conversion/ filling up is for development works, prior permission is required.</p>	Project sites located in such areas will require prior permission
East Kolkata Wetland (Conservation and Management) Act, 2006	This legislation regulates all activities within the notified area of East Kolkata Wetlands.	No area within East Kolkata Wetland zone
Municipal Solid Wastes Management (MSWM) Rules, 2016	Rules to manage municipal solid waste generated; provides rules for segregation, storage, collection, processing and disposal.	Solid waste generated at proposed facilities shall be managed and disposed in accordance with the MSWM Rules
Construction and Demolition Waste Management Rules, 2016	Rules to manage construction and to waste resulting from construction, remodeling, repair and demolition of any civil structure. Rules define C and D waste as waste comprising of building materials, debris resulting from construction, re- modeling, repair and demolition of any civil structure.	Construction and demolition waste generated from the project construction shall be managed and disposed as per the rules (Appendix 5)
Labour Laws	The contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall	Appendix 6 provides applicable labour laws including amendments issued from time to time applicable to establishments engaged in construction of civil works.

Law	Description	Requirement
	not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. The contractor shall provide equal wages and benefits to men and women for work of equal value or type.	
The Child Labour and (Prohibition and Regulation) Act, 1986	Prohibits employment of children below 14 years of age in certain occupations and processes Employment of child labor is prohibited in building and construction industry.	No child labour shall be employed
Minimum Wages Act, 1948	Minimum wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads and runways are scheduled employment.	Applicable to all construction works in the project All construction workers should be paid not less than the prescribed minimum wage
Workmen Compensation Act, 1923	Provides for compensation in case of injury by accident arising out of and during the course of employment.	Compensation for workers in case of injury by accident
Equal Remuneration Act, 1979	Provides for payment of equal wages for work of equal nature to male and female workers and not for making discrimination against female employees in the matters of transfers, training and promotions etc.	Equal wages for work of equal nature to male and female workers

37. Clearances / permissions to be obtained prior to start of construction. **Table 4A** shows the list of clearances/permissions obtained for construction. This list is indicative, and the contractor should ascertain the requirements prior to start of the construction and obtain all necessary clearances/permission prior to start of construction

Table 4A: Clearances and permissions obtained or to be obtained for Construction activities

S. No	Construction Activity	Statute under which Clearance is Required	Implementation	Supervision
3	Tree Cutting	State forest department/Revenue (Tehsildar)	PIU	PIU and PMU
4	Hot mix plants, Crushers and Batching plants	Consent to establish and consent to operate under Air Act, 1981 from WBPCB	Contractor	PIU
5	Storage, handling and transport of hazardous materials	Hazardous Wastes (Management and Handling) Rules, 2016 Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989	Contractor	PIU
6	Sand mining, quarries and borrow areas	Permission from District Collector/ State Department of Mining	Contractor	PIU
7	New quarries and borrow areas	Environmental clearance under EIA Notification 2006	Contractor	PIU

S. No	Construction Activity	Statute under which Clearance is Required	Implementation	Supervision
8	Temporary traffic diversion measures	District traffic police	Contractor	PIU
9	Road cutting for pipe laying works	Panchayet and PWD	Contractor	PIU

38. PMU will be responsible for overall supervision in getting all clearances and provide details to ADB through semi-annual report

39. **Table 5 and Table 6** shows WHO standard on air and noise level. Monitoring results relevant to project have been compared with these standard.

Table 5: WHO Ambient Air Quality Guidelines

Table 1.1.1: WHO Ambient Air Quality Guidelines ^{7, 8}		
	Averaging Period	Guideline value in $\mu\text{g}/\text{m}^3$
Sulfur dioxide (SO_2)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)
	10 minute	500 (guideline)
Nitrogen dioxide (NO_2)	1-year	40 (guideline)
	1-hour	200 (guideline)
Particulate Matter PM_{10}	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)
Particulate Matter $\text{PM}_{2.5}$	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)
Ozone	8-hour daily maximum	160 (Interim target-1) 100 (guideline)

Table 6: World Bank Group's Environment, Health and Safety Noise Level Guidelines

Table 1.7.1- Noise Level Guidelines ⁵⁴		
Receptor	One Hour L_{Aeq} (dBA)	
	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00
Residential; institutional; educational ⁵⁵	55	45
Industrial; commercial	70	70

IV. DESCRIPTION OF THE ENVIRONMENT

A. Methodology Used for Baseline Study

40. **Data Collection and Stakeholder Consultations.** Data for this study has been primarily collected through comprehensive literature survey, discussion with stakeholders and field surveys for the subproject sites.

41. The literature survey broadly covered the following:

- (i) Project details, reports, maps, and other documents prepared by technical experts of the PHED, ADB PPTA Team;
- (ii) Discussions with Technical experts of the PPTA team, municipal authorities, relevant government agencies like West Bengal Pollution Control Board (WBPCB), etc.
- (iii) Secondary data from previous project reports and published articles, and;
- (iv) Literature on land use, soil, geology, hydrology, climate, socioeconomic profiles, and other planning documents collected from Government agencies and websites.

41. **Ocular inspection.** Several visits to the project sites were made during IEE preparation period in 2016-17 to assess the existing environment (physical, biological, and socioeconomic) and gather information with regard to the proposed sites and scale of the proposed project. A separate socioeconomic study was conducted to determine the demographic information, existing service levels, stakeholder needs and priorities.

42. **Field Surveys.** During updation of IEE report (2019) several time field visit, discussion with stakeholder and generation of primary data with the help of respective contractor have been conducted by Environment safeguard team.

B. Physical Resources

1. Location, Area and Connectivity

43. Project area is located in the Ganga-Brahmaputra River Delta, in administrative districts of North 24 Parganas. Located in southern part of West Bengal, 24 Parganas district was a single district before it was bifurcated into two districts – north 24 Parganas and south 24 Parganas in 1986. Geographically, North 24 Parganas district lies between 21°25'30" and 23°16'50" north latitude and 88°01'10" and 89°06'15" east longitude, spreading over 4,094 km². The district shares its eastern boundary with Bangladesh, and southern boundary with South 24 Parganas district. Average altitude ranges from 1m to 14m above the mean sea level (MSL). With total geographical area of 4,094 km², North 24 Parganas district is divided into 5 administrative divisions and 22 Community Development blocks for administrative purpose. Project covers Haroa block, located in the western part of the district. Barasat is the district headquarter. Haroa community development block is located at 22°35'54"N longitude and 88°40'46"E latitude, with an elevation range from 1m to 11m above MSL. The block is extended to an area of 152.81 km².

27. Located close to Kolkata, project area has good road connectivity with Kolkata and the rest of the state and country with national and state highways: NH2 (Kolkata-Delhi Road), NH 34 (Kolkata -Barasat -Dalkhola), and NH 35 (Barasat - Habra - Gaighata -

Chandpara - Bangaon - Indo/Bangladesh Border).

2. Topography, Soils and Geology

28. Being a deltaic district, major physiographic units are: natural levee areas, swamps area and older flood plain. The southern part of the district is covered with active and growing delta with a number of tidal rivers, creeks, saline soils, swamps and marshes. North 24 Parganas district geological formation is a part of Gangetic basin and is underline by huge thickness of Quaternary Alluvium, laid down by the southerly flowing Bhagirathi River and its tributaries. The major area of the district is occupied by recent alluvium consists of grey sand, silt and grey clay. Older alluvium sediments occur beneath recent alluvium, comprises grey to brown sand fine to course grained, gravel, clay with kankar and ferrogeneous concretions. In northern and central part of district top surface clay is occurring down to 5 to 12 m below ground level (mbgl), whereas in the southern and south-eastern part of district average thickness of top clay layer is in the range of 25 mbgl. Other than this, no prominent rock and mineral formations are found in the project district. Geology of Haroa community development block is derived mainly from sedimentary rock formations from the sediments of Gangetic and Bhagirathi river basins.

29. **Soils.** The soil of North 24 Parganas district varies widely, and the common soil types found in the area alluvium, sandy and silty soils. As per US soil taxonomy soil type, the district is broadly classified in to two separate zones: Entisols comprises of mainly sandy loam which is found in the northern, central and western part of the district and Alfisols comprise loam, silty loam which is found in the southern and south-eastern part of the district.

3. Seismology

30. As per the seismic zoning map of India, project area falls under Zone IV, which is the high earthquake damage risk zone in India. Project area besides earthquake risk, is also vulnerable to various natural calamities like flood, cyclone, hailstorm, drought and embankment erosion, etc.

4. Climatic Conditions

31. The climate of the project area is humid and subtropical, characterized by a hot and dry summer from March to May/June, a south-west monsoon season from June to September, a pleasant post-monsoon from October to November and a cool winter from December to February. Majority of the rain is received during the south-west monsoon, from late June to September end. It also receives pre-monsoon torrential rains in summers between March and May. Average annual rainfall North 24 Parganas district recorded is 1525mm, of which 75% is received during the southwest monsoon. Maximum and Minimum average temperature registered are 41°C and 09°C. Relative humidity lies between 50% in March and 90% in July. Figure shows average monthly rainfall and monthly mean maximum and minimum temperature of North 24 Parganas district.

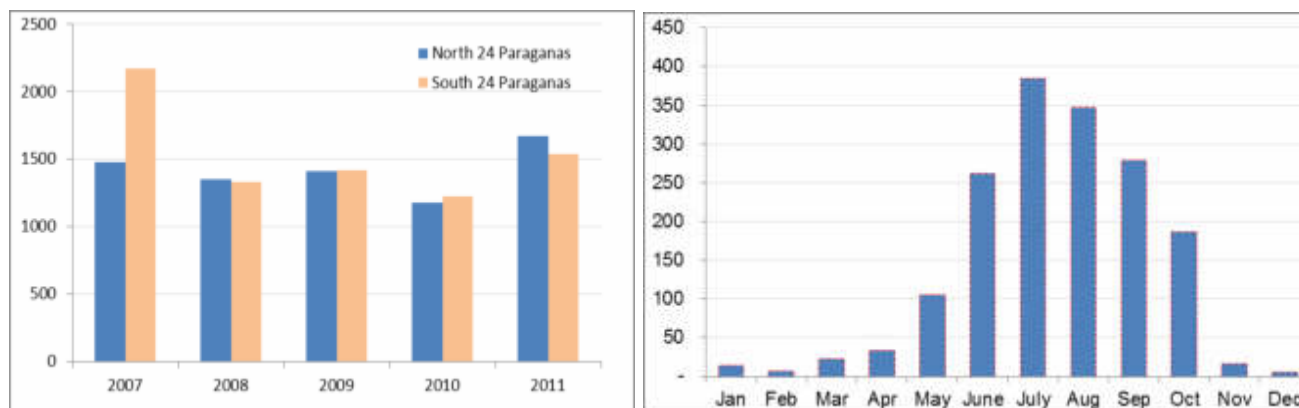


Figure 3: Annual Rainfall and Average Monthly Rainfall in Project Area



Figure 4: Average Minimum and Maximum Temperature in Project Area

5. Surface Water

32. Project area is blessed with plenty of water bodies – rivers, streams and ponds, distributed across the district. Notable rivers are Hooghly (the Ganges), Ichhamati, Kalindi, Raimangal, Dansa, Borokalagachi, Benti, Haribhanga, Gourchra and Bidyadhari. Ichhamati is the longest among these rivers. It enters the district through Bagdah block in the north of the district from Nadia and flows south through Bangaon, Swarupnagar, Baduria, Bashirhat-I, Hasnabad and Hingaljanj. This river flows into river Kalindi and Kalindi in turn flows into Raimangal. It forms international border between India and Bangladesh during its course from Bashirhat to Hingaljanj. River Hooghly lies between Hooghly District and North 24 Parganas district. Other forms of surface water resources are reservoirs, ponds, lakes, bheris, canals, streams, roadside burrows, Beels etc., are also found in the project blocks. Project area, specially the rural hinterland, is dotted with large number of small water bodies (ponds), mainly used for fisheries.

33. Haroa ground level service storage reservoir (GLSR) site, from which water will be supplied to OHRs in Haroa Community Development Block, is located near the bank of River Bidyadhari in Haroa. Bidyadhari originates near Haringhata in Nadia district and then flows through North 24 Parganas before joining the Raimangal River in the Sunderbans. It is the major drainage system of North 24 Parganas and Kolkata. River flows only during the rainy season. Kestopur Khal (canal), originating from Ultadanga in Kolkata, flows through

Bhangar II. Flowing through the city of Kolkata, this canal primarily carries wastewater including sewage from several areas along its course and finally joins River Bidyadhari near Makhali in the eastern side. This is one of highly polluted water bodies in the area. There are several shanties/slums developed along this canal.

34. Project water source is River Hooghly (the Ganges), and the existing river intake is at Rani Debendrabala Ghat in Kolkata. River Ganga is formed by two rivers at Devprayag in Uttarakhand State – Bhagirathi and Alakananda, originating from the glaciers of the Himalayas. From Uttarakhand, it flows down to Uttar Pradesh, where it is joined by its largest tributary River Yamuna at Allahabad, and then enters Bihar, where it is joined by another large river Kosi. The river finally enters West Bengal, and then it bifurcates into two branches about 40 km downstream of Farakka Barrage. The left branch, called River Padma, flows eastwards and enters Bangladesh, and the right branch, called River Bhagirathi/River Hooghly, flows southwards through West Bengal and ultimately discharges into Bay of Bengal near Kolkata. Of the total river length 2,575 km, the lowest portion of 570 km falls in West Bengal. River Hooghly is perennial in nature and owing to numerous large tributaries it carries huge quantities of water throughout the year. Water quality is suitable for drinking after treatment and disinfection. A study by the Hydraulic Study Department of Kolkata Port Trust assumes the flow in the river to be 1,135 cubic meter per second (m^3/sec). The width of river varies, but near Kolkata it is roughly 1000 m wide. The Hooghly is under tidal influence for up to 300km. The overall spring tide range is 4.27 m to 4.57 m and range of the neap tides is 1.83 m to 2.83 m. Near Kolkata, the water level fluctuates 4.0m per day during the rainy season and 2.75m twice in a day in the dry season. Highest highwater level (HHWL) and the lowest low water level (LLWL) are 5.34 m above mean sea level (msl) and 0.95 m below msl respectively.

6. Groundwater

35. In North 24 Parganas district, the dynamics of ground water resources has been studied and estimated jointly by CGWB and SWID, West Bengal. Ground water scenario in north and central part of district occurs under water table condition. However, isolated patches in Barrackpore, Amdanga, Hadra-II and Rajarhat Blocks, imparting semi-confined nature of ground water body. Southern and south –eastern part of the district viz., Basirhat, Haroa, Hasnabad, Hingal ganj, Sadeshkhali, Minakahn, ground water occurs in confined ground water body. Major water bearing formation is sand (grey to yellow) fine to coarse grained, silt and gravel. Depth of water level in unconfined aquifer during pre-monsoon period varies from 2 to 13.60 mbgl and post-monsoon it is from 1.64 to 10.66 mbgl. In confined region, during pre-monsoon, it varies from 3.47 mbgl to 6.25 mbgl and post-monsoon varies from 1.91 mbgl to 5.89 mbgl. Tube wells in the district are constructed tapping both confined and unconfined aquifers and are capable of yield 50 to 150 cubic meter per hour (m^3/hr) with nominal drawdown of 4-5m. Transmissivity values ranges from 699 – 8127 m^2/day and storability ranges from 1.05×10^{-3} to 1.45×10^{-4} . Specific yield ranges from 0.035 to 0.765. Current stage of ground water development is 71.19% and all the blocks of the district are in “safe category” in terms of groundwater availability.

36. **Groundwater Quality.** The chemical quality of ground water in the region is in general of bicarbonate type. The chloride content of the ground water is low (18-234) mg/L in northern and central part of the district. In southern and south- eastern part of the district upper aquifers are brackish to saline nature with chloride value ranges from 300 – 1241 mg/L. The ground water is mainly neutral to mildly alkaline in nature and pH value

ranges between 7.5 and 8.2. Total Hardness as CaCO_3 ranges from 140-670 mg/L. Generally Iron content is above permissible limit in all blocks range from 1.23 – 18.10 mg/L. Shallow aquifer within a depth of 100mbgl shows Arsenic concentration of more than 0.05 mg/L occurring in 253 Mouzas in 17 blocks of the district.

37. Arsenic in Groundwater. In 2015, the Indian standard (permissible concentration) for Arsenic in drinking water has been revised from 0.05 mg/L to 0.01 mg/L (WHO guidance value). As per the available data, as of 2016, there are around 13,000 habitations spread over 17 states in India, that have arsenic in groundwater above the permissible concentration. Most of the affected states are in the Ganga- Brahmaputra fluvial plains: Assam, Bihar and West Bengal. Over 50% of total affected habitations are in the state of West Bengal alone. The School of Environmental Studies (SoES), Jadavpur University carried out extensive sampling from the tube wells in the state for over a period of 20 years starting from 1988, and found that out of 135,555 samples analyzed from nine districts, 67,306 (49.7%) samples shown arsenic concentration above 0.01mg/L and 33,470 (24.7%) samples above 0.050 mg/L. Specifically on project area, PHED sampling and analysis (a total of 5641 samples) indicate that all the 22 blocks in north 24Parganas have groundwater with arsenic concentration above 0.01 mg/L. The maximum observed arsenic concentration has the lowest value in Barrackpur II and the highest is observed in Habra II, Bongaon and Gaighata (1.0 mg/L) blocks. Relatively low average concentration between 0.01mg/L and 0.5 mg/L is observed in five blocks, out of which three are in the coastal area, and an average concentration between 0.05mg/L and 0.10mg/L is observed nine blocks. All the remaining eight blocks have an average concentration above 0.10 mg/L (**Table 7**). **Appendix 7** shows ground water quality standard.

Table 7: Arsenic Concentration in Groundwater, Block-wise, North 24 Parganas

Average Arsenic Concentration (mg/L)	Name of Block (Maximum Observed Arsenic Concentration in mg/L)
0.01 - 0.05	Barrackpur-I (0.97), Barrackpur-II (0.16), Haroa (0.73), Minakhan (0.5), Sandeshkhali I (0.77)
0.05- 0.1	Amdanga (0.57), Bagda (0.62), Barasat I (0.75), Barasat II (0.95), Basirhat II (0.63), Bongaon (1), Hasnabad (0.96), Hingalganj (0.46), Rajarhat (0.62)
> 0.1	Baduria (0.96), Basirhat I (0.99), Deganga (0.69), Gaighata (1.0), Habra I (0.95), Habra II (1.0), Swarupnagar (0.72)

7. Air, Noise and Surface Water Monitoring

38. WBPCB monitors air and noise pollution in the State. WBPCB have monitoring stations located at various places across the state; however, covers major cities, district headquarters and industrial locations. There are no monitoring stations in the project blocks of Haroa. In North 24 Parganas, ambient air quality is monitored by WBPCB at Barrackpore. Data shows that all the monitored ambient air quality parameters, except particulate matter (PM_{10}), are within the National Ambient Air Quality Standards (NAAQS). PM_{10} is slightly exceeding the standard while the respirable particulate matter ($\text{PM}_{2.5}$) is almost near the permissible limit. Dust in the ambient air is mainly due to dry atmosphere, dusty roads and traffic.

Table 8: Ambient Air Quality (Secondary data source)

	Parameters	Barrackpore	Revised NAAQ Standard (24-hour average)
1	PM ₁₀ , µg/m ³	103.64	100
2	PM _{2.5} , µg/m ³	58.82	60
3	SO ₂ , µg/m ³	9.62	80
4	NO ₂ , µg/m ³	68.17	80
5	CO, mg/m ³	0.73	2

39. In order to establish baseline and assess project impact, monitoring has been conducted in quarter 1 (pre construction phase base line monitoring), quarter 2 (construction phase monitoring) and quarter 4. Quarter 3 being monsoon, no monitoring was performed in this period. Monitoring results are presented in below tables. It should be noted that in order to assess the project impacts, the monitoring locations during Quarter 1 and Quarter 2 had been kept same. Further, the schedule for monitoring has been in accordance with the draft IEE,

Monitoring Locations of Quarter 1

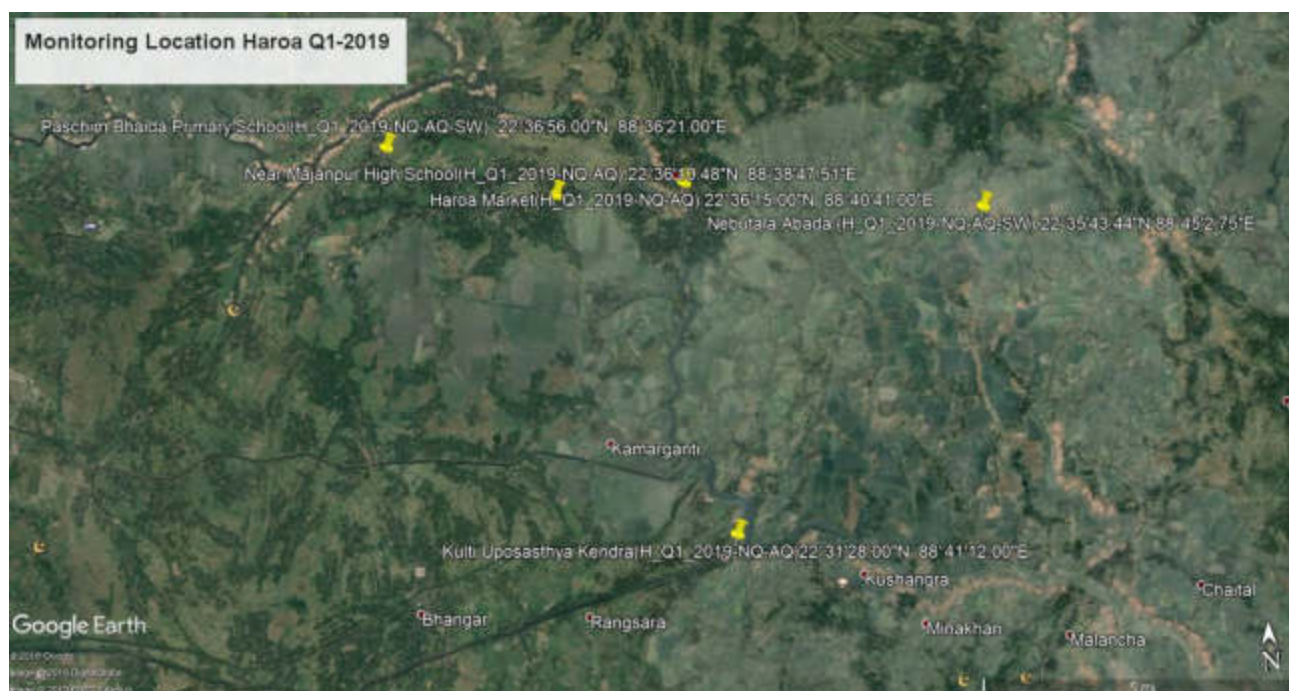


Figure 5: Ambient Air Quality, Noise Level and Surface Water Monitoring Stations in Haroa Block in quarter 1

i. Monitoring Results of Quarter 1

Table 9: Ambient Air Quality (Daily Average)

Site no.	Date of Testing	Site Location	Parameters (Government Standards)				
			PM10 (µg/m3)	PM2.5 (µg/m3)	CO (µg/m3)	SO ₂ (µg/m3)	NO ₂ (µg/m3)
Zone-2	16-26.02.2019	Nebutala Abada (Zone 2)	273	137	528	13.1	37.9
Zone-5	18-19.02.2019	Kulti Uposasthya Kendra (Zone 5)	177	89	684	9.6	35.8
Zone-13	14-15.02.2019	Paschim Bhaida Primary School (Zone 13)	235	123	601	11.2	37.5
Zone-17	14-15.02.2019	Near Majanpur High School (Zone 17)	215	106	579	10.4	36.0
Zone-21	15-16.02.2019	Haroa Market (Zone 21)	261	143	773	11.7	39.9
National Ambient Air Quality Standard			100	60	2000	80	80
WHO Standards			100	50	-	50	-

Table 10: Surface Water Quality

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
Pond water near Nebutala Abada (Zone 2)		Date-14.02.19	
1	pH value at 25°C	8.17	6.5-8.5
2	Turbidity in NTU	5.2	
3	Chloride (as Cl) in mg/l	746	
4	Fluoride (as F) in mg/l	0.89	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	137	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	36.4	3
8	Dissolved Oxygen (DO) in mg/l	6.62	5
9	Total Alkalinity (as CaCO ₃)	154	
10	Hardness (as CaCO ₃) in mg/l	400	
11	Oil & Grease in mg/l	2.4	
12	Total coliform MPN/100 ml	2.0	500
13	Faecal Coliform MPN/100 ml	Not detected	
Pond water in Zone 13		Date-14.02.19	
1	pH value at 25°C	7.45	6.5-8.5
2	Turbidity in NTU	12	
3	Chloride (as Cl) in mg/l	83.53	
4	Fluoride (as F) in mg/l	0.43	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	19.6	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	5.1	3
8	Dissolved Oxygen (DO) in mg/l	4.8	5
9	Total Alkalinity (as CaCO ₃)	189	
10	Hardness (as CaCO ₃) in mg/l	220	
11	Oil & Grease in mg/l	5.8	
12	Total coliform MPN/100 ml	9.0	500
13	Faecal Coliform MPN/100 ml	3.0	

Table 11: Ambient Noise Monitoring

SI No.	Date of Monitoring	Location	Area Type	Leq dB (A) Day Time	Leq dB (A) Night Time
1	14-15.02.19	Near Paschim Bhaida Primary School (Zone 13)	Silence Zone	57.2	46.5
2	14-15.02.19	Near Majanpur high school (Zone 17)	Silence Zone	51.8	47.7
3	15-16.02.19	Haroa market (Zone 21)	Commercial area	65.6	56.1
4	15-16.02.19	Near Nebutala Abada (Zone 2)	Residential area	56.2	50.1
5	18-19.02.19	Kulti Uposasthya kendra (Zone 5)	Silence Zone	53.9	47.2
National Ambient Noise Standard					
			Industrial area	75	70
			Commercial area	65	55
			Residential area	55	45
			Silence zone	50	40
World Bank Ambient Noise Standard					
			Industrial, Commercial	70	70
			Residential, Educational, Institutional	55	45

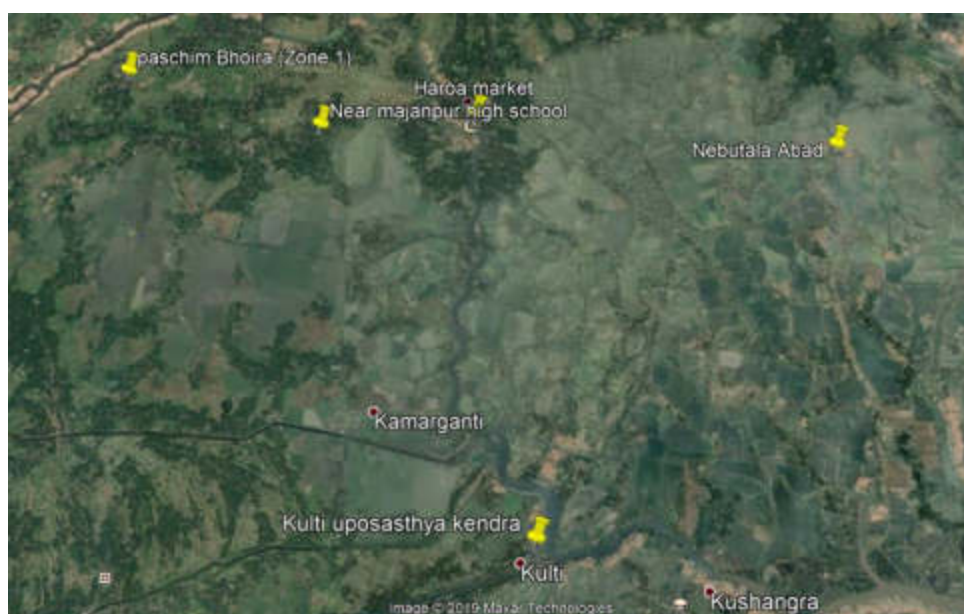
Monitoring Locations of Quarter 2**Figure 6: Ambient Air Quality, Noise Level and Surface Water Monitoring Stations in Haroa Block in Quarter 2****ii. Monitoring Results of Quarter 2**

Table 12: Ambient Air Quality (Daily Average)

Site no.	Date of Testing	Site Location	Parameters (Government Standards)				
			PM10 (µg/m3)	PM2.5 (µg/m3)	CO (µg/m3)	SO ₂ (µg/m3)	NO ₂ (µg/m3)
Zone-2	11-12.06.2019	Nebutala Abada (Zone 2)	133	71	0.69	9.2	32.2
Zone-5	12-13.06.2019	Kulti Uposasthya Kendra (Zone 5)	117	59	0.60	8.8	30
Zone-13	10-11.06.2019	Paschim Bhaida Primary School (Zone 13)	139	75	0.61	8.3	34.0
Zone-17	10-11.06.2019	Near Majanpur High School (Zone 17)	155	81	0.59	9.3	33.7
Zone-21	11-12.06.2019	Haroa Market (Zone 21)	120	65	0.68	8.9	31.8
National Ambient Air Quality Standard			100	60	2	80	80
WHO Standards			100	50	-	50	-

Table 13: Ambient Noise Monitoring

SI No.	Date of Monitoring	Location	Area Type	Leq dB (A) Day Time	Leq dB (A) Night Time
1	10-11.06.2019	Near Paschim Bhaida Primary School (Zone 13)	Silence Zone	53.5	48.8
2	10-11.06.2019	Near Majanpur high school (Zone 17)	Silence Zone	58.3	47.4
3	11-12.06.2019	Haroa market (Zone 21)	Commercial area	61.2	52.6
4	11-12.06.2019	Near Nebutala Abada (Zone 2)	Residential area	58.8	49.7
5	12-13.06.2019	Kulti Uposasthya kendra (Zone 5)	Silence Zone	57.0	48.6
National Ambient Noise Standard					
		Industrial area	75	70	
		Commercial area	65	55	
		Residential area	55	45	
		Silence zone	50	40	
World Bank Ambient Noise Standard					
		Industrial, Commercial	70	70	
		Residential, Educational, Institutional	55	45	

iii. **Monitoring Results of Quarter 4**

Table 14: Surface water Quality

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
Pond water near Nebutala Abada (Zone 2)		Date-05/11/2019	
1	pH value at 25°C	8.06	6.5-8.5
2	Turbidity in NTU	4.8	
3	Chloride (as Cl) in mg/l	684	
4	Fluoride (as F) in mg/l	0.76	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
6	Chemical Oxygen Demand (COD) in mg/l	156.8	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	44.8	3
8	Dissolved Oxygen (DO) in mg/l	5.9	5
9	Total Alkalinity (as CaCO ₃)	164	
10	Hardness (as CaCO ₃) in mg/l	378	
11	Oil & Grease in mg/l	2.6	
12	Total coliform MPN/100 ml	2.8	500
13	Faecal Coliform MPN/100 ml	Not detected	
Pond water in Zone 13		Date-05/11/2019	
1	pH value at 25°C	7.48	6.5-8.5
2	Turbidity in NTU	9.4	
3	Chloride (as Cl) in mg/l	86.44	
4	Fluoride (as F) in mg/l	0.36	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	20	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	5.6	3
8	Dissolved Oxygen (DO) in mg/l	4.6	5
9	Total Alkalinity (as CaCO ₃)	192	
10	Hardness (as CaCO ₃) in mg/l	226	
11	Oil & Grease in mg/l	6.2	
12	Total coliform MPN/100 ml	9.4	500
13	Faecal Coliform MPN/100 ml	3.6	

iv. Analysis of Environmental monitoring results

- (i) For Haroa block, PM₁₀ and PM_{2.5} results are found to be exceeding the limits prescribed in National Ambient Air Quality Standard and WHO limit. However, CO, SO₂ and NO₂ concentration levels –typically emitted due to combustion of fossil fuels – were all found within the prescribed limits for the package. Therefore, it can be inferred that the increased levels of PM₁₀ and PM_{2.5} are due to high background concentration.
- (ii) In case of noise level, while the limits are exceeded when the monitoring was conducted near schools, however, in other locations the noise levels were found to be within the stipulated limits.
- (iii) Water quality results were compared against CPCB's limits for outdoor bathing – prevalent use of these water bodies. Based on the results obtained it can be concluded that release of wastewater, mostly having biological loading has caused contamination of these water bodies and rendered these sources unsuitable for outdoor bathing.
- (iv) "During Construction" air quality, noise level and water quality monitoring is being continued as per Environment Management and Monitoring Plan. All monitoring expenses are borne by contractors from their project Health safety monitoring budget.

C. Ecological Resources

40. South and North 24 Parganas districts are the home of Sundarbans Biosphere Reserve, a unique ecosystem, and a World Heritage Site. This area is part of delta of

Ganges and Brahmaputra river system. It is spread over 9,630 km² in 6 Community Development blocks of North 24 Parganas (Hingalganj, Hasnabad, Haroa, Sandeskhali - I, II and Minakhan) and 13 CD blocks in in South 24 Parganas district (Sagar, Namkhana, Kakdwip, Patharpratima, Kultali, Mathurapur-I,II, Jaynagar-I,II, Canning-I,II, Basanti, and Gosaba). The extent of mangrove Reserve Forests is around 4260 km², out of which 55% is under land vegetation cover and balance 45% is under water body/ inter-tidal zone. Nearly 40% of this reserve forest area is notified as protected areas: Sundarban National Park (1330 km²), Sajnekhali Wildlife Sanctuary (362 km²), Lothian Wildlife Sanctuary (38 km²) and Haliday Wildlife Sanctuary (6 km²). Sundarban Tiger Reserve, covers an area of 2585 km², which include Sundarban National Park as its core area, and the balance is the surrounding reserved forest area which forms its buffer zone

41. **Sundarban Biosphere Reserve** consists of following zones: Core Zone (protected site for conserving biological diversity and undertaking non-destructive research and other low-impact uses like education etc.); Buffer Zone (surrounding or adjoining the Core Zone, and is used for activities compatible with sound ecological practices); and Transition Area (contain a variety of agricultural activities, settlements and other uses and in which local communities, management agencies, scientists, NGOs and other stakeholders work together to manage and develop the Area's resources). Biosphere reserves are managed under the existing forest, wildlife and environmental related laws as applicable, and there are no other specific regulations. Except Sundarbans in the southern extreme, there are no forest areas or protected areas in the project area, and mainly consists of agricultural, habitation areas and water bodies, etc. Based on preliminary designs, no works is being conducted in the Sundarban areas, except for small civil works in one block of 24 South Parganas where the site for GSLR and small pipes are in the outer periphery of the transition zone. The project preparatory team has noted that the site and alignment are developed areas and construction is allowed. No works is being allowed beyond this location. The project will not consider any components in the core area. Chintamani Kar Bird Sanctuary is in the southwest of the project area at about 20-30 km from the project area. NOC from Sundarban Biosphere reserve has been obtained and attached in **Appendix 8**.

42. Floral species present in the project blocks are indigenous in nature. Commonly seen plant species are Tamarind (*Tamarindus indica*), Neem (*Azadirachta indica*), Gulmohur (*Delonix regia*), Jhau (*Casuarina equisetifolia*), Sisso (*Dalbergia sisso*), Babul (*Acacia nilotica*), Peepal (*Ficus religiosa*), etc., Domestic animals are commonly observed in the project blocks. All the proposed project (OHR) sites are vacant and there are trees in few sites. Some trees required to be cut for the project. In this context it is pertinent to note that tree cutting permission has been obtained from Forest Department for Zone-18 (Gopalpur site). The copy of the permission is attached in **Appendix 9**.

43. **East Kolkata Wetlands (EKW)**. A Ramsar designated wetland of international importance, located in the eastern outskirts of Kolkata city covering a total area of 12.5 km² (12,500 ha). It comprises large number of water bodies, sewage fed fish forms, agricultural lands and also some built up areas. Administratively, these wetlands are located in Kolkata municipal area and in the districts of north and south 24 Parganas. These water bodies include man-made and as well as natural ponds. Of the total area of 12,500 ha, slightly less than half (~47%) is covered with water bodies, nearly 43% is fish/agriculture farming area, and the remaining 10% consists of built-up area (both rural and urban). These wetlands are unique and used to treat sewage generated here through pisciculture. There are various deep canals, which flow with very low velocity that bring sewage from the city, and circulate in the wetlands. These canals act as facultative lagoons, and while fish ponds act as maturation

ponds for completing the sewage treatment. Solid waste also dumped here. So, these wetlands provide natural treatment for both sewage and solid waste, while providing benefits to the local people via fish farming. Outflow from fishponds flows naturally into streams, for further disposal into sea via natural drainage channels/rivers.

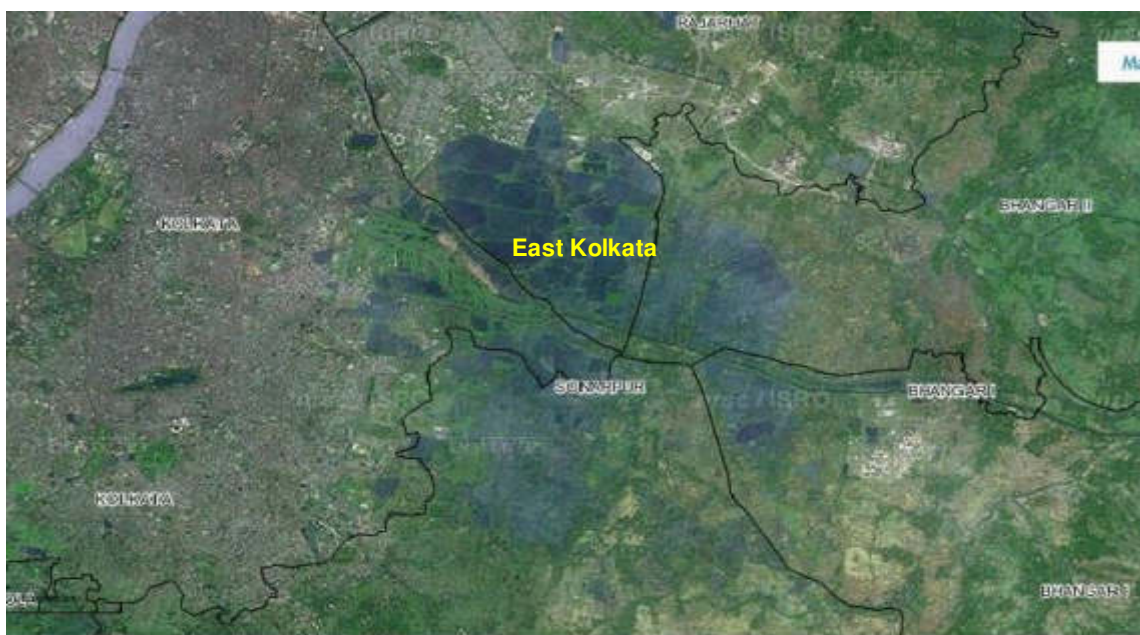


Figure 7: East Kolkata Wetlands Map

44. Besides providing the benefits of waste treatment and fish farming, wetlands has very rich biodiversity and is a waterfowl habitat. It is also known migratory birds. There are about 100 plant species recorded in and around the EKW. Several kinds of water hyacinths grow here, which also control land erosion. Area is known for paddy, coconut, vegetable cultivation. Fish species farmed in these sewages fed ponds include silver carp and tilapia. There are about 20 types of mammals and several reptiles in this area, which include: marsh mongoose, small Indian mongoose, Palm Civet, Small Indian Civet, Checkered keel back, smooth water snake, Buff striped keel back, and Bronze back tree snake.

45. However due to its location just outside Kolkata city and the neighboring rapidly developing New Town area of Rajarhat, has put tremendous pressure on the existence and functioning of this wetland ecosystem. Government has set up an EKW Management Authority to regulate the activities in and around the EKW. No project components are located within this wetland area.

D. Economic Development

1. Land Use

46. Following table shows the land use/utilization pattern as per Census 2011. In North 24 Parganas district, 57.70% land of the total reporting area is under cultivation, and 32.3% land is used for nonagricultural purpose (this includes all lands occupied by buildings, roads and railways, water bodies and the lands put to uses other than agriculture).

Table 15: Land Use in Project Area

Land use classification	N24Pgs District	Haroa Block
	<i>Area in hectares</i>	
Forests	93.7	1.1
Area under non-agricultural uses	124,780	2,366.4
Barren and uncultivable land	-	-
Permanent pastures and other grazing lands	-	-
Land under miscellaneous tree crops	4,810	-
Culturable waste land	-	4,332.1
Fallow	33,910	-
Net area sown	223,020	3,905.3
<i>Total reported area (total district area excluding the area under census towns and urban areas)</i>	<i>386,614</i>	<i>4,911</i>
Total Geographical area	409,400	15,273

*Source: Census 2011.

2. Industry and Agriculture

50. Owing to its location close to Capital City Kolkata, and good connectivity, abundance of water infrastructure availability etc., North 24 Parganas is among the top most districts in industrial development in the state of West Bengal. Due to favorable features, the district has been in the forefront of development even during the British era. District is home several industries related to cotton handloom, leather tanning, manufacturing of cutlery, brass and bell-metal industries, pottery, embroidery and lace works (chikan) etc., for many years. Textile and jute industries are very prominent in the district; major jute mills in India are located here, and district exports significant value of handlooms. There are a number of power looms manufacturing textiles. There are several large-scale industries. There are 6876 registered industrial units and 7 industrial areas in the district.

51. District has also become the Information Technology hub of West Bengal, and is home for several well-known and large Information technology multinational companies. Most of these industries are located in New Town area of Rajarhat Block (eastern and south-eastern part of the block). However, there are notable industries in Haroa block. Industrial activities are limited to brick kilns, small engineering and manufacturing units and household industries.

52. Located in highly fertilize Gangetic delta, soils in the district are very fertile and rich with nutrients. With abundance of water from numbers rivers, creeks, ponds, etc., lands in the district are extensively cultivated. Major crops grown are rice, oil seeds, potato and cash crops like jute, sugarcane, tobacco etc. Because of abundant rivers, creeks, khals etc., fishery is an important economic activity in the district., and provided fish for the domestic market and it is also exported to other states.

3. Infrastructure

53. **Water Supply.** The North 24 Parganas District has a predominantly urban profile with almost 50% of the people living in the 27 municipalities. Urban local bodies provide water supply in urban areas while Public Health Engineering Department (PHED) is responsible for rural water supply covering the blocks and the census towns within the blocks. At present 61% of population (mainly rural) under the PHED jurisdiction is provided

with piped water supply schemes, and rest depend on tube wells, dug wells etc., Groundwater in the district is not suitable for drinking due to high arsenic content, however, only 5% of habitations are provided with water supply schemes based on surface water sources. Rest all are depending on groundwater which is potentially unsafe. There are 181 commissioned Piped Water Supply Schemes (PWSS) in the district, and additional 32 schemes are under implementation. Out of the 181 commissioned schemes, 170 are based on ground water and 11 are based on surface water. Phasing out of groundwater-based schemes as per the recommendation of the Arsenic Master Plan is in progress. Groundwater is the only source for the PWSS in nine blocks, viz. Baduria, Bagda, Barasat - II, Bongaon, Haroa, Rajarhat, Sandeshkhali - I, Sandeshkhali - II, Swarupnagar. The typical groundwater-based scheme comprises a borewell and pumping arrangement, supplying water to the households after disinfection through chlorination. Where surface water sources are too far distant, Arsenic Master Plan recommended setting up on Arsenic / Iron Removal Plants (ARP) and accordingly a number of existing schemes have been retrofitted with ARP and new schemes have been proposed with ARP. In North 24 Parganas, a total of 33 groundwater based PWSS has been considered for provision of ARPs. At present there is only one major surface water based PWSS in the district. This scheme covers four blocks of Amdanga (Part), Deganga, Barasat – I, Barrackpore – II, and a small portion of Basirhat I.

54. **Sewerage and Drainage.** There is no sewage collection system in the project area. Households mainly depend on individual sanitation systems like pit latrines, flush latrines, some connected to septic reservoirs. Due to flat topography, low laying lands, high rainfall and several water bodies around, project area is prone flooding. Cyclones are also common; 2009 cyclone and subsequent torrential rains badly affected 20 of 22 blocks in the district. Large tracts of lands inundated. Storm water drainage system mainly consists of natural stream and major canals. Open drains along the roads are provided in some places. Kestopur Khal is a major canal passing through the project, and carries sewage from Kolkata city and other areas during its course. This is highly polluted, and solid waste dumping in the canal is prevalent.

55. **Solid Waste Management.** There is no proper solid waste management system in the project area. Respective village panchayats are responsible for SWM services their areas. Villages lack solid waste collection and disposal systems. Due to this, disposal of solid waste in water bodies, canals and ponds, etc. is very common, and is creating unhygienic conditions.

56. **Transport.** Transport infrastructure in the district is well developed with national highways (NH 34 and NH 35) and state highways (SH 1, SH 2 and SH 3) passing through the project area. Area is well connected with district roads and village roads. District is also well connected by railways. Internal roads in villages are mostly narrow. Due to high population density, traffic on the roads is considerable. Most of the roads are maintained by Public Works Department, except the roads in municipalities, which are maintained by the respective urban local bodies. Road the condition is generally poor, with many roads in need of repairs and resurfacing.

E. Socio Cultural Resources

1. Demography

59. Total population of the project area, comprising one community development block in the district of north 24 Parganas, is 214,000 (2011 census). Population density is high in the project area, much higher than the state average. As this is one of the fasted developing areas close to Kolkata, the population growth is also higher than the state average. Sex ratio is much lower than the state and district averages. Literacy rate is comparatively higher in north 24 Parganas blocks. Population of schedule castes is higher in the project districts. There is no urban population in Haroa block. Work participation rate is 33-34%. Agriculture is predominant economic activity in Haroa block, with large number of households engaged in agricultural activities. Main language spoken in the project area is Bengali.

Table 16: Demographic Characteristics

Demographic Parameters	West Bengal State	North 24 Parganas	Haroa Block
Population (2011)	91,276,115	10,009,781	214,401
Geographical area (km ²)	88,752	4,094	152.77
Total households	20,380,315	2,348,683	46,888
Decadal Growth rate (2001-11)	13.84%	12.18%	17.48%
Sex ratio	950	955	930
Population Density, (per km ²)	1028	2,445	1,403
Household size	4.5	4.3	4.6
literacy rate	76.26%	84.06%	73.13%
literacy rate (male)	81.69%	87.61%	78.13%
literacy rate (female)	70.54%	80.34%	67.75%
% of urban population	31.87%	57.27%	0.0%
SC Population	23.5%	21.67%	23.62%
ST Population	5.8%	2.64%	5.94%
Total workers	38.08%	35.68%	34.17%
Male workers	57.07%	57.53%	29.35%
Female workers	18.08%	12.81%	4.82%
Main workers	28.14%	30.53%	26.98%
Marginal workers	9.94%	5.15%	21.02%
Cultivators	14.72%	8.07%	17.94%
Agricultural Laborers	29.32%	16.77%	33.71%
HH industry workers	7.09%	4.36%	3.38%
Other workers	48.87%	70.80%	44.97%

2. History, Culture and Tourism

60. Prior to their bifurcation in 1986 as separate districts, both south and north 24 Parganas districts were part of 24 Parganas district. Located in the revered Gangetic belt, as per the legends, reference to this landmass is found in the great epic Mahabharata. References to this place is also found in the writings of Greek navigators, geographers, chroniclers and historians. Ruler of the Sundarbans between 1561 to 1611 A.D is said to be a Hindu Chieftain, named Pratapaditya, and enjoyed independence in the south and south-east of the Gangetic delta. During the middle half of the 16th century A.D., the region was invaded

by the Portuguese pirates. In the early 17th century, Maharaja Pratapaditya fought and resisted the Portuguese. Maharaja Pratapaditya was a Bhuian (feudal lord of Bengal who declared their sovereignty from the Mughal Empire along with another 11 Bhuians together referred as the Baro Bhuians means twelve chieftains) of Jessor, Khulna, Barisal and Greater Twenty-Four Parganas. Maharaja Pratapaditya was defeated and captured in the battles of Salka and Magrahat by the Mughals. Independent Nawab of Bengal Siraj-ud-Dullah faced defeat in the battle of Plassey (1757). Subsequently, the area came under British rule, under which entire Sunderbans were under 24 Parganas.

61. The district name Twenty-Four (24) Parganas is derived from the number of Parganas comprised in the Zamindari (Land Lordship) of Calcutta, which was ceded to East India Company in 1757 by the then Nawab of Bengal Mir Jafar. In the year 1824, the district got focus when the sepoys (soldiers) deployed at Barrackpur declared that they will not take part in the Burma war as crossing the sea was forbidden as per Hindu belief. The European troop opened fire; many of them were killed. In the year 1857, the second mutiny by the sepoys broke out at the then headquarters of the Presidency Division of Bengal, Barrackpore. This mutiny is often referred as the First War of Independence. The rebellion was ignited with Mangal Pandey, a Sepoy of the 34th Regiment, stationed at Barrackpore in March, 1857. After the mutiny, India came under the direct rule of the British Emperor from the East India Company. In 1905, some portions of the district were attached neighboring districts, which are now part of Bangladesh. In 1986, the district is divided into two districts – north and south. Satellite township of Kolkata (Salt Lake City) is included in North 24 Parganas district.

62. West Bengal has rich and unique culture and tradition. Many pujas and festivals are celebrated here with gaiety and grandeur. People from all faiths participate in these celebrations. Durga Puja, dedicated to the Goddess Durga is the most prominent and main festivals of the state. This symbolizes the triumph of Goddess Durga over the devil Mahishasura. There are several places of religious importance in the project districts. The most popular tourist attraction in north 24 parganas include Dakshineswar temple, Adyapeath Temple, Mangal Pandey Park, Bibhuti Bhusan Wild Life Sanctuary, Chandraketurgh, Baraha Mihirer Dhipi, etc.

63. There are few protected monuments/archeological places of national importance in north 24 Parganas district. These are: Chandraketu's Fort at Berachampa; Ancient mound known as Barah Mihirer Dhipi at Deulia and Kaukipara; Clive's House Dum Dum known as Barakothi, Dum Dum; 26 Siva Temples at Barrackpore – Khardah, Warren Hasting's House in Barasat. None of these monuments are however located in the project area.

F. Subproject Site Environmental Features

64. Features of the selected subproject OHR sites are presented in the following table. However, it may be noted that the land for all the OHR sites have not yet been procured for construction. The OHR sites for which land has been procured are presented in *Table 2*. Recent photographs of the sites where construction activities are undergoing is presented in **Appendix 10**.

Table 17: Site Environmental Features

Infrastructure 1. Overhead Reservoir sites	Location and Environmental Features	Site Photograph
	Zone-1 Amta: Vacant land owned by PHED adjacent an OHR	
	Zone-2 Nebutala abada: Government vacant land near a school	
	Zone-4 Laugachi: Government vacant land	
	Zone-5 Tegharia: Private land, low lying area / fish pond	
	Zone-6 Kamarganti: Private agricultural land	
	Zone-8 Bentosha: Private land with a small pond/depression fill with water, and coconut trees	
	Zone-9 Kalinagar: Private agricultural land – low lying land	
	Zone-10 Baganati: Private land with mango orchard	
	Zone-11 Akand Baria: Private vacant land with few mango trees	
	Zone-12 Parchandapur: Private agricultural land	
	Zone-14 Kalisedi: Government vacant land	
	Zone-15 Jinkia: Private land with mango trees	
	Zone-16 Haripur: Private land – depressed land / pond	
	Zone-17 Kamarganti: Private vacant land	
	Zone-18 Gopalpur: Vacant land adjacent an OHR (PHED), few trees on site	
	Zone-21 Haroa Site visit in existing PHED pump house; vacant land	

2. Distribution Lines

Distribution lines have been laid from OHRs to households in respective zones, and will cover entire habitation areas in each zone.

Pipelines have been laid along the public roads (buried in a trench). Where there is adequate land in the road shoulder beside tarmac, pipe line will be buried in the earthen shoulder. And where there is no space in road shoulder, pipeline have been laid in the tarmac. Many roads within habitations are narrow.

There are very few trees along the roads, pipeline alignment is being locally modified as required to save trees.

NOC has been taken for tree cutting at Gopalpur OHR site.



V. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

65. Potential environmental impacts of the proposed infrastructure components are presented in this section. Mitigation measures to minimize/mitigate negative impacts, if any, are recommended along with the agency responsible for implementation. Monitoring actions to be conducted during the implementation phase is also recommended to reduce the impact.

66. Screening of potential environmental impacts are categorized into four categories considering subproject phases: location impacts and design impacts (pre-construction phase), construction phase impacts and operations and maintenance phase impacts.

- (i) **Location impacts** include impacts associated with site selection and include loss of on-site biophysical array and encroachment either directly or indirectly on adjacent environments. It also includes impacts on people who will lose their livelihood or any other structures by the development of that site.
- (ii) **Design impacts** include impacts arising from Investment Program design, including technology used, scale of operation/throughput, waste production, discharge specifications, pollution sources and ancillary services.
- (iii) **Construction impacts** include impacts caused by site clearing, earthworks, machinery, vehicles and workers. Construction site impacts include erosion, dust, noise, traffic congestion and waste production.
- (iv) **O&M impacts** include impacts arising from the operation and maintenance (O&M) activities of the infrastructure facility. These include routine management of operational waste streams, and occupational health and safety issues.

67. Screening of environmental impacts has been based on the impact magnitude (negligible/moderate/severe – in the order of increasing degree) and impact duration (temporary/permanent).

68. This section of the IEE reviews possible project-related impacts, in order to identify issues requiring further attention and screen out issues of no relevance. ADB SPS (2009) require that impacts and risks are analyzed during pre-construction, construction, and operational stages in the context of the project's area of influence.

69. The ADB REA checklist in http://www.adb.org/documents/guidelines/environmental_assessment/eaguidelines002.asp has been used to screen the project for environmental impacts and to determine the scope of the IEE.

70. In the case of this project (i) most of the individual elements involve straightforward construction and operation, so impacts are mainly localized and not greatly significant; (ii) most of the predicted impacts are associated with the construction process, and are produced because that process is invasive, involving excavation and earth movements; and some works are located in the reservoir and (iii) being mostly located in an rural area, will not cause direct impact on biodiversity values. The project has been in properties held by the local government (Gram Panchyat) and access to the project location is through public rights-of-way and existing roads hence, land acquisition and encroachment on private property will not occur.

A. Pre-Construction Impacts – Design and Location

71. **Design of the Proposed Components.** Technical design of the (i) overhead reservoirs, distribution pipelines, and (ii) water connections and flow meters follows the relevant national planning and design guidelines, focusing on providing a robust system which is easy to operate, sustainable, efficient and economically viable. Following environmental considerations are included in the project:

- (i) Gravity distribution system: designing the entire system to maintain optimal flow and terminal pressure, and optimising the overall energy usage;
- (ii) Implementation of a water quality surveillance program including development of a laboratory as part of the project to ensure that supplied water meets the drinking water standards;
- (iii) Minimizing water losses from pipelines by perfect jointing and alignments using appropriate techniques;
- (iv) Reducing the incidence of water borne diseases by providing 100% population including urban poor with potable water supplies.

72. **Proposed Subproject Locations and Impacts.** Location impacts are associated with planning particularly on the site selection, and include impacts due to encroaching on sensitive areas, and impacts on the people who might lose their homes or livelihoods. All the project sites are along the public roads, and there are no environmentally sensitive features like forests or protected areas in the project location.

73. There are several water bodies/ low lying land parcels filled with water / ponds in most habitations. Although there is no direct impact as pipelines are not encroaching/ disturbing these areas, there may be impacts during construction due to spilling of excavated soil or silt laden run off or washing of construction material, waste etc., into these ponds, and may adversely affect on their current usage (as fishery ponds). These impacts are being considered during construction phase. Most of the selected OHR sites are privately owned agricultural or vacant lands, some of which are low-lying lands / ponds. These include OHR sites at Haripur, Tegharia and Bantoshia. Tegharia and Haripur sites are low-lying land filled with water resembling a fishery pond. Discussion with the local people indicated that this land was flat, but excavated for borrowing earth for increasing the level of adjoining school playground. In Bantoshia, OHR site is selected on private land, which is again low-lying resembling a pond. No significant negative impacts envisaged due to filling up and raising of these low-lying lands or ponds, which are primarily private owned, and not necessarily part of overall natural drainage system. However, based on the discussion with Directorate of

Fisheries, it can be confirmed that these lands are not under the ambit of 'fishery area'⁶ regulated under West Bengal Inland Fisheries Act, 1984.

74. **Tree cutting.** There are trees in some selected OHR sites (e.g., Gopalpur, Akandbaria, Jinkia, Bentosha and Baganati). These are mostly mango trees or of other local species. Trees may need to be removed for construction of OHRs at these sites. Also, there are trees along the public roads – especially on the main roads. Some of these trees may require to be removed for laying of pipes. Total number of trees felled are confirmed during implementation phase based on the final alignment of pipes and location of the overhead reservoirs. IEE is updated further during implementation phase, with the actual data.

75. N.O.C has been taken for 11 Nos. of tree cutting within the Gopalpur OHR site (**Appendix 9**). All trees have been cut before start of construction

76. Following measures need to be implemented to compensate for the loss of tree cover.

- (i) Minimize removal of trees by adopting to site condition and with appropriate layout design of OHRs within the sites;
- (ii) Avoid cutting of trees by adopting suitable alignment changes as required during laying of pipelines;
- (iii) In unavoidable cases, obtain prior permission for tree cutting;
- (iv) Plant and maintain 5 trees for each tree that is removed.

77. **Utilities.** Telephone lines, electric poles and wires, water lines within the proposed project locations may require to be shifted in few cases. To mitigate the adverse impacts due to relocation of the utilities, the contractor, in collaboration with the PHED will (i) identify the locations and operators of these utilities to prevent unnecessary disruption of services during construction phase; and (ii) instruct construction contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services.

78. **Site Selection of Construction Work Camps, Stockpile Areas, Storage Areas, and Disposal Areas.** Priority is to locate these near the project location. However, if it is deemed necessary to locate elsewhere, sites considered do not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems. Residential areas are not being considered for setting up construction camps to protect the human environment (i.e., to curb accident risks, health risks due to air and water pollution and dust, and noise, and to prevent social conflicts, shortages of amenities, and crime) however, in some instances existing houses are being rented to accommodate workers. Extreme care has been taken to avoid disposals near forest areas, water bodies.'

79. **Site Selection of Sources of Materials.** Significant quantities of gravel, coarse aggregate and fine aggregate are required for construction works. Contractor is procuring these materials only from the quarries permitted/licensed by Mines and Geology Department. Contractor should, to the maximum extent possible, procure material from existing quarries, and creation of new quarry areas should be avoided as far as possible. If new quarries are required then the contractor is responsible for obtaining all permissions and clearances, including environmental clearance for mining. Contractor should factor in the time required for obtaining clearances including conduct of EIA if required under the law. It is construction

⁶ Fisher area is defined as "any water area, naturally or artificially depressed land, irrespective of ownership, measuring 0.035 ha or more, which retains water for more than 6 months and capable of being used as fishery".

contractor's responsibility to verify the suitability of all material sources and to obtain the approval of Department of Mines and Geology and local revenue administration.

B. Construction Impacts

80. Main civil works in the subproject include construction of overhead reservoirs, at the identified sites, and laying of water supply pipelines (distribution lines). OHR works have been confined to sites, and construction includes general activities like site clearance, excavation for foundations, and creation of concrete structures (staging and reservoir). Since these works are confined to the boundary of identified sites, there is no direct interference of construction work with the surrounding land use. However, construction dust, noise, use of local roads for transportation of construction material, waste, labour camps etc., cause negative impacts, which are avoided or mitigated properly.

81. Subproject also include laying of distribution lines. Distribution lines cover all habitations, and are being laid along all internal roads in the project area. Pipelines have been buried along the roads using open cut method.

82. Open cut trenching method of pipe laying involves excavation for laying pipes along the roads, placing pipes in the trench, jointing and testing, and refilling with the excavated soil. The trenches are of 1 m – 1.5 m wide and 1.5 to 2 m deep. Earthwork excavation is being undertaken by machine (backhoe excavator) or manually, while pipe laying works include laying of pipes at required gradient, fixing collars, elbows, tees, bends and other fittings including conveying the material to work spot and testing for water tightness. Sufficient care are being taken while laying so that existing utilities and cables are not damaged and pipes are not thrown into the trenches or dragged, but carefully laid in the trenches. As trenches are only 1.5-2 m deep, risk of collapse of trenches or damage to surrounding buildings is minimal. However, necessary precautions have been taken depending on the soil conditions, and wherever required measures such as bracing or shoring in the trench have been provided. Once they are laid, pipes are joined as per specification and then tested for any cracks or leakages. For the existing sites where pipe laying has commenced, no extra soil has been accumulated for off-site disposal. All excavated soil has been fully reused on-site only.

83. Although pipe laying work involves quite simple techniques of civil work, the invasive nature of excavation and pipeline alignment in the built-up areas where there are a variety of human activities, result in impacts to the environment and sensitive receptors such as residents, businesses, and the community in general. These anticipated impacts are temporary and for short duration, however, needs to be mitigated.

84. Anticipated impacts during the construction phase are discussed below along with appropriate mitigation measures to avoid, minimize or mitigate those impacts to acceptable levels.

85. **Sources of Materials.** Significant amount of sand and coarse aggregates are required for this project, which are being sourced from quarries. Quarries inevitably cause extensive physical changes; as construction materials are excavated from the ground, leaving large cavities, or leveling hillsides, etc. The physical damage caused by quarries is controlled by allowing them to operate within specific limited areas only, so the damage is restricted in extent and not allowed to spread indiscriminately. New quarries are subject to a rigorous process of environmental assessment to ensure appropriate siting and adequate environmental controls on the operation. Therefore, it is important to ensure that construction materials for this project

are obtained from government approved licensed quarries only, to ensure these controls are in place. Contractor should avoid new borrow pits/quarries as far as possible, if necessary, all the permissions, including conduct of environmental assessment, and environmental clearance as necessary shall be obtained prior to start of quarrying activity. The contractor should also make a concerted effort to re-use as much excavated material from this project as possible. The construction contractor is required to:

- (i) Obtain construction materials only from government approved quarries with prior approval of PIU.
- (ii) PIU to review, and ensure that proposed quarry sources have all necessary clearances/ permissions in place prior to approval;
- (iii) Contractor to submit to PIU on a monthly basis documentation on material obtained from each source (quarry/ borrow pit); Royalty slips are maintained for all sourced quarry material.
- (iv) Avoid creation of new borrow areas, quarries etc., for the project; if unavoidable, contractor to obtain all clearances and permissions as required under law, including Environmental Clearance prior to approval by PIU.

86. **Air Quality.** Construction work, especially from earthwork activities, coupled with dry and windy working conditions, material and debris transport, and works along the public roads carrying significant traffic, have high potential to generate dust. Also, emissions from construction vehicles, equipment, and machinery used for excavation and construction will induce impacts on the air quality. Anticipated impacts include dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons. Dust generation from OHR construction work is mainly during the initial construction phase of earth work, as the site is confined, dust can be effectively controlled with common measures. Dust generation is being significant during pipeline laying along the roads. Increase in dust/ particulate matter in ambient air is detrimental, and may have adverse impacts on people and environment. To mitigate the impacts, construction contractor is required to:

87. **For All Construction Works**

- (i) Comply with the air pollution / dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7 /001/2009 dated: 10 December 2009" (**Appendix 4**);
- (ii) Provide a dust screen/high compound wall around the construction sites (OHRs)
- (iii) Damp down the soil and any stockpiled material on site by water sprinkling;
- (iv) Use tarpaulins to cover the loose material (soil, sand, aggregate etc.,) when transported by trucks;
- (v) Clean wheels and undercarriage of haul trucks prior to leaving construction site/quarry;
- (vi) Control dust generation while unloading the loose material (particularly aggregate, soil) at the site by sprinkling water and unloading inside the barricaded area
- (vii) Stabilize surface soils where loaders, support equipment and vehicles will operate by using water and maintain surface soils in a stabilized condition
- (viii) Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process;
- (ix) Control access to work area, prevent unnecessary movement of vehicle, public trespassing into work areas; limiting soil disturbance will minimize dust generation;

- (x) Ensure that all the construction equipment and machineries are fitted with pollution control devices, which are operating correctly, and have a valid pollution under control (PUC) certificate. PUC for all vehicles operating on-site are periodically checked.

88. For Pipeline Works

- (i) Barricade the construction area;
- (ii) Initiate site clearance and excavation work only after barricading of the site is done
- (iii) Confine all the material, excavated soil, debris, equipment, machinery (excavators, cranes etc.), to the barricaded area;
- (iv) Limit the stocking of excavated material at the site; remove the excess soil from the site immediately to the designated disposal area;
- (v) Undertake the work section wise;
- (vi) Conduct work sequentially - excavation, pipe laying, backfilling; conduct pipe testing section-wise (for a minimum length as possible) so that backfilling, stabilization of soil can be done;
- (vii) Remove the excavated soil of first section to the disposal site; as the work progresses, sequentially, by the time second section is excavated, the first section has been ready for back filling, use the freshly excavated soil for back filling, this will avoid stocking of material, and minimize the dust;
- (viii) Backfilled trench at any completed section after removal of barricading is the main source of dust pollution. The traffic, pedestrian movement and wind generates dust from backfilled section. Road restoration undertaken immediately.'

89. Surface Water Quality. Run-off from stockpiled materials and chemicals from fuels and lubricants during construction works can contaminate downstream surface water quality of the water bodies, fishery ponds, and rivers. Project area receives considerable rainfall, although mostly confined during the monsoon months. There are a number of water bodies/ponds along the roads, where pipelines have been laid. It is important that runoff from the construction areas, which may contain silt and chemical traces do not enter these water bodies. Impact is temporary, but needs to be mitigated. Construction contractor is required to:

- (i) All earthworks be conducted during the dry season to prevent the problem of soil run-off during monsoon season;
- (ii) Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets;
- (iii) Prioritize re-use of excess spoils and materials in the construction works. If spoils are disposed, only designated disposal areas are used.
- (iv) Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies
- (v) Place storage areas for fuels and lubricants away from any drainage leading to water bodies
- (vi) Store fuel, construction chemicals etc., on an impervious floor, also avoid spillage by careful handling
- (vii) Dispose any wastes generated by construction activities in designated sites; and
- (viii) Conduct surface quality inspection according to the environmental management plan (EMP).

90. Surface and Groundwater Quality. Another physical impact that is often associated with excavation is the effect on drainage and the local water table if groundwater and surface water collect in the voids. In the project area, groundwater depth is shallow, there are

numerous water bodies and ponds, and it also receives high rainfall during the monsoon. Conducting excavation works during non-monsoon season certainly helps, but due to high water table, water may collect in pits as they are excavated. The water collected in excavated pits contain silt and disposal of this in drainage channels lead to silting. To avoid this the contractor is implementing the following measures:

- (i) Create a temporary drainage channel around the work area to arrest the entry of runoff from upper areas into the work area;
- (ii) Pump out the water collected in the pits/excavations to a temporary sedimentation pond; dispose of only clarified water into drainage channels/streams after sedimentation in the temporary ponds;
- (iii) Consider safety aspects related to pit collapse due to accumulation of water.

91. Generation of Construction Wastes. Solid wastes generated from the construction activities are excess excavated earth (spoils), discarded construction materials, cement bags, wood, steel, oils, fuels and other similar items. Domestic solid wastes may also be generated from the workers' camp. Improper waste management could cause odor and vermin problems, pollution and flow obstruction of nearby watercourses and could negatively impact the landscape. The following mitigation measures are being implemented at sites by the contractor to minimize impacts from waste generation:

- (i) Prepare and implement a Construction Waste Management Plan;
- (ii) As far as possible utilize the debris and excess soil in construction purpose, for example for raising the ground level or construction of access roads etc.;
- (iii) Avoid stockpiling any excess spoils at the site for long time. If required, excess excavated soils are disposed of to approved designated areas immediately;
- (iv) If disposal is required, the site shall be selected preferably from barren, infertile lands; site should be located away from residential areas, forests, water bodies and any other sensitive land uses;
- (v) Domestic solid wastes are properly segregated in biodegradable and non-biodegradable for collection and disposal to designated solid waste disposal site; create a compost pit at workers' camp sites for disposal of biodegradable waste; non-biodegradable / recyclable materials are collected separately and sold in the local recycling material market;
- (vi) Residual and hazardous wastes such as oils, fuels, and lubricants are disposed of in disposal sites approved by WBPCB;
- (vii) Burning of construction and/or domestic waste are strictly prohibited;
- (viii) Ensure that wastes are not haphazardly thrown in and around the project site; provide proper collection bins, and create awareness to use the dust bins;
- (ix) Conduct site clearance and restoration to original condition after the completion of construction work; PIU to ensure that site is properly restored prior to issuing of construction completion certificate.

92. Noise and Vibration Levels. Most of the works are being implemented in rural setting, with thickly populated habitation areas and surrounding extensively cultivated agricultural lands. Noise and vibration impacts are likely to be minimal as most of the OHR sites located outside habitation in agricultural lands. Few OHR sites are located adjoining schools and habitation areas, where there are houses, religious places and businesses. The sensitive receptors are the general population in these areas. Increase in noise level may be caused by breaking of bitumen roads for laying of pipelines, operation of construction equipment like concrete mixers, and the transportation of equipment, materials, and people. Vibration generated from construction activity, for instance from the use of pneumatic drills, is expected to have impact on nearby buildings. This impact is negative but short-term, and

reversible by mitigation measures. The construction contractor has been given the responsibility to:

- (i) Plan activities in consultation with PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which is expected to result in least disturbance;
- (ii) Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers, and use portable street barriers to minimise sound impact to surrounding sensitive receptor;
- (iii) Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity;
- (iv) Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach; and
- (v) Consult local communities in advance of the work to identify and address key issues, and avoid working at sensitive times, such as religious and cultural festivals.

93. **Accessibility.** Excavation along the roads for laying of pipelines, hauling of construction materials and operation of equipment on-site can cause traffic problems. Roads connecting GLSR to OHR sites are main roads, but are narrow and carry considerable local traffic, mainly comprise bicycles, 2 wheelers, Mini trucks, auto rickshaws, buses etc., Vegetable cultivation is predominant in Haroa, and large number of vehicles carrying vegetable produce to market can be seen in the area. Habitation areas mostly consists of very narrow streets, but the traffic is limited mostly to bicycles and two wheelers, and other transport vehicles. Distribution line works within habitation may result in accessibility issues to surrounding houses. Works related to OHRs is being confined to the selected sites, therefore there is no direct interference of these works with the traffic and accessibility. Hauling of construction material, equipment, construction waste, etc., to and from the work site may increase the road traffic on local roads, which are not in good condition. This is expected to further inconvenience the local community and road users. Potential impact is negative but short term and reversible by mitigation measures. The construction contractor has been given responsibility to:

94. **Hauling (material, waste/debris and equipment) Activities**

- (i) Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites
- (ii) Schedule transport and hauling activities during non-peak hours;
- (iii) Locate entry and exit points in areas where there is low potential for traffic congestion;
- (iv) Drive vehicles in a considerate manner
- (v) Notify affected public by public information notices, providing sign boards informing nature and duration of construction works and contact numbers for concerns/complaints.'

95. **Pipeline Works**

- (i) Confine work areas along the roads to the minimum possible extent; all the activities, including material and waste/surplus soil stocking should be confined to this area. Provide barricading; avoid material/surplus soil stocking in congested areas – immediately removed from site/ or brought to the as and when required
- (ii) Leave spaces for access between mounds of soil to maintain access to the houses/ properties

- (iii) Provide pedestrian access in all the locations; provide wooden/metal planks over the open trenches at each house to maintain the access.
- (iv) Inform the affected local population 1-week in advance about the work schedule
- (v) Plan and execute the work in such a way that the period of disturbance/ loss of access is minimum.
- (vi) Keep the site free from all unnecessary obstructions;
- (vii) Coordinate with Police for temporary road diversions, where necessary, and for provision of traffic aids if transportation activities cannot be avoided during peak hours

96. **Socio-Economic – Income.** Due to non-availability of suitable government owned lands, most of the OHRs are proposed on privately owned land parcels, which are either vacant or under agriculture. These land parcels have been purchased at market price with the willingness of the land owners to sell their property for the project. Resettlement and social issues are being studied in a parallel resettlement planning study of this subproject. Blocking of access to the business / livelihood activities, especially during pipeline laying along the roads, may impact the income of households. However, given mostly rural settlements, and also the measures suggested for ensuring accessibility during pipeline works, no notable impact is envisaged.

97. **Socio-Economic – Employment.** Manpower is required during the 36-months construction stage. This is resulting in generation of temporary employment and increase in local revenue. Thus, potential impact is positive and long-term. The construction contractor is required to employ local labours as far as possible.

98. **Occupational Health and Safety.** Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures. The construction contractor is committed to:

- (i) Comply with all national, state and local labour laws (**Appendix 6**);
- (ii) Develop and implement site-specific occupational health and safety (OHS) Plan which includes measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment; (c) OHS Training⁷ for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents;
- (iii) Ensure that qualified first-aid is provided at all times. Equipped first-aid stations shall be easily accessible throughout the site;
- (iv) Provide medical insurance coverage for workers;
- (v) Secure all installations from unauthorized intrusion and accident risks;
- (vi) Provide health and safety orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective

⁷ Some of the key areas that may be covered during training as they relate to the primary causes of accidents include (i) slips, trips and falls; (ii) personal protective equipment; (iii) ergonomics, repetitive motion, and manual handling; (iv) workplace transport; and (v) legislation and responsibilities. Training can provide the foundations of competence but it does not necessarily result in a competent worker. Therefore, it is essential to assess staff competence to ensure that the training provided is relevant and effective. Supervision and monitoring arrangements shall be in place to ensure that training has been effective and the worker is competent at their job. The level of supervision and monitoring required is a management decision that shall be based on the risks associated with the job, the level of competence required, the experience of the individual and whether the worker works as part of a team or is a lone worker.

- protection, and preventing injuring to fellow workers;
- (vii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;
- (viii) Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;
- (ix) Ensure moving equipment is outfitted with audible back-up alarms;
- (x) Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate;
- (xi) The use of hearing protection shall be enforced actively.
- (xii) Provide supplies of potable drinking water;
- (xiii) Provide clean eating areas where workers are not exposed to hazardous or noxious substances'

99. **Asbestos Materials.** No Asbestos containing material (ACM) is proposed to be used in the subproject construction. There are however ACM in the existing water supply infrastructure, which will not be disturbed or come in contact with the workers and general public. It is pertinent to note here that to date no AC pipe has been encountered while working in this sub-project

100. **Community Health and Safety.** Pipeline works along the road, and hauling of equipment and vehicles have potential to create safety risks to the community. Hazards posed to the public, specifically in high-pedestrian areas may include traffic accidents and vehicle collision with pedestrians. Potential impact is negative but short-term and reversible by mitigation measures. The construction contractor has committed to:

- (i) Restrict construction vehicle movements to defined access roads and demarcated working areas (unless in the event of an emergency)
- (ii) Enforce strict speed limit (20-30 kmph) for plying on unpaved roads, construction tracks
- (iii) Night-time driving is allowed by exception only, as approved by the PIU to minimise driving risk and disturbance to communities
- (iv) Adopt standard and safe practices for micro tunneling
- (v) Temporary traffic control (e.g. flagmen) and signs is being provided where necessary to improve safety and provide directions
- (vi) All drivers will undergo safety and training
- (vii) Public access to all areas where construction works are on-going is being restricted through the use of barricading and security personnel
- (viii) Warning signs, blinkers is being attached to the barricading to caution the public about the hazards associated with the works, and presence of deep excavation
- (ix) The period when the pipeline trench is left open is being minimized through careful planning
- (x) Control dust pollution – implement dust control measures as suggested under air quality section
- (xi) Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure.
- (xii) Provide road signs and flag persons to warn of on-going trenching activities.

101. **Construction Camps.** Contractor may require to set up construction camps – for temporary storage of construction material (pipes, cement, steel, fixtures, fuel, lubricants etc.), and stocking of surplus soil, and may also include separate living areas for migrant workers. The contractor is being encouraged to engage local workers as much as possible. Operation of work camps can cause temporary air, noise and water pollution, and may become a source of conflicts, and unhealthy environment if not operated properly. Potential impacts are negative but short-term and reversible by mitigation measures. The construction contractor is committed to ensure that:

- (i) As far as possible locate the camp site within the work sites; if any camp to be established outside, then select a camp site away from residential areas (at least 100m buffer shall be maintained);
- (ii) Avoid tree cutting for setting up camp facilities;
- (iii) Camp site shall not be located near (100 m) water bodies, flood plains flood prone/low lying areas, or any ecologically, socially, archeologically sensitive areas
- (iv) Separate the workers living areas and material storage areas clearly with a fencing and separate entry and exit
- (v) Provide proper temporary accommodation with proper materials, adequate lighting and ventilation, appropriate facilities for winters and summers; ensure conditions of livability at work camps are maintained at the highest standards possible at all times;
- (vi) Consult PIU before locating project offices, sheds, and construction plants;
- (vii) Minimize removal of vegetation and disallow cutting of trees
- (viii) Ensure conditions of livability at work camps are maintained at the highest standards possible at all times; living quarters and construction camps shall be provided with standard materials (as far as possible to use portable ready to fit-in reusable cabins with proper ventilation); thatched huts, and facilities constructed with materials like GI sheets, tarpaulins, etc., shall not be allowed as accommodation for workers
- (ix) Camp shall be provided with proper drainage, there shall not be any water accumulation
- (x) Provide drinking water, water for other uses, and sanitation facilities for employees
- (xi) Prohibit employees from cutting of trees for firewood; contractor should be providing proper facilities including cooking fuel (oil or gas; fire wood not allowed)
- (xii) Train employees in the storage and handling of materials which can potentially cause soil contamination
- (xiii) Recover used oil and lubricants and reuse or remove from the site
- (xiv) Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; provide a compost pit for biodegradable waste, and non-biodegradable / recyclable waste shall be collected and sold in local market
- (xv) Remove all wreckage, rubbish, or temporary structures which are no longer required
- (xvi) At the completion of work, camp area shall be cleaned and restored to pre-project conditions, and submit report to PIU; PIU to review and approve camp clearance and closure of work site.

C. Operation and Maintenance Impacts

102. Once the construction is over the O&M of the water distribution system will be carried out by PHED (up to habitation) and Gram Panchayat (within habitation). Prior to supply of water, it will be ensured that the newly laid pipes are properly cleaned and disinfected. In water supply distribution system project, the impacts are primarily due to construction phase activities, and are not generally associated with any significant impacts as a result of activities during operation. During the system design life (15/30 years for mechanical/civil components) it shall not require major repairs or refurbishments and should operate with little maintenance beyond routine actions required to keep the equipment in working order. The stability and integrity of the system will be monitored continuously and any problems detected will be promptly restored. Any repairs will be small-scale involving manual, temporary, and short-term works involving regular checking and recording of performance for signs of deterioration, servicing and replacement of parts.

103. Recurrence of pipe bursting and leakage problems can be managed by the leak detection, rectification and water auditing surveys. PHED will be required to ensure that the leak detection and rectification time is minimized.

104. The citizens of the Haroa block will be the major beneficiaries of the improved water supply system, as they will be provided with a constant supply of better-quality water, piped into their homes at an appropriate pressure. The project will improve the over-all health condition of the town as water borne diseases will be reduced, so people should spend less on healthcare and lose fewer working days due to illness, so their economic status should also improve, as well as their overall health. This should also improve the environment of these areas, should deliver major improvements in individual and community health and well-being.

105. The project is designed to deliver potable water in sufficient quantities to the consumers in their homes with proper terminal pressure. To ensure that water delivered to consumers at all times meets the drinking water standards, the following measures are suggested:

- (i) Preparation and implementation of a water quality surveillance program including development of a laboratory as part of the project to ensure that supplied water meets the drinking water standards
- (ii) Water quality surveillance program to cover consumer end water quality.

VI. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

A. Overview

106. The active participation of stakeholders including local community, NGOs/CBOs, etc., in all stages of project preparation and implementation is essential for successful implementation of the project. It will ensure that the subprojects are designed, constructed, and operated with utmost consideration to local needs, ensures community acceptance, and will bring maximum benefits to the people. Public consultation and information disclosure are a must as per the ADB policy.

107. Most of the main stakeholders have already been identified and consulted during preparation of this IEE, and any others that are identified during project implementation can be brought into the process in the future. Primary stakeholders of the subproject are: residents, shopkeepers and businesspeople who live and work near sites where facilities are

being built (OHRs and distribution lines), PHED, government and utility agencies responsible for provision of various services in project area, and West Bengal Pollution Control Board. Secondary stakeholders are: NGOs and CBOs working in the area, community representatives, beneficiary community in general, government agencies, Government of India and the ADB.

B. Public Consultation

108. The public consultation and disclosure program are a continuous process throughout the project implementation, including project planning, design and construction.

1. Consultation During Project Preparation

109. Institutional consultations were conducted with the project agencies, and Government Departments such as PHED, Pollution Control Board, Kolkata Port Trust etc. The subproject proposal is formulated in consultation with the local bodies in the project area to suit their requirements.

110. Focus-group discussions with affected persons and other stakeholders were conducted to learn their views and concerns. A socio-economic household survey has been conducted in the project area, covering sample households, to understand the household characteristics, health status, and the infrastructure service levels, and also the demand for infrastructure services. General public and the people residing along the project activity areas were also consulted during visits to the project sites. Important issues or concerns that were raised by the stakeholders during consultations along with photographs and attendance sheets are provided in **Appendix 11** (sample copy).

111. It has been observed that people are very happy about the project as the project area currently faces severe water problem due to lack of any potable water supply system as the groundwater in the area is arsenic contaminated. People are very much willing to extend their cooperation as the project will provide much needed potable water and enhance living standard of the public. There are no negative impacts perceived by the community, however, project team explained the likely issues during construction and proposed EMP to manage the negative impacts. Increasing traffic and disturbance to agricultural vehicle movement (vegetable transport from fields to market) during the work was raised during the meeting, and it was informed that proper care is being taken for movement of construction vehicles including traffic management plan, prior information to people etc., It was also informed no road closures are anticipated due to this work, and if needed during the construction phase, alternative access will be provided. These measures are included in the EMP.

2. Consultation During Construction

112. Prior to start of construction, PIU in coordination with the local bodies has conducted information dissemination sessions at various places and solicited the help of the local community, leaders/prominent citizens for the project work. Focus Group Discussions (FGDs) have been conducted to discuss and plan construction work (mainly pipeline work) with local communities to reduce disturbance and other impacts and also regarding the project grievance redress mechanism (GRM). A constant communication has been established with the affected communities to redress the environmental issues likely to surface during construction phase. The sample summary of public consultations including FGDs conducted during construction phase is attached in the **Appendix 11**.

C. Information Disclosure

113. Executive summary of the final IEE is translated in Bengali and made available at the offices of PMU, PIU, Block offices, and also displayed on their notice boards. Hard copies of the IEE are accessible to citizens as a means to disclose the document and at the same time creating wider public awareness. Electronic version of the IEE in English and Executive Summary in Bengali will be placed in the official website of the PHED by PMU after approval of the IEE by Government and ADB. Stakeholders also be made aware of grievance register and redress mechanism. IEE and EMP are available with contractor

114. Public information campaigns to explain the project details to a wider population is being conducted. Public disclosure meetings are also being conducted at key project stages to inform the public of progress and future plans. A board showing the details of the project displayed at the construction site for the information of general public.

115. Local communities will be continuously consulted regarding location of construction camps, access and hauling routes and other likely disturbances during construction. The road closure together with the proposed detours are being communicated via advertising, pamphlets, radio broadcasts, road signage, etc.

VII. GRIEVANCE REDRESS MECHANISM

116. A common GRM has been put in place to redress social, environmental or any other project and/or subproject related grievances. The GRM described below has been developed in consultation with stakeholders. Public awareness campaign is being conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and concerned PIUs ensure that their grievances are addressed.

117. Affected persons have the flexibility of conveying grievances/suggestions by dropping grievance redress/suggestion forms in complaints/suggestion boxes or through telephone hotlines at accessible locations, by e-mail, by post, or by writing in a complaint register in Gram Panchayat office or PMU or PIU office. Careful documentation of the name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved is recorded. The names of the persons to be included in the Field Level GRM are already suggested. The Grievance Registration Form has been translated in Bengali (**Appendix 12**). Sample grievance register is attached as **Appendix 13**. State level and district level steering committee have been established. Also, PMU, PIU level GRC notification done for North 24 pgs. **Appendix 14** shows all Notification related to Grievance Redressal Committee.

118. PMU Head, Safeguards and Gender Officer (HSGO) together with PIU Safeguard Officers are entrusted with the joint responsibility for timely grievance redressal on safeguards and gender issues and for registration of grievances, related disclosure, and communication with the aggrieved party. The affected persons are encouraged to seek a complaint registration number through the PIU.

119. The Grievance Redress Mechanism provides an accessible, inclusive, gender-sensitive and culturally appropriate platform for receiving and facilitating resolution of affected persons' grievances related to the project. A two-tier grievance redress mechanism is conceived, one, at project level and another, beyond project level. For the project level GRM, a Grievance Redress Cell is being established at PIU; the safeguards officers of the ESSU PIU, supported by the social safeguards specialist of DSICS is responsible for conducting periodic community meetings with affected communities to understand their concerns and help them through the process of grievance redressal including translating the complaints into Bengali or English, recording and registering grievances of non-literate affected persons and explaining the process of grievance redress mechanism. All expedient and minor grievances plan to resolved at field level; should the PIU fail to resolve any grievance within the stipulated time period, the PMU is being consulted and suggested actions by PMU taken by PIU with SPISC support, within specified time. PIU is also responsible for follow-through for each grievance, periodic information dissemination to complainants on the status of their grievance and recording their feedback (satisfaction/dissatisfaction and suggestions). In the event that certain grievances cannot be resolved at project level, they are being referred to the district steering committee (DSC), which also acts as grievance redress committee (GRC), particularly in matters related to land purchase/acquisition, payment of compensation, environmental pollution etc. Any higher than district level inter-departmental coordination or grievance redress required have been referred to the state level Steering Committee.

120. The GRM aims to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. All grievances – major or minor, are being registered. In case of grievances that are immediate and urgent in the perception of the complainant, the contractor, and supervision personnel from the PIU supported by design, supervision and institutional support consultant (DSISC) tries to successfully resolve them in consultation with the Member, Panchayat and the Gram Panchayat Pradhan. In case of larger issues, they will seek the advice and assistance of the SE PIU. Grievances not redressed through this process within/at the project level within stipulated time period, is referred to the DSC/GRC.

121. The DSC has been set up to monitor project implementation in each district. In its role as a GRC, the DSC will meet every month (if there are pending, registered grievances), determine the merit of each grievance, and resolve grievances within specified time upon receiving the complaint-filing which the grievance is being addressed by the state-level Steering Committee. The Steering Committee will resolve escalated/unresolved grievances received. Grievances remaining unresolved by Steering Committee may be referred by affected persons to appropriate courts of law. The multi-tier GRM for the project is outlined below (**Figure 8**), each tier having time- bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required. The GRC continues to function throughout the project duration. The PMU shall issue notifications to concerned PHE Divisions to establish the respective PIU (and field) level GRCs, with details of composition, process of grievance redress to be followed, and time limit for grievance redress at each level.

122. An aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

123. **Composition of Grievance Redress Committee and District Steering Committee.** The DSC, acting as GRC will have District Magistrate (Chairperson), Superintending

Engineer, PIU as Member Secretary, Additional Executive Officer, Zilla Parishad, Assistant (Social and Environmental) Safeguard Officers of the Environment and Social Safeguard Units (ESSU) of the PIU, Institutional Support and Capacity Building Officer, PIU, Block Development Officers from respective blocks, and representatives from the affected village panchayat and / or community, if any, eminent citizens, CBOs and NGOs. The DSC/GRC must have a minimum of two women members. In case of any indigenous people impacts in future subprojects, the DSC/GRC must have representation of the affected indigenous people community, including at least one female indigenous person, the chief of the tribe or a member of the tribal council as traditional arbitrator (to ensure that traditional grievance redress systems are integrated) and an NGO working with indigenous people groups.

124. **Areas of Jurisdiction.** The areas of jurisdiction of the GRC, headed by the District Magistrate is being (i) all locations or sites within the district where subproject facilities are proposed, or (ii) their areas of influence within the District. The Steering Committee has jurisdictional authority across the state (i.e., areas of influence of subproject facilities beyond district boundaries, if any).

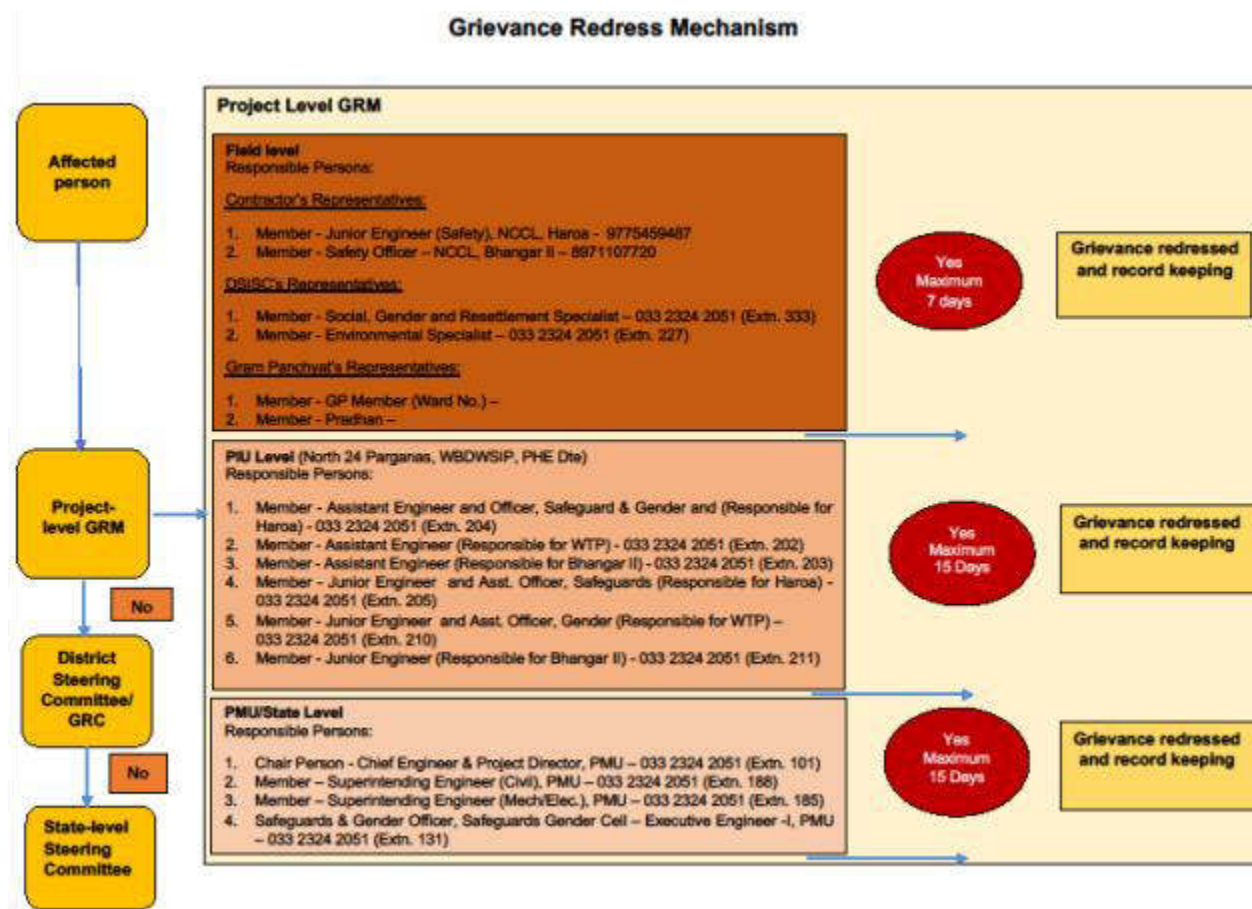
125. **Record keeping.** Records of all grievances received, including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected and final outcome is kept by PIU (with the support of DSISC) and submitted to PMU.

126. **Information Dissemination Methods of the GRM.** The PIU, assisted by DSISC is responsible for information dissemination to affected persons on grievance redressal procedure. Gram Panchayat/coverage area/affected area-wide public awareness campaigns are being conducted to ensure that awareness on grievance redress procedures is generated through the consultation and participation plan. Public awareness campaign is being conducted to ensure that awareness on the project and its grievance redress procedures is generated. The PIU assistant safeguard officers (environment and social) are assisted by DSISC safeguards specialists with information/collateral/awareness material etc. and in conducting project awareness campaigns. The campaigns ensure that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per agreed entitlement matrix including, who to contact and when, where/ how to register grievance, various stages of grievance redress process, time likely to be taken for redressal of minor and major grievances, etc. Grievances received and responses provided are documented and reported back to the affected persons. The number of grievances recorded and resolved and the outcomes is displayed/disclosed in the PMU and PIU offices, Gram Panchayat/concerned local panchayat notice boards and on the web, as well as reported in the semi-annual environmental and social monitoring reports to be submitted to ADB.

127. **Periodic review and documentation of lessons learned.** The PMU Head, Safeguards and Gender Officer (HSGO) periodically reviews the functioning of the GRM and record information on the effectiveness of the mechanism, especially on the PIU's ability to prevent and address grievances.

128. **Costs.** All costs involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) are borne by the PMU. Cost estimates for grievance redress are included in resettlement cost estimates. The grievance redress process is shown in **Figure 8**.

Figure 8: Grievance Redress Mechanism



129. **ADB's Accountability Mechanism.** In the event that the established GRM is not in a position to resolve the issue, the affected person also can use the ADB Accountability Mechanism through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB India Resident Mission. The complaint can be submitted in any of the official languages of ADB's developing member countries. Before submitting a complaint to the Accountability Mechanism, it is recommended that affected people make a good faith effort to resolve their problems by working with the concerned ADB operations department (in this case, the resident mission). Only after doing that, and if they are still dissatisfied, they could approach the Accountability Mechanism. The ADB Accountability Mechanism information is included in the project-relevant information distributed to the affected communities, as part of the project GRM.

VIII. ENVIRONMENTAL MANAGEMENT PLAN

A. Environmental Management Plan

130. An environmental management plan (EMP) has been developed to provide mitigation measures to reduce all negative impacts to acceptable levels.

131. The EMP guides the environmentally-sound construction of the subproject and ensure efficient lines of communication between PHED, project management unit (PMU), project

implementing unit (PIU), consultants and contractors. The EMP (i) ensures that the activities are undertaken in a responsible non-detrimental manner; (ii) provides a pro-active, feasible and practical working tool to enable the measurement and monitoring of environmental performance on site; (iii) guides and control the implementation of findings and recommendations of the environmental assessment conducted for the subproject; (iv) details specific actions deemed necessary to assist in mitigating the environmental impact of the subproject; and (v) ensures that safety recommendations are complied with. The EMP includes a monitoring program to measure the environmental condition and effectiveness of implementation of the mitigation measures. It includes observations on- and off-site, document checks, and interviews with workers and beneficiaries.

132. The contractor submits to PIU, for review and approval, a site specific environmental plan (SEMP) including (i) proposed sites/locations for construction work camps, storage areas, hauling roads, lay down areas, disposal areas for solid and hazardous wastes; (ii) specific mitigation measures following the approved EMP; (iii) monitoring program as per SEMP; and (iv) budget for SEMP implementation. **Contractor already submitted Site Specific Environment Management plan for the sites where construction has commenced.** A sample Site Specific Environment Management plan is attached in **Appendix 15**.

133. A copy of the EMP/approved SEMP is kept on site during the construction period at all times. The EMP is included in the bid and contract documents. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

134. For civil works, the contractor has committed to (i) carry out all mitigation and monitoring measures set forth in the approved SEMP; and (ii) implement any corrective or preventative actions set out in safeguards monitoring reports that the employer may prepare from time to time to monitor implementation of this IEE and SEMP. The contractor has allocated budget for compliance with these SEMP measures, requirements and actions.

135. The following tables show the potential environmental impacts, proposed mitigation measures and responsible agencies for implementation and monitoring.

136. The following mitigation measures **tables are only for the zones where the construction works has already started, as mentioned in this report.**

Table 18: Design Stage Environmental Impacts and Mitigation Measures

Field	Anticipated Impact	Mitigation Measures	Responsibility of Mitigation	Cost and Source of Funds
Design of water supply system	Source sustainability and efficiency	(i) Gravity distribution system: Designed the entire system to maintain optimal flow and terminal pressure, and optimizing the overall energy usage (ii) To meet the drinking water standards, Implementation of a water quality surveillance program including development of a laboratory as part of the project is being carried out (iii) Minimizing water losses from pipelines by perfect jointing and alignments using appropriate techniques (iv) Steps have been taken to reduce the incidence of water borne diseases by providing 100% population including rural poor with potable water supplies	Contractor/ Project Implementation Unit (PIU)	Project Costs
Use of low-lying lands / ponds for project	Socio economic impact – loss fishery area	(i) Avoided low-lying lands / ponds for construction of overhead reservoirs (OHRs) (ii) Reviewed the applicability of West Bengal Inland Fisheries Act, 1984 to determine whether any of the site falls under the definition of fisheries area – to date no such site has been identified (iii) Obtain permission from Fisheries Department if required prior to start of construction	PIU	-
Layout plan of OHRs and pipeline alignment	Tree cutting	(i) Minimised removal of trees by adopting to site condition and with appropriate layout design of OHRs within the sites (ii) Avoided cutting of trees by adopting suitable alignment changes as required during laying of pipelines (iii) In unavoidable cases, tree cutting permission has been obtained (iv) 5 trees for each tree that is removed have been planted and are being maintained	Contractor/PIU	Project Costs

Table 19: Pre-construction Stage Environmental Impacts and Mitigation Measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Implementation	Monitoring of Mitigation	Cost and Source of Funds
Utilities	Telephone lines, electric poles and wires, water lines within proposed project area	(i) Operators of these utilities have been identified and included in the detailed design documents to prevent unnecessary disruption of services during	Contractor in collaboration with project implementation unit (PIU) and with approval of project management unit	(i) List of affected utilities and operators; (ii) Bid document to include requirement for a contingency	Project cost

Field	Anticipated Impact	Mitigation Measures	Responsible for Implementation	Monitoring of Mitigation	Cost and Source of Funds
		<p>construction phase;</p> <p>(ii) Construction contractor has prepared a contingency plan to include actions to be taken in case of unintentional interruption of services; .and</p> <p>(iii) Contractor has prepared spoils (waste) management plan (Refer to Attachment O7 of sample SEMP) and traffic management plan (Refer to Attachment P8 of sample SEMP)</p>	(PMU)	plan for service interruptions (example provision of water if disruption is more than 24 hours),	
Construction work camps, stockpile areas, storage areas, and disposal areas.	Conflicts with local community; disruption to traffic flow and sensitive receptors	<p>(i) Areas within or nearest possible vacant space in the project location have been identified;</p> <p>(ii) If it is deemed necessary to locate elsewhere, sites are being considered that will not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems;</p> <p>(iii) Residential areas are not being considered;</p> <p>(iv) Extreme care has been taken in selecting sites to avoid direct</p>	Contractor to finalize locations in consultation and approval of PIU	<p>(i) List of selected sites for construction</p> <p>(ii) Written consent of landowner/s (not lessee/s)</p>	Project cost

Field	Anticipated Impact	Mitigation Measures	Responsible for Implementation	Monitoring of Mitigation	Cost and Source of Funds
		<p>disposal near water body which may inconvenience the community.</p> <p>(v) Till date, no requirement for excess spoil disposal has been encountered. If required, for excess spoil disposal, (a) sites will be selected from barren, infertile lands. In case agricultural land selected, written consent will be taken from landowners ; (b) debris disposal site will be selected 200 m away from surface water bodies; (c) no residential areas be located within 50 m downwind side of the site; and (d) site will be selected 250 m away from sensitive locations like settlements, ponds/lakes or other water bodies.</p>			
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, pond and water logging, and water pollution.	<p>(ii) Construction materials are obtained only from government approved quarries with prior approval of PIU;</p> <p>(iii) PIU ensured that quarry sources have</p>	Contractor to prepare list of approved quarry	(i) List of approved quarry sites and sources of materials;	Project cost

Field	Anticipated Impact	Mitigation Measures	Responsible for Implementation	Monitoring of Mitigation	Cost and Source of Funds
		<p>all necessary clearances/ permissions in place prior to approval</p> <p>(iv) Contractor submitted to PIU on a monthly basis documentation on material obtained from each source (quarry/ borrow pit)</p> <p>(v) Creation of new borrow areas, quarries etc., have been avoided for the project to date; if unavoidable, contractor to obtain all clearances and permissions as required under law, including Environmental Clearance prior to approval by PIU</p>			
Consents, permits, clearances, No Objection Certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works	<p>(i) All necessary consents, permits, clearance, NOCs, etc. prior to award of civil works have been obtained.</p> <p>(ii) All necessary approvals for construction have been obtained by contractor before start of construction</p> <p>(iii) It has been acknowledged in</p>	PIU and Project Management Consultant (PMC)	Incorporated in final design and communicated to contractors.	Cost of obtaining all consents, permits, clearance, NOCs, etc.

Field	Anticipated Impact	Mitigation Measures	Responsible for Implementation	Monitoring of Mitigation	Cost and Source of Funds
		writing and report on compliance of all obtained consents, permits, clearance, NOCs, etc. are provided. (Refer to Attachment O3 of sample SEMP) (iv) Detailed design drawings and documents are included.			
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	(i) Details on location of underground Asbestos Cement pipes will be noted, if encountered (ii) To avoid encountering AC pipes the new pipes has been aligned carefully (iii) Asbestos Cement pipes, if encountered, will be left undisturbed in the ground.	Contractor coordination PIU and PMC	Detailed construction drawings showing alignment of AC pipes	No cost required. Mitigation measures are part of terms of reference (TOR) of PIU and DSISC

Table 20: Construction Stage Environmental Impacts and Mitigation Measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	(i) Project manager and all key workers have undergone training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws, etc.	Contractor	Project cost/project management unity (PMU) cost
Air Quality	Emissions from construction vehicles, equipment, and	For all construction works ✓ The air pollution / dust control measures for construction activities stipulated by the	Contractor	Cost for implementation of mitigation measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
	<p>machinery used for installation of pipelines resulting to dusts and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons.</p>	<p>"Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7 /001/2009 dated: 10 December 2009" have been complied with.</p> <ul style="list-style-type: none"> ✓ The soil and stockpiled material are damped down on site by water sprinkling ✓ Tarpaulins are used to cover the loose material (soil, sand, aggregate etc.) when transported by trucks; ✓ A dust screen/high compound wall around the construction sites (overhead reservoirs or OHRs) are provided. ✓ Wheels and undercarriage of haul trucks are cleaned prior to leaving construction site/quarry ✓ Sprinkling water and unloading inside the barricaded area have been made to Control dust generation while unloading the loose material (particularly aggregate, soil) at the site ✓ Surface soils are stabilized, where loaders, support equipment and vehicles operate, by using water ✓ Water is used prior to levelling or any other earth moving activity to keep the soil moist throughout the process ✓ Access is controlled to work area, preventing unnecessary movement of vehicle, public trespassing into work areas; limiting soil disturbance to minimize dust generation ✓ Unnecessary movement of vehicle are prevented to limit the soil disturbance which minimize dust generation. ✓ All construction equipment and machineries are fitted with pollution control devices and have a valid pollution under control (PUC) certificate <p>Pipeline works</p> <ul style="list-style-type: none"> ✓ Construction areas are barricaded ✓ After barricading the site, site clearance is initiated and excavation work is done 		<p>responsibility of contractor.</p>

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<ul style="list-style-type: none"> ✓ All the material, excavated soil, debris, equipment, machinery (excavators, cranes etc.), are confined within the barricaded area ✓ Sites are controlled from the stocking of excavated material and excess soil is reused on-site same day for backfilling of trenches ✓ Sequentially excavation, pipe laying, backfilling and pipe testing section-wise (for a minimum length as possible) are conducted, so that backfilling, stabilization of soil can be done, this avoided stocking of material, and minimized the dust. ✓ Backfilled trench at any completed section after removal of barricading is the main source of dust pollution. The traffic, pedestrian movement and wind generated dust from backfilled section. Road restoration is undertaken immediately and completed on the same-day. 		
Surface water quality	<p>Mobilization of settled silt materials, and chemical contamination from fuels and lubricants during construction can contaminate nearby surface water quality.</p> <p>Ponding of water in the pits / foundation excavations</p>	<ul style="list-style-type: none"> ✓ All earthworks are conducted during the dry season to prevent the problem of soil run-off during monsoon season; ✓ Stockpiling of earth fill especially during the monsoon season are avoided unless covered by tarpaulins or plastic sheets; ✓ Excess spoils and debris are re-used in the construction works. Only designated area, if required, are used for soil disposal ✓ Temporary silt traps or sedimentation basins are installed along the drainage leading to the water bodies. ✓ Storage areas for fuels and lubricants have been placed away from any drainage leading to water bodies. ✓ Fuel, construction chemicals etc., are stored on an impervious floor, also spillage is avoided by careful handling ✓ Construction wastes are disposed in designated sites 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<ul style="list-style-type: none"> ✓ Temporary drainage channels are created around the work area to arrest the entry of runoff from upper areas into the work area ✓ The water collected in the pits / excavations are pumped to a temporary sedimentation pond; clarified water is then disposed into drainage channels/streams after sedimentation in the temporary ponds ✓ Safety aspects are considered related to pit collapse due to accumulation of water 		
Noise Levels	Increase in noise level due to earth- moving and excavation equipment, and the transportation of equipment, materials, and people	<ul style="list-style-type: none"> ✓ Activities are planned in consultation with PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which results in least disturbance; ✓ Horns are not be used unless it is necessary to warn other road users or animals of the vehicle's approach; ✓ Vehicle silencers, fitting jackhammers with noise-reducing mufflers, and portable street barriers are used in construction equipment to minimize sound impact to surrounding sensitive receptor; and ✓ Buildings which are at risk from vibration damage are identified and use of pneumatic drills or heavy vehicles in the vicinity are avoided. ✓ Local communities are consulted in advance of the work to identify and address key issues, and avoid working at sensitive times, such as religious and cultural festivals. 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.
Landscape and aesthetics – waste generation	Impacts due to excess excavated earth, excess construction materials, and solid waste such as removed concrete, wood, packaging materials, empty containers, spoils, oils,	<ul style="list-style-type: none"> ✓ Construction Waste Management Plan is prepared and implemented ✓ As far as possible the debris and excess soil are utilized in construction purpose, for example for raising the ground level or construction of access roads etc., ✓ Stockpiles, lubricants, fuels, and other materials are located away from steep slopes and water 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
	lubricants, and other similar items.	<ul style="list-style-type: none"> ✓ bodies ✓ If required, for disposal, the site selected will be preferably from barren, infertile lands; site would be located away from residential areas, forests, water bodies and any other sensitive land uses ✓ Domestic solid wastes are properly segregated into biodegradable and non-biodegradable for collection and disposal to designated solid waste disposal site; compost pit is created at workers' camp sites for disposal of biodegradable waste; non-biodegradable / recyclable material is collected separately and sold in the local recycling material market ✓ Residual and hazardous wastes such as oils, fuels, and lubricants are disposed of through approved vendors by West Bengal Pollution Control Board (WBPCB); ✓ Burning of construction and/or domestic waste are prohibited; ✓ Wastes are not haphazardly dumped/ thrown within and around the project site and adjacent areas; proper collection bins are provided, and awareness is created to use the dust bins. ✓ site clearance and restoration are done immediately after the completion of construction work to restore to the original condition; PIU ensures that site is properly restored prior to issuing of construction completion certificate 		
Existing Infrastructure and Facilities	Disruption of service and damage to existing infrastructure at specified project location	<ul style="list-style-type: none"> ✓ list of affected utilities and operators prepared as per requirement; ✓ contingency plan is prepared to include actions to be done in case of unintentional interruption of service 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.
Ecological Resources – Terrestrial	Loss of vegetation and tree cover	<ul style="list-style-type: none"> ✓ Removal of vegetation is minimized and cutting of trees has been disallowed, by adopting best site layout and pipeline alignments ✓ Tree cutting permission has been obtained for the site where tree removals is required (Refer 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>to Attachment O3 of sample SEMP)</p> <ul style="list-style-type: none"> ✓ 5 native trees are planted for every one that is removed. 		
Accessibility	Traffic problems and conflicts near project locations and haul road	<p>Hauling (material, waste/debris and equipment) activities</p> <ul style="list-style-type: none"> ✓ Transportation routes has been planned so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites ✓ Transport and hauling activities are scheduled during non-peak hours; ✓ Entry and exit points are located in areas where there is low potential for traffic congestion; ✓ Vehicles are driven in a considerate manner ✓ Affected public are notified by public information notices, providing sign boards informing nature and duration of construction works and contact numbers for concerns/complaints. <p>Pipeline works</p> <ul style="list-style-type: none"> ✓ Work areas are confined along the roads to the minimum possible extent; all the activities, including material and waste/surplus soil stocking are confined to this area. barricading is provided; material/surplus soil stocking in congested areas is avoided – immediately reused on-site or removed from site/ or as and when required ✓ Spaces are left for access between mounds of soil to maintain access to the houses / properties ✓ pedestrian access is provided at all the locations; wooden/metal planks are provided over the open trenches at each house to maintain the access. ✓ Affected local population are informed 1-week in advance about the work schedule ✓ The work is planned and executed in such a way that the period of disturbance/ loss of access is minimum. 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<ul style="list-style-type: none"> ✓ The site is kept free from all unnecessary obstructions; ✓ Coordinated with Police for temporary road diversions, where necessary, and for provision of traffic aids if transportation activities could not be permitted during peak hours 		
Socio- Economic - Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> ✓ Local labor forces are employed as far as possible ✓ labor laws are complied with 	Contractor	Contractor costs
Occupational Health and Safety	Occupational hazards which can arise during work	<ul style="list-style-type: none"> ✓ All national, state and local core labor laws are complied with (Appendix 6). Labour license attached as Appendix 16 ✓ Site-specific occupational health and safety (OHS) Plan have been developed and implemented which included measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like helmet, gumboot, safety belt, gloves, nose musk and ear plugs; (c) OHS Training for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents; ✓ Qualified first-aiders have been provided at all times. Equipped first-aid stations are easily accessible throughout the site; ✓ Medical tie-up with local hospitals is provided for workers; ✓ Sample first aid record attached as Appendix 17. ✓ WC policy has been received by the contractor of the package (Appendix 18) ✓ All installations are secured from unauthorized intrusion and accident risks; ✓ Potable drinking water is provided; ✓ Clean eating areas are provided where workers are not exposed to hazardous or noxious 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>substances;</p> <ul style="list-style-type: none"> ✓ Health and safety orientation training are provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers; ✓ Visitor orientation is provided if visitors to the site can gain access to areas where hazardous conditions or substances may be present. visitor/s are not allowed to enter hazardous areas unescorted; ✓ Visibility of workers is ensured through the use of high visibility vests when working in or walking through heavy equipment operating areas; ✓ Moving equipment are outfitted with audible back-up alarms; ✓ Sign boards are provided for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage are in accordance with international standards and are well known to, and easily understood by workers, visitors, and the general public as appropriate; (Refer to Attachment O4 of sample SEMP) 		
Asbestos Cement (AC) Materials	Health risks associated with AC pipes	<p>AC pipes were not found in any of the zones where construction has commenced.</p> <p>In cases where AC pipes have to be removed from the soil, they will be stored at a designated place and suitable disposal mechanism shall be followed.</p>	Contractor	Contractor costs
Community Health and Safety.	Traffic accidents and vehicle collision with pedestrians during material and waste transportation	<ul style="list-style-type: none"> ✓ Movements of construction vehicles are restricted to defined access roads and demarcated working areas (unless in the event of an emergency) ✓ strict speed limit (20-30 kph) is enforced for plying on unpaved roads, construction tracks ✓ Night-time haulage is by exception only, as approved by the PIU to minimize driving risk and 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>disturbance to communities</p> <ul style="list-style-type: none"> ✓ Temporary traffic control (e.g. flagmen) and signs are provided where necessary to improve safety and provide directions ✓ All drivers went through safety and training sessions ✓ Public access to all areas where construction works are on-going are restricted through the use of barricading and security personnel ✓ Warning signs, blinkers are attached to the barricading to caution the public about the hazards associated with the works, and presence of deep excavation ✓ The period of time when the pipeline trench is left open have been minimized through careful planning ✓ Control dust pollution –dust control measures are implemented as suggested under air quality section ✓ vehicles are regularly maintained and manufacturer- approved parts are used to minimize potentially serious accidents caused by equipment malfunction or premature failure. Road signs and flag persons are there to warn of on-going trenching activities. 		
Work Camps and worksites	Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants Unsanitary and poor living conditions for workers	<ul style="list-style-type: none"> ✓ Camp site is usually within the work sites; any camp site established outside are away from residential areas (at least 100 m buffer is maintained) ✓ Tree cutting for setting up camp facilities is avoided ✓ Camp site are not located near (100 m) water bodies, flood plains flood prone/low lying areas, or any ecologically, socially, archeologically sensitive areas ✓ The workers living areas and material storage areas are separated clearly with a fencing and separate entry and exit 	Contractor	Cost for implementation of mitigation measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<ul style="list-style-type: none"> ✓ Proper temporary accommodation with proper materials, adequate lighting and ventilation are provided, appropriate facilities are provided for winters and summers; conditions of liveability at work camps are ensured and maintained at the highest standards possible at all times; ✓ PIU is consulted before locating project offices, sheds, and construction plants; ✓ Removal of vegetation is minimized and cutting of trees disallowed without permission from concerned authorities ✓ Conditions of liveability at work camps are ensured and maintained at the highest standards possible at all times; living quarters and construction camps are provided with standard materials (as far as possible to use portable ready to fit-in reusable cabins with proper ventilation); thatched huts, and facilities constructed with materials like GI sheets, tarpaulins, etc., are not used as accommodation for workers ✓ Camps are provided with proper drainage, without any water accumulation ✓ Drinking water, water for other uses, and sanitation facilities for employees are provided. ✓ Employees are prohibited from cutting of trees for firewood; contractor provided proper facilities including cooking fuel (oil or gas; fire wood not allowed) ✓ Employees are trained in the storage and handling of materials which can potentially cause soil contamination ✓ Used oil and lubricants are recovered and removed from the site ✓ Solid waste is managed according to the following preference hierarchy: reuse, recycling and disposal to designated areas; provide a compost pit is provided for biodegradable waste, 		

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>and non-biodegradable / recyclable waste are collected and sold in local market</p> <ul style="list-style-type: none"> ✓ All wreckage, rubbish, or temporary structures which are no longer required are removed ✓ At the completion of work, camp area will be cleaned and restored to pre-project conditions, and report will be submitted to PIU; PIU to review and approve camp clearance and closure of work site 		
Chance Finds	There are no protected properties in the subproject sites. However, in case of chance finds, contractors will be required to follow a protocol as defined in the mitigation measures.	<ul style="list-style-type: none"> ✓ In case of chance findings, Archaeological Survey of India (ASI) and West Bengal State Archaeology Department will be consulted to obtain an expert assessment of the archaeological potential of the site ✓ state and local archaeological, cultural and historical authorities, and interest groups in consultation forums will be included as project stakeholders so that their expertise can be made available. ✓ In case of chance finds, works must be stopped immediately until such time chance finds are cleared by experts (Sample chance find protocol attached as Appendix 21) 	Contractor	Contractor cost
Submission of EMP implementation report	Unsatisfactory compliance to EMP	<ul style="list-style-type: none"> ✓ Appointment of (I) Environment, Health and Safety (EHS) Supervisor to ensure EMP implementation ✓ Timely submission of monitoring reports including pictures 	Contractor	Contractor cost
Post- construction clean-up	Damage due to debris, spoils, excess construction materials	<ul style="list-style-type: none"> ✓ Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; and ✓ All excavated roads are reinstated to original condition. ✓ All disrupted utilities restored ✓ All affected structures rehabilitated/compensated ✓ The area that previously housed the construction 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>camp is checked for spills of substances such as oil, paint, etc. and these shall be cleaned up.</p> <ul style="list-style-type: none"> ✓ All hardened surfaces within the construction camp area shall be ripped, all imported materials removed, and the area shall be top soiled and re-grassed using the guidelines set out in the revegetation specification that forms part of this document. ✓ The contractor must arrange the cancellation of all temporary services. ✓ Request PIU to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work. 		

Table 21: Operation Stage Environmental Impacts and Mitigation Measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
Check for blockage and leakage problems reducing the water losses	Loss of water, increased demand and inconvenience to consumers and general public	Effectiveness of leak detection and water auditing to reduce the water losses	Public Health Engineering Department (PHED)	Operating costs
Occupational health and safety	Health, social and economic impacts on the workers	<ul style="list-style-type: none"> (i) Provide appropriate PPE and training on its proper use and maintenance. (ii) Use fall protection equipment when working at heights. (iii) Maintain work areas to minimize slipping and tripping hazards. (iv) Implement a training program for operators who work with chlorine regarding safe handling practices and emergency response procedures. Prepare escape plans from areas where there might be a chlorine emission. (v) Install safety showers and eye wash stations near the chlorine equipment and other areas where hazardous chemicals are stored or used. (vi) Prohibit eating, smoking, and drinking except in designated areas. 	PHED	Operating costs

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
Increased in sewage generation	Water pollution, and impacts on public health and environment	(i) Sanitation and sewerage/seepage facilities needs to be improved/provided in the project area to suit the increased sewage generation	PHED and respective local bodies (gram panchayat)	To be identified

Table 22: Construction Stage Environmental Monitoring Plan

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
Construction disturbances, nuisances, public and worker safety,	All work sites	Implementation of dust control, noise control, traffic management, and safety measures. Site inspection checklist to review implementation is shown in Appendix 18 .	Weekly during construction	Supervising staff and safeguards specialists	No costs required
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	(i) Once before start of construction. (ii) Yearly 3 times (for seasons: pre-monsoon, post-monsoon and winter) during construction (3-years period considered)	Contractor	Cost for implementation of monitoring measures responsibility of contractor (50 samples x 4500 per sample = 225,000)
Ambient noise	5 locations (same as air quality monitoring)	Day time and night time noise levels (24 hours)	(i) Once before start of construction. (ii) Yearly 3 times (for seasons: pre-monsoon, post-monsoon and winter) during construction (3-years period considered)	Contractor	Cost for implementation of monitoring measures responsibility of contractor (50 samples x 1350 per sample = 67,500)
Surface water quality	2 locations (to be selected during implementation)	pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (3 - year construction period considered)	Contractor	Cost for implementation of monitoring measures responsibility of contractor (14 samples x 2860 per sample = 40,000)
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	Contractor	Cost for implementation of monitoring measures responsibility of contractor

Table 23: Operation Stage Environmental Monitoring Plan

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Responsibility	Cost and Source of Funds
Monitoring of quality of water supplied to consumers	Consumer end-random sampling in all zones	pH, Nitrite, Nitrate, Turbidity BOD, Total Alkalinity, Total coliform and Feacal coliform	Monthly once	PHED	O&M costs (water quality will be tested at the internal laboratory part of water treatment plant)

B. Implementation Arrangements

137. PHED is the executing agency and implementing agency for the WBDWSIP, responsible for management, coordination and execution of all activities funded under this sector project. PMU, established within the PHED, is implementing the project. PMU is supported by district level project implementation units (PIUs). PMU is headed by a Project Director (PD) in the rank of Chief Engineer. Each PIU is headed by a Superintending Engineer (SE), reporting to the PD. PMU with the support of PIUs is responsible for planning, implementation, monitoring, supervision, and coordination of all activities under the WBDWSIP. PMU is supported by project management consultant (PMC) to supervise, monitor and oversee the implementation. Each PIU is supported by a Design, Supervision and Institutional Support Consultant (DSISC).

138. **Safeguards Compliance Responsibilities.** A Safeguard and Gender Cell (SGC) has been established in PMU with the overall responsibility of ensuring compliance with ADB SPS to ensure consistency with PAM. SGC is headed by a Head, Safeguards and Gender Officer (HSGO) and reports to the Project Director directly. The HSGO has overall responsibility in implementation of the resettlement framework, EARF, RPs, EMPs, SEMP, GESI action plan, and appropriate monitoring and reporting responsibilities. Key safeguard tasks and responsibilities at the PMU level are as follows:

- (i) Ensure subprojects confirms to exclusion criteria and project selection guidelines as stipulated in the EARF;
- (ii) Approve subproject environmental category;
- (iii) Approve IEEs; ensure that updated IEEs/EMPs reflect final project designs;
- (iv) Ensure that EMPs are included in bidding documents and civil works contracts;
- (v) Ensure proper implementation of EMPs by contractors;
- (vi) Facilitate and ensure compliance with all government rules and regulations regarding site and environmental clearances, as well as any other environmental requirements (e.g. location clearance certificates, environmental clearance certificates), as relevant;
- (vii) Oversee public consultation and disclosure;
- (viii) Approve quarterly EMP implementation reports;
- (ix) Review and approve semi-annual monitoring reports prepared by PMC; and submit to ADB;
- (x) Oversee grievances redress process and ensure timely redress;
- (xi) Undertake regular review of safeguards related loan covenants, and the compliance in program implementation; and
- (xii) Organize periodic capacity building and training programs for WBDWSIP stakeholders, PHED, PMU and PIU staff on safeguards.

139. The SGC is supported by environmental, social and gender safeguard specialists in the PMC. Key safeguard tasks and responsibilities of the PMC on safeguards are as follows:

- (i) Review and finalize REA checklist and classify the project;
- (ii) Review and confirm project selection/ design; ensure compliance with exclusion criteria and project environmental selection guidelines;
- (iii) Review and finalize IEE reports including EMPs prepared/updated by PIUs/DSISCs;
- (iv) Oversee public consultation and information disclosure activities; ensure timely disclosure;
- (v) Provide advise/support in obtaining government clearance/ approvals;
- (vi) Review and confirm that IEEs/EMPs are included in bids and contracts;

- (vii) Review and confirm SEMP (Site Environment Management Plan) prepared by contractor;
- (viii) Oversee the implementation of SEMP by contractors and ensure corrective actions, where necessary;
- (ix) Review and approve quarterly environmental monitoring reports submitted by PIU/DSISCs;
- (x) Conduct site visits of project facilities and work sites to oversee implementation;
- (xi) Prepare semi-annual environmental monitoring reports and submit to PMU SGC HSGO;
- (xii) Oversee grievance redress process; advise on critical grievance related to environmental issues and concerns; and
- (xiii) Organize training and capacity development programs.

140. **Project Implementation Unit.** At each PIU, an Assistant Engineer has been given additional responsibilities of safeguard tasks and has been designated as Assistant Safeguards Officer (SO). The SO oversees the safeguards implementation at PIU level, coordinate public consultations, information disclosure, regulatory clearances and approvals, resettlement plan implementation, EMP implementation and grievance redressal. Key safeguard tasks and responsibilities of SO are as follows:

- (i) Coordinate public consultation and information disclosure;
- (ii) Liaise with local offices of regulatory agencies in obtaining clearances /approvals; assist PMU for clearances obtained at state level;
- (iii) Review and approve contractors SEMPs;
- (iv) Oversee day-to-day implementation of SEMPs by contractors, including compliance with all government rules and regulations;
- (v) Take necessary action for obtaining rights of way;
- (vi) Ensure continuous public consultation and awareness;
- (vii) Coordinate grievance redress process and ensure timely actions by all parties;
- (viii) Review monthly contractor's SEMP Monitoring Reports;
- (ix) Review and forward quarterly monitoring reports to PMU; and
- (x) Inform PMU of unanticipated impacts and formulate corrective action plan; and
- (xi) Recommend issuance of work construction work completion certification to the contractor upon verification of satisfactory post-construction clean-up.

141. The PIUs are assisted by DSISC teams which includes an Environmental Specialist (ES) and a Social Safeguards Specialist. Following are the key tasks:

- (i) Assist PIU in identifying projects/components in compliance with the project exclusion criteria and selection guidelines stipulated in EARF;
- (ii) Prepare environmental screening checklists and submit to PMU for categorization; update checklist and category as and when required to reflect project changes, and report to PMU;
- (iii) Work closely with PIU and design teams to include environmental considerations in project location, design and technical specifications;
- (iv) Identify statutory clearance / permissions / approvals required for subproject; assist PIU in obtaining them;
- (v) Assist in including standards/conditions, if any, stipulated in regulatory clearances, consents in the project design;
- (vi) Update IEE and EMP to reflect any changes in subproject during detail design / implementation; IEE shall reflect the final project design;

- (vii) Lead / assist PIU in public consultation in compliance with the EARF; reflect inputs from public consultation in IEEs, EMPs, and project design;
- (viii) Advise / assist PIU in disclosing relevant information on safeguards to stakeholders, affected people etc.;
- (ix) Assist / ensure all EMP measures related project design and location and included in the detailed designs;
- (x) Integrate EMP into the bid and contract documents (for item rate contracts, include full IEE including EMP in bids);
- (xi) Advise contractor in preparation of SEMP as per the final design, prior to start of construction;
- (xii) Ensure that all necessary clearances/permission (including those required by Contractor) are in place prior to start of construction;
- (xiii) Monitor implementation of SEMP;
- (xiv) Ensure Contractors including subcontractor's, if any, comply with the measures set forth in the EMP;
- (xv) Assist PIU in establishing GRM for the Project;
- (xvi) Assist PIU in grievance redress, advise the contractor on appropriate actions on grievances, ensure timely resolution and proper documentation;
- (xvii) Identify, if any, non-compliance or unanticipated impacts; initiate corrective actions, report to PMU;
- (xviii) Review and approve monthly monitoring reports submitted by Contractor; consolidate and prepare quarterly Environmental Monitoring Reports (EMR) and submit to PMU; and
- (xix) Conduct training and capacity building activities (workshops, hands-on trainings, visits etc.,) in EMP implementation.

142. **Civil works contracts and contractors.** IEEs are included in bidding and contract documents. The PMU and PIUs ensured that bidding and contract documents include specific provisions requiring contractors to comply with: (i) all applicable labor laws and core labor standards on (a) prohibition of child labor as defined in national legislation for construction and maintenance activities; (b) equal pay for equal work of equal value regardless of gender, ethnicity, or caste; and (c) elimination of forced labor; and with (ii) the requirement to disseminate information on sexually transmitted diseases, including HIV/AIDS, to employees and local communities surrounding the project sites. The contractor is required to appoint an Environment, Health and Safety (EHS) supervisor to implement EMP. The EHS Supervisor updates the EMP and submits a SEMP for approval of PIU. Contractors are carrying out all environmental mitigation and monitoring measures outlined in EMP, approved SEMP and their contracts. Key responsibilities of the EHS supervisor are:

- (i) Prepare SEMP and submit to PIU for approval prior to start of construction;
- (ii) Conduct orientation and daily briefing sessions to workers on environment, health and safety;
- (iii) Ensure that appropriate worker facilities are provided at the work place and labour camps as per the contractual provisions;
- (iv) Records accidents and undertake remedial actions;
- (v) Implement SEMP measures and report to PIU/DSISC if any new impacts are surfaced; seek guidance from as required in EMP implementation;
- (vi) Conduct environmental monitoring (air, water, noise etc.,) as per the monitoring plan
- (vii) Ensure conduct of water quality surveillance program;
- (viii) Prepare monthly EMP monitoring reports and submit to PIU;
- (ix) Work closely with PIU Safeguards Officer and consultants to ensure

- communities are aware of project-related impacts, mitigation measures and GRM; and
- (x) Address any public compliance and grievances effectively and in timely manner.

C. Capacity Building and Training

143. PMU, HSGO and PIU Safeguard Officers have been trained by PMC and DSISC's safeguards experts on safeguards issues related to the project, GESI action plan and GRM. The EARF, Resettlement Framework, IPPF and GESI action plan provided indicative capacity building program which included modules on: (i) introduction and sensitization to ADB SPS on environmental, involuntary resettlement and indigenous people policies and requirements; (ii) project related requirements as provided in the EARF, resettlement framework, IPPF and Gender, ESI action plan, (iii) review, updating and preparation of the IEEs, SEMP, resettlement plans, DDRs and IPPs (as required) upon the completion of project final detailed design; (iv) improved coordination within nodal departments; (v) monitoring and reporting system; and (vi) project GRM. Briefings on safeguards principles, GRM and GESI action plan have been conducted for the contractors upon their mobilization by PIU Safeguard Officers supported by DSISCs.

144. The following **Table 24** presents the outline of capacity building program to ensure EMP implementation. The estimated cost is ₹225,000 (excluding trainings of contractors which is part of EMP implementation cost during construction) and covered by the project's capacity building program. The detailed cost and specific modules have been customized for the available skill set after assessing the capabilities of the target participants and the requirements of the project by the Environmental Safeguard of PMC.

Table 24: Outline Capacity Building Program on EMP Implementation

Description	Target Participants and Venue	Estimate (₹)	Cost Source and of Funds
1. Introduction and Sensitization to Environmental Issues (1 day) - ADB Safeguards Policy Statement - Government of India and West Bengal applicable safeguard laws, regulations and policies including but not limited to core labor standards, occupational health and safety, etc. - Incorporation of environmental management plan (EMP) into the project design and contracts - Monitoring, reporting and corrective action planning	All staff and consultants involved in the project At project management unit (PMU) (combined program for all subprojects)	Rs. 100,000.00	Included in the overall program cost
2. EMP implementation (1/2 day) - EMP mitigation and monitoring measures - Roles and responsibilities - Public relations, - Consultations - Grievance redress - Monitoring and corrective action planning - Reporting and disclosure - Construction site standard operating procedures (SOP)	All project implementation unit (PIU) staff, contractor staff and consultants involved in the subproject	₹100,000 (Lump sum)	Included in subproject cost estimates

Description	Target Participants and Venue	Estimate (₹)	Cost Source and of Funds
-- Chance find (archeological) protocol - AC pipe protocol - Traffic management plan - Waste management plan - Site clean-up and restoration	At PIU		
3. Contractors Orientation to Workers (1/2 day) - Environment, health and safety in project construction	Once before start of work, and thereafter regular briefing every month once. Daily briefing on safety prior to start of work All workers (including unskilled laborers)	Rs. 25,000.00	Contractors cost

D. Monitoring and Reporting

145. Immediately after mobilization and prior to commencement of the works, the contractor has submitted a compliance report to PIU that all identified pre-construction mitigation measures as detailed in the EMP have been undertaken. Contractor has confirmed that the staff for EMP implementation (EHS supervisor) has been mobilized. PIU has reviewed and approved the report and permitted commencement of works.

146. During construction, results from internal monitoring by the contractor has reflected in their monthly EMP implementation reports to the PIU. DSISC has reviewed and advised contractors for corrective actions wherever necessary. Quarterly report summarizing compliance and corrective measures taken has been prepared by PMC and submitted to PMU. During operation, the contractor is required to conduct management and monitoring actions as per the operation stage EMP, and submit to PIU/ DSISC a quarterly report on EMP implementation and compliance.

147. Based on monthly and quarterly reports and measurements received from DSISC through PIU, PMU (assisted by PMC) has submitted semi-annual environmental monitoring report (SEMR) (Template referred as **Appendix 20**). Once concurrence from the ADB is received the report will be disclosed on PHED/PMU websites.

148. ADB reviews project performance against the WBDWSIP commitments as agreed in the legal documents. The extent of ADB's monitoring and supervision activities are commensurate with the project's risks and impacts. Monitoring and supervising of social and environmental safeguards are integrated into the project performance management system.

149. ADB's monitoring and supervision activities are carried out on an on-going basis until a Project Completion Report (PCR) is issued. ADB issues a PCR within 1-2 years after the project is physically completed and in operation.

E. Environmental Management Plan Implementation Cost

150. Most of the mitigation measures require the contractors to adopt good site practices, which should be part of their normal procedures already, so there are unlikely to be major costs associated with compliance. The costs which are specific to EMP implementation and are not covered elsewhere in the projects are given below.

Table 25: Cost Estimates to Implement the Environmental Management Plan

	Particulars	Stages	Unit	Total Number	Rate (₹)	Cost (₹)	Costs Covered By
A.	Implementation staff						
1	Environment, health and safety (EHS) supervisor	Construction	per month	24	50,000	1,200,000	Civil works contract
	Subtotal (A)					1,200,000	
B.	Mitigation Measures						
2	Provision for tree cutting and compensatory plantation measures (1: 5 ratio replantation)	Construction	Per tree	200	1,000	200,000	Civil works contract
3	Traffic management at work sites (Pavement Markings, Channelizing Devices, Arrow Panels and Warning Lights)	Construction	Lump sum	-	-	250,000	Civil works contract
	Subtotal (B)					450,000	
C.	Monitoring Measures						
1	Air quality monitoring	Construction	per sample	50	4500	225,000	item rate contract
2	Noise levels monitoring	Construction	Per sample	50	1350	67,500	item rate contract
3	Surface water monitoring	Construction	Per sample	14	2860	40,000	item rate contract
4	Water quality monitoring at consumer end	Operation	Lumpsum / year	-	-	10,000	item rate contract
	Subtotal (C)					342,500	
D.	Capacity Building						
1.	Training on environmental management plan (EMP) implementation	Pre-construction	lump sum			100,000	PMU
2	Preparation of plans and protocols (traffic management plan, waste (spoils) management plan etc.,	Pre-construction	Lump sum			25,000	item rate contract
3.	Contractors Orientation to Workers on EMP implementation	Prior to dispatch to worksite	Lump sum			25,000	item rate contract
	Subtotal (D)					150,000	
	Total (A+B+C+D)				₹	2,142,500	

IX. CONCLUSION AND RECOMMENDATIONS

151. The process described in this document has assessed the environmental impacts of all elements of the proposed water supply distribution system subproject for Haroa, Block. All potential impacts were identified in relation to pre-construction, construction, and operation phases. Planning principles and design considerations have been reviewed and incorporated into the site planning and design process wherever possible; thus, environmental impacts as being due to the project design or location were not significant.

152. The main design impacts of water supply system in general are due to abstraction of water. This subproject does not include any new source development or augmentation of existing sources or water treatment. Treated water for the subproject will be provided from bulk water supply system that is being developed under a parallel subproject, and the environmental impacts of which are assessed through an another IEE.

153. Due to non-availability of suitable government owned land, most of the selected OHR sites are privately owned agricultural or vacant lands, some of which are low-lying lands / ponds. These include OHR sites at Haripur, Tegharia and Bantosh. No significant negative impacts envisaged due to filling up and raising of these low-lying lands or ponds, which are primarily private owned, and not necessarily part of overall natural drainage system. Although prima facie it appears these lands may not fall under the ambit of 'fishery area' regulated under West Bengal Inland Fisheries Act, 1984, it needs to be reviewed further during the final design stage about the applicability. Appropriate measures suggested to avoid or mitigate the impact. There are trees in some selected OHR sites (e.g., Gopalpur, Akandbaria, Jinkia, Bentosha, Baganati), and also along the roads where pipelines are being laid. Measures have been suggested to avoid, minimize, and carryout compensatory tree plantation in a ratio of 1:5. Proposed pipeline are laid along all the roads in the project area. Overall, there are no notable sensitive environmental features in the project sites.

154. Construction activities are confined to the selected sites, so that interference with the general public and community around is minimal. There are temporary negative impacts, arising mainly from construction dust and noise, hauling of construction material, waste and equipment on local roads (traffic, dust, safety etc.), mining of construction material, occupation health and safety aspects. During the construction phase of pipeline work along the public roads, impacts arise from the construction dust and noise; from the disturbance of residents, businesses, traffic by the construction work, and from the need to dispose of large quantities of waste soil. The social impacts (access disruptions) due to construction activities are minimal. These are all general impacts of construction in habitation areas, and there are well developed methods of mitigation that are suggested in the EMP.

155. Anticipated impacts of water distribution system during O&M is expected to be related to detection and repair of leaks, pipe bursts. These are, however, likely to be minimal, as proper design and selection of good quality pipe material shall mean that leaks are minimal. Leak repair work is similar to the pipe-laying work. Therefore, no notable operation phase impacts are anticipated from the subproject.

156. The public participation processes undertaken during project design ensured stakeholders are engaged during the preparation of the IEE. The planned information disclosure measures and process for carrying out consultation with affected people has facilitated their participation during project implementation.

157. The project's grievance redress mechanism has provided the citizens with a platform for redress their grievances, and describes the informal and formal channels, time frame, and mechanisms for resolving complaints about environmental performance.

158. The EMP has assisted the project agencies and contractor in mitigating the environmental impacts, and guide them in the environmentally sound execution of the proposed project.

159. A copy of the EMP/approved SEMP is kept on-site during the construction period at all times. The EMP has been made binding on all contractors operating on the site, and is included in the contractual clauses. Non-compliance with, or any deviation from, the conditions set out in this document shall constitute a failure in compliance.

160. The project will benefit the general public by contributing to the long-term improvement of water supply system and community livability in the project blocks of Haroa. The potential adverse environmental impacts are mainly related to the construction period, which can be minimized by the mitigating measures and environmentally sound engineering and construction practices.

161. Therefore, as per ADB SPS, the project is classified as environmental category B and does not require further environmental impact assessment.

162. This IEE shall be updated again after finalization of all design during the detailed design zone wise to reflect any changes, amendments and is to be reviewed and approved by PMU, and further submitted to ADB for approval.

Appendix 1: Rapid EA Checklist

RAPID ENVIRONMENTAL ASSESSMENT CHECKLIST

WATER SUPPLY

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project. It is to be attached to the environmental categorization form that is to be prepared and submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department.
- ☐ This checklist is to be completed with the assistance of an Environment Specialist in a Regional Department.
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Country/Project Title: India / West Bengal Drinking Water Sector Improvement Project – Water Supply Distribution System for Haroa Community Development Blocks

Sector Division: Urban Development and Water Division

Screening Questions	Yes	No	Remarks
Water Supply			
A. Project siting Is the project area...			
▪ Densely populated?		√	
▪ Heavy with development activities?		√	
▪ Adjacent to or within any environmentally sensitive areas?		√	
• Cultural heritage site		√	
• Protected Area		√	
• Wetland		√	
• Mangrove		√	
• Estuarine		√	
• Buffer zone of protected area		√	
• Special area for protecting biodiversity		√	
• Bay		√	

B. Potential Environmental Impacts Will the Project cause.			
• Pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?		√	Subproject deals with provision of distribution system. No source augmentation or treatment is part of this. Treated water will be supplied from bulk water supply system being developed under a parallel subproject, and the treated water quality will meet the drinking water standards
• Impairment of historical/cultural monuments/areas and loss/damage to these sites?		√	-
• Hazard of land subsidence caused by excessive ground water pumping?		√	Not applicable; subproject does not involve groundwater abstraction
• Social conflicts arising from displacement of communities?		√	Project does not involve land acquisition /displacement. Land purchased at market rates. Social impacts are assessed through Resettlement Planning study of subproject
• Conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters?		√	Not applicable; subproject does not involve source development/operation
• Unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?		√	Not applicable
• Delivery of unsafe water to distribution system?		√	Not anticipated; treated water meeting drinking water standards will be delivered to distribution system from bulk water supply
• Inadequate protection of intake works or wells, leading to pollution of water supply?		√	Not applicable
• Over pumping of ground water, leading to salinization and ground subsidence?		√	Not applicable
• Excessive algal growth in storage reservoir?		√	Proper treatment, post chlorination and regular cleaning of storage reservoirs will be conducted during operation
• Increase in production of sewage beyond capabilities of community facilities?	√		Water supply rate considered (70 lpcd) appropriately, however, improvement in sanitation and sewerage facilities is necessary.
• Inadequate disposal of sludge from water treatment plants?		√	Not applicable

<ul style="list-style-type: none"> Inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities? 		√	Not applicable
<ul style="list-style-type: none"> Impairments associated with transmission lines and access roads? 		√	Not applicable
<ul style="list-style-type: none"> Health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals. 		√	Not applicable
<ul style="list-style-type: none"> Health and safety hazards to workers from the management of chlorine used for disinfection and other contaminants? 		√	Not applicable
<ul style="list-style-type: none"> Dislocation or involuntary resettlement of people 		√	Project does not involve land acquisition /displacement. Land purchased at market rates. Social impacts are assessed through Resettlement Planning study of subproject
<ul style="list-style-type: none"> Social conflicts between construction workers from other areas and community workers? 		√	The contractor will be utilizing the local labor force as far as possible; in case if it is unavoidable, labor camps and facilities will be provided appropriately. No conflicts envisaged
<ul style="list-style-type: none"> Noise and dust from construction activities? 	√		All the construction machineries employed will comply with noise emission standards of Central Pollution Control Board. Dust suppression measures such as water sprinkling will be employed
<ul style="list-style-type: none"> Increased road traffic due to interference of construction activities? 	√		Excavation and laying pipelines along public roads will interfere with the traffic. Construction material transport will increase traffic on the local roads. Proper traffic management and construction planning will be ensured to minimize the interference
<ul style="list-style-type: none"> Continuing soil erosion/silt runoff from construction operations? 	√		Construction work during monsoon shall be carried out with due care so that silt run off due to construction operation is prevented. No construction will be allowed during rains.
<ul style="list-style-type: none"> Delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems? 		√	No; appropriate O&M will be conducted

• Delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals?		√	Not anticipated; appropriate pipe materials selected
• Accidental leakage of chlorine gas?		√	Not applicable
• Excessive abstraction of water affecting downstream water users?		√	Not applicable
• Competing uses of water?		√	Not applicable
• Increased sewage flow due to increased water supply	√		Sanitation and sewerage need to be improved
• Increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant	√		Sanitation and sewerage need to be improved

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: India / West Bengal Drinking Water Sector Improvement Project – Water Supply Distribution System for Haroa Community Development Blocks

Sector: Urban Development

Subsector: Water Supply

Division/Department: SARD/SAUW

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes?	√		Area is prone for floods and cyclones
Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., changes in rainfall patterns disrupt reliability of water supply; sea level rise creates salinity intrusion into proposed water supply source)?		√	No
Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?		√	No
Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by using water from a vulnerable source that is relied upon by many user groups, or encouraging settlement in earthquake zones)?		√	No

Appendix 2: National Ambient Air Quality Standards

Table 1: Ambient Air Quality Standards

Parameter	Location ^a	India Ambient Air Quality Standard ($\mu\text{g}/\text{m}^3$) ^b	WHO Air Quality Guidelines ($\mu\text{g}/\text{m}^3$)		Applicable Per ADB SPS ^e ($\mu\text{g}/\text{m}^3$)
			Global Update ^c 2005	Second Edition 2000	
PM ₁₀	Industrial Residential, Rural and Other Areas	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-	20 (Annual) 50 (24-hr)
	Sensitive Area	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-	20 (Annual) 50 (24-hr)
PM ₂₅	Industrial Residential, Rural and Other Areas	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)	-	10 (Annual) 25 (24-hr)
	Sensitive Area	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)		10 (Annual) 25 (24-hr)
SO ₂	Industrial Residential, Rural and Other Areas	50 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-	50 (Annual) 20 (24-hr) 500 (10-min)
	Sensitive Area	20 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-	20 (Annual) 20 (24-hr) 500 (10-min)
NO ₂	Industrial Residential, Rural and Other Areas	40 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-	40 (Annual) 80 (24-hr) 200 (1-hr)
	Sensitive Area	30 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-	30 (Annual) 80 (24-hr) 200 (1-hr)
CO	Industrial Residential, Rural and Other Areas	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)	2,000 (8-hr) 4,000 (1-hr) 100,000 (15-min)
	Sensitive Area	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)	2,000 (8-hr) 4,000 (1-hr) 100,000 (15-min)
Ozone (O ₃)	Industrial Residential, Rural and Other Areas	100 (8-hr) 180 (1-hr)	100 (8-hr)		100 (8-hr) 180 (1-hr)
	Sensitive Area	100 (8-hr) 180 (1-hr)	100 (8-hr)		100 (8-hr) 180 (1-hr)
Lead (Pb)	Industrial, Residential, Rural and Other Areas	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)	0.5 (Annual) 1.0 (24-hr)
	Sensitive Area	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)	0.5 (Annual) 1.0 (24-hr)
Ammonia (NH ₃)	Industrial Residential,	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)

Parameter	Location ^a	India Ambient Air Quality Standard	WHO Air Quality Guidelines ($\mu\text{g}/\text{m}^3$)		Applicable Per ADB SPS ^e
	Rural and Other Areas				
	Sensitive Area	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)
Benzene (C ₆ H ₆)	Industrial Residential, Rural and Other Areas	5 (Annual)			5 (Annual)
	Sensitive Area	5 (Annual)			5 (Annual)
Benzo(o)pyrene (BaP) particulate phase only	Industrial Residential, Rural and Other Areas	0.001 (Annual)			0.001 (Annual)
	Sensitive Area	0.001 (Annual)			0.001 (Annual)
Arsenic (As)	Industrial Residential, Rural and Other Areas	0.006 (Annual)			0.006 (Annual)
	Sensitive Area	0.006 (Annual)			0.006 (Annual)
Nickel (Ni)	Industrial Residential, Rural and Other Areas	0.02 (Annual)			0.02 (Annual)
	Sensitive Area	0.02 (Annual)			0.02 (Annual)

^a Sensitive area refers to such areas notified by the India Central Government.

^b Notification by Ministry of Environment and Forests, Government of India Environment (Protection) Seventh Amendment Rules, 2009

^c WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. *Global update 2005*. WHO 2006

^d Air Quality Guidelines for Europe Second Edition. WHO 2000

^e Per ADB SPS, the government shall achieve whichever of the ambient air quality standards is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the executing agency of the government will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS

Ambient Noise Quality standards

Area code	Category of area/zone	Limit dB(A)	
		Day time	Night time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

Appendix 3: Vehicle Exhaust Emission Norms

VEHICLE EXHAUST EMISSION NORMS

1. Passenger Cars

Norms	CO(g/km)	HC+ NOx(g/km)
1991Norms	14.3-27.1	2.0(Only HC)
1996 Norms	8.68-12.40	3.00-4.36
1998Norms	4.34-6.20	1.50-2.18
India stage 2000 norms	2.72	0.97
Bharat stage-II	2.2	0.5
Bharat Stage-III	2.3	0.35 (combined)
Bharat Stage-IV	1.0	0.18 (combined)

2. Heavy Diesel Vehicles

Norms	CO(g/kmhr)	HC (g/kmhr)	NOx (g/kmhr)	PM(g/kmhr)
1991Norms	14	3.5	18	-
1996 Norms	11.2	2.4	14.4	-
India stage 2000 norms	4.5	1.1	8.0	0.36
Bharat stage-II	4.0	1.1	7.0	0.15
Bharat Stage-III	2.1	1.6	5.0	0.10
Bharat Stage-IV	1.5	0.96	3.5	0.02

Source: Central Pollution Control Board

CO = Carbon Monoxide; g/kmhr = grams per kilometer-hour; HC = Hydrocarbons; NOx = oxides of nitrogen; PM = Particulates Matter

Appendix 4: Air Pollution from Construction Activity

DEPARTMENT OF ENVIRONMENT'S DIRECTION UNDER AIR ACT, 1981 FOR CONTROL OF AIR POLLUTION FROM CONSTRUCTION ACTIVITIES IN WEST BENGAL



**Department of Environment
Government of West Bengal
Writers' Buildings, "G" Block, (2nd. Floor),
Kolkata-700 001.**

No. EN/3170/T-IV-7/001/2009

Dated: December 10th, 2009.

D I R E C T I O N

WHEREAS, Department of Environment, Govt. of West Bengal is entrusted to look after the execution of the different environmental laws within the territorial jurisdiction of West Bengal and also responsible for maintaining pollution free environment and also responsible for restraining different environment hazardous activities which are causing serious impact on human beings, other living creatures, plant, micro-organism, property or the environment ;

AND WHEREAS, Department of Environment has already taken different steps for controlling air pollution in the atmosphere generated from the different sources i.e. industrial source, vehicular source and burning of bio-mass;

AND WHEREAS, Department of Environment in exercising the power conferred under section 19 of the Air (Prevention & Control of Pollution) Act, 1981, has already declared entire West Bengal as 'Air Pollution Control Area';

AND WHEREAS, West Bengal Pollution Control Board conducted a study with the help of the Asian Development Bank and it is revealed that the contribution of the construction activities is one of the source of air pollution in Kolkata and its surroundings ;

AND WHEREAS, it is further revealed that burning of old tyres in hot mix plant as a fuel during construction and repairs of road for melting coal tar contributes significant obnoxious element into the air which cause a serious problem of the human beings ;

HENCE, in view of the above and in consultation with the West Bengal Pollution Control Board and in exercise of the power conferred under Air (Prevention & Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986, all the municipalities, local authorities and all other concerned Govt. Departments within the State of West Bengal, are now directed to take immediate steps to implement the following norms which need to be strictly followed by the developers, contractors or any other infrastructure developers ;

- Preventive measures need to be taken: -
 - a) Wrap construction area/buildings with geotextile fabric, installing dust barriers, or other actions, as appropriate for the location,
 - b) Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization,
 - c) Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process;
 - d) Limit vehicle speeds to 15 mph on the work site.
 - e) Clean wheels and undercarriage of haul trucks prior to leaving construction site.
 - f) Apply and maintain dust suppressant on haul routes.
 - g) Apply a cover or screen to stockpiles and stabilize stockpiles at completion of activity by water and maintain a dust palliative to all outer surfaces of the stockpiles;
 - h) Stabilize surface soils where loaders, support equipment and vehicles will operate by using water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate;
 - i) Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover.
 - j) Maintain dust control during working hours and clean track out from paved surfaces at the end of the work shift/day. Track out must now extend 50 feet or more and must be cleaned daily, at the minimum.
 - k) Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope,
 - l) Disposal of debris in consultation with the local authorities following proper environmental management practice.
 - m) During construction work, including cutting of marbles, ambient noise level should not exceed more than 65 dB(A).

Local Police Station is also directed to render all necessary help to the Local Authorities to implement the aforementioned direction in a befitting manner.

This order will take effect from 01-01-2010 through out the State of West Bengal.

By Order,
Sd/-
(M. L. Meena)
Principal Secretary to the Govt. of West Bengal.
Department of Environment.

Appendix 5: EXTRACT FROM CONSTRUCTION And DEMOLITION MANAGEMENT RULES, 2016

[Published In the Gazette of India, Part-II, Section-3, Sub-section (ii)]
Ministry of Environment, Forest and Climate Change

NOTIFICATION

New Delhi, the 29th March, 2016

G.S.R. 317(E).—Whereas the Municipal Solid Wastes (Management and Handling) Rules, 2000 published vide notification number S.O. 908(E), dated the 25th September, 2000 by the Government of India in the erstwhile Ministry of Environment and Forests, provided a regulatory frame work for management of Municipal Solid Waste generated in the urban area of the country;

And whereas, to make these rules more effective and to improve the collection, segregation, recycling, treatment and disposal of solid waste in an environmentally sound manner, the Central Government reviewed the existing rules and it was considered necessary to revise the existing rules with a emphasis on the roles and accountability of waste generators and various stakeholders, give thrust to segregation, recovery, reuse, recycle at source, address in detail the management of construction and demolition waste.

And whereas, the draft rules, namely, the Solid Waste Management Rules, 2015 with a separate chapter on construction and demolition waste were published by the Central Government in the Ministry of Environment, Forest and Climate Change vide G.S.R. 451 (E), dated the 3rd June, 2015 inviting objections or suggestions from the public within sixty days from the date of publication of the said notification;

And Whereas, the objections or suggestions received within the stipulated period were duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 6, 25 of the Environment (Protection) Act, 1986 (29 of 1986), and in supersession of the Municipal Solid Wastes (Management and Handling) Rules, 2000, except as respect things done or omitted to be done before such supersession, the Central Government hereby notifies the following rules for Management of Construction and Demolition Waste—

1. Short title and commencement.—(1) These rules shall be called the Construction and Demolition Waste Management Rules, 2016.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. Application.—The rules shall apply to every waste resulting from construction, re-modeling, repair and demolition of any civil structure of individual or organisation or authority who generates construction and demolition waste such as building materials, debris, rubble.

3. Definitions—(1) In these rules, unless the context otherwise requires,—

(a) "ACT" means the Environment (Protection) Act, 1986 (29 of 1986);

(b) "**construction**" means the process of erecting of building or built facility or other structure, or

building of infrastructure including alteration in these entities.;

- (c) **"construction and demolition waste"** means the waste comprising of building materials, debris and rubble resulting from construction, re-modeling, repair and demolition of any civil structure;
- (d) **"de-construction"** means a planned selective demolition in which salvage, re-use and recycling of the demolished structure is maximized;
- (e) **"demolition"** means breaking down or tearing down buildings and other structures either manually or using mechanical force (by various equipment) or by implosion using explosives.
- (f) **"form"** means a **Form annexed to these rules;**
- (g) **"local authority"** means an urban local authority with different nomenclature such as municipal corporation, municipality, nagarpalika, nagarnigam, nagarpanchayat, municipal council including notified area committee and not limited to or any other local authority constituted under the relevant statutes such as gram panchayat, where the management of construction and demolition waste is entrusted to such agency;
- (h) **" schedule"** means a schedule annexed to these rules;
- (i) **"service provider"** means authorities who provide services like water, sewerage, electricity, telephone, roads, drainage etc. often generate construction and demolition waste during their activities, which includes excavation, demolition and civil work;
- (j) **"waste generator"** means any person or association of persons or institution, residential and commercial establishments including Indian Railways, Airport, Port and Harbour and Defence establishments who undertakes construction of or demolition of any civil structure which generate construction and demolition waste.
- (2) Words and expressions used but not defined herein shall have the same meaning defined in the ACT.

(4) Duties of the waste generator -

- (1) Every waste generator shall prima-facie be responsible for collection, segregation of concrete, soil and others and storage of construction and demolition waste generated, as directed or notified by the concerned local authority in consonance with these rules.
- (2) The generator shall ensure that other waste (such as solid waste) does not get mixed with this waste and is stored and disposed separately.
- (3) Waste generators who generate more than 20 tons or more in one day or 300 tons per project in a month shall segregate the waste into four streams such as concrete, soil, steel, wood and plastics, bricks and mortar and shall submit waste management plan and get appropriate approvals from the local authority before starting construction or demolition or remodeling work and keep the concerned

authorities informed regarding the relevant activities from the planning stage to the implementation stage and this should be on project to project basis.

(4) Every waste generator shall keep the construction and demolition waste within the premise or get the waste deposited at collection centre so made by the local body or handover it to the authorised processing facilities of construction and demolition waste; and ensure that there is no littering or deposition of construction and demolition waste so as to prevent obstruction to the traffic or the public or drains.

(5) Every waste generator shall pay relevant charges for collection, transportation, processing and disposal as notified by the concerned authorities; Waste generators who generate more than 20 tons or more in one day or 300 tons per project in a month shall have to pay for the processing and disposal of construction and demolition waste generated by them, apart from the payment for storage, collection and transportation. The rate shall be fixed by the concerned local authority or any other authority designated by the State Government.

(5) Duties of service provider and their contractors -

(1) The service providers shall prepare within six months from the date of notification of these rules, a comprehensive waste management plan covering segregation, storage, collection, reuse, recycling, transportation and disposal of construction and demolition waste generated within their jurisdiction.

(2) The service providers shall remove all construction and demolition waste and clean the area every day, if possible, or depending upon the duration of the work, the quantity and type of waste generated, appropriate storage and collection, a reasonable timeframe shall be worked out in consultation with the concerned local authority.

(3) In case of the service providers have no logistics support to carry out the work specified in sub-rules (1) and (2) , they shall tie up with the authorised agencies for removal of construction and demolition waste and pay the relevant charges as notified by the local authority.

(6) Duties of local authority-The local authority shall,-

(1) issue detailed directions with regard to proper management of construction and demolition waste within its jurisdiction in accordance with the provisions of these rules and the local authority shall seek detailed plan or undertaking as applicable, from generator of construction and demolition waste;

(2) chalk out stages, methodology and equipment, material involved in the overall activity and final clean up after completion of the construction and demolition ;

(3c) seek assistance from concerned authorities for safe disposal of construction and demolition waste contaminated with industrial hazardous or toxic material or nuclear waste if any;

(4) shall make arrangements and place appropriate containers for collection of waste and shall remove at regular intervals or when they are filled, either through own resources or by appointing private operators;

(5) shall get the collected waste transported to appropriate sites for processing and disposal either through own resources or by appointing private operators;

(6) shall give appropriate incentives to generator for salvaging, processing and or recycling preferably in-situ;

(7) shall examine and sanction the waste management plan of the generators within a period of one month or from the date of approval of building plan, whichever is earlier from the date of its submission;

(8) shall keep track of the generation of construction and demolition waste within its jurisdiction and establish a data base and update once in a year;

(9) shall devise appropriate measures in consultation with expert institutions for management of construction and demolition waste generated including processing facility and for using the recycled products in the best possible manner;

(10) shall create a sustained system of information, education and communication for construction and demolition waste through collaboration with expert institutions and civil societies and also disseminate through their own website;

(11) shall make provision for giving incentives for use of material made out of construction and demolition waste in the construction activity including in non-structural concrete, paving blocks, lower layers of road pavements, colony and rural roads.

(7) Criteria for storage, processing or recycling facilities for construction and demolition waste and application of construction and demolition waste and its products-

(1) The site for storage and processing or recycling facilities for construction and demolition waste shall be selected as per the criteria given in **Schedule I**;

(2) The operator of the facility as specified in sub- rules (1) shall apply in **Form I** for authorization from State Pollution Control Board or Pollution Control Committee.

(3) The operator of the facility shall submit the annual report to the State Pollution Control Board in **Form II**.

(3) Application of materials made from construction and demolition waste in operation of sanitary landfill shall be as per the criteria given in **Schedule II**.

(8) Duties of State Pollution Control Board or Pollution Control Committee-

(1) State Pollution Control Board or Pollution Control Committee shall monitor the implementation of these rules by the concerned local bodies and the competent authorities and the annual report shall be sent to the Central Pollution Control Board and the State Government or Union Territory or any other State level nodal agency identified by the State Government or Union Territory administration for generating State level comprehensive data. Such reports shall also contain the comments and suggestions of the State Pollution Control Board or Pollution Control Committee with respect to any comments or changes required;

(2) State Pollution Control Board or Pollution Control Committee shall grant authorization to construction and demolition waste processing facility in **Form-III** as specified under these rules after examining the application received in **Form I**;

(3) State Pollution Control Board or Pollution Control Committee shall prepare annual report in **Form IV** with special emphasis on the implementation status of compliance of these rules and forward report to Central Pollution Control Board before the 31st July for each financial year.

(9) Duties of State Government or Union Territory Administration-

(1) The Secretary in-charge of development in the State Government or Union territory administration shall prepare their policy document with respect to management of construction and demolition of waste in accordance with the provisions of these rules within one year from date of final notification of these rules.

(2) The concerned department in the State Government dealing with land shall be responsible for providing suitable sites for setting up of the storage, processing and recycling facilities for construction and demolition waste.

(3) The Town and Country planning Department shall incorporate the site in the approved land use plan so that there is no disturbance to the processing facility on a long term basis.

(4) Procurement of materials made from construction and demolition waste shall be made mandatory to a certain percentage (say 10-20%) in municipal and Government contracts subject to strict quality control.

(10) Duties of the Central Pollution Control Board - (1) The Central Pollution Control Board shall,-

(a) prepare operational guidelines related to environmental management of construction and demolition waste management;

(b) analyze and collate the data received from the State Pollution Control Boards or Pollution Control Committee to review these rules from time to time;

(c) coordinate with all the State Pollution Control Board and Pollution Control Committees for any matter related to development of environmental standards;

(d) forward annual compliance report to Central Government before the 30th August for each financial year based on reports given by State Pollution Control Boards of Pollution Control Committees.

(11) Duties of Bureau of Indian Standards and Indian Roads Congress -The Bureau of Indian Standards and Indian Roads Congress shall be responsible for preparation of code of practices and standards for use of recycled materials and products of construction and demolition waste in respect of construction activities and the role of Indian Road Congress shall be specific to the standards and practices pertaining to construction of roads.

Schedule III
Timeframe for Planning and Implementation
[See Rule 13]

Sl. No.	Compliance Criteria	Cities with population of 01 million and above	Cities with population of 0.5-01 million	Cities with population of less than 0.5 million
1	Formulation of policy by State Government	12 months	12 months	12 months
2	Identification of sites for collection and processing facility	18 months	18 months	18 months
3	Commissioning and implementation of the facility	18 months	24 months	36 months
4	Monitoring by SPCBs	3 times a year – once in 4 months	2 times a year – once in 6 months	2 times a year – once in 6 months

**The time Schedule is effective from the date of notification of these rules.*

FORM – I

See [Rule 7 (2)]

Application for obtaining authorisation

To,
The Member Secretary

_____ Name of the local authority or Name of the agency
appointed by the municipal authority

Correspondence address Telephone No. Fax No.	
Nodal Officer and designation (Officer authorized by the competent authority or agency responsible for operation of processing or recycling or disposal facility)	
Authorisation applied for (Please tick mark)	Setting up of processing or recycling facility of construction and demolition waste
Detailed proposal of construction and demolition waste processing or recycling facility to include the following Location of site approved and allotted by the Competent Authority. Average quantity (in tons per day) and composition of construction and demolition waste to be handled	

Appendix 6: Labor Laws

(i) Workmen Compensation Act, 1923 - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

(ii) Payment of Gratuity Act, 1972 - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days' wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(iii) Employees' PF and Miscellaneous Provisions Act, 1952 - The Act provides for monthly contributions by the employer plus workers @10 % or 8.33 %. The benefits payable under the Act are: (a) Pension or family pension on retirement or death as the case may be; (b) deposit linked insurance on the death in harness of the worker; (c) payment of PF accumulation on retirement/death etc.

(iv) Maternity Benefit Act, 1951 - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(v) Contract Labor (Regulation and Abolition) Act, 1970 - The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided by the Principal Employer by Law. The principal employer is required to take Certificate of Registration and the Contractor is required to take a License from the designated Officer. The Act is applicable to the establishments or Contractor of principal employer if they employ 20 or more contract labor.

(vi) Minimum Wages Act, 1948 - The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employment.

(vii) Payment of Wages Act, 1936 - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

(viii) Equal Remuneration Act, 1979 - The Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees in the matters of transfers, training and promotions etc.

(ix) Payment of Bonus Act, 1965 - The Act is applicable to all establishments employing 20 or more workmen. The Act provides for payments of annual bonus subject to a minimum of 8.33 % of wages and maximum of 20 % of wages to employees drawing ₹3,500/- per month or less. The bonus to be paid to employees getting ₹2,500/- per month or above up to ₹3,500/- per month shall be worked out by taking wages as ₹2,500/- per month only. The Act does not apply to certain establishments. The newly set up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of the Act.

Industrial Disputes Act, 1947 - The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the

requirements for laying off or retrenching the employees or closing down the establishment.

- Industrial Employment (Standing Orders) Act, 1946 - It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the employer on matters provided in the Act and get the same certified by the designated Authority.

(x) Trade Unions Act, 1926 - The Act lays down the procedure for registration of trade unions of workmen and employees. The trade unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(xi) Child Labor (Prohibition and Regulation) Act, 1986 - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labor is prohibited in Building and Construction Industry.

(xii) Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979 - The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The inter-state migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.

(xiii) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996 - All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under this Act. All such establishments are required to pay Cess at rate not exceeding 2% of the cost of construction as may be notified by the Government. The employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodation for workers near the workplace etc. The employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

Appendix 7: Drinking Water Standards

DRINKING WATER STANDARDS

No.	Substance or characteristic	Requirement Desirable limit	Undesirable effect outside the desirable	Permissible limit in the absence of alternate Source	Remarks
Essential Characteristic					
1.	Color Hazen Units, Max	5	Above 5, consumer acceptance decreases	25	Extended to 25 only if toxic Substance are not suspect in absence of alternate sources
2.	Odor	Unobjectionable	-	-	a) test cold and when heated b) test are several dilutions
3.	Taste	Agreeable	-	-	Test to be conducted only after safely has been established
4.	Turbidity (NTU) Max	5	Above 5, consumer acceptance decreases	10	-
5.	pH value	6.5 to 8.5	Beyond this range the water will after the mucous membrane and/or water supply system	No relaxation	-
6.	Total Hardness (mg/L) CaCO ₃	300	Encrustation in water supply structure and adverse effects on domestic use	600	-
7.	Iron (mg/L, Fe) Max	0.3	Beyond this limit taste/appearance are affected; has adverse effects on domestic uses and water supply structure and promotes iron bacteria	1.0	-
8.	Chlorides 250 (mg/L, Cl) Max	250	Beyond effects outside the desirable limit	1000	-
9.	Residual free Chlorine (mg/L), Max	0.2	-	-	To be applicable only when water is chlorinated. Tested at customer end. When protection against viral infection is required, it should be min. 0.5 mg/L.
Desirable Characteristics					
10.	Dissolved solids mg/L. Max	500	Beyond this, palatability decreases and may cause gastrointestinal irritation.	2000	-
11.	Calcium (mg/L, Ca) Max.	75	Encrustation in water supply structure and	200	-

			adverse effects on domestic use.		
12.	Magnesium (mg/L, Mg) Max	30	Encrustation in water supply structure and adverse effects on domestic use.	100	-
13.	Copper (mg/L, Cu) Max	0.05	Astringent taste discoloration and corrosion of pipes fittings and utensils will be caused beyond this.	1.5	-
14.	Manganese (mg/L, Mn) Max	0.1	Beyond this limit taste/appearance are affected, has adverse effect on domestic use and water supply structure	0.3	-
15.	Sulphate (mg/L, SO ₄) Max.	200	Beyond this causes gastro intestinal irritation when magnesium or sodium are present	400	May be extended up to 400 provided magnesium (as Mg) does not exceed 30
16.	Nitrate (mg/L, NO ₃) Max.	45	Beyond this methaemoglobinemia takes place.	100	-
17.	Fluoride (mg/L, F) Max.	1.0	Fluoride may be kept as low as possible. High fluoride may cause fluorosis.	1.5	-
18.	Phenolic Compounds (mg/L C ₆ H ₅ OH) Max.	0.001	Beyond this, it may cause objectionable taste and odor	0.002	-
19.	Mercury (mg/L Hg) Max	0.001	Beyond this the water becomes toxic	No Relaxation.	To be tested when pollution is suspected
20.	Cadmium (mg/L, Cd) Max	0.01	Beyond this the water becomes toxic	No Relaxation.	To be tested when pollution is suspected
21.	Selenium (mg/L, Se) Max	0.01	Beyond this the water becomes toxic.	No Relaxation.	To be tested when pollution is suspected
22.	Arsenic (mg/L, As) Max.	0.01	Beyond this the water becomes toxic	No Relaxation	To be tested when pollution is suspected
23.	Cyanide	0.05	Beyond this the water becomes toxic	No Relaxation	To be tested when pollution is suspected
24.	Lead (mg/L Pb) Max.	0.05	Beyond this the water becomes toxic	No Relaxation	To be tested when pollution is suspected
25.	Zinc (mg/L, Zn) Max.	5	Beyond this limit it can cause astringent taste and an opalescence in water	15	To be tested when pollution is suspected

26.	Anionic detergents (mg/L, MBAS) Max	0.2	Beyond this limit it can cause a light froth in water	1.0	To be tested when pollution is suspected
27.	Chromium (mg/L, Cr6+)	0.05	May be carcinogenic above this limit	-	-
28.	Polynuclear Aromatic Hydrocarbons (mg/l, PAH) Max	-	May be carcinogenic	-	-
29.	Mineral oil (mg/L)	0.01	Beyond this limit, undesirable taste and odor after chlorination takes place	0.03	To be tested when pollution is suspected
30.	Pesticides (mg/L) max	Absent	Toxic	0.001	-
Radioactive materials					
31.	Alpha emitters Bq/L Max	-	-	0.1	-
32.	Beta emitters Pci/L Max	-	-	1.0	-
33.	Alkalinity (mg/L,) Max	200	Beyond this limit, taste becomes unpleasant	600	-
34.	Aluminum (mg/L, Al) Max	0.03	Cumulative effect is reported to cause dementia	0.2	
35.	Boron (mg/L) Max	1.0	-	5.0	-

Appendix 8: NOC for Sundarban Biosphere

NOC FOR SUNDARBAN BIOSPHERE FROM SUNDARBAN BIOSPHERE AUTHORITY

DIRECTORATE OF FORESTS
OFFICE OF THE ADDL. PRINCIPAL CHIEF CONSERVATOR OF FORESTS & DIRECTOR
SUNDARBAN BIOSPHERE RESERVE, WEST BENGAL
BIKASH BHAWAN, 3RD FLOOR, NORTH BLOCK
SALT LAKE CITY, KOLKATA - 700 091
TELEFAX 2321-1750/1529, E-MAIL :sbrdir@gmail.com

=====

No. 1095 /SBR/C-21/17 Dated : 05-03-2019

From : The APCCF & Director, Sundarban Biosphere Reserve
West Bengal.

✓ To : The Project Director, PMU
West Bengal Drinking Water Sector Improvement Project
PHE Dte., Govt. of West Bengal

Sub : Construction of ground level storage reservoir and small pipelines in
Haroa and Bhangar -II blocks of North and South 24 Parganas requirement of
regulatory permission, if any.

Ref : Your Memo No. PMU/WBDWSIP/PHED/06/79 dt. 25.01.2019

With reference to the above noted communication this is to inform you that Haroa and
Bhangar -II blocks of North and South 24 Parganas does not have Forest land & does not
required any permission from this end.

APCCF & Director
Sundarban Biosphere Reserve
West Bengal
[Signature]
5/3/19

[Stamp]
RECEIVED
5/3/19

Murmu/HC/SBR/05.03.19

Appendix 9: Tree felling NOC for Gopalpur, Haroa

Give W/S
TL/OSIS
Requested to take further action in this regard
26/06/19

Government of West Bengal
 Directorate of Forests
 Office Of The Divisional Forest Officer,
 24 Parganas (North) Division,
 Court Complex (Near Barasat Bus Stand), Barasat,
 North 24 Parganas District
 Phone-(033) 2552 0968/Fax-(033)2584-0241
 Email: dfo24pgsn@yahoo.co.in

No. 489 (7) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

From : The Divisional Forest Officer,
 24-Parganas (North) Division

To : The Executive Engineer,
 North 24 Parganas, W/S Division-II,
 P.H.E. Dte. Utility Building, Tank No.3,
 2nd Floor, Block – A1, AA-1A, New Town, Kol-156.

Sub : Felling permission of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas.

Ref : Your Memo No. 700/N-24PGSD-II, dated 10.05.2019 & Range Officer, Rampura S F Range memo no. 27/RMP-17-T, dated 29.05.2019.

Sir/Madam,

Enclosed please find a permission for felling of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas along with approved plantation plan.

You are requested to arrange to send a report on completion of plantation at an early date. Please arrange for maintaining the proposed plantation up to 5(five) years.

You are also requested to kindly explore the possibility of transplanting the trees as far as practical in the field if possible.

Encl: As stated above.

Angshuman Mukhopadhyay
 (Angshuman Mukhopadhyay, WBFS)
 Divisional Forest Officer,
 24 Parganas (North) Division.

No. (2) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

Copy forwarded for information and taking necessary action to:-

1. The Proddhan, Gopalpur – I Gram Panchayet , Haroa, North 24 Parganas.
2. The Range Officer, RMP S F Range along with approved plantation plan.

You are requested to inspect the area of plantation after monsoon and report to the undersigned.

Sd/- Angshuman Mukhopadhyay
 Divisional Forest Officer,
 24 Parganas (North) Division.

Inward No. 976
 RECEIVED
 Date 12/06/19

DTL / AD / S. K. Mahanta
For 2.a. please
12/06
MH/15

Appendix 10: Recent Activities at Construction Sites

Photo Illustration



Use of Platform missing at zone-1(Pipeline)



Use of Caution tape and PPEs noted at zone-1



Cooking arrangement with L.P.G at zone-1(Pipeline) camp



Use of Fire Extinguisher and banner at zone -1(OHR)



Partial use of PPEs at zone -1(OHR)



Partial Use of caution tape and PPEs at zone -5



Labour Camp Inspection at zone-5



Public consultation at zone-6



Partial water logging and improper storage of construction material at zone-12(OHR)



Flag man during visit seen at zone-12(Pipeline)



Public Consultation at zone-12(Pipe line)



Partial use of PPEs seen at zone-12



Kitchen arrangement with gas connection at zone-13



Use of platform seen during visit at zone-13



Satisfactory road restoration seen after work at zone-14



Cot arrangement of bedding in Labour hutment at zone -15(OHR)



Partial use of PPEs seen at zone-15 (Pipeline)



Well barricaded stock yard seen at zone-17(OHR)



Partial satisfactory road restoration seen at zone-17 (Pipeline)



11 nos. of tree cut with permission at zone-18(OHR)



Proper storage of cement at store yard at zone -18(OHR)




Gopalpur zone 18 OHR construction site. Project board noted


Appendix 11: Stakeholder Consultation**STAKEHOLDER CONSULTATIONS at HAROA**


List of Participants in Consultation: Haroa




Sl. No.	Name	Signature
	ବିଥ୍‌ଲି ମଣ୍ଡଳ	ବିଥ୍‌ଲି ମଣ୍ଡଳ (Ph-8101388583)
	ବିନୟା କୁମାର	ବିନୟା କୁମାର (Ph-9095685759)
	ବିନୟା କୁମାର	ବିନୟା କୁମାର (9735319162)
	ବିନୟା କୁମାର	ବିନୟା କୁମାର 8346097518
	ବିନୟା କୁମାର	ବିନୟା କୁମାର
	Madhabu Mondal	Madhabu Mondal (Ph-8420726994)
	ଆଶା ଚାନ୍ଦିନୀ	7679756576
	ଆଶା ଚାନ୍ଦିନୀ	8001112824
	ଆଶା ଚାନ୍ଦିନୀ	9681702785
	ବିଜୁଳୀ କୁମାର	9593465091
	ଆଶିଷ କୁମାର	7076540581
	ଆଶିଷ କୁମାର	8509718395
	(ବିଜୁଳୀ କୁମାର SH-01)	



SUMMARY OF PUBLIC CONSULTATIONS – DURING CONSTRUCTION PHASE


Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
1	Haroa	Dated 10.07.19 at Salipur GP	13, 14, 16 & 17	Total - 18 Male - 12 Female- 6	<p>Discussions:</p> <ul style="list-style-type: none"> • Discussions mainly on benefits of project, how the project will work, Labours' safety, Grievance Redress Mechanism, How and whom to register complain/ suggestions/ comments/questions, Roles & responsibilities of VWSC, Gender & livelihood aspect. • The main goal of the project is to supply safe drinking water to every person, Arsenic free water to reduce health problem & use the surface water to save the ground level water. • All Residential, Commercial, Educational Religious, Health institutions will get potable water from this project. • Each person will get 70 litter potable water through metered house connection pipe line on 24/7 basis. • Reduce the time & harassment of fetching water for women. • VWSC should be active or reformed. • This project will strengthen the VWSC because finally PHED will hand over the Operation & Maintenance part of the entire asset created to the concerned Gram Panchayats and VWSCs will act on behalf of the GPs. • This project has the provision to generate livelihood for the most vulnerable sections of the society. Women's empowerment is another important component. Capacity Building trainings will be imparted to selected beneficiaries of the GP for Operations & Maintenance. Leadership & Smart Water Management training will be imparted to the VWSCs. • People can register their complaint/ suggestions/ questions/ statements in Grievance Register available at site with the supervisor working at the site. Also, the Organogram of GRM and how to register and importance of registering complains/ suggestions/ questions/ statements was explained. • Management of environmental issues e.g. dust, noise and waste. 	
					<ul style="list-style-type: none"> • Safety & security of the labours is very important and they have to follow the instructions. There is a provision for first aid & health, safety & environment (HSE) training. 	




Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					Concerns of the Participants <ul style="list-style-type: none"> • Survey and Pipeline laying are not done in some Places. • They want copy of GRM to write down their complaints/ suggestions/ questions/ statements. • In Uttar Salipur, under Sansad no-12 of Salipur GP one household not connected as the HH is far away from the last connected house. • Distribution pipe line in some areas of Andulberia village, Sansad no -5, Salipur GP is not done. • Mr. Sunil Ghosh, Ex GP member of Sansad no –05, Salipur GP under Zone – 13 informed that Roads are damaged in the time of laying pipeline in some places. Survey not yet done for pipeline laying work in some places. New bitumen roads & concrete roads are damaged when excavated by JCB for laying the pipelines. • Coordination is necessary with the GP and project management. At the beginning of the project there was coordination with GP, but now during the implementation phase GPs are not informed about any field work. Contractor's people have surveyed without informing the GP. 	


Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
2	Haroa	Date: 15.07.19 at Bokjuri GP	12, 15 & 17	Total - 17 Male - 16 Female - 1	Discussions:	
					<ul style="list-style-type: none"> • Discussion on Benefits of project, how the project works, why the project taken by Govt. • Other issues related to the project also discussed, like labours' safety, Grievance Redress Mechanism, How to register complain, Roles & responsibilities of VWSC, Gender & livelihood aspect, income generation 	
					<ul style="list-style-type: none"> • The project is to supply safe Arsenic free drinking water to reduce health problem and use surface water to save ground level water. 	
					<ul style="list-style-type: none"> • Each person will get 70 litter potable water through metered house connection on 24/7 basis. And all the education centre, commercial places, religious places, cooperatives, health centres are included as beneficiaries of the project. 	
					<ul style="list-style-type: none"> • Village Water & Sanitation Committee (VWSC) of Gram Panchayat is the most important committee to this project. Because Government will hand over the assets and operations & maintenance will be the responsibilities of the GPs. 	
					<ul style="list-style-type: none"> • VWSC formation was initiated and completed. 	
					<ul style="list-style-type: none"> • For operation & maintenance of the water distribution system, training will be arranged for capacity building by technical group for the selected persons, which would help to create job opportunities. 	
					<ul style="list-style-type: none"> • Women's livelihood & empowerment also included in this project. 	
					<ul style="list-style-type: none"> • Detail discussion on GRM and how to register Complaints/ Questions/ Comments/ Suggestions were elaborated to the GP members and participants. Organogram of GRM provided to GP. And asked them to distribute in public with phone no of Pradhan & GP members in every Gram Sansad. 	
					<ul style="list-style-type: none"> • It was informed that one grievance register should be available with site supervisor at site. People can write their comments/ suggestions/ complains on that book. Many problems can be resolved in the field through discussion with the contractor at the site. 	
					<ul style="list-style-type: none"> • If any problem is not resolved at the field level, then it should be sent to the district level. If the problem is not resolved at the district level, then it should 	




Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					be sent to the state level committee.	
					<ul style="list-style-type: none"> How environmental issues like dust, noise and waste as well as safety & security of the labors has been taken care off in the project. 	
					<ul style="list-style-type: none"> At all sites handholding training programs on First Aid were organized for the labors. 	
					<ul style="list-style-type: none"> Soft copy of the National Population Register of the GP is necessary for same unique ID of every household. 	
					Concerns of the Participants:	
					<ul style="list-style-type: none"> Capacity of the Gram Panchayats to maintain a project of this kind is inadequate. They wanted to know how they will maintain the project? 	
					<ul style="list-style-type: none"> Who will take the responsibilities for capacity building trainings? 	
					<ul style="list-style-type: none"> If, there is 2 or 3 separated families living in one single house (structure/Standing property). How many connections they will get, only one or depends on the no of families? 	
					<ul style="list-style-type: none"> In Rajarhat and other places the pipe line laying has been done through boring, then why pipe line laying in this area is different? 	
					<ul style="list-style-type: none"> After preparing the National Population Register many families have been separated. In that case what will be Unique ID of those families? 	
3	Haroa	Date: 18.07.19 At Amta (Uttarpara), Gopalpur II GP	1	Total - 24 Male - 15 Female - 9	Discussion:	
					<ul style="list-style-type: none"> Discussed mainly on What, Why, How and more on Operation & Maintenance issues, Innovations & Livelihood issues, Grievance Redress Mechanism, Gender and Social Inclusion, etc. 	
					<ul style="list-style-type: none"> 70lpcd potable water through metered house connections on a 24/7 basis. 	
					<ul style="list-style-type: none"> All educational, commercial, religious, health etc. institutions will also get the same potable water from this project. 	
					<ul style="list-style-type: none"> Project will create/ strengthen sustainable service delivery mechanism and for that institution building will be a part of the project. 	
					<ul style="list-style-type: none"> In Haroa block 21 Overhead Reservoirs (OHRs) will be constructed and from those OHRs water will be supplied to the houses and other community & government institutions. 	

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					<ul style="list-style-type: none"> • This will also provide support to strengthen sanitation issues. 	
					<ul style="list-style-type: none"> • Water quality issue was also discussed - Arsenic in ground water is a big issue in Haroa block, hence in entire Haroa block surface water will be supplied after proper treatment. 	
					<ul style="list-style-type: none"> • Provisions for extensive skills and capacity building of stakeholders through additional support from the Japan Fund for Poverty Reduction . 	
					<ul style="list-style-type: none"> • Gender & Social Inclusion Plan. 	
					<ul style="list-style-type: none"> • Provision for employment generation. 	
					<ul style="list-style-type: none"> • Reduce time for women to fetch water. 	
					<ul style="list-style-type: none"> • Awareness Campaigns on water conservation/ climate resilience/ WASH etc. 	
					<ul style="list-style-type: none"> • Operation & Maintenance (O&M) - the project will be finally handed over to the Gram Panchayats for maintenance and distribution of water. 	
					<ul style="list-style-type: none"> • Village Water & Sanitation Committees will be formed in every Gram Panchayat will formed, which will take the lead in O&M at the GP Level. 	
					<ul style="list-style-type: none"> • People can write their grievances/ suggestions/ opinions and ask questions to know specific things about the project and Grievance Registers should be available with the supervisor working at the site. 	
					<ul style="list-style-type: none"> • Different tiers based on the organogram of the GRM was explained. Many grievances can be resolve in the field through discussion. 	
					<ul style="list-style-type: none"> • People don't need to pay anything to anybody for pipeline distribution work now. Till their premises pipelines and meters will be installed by PHED. 	
					<ul style="list-style-type: none"> • How safety & security of the labors also has been taken care off in the project. At all sites handholding training programs on First Aid were organized for the labors. 	
					Concerns of the Participants:	
					<ul style="list-style-type: none"> • No proper backfilling and compacting are done. 	
					<ul style="list-style-type: none"> • JCB removes the bricks and some people use those bricks for their construction works. When the contractor's people are trying to backfill with the help of the JCB again those bricks go deep inside and difficult to restore the road condition. 	



SI.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					<ul style="list-style-type: none"> • Because of the JCB's movements on the brick road at many places brick soling got damaged and there is a risk for the habitants to meet accidents after rain and during night hours. 	
					<ul style="list-style-type: none"> • The pipe laying could have taken place after the edge of the road as there is enough space on both sides and the villagers said they would support if anybody raise any issue. According to them it would save their road and save people from meeting any accident. 	
					<ul style="list-style-type: none"> • During pipe laying one culvert has been completely damaged and people envisage inundation in those agricultural plots (see video). 	
					<ul style="list-style-type: none"> • People suggested to do the compaction manually using spades and not with the JCB. 	
					<ul style="list-style-type: none"> • During digging the bricks should be separated and while compacting those bricks can be laid again and lose soil needs to be refilled with the help of spades. 	



Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
4	Harora	Date: 22.07.19 at Gopalpur II	1	Total - 25, Male - 15 Female - 10	Discussions:	
					<ul style="list-style-type: none"> Discussed on what is the project, how it benefited the peoples, who will operate & maintained the project, what is the role & responsibility of GP and VWSC (Village Water & Sanitation Committee) 	
					<ul style="list-style-type: none"> The main goal of the project is to supply safe drinking water to every person, Arsenic free water to reduce health problem & use the surface water to save the ground level water. 	
					<ul style="list-style-type: none"> In Harora block 21 Overhead Reservoirs (OHRs) will be constructed and from those OHRs water will be supplied to the houses and other community & government institutions. 	
					<ul style="list-style-type: none"> Each person will get 70 litter potable water through metered house connection pipe line on 24/7 basis. 	
					<ul style="list-style-type: none"> Village Water & Sanitation Committees will be formed in every Gram Panchayat will formed, which will take the lead in O&M at the GP Level. 	
					<ul style="list-style-type: none"> VWSC formation was initiated and completed. 	
					<ul style="list-style-type: none"> This project has the provision to generate livelihood for the most vulnerable sections of the society. Women's empowerment is another important component. Capacity Building trainings will be imparted to selected beneficiaries of the GP for Operations & Maintenance. Leadership & Smart Water Management training will be imparted to the VWSCs. 	
					<ul style="list-style-type: none"> Detail discussion on GRM and how to register Complaints/ Questions/ Comments/ suggestions was elaborated to the GP members and participants. Organogram of GRM provided to GP. And asked them to distribute in public with phone no of Pradhan & GP member in every Gram Sansad. 	
					<ul style="list-style-type: none"> It was informed that one grievance register should be available with site supervisor at all sites. People can write down their comments/ suggestions/ complains in that. Many problems can be resolved in field through discussions with the contractor's people in the site. 	
					<ul style="list-style-type: none"> How safety & security of the labors also has been taken care off in the project. 	

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					<ul style="list-style-type: none"> DISCS specialist asked the participants for cooperation to the project because the project will not be completed without support of villagers/GP members. 	
					Concerns of the Participants:	
					<ul style="list-style-type: none"> Capacity of Gram Panchayat to proper maintain of this kind of project is inadequate. They want to know how they will maintain the huge project. 	
					<ul style="list-style-type: none"> Who will take the responsibilities for capacity building trainings? 	
					<ul style="list-style-type: none"> Who will bear the charges of meter connection? 	
					<ul style="list-style-type: none"> Two or three brothers are in one house, but all are separated now. Will they get separate water pipeline connections for each one of them? 	
					<ul style="list-style-type: none"> Pipeline laying are not done in some Places. Such as i) Bhanur gheri habitation in Bhatagachhi mouja (approx. 100 families) ii) Bakramari, Banshtala and Natun Gheri in Tentulia Abad mouja (approx 350 families). 	

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
5	Haroa	Date: 26.07.19 at Haroa	3, 19 & 21	Total- 43 Male -35 Female - 8	<p>Discussions:</p> <ul style="list-style-type: none"> • The main goal of the project is to supply safe drinking water to every person, Arsenic free water to reduce health problem & use the surface water to save the ground level water. • Discussions mainly on benefits of project, how the project will work, Labours' safety, Grievance Redress Mechanism, How and whom to register complain/suggestions/comments/questions, Roles & responsibilities of VWSC, Gender & livelihood aspect. • All participants are informed about the roles & responsibilities of all stakeholders' right from PHED and its consultants to the VWSCs. • In Haroa block 21 Overhead Reservoirs (OHRs) will be constructed and from those OHRs water will be supplied to the houses and other community & government institutions. • Each person will get 70 litter potable water through metered house connection on 24/7 basis. • Connection of pipeline will be one in every single structure. • For operation & maintenance of the water distribution system, training will be arranged for capacity building by technical group for the selected persons, which would help to create job opportunities. • 33% of the Member of VWSC should be female as per Institutional set up. • ADB wants to give special emphasis to women's empowerment & their livelihood issues. Women members of the VWSC in the Gram Panchayat can take leadership training and other training to perform their envisaged role. • People can write their grievances/ suggestions/ opinions and ask questions to know specific things about the project and Grievance Registers should be available with the supervisor working at the site 	  

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					<ul style="list-style-type: none"> • Different tiers based on the organogram of the GRM were explained. The copy of the GRM has given to Gram Panchayat. Many grievances can be resolve in the field through discussion. • All labors and supervisor should use helmets, safety jackets, safety shoes for their own safety. • It is essential that needs to support of all communities to complete the project. <p>Concerns of the Participants:</p> <ul style="list-style-type: none"> • Capacity of Gram Panchayat to proper maintain the project of this kind is insufficient. They wanted to know who will take responsible of training for capacity building. • Who will bear the cost of tap with metered connection? • Sk. Alamgir, GP member of Gram Sansad no- 19 in Haroa GP complain that the pipe line laying at night and depth of pipe line not more than 2 feet at nearby State Bank of India. At that place the pipe can burst by the pressure of traffic in future. 	

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
6	Haroa	Date: 29.07.19 at Kulti GP	4, 5, 6 & 7	Total - 24 Male - 16 Female - 8	Discussion:	
					• Discussion on Benefits of project, how the project works, why the project taken by Govt.	
					• Other issues related to the project also discussed, like labours' safety, Grievance Redress Mechanism, How to register complain, Roles & responsibilities of VWSC, Gender & livelihood aspect, income generation.	
					• The project is to supply safe Arsenic free drinking water to reduce health problem and use surface water to save ground level water.	
					• Each person will get 70lpcd potable water through metered house connections on a 24/7 basis.	
					• The project is funded by ADB.	
					• In Haroa block 21 Overhead Reservoirs (OHRs) will be constructed and from those OHRs water will be supplied to the houses and other community & government institutions.	
					• VWSC formation was initiated and completed.	
					• Government will hand over the assets and operations & maintenance will be the responsibilities of the GPs.	
					• According to ADB norms 33% members of the VWSC would be females. And there should be preference to SC, ST, OBC, and Religious Minorities in VWSC.	
					• For the capacity building of VWSC, the training will be arranged by technical group of drinking water supply and management.	
					• Reduce the time & harassment of fetching water for women	
					• ADB wants to develop the women's livelihood in this project. So new innovative thinking will be introduced.	
					• Detail discussion on GRM and how to register Complaints/ Questions/ Comments/ suggestions was elaborated to the GP members and participants. Organogram of GRM provided to GP. And asked them to distribute in public with phone no of Pradhan & GP member in every Gram Sansad.	

					<ul style="list-style-type: none"> One Grievance Register should be available with site supervisor at site. People can write their Complaints/ Questions/ Comments/ suggestions on that book. Many problems can be resolved through discussions with the contractor's people in the site. 	
					<ul style="list-style-type: none"> Safety & security of the labours is very important and they have to follow the instructions. There is a provision for first aid & health, safety & environment (HSE) training. 	
					<ul style="list-style-type: none"> DISCS specialist asked the participants to look after the safety of the worker. If they are not following the rules then public can complain in Grievance Register. And also ask for cooperation to the project because the project will not be completed without support of villagers/GP members. 	
					<i>Suggestion of Social safeguard expert, DSISC</i>	
					<ul style="list-style-type: none"> All labors and supervisor will use helmets, safety jackets, safety shoes for their own safety. 	
					<ul style="list-style-type: none"> The supervisor should keep the First Aid box, First Aid Register and Grievance Register readily available at the work site. 	
					<ul style="list-style-type: none"> People should register their complaints/ suggestions/ comments/ questions using the Grievance Register in writing. Those who cannot write may be facilitated to register her/his concerns either by the supervisor/ site engineer/ social safeguard team member or others present at the site. 	
					<ul style="list-style-type: none"> The contractor has the responsibility to follow the environment protection norms. 	
					<ul style="list-style-type: none"> Certain issues can be resolved at the field itself in consultation with the contractor's people present at the site. 	
					<ul style="list-style-type: none"> It is essential for all prospective beneficiaries to cooperate with other stakeholders for timely completion of the project. That doesn't indicate that they are advised to compromise, they can raise their concerns following proper ways like registering their Grievances 	

ATTENDANCE SHEET

Programme - Public Consultation Meeting
 Venue - Salpur Gram Panchayat
 Date - 10/07/2019

Sl. No	Name	Designation	Contact No.	Signature
01	Krishna Mondal	Member	9856442241	[Signature]
02	Mantu Khatke	Upo-Pradhan	9775532187	[Signature]
03	Sufi Gul Islam	Member	9775659002	[Signature]
04	Padmalala Khatke	Member	83486632	[Signature]
05	श्रीराम शर्मा	STC ST	7797066838	[Signature]
06	Mansha Bibi	Member	7407127499	
07	श्रीराम शर्मा	STC ST	7719129922	[Signature]
08	श्रीराम शर्मा	STC ST	9002995005	[Signature]
09	श्रीराम शर्मा	STC ST	9083344503	[Signature]
10	Shyamal Mondal	Member	7602409629	[Signature]
11	श्रीराम शर्मा	STC ST	9933790391	[Signature]
12	श्रीराम शर्मा	Member	8871824222	[Signature]
13	Pranaya Mondal	Member	7797683575	[Signature]
14	श्रीराम शर्मा	Member	9733767169	[Signature]
15	Jasim Hossain	Member	9782784344	[Signature]
16	श्रीराम शर्मा	STC ST	7797151250	[Signature]
17	Anup Paul	V & E	9734933206	[Signature]
18	Dilip Roy	Support Staff Society Background Society Gender & Resettlement Specialist	9932996971	[Signature]
19	Dr. Aniruddha Das		9748101612	[Signature]
20				

Public Consultation

Pinta Village - Zone - I, Haroa

Date - 18/07/2019

- 1) Ammal Molla - Ammal Molla
- 2) Anick Biswas - Anick Biswas
- 3) Anant Gazi - Anant Gazi
- 4) Nasrattul Fardousi - Nasrattul Fardousi
- 5) Najmunnasir Bibi - Najmunnasir Bibi
- 6) Rehena Parvin - Rehena Parvin
- 7) Rafiqul Kabir - Rafiqul Kabir
- 8) Rafiqul Kabir - Rafiqul Kabir
- 9) Rafiqul Kabir - Rafiqul Kabir
- 10) Sania Khatun - Sania Khatun
- 11) Liza Khatun - Liza Khatun
- 12) Liza Khatun - Liza Khatun
- 13) Liza Khatun - Liza Khatun
- 14) Abdul Mannan - Abdul Mannan
- 15) Mannan Molla - Mannan Molla
- 16) Kutubuddin Molla - Kutubuddin Molla
- 17) Mahabub Hasan - Mahabub Hasan
- 18) Golam Hassan Molla - Golam Hassan Molla
- 19) Jahan Ali Biswas - Jahan Ali Biswas
- 20) Babur Razi Gazi - Babur Razi Gazi
- 21) Pinta Gazi - Pinta Gazi
- 22) Kalam Gazi - Kalam Gazi
- 23) Dr. Amiruddin - Dr. Amiruddin
- 24) Dilip Gazi - Dilip Gazi

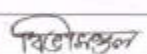
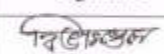
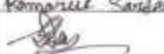
ATTENDANCE SHEET

Programme - Public Consultation
 Venue- Bokjuri Gram Panchayat
 Date - 15.07.2019
 Time- 2.00 pm

Sl. No	Name	Designation	Contact No.	Signature
01	Ahamed Ali	Provision	9635127177	A-ETD
02	Bharam	Member	9933311572	Babita Kham
03	Aniruddha	Member	6296737236	A-ETD
04	Abhishek Kumar	Member	9734981380	
05	Ahmed Nasser	Member	9732718746	A-ETD
06	J. Hossain	Member	9609349393	Jakir Hossain
07	Mirina Paluau	Member	973258279	Mirina
08	Md. Zakir Ali Sakayak		9894517505	Md.
09	Md. Abu Naser	Secretary	9836465455	G-2
10	Haram Ch. Mondol	Ex. Member	9175401055	H. Mondol
11	Ban. B. B. B.	Member	9735741280	B. B. B.
12	SK Hafizur Rahman	Member	9933830072	SK Hafizur
13	Rabiuul Islam	Tax Collector	9872340880	Rabiuul
14	Abhishek Kumar	Member	901095823	Abhishek
15	S. K. Bose	Safety Manager (HCC)	9736500906	S. K. Bose
16	P. K. Mondol	Ex. Engineer	905193169	P. K. Mondol
17	Dilip Ray	Support Staff	9933796970	Dilip
18	Aniruddha Dey	Social Gender & Resilience Expert	974807612	Aniruddha
19				
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ATTENDANCE SHEET

Programme – Public Consultation
 Venue- Gopalpur II Gram Panchayat
 Date – 21.07.2019
 Time- 3.15 pm.

Sl. No	Name	Designation	Contact No.	Signature	
01		Brodhan	9564835997		Fe
02	Kamarul Sandan	Upa-Brodhan	9564833687	Kamarul Sandan	
03	Ganesh Ch. Das	Secretary LEA-ichap	8967360088		
04	Azmira Khatun Bibi	Panchayat Samity Member	7029787698	Azmira Khatun	Fe
05	Jesmina Bibi	Sanchalak Khushi & Mukta U.S	8001684288	Jesmina Bibi	Fe
06	Debjani Pramanik	Member	8001389984	Debjani Pramanik	Fe
07	Rejina Bibi	Sanchalak Shilpa - O - Pami Khatun	9732913787	Rejina Bibi	Fe
08	Tejman Bibi	Sanchalak Nari - O - Shikha Samita	7501311012	Tejman Bibi	Fe
09	Sahasi Golder	Member	9734743826	Sahasi Golder	Fe
10	Kabira Bibi	Sanchalak Shikha - O - Jona Shikha	9647107904	Kabira Bibi	Fe
11	Dipali Mondal	Member	9775230633	Dipali Mondal	Fe
12	Anjana Golder	P.S. member	8145807220	Anjana Golder	Fe
13	Bugbul Khatun Munchi	Social Worker	9734513448	Bugbul Khatun Munchi	
14	Sukumar Sandan	Member	8348130709	Sukumar Sandan	
15	Tajaffar Ali Mondal	Member	8371922084	Tajaffar Ali Mondal	
16	Sadhan Ch. Sanakar	Sakayak	9792970632	S. Sanakar	
17	Samchhur Alam Mondal	Dalameta	8906944682	Samchhur Alam Mondal	
18	Asadur Mondal	Social Worker	9732913787	Asadur Mondal	
19	Subir Mondal	V.L.E	9814203474	Subir Mondal	
20	Md. Sahidul Islam	G.P.K	9732887453	Md. Sahidul Islam	

Male - 15
 Female - 10

Sl. No	Name	Designation	Contact No.	Signature
21	Gobinda Bhowan	conf	9564191561	Gobinda Bhowan
22	Abdul Latif Gazi	Civil	9734141217	Abdul Latif Gazi
23	Rohan Kumar	Env. Support Staff	7364806746	Rohan Kumar
24	Dilip Roy	Social Support staff- DSISL	9143411012	Dilip Roy
25	Amrindelta Dey	Social, Gender Resettlement Expert	9748107612	Amrindelta Dey
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ATTENDANCE SHEET

Programme - Public Consultation
 Venue- Haroa Gram Panchayat, Haroa
 Date - 26.07.2019
 Time- 2.00 pm

Sl. No	Name	Designation	Contact No.	Signature
01	Tarikul Molla	Non-official member	9732834476	Tarikul Molla
02	SK Amirul Rahman	Member	9933528358	SK Amirul Rahman
03	Abdul Latif Faruk	C.P. Supervisor	9794405516	A.S.A. Abdullah R
04	Mazjina Bibi	Member (01)	9733848546	Mazjina Bibi
05	Somnath Rash	Member (02)	8973831089	Somnath Rash
06	Pulin Golder	Member (14)	9735496234	Pulin Golder
07	Mekail Alam Molla	Member (04)	8926069202	Mekail Alam
08	Dipankar Choudhary	Member (05)	6290311378	Dipankar Choudhary
09	Syam Sundar Das	Member (06)	639681581	Syam Sundar Das
10	Tayeb Ali	Member (07)	9732452531	Tayeb Ali
11	SK Alamgir	Member (10)	9733507428	SK Alamgir
12	Nurul Islam	Member (08)	7457422848	Nurul Islam
13	Md. Kabirul Islam	Villager	8926674545	Md. Kabirul Islam
14	Manik Das	"	9609221646	Manik Das
15	Papiya Bibi	Member (09)	9733987058	Papiya Bibi
16	Azgar Molla	Supervisor	6295166517	Azgar Molla
17	Aser Ali Molla	"	9541846452	Aser Ali Molla
18	Royesh Molla	"	9064851800	Royesh Molla
19	Sahid Ali	"	9732578737	Sahid Ali
20	Rahul Sardar	Villager	9732835970	Rahul Sardar

Support Enabling and Skill Training Committees for Sustainable Operation and Management of Services- North 24 Parganas District				
West Bengal Drinking Water Sector Improvement Project (WBOWSIP)				
Funded By: Asian Development Bank				
Attendance Sheet for Block Level Meeting				
Block: Hazra Block - Kulti GP				
ক্রমিক সংখ্যা	নাম	পদ	মোবাইল নাম্বার	স্বাক্ষর
1	সহকারী সচিব	সচিব	8348277827	সহকারী সচিব
2	কলিকতা (মল্লিক)	সচিব	9732440035	কলিকতা
3	সহকারী মন্ডল	সচিব	9126750600	স. মন্ডল
4	সহকারী সচিব	সচিব	9001274612	স. মন্ডল
5	সহকারী সচিব	সচিব	9132705871	স. মন্ডল
6	মোহন আলি রায়	সচিব	9733229535	মোহন আলি
7	সহকারী সচিব	সচিব	6272433370	সহকারী সচিব
8	বিজয় মন্ডল	সচিব	8368718187	বিজয় মন্ডল
9	মুন্সিংগো নগর	সুপারভাইজার	9088846157	ম. ন
10	মুন্সিংগো নগর	সুপারভাইজার	9479162030	ম. স
11	হাবিবুর রহমান মল্লিক	সুপারভাইজার	8348454615	স. মল্লিক
12	সহকারী মন্ডল	সুপারভাইজার	8687328119	স. মন্ডল
13	রবিজি মন্ডল	সুপারভাইজার	8768419906	স. মন্ডল
14	মুন্সিংগো	সচিব	9851320534	মুন্সিংগো
15	সিওয়াল মন্ডল	সচিব	9735567900	সিওয়াল মন্ডল
16	সহকারী মন্ডল	সচিব	9775268693	সহকারী মন্ডল
17	সহকারী মন্ডল	সচিব	9732467566	সহকারী মন্ডল
18	আবু আলি মল্লিক	সচিব	9566803118	আবু আলি মল্লিক
19	সহকারী সচিব	সচিব	9732364119	সহকারী সচিব
20	সহকারী সচিব	সচিব	9733234058	সহকারী সচিব

SAMPLE CONSULTATION- DURING CONSTRUCTION PHASE- FILLED FORMS

Public Consultation during construction (weekly for different working sites) - WBDWSIP

Package- 02A, (Pachimpura, Mukundpur) + Farca Block.											
Area- (Pachimpura) (J) - Zero (15) - Pipe line work.											
Sr. No.	Road/Lane No.	Date	PHE and utility service Connection Restoration- (in case affected) Remarks	Overburden soil / sludge/ silt removal -Remarks	Road Restoration-Remarks	Dust and noise problem-Remarks	Social safety arrangement- Caution tape/ barricade etc. by contractor -Remarks	Problem of local movements due to project activity -Remarks	Other Problem faced if any	Name of the person with address/ contact No.	Signature
1.		22/03/19	NIL	NIL	NIL	No Sprinkling	Not use regularly	NIL	NIL	Rajesh Molla - 8157360524	22/03/19
2.		22/03/19	"	"	"	"	"	"	"	Khalid Molla - 9734724840	22/03/19
3.		22/03/19	"	"	"	"	Bulky Board using	NIL	NIL	Sadique Molla - 9593991590	22/03/19

Note: At least 8 such consultation in a month

Need clear view from locals

Komal 22/03/19

(Date & Signature of Safety officer/ Engineer of Contractor)

Appendix 12: SAMPLE GRIEVANCE REGISTRATION FORM

(To be available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

অভিযোগ নিবন্ধন ফর্মের নমুনা

..... প্রকল্পকে বাস্তবায়িত করার লক্ষে অভিযোগ, পরামর্শ, অনুসন্ধান এবং মন্তব্যের জন্য স্বাগত।

আমরা অভিযোগকারীকে অভিযোগ সহ নাম জানাতে উৎসাহিত করি এবং আপনার সাহচর্যে এসে এর শোধন ও প্রতিক্রিয়া জানাতে সক্ষম হই।

অবশ্যই আপনি আপনার ব্যক্তিগত বিষয় বিস্তারিত ভাবে বুলতে ইচ্ছাপ্রকাশ করবেন। যে তথ্য আপনি দেবেন, তা অবশ্যই গোপন থাকবে। তাই অনুগ্রহ করে আপনার নাম লিখে / টাইপ করে জানান।

তারিখ	নিবন্ধনের জায়গা	প্রকল্পের শহর প্রকল্পঃ			
যোগাযোগের তথ্য / বিস্তারিত ব্যক্তিগত তথ্য					
নাম		লিঙ্গ	পুরুষ মহিলা	বয়স	
বাড়ীর ঠিকানা					
জায়গা / স্থান					
ফোন নং					
ই-মেল					
যেকোন অভিযোগ / পরামর্শ / মন্তব্য / প্রশ্ন অনুগ্রহ করে নিচে বিস্তারিতভাবে (কে, কি, কোথায় এবং কেমন করে) আপনার অভিযোগ জানান					
যদি কোন সংযুক্তি / চিরকুট / চিঠি অন্তর্ভুক্ত করতে চান, অনুগ্রহ করে সেখানে টিক দিন।					
আপনার অভিযোগ / মন্তব্যের হালনাগাদ (আপডেট) বা প্রতিক্রিয়া কিভাবে পেতে চান?					

Office ব্যবহারের জন্যঃ

অভিযোগ নিবন্ধনকারী আধিকারিকের নামঃ	
যোগাযোগ ব্যবস্থাঃ	
চিরকুট / চিঠি- ই-মেল- মৌখিক / টেলিফোন-	
নিবন্ধকৃত অভিযোগ পর্যালোচনাকারী আধিকারিকের নাম ও পদঃ	
অভিযোগের বিরুদ্ধে গৃহীত ব্যবস্থা-	
গৃহীত ব্যবস্থা প্রকাশ্যে আনা হয়েছে কি না	হ্যাঁ না
প্রকল্পের উপায়	

Appendix 14: GRC Notification


State & District Level Steering committee

Memo no. PMU/WBDWSIP/PHED/104/ 356(1-9)

Dated Kolkata the 07.05.2019

Copy forwarded for information to:

1. P.A. to the Chief Secretary, Govt. of West Bengal. For kind information of the Chief Secretary.
2. P.A. to the Additional Chief Secretary, I & W Department. For kind information of the Additional Chief Secretary.
3. P.A. to the Additional Chief Secretary, P & R Department. For kind information of the Additional Chief Secretary.
4. P.A. to the Additional Chief Secretary, Finance Department. For kind information of the Additional Chief Secretary.
5. P.A. to the Principal Secretary, PHE Department. For kind information of the Principal Secretary
6. P.A. to the Principal Secretary, Public Works Department. For kind information of the Principal Secretary.
7. P.A. to the Principal Secretary, Urban Development & Municipal Affairs Department. For kind information of the Principal Secretary.
8. P.A. to the Principal Secretary, Land and Land Reforms Department. For kind information of the Principal Secretary.
9. P.A. to the Engineer-in-Chief, PHE Department. For kind information of the Engineer-in-Chief.



 Chief Engineer & Project Director
 PMU, WBDWSIP, PHE Dte
 Government of West Bengal

Memo no. PMU/WBDWSIP/PHED/104/ 356(1-30)

Dated Kolkata the 07.05.2019

Copy forwarded for information and necessary action to:

1. The District Magistrate, North 24 Parganas/South 24 Parganas/Purba Medinipur/Bankura.
2. The Additional District Magistrate (LR)/DLLRO, Land and Land Reforms Department, North 24 Parganas/ South 24 Parganas/Purba Medinipur/Bankura.
3. The Additional Executive Officer, North 24 Parganas/ South 24 Parganas/ Purba Medinipur/Bankura Zilla Parishad.
4. The Superintending Engineer, PIU, North 24 Parganas/Purba Medinipur/Bankura, WBDWSIP, PHED
5. The Superintending Engineer, Western Highway Circle-II/South Western Highway Circle/Eastern Highway Circle/ Southern Highway Circle, PW (Roads) Dte.
6. The Superintending Engineer, Western Circle II/ South Western Circle, PWD
7. The Superintending Engineer, Metropolitan Drainage Circle-I / Eastern Circle / Kangsabati Circle-I, Bankura / Western Circle-II, Medinipore/ Damodar Irrigation Circle, Irrigation and Waterways Dte.
8. The Executive Engineer, PIU, North 24 Parganas/ Purba Medinipur/ Bankura, PHE Dte
9. The Executive Engineer, Barasat Highway Division -I/ South 24 Parganas Highway Division /Tamluk Highway Division/ Bankura Highway Division, PW (Roads) Dte.
10. The Executive Engineer, Tamluk Division/ Bankura Division, PWD
11. The Executive Engineer, Contai Division/ Kangsabati Canal Division -I/ Damodar Headworks, I & W Dte.


 Chief Engineer & Project Director
 PMU, WBDWSIP, PHE Dte
 Government of West Bengal

**Public Health Engineering Department
West Bengal Drinking Water Sector Improvement Project
(WBDWSIP)**

Minutes of the 1st Meeting of State Level Steering Committee on West Bengal Drinking Water Sector Improvement Project (WBDWSIP) under the Chairmanship of Chief Secretary, West Bengal in the Conference Hall, Nabanna, 13th Floor, Howrah, held on 16.04.2019 at 11:00AM.

The list of Members present is attached as Annexure-A

Chief Secretary, Government of West Bengal took the chair and initiated the discussions.

2) Principal Secretary, Public Health Engineering Department apprised the committee that after the approval of Government of West Bengal and the Department of Economic Affairs, Government of India, Loan agreement with Asian Development Bank was signed on 03.10.2018 for an amount of 240 Million US Dollar as Loan and 3 million US Dollar as Grant under Japanese Fund for Poverty Reduction (JFPR) for execution of 3 (three) Water Supply Projects in Arsenic affected areas of North 24 Parganas district, salinity affected areas of Purba Medinipur district and fluoride affected areas of Bankura district under WBDWSIP. The objective of the Project is to deliver safe, sustainable and inclusive drinking water services in the aforesaid project districts with provision of 100% house hold metered connection to provide 24 X 7 water supply. One Project Management Unit (PMU) headed by Chief Engineer & Project Director and 3 (Three) Project Implementation Units (PIU) headed by Superintending Engineer under P.H. Engineering Department have been established for timely implementation of the Project.

3) Chief Engineer & Project Director described the details of the project through a power point presentation and highlighted the following points in respect of three subprojects:

- i) In Bankura district, the DPR for Bankura district has been prepared considering 8 (eight) blocks namely Taldangra, Indpur, Gangajalghati, Mejhia, Sonamukhi, Patrasayer, Joypur and Kotolpur. But presently the 4 (four) blocks, namely Taldangra, Indpur, Gangajalghati and

Mejhia will be covered fully through piped water supply with the financial assistance from ADB. The proposal for remaining 4(four) blocks will be taken up with ADB for additional funding as the ADB officials advised in their *aide memoire* during their last consultation mission on 26-27 March, 2019.

- ii) In **Purba Medinipur district**, DPR for 4(four) Blocks namely Nandakumar, Chandipur, Nandigram-I and Nandigram-II has been prepared. But presently 2(Two) Blocks namely Nandigram –I and Nandigram –II will be covered fully through piped water supply with the financial assistance from ADB. But the Water Treatment Plant will be constructed for catering to all 4(four) blocks as mentioned above. The proposal for remaining 2(Two) blocks will be taken up with ADB for additional funding.
- iii) In **North 24 Parganas and South 24 Parganas districts**, Haroa and Bhangar-II blocks will be covered fully through piped water supply but Water Treatment Plant is considered for Barasat-II block also. The cost of distribution network for Barasat-II block is not considered under this Loan assignment. Now one DPR has been prepared for distribution network of Barasat-II Block for proposal initiation with ADB.
- iv) Presently 4 (four) Consultancy firms and 3 (three) NGOs have been engaged to assist PMU and 3(three) PIUs as per ADB approved Project Administration Manual (PAM). Moreover, Technical Assistance (TA) Consultant has also been engaged by the ADB for Smart Water Management.
- v) Purchase of Private land for construction of Intake Structure, Water Treatment Plant and Overhead reservoirs is under process for all the schemes. The land parcels lying with other Government Department are also being processed for Inter Departmental Transfer. All efforts will be taken to get the required parcels of land in possession of PHED well in advance so that project implementation is not affected for want of site at any stage.
- vi) Communication has been made with WBIDC for issuance of confirmation to Damodar Valley Reservoir Regulatory Commission

(DVRRC) regarding drawal of 70MLD water from Durgapur Barrage to get the drawal permission from DVRRC. The same was issued by WBIDC on 29.06.2018 addressed to Member Secretary DVRRC but DVRRC again asked for reconfirmation regarding the present requirement. The matter will be taken up again with WBIDC and also referred to me&W Department for taking up with DVRRC for expeditious action.

- vii) Postings of Sr. Accounts Officer at PMU and Accounts Officer at PIU-Purba Medinipur is required to be made on urgent basis as the loan disbursement and expenditures have already been started. The ADB officials highlighted the issue during their last mission. AGWB has already replied that there is no sanctioned post of Sr Accounts Officer/Accounts Officer under the Administrative Control of Works Miscellaneous Section and no scope to provide any regular Sr A.O./A.O. for the post. Proposal for re-designation of Sr Accounts Officer/Accounts Officer Post as Divisional Accounts Officer have been submitted to Finance Department for approval in consultation with the Financial Advisor, PHE Department. The Additional Secretary, Finance Department informed that he will look into the proposal of PHED.
- 4) Additional Chief Secretary, Irrigation and Waterways Department assured that the issues related to I & W Department will be taken care of on priority basis for smooth implementation of the project.
- 5) Additional Chief Secretary, Panchayets & Rural Development Department informed that necessity of piped water supply in other water quality affected blocks of North 24 Parganas, South 24 Pargana, Purba Medinipur and Bankura districts also needs to be looked into on urgent basis. The Principal Secretary, PHE Department informed that at present PHE Department has taken up a few surface water based water supply schemes which include ADB and JICA assisted schemes to provide safe and sustainable drinking water in the quality affected blocks of West Bengal under different Programmes which will be commissioned within the next 2 to 3 Years. The present population

covered through piped water supply scheme in west Bengal is about 58% and once the ongoing schemes are commissioned the coverage would reach 72%.

- 6) Principal Secretary, PHE Department proposed that the Principal Secretaries of P.W. Department, Land and Land Reforms Department and Urban Development & Municipal Affairs Departments may also be incorporated as members of the committee for more effective coordination and collaboration for timely commissioning of projects. In addition, Superintending Engineer/Executive Engineer, PWD, PW (Roads) and ADM (LR)/ DLLRO of the Project districts may also be included as invitee members of the District Level Steering Committee. The Chief Secretary agreed with the proposal. The revised list of members of State Level and District Level Steering Committee is attached as Annexure-B.

Chief Secretary advised that PHED must prepare an action plan and shelf of projects so that the entire state is covered with piped water supply schemes within the next 6 to 7 years by fixing priority in the quality affected blocks. He further advised that proposals for the remaining blocks to be covered under this project may be initiated by the PHE Department as early as possible.

There being no other issues for discussion, the meeting ended with vote of thanks to and from the Chair.


21/5/19
(Malay Kr. De, IAS)

Chief Secretary
Government of West Bengal

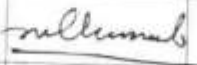

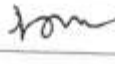

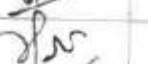
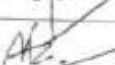
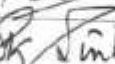



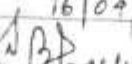
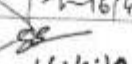
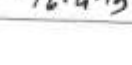
Meeting on 16.04.2019- 1st State Level Steering Committee

Subject:-WBDWSIP

Venue:-CS- Conference hall, Nabsanna

Time:-11:00am

Attendance Sheet:-

Sl. No	Name	Signature	Email
1	Chief secretary		
2	Additional Chief Secretary, P & RD Department		
3	Additional Chief Secretary, I & WD Department		
4	Additional Chief Secretary, Finance Department		
5	Principal Secretary, PHE Department		
6	Engineer- In - Chief, PHED		
7	Chief Engineer & P. D. WBDWSIP, PHE & H.		pd.pmu.adb@wbphed.gov.in
8	Dr. Sudip Kumar Sinha Addl. Secretary, Finance		sudipkumar.sinha@yahoo.in
9	Subhanis Ray		Se. P. in performed. adk @wbphed.gov.in
10	Debarshi Bhowmik		SE PIU N M Pym
11	Sujoy Barua		SE/PIU, Bankura
12	Nityananda Khan		SE/ME/PMU. Sene.pmu.adb@wbphed.gov.in
13	Sannat San		caz.pmu.adb@wbphed.gov.in
14			
15			
16			

Annexure-B**A. Restructured State Level Steering Committee for ADB Assisted Project (WBDWSIP) under PHE Department.****Members of the State Level Steering Committee :-**

1	The Chief Secretary, Govt. of West Bengal-	Chairperson
2	The Principal Secretary / Additional Chief Secretary, PHE Department-	Member
3	The Principal Secretary / Additional Chief Secretary, P & RD Department	Member
4	The Principal Secretary/ Additional Chief Secretary, Finance Department	Member
5	The Principal Secretary/ Additional Chief Secretary, I & W Department	Member
6	The Principal Secretary/ Additional Chief Secretary, Public Works Department	Member
7	The Principal Secretary/Additional Chief Secretary, Urban Development & Municipal Affairs Department	Member
8	The Principal Secretary/ Additional Chief Secretary, Land and Land Reforms Department	Member
9	The Engineer-in-Chief, PHE Department	Member
10	The Project Director, WBDWSIP, PHE Directorate	Member Secretary
11	The District Magistrate (each District)	Invitee Member

B. Restructured District Level Steering Committee for ADB Assisted Project (WBDWSIP) under PHE Department**Members of the District Level Steering Committee :-**

1	The District Magistrate	Chairperson
2	The Additional District Magistrate/DLLRO, Land and Land Reforms	Member
3	The Additional Executive Officer, Zilla Parisad	Member
4	The Superintending Engineer, PIU (each PIU), PHE Dte	Member Secretary
5	The Superintending Engineer/Executive Engineer, PW (Roads)	Member
6	The Superintending Engineer/Executive Engineer, PWD	Member
7	The Superintending Engineer/Executive Engineer, I & WD	Member
8	The Executive Engineer, (PIU), PHE Dte	Member
9	The Assistant Engineer, Social Safeguard (PIU) PHE Dte	Member
10	The Block Development Officer (each Block)	Member
11	Representative of NGO	Invitee Member

PMU Level

Grievance Redressal new file
 Social life guard
 M.A. 418/PIU, 20-1-2019
 EE (Civil) P.U.
 North 24 Parganas
 Superintending Engineer,
 P.U. North 24-Parganas
 WBDWSIP, P.H.E. Dte.
 Govt. of West Bengal
 Government of West Bengal
 Public Health Engineering Directorate
 Project Management Unit, West Bengal Drinking Water Sector Improvement Project
 Utility Building, 1st Floor, (Premises No.-09/1-0024)
 AA-1A, (Tank No.-3), New Town Kolkata-700 156
 Phone No.-(033) 2324-2095, E-mail: pd.pmu.adb@wbphed.gov.in;
www.adb@wbphed.gov.in

open file
Grievance
P. 1000
Social Security
2/2/73

Memo No. PMU/WBDWSIP/PHED/28/1-380

Date: 16.05.2019

NOTIFICATION

In order to address social, environmental and any other project or sub project related grievances in the implementation of Piped water supply schemes in the districts of Bankura, North & South 24 Parganas, Purba Medinipur under West Bengal Drinking Water Sector Improvement Project, PHE Dte with the assistance of Asian Development Bank (ADB), a common grievance redress mechanism has been developed for Project Management Unit.

The following members constitute the Grievance Redressal Committee to resolve the grievances at the PMU level:

1. Chair person- Chief Engineer & Project Director ,PMU
2. Member-Superintending Engineer (Civil), PMU
3. Member-Superintending Engineer (Mech/Elec.), PMU,
4. Safeguards and Gender Officer, Safeguards Gender Cell- Executive Engineer-I PMU.

The functions of GRC at PMU level are as follows:-

1. Accept Grievances of the Aggrieved parties through telephone hot lines at accessible location, email, post at PMU office
2. Address and Facilitate resolution of Grievances not resolved at the field and PIU level within stipulated time.
3. PMU HSGO together with PIU safeguard officers will have the joint responsibility for timely grievance redress on safeguards and gender issues and for registration of grievances, related disclosure, and communication with the aggrieved party.
4. Resolve grievances and suggest corrective measures or solutions for their redressal to PIU for implementation within the specified time (within 15 days).
5. If grievances cannot be resolved at the project level they will be referred to the District Steering Committee (DSC), which will also act as Grievance Redressal Committee particularly in matters related to land purchase and or acquisition, payment of compensation, and environmental pollution among others.

6. Any matter deemed higher than the district level or that may require inter departmental coordination, the required grievances redress will be referred to the state level steering committee.
7. Careful documentation of the name of the complainant and date of receipt of complaint, address and contact details of complainant, location of the problem area and how the problem was resolved and report the same in the Quarterly Progress Report and Semi Annual Safeguard Monitoring report to be submitted to ADB.
8. Periodically Review the functioning of the GRM at the field and PIU level.

The GRC will continue to function throughout the project duration.

Phz. 16.05.19
Chief Engineer & Project Director,
PMU, WBDWSIP, P.H.E. Dte.,
Govt. of West Bengal.

Memo No. PMU/WBDWSIP/PHED/...../.....

Date: 16.05.2019.

Copy forwarded for information to:-

1. The Superintending Engineer, Civil / (M/E), PMU, WBDWSIP, PHE Dte.
2. The Superintending Engineer, PIU, North 24 Parganas/ Purba Medinipur / Bankura, WBDWSIP, PHE Dte. with a directive to constitute the GRC at the PIU level and Field level as suggested in PAM approved by ADB.
3. The Executive Engineer-I, PMU, WBDWSIP, PHE Dte.
4. The Executive Engineer, PIU, North 24 Parganas/ Purba Medinipur/Bankura, WBDWSIP, PHE Dte.

Phz. 16.05.19
Chief Engineer & Project Director,
PMU, WBDWSIP, P.H.E. Dte.,
Govt. of West Bengal.

PIU Level



GOVERNMENT OF WEST BENGAL
OFFICE OF THE SUPERINTENDING ENGINEER
P.L.U., NORTH 24 PARGANAS WEST BENGAL DRINKING
WATER SECTOR IMPROVEMENT PROJECT
PUBLIC HEALTH ENGINEERING DIRECTORATE
UTILITY BUILDING, 3RD FLOOR, (PRIMISES NO.-49/1-0024)
AA-1A (TANK NO. 3), NEW TOWN, KOLKATA-700156
Email : se_piun24p.adb@wbphed.gov.in

Memo No.

/PIUN24PGS

Dated :

NOTIFICATION

In order to address social, environmental and any other project or sub project related grievances in the implementation of Asian Development Bank (ADB) assisted Piped water supply schemes in the district of North 24 Parganas under West Bengal Drinking Water Sector Improvement Project (WBDWSIP), a project level Grievance Redress Mechanism (GRM) has been developed for the Project Implementation Unit (PIU), North 24 Parganas, WBDWSIP, PHE Dte. and the Grievance Redress Committee (GRC) has been constituted with the following members to resolve the grievances at the PIU level:

Status in the GRC	Designation	Contact No.
Member	Assistant Engineer and Officer, Safeguard & Gender (Responsible for Haroa), PIU, North 24 Parganas, WBDWSIP, PHE Dte	033 2324 2051 (Extn. 204)
Member	Assistant Engineer (Responsible for WTP), PIU, North 24 Parganas, WBDWSIP, PHE Dte.	033 2324 2051 (Extn. 202)
Member	Assistant Engineer (Responsible for Bhangar-II), PIU, North 24 Parganas, WBDWSIP, PHE Dte.	033 2324 2051 (Extn. 203)
Member	Junior Engineer and Asst. Officer, Safeguards (Responsible for Haroa), PIU, North 24 Parganas, WBDWSIP, PHE Dte.	033 2324 2051 (Extn. 205)
Member	Junior Engineer and Asst. Officer, Gender (Responsible for WTP), PIU, North 24 Parganas, WBDWSIP, PHE Dte.	033 2324 2051 (Extn. 210)
Member	Junior Engineer (Responsible for Bhangar-II), PIU, North 24 Parganas, WBDWSIP, PHE Dte.	033 2324 2051 (Extn. 211)


Note : This is in accordance to the structure enumerate in PAM.

The function of GRC at PIU level are as follows-

1. Being assisted by the Design Supervision & Institutional Support Consultants (DSISC) the PIU will disseminate information and awareness campaigns on grievance redress procedures.
2. Brief the contractors on GRM with support from DSISC.
3. Accept grievances of the aggrieved person(s) in the grievance redress form (as specified in Appendix 6 of PAM).
4. Careful documentation of the name of the aggrieved person(s), date of receipt of the grievance, address/ contact details of the aggrieved person, location of the problem area etc.

5. Address and facilitate resolution of grievances not resolved at the field level within stipulated time (7 days).
6. The Officer, Safeguard & Gender, PIU, North 24 Parganas supported by the Social, Gender & Resettlement Specialist of DSISC, North 24 Parganas will be responsible for conducting meeting with the affected aggrieved person(s) to understand their concerns and help them through the process of grievance redressal including translating the complaints into Bengali or English, recording and registering grievances of non-literate affected persons and explaining the process of grievance redress mechanism.
7. If the PIU level GRC fails to resolve the grievance, the matter may be conveyed to the GRC established within PMU and the actions suggested by them to be taken up/ followed by this GRC.
8. Ensure redress of grievances on safeguards and gender issues and for registration of grievances, related disclosure and communication with the aggrieved party.
9. If grievances cannot be resolved at the PIU level, they will be referred to the District Steering Committee (DSC), acting as the GRC.
10. Any matter deemed higher than the district level or that may require inter-departmental coordination, the required grievance redress will be referred to the State Level Steering Committee (SLSC).
11. The GRC at PIU, North 24 Parganas will also be responsible for follow-through for each grievance, periodic information dissemination to the aggrieved person(s) on the status of their grievances and recording their feedback (satisfaction/ dissatisfaction and suggestions).
12. Periodically Review the functioning of the GRM at this end as well as field level.

The GRC will continue to function throughout the project duration.



 Superintending Engineer
 P.I.U., North 24 Parganas, WBDWSIP
 Public Health Engineering Directorate
 Govt. of West Bengal

Memo No. 409/(1-12) /PIUN24PGS

Dated : 20.05.19

Copy forwarded for information to :-

1. The Chief Engineer & Project Director, PMU, WBDWSIP, PHE Dte.
2. The Dy. Superintending Engineer, PIU, North-24 Pgs., WBDWSIP, PHE Dte.
3. The Executive Engineer (Civil), PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
4. The Executive Engineer (Elec./Mech.), PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
5. The Executive Engineer-I and Head Safeguard & Gender Officer, PMU, WBDWSIP, P.H.E. Dte.
6. The Assistant Engineer-I / II, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
7. The Assistant Engineer and Officer Safeguard & Gender, Sub Divn.-I under PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
8. Sri Shyamalendu Debadhikari, Junior Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
9. The Junior Engineer and Junior Safeguard & Gender Officer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
10. The Junior Engineer and Junior Environmental Officer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
11. The Team Leader, DSISC, North 24 Parganas.
12. The Social / Gender / Resettlement Specialist, DSISC, North 24 Parganas.


 Superintending Engineer
 P.I.U., North 24 Parganas, WBDWSIP
 Public Health Engineering Directorate
 Govt. of West Bengal

Appendix 15: Sample SEMP – Spoil and Traffic Management Plan

<p>NCC LIMITED</p>	<p>Design and Construction of Overhead Reservoir Feeding Water Supply Distribution Network and Lining Work in House Block</p>	<p>Doc. No. NCC/SEMP/03 Revision No. 00 Revision Date: 00 Effective Date:</p>
	<p>Site Specific Environment Management Plan</p>	

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WDDYSP HAROA BLOCK


LOCATION: ZONE 18 GOLF COURSE (OHR WORK)

0	18.06.2019	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i> 30/06/19	<i>[Signature]</i>
REV	DATE	PREPARED BY	(CHECKED) BY	APPROVED (BY NAME)	APPROVED (BY ID)

Environmental Specialist, DSISC

North 24 Parganas

West Bengal Drinking Water Supply Improvement Project

Package Area	Zone - 18 in N24P/02A, OHR (Gopalpur) N24P		
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block		
	SEMP is as per requirement of the Draft IEE covering package no. N24P/02A		
Contractor	NCC Pvt. Ltd.		
Date of Contract Award	19/09/2018		
Date of works commencement for particular site	26/09/2019		
Contract period	Construction: 3 Years ; O&M: 2 Years		
SEMP Component	Construction of Overhead Reservoir – 1000 KL		
	No demolition activity involved		
Gram Panchayets	Gopalpur I		
Project Description	Individual household water supply schemes for the project Gram Panchayats		
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-		
Project Components	As per project detailed design		
Gram Panchayet: Gopalpur I			
Land Status	PHED		
OHR Capacity	1000 KL		
Location			
			

Details of contractors on-site-personnel and workers	Zone-18 OHR/Gopalpur I
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Suman Paul; 7076274664
Site Supervisor	Mr. Tapendu Paramanik; 6296804910
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	4 skilled and 0 Semi-skilled
Unskilled workers	9
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-13 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at OHR site of Gopalpur (as referred in O2)

Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First, we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment 07 included with this SEMP 	Contractor	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site document checking	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging,	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	and water pollution.	quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates(NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • Already done land requisition, electric connection, water source etc. • This site has numerous trees and would require tree felling. Accordingly, tree cutting permission has been obtained for cutting of 11 trees [refer Appendix O.A] • Made provision for detailed design drawing and documented all conditions • Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment machinery and DG set used for excavation and construction	<ul style="list-style-type: none"> • Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> ○ Only vehicles having valid Pollution Under Control Certificates 	<ul style="list-style-type: none"> • Only vehicles having valid PUC certificate have been engaged in the project. • Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. • Sprinkling and dust screen arrangement have been made, and will be used when required. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	resulting in dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	<p>should be engaged in the project.</p> <ul style="list-style-type: none"> ○ Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. • Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. • Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. • If required, then provide a dust screen/high compound wall around the construction sites (OHR). 	<ul style="list-style-type: none"> • Site has been access controlled to prevent trespassing. • Stock piles will be maintained in such a way to minimise dust rising. • Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> • The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. • Where no local drains are available, a soak pit will be created on-site away from water bodies 	<ul style="list-style-type: none"> • The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. • Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical	<ul style="list-style-type: none"> • Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, 	<ul style="list-style-type: none"> • No stockpiles have been planned near drainage locations/ nearby water bodies. • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from 	Contractor	PIU through DSISC observation at site and document checking	• Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<p>dispose in designated disposal area.</p> <ul style="list-style-type: none"> Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided Provision for temporary silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration. 	<p>drainage path and spill kits have been obtained.</p> <ul style="list-style-type: none"> All excavated materials expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> So far no faunal movement has been observed in this site. Some trees are present on the site and felling of tree will be required at this site. Accordingly, tree cutting permission has been obtained (refer Appendix O.A). 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Noise Levels	Increase in noise level due to earth-	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working 	Contractor	PIU through DSISC observation	<ul style="list-style-type: none"> Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	moving and excavation equipment, and the transportation of equipment, materials by labours	<p>jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor;</p> <ul style="list-style-type: none"> • Horns not to be used unless it is necessary to warn other road users; • Ensure maximum work place noise level exposure not exceeding 85 decibels (dbA); • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<p>at sensitive times, such as religious and cultural festivals.</p> <ul style="list-style-type: none"> • Planned activities in consultation with DSISC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance. • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE. 		at site and document checking	
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess 	<ul style="list-style-type: none"> • Spoil management plan has been developed • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these are disposed as per law. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		spoils at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site-specific occupational health and safety (OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work-related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> • Based on NCC's OHS Plan, a site specific OHS plan has been developed. • Site OHS plan is attached at Attachment - 04. • All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; • H&S Training for all site personnel has been arranged and it will be continued; • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Drinking water provided after proper testing. • First Aid box provided at working sites; • Clean eating areas provided to workers; 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			<ul style="list-style-type: none"> Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment O3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Environment al Management Plan (EMP) Implementati on Training	Irreversible impact to the environment, workers, and community	<ul style="list-style-type: none"> Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc. 	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., Living quarters and construction camps shall be provided with 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

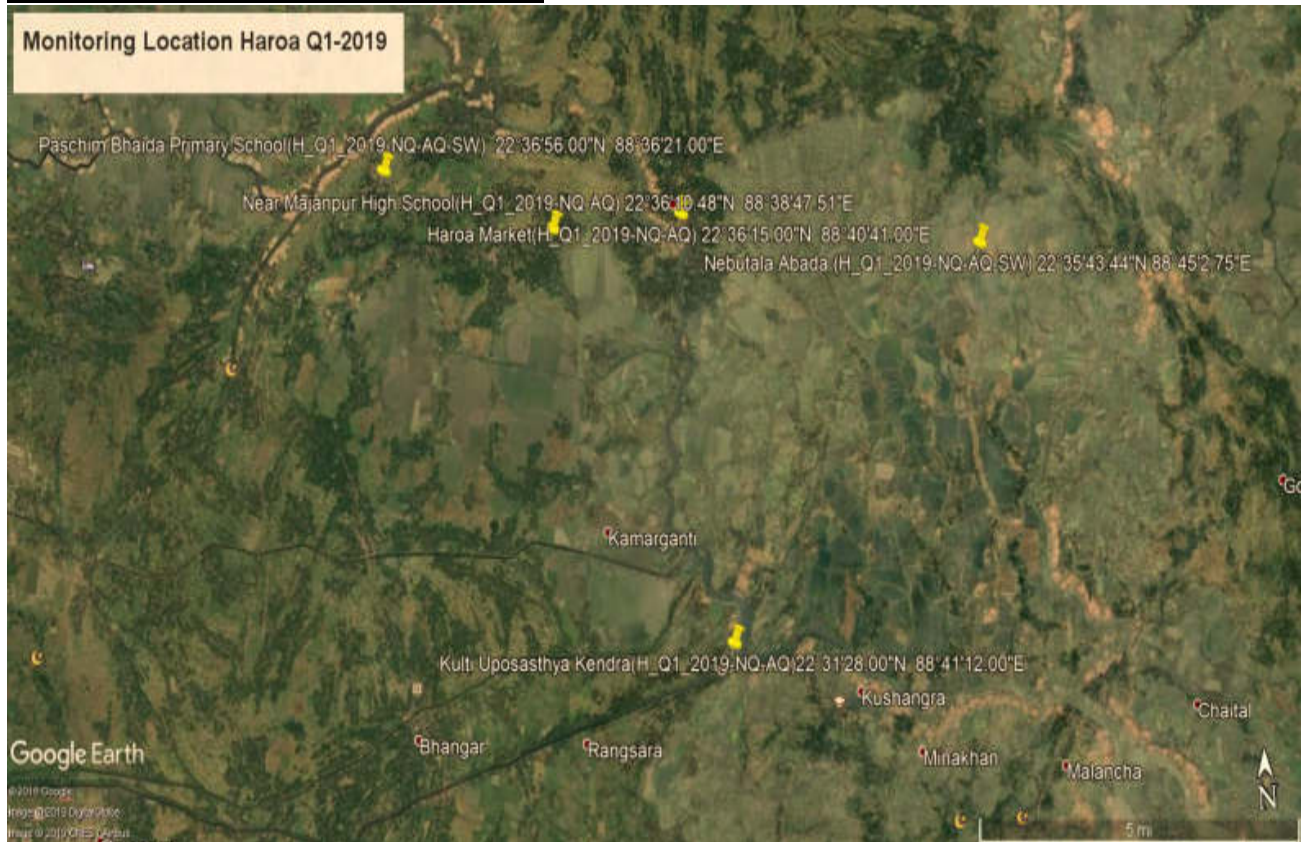
Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		standard materials; no shacks or huts <ul style="list-style-type: none"> • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	designated disposal location, <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • Details of labour accommodation is presented in Attachment O2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2-year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.


Monitoring Locations on Google Earth



List of Attachments

- Attachment O1: Details of construction Work sites
- Attachment O2: Details of construction camp sites
- Attachment O3: List of clearances & statutory requirements
- Attachment O4: Contractor's OHS Policy & Organization
- Attachment O5: Utility shifting/relocation
- Attachment O6: Details of Construction Materials
- Attachment O7: Spoil Management Plan
- Attachment O8: Procedure for on-site Grievance Redressal Mechanism
- Attachment O9: Procedure for information disclosure prior to start of works

Attachment O1: Details of construction Work sites

1. Zone 18: OHR construction Site	
Location - Gopalpur	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos • Steel Cutter – 1Nos • Pile Driving Machine – 1Nos • DG (Less than 5KVA) – 1Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	
OHR before Construction	

Project facilities
at Site

Project Information Board




First Aid Box



Toilet for labours

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 18: Gopalpur
Location- Gopalpur, Gopalpur I,	
A	<p>Accommodation – For 13 Nos construction workers No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Camp at OHR site • Accommodation provided for 13 workers • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	
	Existing operator shelter on OHR site
Photos of camp and facilities provided	Same building is being used for labour accommodation



Toilet at labour Camp



Bottled drinking water

Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
3	Tree Cutting Permission	Obtained [Refer Appendix – O.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.B]
2	Workmen Compensation	Obtained [Refer Appendix – O.C]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy		Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:		Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Work Area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations		-
C	List of personal protection equipment provided to workers • Boots- 13 nos. • Gloves-2 nos. • Helmet-15 nos. • Safety jacket- 15 nos. • Goggles- 1 nos.		Yes
D	Preventive Measures		
	Orientation of all workers on OHS		Done
	Work permit system		Yes – for work at height
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)		Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	Safety signages		Displayed on site
	Barricades (more than 1 m deep requires hard barricading)		Yes
2	Contractor emergency procedure		
A	<ul style="list-style-type: none"> In case of accident, first aid treatment to injured labour/person shall be provided. In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. Details of accident shall be reported in accident register and the same shall be informed to client also. 		
B	Contact information, staff and responsibilities for emergency situations		
	Designation	Staff name & contact	Emergency responsibility
	Site Engineer	Mr. Suman Paul Mob: 7076274664	Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487	EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
	Project Manager Representative	Ramesh Singh Mob: 8170011450	Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents <ul style="list-style-type: none"> Details of accidents shall be recorded in accident register. Copy of accident register shall be submitted to client at the end of every month. In case of any major accidents client shall be informed immediately. 		Yes
D	Mandatory Reporting to Authorities		Yes
E	Prohibited Acts and Penalties for Violations		Yes

Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m³) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	1000.1	Nalhati	Yes
2	Sand	520.59	Gopi Ballavpur	Yes
3	Steel (MT)	113.12	Approved supplier	Yes
4	Cement (MT)	345.04	Approved supplier	Yes

Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir including Water Supply Distribution Network and Metering Work in Harou Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (OHR WORK)

D	13.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIS	APPROVED BY NBI

Environmental Specialist, DSIS
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse spoil from works.

2. SCOPE:

This Spoil Management Plan developed for OHR site in Zone (18). For the OHR site we do not anticipate any excess Spoil for disposal as all excavated material will be reused at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirm the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is any extra soils for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transportation as there is no extra soils for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

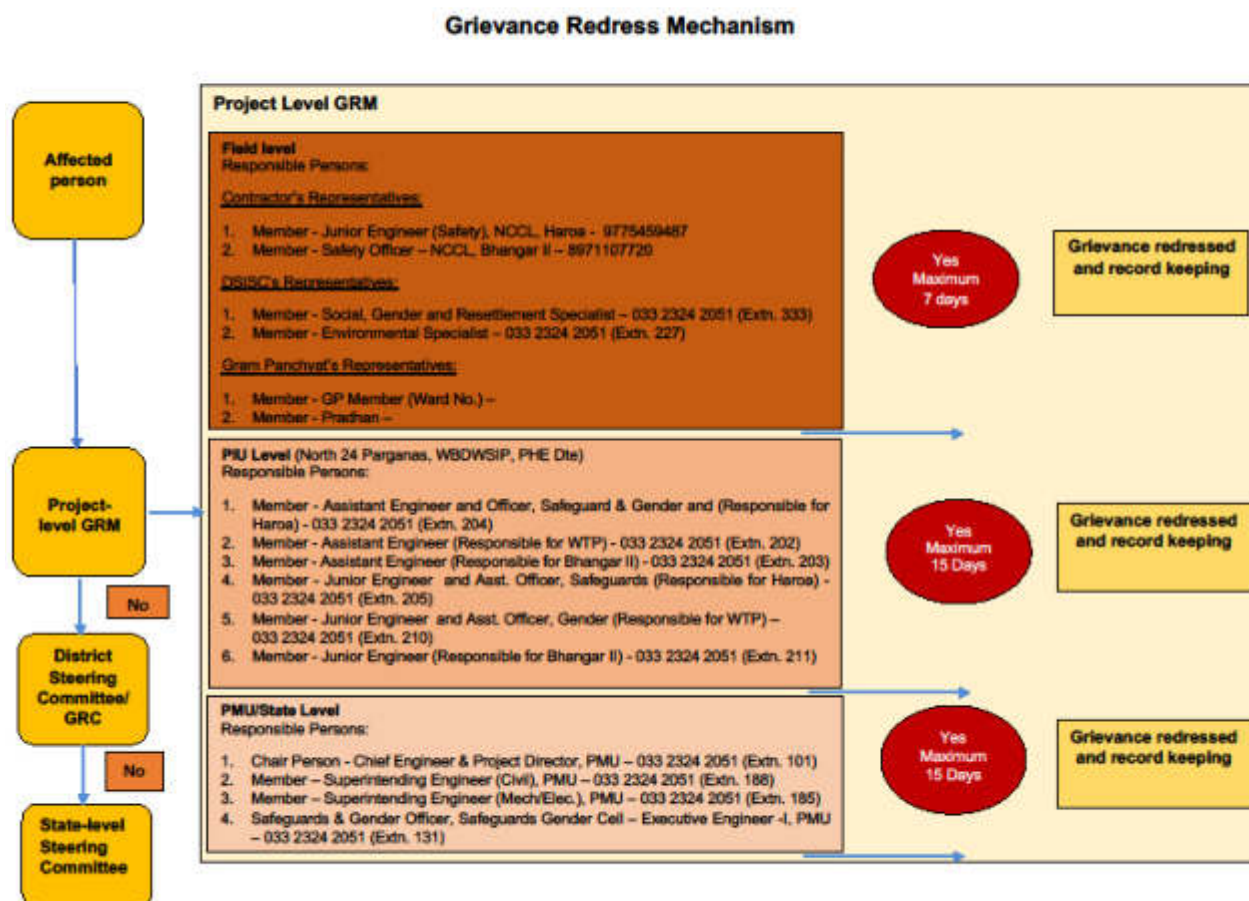
Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at GOPALPUR (Zone 18)

SI. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

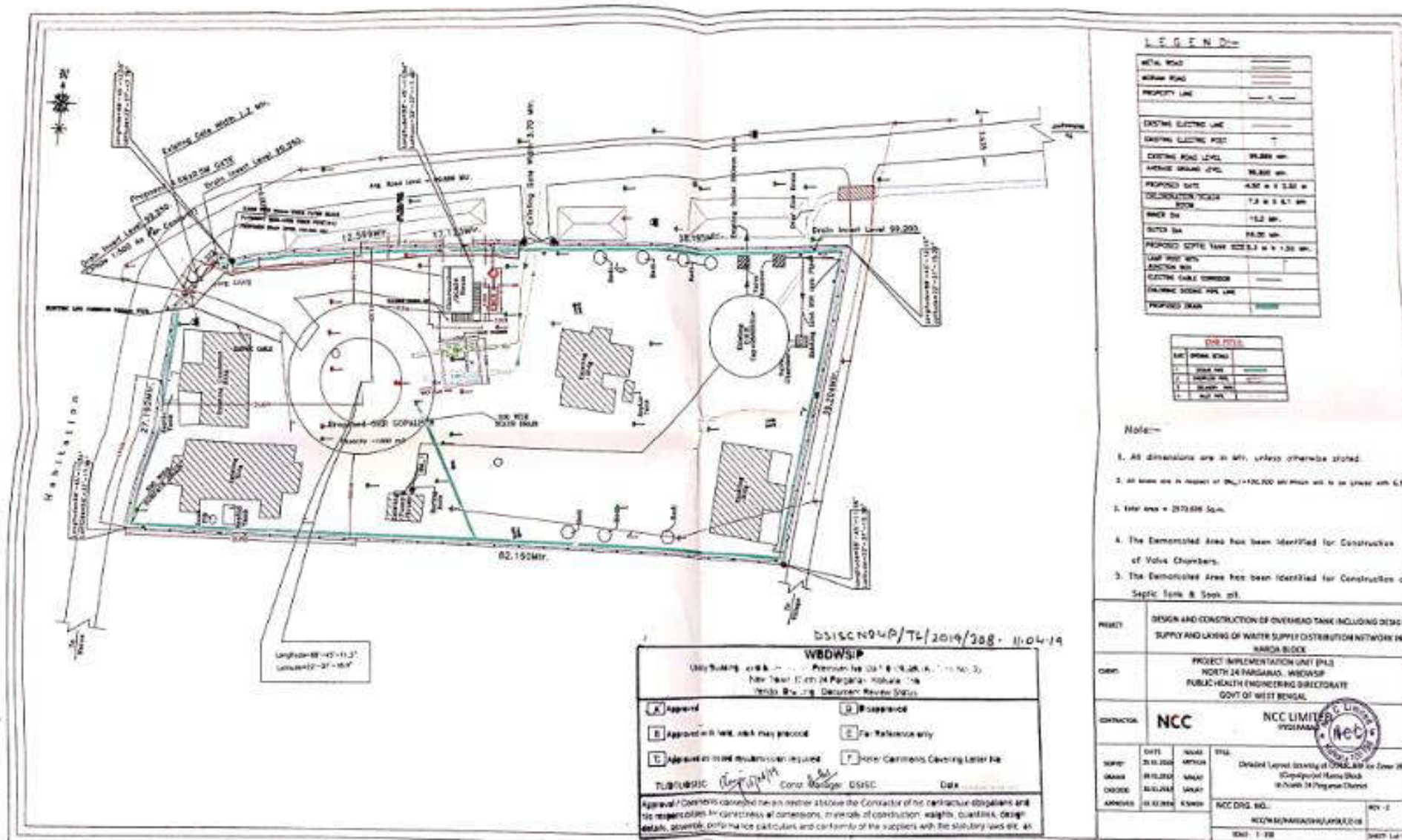


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

Appendix O.1: Site Layout Plan



Appendix O.A: Tree Cutting Permission

Handwritten: J.K. W.S. W. TL/DSIS Requested to take further action in this regard.

Stamp: Government of West Bengal
Directorate of Forests
Office Of The Divisional Forest Officer,
24 Parganas (North) Division,
Court Complex (Near Barasat Bus Stand), Barasat,
North 24 Parganas District
Phone-(033) 2552 0968/Fax-(033)2584-0241
Email: dfo24pgsn@yahoo.co.in

No. 489 (7) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

From : The Divisional Forest Officer,
24-Parganas (North) Division

To : The Executive Engineer,
North 24 Parganas, W/S Division-II,
P.H.E. Dte. Utility Building, Tank No.3,
2nd Floor, Block - A1, AA-1A, New Town, Kol-156.

Sub : Felling permission of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas.

Ref : Your Memo No. 700/N-24PGSD-II, dated 10.05.2019 & Range Officer, Rampura S F Range memo no. 27/RMP-17-T, dated 29.05.2019.

Sir/Madam,

Enclosed please find a permission for felling of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas along with approved plantation plan.

You are requested to arrange to send a report on completion of plantation at an early date. Please arrange for maintaining the proposed plantation up to 5(five) years.

You are also requested to kindly explore the possibility of transplanting the trees as far as practical in the field if possible.

Encls: As stated above.

Signature: Angshuman Mukhopadhyay
(Angshuman Mukhopadhyay, WBFS)
Divisional Forest Officer,
24 Pargans (North) Division.

No. (2) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

Copy forwarded for information and taking necessary action to:-

1. The Prodhana, Gopalpur-I Gram Panchayet, Haroa, North 24 Parganas
2. The Range Officer, RMP SF Range along with approved plantation plan.

You are requested to inspect the area of plantation after monsoon and report to the undersigned.

Signature: Sd/- Angshuman Mukhopadhyay
Divisional Forest Officer,
24 Pargans (North) Division.

Stamp: Inward No. 976
RECEIVED
Date 12/06/19
Time - 1:07 PM

Handwritten: MEMO No. 966/N-24 PGSD-II dt 12-06-19

Handwritten: DTL / AD / Sasmadha For n.a. please

Handwritten: M/S

Form III

Form for Permission for Felling / Disposing of Trees in Non-Forest Areas
[See Rule 5 (2)]

Permit No. 5/PFO/2019-20,

Dated : 03.06.2019.

Whereas the applicant, Sri/Smt./Messrs. The Executive Engineer, North
24 Parganas W.E. Division-II, P.H.E. Dte. UHLW
 Address : Gulding, Tank No. 3 and Plot Block At A.A. Sha
submitted an application with the prescribed fee on New Town, Calcutta
GRN-19-201920-00151065-L SAN-3276545 dt. 27.05.2019
disposing of trees for the purpose of at the following site:
for construction of overhead reservoir including
 (a) Location : water supply distribution network & metering
works in Hazra Block
 (b) Details of Plot(s) of Land : MOUZAR, Gopalpur, PL NO. 127,
Gopalpur-I, Gram. Panchayat, under North 24
Parganas District

AND Whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such tree stands;

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4 (1) of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006 :

AND Whereas an inquiry in the prescribed manner has been carried out on 23.05.2019 and the undersigned has examined the inquiry report with due care;

AND Whereas the land in question belongs to the Tea Garden and the applicant has produced a specific scheme framed under the provisions of the Plantations Labour Act, 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the labourers;

AND Whereas the applicant is a developer who has already obtained a Certificate of Clearance No. dated Issued by the undersigned and sanction of the building / construction plan by the sanctioning authority, viz. vide his letter No. Dated :

AND Whereas it is found on inquiry that the proposed felling will not alter nature or character or mode of use of the land.

OR

The Applicant has produced the requisite permission under section 4C of the West Bengal Land Reforms Act, 1955.

AND whereas the applicant has deposited the prescribed security amount for plantation of trees to the undersigned;

OR

The applicant has been exempted by the undersigned from the obligation of plantation of trees under sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006;

OR

The applicant has expressed his inability to undertake the plantation of trees by himself and has deposited to the undersigned the amount for the designated agency as prescribed under sub-rule (3) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007.

OR

The applicant is a developer and not required to deposit the security amount.

- * Strike off if not applicable.
- * Strike off the option which is not applicable.

Now, therefore, in persons to the power conferred under sub-section (1) of section 5 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the undersigned permits the applicant to undertake the felling of the trees as included in the Annexure.

The undersigned also permits the applicant (not a developer) under the first proviso to section 8 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, to plant only _____ number of trees instead of the number prescribed under sub-rule (1) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007. OR permits the applicant to plant _____ number of trees over different plots(s) of land (as indicated in Condition No. 3 below) because (give reasons) _____, which is in conformity with sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007;

The permission as given above is subject to the following conditions:-

This permit is non-transferable and valid only up to 03 (Three) months from the date of issue of this permit;

1. the applicant (if a developer) shall take up plantation of trees in accordance with the approved plantation plan and the Certificate of Clearance within July 19 month(s) from the date of sanction of the building / construction plan by the sanctioning authority;
2. The applicant (if not a developer) shall take up plantation of _____ number of trees _____ over the Plot(s) No. _____ within _____ months from the date of issue of this permit;

Annexure To Form III

Permit Number 5/DFO/2019-20,Date: 03.06.2019.

Number of Tree	Location (Plot No.)	Species	Diameter at Breast Height (in. cm)	Condition of the tree
11 NDS.	for construction	coconut		
	line on road	mango		
	head & side	jack fruit		List enclosed.
	water including			
	water supply			
	distribution			
	network & metering			
	works in Harpa			
	Block, Mouza-			
	Central Pw. 2, MP-127			
	Central Pw-1 G.P.			
	24 PWS (N)			

ABSTRACT

Species	Total No. of Trees
A.
B. <u>coconut</u>
C. <u>mango</u> 11 NDS.
D. <u>jack fruit</u>
E.

Grand Total 11 NDS.

Amreshwar Mukhopadhyay
(Signature of the Competent Authority)

Name: Divisional Forest OfficerDesignation: 24 Parganas (North) Division

Official Seal:

3. As provided in section 10 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the applicant (if not a developer) shall start preparatory work for plantation within sixty days from the date for permit or the date of receipt of directions from the undersigned, as the case may be, and shall undertake plantation for trees in accordance with such directions;
4. The applicant shall inform the undersigned in writing immediately on completion of the plantation of trees;
5. The applicant shall, within a week of carrying out felling of trees, submit a report to the undersigned indicating the total number of logs and firewood produced against each species;
6. Stumps of the felled trees shall be retained for a least one month from the date of felling;
7. The felling and carriage of trees shall not be carried out after the sun-set and before the sun-rise.
8. This permission is subject to the provisions of the West Bengal forest (Establishment and Regulation of Saw Mills and Other Wood-based Industries) Rules, 1982 and The West Bengal Forest Produce Transit Rules, 1959.
9. This permit should be produced for inspection on demand to the undersigned or any of the authorities specified in sections 15 and 17 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006.

(Signature of the Competent Authority)

Name : *Arghyacharan Mondal*

Designation : Divisional Forest Officer
 24 Parganas (North) Division

Official Seal :

* Strike off if not applicable.



Government of West Bengal
Office of the Executive Engineer
North 24 Parganas W/S Division-II, P.H.E. Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AI, AA-IA, New Town, Kol-156
Phone No. : (033) 2324-2051, E-mail : ee_n24_div2@wbphed.gov.in

Plantation & maintenance cost details

Cost of plantation & maintenance of the plantation area in given below:

1st Year (2019) :

- i) Survey & cleaning of the area.
- ii) Digging of pits.
- iii) Purchase of Farm yard manure.
- iv) Filling up of pits with Farms yard manure & soil.
- v) Planting of saplings.
- vi) Watering.
- vii) Weeding hoeing.
- viii) Water 4 times a month.

Cost of seedling @ Rs.60.00 will be expenses per tree for 1st year. (55nos. tree X Rs. 60.00 = Rs.3,300.00)

2nd Year (2020) :

- i) Weeding.
- ii) Watering 6 times a month.
- iii) Casualty replacement.
- iv) Maintenance by mali.
- v) Watering 2 times a month during September'2020 to November'2020.

Cost of seedling @ Rs.35.00 will be expenses per tree for 2nd year. (55nos. tree X Rs. 35.00 = Rs.1,925.00)

3rd Year (2021) :

- i) Watering 4 times a month.
- ii) Casualty replacement.
- iii) Weeding
- iv) Maintenance by mali.
- v) Watering 2 times a month during September'2021 to November'2021.

Cost of seedling @ Rs.25.00 will be expenses per tree for 3rd year. (55nos. tree X Rs. 25.00 = Rs.1,375.00)

4th Year (2022) :

- i) Watering 4 times a month.
- ii) Weeding.
- iii) Maintenance by mali.
- iv) Watering 2 times a month during September'2022 to November'2022.

Cost of seedling @ Rs.25.00 will be expenses per tree for 4th year. (55nos. tree X Rs. 25.00 = Rs.1,375.00)

Approved.

Angshuman Mukherjee
Divisional Forest Officer
24 Parganas (North) Division

Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.

8. Proposed plantation programme

In order to compensate for the proposed felling of eleven (11) trees: a) Coconut – 8, b) Mango – 2 and c) Jack fruit – 1, we intend to plant 55 trees (1:5 ratio) in the same area as per the directive of the forest department. The proposed composition of these trees is presented below.

- a) Coconut (*Cocos nucifera*) – 24
- b) Mango (*Mangifera indica*) – 16
- c) Jack fruit (*Artocarpus heterophyllus*) – 6
- d) Neem (*Azadirachta indica*) – 5
- e) Krishnachura (*Delonix regia*) – 4

The saplings of these trees will be planted during early monsoon and will be guarded and maintained for 5 years. The proposed plantation area is shown in the drawing attached.

11. Risk Assessment

The trees proposed to be felled for implementation of this project are all native and commonly available. As none of these species belong to IUCN Red List and can be easily replanted, the potential risk to local ecology due to this felling will be Low.

Alap

Team Leader, B&B
North 24 Parganas
WBWSI Project

Sumanta
Executive Engineer
North 24 Parganas
WBWSI Project

Marking List Of Trees Executive Engineer, N-24 PGS, W/S Divn.-II, P.H.E.Dte.

Inspection On 27-05-2019

TSL No	Name Of Trees	Girth(M)	Length(M)	Remarks
1	Mango	1.50	2	
2	Mango	0.90	1.50	
3	Jackfruit	0.90	2	
4	Coconut	0.70	3	
5	Coconut	0.75	2	
6	Coconut	0.80	3	
7	Coconut	0.70	2	
8	Coconut	0.65	2	
9	Coconut	0.70	3	
10	Coconut	0.75	2	
11	Coconut	0.80	2	

Total= 11 Nos trees

submitted
Akshay
27-05-19

RANGE OFFICER
Rampura S.F. Range





Appendix O.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
 MOILAKHOLA MORE TAKE ROAD BASIRHAT-24 PARGANAS (NORTH) PIN - 743412

FORM VI
 [See Rule 25(1)]

License No. : BST09/CLI/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENCE

License is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425., Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

*Licensing Officer
Under the Contract Labour(RSA) Act, 1970
&*

*Assistant Labour Commissioner
Basirhat, North 24 Parganas*

Establishment Information:

*Office of the Executive Engineer, North 24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLI/000009)
 W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,
 Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas*

Work site exact location:

*NCC LIMITED, VILL.: PEARA, PO+PS: HAROA, PIN: 743425
 Haroa, Block- Haroa, Basirhat
 PS - Haroa, District - North 24 Parganas, Pin Code - 743425*

Appendix O.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule												
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 040-60018600												
Policy No : 2019-LB129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60000321	Address : WORKS IN HARDJA BLOCK, North Twenty Four Parganas, West Bengal, 743425 Telephone (Mob, Off, Home) : 4027822990/09892590736/4027822990 Fax No & Email Id : 02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM										
GSTIN Number : 19AAACN733NC12M FGI GSTIN Number : 36AABCF019R1ZA		In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein set forth.										
Coin-surance Details Insurer : FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED Share (in %) : 100%		Schedule Of Premium (₹) Gross Premium : 134,304.36 Goods and Service Tax : 24,174.78 Total Premium : 158,479.00										
Risk Details Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Haras Bloc K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Haras Bloc K Contractor/Sub-Contractor Name : NCC LTD												
No of Employees : 50 50 50 50 50 Total : 23,366,000.00	Description of work done by Employees Highly Skilled workers Skilled workers Semi Skilled Workers Unskilled Workers		Declared Wages during the Period of Insurance (₹) 8,642,000.00 6,848,000.00 5,400,000.00 4,980,000.00									
Coverage Details The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law: <table border="1"> <thead> <tr> <th>Law</th> <th>Limit of Indemnity</th> <th>Coverage</th> </tr> </thead> <tbody> <tr> <td>Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy</td> <td>Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured</td> <td>Yes</td> </tr> <tr> <td>Common Law/ Fatal Accidents</td> <td></td> <td>Yes</td> </tr> </tbody> </table>				Law	Limit of Indemnity	Coverage	Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	Common Law/ Fatal Accidents		Yes
Law	Limit of Indemnity	Coverage										
Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes										
Common Law/ Fatal Accidents		Yes										
Law(s) WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include: i. Any interest and/or penalty imposed on the insured on account of his/her failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind												
Additional Clauses, Conditions, Warranties & Exclusions Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for Occupational Diseases Jurisdiction/ Territory : India Excluding War Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.												
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.												
For Future Generali India Insurance Co. Ltd. <div style="display: flex; justify-content: space-between;"> <div> Receipt No : Z9965378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Address mentioned below. </div> <div style="text-align: right;"> (Authorized Signatory) </div> </div> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019 </div>												

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/179/18, dated 16/08/2018, Madurai - 3017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDAN122P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower-3, Indira Park, Financial District, Begumpet, Hyderabad

Appendix O.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **JH-10Z-9621** WB-01-**D 5877301**

Date of issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.181
HC (ppm)	119
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

WB-01-**D 5877301**
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HARGA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Emission Code: 00

PUC Number: P000000001694 Vehicle Type: 2 Wheeler

Name: M/S N.C.C. LIMITED Reg. No.: JH-10Z-9621

Address: Reg. Date: Apr-2011

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Test Date/Time: 24-Aug-2019 10:55 Engine Type: 4 Stroke

Catalyst: No Odometer Rdnng: 0

Engine Number: 21561

Chassis Number: 01148

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.181		
HC* (ppm)	4500	119		
CO ₂ (%)		1.49		
O ₂ (%)		18.72		
NO _x (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		—		
Lambda		—		
PEF		0.501		
CO-Aet (%)		1.482		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as PPM for LPG and NMHC for CNG.

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

Vehicle Registr. No.: **WB30AC7817** WB-01-**D 4261432**

Date of Issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	40.5%

PUC Certificate Issued by: **MILI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* WB-01-

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010995

Transport Department

Label Code: WB License No: 151/AETC/2018 Test Station Code: 0001

PUC No.: WB0001000382 Vehicle Reg No: WB30AC7817

Name: NCC LTD Category: car

Address: Make: Mahindra

Model: BOLERO

Date of Reg.: 2019

Speedo mtr Rdg: 1094

Mobile: 9735589348 Engine No.: 91913

Date: 29-Mar-2019 Chassis No.: 10260

Time: 10:54 AM Emission Norms.: BS IV or Onwards

Fuel: Diesel Vehicle Type: BS4 - 4 Wheeler

Flushing Cycle Mean: RPM Min: 8840 RPM Max: 1913

SNo.	RPM min	RPM max	Km-l	HSU %	OTF C
1	0810	1630	01.20	40.5	041.00
2	0650	1630	01.21	40.6	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
Km-l	1.62 01.20
HSU %	50 40.5

Valid upto: 28-Mar-20

Grade: A

Mean 0816 1733 01.20 40.5% 041.00 Test Fee: 100

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1988.

Seal of Testing Centre

[Signature]
Authorized Signatory

INDUS DEX 2.8.0/0005-0000/4560

HC (ppm)		B9104
SD (HSU)		
PUC Certificate issued by:		License No. and Seal:
M/S-NATURAL WORLD		Natural World
Signature		N.H. 34, K.N. Road Back Side
		Berhampore
		Licence

Vehicle Pass

Transport
Department,
Govt of West

POLLUTION UNDER CONTROL **D-4637539**
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 19/2009-2009

Test Station Code : 002

PUCC No : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

IN:	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

let	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

- - - - - Vehicle

Appendix O.2: Contractor OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Appendix O.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন, আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে – ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গ্রহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -





তারিখ-

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/SEMP/01 Revision No. 00 Revision Date : 00 Effective Date :
	Site Specific Environment Management Plan	

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE-18 GOPALPUR (PIPELINE WORK)

0	02.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC

North 24 Parganas

West Bengal Drinking Water Sector Improvement Project

WBDWSIP Project

Assistant Engineer
PIU-I, N-24Pgs. WBDWSIP, PHE Dts.
Govt. Of West Bengal

Package Area				ZONE- 18, in N24P/02A Pipeline (Gopalpur) N24P							
Package title				Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block							
				SEMP is as per requirement of the Draft IEE covering package no. N24P/02A							
Contractor				NCC Pvt. Ltd.							
Date of Contract Award				19/09/2018							
Date of particular works commencement				03/09/2019							
Contract period				Construction: 3 Years ; O&M: 2 Years							
SEMP Component				Laying of 91293 m of pipeline as detailed below.							
				No demolition activity involved							
Gram Panchayats				Gopalpur I							
Project Description				Individual household water supply schemes for the project Gram Panchayats							
Household Connection				5583 (Estimated HH Connection)							
Non-Household Connection				All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not identified							
Indicative Budget for EMP Implementation for the entire package				INR 21,42,500/-							
Project Components				As per project detailed design							
Gram Panchayat (GP): Gopalpur I											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) *External dia										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - H18	47494	14503	10243	7485	4947	5667	783	145	26		91293
Map of Distribution Network											
Refer Appendix – P.1											

Details of contractors on-site-personnel and workers	Zone-18 OHR/Gopalpur I
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Sing; 9732756414
Site Supervisor	Mr. Golam Murtaza; 8637383037
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	4 skilled and 0 Semi-skilled
Unskilled workers	29
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-33 ((from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation is in rented structure of Gopalpur Resource Centre, Gopalpur (as referred in P2)

Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructu re and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> • Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. • Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> • Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. • First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user • The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. • Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management .	<ul style="list-style-type: none"> • Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> • Excavation works schedule during dry season have been approved by PMU. • If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench • During laying use of Gumboot is a must. • To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation	<ul style="list-style-type: none"> • Obtain construction materials only from government approved quarries with prior approval of PIU. 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	<ul style="list-style-type: none"> • On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law. 				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	Obtain details on location of underground Asbestos Cement pipes <ul style="list-style-type: none"> • Locate the new pipe carefully to avoid 	Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE No asbestos pipes seen till work period	Contractor and PIU	DSISC observation at site and document checking	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>encountering AC pipes</p> <ul style="list-style-type: none"> • Leave the Asbestos Cement pipes undisturbed in the ground. 				

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 	Contractor	PIU through DSISC observation at site and document checking	Project cost

			Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

			Monitoring Plan recommended in the IEE.			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary, then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary, trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

			completion of work.			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	<ul style="list-style-type: none"> • Spoil management plan has been developed [Refer Attachment P7] • Excavated earth is utilized for backfilling purpose. • Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost
Occupational Health and Safety	Occupational hazards which can arise during work	<p>Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc.</p> <p>(c) documentation of work related accidents.</p> <p>(d) Providing qualified first aider at all times.</p> <p>(e) Providing to all workers reflective jacket,</p> <p>(f) Marking and providing sign boards for most of hazardous areas such as high voltage</p>	<ul style="list-style-type: none"> • Based on NCC's OHS Plan, a site specific OHS plan has been developed. • Site OHS plan is attached at Attachment - P4. • All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; • H&S Training for all site personnel has been arranged and it will be continued; 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

		equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works;	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost

		occupational health and safety (OHS), core labour laws, applicable environmental laws etc.				
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/household. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

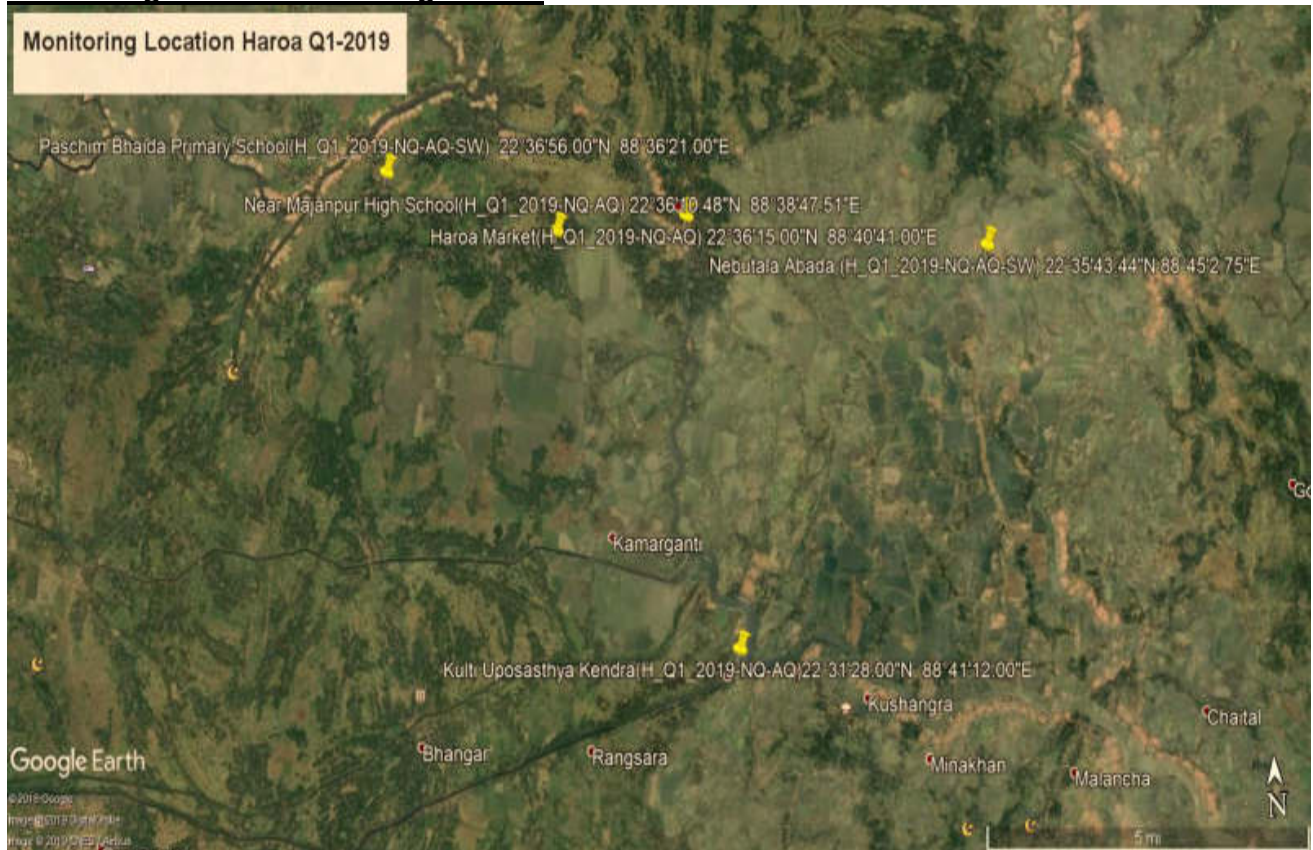
		wastewater disposal <ul style="list-style-type: none"> • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<ul style="list-style-type: none"> • Details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	• Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

Monitoring Locations on Google Earth




List of Attachments

- Attachment P1: Details of construction Work sites
- Attachment P2: Details of construction camp sites
- Attachment P3: List of clearances & statutory requirements
- Attachment P4: Contractor's OHS Policy & Organization
- Attachment P5: Utility shifting/relocation
- Attachment P6: Details of Construction Materials
- Attachment P7: Spoil Management Plan
- Attachment P8: Traffic Management Plan
- Attachment P9: Procedure for on-site Grievance Redressal Mechanism
- Attachment P10: Procedure for information disclosure prior to start of works

Attachment P1: Details of construction Work sites

1. Zone 18: Pipeline construction Site						
Location - Gopalpur						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
	DI Pipes (954 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	26	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	145	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	783	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network-HDPE Pipes (90,339 m)					
	200 mm	5667	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	4947	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	7485	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	10243	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	14503	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	47494	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 18
Location- Gopalpur, Gopalpur I	
A	<p>Accommodation – For 33 construction workers. No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Rented Accommodation • Accommodation provided for 33 workers • Cooking gas • Drinking water • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	 <p>Labour accommodation</p>



Toilet at accommodation

Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 35 nos. • Gloves-4 no. • Helmet-33 nos. • Safety jacket- 35nos. • Goggles- 2nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OHS	Done
	Work permit system	No
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accident client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	26400.00	From trench cutting	Not required

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (PIPELINE WORK)

0	02.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WBDWSIP Proj...

1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (18).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 26400 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soils for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Gopalpur (Zone 18) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	47508	0.25	1.063	12625.251
2	75	14500	0.25	1.075	3896.875
3	90	10240	0.25	1.09	2790.4
4	110	7484	0.25	1.11	2076.81
5	140	4947	0.25	1.14	1409.895
6	200	5669	0.25	1.2	1700.7
7	250	783	0.3	1.25	293.625
8	300	145	0.3	1.3	56.55
9	350	26	0.6	1.35	21.06
10	Extra for bend, joints etc				1528.834
11	Approx. generated total Spoil (Soil) at Gopalpur				26400.00





Attachment P8: Traffic Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work In Haroa Block	Doc. No. NCC/ TMP /01 Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :
	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (PIPELINE WORK)

0	02.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISO	APPROVED BY PIU

West Bengal Drinking Water Securi Improvement Project

Environmental Specialist, DSISO
North 24 Parganas
WBDWSIP Project

1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 18 GOPALPUR.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

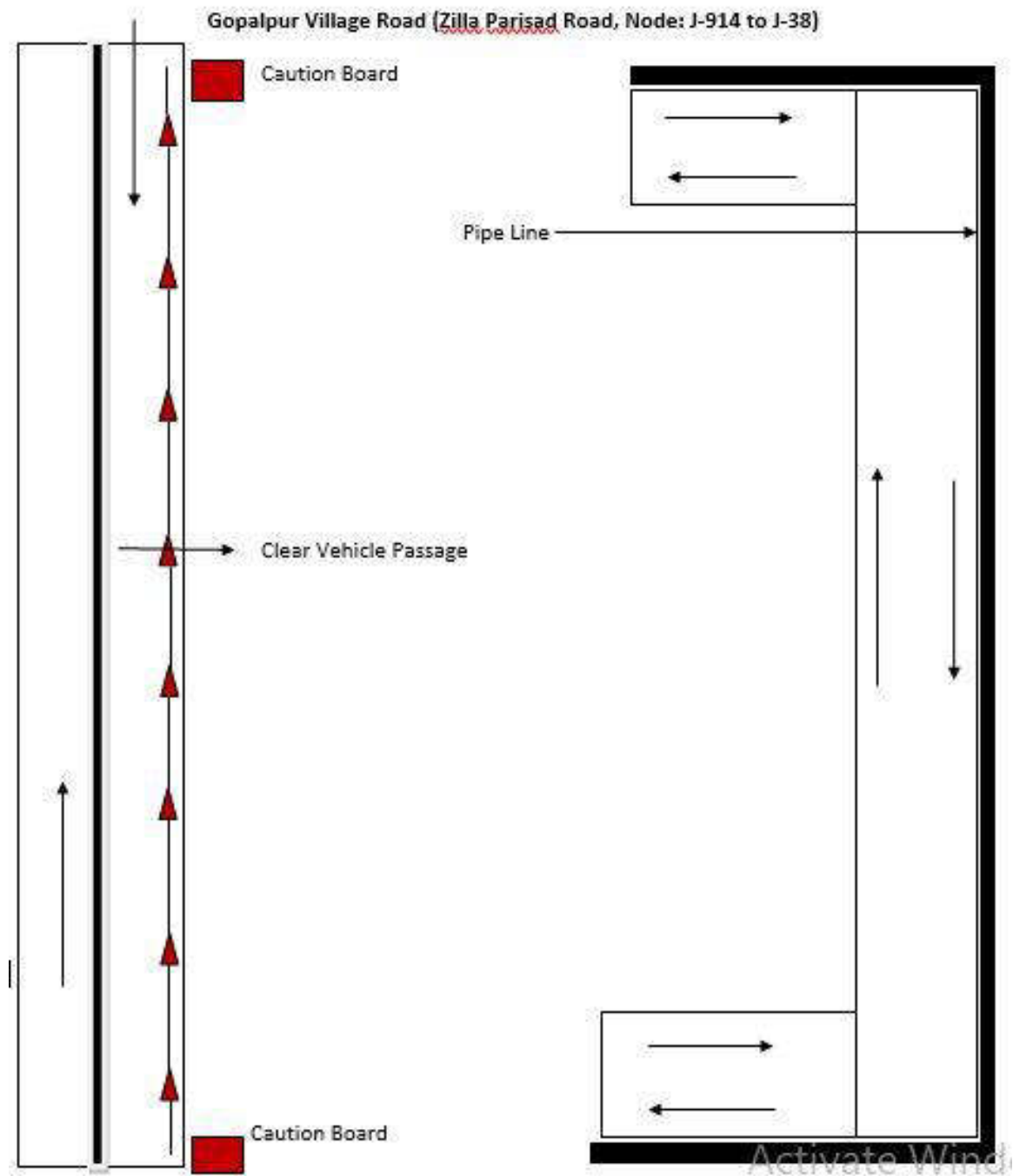
5.7 Loading and Unloading

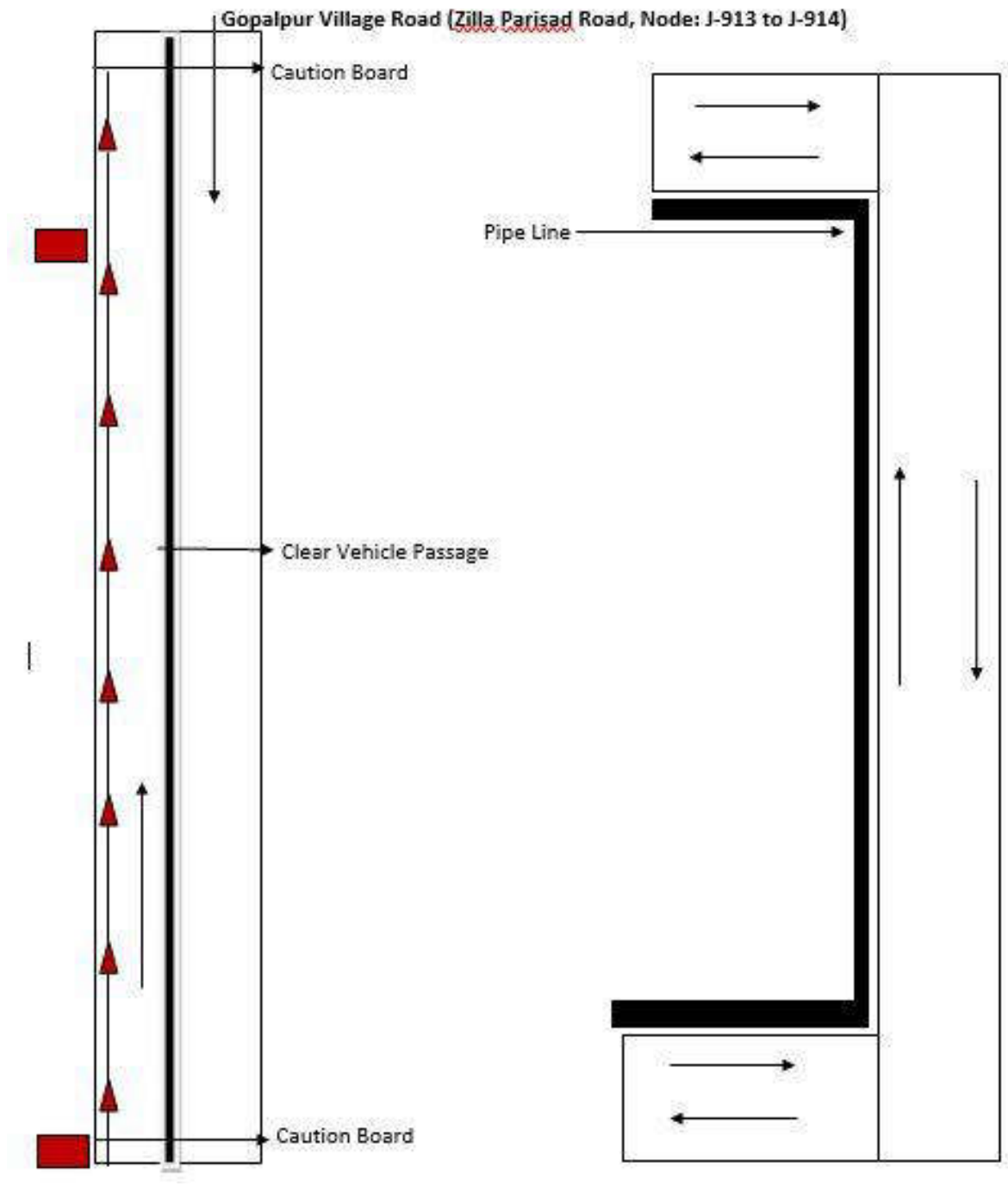
- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
- Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and

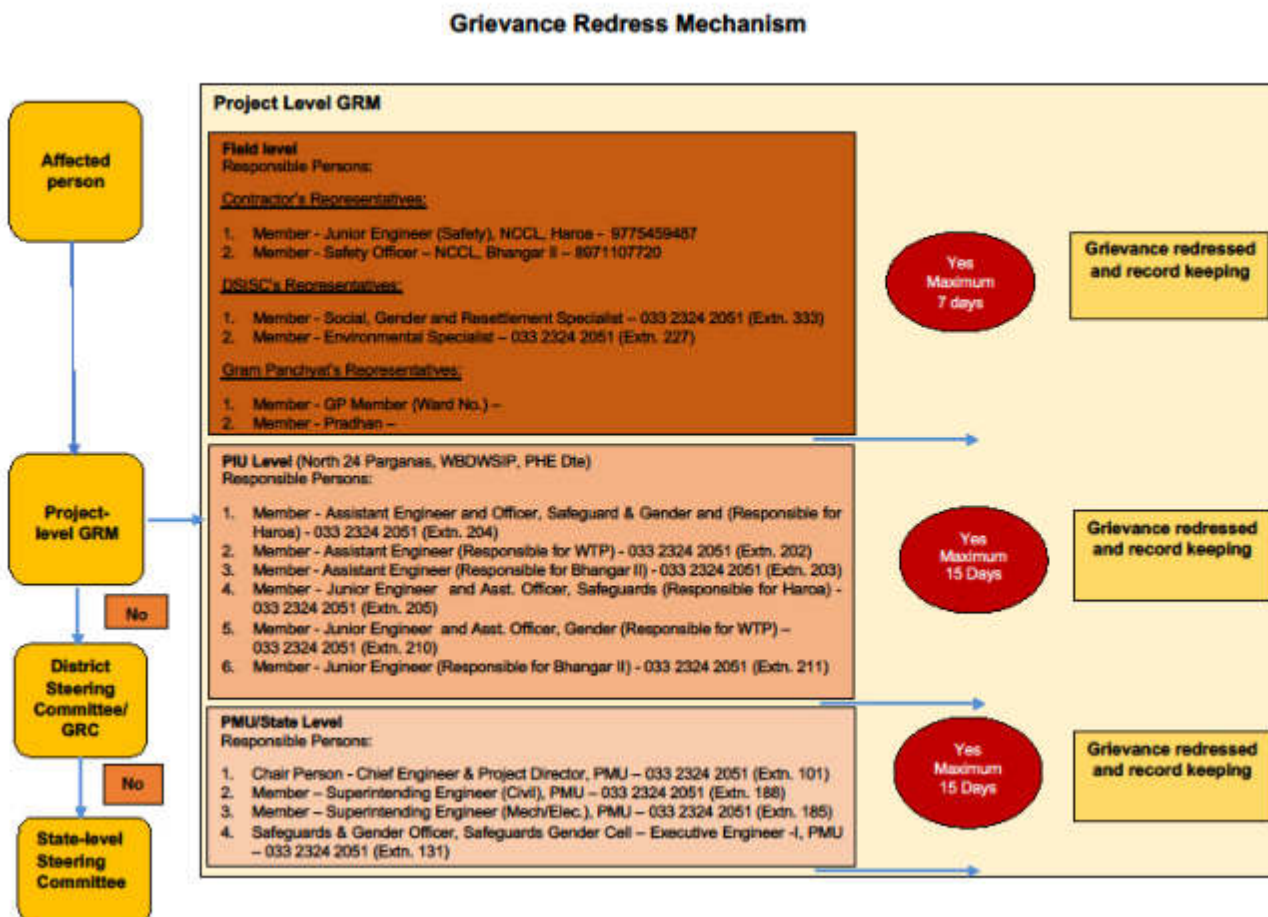
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.





Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

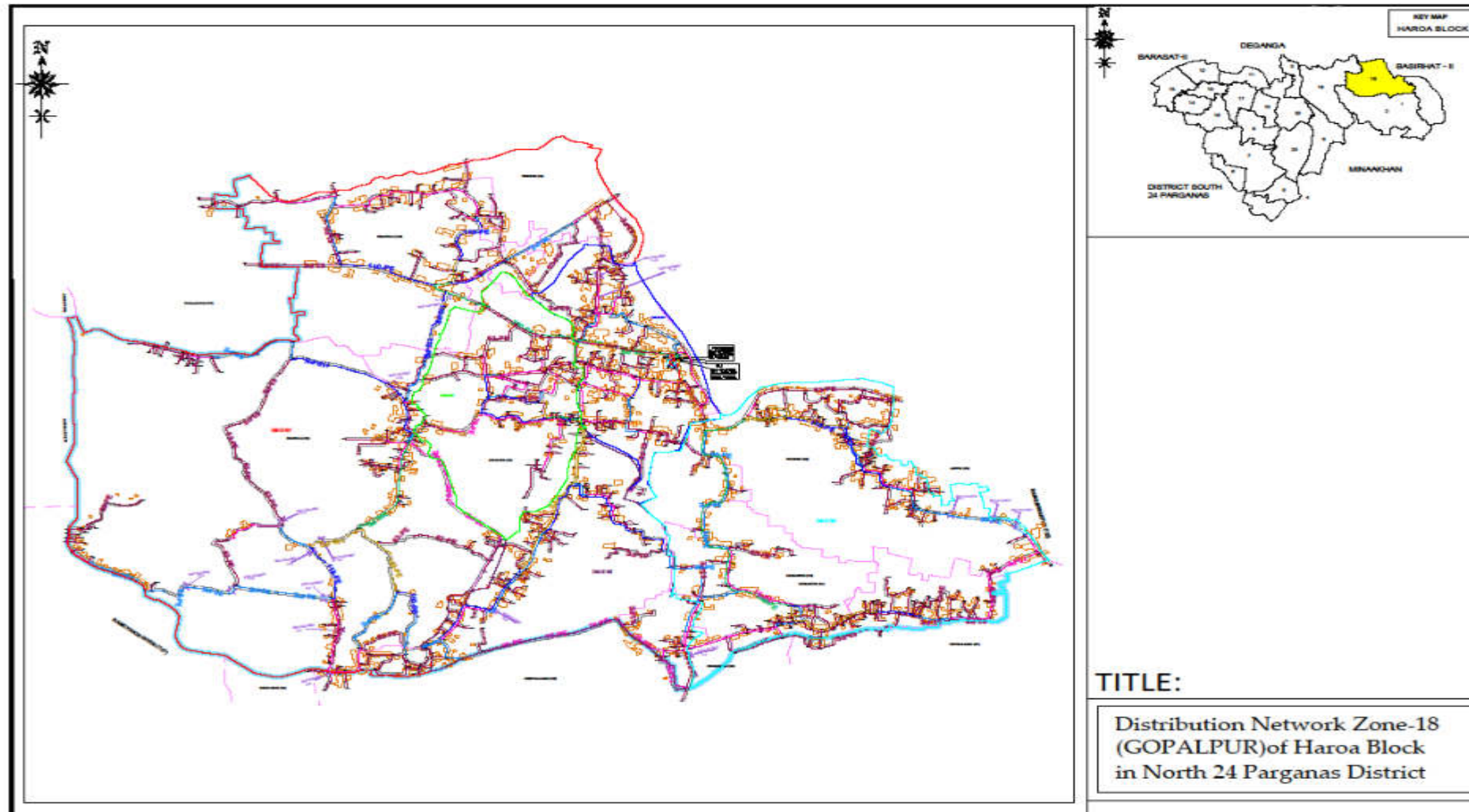


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.


Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

Appendix P.1: Map of Distribution Network



Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piun24p.adb@wbphed.gov.in

Memo No. _____ /AE(C)PIU-IN24P, Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-18) Gopalpur.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October '2018 in Haroa block with financial assistance of ADH. Now the entrusted agency will start laying distribution network from 02.09.2019 in Gopalpur-I, Gopalpur-II & Haroa Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE
 Assistant Engineer
 PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
 Dated, New Town, the, _____

Memo No. _____ /AE(C)PIU-IN24P, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Sarapati, Haroa Panchayat Samity.
- 2) The Executive Officer, Haroa Panchayat Samity.

SD/-
S. BOSE
 Assistant Engineer
 PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
 Dated, New Town, the, 29/08/19.

Memo No. 17/254 /AE(C)PIU-IN24P, Dated, New Town, the, 29/08/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIC, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Pintu Naskar J.R., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

DSISC / WBDWSIP
 Inward No 1670
 RECEIVED 4:57 PM
 Date 30/08/19
 Signature

SD/-
S. BOSE
 Assistant Engineer
 PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.



Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piun24p.adb@wbphed.gov.in

Memo No. _____/AE(C)PIU-I/N24P,

Dated, New Town, the, _____

To
The R.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-18) Gopalpur.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 02.09.2019 in Gopalpur-I, Gopalpur-II & Haroa Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/AE(C)PIU-I/N24P,

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savupati, Haroa Panchayet Samity.
- 2) The Pradhan, Gopalpur-I / Gopalpur-II / Haroa Gram Panchayet.
- 3) The Officer in Charge, Haroa Police Station.

SD/-
S. BOSE
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 482/19/AE(C)PIU-I/N24P,

Dated, New Town, the, 29/08/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Pintu Naskar, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

DSISC / WBDWSIP	
Inward No. <u>1621</u>	
RECEIVED	
Date <u>30/08/19</u>	Signature

DSISC/PIU-I/N24P/2019/482/19

Time-4:57 PM

SD/-
S. BOSE
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
 MOILAKHOLA MORE TAKE ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
 (See Rule 29(1))

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425., Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (RSA) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. [BST09/CLL/000029]

W. Site - Utility Building, Tank No.-2, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS. HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 040-66038000			
Policy No : 2019-L0129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521		
Address : WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) : 4027822990/09892590738/4027822990 Fax No & Email Id : 01256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM		
GSTIN Number : 19AAACN7335C1ZM	FGI GSTIN Number : 36AABCF0191R1ZA		
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer : FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	Share (In %) : 100%	Gross Premium : 134,304.36 Goods and Service Tax : 24,174.78 Total Premium : 158,479.00	
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Haron Bloc K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Haron Bloc K Contractor/Sub-Contractor Name : NCC LTD			
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd. <div style="text-align: right;">  (Authorised Signatory) </div>			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Addresses mentioned below.	Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019		

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018. Modirink - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDANI32P0012V01200708



Appendix P.D: PUC Certificates

COMPUTERISED EMISSION TEST CERTIFICATE
 Under the West Bengal Motor Vehicle Rules, 1988

Vehicle Registr. No. **WB26T5753** WB-01-**D 6148795**

Date of Issue: **04/06/2019** Valid upto **03/12/2019**

Pollution Level

CO (%)	
HC (ppm)	
SD (HSU)	1.45

PUC Certificate issued by: **MIRA SERVICE STATION**
 Plot No - 2, Block-AH
 New Town, Rajarhat
 Kolkata-700 156

License No. and Seal: **0004/AETC/BST/II**

COMPUTERISED EMISSION TEST CERTIFICATE
 Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
 PLOT-2, BLOCK-AH, NEW TOWN, KOLKATA-156

Vehicle Registration Number :- **WB26T5753**

Speedometer :- **0**

Engine Number :- **E14884**

Chassis Number :- **E37419**

Vehicle Color :- **OTH**

Vehicle Make :- **MAHINDRA**

Vehicle Model :- **SCORPIO**

Type Of Engine :- **4S**

Type of Vehicle :- **4W**

Owner :- **M.S.NCC LTD**

Driver :-

Test Fee :- **100**

Oil Temperature :- **34**

Fuel :- **Diesel**

Result :- **Pass**

Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K. Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	790	2490	0.04	1.54	34
Avg	796.00	2466.00	0.03	1.45	

Name of Authorise Signatory
 with Seal of Testing Center

MIRA SERVICE STATION
 Plot No - 2, Block-AH
 New Town, Rajarhat
 Kolkata-700 156

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-52F-6123** WB-01-D **5877303**

Date of issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.406
HC (ppm)	41
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **24/08/19**

POLLUTION UNDER CONTROL CERTIFICATE WB-01-D **5877303**
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HARCA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Label Code: 00

PUC Number: P00000001696 Vehicle Type: 2 Wheeler

Name: N.C.C. LTD Reg. No.: WB-52F-6123

Address: Reg. Date: Aug-2007

Manufacturer: HERO HONDA

Model: CD DELUX

Engine Type: 4 Stroke

Test Date/Time: 24-Aug-2019 15:30 Odometer Rdn: 0

Catalyst: No Engine Number: 3413

Chassis Number: 7348

Fuel	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.406		
HC* (ppm)	4500	41		
CO2 (%)		1.45		
O2 (%)		18.54		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		3.274		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Issued Test Centre Stamp

2019 Endo

2319

Authorized Signature

[Signature] **24/08/19**

HC (ppm)		B9104
SD (HSU)		
PUC Certificate issued by:		License No. and Seal:
M/S-NATURAL WORLD		Natural World
Signature		N.H. 34, K.N. Road Back Side
		Berhampore
		Licence

Vehicle Pass

Transport Department, Govt of West	POLLUTION UNDER CONTROL CERTIFICATE
	(under the West Bengal Motor Vehicle rule's 1989)
M/S:-NATURAL WORLD	
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD	

Label Code:WB

License No. : 19/2009-2009

Test Station Code : 002

PUCC No. : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

INr	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

let	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

- - - - - Vehicle

Appendix P.2: Contractor OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Links to SEMP's Package N24P 02A Haroa (Zones 1,16,15,4,6,12,14,17,18,5,13 and 21)

[SEMP N24P 02A Haroa - Zone 13 - Pipeline](#)

[SEMP N24P 02A Haroa - Zone 5 - Pipeline](#)

[SEMP N24P 02A Haroa - Zone 21 – Pipeline](#)

[SEMP N24P 02A Haroa - Zone 18- OHSR and Pipeline](#)

[SEMP N24P 02A Haroa - Zone 17 – OHSR and Pipeline](#)

[SEMP N24P 02A Haroa - Zone 14 - Pipeline](#)

[SEMP N24P 02A Haroa - Zone 12 - OHSR and Pipeline](#)

[SEMP N24P 02A Haroa - Zone 6 - Pipeline](#)

[SEMP N24P 02A Haroa - Zone 4 - Pipeline](#)

[SEMP N24- 02A Haroa - Zone 15- Pipeline](#)

[SEMP N24P-02A Haroa Zone 16-Pipeline](#)

[SEMP N24P-02A Haroa - Zone 1- OHSR and Pipeline](#)

Site-Specific Environmental Management Plan

Project number: 49107-006
August 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 1- OHR Amta)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.




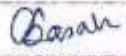
In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/SEMP/01 Revision No. 00 Revision Date : 00 Effective Date :
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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- I AMTA (OHR WORK)

0	25.04.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC

West Bengal Drinking Water Sector Improvement Project
Rural Project

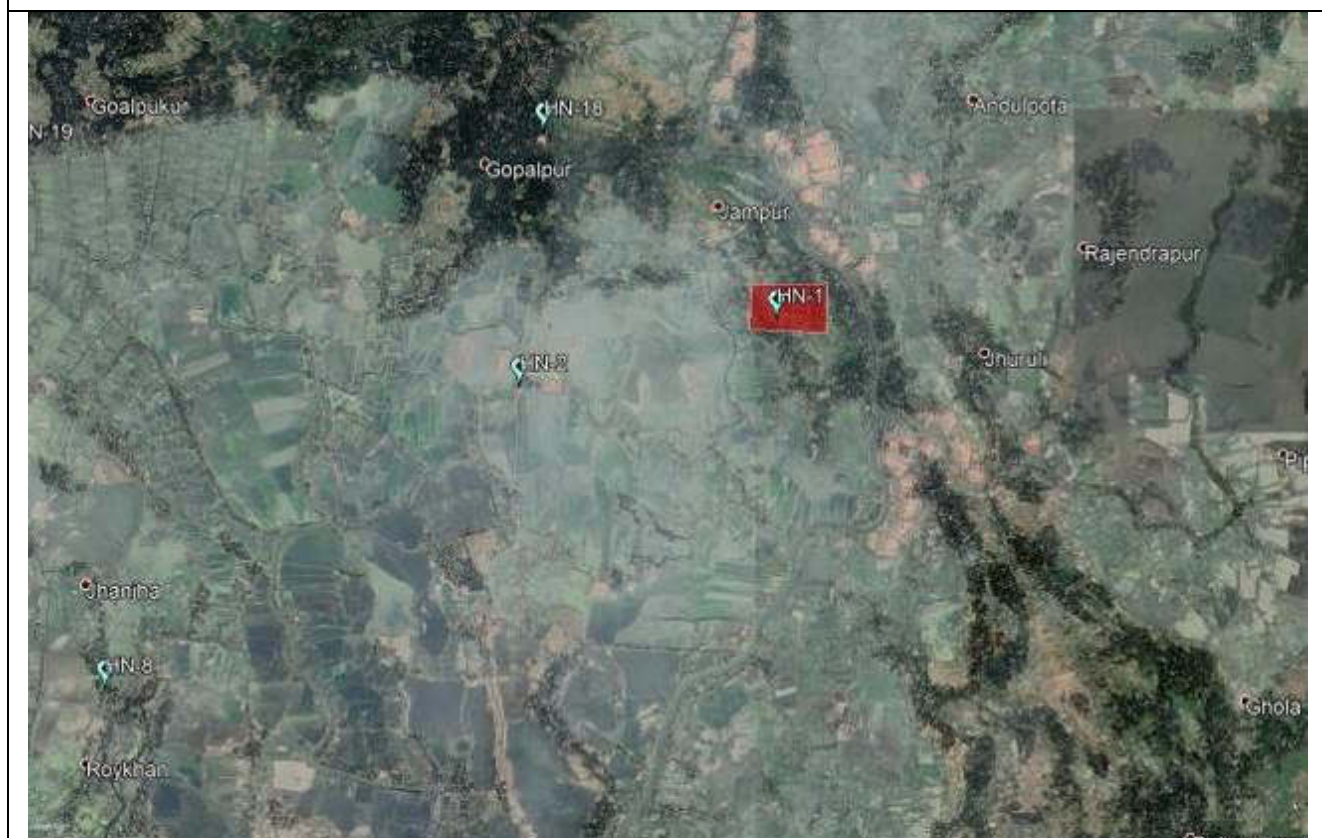
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 2 of 75 Original Issue Date :
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Package Area	Package No : N24P/02A Zone 1- OHR (Amta) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	08/08/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 450 KL
Demolition Work	No demolition activity involved
Project Area	Amta village, Gopalpur II Panchayet of Haroa block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayet: Gopalpur II

Land Status	PHED land
OHR Capacity	450 KL

Location



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 75 Original Issue Date :
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Details of contractors on-site-personnel and workers	Zone-1 OHR(Amta village) , Gopalpur II Panchayet of Haroa block r II
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Suman Paul; 7076274664
Site Supervisor	Mr. Tapendu Paramanik; 6296804910
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	7
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-9 from other districts within West Bengal
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at OHR site of Amta village [Refer Attachment O2]

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 4 of 75 Original Issue Date :
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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils(Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSDDL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment O7 included with this SEMP 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow areas, prior steps 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 5 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	natural drainage patterns, ponding and water logging, and water pollution.	will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates(NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • Already done land requisition, electric connection, water source etc. • Tree felling requirement for this site is not anticipated. • Made provision for detailed design drawing and documented all conditions • Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and construction resulting in dust and increase in concentration of vehicle-related pollutants such	<ul style="list-style-type: none"> • Following air pollution/dust control measures for construction activities stipulated by the “Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009”: ○ Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. ○ Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of 	<ul style="list-style-type: none"> • Only vehicles having valid PUC certificate have been engaged in the project. • Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. • Sprinkling and dust screen arrangement have been made, and will be used when required. • Site has been access controlled to prevent trespassing. • Stock piles will be maintained in such a way to minimise dust rising. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 6 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	soil for dust hazards to be carried out on site. • Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. • Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. • If required, then provide a dust screen/high compound wall around the construction sites (OHR).	• Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	• The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. • Where no local drains are available, a soak pit will be created on-site away from water bodies .	• The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. • Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and	• Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors	• No stockpiles have been planned near drainage locations/ nearby water bodies. • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated materials expected	Contractor	PIU through DSISC observation at site	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Fuels and lubricants should be stored away from drainage and spillage protection should be provided Provision for temporary silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration. 	<p>to be utilized on-site only. No excess spoil anticipated.</p> <ul style="list-style-type: none"> Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> So far no faunal movement has been observed in this site except few snakes which are commonly sighted in this part of rural Bengal. An awareness session has been conducted by WWF recommended snake rescuer. Felling of tree is not envisaged at this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Planned activities in consultation with DSISC so that activities with 	Contractor	PIU through DSISC observation at site and document checking	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 8 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	of equipment, materials by labours	<ul style="list-style-type: none"> • Ensure maximum work place noise level exposure not exceeding 85 decibels (dbA); • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<p>the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.</p> <ul style="list-style-type: none"> • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE. 			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess spoils at 	<ul style="list-style-type: none"> • Spoil management plan has been developed • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these are disposed as per 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.	law.			
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is included at Attachment - O4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Drinking water provided after proper testing. First Aid box provided at working 	Contractor	PIU through DSISC observation at site and document checking	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 10 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	• Employ local labour force as far as possible • Comply with labour laws	• Local labours are employed, on priority, whenever available. • Refer Attachment 03 for documents relating to statutory compliances	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	• Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	• Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be	• Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination;	Contractor	PIU through DSISC observation at site and document checking	Project cost

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 11 of 75 Original Issue Date :
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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc.,</p> <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<ul style="list-style-type: none"> • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in Attachment O2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Nebutala Abada Zone 02, Kulti Uposasthya Kendra Zone-5, Near Paschim Bhaida Primary School Zone-13, Near Majanpur High School Zone-17 and Haroa Market Zone-21	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near Paschim Bhoira (Zone 13), Near Majanpur high school (Zone 17) Haroa market (Zone 21) Near Nebutala Abada (Zone 2) Kulti Uposasthya kendra (Zone 5)	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2- year construction period considered)	Pond Water near Nebutola Abada Zone-3, Pond Water in Zone 13	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment O1: Details of construction Work sites
Attachment O2: Details of construction camp sites
Attachment O3: List of clearances & statutory requirements
Attachment O4: Contractor's OHS Policy & Organization
Attachment O5: Utility shifting/relocation
Attachment O6: Details of Construction Materials
Attachment O7: Spoil Management Plan
Attachment O8: Procedure for on-site Grievance Redressal Mechanism
Attachment O9: Procedure for information disclosure prior to start of works

[Appendix O.1: Site Layout Plan](#)

[Appendix O.A: Labour License](#)

[Appendix O.B: Workman Compensation](#)

[Appendix O.C: PUC Certificates](#)


[Appendix O.2: Contractor's OHS Policy Statement](#)

[Appendix O.3: Sample Grievance Registration Form](#)

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02B_Bhangar II block, _

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Attachment O1: Details of construction Work sites

1. Zone 1: OHR construction Site	
Location- Amta	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos • Steel Cutter – 1Nos • Pile Driving Machine – 1Nos • DG (Less than 5KVA) – 1Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	
OHR site before Construction	

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Project facilities
and preparatory
activities at Site



Project Information Board



Toilet for labours at site



First aid box at site





First aid training for workers



Awareness training on Snakes

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 1: Amta	
Location- Amta, Gopalpur II (Latitude: 22°36'8.340" and Longitude: 88°46'42.720")		
A	Accommodation – For 9 Nos construction workers No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Camp at OHR site• Accommodation provided for 9 workers• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs		
Photos of camp and facilities provided		
Accommodation for labour at zone 1-OHR		

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Cots with mosquito nets at labour Camp



Kitchen provided with kerosene as fuel

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.A]
2	Workmen Compensation	Obtained [Refer Appendix – O.B]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.C]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy	Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Work area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations	-
C	List personal protection equipment provided to workers • Boots- 10 nos. • Gloves-1 nos. • Helmet-9 nos. • Safety jacket- 10 nos. • Goggles- 1 nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OSH	Done
	Work permit system	Yes – for work at height
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Yes
2	Contractor emergency procedure	
A	• In case of accident, first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Suman Paul Mob: 7076274664
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487
	Project Manager Representative	Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m³) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	400.22	Nalhati	Yes
2	Sand	207.92	Gopi Ballavpur	Yes
3	Steel (MT)	49.38	Approved supplier	Yes
4	Cement (MT)	135.75	Approved supplier	Yes

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Attachment 07: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 1 AMTA (OHR WORK)

3	16.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIJ

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for both OHR site in Zone (1). For the OHR site we do not anticipate any excess spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is any extra soils for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

Extra excavated earth will be shifted by truck from working site within the premises (for backfilling of structure) or any other designated place as instructed by PHED. Trucks to be covered by polythene sheet after loading and before moving one location to another.

The transportation will be done preferably at night time when the volume of traffic will be less so that no disruptions to the traffic flow.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at AMTA(Zone 1)

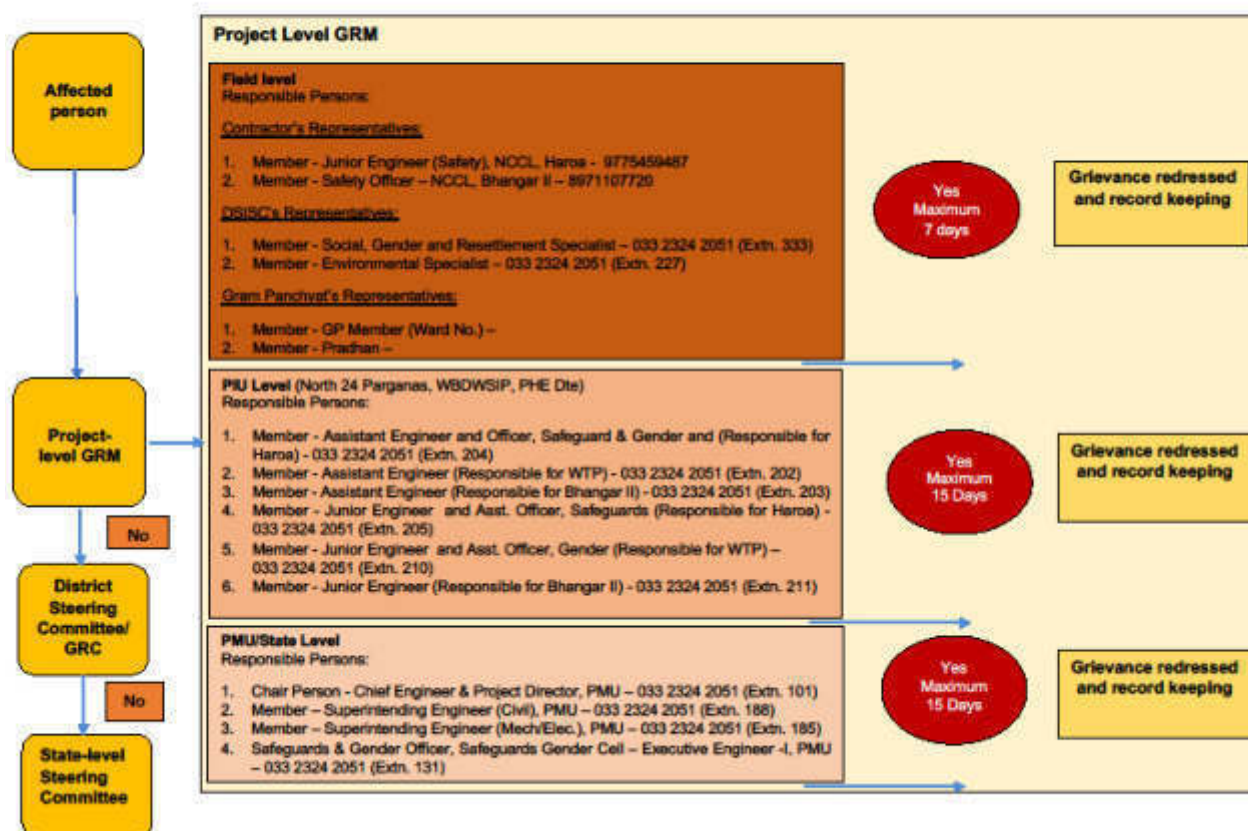
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

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Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchyat level and work details including time period is informed.

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Appendix O.A: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the condition specified in Annexure.

The License shall remain till: 04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1. Date of Renewal	02nd Dec, 2019
2. Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3. Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-
Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLR/000088)

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,
Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425
Haroa, Block- Haroa, Basirhat
PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix O.B: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016., Tel. No : 040-66038600		
Policy No :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address :	WORKS IN HAROA BLOCK, North Twenty Four Purganis, West Bengal, 743425	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C1ZM	PGI GSTIN Number :	36AABCFH91R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include: i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai*		 (Authorised Signatory)	
* Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDAN132P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Senapati Bapat

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Appendix O.C: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. **UP-81AJ-9526** WB-01-**D 5877306**

Date of Issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level:

CO (%)	1.188
HC (ppm)	495
SD (HISU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Station Code: 00

PUC Number: P000000001698 Vehicle Type: 2 Wheeler

Name: N C C LTD Reg. No.: UP-81AJ-9526

Address: Reg. Date: Jan-2010

Manufacturer: HERO HONDA

Model: SUPER SPLENDOR

Test Date/Time: 24-Aug-2019 16:13 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 10027

Chassis Number: 10479

Fuel -->	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	1.188		
HC* (ppm)	4500	495		
CO2 (%)		4.5		
O2 (%)		13.31		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
A/F R:		—		
Lambda:		—		
PEF:		0.501		
CO-Act (%)		3.134		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Emission Test Centre Stamp: *[Stamp]* 24/08/19

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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** WB-01 **D 4224909**

Date of Issue: **28-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSL)	

PUC Certificate issued by: **MILI ENTERPRISE** License No. and Seat: **151AETC/2018**

Signature: *[Signature]* WB-01-

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PIN: 9452010099

Label Code: **WB** Licence No: **151AETC/2018** Test Station Code: **0001**

PUC No.: **WB0081000273** Vehicle Reg No: **WB30W2784**

Name: **NCC LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**
PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2018**

Date: **28-Feb-2019** Speedo mtr Rdy: **61372**

Time: **05:54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **75206**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2109** Emission Norms.: **BS IV or Onwards**

S.No.	RPM min	RPM max	Km-l	BSU %	OTPC
1	0720	2000	01.12	38.2	026.00
2	0720	1920	01.09	37.5	026.00
3	0720	1820	01.01	36.3	026.00
Mean	0720	1930	01.07	37.0%	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre



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HC (ppm)		SD (HSU)		B9104
PUC Certificate issued by:				License No. and Seal:
M/S-NATURAL WORLD				Natural World
Signature				N.H. 34, K.N. Road Back Side
				Berhampore
				Licence

Vehicle Pass



POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No. : 19/2009-2009

Test Station Code : 002

PUC No. : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

INr	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01283	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leE	01066	08000	00.02	47.2	064.13
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SAFE DRIVE. SAVE LIFE
NO ROUGH DRIVE

Vehicle

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Appendix O2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Appendix O.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্টি ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (খ) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (খ) টীক দিনঃ নোট বা চিঠির মাধ্যমে – ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 1 AMTA (PIPELINE WORK)

0	15.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, **DSISC**
North 24 Parganas
West Bengal Drinking Water Sector Improvement Project **WBDWSI Project**
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dis.
Govt. Of West Bengal

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Package No.				Package No : N24P/02A Zone 1- Pipeline works (Amta) under PIU North 24 Parganas							
Package title				Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A							
Contractor				NCC Pvt. Ltd.							
Date of Contract Award				19/09/2018							
Date of particular ncement				24/05/2019							
Contract period				Construction: 3 Years ; O&M: 2 Years							
SEMP Component				Laying of 30866m of pipeline as detailed below.							
Demolition work				No demolition activity involved							
Project Area				, Gopalpur II Gram Panchayat of Haroa Block							
Project Description				Individual household water supply schemes for the project Gram Panchayats							
Household Connection				2646(Estimated HH Connection)							
Non-Household Connection				All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified							
Indicative Budget for EMP Implementation for the entire package				INR 21,42,500/-							
Project Components				As per project detailed design							
Gram Panchayat (GP): Gopalpur II											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H1	4982	4689	4473	4508	3432	8118	623	41			30866
Map of Distribution Network											
Refer Appendix – P.1											

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Details of contractors on-site-personnel and workers	Zone-1 Pipeline works (Amta), Gopalpur II Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Sing; 9732756414
Site Supervisor	Mr. Golam Murtaza; 8637383037
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	5
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-9 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One Labor accommodation at Buripukur Madrasa, Amta village [Refer Attachment P2]

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans. Contractor, PIU</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barrication area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	natural drainage patterns, ponding and water logging, and water pollution.	<ul style="list-style-type: none"> In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law. 				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> We have already received pipe laying permission from local authorities, electric connection, water source etc. NOC taken from Gram Pradhans for carrying out the activity. DG sets of capacity less than 5 kVA only being used. Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<p>Obtain details on location of underground Asbestos Cement pipes</p> <p>Locate the new pipe carefully to avoid encountering AC pipes</p> <p>Leave the Asbestos Cement pipes undisturbed in the ground.</p>	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		control of dust generation.				
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming 	Contractor	PIU through DSISC observation at site and	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	significant impacts on bio-diversity within the area.	channel. <ul style="list-style-type: none"> For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	allowed. <ul style="list-style-type: none"> So far no faunal movement has been observed in this site. 		document checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016.</p> <ul style="list-style-type: none"> As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	<ul style="list-style-type: none"> Excavated earth will be backfilled on the same day. 			
Occupational Health and Safety	Occupational hazards which can arise during work	<p>Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc.</p> <p>(c) documentation of work related accidents.</p> <p>(d) Providing qualified first aider at all times.</p> <p>(e) Providing to all workers reflective jacket,</p> <p>(f) Marking and providing sign</p>	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; <ul style="list-style-type: none"> • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		etc.				
Constructi on Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in Attachment P2. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 				
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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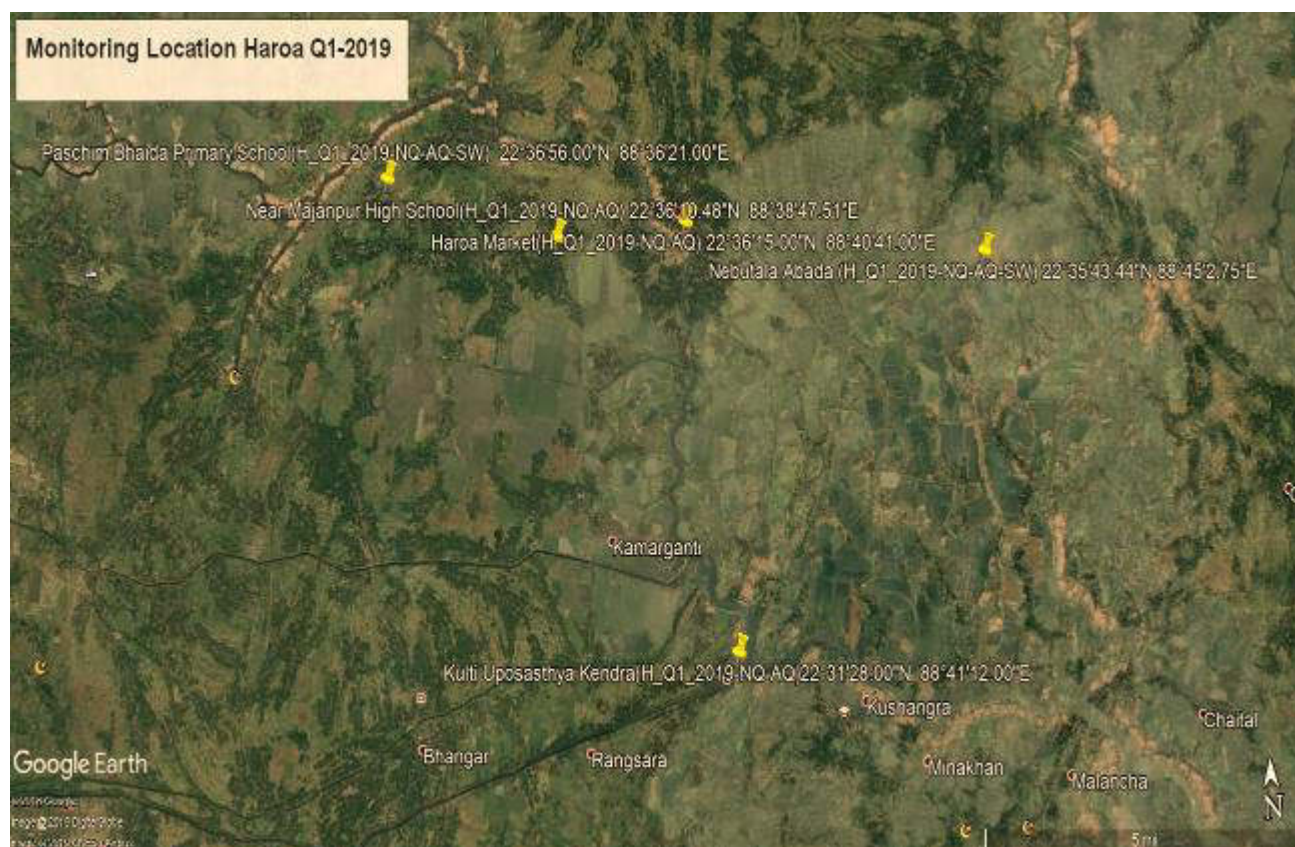
Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near Zone 02 Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School ,Zone 17,Near Majanpur High School, Zone 21, Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near zone 02, Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School Zone 17,Near Majanpur High School, Zone 21, Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Pond Water near Nebutola Abada, Zone-3, Pond Water in Paschim in Zone 13	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network

Appendix P.A: Gram Panchayat and other Authorities Permission

Appendix P.B: Labour License

Appendix P.C: Workman Compensation

Appendix P.D: PUC Certificates

Appendix P.2: Contractor's OHS Policy Statement

Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,





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Attachment P1: Details of construction Work sites

1. Zone 1: Pipeline construction Site						
Location- Amta						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
	Excavation method (manual/ mechanical)					
	DI Pipes (664m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	41	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	623	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(30,202 m)					
	200 mm	8118	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	3432	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	4508	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	4473	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	4689	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	4982	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 1	
Location- Buripukur Madrasa, Amta (Latitude: 22°26'35", Longitude: 88°46'17")		
A	Accommodation – For 7 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented apartment• Accommodation provided for 7 workers• Separate cooking area• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs	Not applicable as rented house is being used as labour accommodation.	
Photos of camp and facilities provided		
	Sleeping area	Kitchen with gas connection
		
	Toilet for workers	Equipment storage area

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 9 nos. • Gloves-1 no. • Helmet-10nos. • Safety jacket- 7nos. • Goggles- 1nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	9000.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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	Spoil Management Plan	Revision No. 00 Revision Date : 00 Effective Date :

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 1 AMTA (PIPELINE WORK)

0	15.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY OSISC	APPROVED BY PIU

Environmental Specialist, WBDWS
North 24 Parganas
West Bengal Drinking Water Sector Improvement Project
WBDWSI Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan has been developed for pipeline network laying in Zone (1).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

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6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 9000 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Amta (Zone 1) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	4955	0.25	1.063	1316.79
2	75	4749	0.25	1.075	1276.29
3	90	4485	0.25	1.09	1222.16
4	110	4481	0.25	1.11	1243.47
5	140	3428	0.25	1.14	976.98
6	200	7481	0.25	1.2	2244.3
7	200	645	0.3	1.2	232.2
8	250	628	0.3	1.25	235.5
9	300	39	0.6	1.3	30.42
10	Extra for bend, joints etc				221.89
11	Approx. generated total Spoil (Soil) at Amta				9000.00

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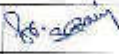


Attachment P8: Traffic Management Plan

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	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 1 AMTA (PIPELINE WORK)

0	18.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISO	APPROVED BY PLJ

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISO
North 24 Parganas
WBDWSI Project

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 1 AMTA.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

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5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

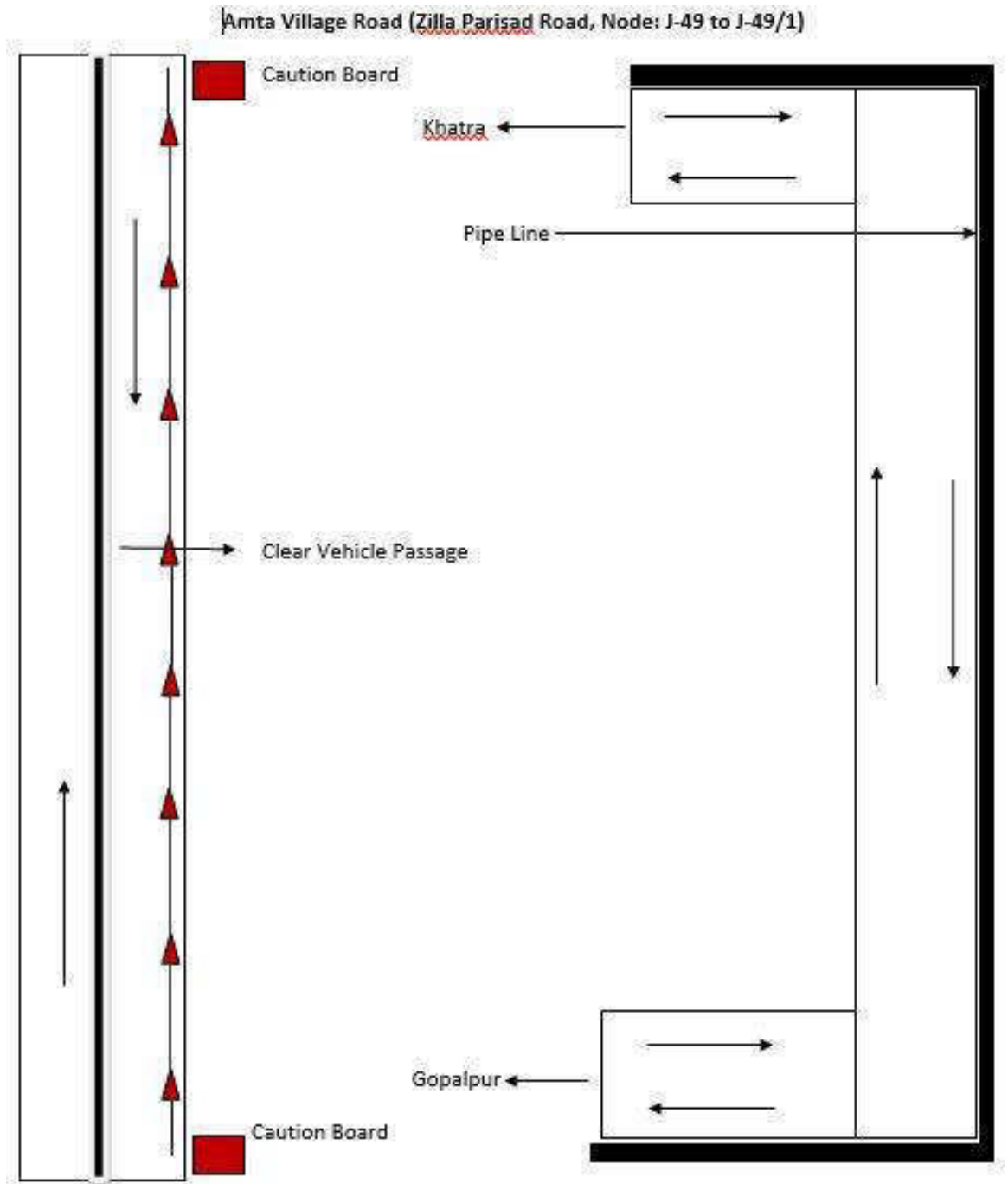
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

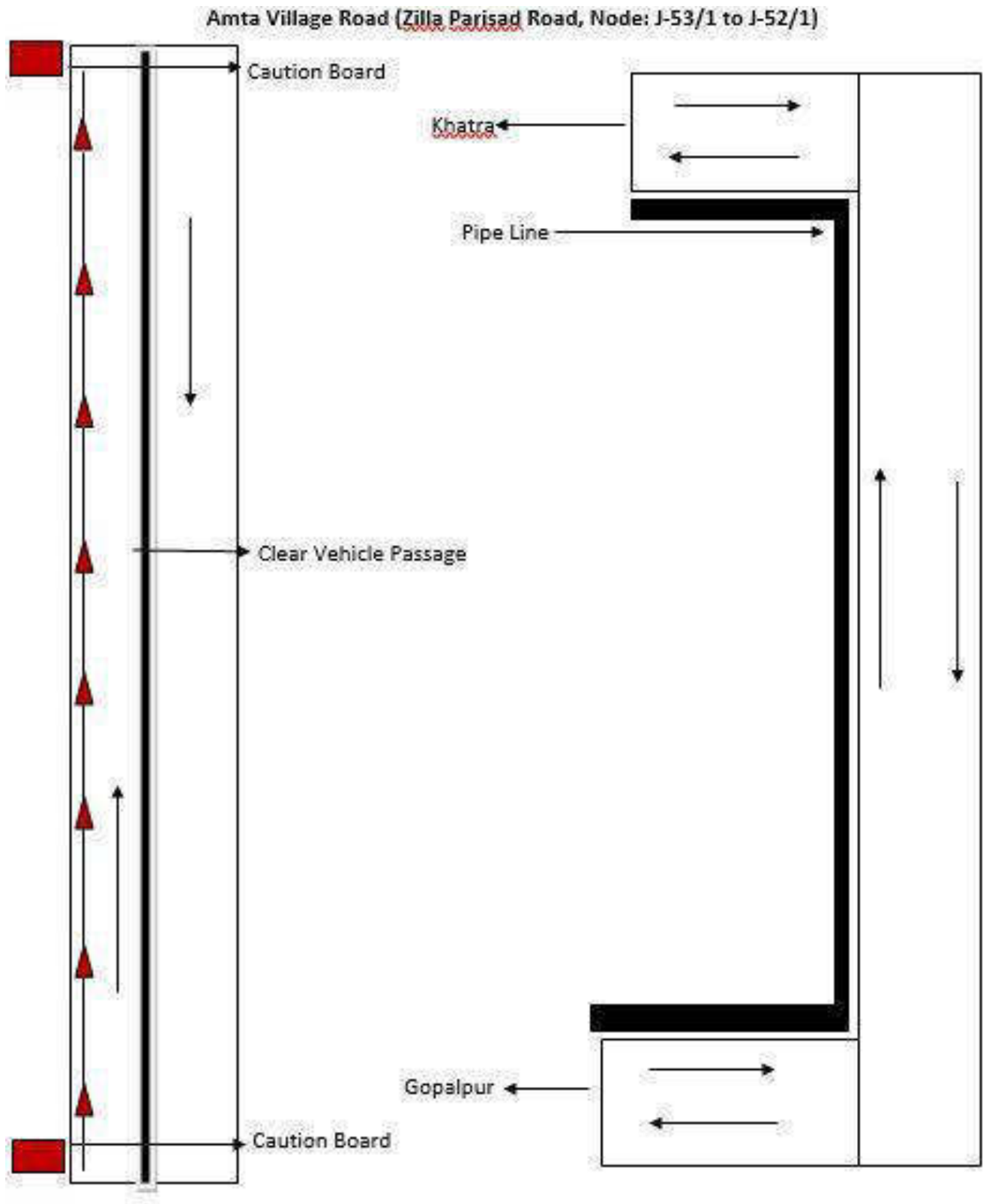
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jacke

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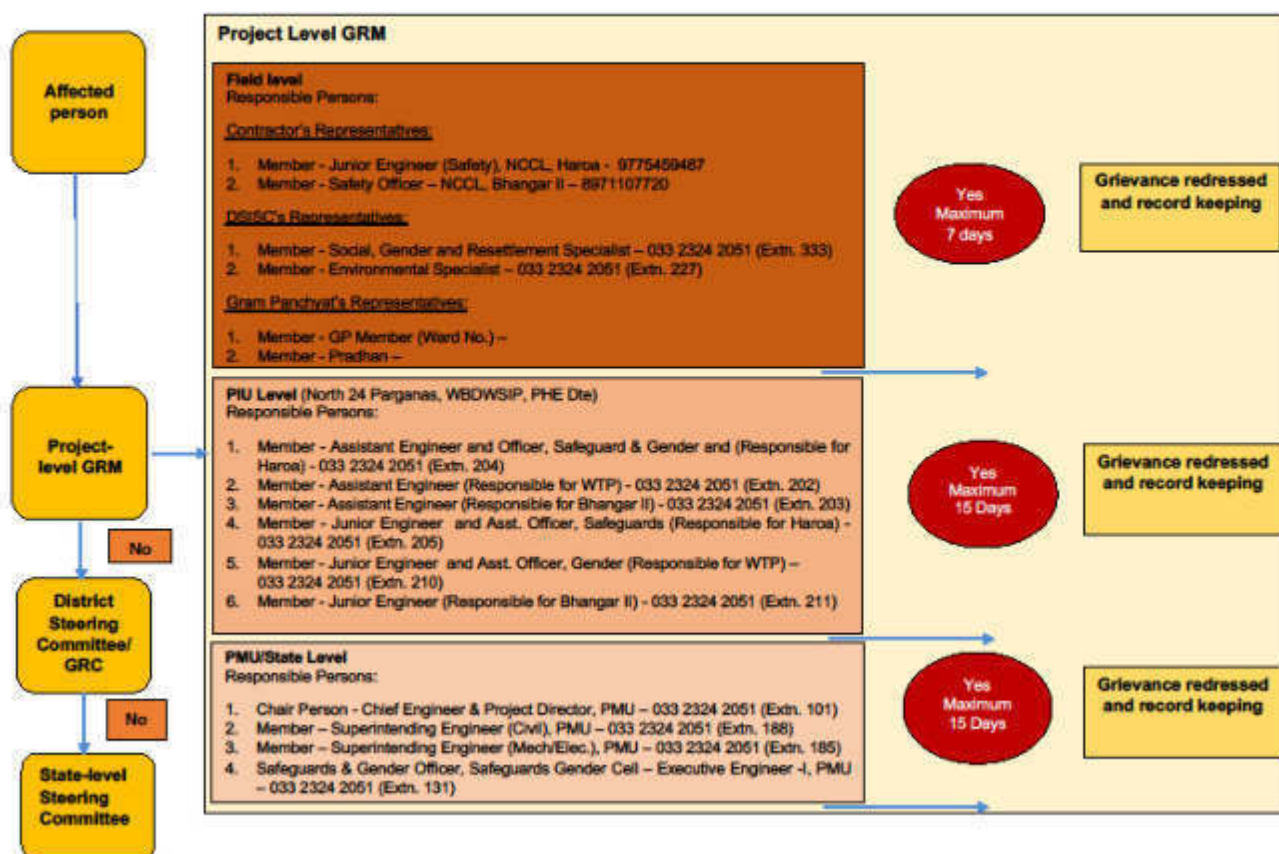


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



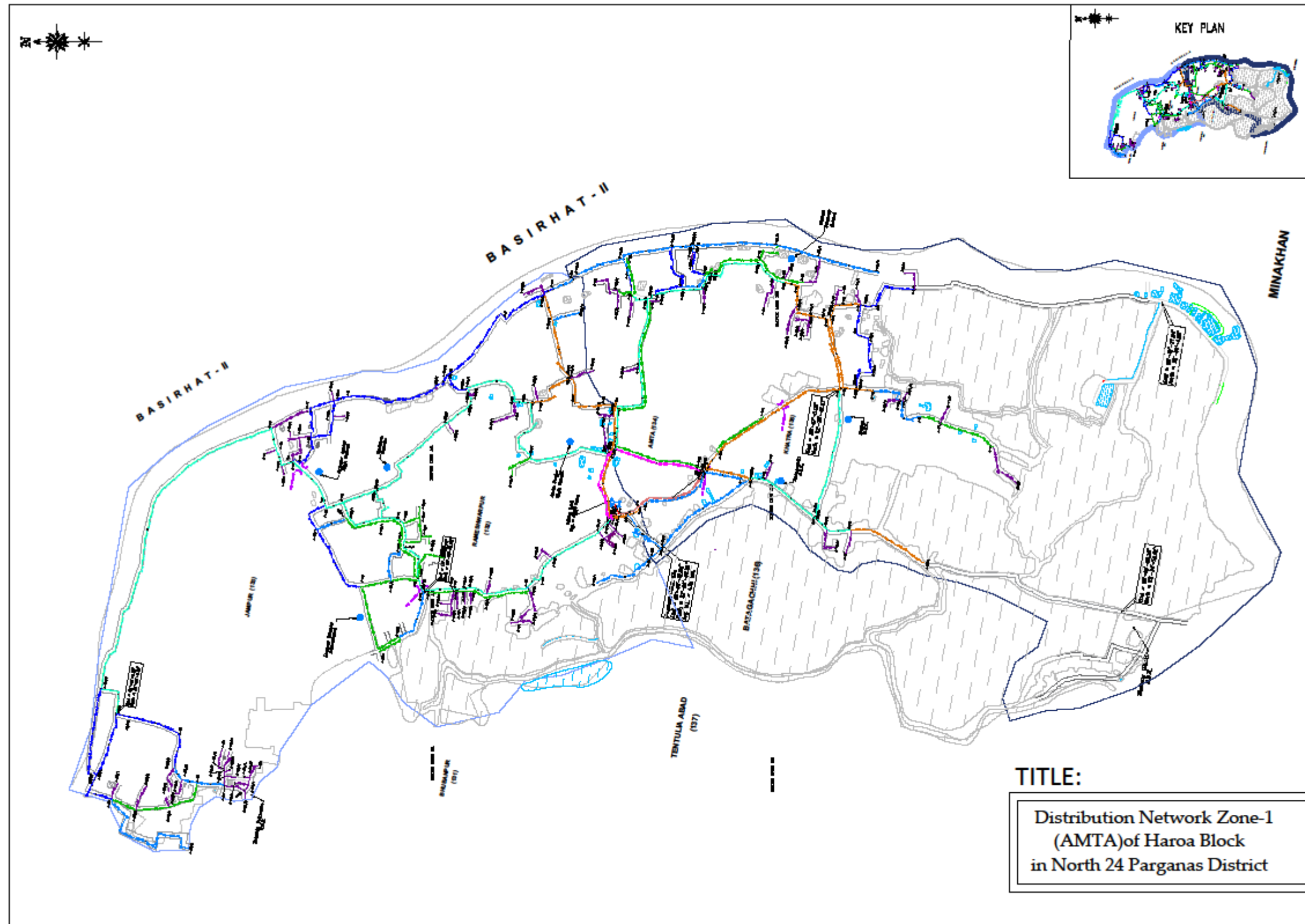
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 66 of 75 Original Issue Date :
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Appendix P.A: Gram Panchayat and other Authorities Permission

 **Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHH Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-IA, New Town, Kolkata-700156**

Memo No. _____ /SD-I, N-24 PGSD-II, _____ Dated, New Town, the _____
To _____

(1) The Station Manager,
WBSFDCL, Haroa, North 24 Parganas.

(2) The Sub Division Engineer,
BSNL, Basilar Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHH Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 27.05.2019 in Gopalpur-II Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this manner you are requested to provide contact details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I
Under N-24 Pgs. W/S Divn.-II, PHH Dte.
Dated, New Town, the _____

Memo No. _____ /SD-I, N-24 PGSD-II, _____
Copy forwarded for information to :-

1) The Sarpanch, Haroa Panchayat Samity.
2) The Executive Officer, Haroa Panchayat Samity.

**SD/-
S. BOSE**
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I
Under N-24 Pgs. W/S Divn.-II, PHH Dte.
Dated, New Town, the 24.05.19

Memo No. 24/19 /SD-I, N-24 PGSD-II, _____
Copy forwarded for information to :-

1) The Superintending Engineer, P.J.C., North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHH Dte.
3) Sri Pinto Naskar, Junior Engineer, N-24 Pgs. W/S Sub-Divn.-I under N-24 Pgs. W/S Divn.-II, PHH Dte.
4) The Town Leader, DSISC-North 24 Parganas, WBDWSIP.

**SD/-
S. BOSE**
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I
Under N-24 Pgs. W/S Divn.-II, PHH Dte.

DTL/AD-23
24/5/19
24/5/19

DSISC / WBDWSIP
Inward No. 1006
RECEIVED
Date 23/05/19 **Signature**
Time 2:50 PM

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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI (See Rule 25(1))

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL/LIC-009311-008372-17200-2019

1.Date of Renewal

02nd Dec, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 29(1)]

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin,- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dn. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block-Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 049-6603600			
Policy No	2019-L0129168-FWC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home)	4017822990/09892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN7335C1ZM	PGI GSTIN Number	36AABCF019R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy; the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorized Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower-3, Indiabulls Finance Center, Sempati Bypass,

<p align="center">NCC LIMITED</p>	<p>Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block</p>	<p>Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 70 of 75 Original Issue Date :</p>
	<p>Site Specific Environmental Management Plan</p>	

Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-52K-8579** WB-01 **D 4448685**

Date of issue: **03-Jun-2019** Valid upto: **02-Dec-2019**

Pollution Level	
CO (%)	3.201
HC (ppm)	881
SO (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]*

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HARDA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Registration Code: 00

PUC Number: P000000001295 Vehicle Type: 2 Wheeler

Name: NAGARJUNA CONS CORP LTD No.: WB-52K-8579

Address: Reg. Date: Feb-2011

Manufacturer: HERO HONDA

Model: CD DELUX

Engine Type: 4 Stroke

Test Date/Time: 03-Jun-2019 14:11 Odometer Rdnng: 0

Catalyst: No Engine Number: 05100

Chassis Number: 04859

Fuel -->	Petrol		Diesel	
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	3.201		
HC* (ppm)	4500	881		
CO2 (%)		7.98		
O2 (%)		5.1		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		16.884		
Lambda		1.135		
PEF		0.501		
CO-Act (%)		4.302		

* Based on PPM for LPG and NMHC for CNG

Test Result: **PASS**

Grade: **B**

Valid Upto: **02-Dec-2019**

Test Fee: **Rs. 80**

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

[Signature]
03/06/19

Emission Test Centre Stamp: **0219 - Smr** **2219** Authorised Signatory

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**

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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30AC7817** WB-01-**D 4261432**

Date of issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	40.5%

PUC Certificate issued by: **MLI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Kolkata-15
Vehicle Pass: *[Stamp]* WB-01-

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MLI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010995

Transport Department

Label Code: WB Licence No: 151/AETC/2018 Test Station Code: 0001

PUC No.: WB0001000362 Vehicle Reg No: WB30AC7817

Name: NCC LTD Category: car

Address: Make: Mahindra

Model: BOLERO

Date of Reg.: 2019

Speedo mtr Rdg: 1094

Mobile: 9735589348 Engine No.: 91913

Date: 29-Mar-2019 Chassis No.: 10260

Time: 10:54 AM Emi Norms.: BS IV or Onwards

Fuel: Diesel Vehicle Type: BS4 - 4 Wheeler

Flushing Cycle Mean: RPM Min: 0840 RPM Max: 1913

SNo.	RPM min	RPM max	Km-l	HSU %	OTF C
1	0810	1630	01.20	40.5	041.00
2	0850	1630	01.21	40.6	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
Km-l	1.62 01.20
HSU %	50 40.5

Valid upto: 28-Mar-20

Grade: A

Mean 0816 1733 01.20 40.5% 041.00 Test Fee: 100

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

[Signature]
Authorized Signatory

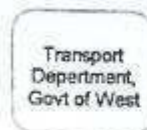
INDUS Diesel 2.8.5/0000-0000/4550

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HC (ppm) SD (HSU) **B9104**

PUC Certificate issued by: License No. and Seal: **Natural World**
 M/S-NATURAL WORLD 19/08/2009
Signature N.H. 34, K.N. Road Back Side
Berhampore
Licence

Vehicle Pass



POLLUTION UNDER CONTROL CERTIFICATE
 (under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Vehicle Reg No:WB 57B-9104

Name : MD CHAND MAHAMMAD SEKH

Category : EARTH MOVING

Address : RANITALA

Make: TEREX EQUIPMENT

MSD

Model: EARTH MOVING

WB

Date of Reg. 2014

Date:17/04/2019

Speedo Mtr Rdg. x

Fuel: Diesel

Engine No : 1420359

Time : 1:29:14 P.M

Chassis No: 409159

iN:	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leE	01066	06000	00.02	47.2	064.13
-----	-------	-------	-------	------	--------

SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Vehicle

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Appendix P.2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
-----------------	--	--

NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood and the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevent similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
--------------	----------	----------------	--------------	------------

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ/ মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
November 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 16 - Pipeline Haripur)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.


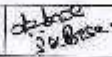
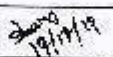

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE-16 HARIPUR (PIPELINE WORK)

Q	14.11.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DNISC	APPROVED BY PU

Assistant Engineer
PU-1, N-24Pgs., WBDWSIP, PHE Dept.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

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Package Area	Package No : N24P/02A Zone 16- Pipeline (Haripur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Limited
Date of Contract Award	19/09/2018
Date of works commencement	23/11/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 34785 m of pipeline as detailed below.
Demolition Work	No demolition activity involved
Gram Panchayats	Salipur Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1798 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Salipur

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - H16	24378	3592	2106	978	2394	1313	24				34785

Map of Distribution Network

Refer Appendix – P.1

Details of contractors on-site-personnel and workers	Zone 16-(Pipeline) Haripur village ,Salipur Gram Panchayat of Haroa Block
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Dpty. Project Manager	Mr. Ashok Kumar,9517289511
Site Engineer	Mr. Markendey Giri, 8597392124
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	9
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-11(from Other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation is in rented house at Haripur (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of PPE is a must. To avoid slip, trip and fall, no one is allowed within the barrication area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source 	No involvement of any new borrows area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	patterns, ponding and water logging, and water pollution.	(quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers have been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. 	Contractor	PIU through DSISC observation at	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	unlikely to be any significant impacts on water resources within the immediate area.		<ul style="list-style-type: none"> Dewatering, if any and hydrotest water will be also discharged to local drains after ensuring no contamination. 		site and document checking	
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	the area.					
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abada, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) is used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			workers; <ul style="list-style-type: none"> Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>appropriate; no loose soil, slush, water logging etc.,</p> <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location,</p> <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • Details of labour accommodation are presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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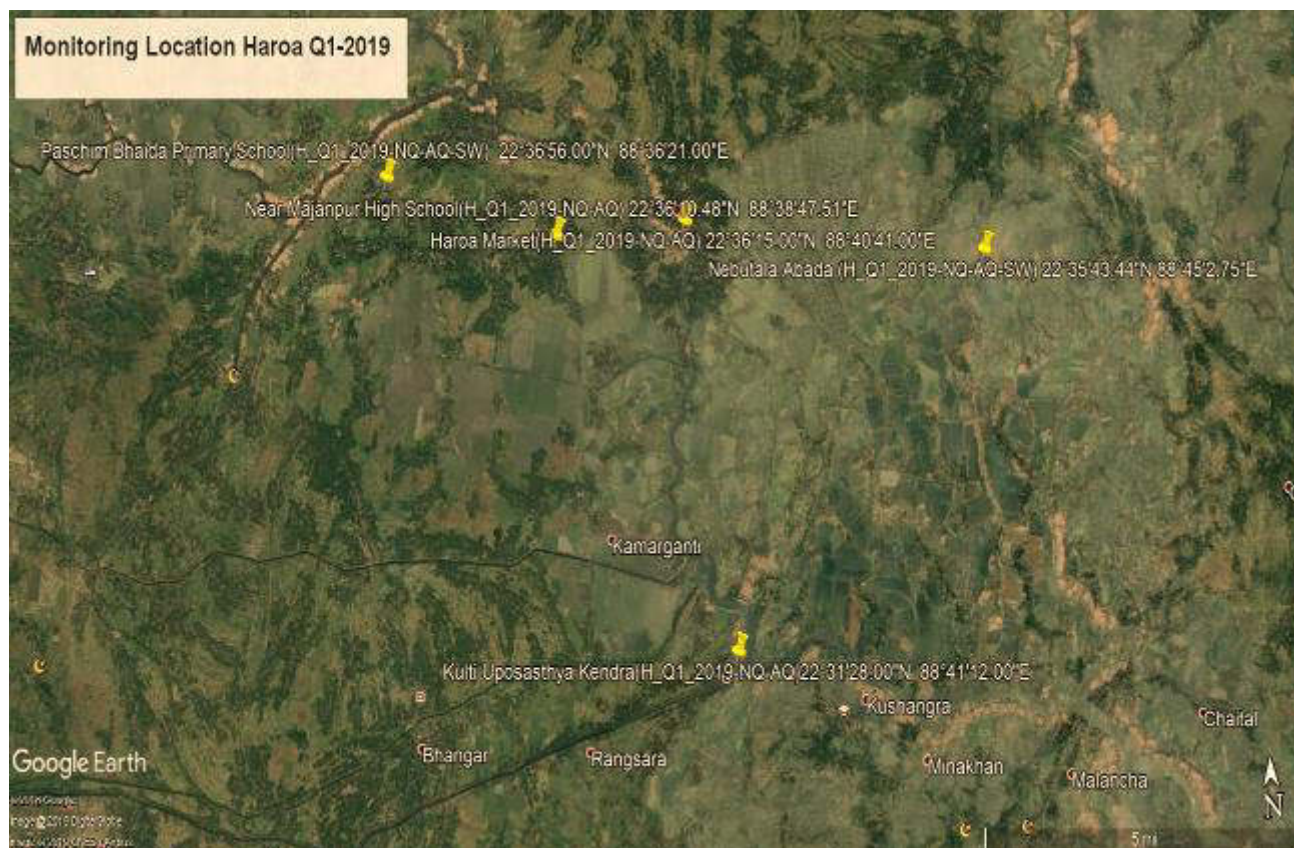
Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,

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Attachment P1: Details of construction Work sites

1. Zone 16: Pipeline construction Site						
Location - Haripur						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 No ▪ DG (less than 5 kVA) – 1 No 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/mechanical)
	DI Pipes (358 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	54	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	304	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(25,862 m)					
	200 mm	2210	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	2198	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	2172	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	2154	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	6757	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	10371	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 16
Location- Haripur/ Shalipur (Latitude: 22.59113, Longitude: 88.6306)	
A	Accommodation – For 11 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – Rented Accommodation at Haripur • Accommodation provided for 11 workers • Cooking gas • Drinking water • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	<p>Zone-16(Haripur) - Labour Room Unnamed Road, Haripur, West Bengal 743425, India 22.59113, 88.6306, -47.0m, 197° 23 Nov 2019 12:06:47 pm</p>
	Labour accommodation
	Toilet near labour accommodation

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 11 nos. • Gloves-3 no. • Helmet-11 nos. • Safety jacket- 11nos. • Goggles- 2nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Markendey Giri Mob: 8597392124
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ashok Kumar Mob: 9517289511
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accident client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	9000.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 16 HARIPUR (PIPELINE WORK)

0	14.11.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Assistant Engineer:
PIU-I, N-24Pgs., WBDWSIP, PHE Dis.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSIP Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (16).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will be confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.

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- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. **IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:**

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. **SPOIL VOLUMES AND CHARACTERISTICS:**

In this project, approx. Generation of excavated earth will be approx. 9000 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. **SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:**

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. **ON SITE SPOIL MANAGMENT APPROACH:**

In this project, no need of the approach as there is any extra soils for disposal.

9. **SPOIL TRANSPORTATION METHODOLOGY:**

In this project, no need of spoil transportation as there is no extra spoil for disposal.

10. **MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:**

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Haripur (Zone 16) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	19696	0.25	1.063	5234.212
2	75	4424	0.25	1.075	1188.95
3	90	2207	0.25	1.09	601.4075
4	110	1220	0.25	1.11	338.55
5	140	2302	0.25	1.14	656.07
6	200	1307	0.25	1.2	392.1
7	250(DI)	514	0.3	1.25	192.75
8	300(DI)	10	0.6	1.3	7.8
9	Extra for bend, joints etc				388.1605
10	Approx. generated total Spoil (Soil) at Haripur				9000.00

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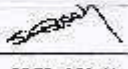
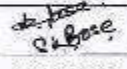


Attachment P8: Traffic Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ TMP /01 Revision No. 00 Revision Date : 00 Page 3 of 7 Effective Date :
	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 16 HARIPUR (PIPELINE WORK)

01	14.11.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Assistant Engineer
PIU-I, N-24 Pgs. WBDWSIP, PME Div.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

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1. PURPOSE

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. SCOPE

The procedure is applicable for HDPE/DI pipe laying area for Zone – 16 Haripur.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. RESPONSIBILITY

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. LEGAL REQUIREMENT

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. REQUIREMENTS

5.1 General

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 Planning Stage

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 On Site

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.

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- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

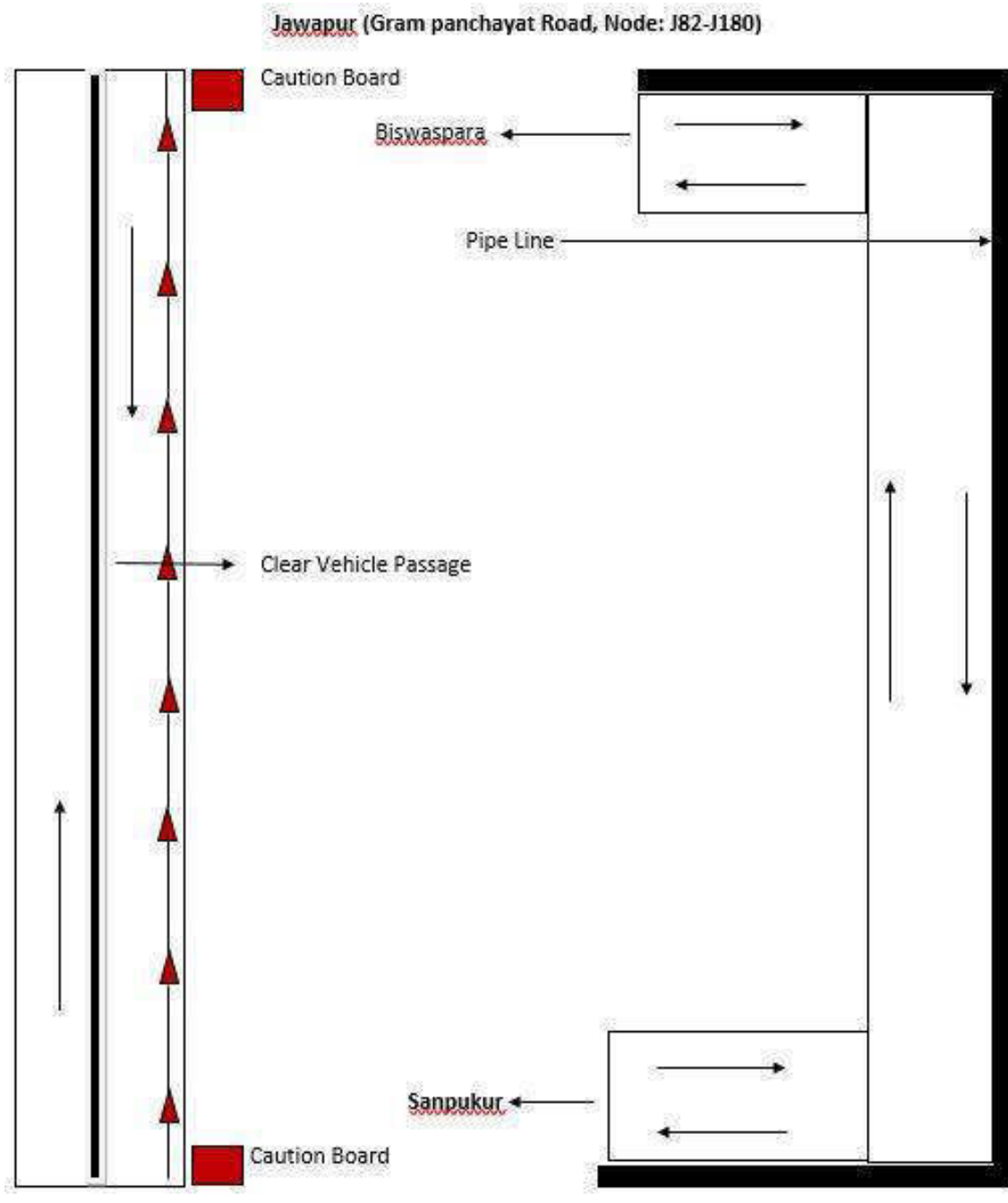
5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

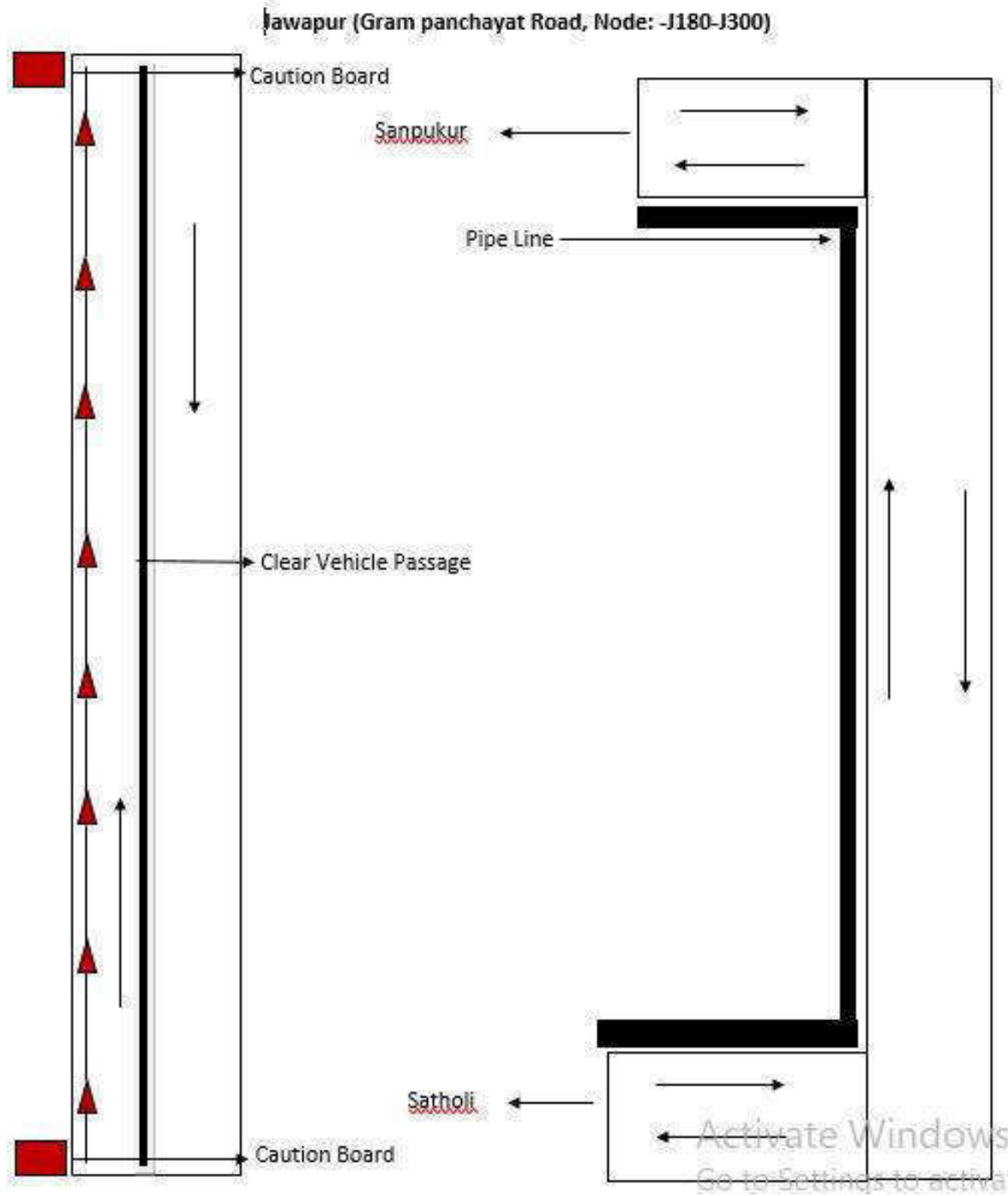
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
- Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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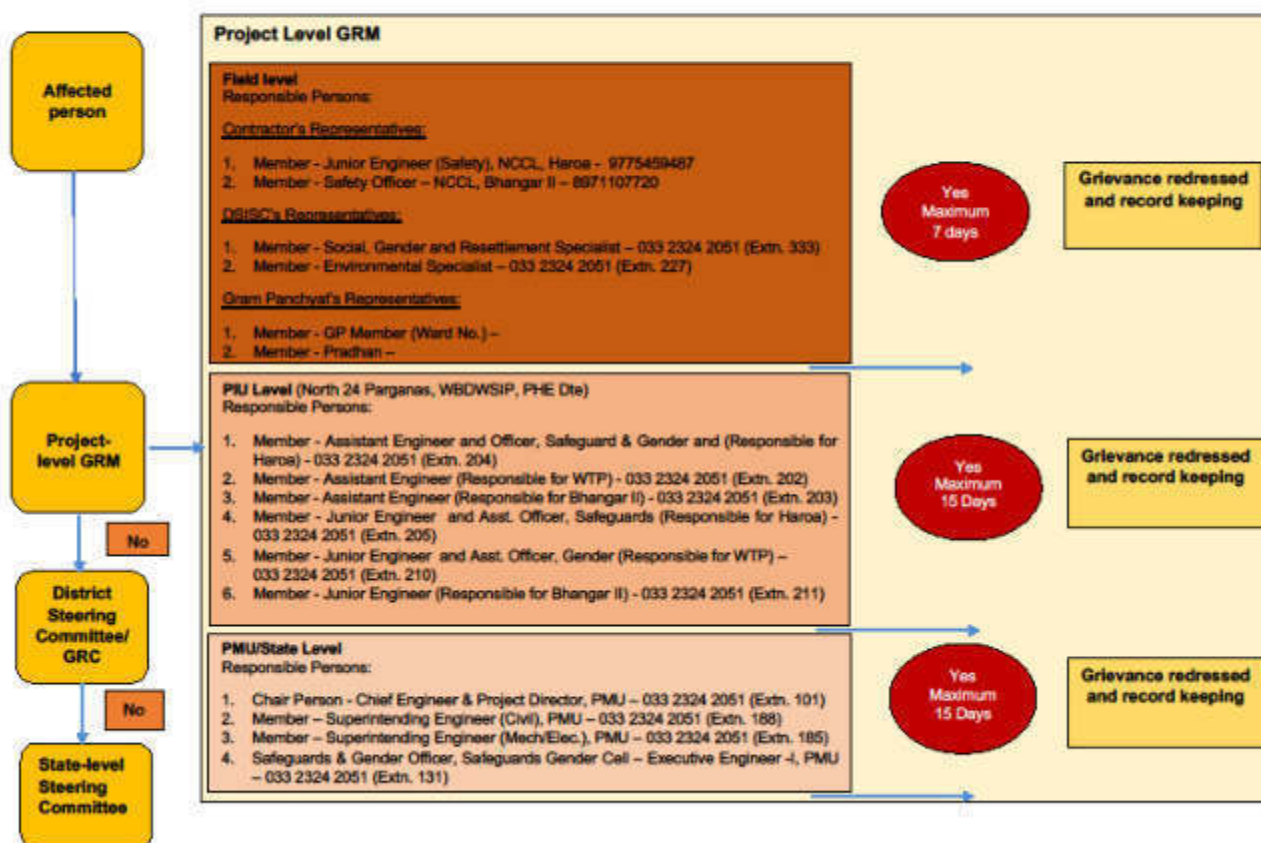


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



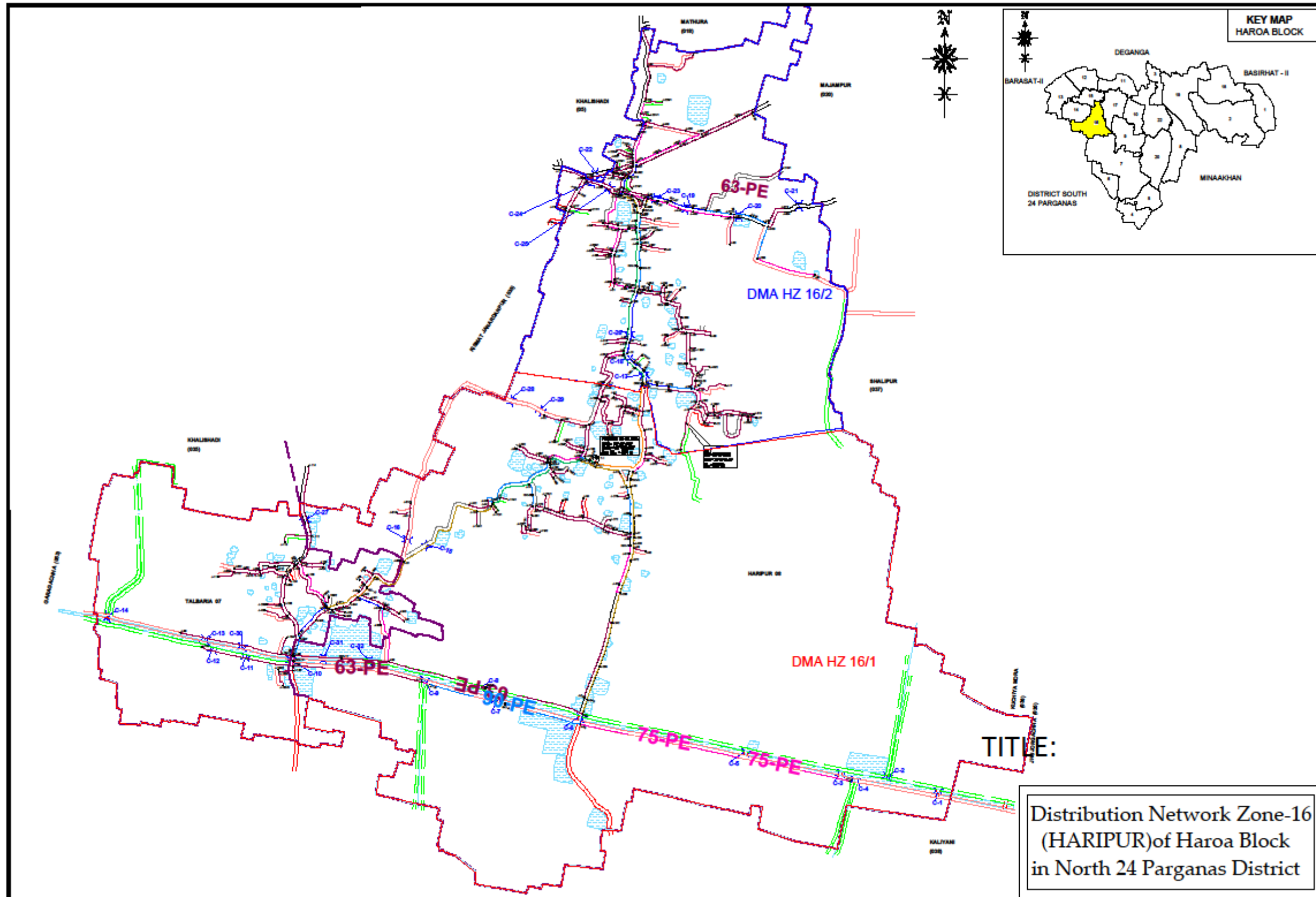
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



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Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-A1,
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ee.piu24p.adh@wbphed.gov.in

Memo No. /EE(C)PIUN24P, Dated, New Town, the

To
The Executive Engineer,
Basilist Division, WBSRDA,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-16) Haripur.


Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October 2018. Now the entrusted agency will start the laying of distribution network from 11.11.2019 in **Salipur Gram Panchayet** along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.


Your kind co-operation in this regard is requested.

Encls. : As stated.


Yours faithfully,


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated: New Town, the

Memo No. /EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Sahbadhipari, North 24 Parganas Zilla Parishad.
2) The District Magistrate, North 24 Parganas.
3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
4) The District Engineer, North 24 Parganas Zilla Parishad.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the 06/11/2019

Memo No. 921/G-3 /EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Assistant Engineer, PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
4) The Project Manager, NCC Ltd., Haroa Project.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

DTL
06/11/19
2030
06/11/19
Signature
Time-4:10 PM

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 31 of 40 Original Issue Date :



Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piu24p.adb@wbphed.gov.in

Memo No. _____ /AE(C)PIU-IN24P,

Dated, New Town, the, _____

To
The B.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Sanity,
North 24 Parganas;

Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-16) Haripur.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 11.11.2019 in Salipur Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____ /AE(C)PIU-IN24P,

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Sanity.
- 2) The Pradhan, Salipur Gram Panchayet.
- 3) The Officer in Charge, Haroa Police Station.

**SD/-
S. BOSE**

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 75/18/1 /AE(C)PIU-IN24P,

Dated, New Town, the, 06/11/19

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Manab Chakraborty, J.L., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DS/SC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Haroa Project.

File
Along with
06/11/19



**SD/-
S. BOSE**
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piun24p.adb@wbphed.gov.in

Memo No. _____/AE(C)PIU-I/N24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-16) Haripur.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 11.11.2019 in Salipur Gram Panchayat along the road within KJW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/AE(C)PIU-I/N24P.

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayat Samity.
- 2) The Executive Officer, Haroa Panchayat Samity.

SD/-
S. BOSE

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 78P26/19/AE(C)PIU-I/N24P.

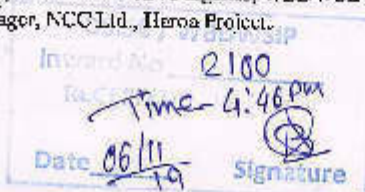
Dated, New Town, the, 06/11/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Manab Chakraborty, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Haroa Project.

File
Regd. 06/11



Information on Project/Contract/Draw attached



Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 33 of 40 Original Issue Date :
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Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

1.Date of Renewal

2.Fees paid for Renewal

3.Date of Expiry

RENEWAL-LIC-009311-008372-17200-2019

02nd Dec, 2019

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-
Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKE ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No.: **BST09/CLL/000029**

Date: **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425., Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (RSA) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLL/000029)

W. Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co. Ltd, 1st Floor B.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038600			
Policy No	2019-L0129168-FWC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home)	4017822990/09892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN7335C1ZM	PGI GSTIN Number	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage/liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,364.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings; 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorised Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madrink - 2017/C.R.97/M-1, dated 09/01/2018.

Product ID/N : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Senapati Bapat

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 36 of 40 Original Issue Date :
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Appendix P.D: PUC Certificates

COMPUTERISED EMISSION TEST CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. **WB26T5753** WB-01-**D 6148795**

Date of Issue: **04/06/2019** Valid upto **03/12/2019**

Pollution Level

CO (%)	
HC (ppm)	
SD (HSU)	1.45

PUC Certificate issued by: **MIRA SERVICE STATION**
Plot No - 2, Block-AH
New Town, Rajarhat
Kolkata-700 156

License No. and Seal: **0004/AETC/BST/II**

COMPUTERISED EMISSION TEST CERTIFICATE
WB-01-**D 6148795**
Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
PLOT-2,BLOCK-AH,NEW TOWN,KOLKATA-156

Liscence Number :- **0004/AETC/BST/II**

I.D. Number :- **001406** Date :- **04/06/2019**

Year Of Registration :- **2015** Time :- **4:08:58 PM**

Vehicle Registration Number :- **WB26T5753** Test Fee :- **100**

Speedometer :- **0**

Engine Number :- **E14894**

Chasis Number :- **E37419**

Vehicle Color :- **OTH**

Vehicle Make :- **MAHINDRA**

Vehicle Model :- **SCORPIO** Contac :- **9564932617**

Type Of Engine :- **4S** Oil Temperature :- **34**

Type of Vehicle :- **4W** Fuel :- **Diesel**

Owner :- **M S NCC LTD** Result :- **Pass**

Driver :- Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	780	2490	0.04	1.54	34
Avg	796.00	2466.00	0.03	1.45	

Name of Authorise Signatory
with Seal of Testing Center

MIRA SERVICE STATION
Plot No - 2, Block-AH
New Town, Rajarhat
Kolkata-700 156

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. **WB-68P-5741** WB-01-**D 5877305**

Date of issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level	
CO (%)	0.62
HC (ppm)	114
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]*

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

WB-01-**D 5877305**

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Station Code: 00

PUC Number: P000000001697 Vehicle Type: 2 Wheeler

Name: N.C.C. LTD Reg. No.: WB-68P-5741

Address: Reg. Date: Feb-2014

Manufacturer: Hero MotoCorp

Model: Splendor Pro

Test Date/Time: 24-Aug-2019 16:05 Engine Type: 4 Stroke

Catalyst: No Odometer Rdnng: 0

Engine Number: 16522

Chassis Number: 53028

Fuel →	Petrol		Regulation	Measured
	Regulation	Measured		
CO (%):	3.5	0.62		
HC* (ppm):	4500	114		
CO2 (%):		0.47		
O2 (%):		19.92		
NOx (ppm):		0		
RPM:		0		
OT (°C):		0		
AFR:		—		
Lambda:		—		
PEF:		0.501		
CO-Act (%):		8.532		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Emission Test Centre Stamp

ESYS Embo 2310

[Signature]
Authorized Signatory

24/08/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.2: Contractor OHS Policy Statement

<p>NCC LIMITED</p> <p><i>Health, Safety & Environment Policy</i> For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:</p> <ul style="list-style-type: none"> • A proactive, role model HSE at Site. • All Sites related activities and Office Work will result in no one getting injured or made unwell. • Early identification of hazards and risk and the decision or adequate measures. • Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum. • Provide training in HSE knowledge and encourage continuous improvement and development of this. • Continuous monitoring of the HSE performance. • Promote the benefits of a healthy life-style amongst our employees. • Report and investigate accidents and incidents to take lessons and prevents similar events occurring again. • Preserve ecological balance and heritage. 				
Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 39 of 40 Original Issue Date :
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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 40 of 40 Original Issue Date :
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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্টি ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
July 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 15)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 15 JUHNKIA (OHR WORK)

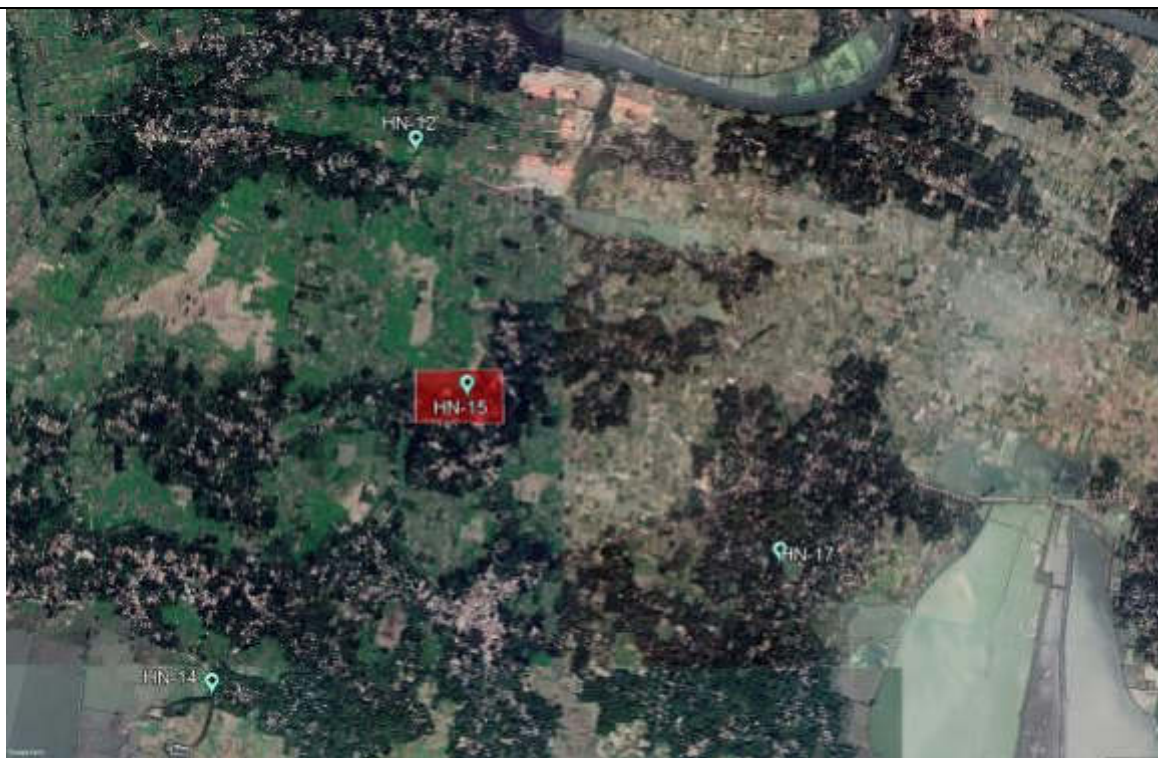
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REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC

West Bengal Drinking Water Sector Improvement Project
North 24 Parganas
WBDWSI Project

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Package Area	Package No : N24P/02A Zone 15 – OHR (Jhinkia) under PIU North 24 Pargana
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	27/06/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 250 KL
Demolition Work	No demolition activity involved
Project Area	Jhinkia village, Bokjuri Gram Panchayet of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design
Gram Panchayet: Bokjuri	
Land Status	Private Land and Transferred
OHR Capacity	250 KL
Location Map	



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Details of contractors on-site-personnel and workers	Zone-15 OHR: Jhinkia village, Bokjuri Gram Panchayet of Haroa Block
Project Manager	Mr. Ramesh Singh: 8170011450
Site Engineer	Mr. Souvik Sarkar:8961348356
Site Supervisor	Mr. Souvik Sarkar:8961348356
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	4 skilled and 0 Semi-skilled
Unskilled workers	8
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-12 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at OHR site of Jhinkia (Ref. Attachment O2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment 07 included with this SEMP 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can	<ul style="list-style-type: none"> Obtain construction materials only from 	<ul style="list-style-type: none"> No involvement of any new borrow area or 	Contractor, PIU	DSISC observation at site and document	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	<p>government approved quarries with prior approval of PIU.</p> <ul style="list-style-type: none"> On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law. 	quarry is anticipated.		checking	
Consents, permits, clearances, no objection certificates (NOC), etc.	Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> Already done land requisition, electric connection, water source etc. Tree felling requirement for this site is not anticipated. Made provision for detailed design drawing and documented all conditions Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and construction resulting in dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the “Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009”: <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. If required, then provide a dust screen/high compound 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. Sprinkling and dust screen arrangement have been made, and will be used when required. Site has been access controlled to prevent trespassing. Stock piles will be maintained in such a way to minimise dust rising. Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		wall around the construction sites (OHR).				
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. Where no local drains are available, a soak pit will be created on-site away from water bodies. 	<ul style="list-style-type: none"> The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided Provision for temporary 	<ul style="list-style-type: none"> No stockpiles have been planned near drainage locations/ nearby water bodies. Storage areas are compacted and made impervious. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated materials expected to be utilized on-site only. No excess spoil anticipated. Surface water 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. • Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. • Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration.	monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE.			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	• For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. • For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue.	• So far no faunal movement has been observed in this site. • Some trees are present near the site however felling of tree is not envisaged at this site.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Noise Levels	Increase in noise level due to earth-moving and	• Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with	• Consultation made with local communities in advance of the work to identify and avoid	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	excavation equipment, and the transportation of equipment, materials by labours	noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; • Horns not to be used unless it is necessary to warn other road users; • Ensure maximum work place noise level exposure not exceeding 85 decibels (dbA); • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted.	working at sensitive times, such as religious and cultural festivals. • Planned activities in consultation with DSISC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance. • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE.			
Landscape and	Construction	• Prepare a construction	• Spoil management	Contractor	PIU through DSISC	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Aesthetics character, and sense of place	wastes as well as excess construction materials may show some impact.	<p>waste management plan for site.</p> <ul style="list-style-type: none"> • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess spoils at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	<p>plan has been developed</p> <ul style="list-style-type: none"> • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these are disposed as per law. 		observation at site and document checking	
Occupational Health and Safety	Occupational hazards which can arise during work	<p>Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use</p>	<ul style="list-style-type: none"> • Based on NCC's OHS Plan, a site specific OHS plan has been developed. • Site OHS plan is attached at Attachment - 04. • All workers have been provided with and made 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; • H&S Training for all site personnel has been arranged and it will be continued; • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Drinking water provided after proper testing. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms			

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment O3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	<ul style="list-style-type: none"> • Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc. 	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc.,</p> <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>contamination and water contamination;</p> <ul style="list-style-type: none"> • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in Attachment O2. 			

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE

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Monitoring Locations on Google Earth



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List of Attachments

Attachment O1: Details of construction Work sites
Attachment O2: Details of construction camp sites
Attachment O3: List of clearances & statutory requirements
Attachment O4: Contractor's OHS Policy & Organization
Attachment O5: Utility shifting/relocation
Attachment O6: Details of Construction Materials
Attachment O7: Spoil Management Plan
Attachment O8: Procedure for on-site Grievance Redressal Mechanism
Attachment O9: Procedure for information disclosure prior to start of works

[Appendix O.1: Site Layout Plan](#)

[Appendix O.A: Labour License](#)

[Appendix O.B: Workman Compensation](#)

[Appendix O.C: PUC Certificates](#)


[Appendix O.2: Contractor's OHS Policy Statement](#)

[Appendix O.3: Sample Grievance Registration Form](#)

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02B_Bhangar II block, _

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Attachment O1: Details of construction Work sites

1. Zone 15: OHR construction Site	
Location- Jhinkia	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos • Steel Cutter – 1Nos • Pile Driving Machine – 0 Nos • DG (Less than 5KVA) – 1Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	 <p>22°36'36\", 88°37'55\", -54.2m 04/17/2019 05:06:23 pm</p>
OHR before Construction	

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Project facilities and preparatory activities at Site



First aid box



Proper electrical connection at OHR Site






Toilet at OHR Site



EHS awareness training of workers

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 15: Jhinkia
Location- Jhinkia, Bokjuri (Latitude: 22°36'36.3, Longitude: 88°37'55.02")	
A	Accommodation – For 12 Nos construction workers No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – Camp at OHR site • Accommodation provided for 12 workers • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original Camp Site Photo	Same as OHR Site
Photos of camp and facilities provided	 
	Labour camp at OHR site
	
Fire extinguisher at OHR labour accommodation area	

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.A]
2	Workmen Compensation	Obtained [Refer Appendix – O.B]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.C]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy	Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
A	List safety risks anticipated in the project Work area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations	-
C	List personal protection equipment provided to workers • Boots- 14 nos. • Gloves- 2 nos. • Helmet- 15 nos. • Safety jacket- 13 nos. • Goggles- 3 nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OSH	Done
	Work permit system	Yes – for work at height
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Yes
2	Contractor emergency procedure	
A	<ul style="list-style-type: none"> In case of accident, first aid treatment to injured labour/person shall be provided. In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. Details of accident shall be reported in accident register and the same shall be informed to client also. 	
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Souvik Sarkar Mob: 8961348356
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487
	Project Manager Representative	Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents <ul style="list-style-type: none"> Details of accidents shall be recorded in accident register. Copy of accident register shall be submitted to client at the end of every month. In case of any major accident client shall be informed immediately. 	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (MT) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	250.47	Nalhati	Yes
2	Sand	130.12	Gopi Ballavpur	Yes
3	Steel (MT)	28.28	Approved supplier	Yes
4	Cement (MT)	86.26	Approved supplier	Yes

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Attachment O7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 15 JHINKIA (OHR WORK)

1	1.07.2019	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIL

Environmental Specialist, DSISC

North 24 Parganas

West Bengal Drinking Water Sector Improvement Project: WBDWSI Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for OHR site (15). For the OHR site we do not anticipate any excess Spoil for disposal as all excavated material will be reused at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design

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engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. **SPOIL VOLUMES AND CHARACTERISTICS:**

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. **SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:**

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. **ON SITE SPOIL MANAGMENT APPROACH:**

In this project, no need of the approach as there is no extra soil for disposal.

9. **SPOIL TRANSPORTATION METHODOLOGY:**

In this project, no need for transport as there is no extra soil for disposal.

10. **MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:**

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Jinkia (Zone 15)

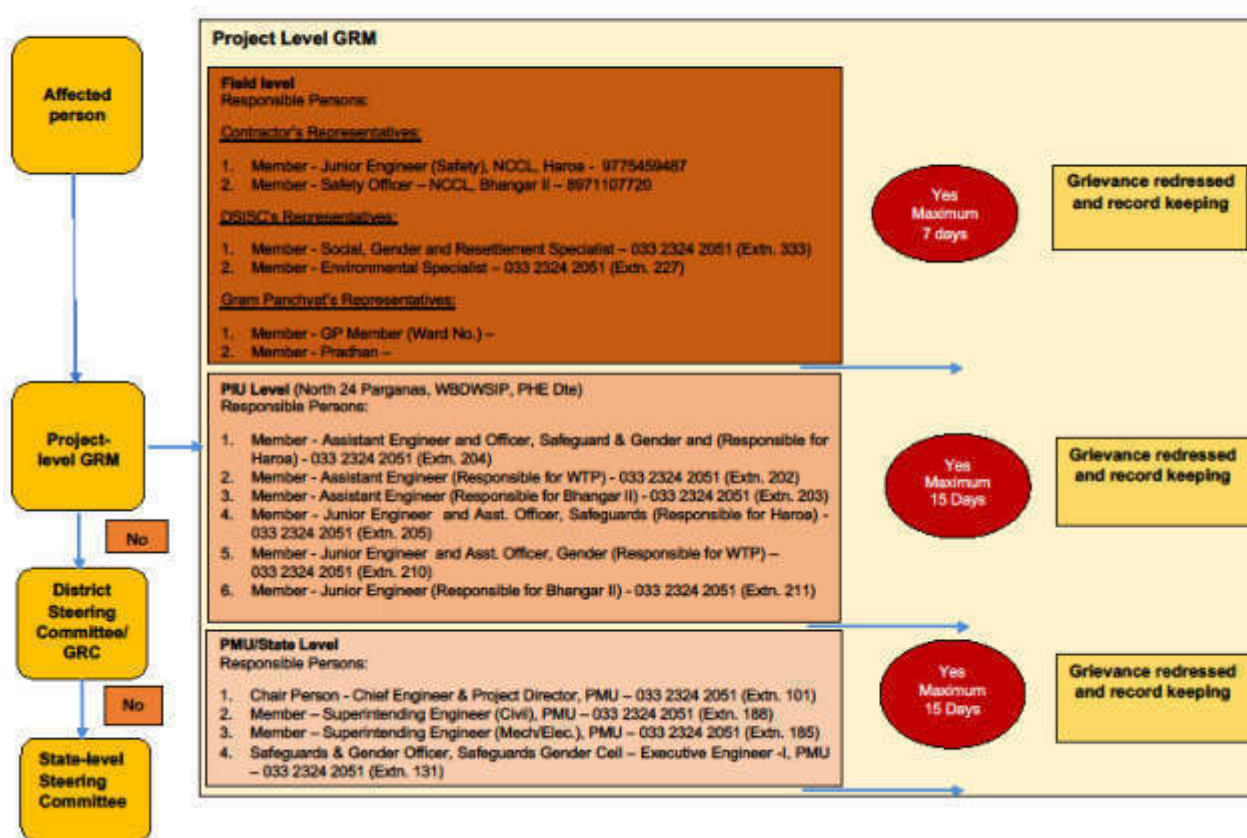
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

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Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism

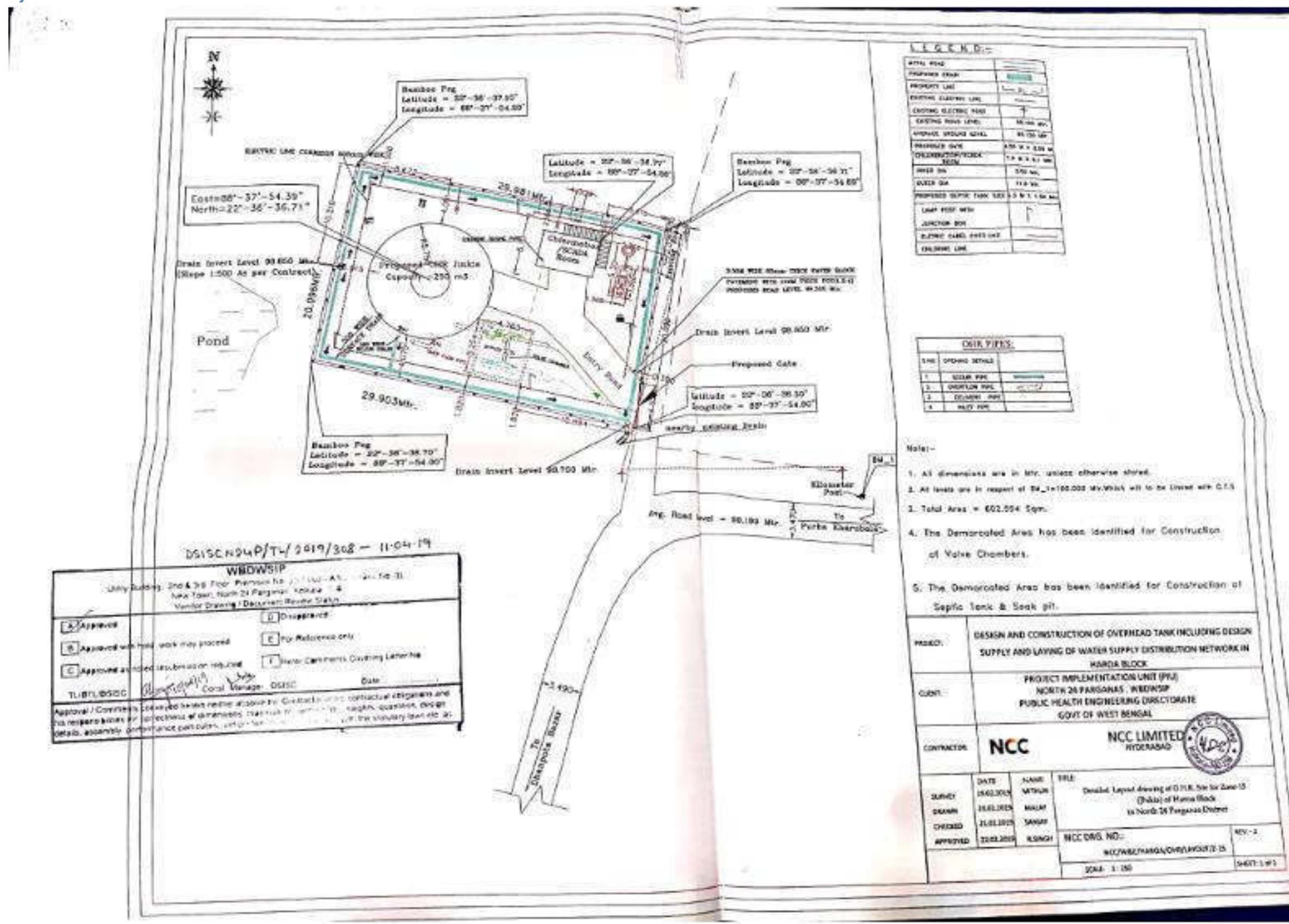


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchyat level and work details including time period is informed.

Appendix O.1: Site Layout Plan



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Appendix O.A: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the condition specified in Annexure.

The License shall remain till: 04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No. RENEWAL-LIC-009311-008372-17200-2019
1. Date of Renewal 02nd Dec, 2019
2. Fees paid for Renewal ₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3. Date of Expiry 04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLR/000088)

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

Licence No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dist. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN: 743425


Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix O.B: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 040-66038600		
Policy No :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C12M	FCI GSTIN Number :	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/her failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings; 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
Receipt No : Z9065378		Date of Issue : 07/02/2019	
Place of Issuance : Mumbai*		*Addresses mentioned below.	
		For Future Generali India Insurance Co. Ltd.	
		 (Authorised Signatory)	
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDANI2P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Senapati Bapat

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Appendix O.C: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** WB-01- **D 4224909**

Date of Issue: **28-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSU)	37.0%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: **WB-01-**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MIL ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010595

Transport Department: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000273** Vehicle Reg No: **WB30W2784**

Name: **NCC LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**

PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2016**

Date: **28-Feb-2019** Speedo mtr Rdg: **61372**

Time: **05:54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **75206**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2100** Emission Norms.: **BS-IV or Onwards**

S.No.	RPM min	RPM max	K m-l	HSU %	OTP C
1	0720	2000	01.12	38.2	026.00
2	0720	1970	01.09	37.5	026.00
3	0720	1820	01.01	35.3	026.00
Mean	0720	1930	01.07	37.0%	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre: *[Signature]* Authorized Signatory: *[Signature]*

INCUS Div. 7.5.0000-3001660
Kolkata
700 156

**NCC
LIMITED**

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Metering Work in Haroa Block**
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-52F-6123** WB-01 **D 5877303**

Date of issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level

CO (%)	0.405
HC (ppm)	41
SO (HSU)	

PUC Certificate issued by:
M/S ZAMAN ENTERPRISE

Signature: *[Signature]* **24/08/19**

License No. and Seal:
94/AETC/2016/PETROL

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

WB-01 **D 5877303**

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS (N)

Label Code: 00 License Number: 94/AETC/2016/PETROL

PUC Number: P000000001696

Name: N.C.C. LTD

Address:

Vehicle Type: 2 Wheeler

Reg. No.: WB-52F-6123

Reg. Date: Aug-2007

Manufacturer: HERO HONDA

Model: CD DELUX

Engine Type: 4 Stroke

Odometer Rdnng: 0

Engine Number: 3413

Chassis Number: 7348

Test Date/Time: 24-Aug-2019 15:30

Catalyst: No

Fuel	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.405		
HC* (ppm)	4500	41		
CO2 (%)		1.45		
O2 (%)		18.54		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		3.274		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPO and NMHC for CMG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Issued Test Centre Stamp

20193 Emission

2319

[Signature]
Authorized Signatory
24/08/19

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Appendix O2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No: NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision on adequate measures.
- Reduction of negative impact on the neighborhood and the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevent similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

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Appendix O.3: Sample Grievance Registration Form

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ	ব্লক-	
		গ্রাম পঞ্চায়েত-	
		গ্রাম সংসদ-	
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম-	পাড়া-	পুরুষ -	
ফোন নং-	ই-মেইল-	মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (x) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (x) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 15 JHINKIA (PIPELINE WORK)

0	01.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer

PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

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Package Area	Package No : N24P/02A Zone 15 – Pipe laying (Jhinkia) under PIU North 24 Pargana
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of particular works commencement	19/06/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 20970m of pipeline as detailed below.
Demolitiuon Work	No demolition activity involved
Project Area	Bokjuri Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1325 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not identified yet.
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Bokjuri

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H15	10243	4662	1565	2146	1154	1158	17	42			20970

Map of Distribution Network

Refer Appendix – P.1

Details of contractors on-site-personnel and workers	Zone 15 – OHR (Jhinkia), Bokjuri Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Singh; 9735756414
Site Supervisor	Mr. Souvik Sarkar; 896134856

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EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	15
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-17 (from neighboring districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation in a Rented house at Majampur Times Club, Majampur (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First, we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	drainage patterns, ponding and water logging, and water pollution.	permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes seen till work period</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust musk while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		control of dust generation.				
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna	Due to the nature and	<ul style="list-style-type: none"> For flora protection, tree 	<ul style="list-style-type: none"> Few trees are present along the 	Contractor	PIU through	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
and Flora	locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	cutting is strictly prohibited; if necessary then obtain permission through proper channel. <ul style="list-style-type: none"> For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. <ul style="list-style-type: none"> So far no faunal movement has been observed in this site. 		DSISC observation at site and document checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>these will be disposed in accordance with Hazardous Wastes Management Rule, 2016.</p> <ul style="list-style-type: none"> As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 				
Occupational Health and Safety	Occupational hazards which can arise during work	<p>Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc.</p> <p>(c) documentation of work related accidents.</p> <p>(d) Providing qualified first aider at all times.</p> <p>(e) Providing to all workers reflective jacket,</p> <p>(f) Marking and providing sign boards for most of hazardous</p>	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	protection, and preventing injuries to fellow workers; <ul style="list-style-type: none"> • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we 	Contractor	PIU through DSISC	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	and water pollution from machine operation and after establishment of habitation	<p>sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km)</p> <ul style="list-style-type: none"> • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed 	<p>discussed with DSISC and within or nearest place has been selected,</p> <ul style="list-style-type: none"> • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in Attachment P2. 		observation at site and document checking	

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> Construct septic tanks and soak pit arrangement for wastewater disposal Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 				
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> Strictly follow the protocol for chance finds in any excavation work; Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> No archaeological chance finds are reported at project sites till date. If there is any such finding, action will be taken up as per requirement. 			

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 53 of 79 Original Issue Date :
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Attachment P1: Details of construction Work sites

1. Zone 15: Pipeline construction Site						
Location- Jhinkia/ Bokjuri						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/ mechanical)
	DI Pipes (59m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	42	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	17	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(20,928 m)					
	200 mm	1158	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	1154	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	2146	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	1565	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	4662	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	10243	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 15
Location- Jhinkia, Bokjuri	
A	<p>Accommodation – For 17 construction workers. No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Rented apartment at Majampur • Accommodation provided for 17 workers • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original camp site photo	Not applicable as existing structure is rented as labour accommodation
Photos of camp and facilities provided	
	Majampur Times Club as labour accommodation

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	Sleeping arrangement at labour camp for pipeline workers	Toilet at labour camp for pipeline workers

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Work area (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List of personal protection equipment provided to workers • Boots- 20 nos. • Gloves-4 no. • Helmet-22 nos. • Safety jacket- 25 nos. • Goggles- 3 nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OSH	Done
	Work permit system	No
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	6000.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 15 JHINKIA (PIPELINE WORK)

0	1.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project, Senior Specialist, DSISC
North 24 Parganas
WBDWSI Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 60 of 79 Original Issue Date :
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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (15).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable their water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and

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backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 6000 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need for transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Jhinkia (Zone 15) for Pipe laying

Sl.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	10243	0.25	1.063	2700.077
2	75	4662	0.25	1.075	1252.912
3	90	1565	0.25	1.09	426.462
4	110	2146	0.25	1.11	595.515
5	140	1154	0.25	1.14	328.89
6	200	1141	0.25	1.2	342.3
7	200(DI)	17	0.3	1.2	6.12
8	250(DI)	42	0.3	1.25	15.75
9	Extra for bend, joints etc				331.974
10	Approx. generated total Spoil at Jhinkia				6000.00

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Attachment P8: Traffic Management Plan

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	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 15 JHINKIA (PIPELINE WORK)

0	1.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WBDSI Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 63 of 79 Original Issue Date :
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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 15 JHINKIA. Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 **Operators/Drivers**

- Only Experienced operators and drivers with valid licensed has been appointed.

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- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

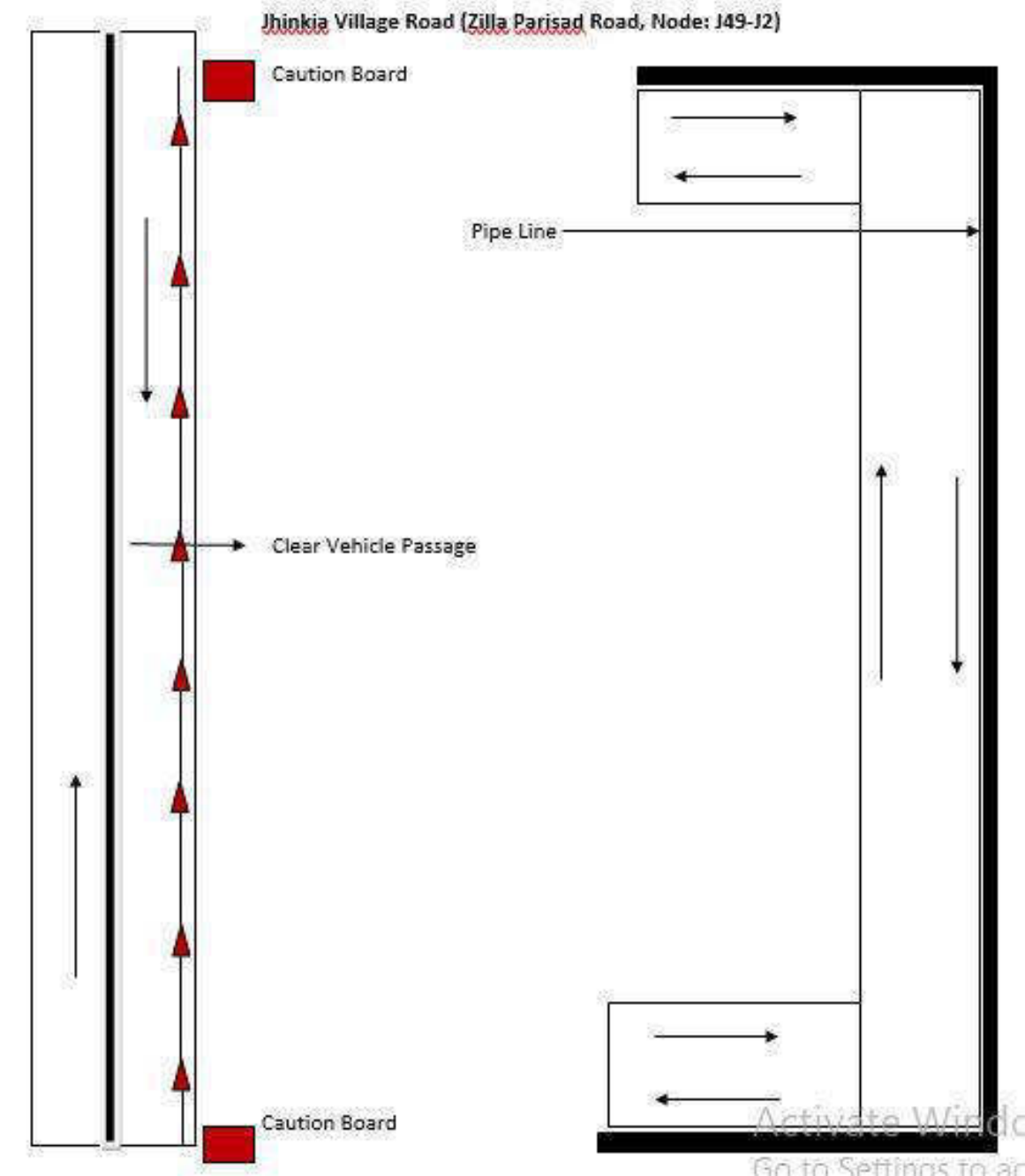
5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

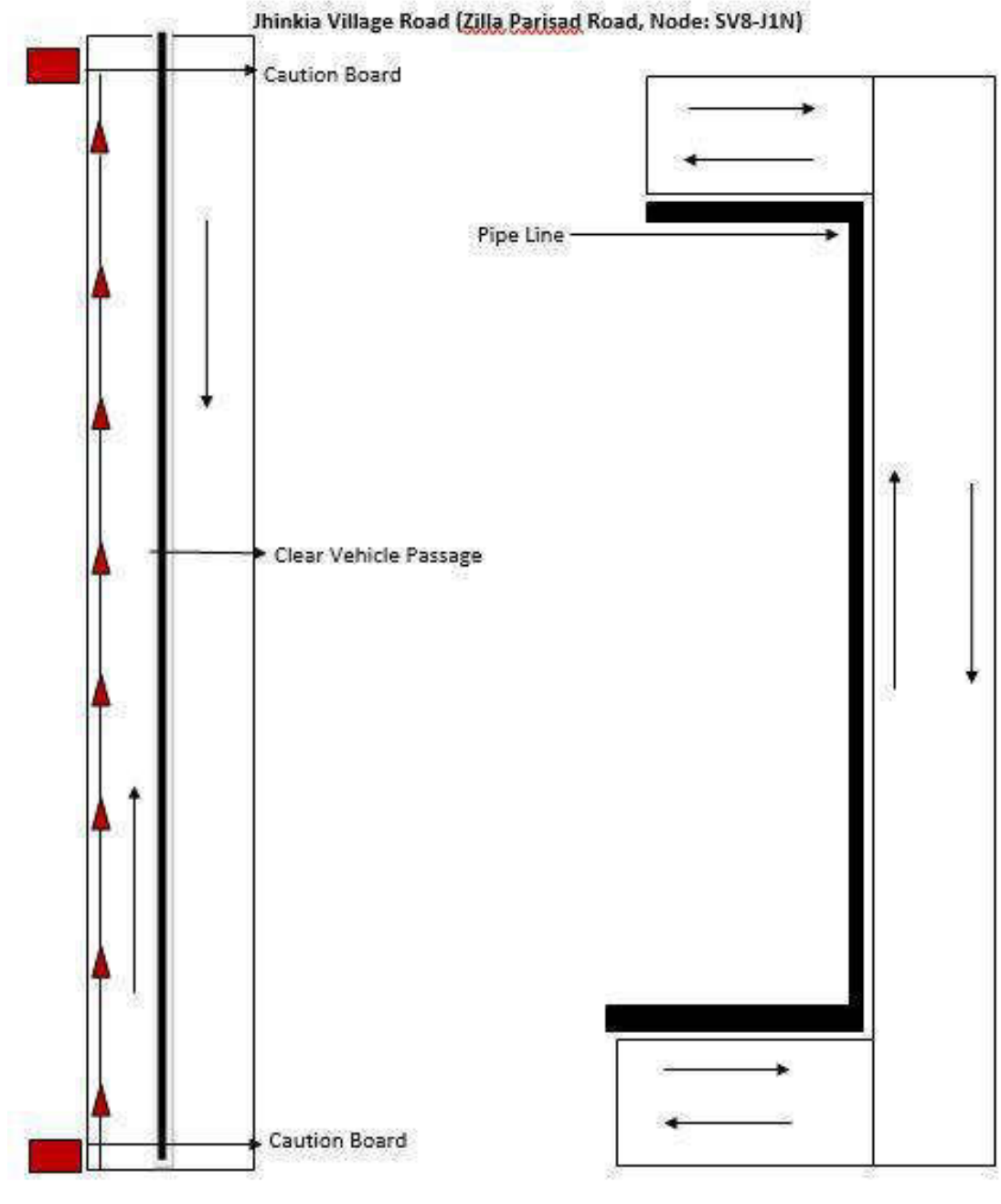
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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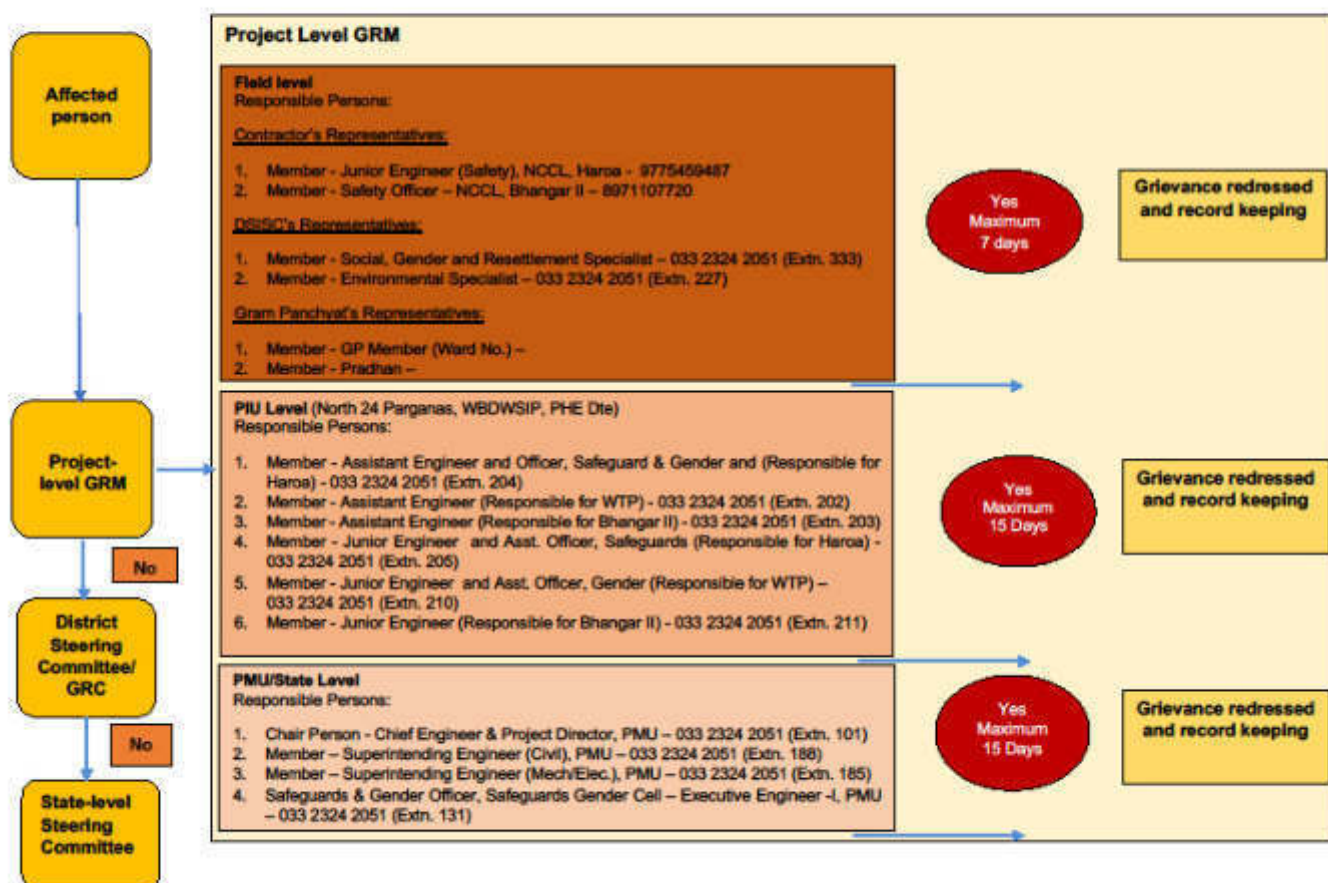


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



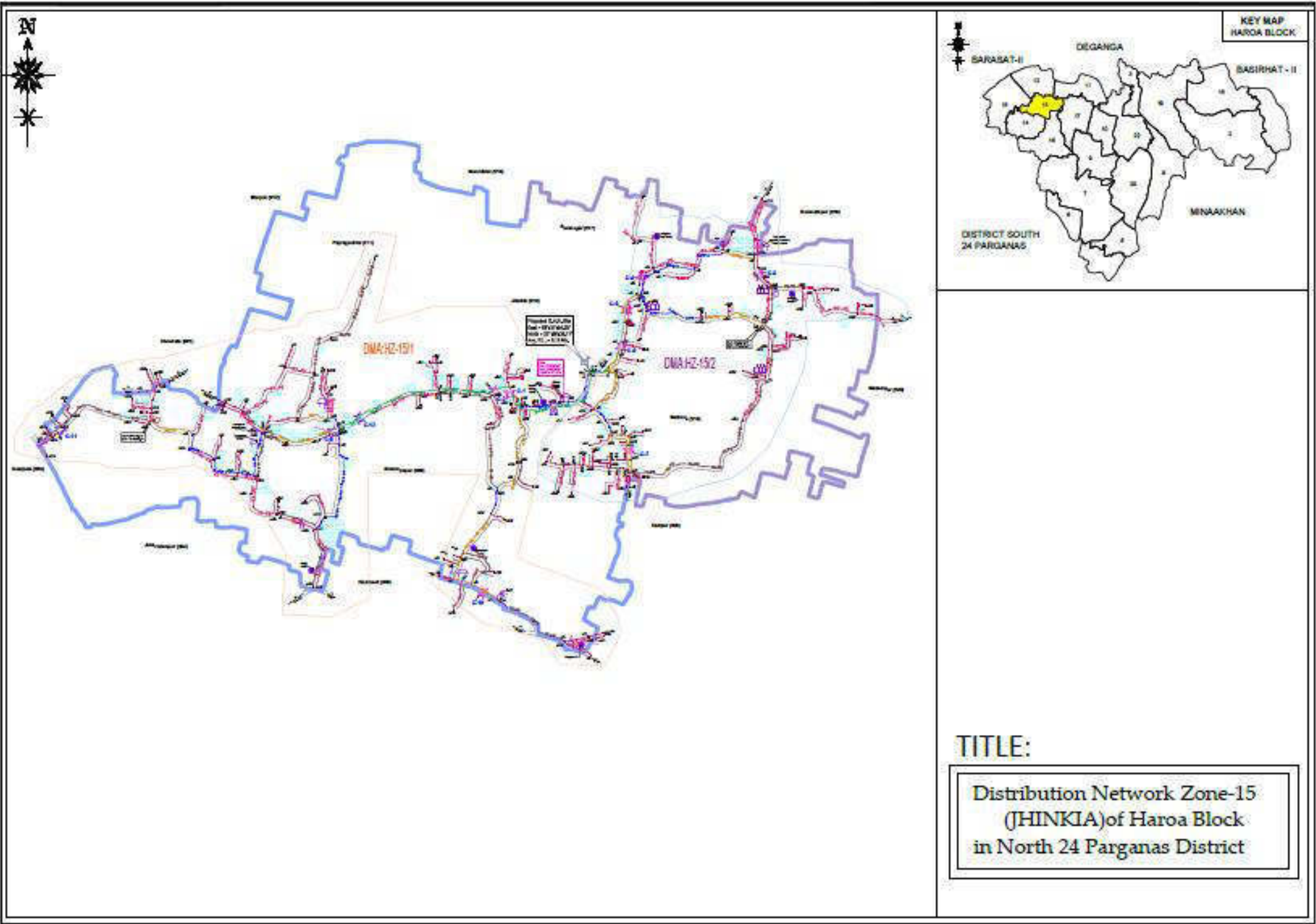
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchyat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



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Appendix P.A: Gram Panchayat and other Authorities Permission

	Government of West Bengal Office of the Assistant Engineer North 24 Parganas W/S Sub Division-I Under North 24 Pgs. W/S Divn.-II, PHH Dte. Utility Building, Tank No. - 3, 2nd Floor, Block-AI Action Area-IA, New Town, Kolkata-700156
---	---

Memo No. _____/SD-I, N-24 PGSD-II, Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Harou Development Block & Harou Panchayet Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Harou Block (Zone-15) Jinkis.

You are well aware that the water supply project under reference is being going on within Harou block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 18.06.2019 in Borjuri & Salipur Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHH Dte.

Memo No. _____/SD-I, N-24 PGSD-II, Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Harou Panchayet Samity.
- 2) The Pradhan, Borjuri / Salipur, Gram Panchayet.
- 3) The Officer in Charge, Harou Police Station.

SD/-
S. BOSE
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHH Dte.

Memo No. 84/1/4/SD-I, N-24 PGSD-II, Dated, New Town, the 11/06/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.H.E., North 24 Parganas, WB/DWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHH Dte.
- 3) Sri-Manab Chakraborty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHH Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WB/DWSIP.

[Handwritten Signature]

DSISC / W/S
Inward No. 1040
RECEIVED
Date 11/06/19 Signature *[Handwritten Signature]*
Time - 3:14 PM

[Handwritten Signature]

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHH Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 70 of 79 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNI, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-15) Jinkia.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 18.06.2019 in Borjuri & Salipur Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. ROSE

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Sarupati, Haroa Panchayat Samity.
- 2) The Executive Officer, Haroa Panchayat Samity.

SD/-
S. ROSE

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 25/8/19 /SD-I, N-24 PGSD-II,

Dated, New Town, the 4/06/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.L.U., North 24 Parganas, WRDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Manab Chakrabarty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WRDWSIP.

DSISC / W/S

Inward No. 1041

RECEIVED

Date 10/41


Signature

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

10/06/19

Time - 3:14 PM

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 71 of 79 Original Issue Date :
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Government of West Bengal
Office of the Executive Engineer
North 24 Parganas W/S Division-II, P.H.E. Dto.
Utility Building, Tank No.3, 2nd Floor, Block-AI, AA-IA, New Town, Kol.-156
Phone No. : (033) 2324-2051, E-mail : ee_n24_div2@wbphed.gov.in

Memo No. N-24 PGSD-II, Dated, New Town, the,

To
The Head Project Implementation Unit,
WHSRDA,
North 24 Parganas.


Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Ilarea Block (Zone-15) Jinkia.

Dear Sir,

This is to inform you that, PHE Dto. has undertaken a water supply project in the month of October'2018 in Harna block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October'2018. Now the entrusted agency will start the laying of distribution network from 18.06.2019 in **Borjuri & Salipur Gram Panchayat** along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.


Encls. : As stated.

Yours faithfully,

Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dto.
Dated, New Town, the,

Memo No. N-24 PGSD-II,

Copy forwarded for information to :-


- 1) The Subhadrpati, North 24 Parganas Zilla Parishad.
- 2) The District Magistrate, North 24 Parganas.
- 3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
- 4) The District Engineer, North 24 Parganas Zilla Parishad.


Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dto.
Dated, New Town, the, 19/06/2019

Memo No. 1079 (4-3) N-24 PGSD-II,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.H.U., North 24 Parganas, WBDWSIP, P.H.E. Dto.
- 2) The Assistant Engineer, Sub Divn.-I under North 24 Pgs. W/S Divn.-II, PHE Dto.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.


Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dto.

Enclosure.


DSISC /

Inward No. 1043

RECEIVED

Date 19/06/19 Signature

Time - 5:32 PM



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 72 of 79 Original Issue Date :
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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the condition specified in Annexure.

The License shall remain till - 04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1. Date of Renewal	02nd Dec, 2019
2. Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3. Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangan-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 73 of 79 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 29(1)]

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin,- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dn. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block-Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 049-6603600			
Policy No : 2019-L0129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521 Telephone (Mob, Off, Home) : 4027822990/09892590738/4027822990 Fax No & Email Id : 02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM PGI GSTIN Number : 36AABCF0191R1ZA		
Address : WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425			
GSTIN Number : 19AAACN7335C1ZM			
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Contractor/Sub-Contractor Name : NCC LTD			
No of Employees	Description of work done by Employees		Declared Wages during the Period of Insurance (₹)
50	Highly Skilled workers		6,642,000.00
50	Skilled workers		6,048,000.00
50	Semi Skilled Workers		5,490,000.00
50	Unskilled Workers		4,986,000.00
Total			23,166,000.00
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy; the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Addresses mentioned below.		 (Authorized Signatory)	
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sempati Bypass,

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-68P-5741** WB-01 **D 5877305**

Date of Issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.62
HC (ppm)	114
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **24/08/19**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Label Code: 00

PUC Number: P000000001697 Vehicle Type: 2 Wheeler

Name: N.C.C. LTD Reg. No.: WB-68P-5741

Address: Reg. Date: Feb-2014

Manufacturer: Hero MotoCorp

Model: Splendor Pro

Test Date/Time: 24-Aug-2019 16:05 Engine Type: 4 Stroke

Catalyst: No Odometer Rding: 0

Engine Number: 16522

Chassis Number: 53028

Fuel →	Petrol		Regulation	Measured
	Regulation	Measured		
CO (%)	3.5	0.62		
HC* (ppm)	4500	114		
CO2 (%)		0.47		
O2 (%)		19.92		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
AFR:		—		
Lambda:		—		
PEF:		0.501		
CO-Act (%)		8.532		

* Read as RHC for LPG and NMHC for CNG

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

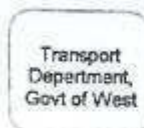
Emission Test Centre Stamp: *[Stamp]* Authorised Signatory: *[Signature]*

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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HC (ppm) SD (HSU) **B9104**

PUC Certificate issued by: License No. and Seal: **Natural World**
 M/S-NATURAL WORLD 19/08/2009
Signature N.H. 34, K.N. Road Back Side
 Berhampore
Licence

Vehicle Pass



POLLUTION UNDER CONTROL CERTIFICATE
 (under the West Bengal Motor Vehicle rule's 1989)

M/S-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Vehicle Reg No:WB 57B-9104

Name : MD CHAND MAHAMMAD SEKH

Category : EARTH MOVING

Address : RANITALA

Make: TEREX EQUIPMENT

MSD

Model: EARTH MOVING

WB

Date of Reg. 2014

Date:17/04/2019

Speedo Mtr Rdg. x

Fuel: Diesel

Engine No : 1420359

Time : 1:29:14 P.M

Chassis No: 409159

iN:	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leE	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Vehicle

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 77 of 79 Original Issue Date :
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Appendix P.2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy
For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:-	Approved by:	Issued by:
--------------	----------	-----------------	--------------	------------

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 78 of 79 Original Issue Date :
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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 79 of 79 Original Issue Date :
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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
September 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 4- Pipeline Laugachi)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/SEMP/01 Revision No. 00 Revision Date : 00 Effective Date :
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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE-4 LAUGACHI (PIPELINE WORK)

9	21.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PHE

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North, 24 Parganas
WBWSI Project

Engineer
WBWSIP, PHE Dist.
PU-1, N-24Pgs.
West Bengal

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date: 00 Page 2 of 44 Original Issue Date :

Package Area	Package No : N24P/02A Zone 4- Pipeline (Laugachi) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of particular works commencement	26/09/19
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 37828m of pipeline as detailed below.
	No demolition activity involved
Project Area	Kulti Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	2123 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Kulti

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H4	16308	8398	5802	2645	1450	3197	8	20			37828

Map of Distribution Network

Refer Appendix – P.1

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Details of contractors on-site-personnel and workers	Zone 4- Pipeline (Laugachi) , Kulti Gram Panchayet of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Saha; 9732756414
Site Supervisor	Mr. Krishnapada Singh; 9735949496
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	1 skilled and 0 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-7 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at rented place, Makhla Bazar (As referred in Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During pipelaying use of Gumboot is a must. To avoid slip, trip and fall, no outsider is allowed within the barrication area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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	in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	documentation on material obtained from each source (quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material Handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		control of dust generation.				
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Biodiversity	Due to the nature	<ul style="list-style-type: none"> For flora protection, tree 	<ul style="list-style-type: none"> Few trees are present along 	Contractor	PIU through	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Fauna and Flora	and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	cutting is strictly prohibited; if necessary then obtain permission through proper channel. <ul style="list-style-type: none"> For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. <ul style="list-style-type: none"> So far no faunal movement has been observed in this site. 		DSISC - observation at site and document checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized 	Contractor	PIU through DSISC - observation at site and document	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
of place		be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. <ul style="list-style-type: none"> As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	for backfilling purpose. <ul style="list-style-type: none"> Excavated earth will be backfilled on the same day. 		checking	
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket,	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		(f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; <ul style="list-style-type: none"> • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures	Training session for all employees has been arranged.	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
tion Training		(SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.				
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		regularly tested <ul style="list-style-type: none"> • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	accommodation is presented in Attachment P2.			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near Zone 02 Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School ,Zone 17,Near Majanpur High School, Zone 21, Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near zone 02, Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School Zone 17,Near Majanpur High School, Zone 21, Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2- year construction period considered)	Pond Water near Nebutola Abada, Zone-3, Pond Water in Paschim in Zone 13	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	• Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


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Attachment P1: Details of construction Work sites

1. Zone 4: Pipeline construction Site																																																																																																	
Location- Laugachi																																																																																																	
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 																																																																																																
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 No ▪ DG (less than 5 kVA) – 1 No ▪ JCB – 1 no 																																																																																																
C	Site office – No																																																																																																
D	Laboratory – No																																																																																																
E	Security cabin – No																																																																																																
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 																																																																																																
D	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below <table border="1"> <thead> <tr> <th>Pipe Diameter (mm)</th><th>Length (m)</th><th>Width of trench (m)</th><th>Depth of Trench (m)</th><th>Width of roads (m)</th><th>Type of roads (earthen / BT / CC)</th><th>Excavation method (manual/mechanical)</th></tr> </thead> <tbody> <tr> <td colspan="7">DI Pipes (28 m)</td></tr> <tr> <td>400 mm</td><td>---</td><td>0.4- 0.8</td><td>1.250</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>350 mm</td><td>---</td><td>0.4- 0.8</td><td>1.140</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>300 mm</td><td>20</td><td>0.4- 0.8</td><td>1.30</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>250 mm</td><td>8</td><td>0.4- 0.8</td><td>1.25</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td colspan="7">Distribution Network— HDPE Pipes (37,800 m)</td></tr> <tr> <td>200 mm</td><td>3197</td><td>0.4- 0.8</td><td>1.20</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>140 mm</td><td>1450</td><td>0.4- 0.8</td><td>1.14</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>110 mm</td><td>2645</td><td>0.4- 0.8</td><td>1.11</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>90 mm</td><td>5802</td><td>0.4- 0.8</td><td>1.09</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>75 mm</td><td>8398</td><td>0.4- 0.8</td><td>1.08</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> <tr> <td>63 mm</td><td>16308</td><td>0.4- 0.8</td><td>1.06</td><td>2.0-6.0</td><td>CC/BT/Earthen</td><td>Manual/Mech</td></tr> </tbody> </table>						Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)	Excavation method (manual/mechanical)	DI Pipes (28 m)							400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen	Manual/Mech	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech	300 mm	20	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech	250 mm	8	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech	Distribution Network— HDPE Pipes (37,800 m)							200 mm	3197	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech	140 mm	1450	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech	110 mm	2645	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech	90 mm	5802	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech	75 mm	8398	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech	63 mm	16308	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech
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300 mm	20	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
250 mm	8	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
Distribution Network— HDPE Pipes (37,800 m)																																																																																																	
200 mm	3197	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
140 mm	1450	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
110 mm	2645	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
90 mm	5802	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
75 mm	8398	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
63 mm	16308	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 4
Location- Laugachi, Kulti near Makhla Bazar (Latitude-22.584607, Longitude-88.563024)	
A	Accommodation – For 7 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – Rented apartment • Accommodation provided for 7 workers • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	
	Labour accommodation

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	Toilet	Kitchen with cooking gas

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 8 nos. • Gloves- 2 nos. • Helmet- 8 nos. • Safety jacket- 8 nos. • Goggles- 2 nos	Yes
	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	10900.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 4 LAUGACHI (PIPELINE WORK)

IS	21.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Services, DSIC
North 24 Parganas
WBDWSI Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date: 00 Page 23 of 44 Original Issue Date :
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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (4). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable their water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 10900 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Laugachi (Zone 4) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	16312	0.25	1.063	4334.914
2	75	8395	0.25	1.075	2256.15625
3	90	5802	0.25	1.09	1581.045
4	110	2646	0.25	1.11	734.265
5	140	1449	0.25	1.14	412.965
6	200	3141	0.25	1.2	942.3
7	200	57	0.3	1.2	20.52
8	250	8	0.3	1.25	3
9	300	20	0.6	1.3	15.6
10	Extra for bend, joints etc				599.2348
11	Approx. generated total Spoil (Soil) at Laugachi				10900

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Attachment P8: Traffic Management Plan

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	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 4 LAUGACHI (PIPELINE WORK)

C	21.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Div.
Govt. Of West Bengal

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 4 LAUGACHI.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 **Operators/Drivers**

- Only Experienced operators and drivers with valid licensed has been appointed.

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- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

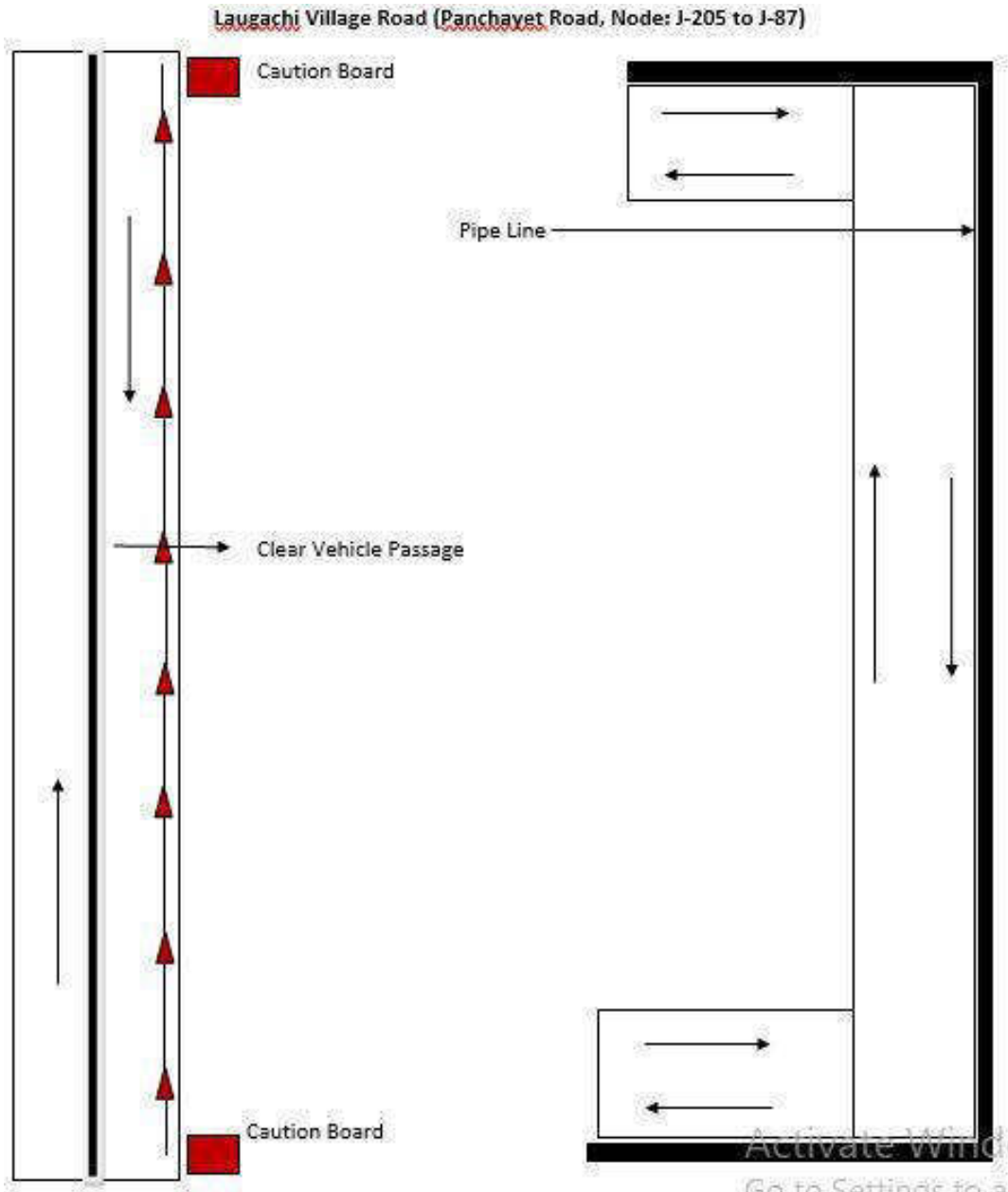
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

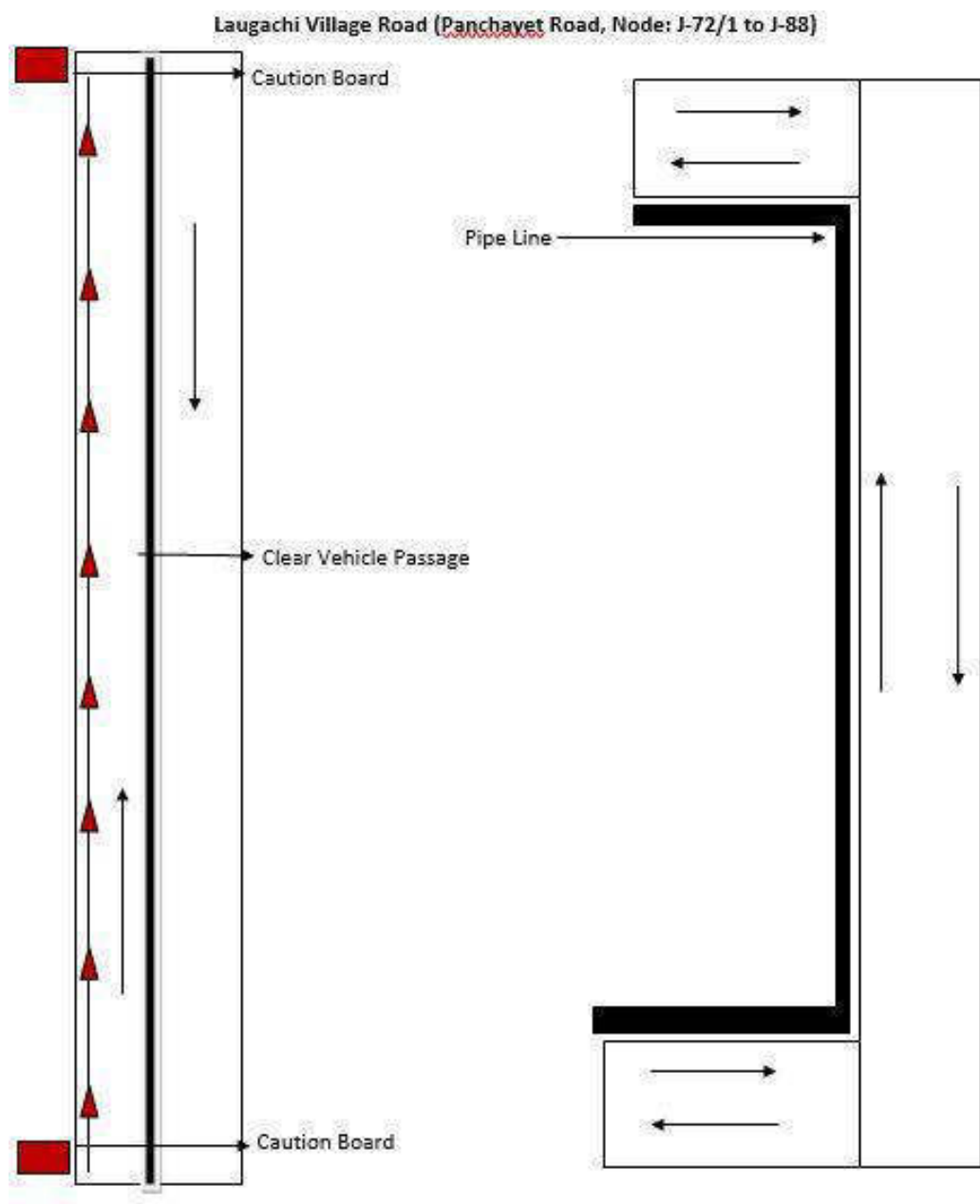
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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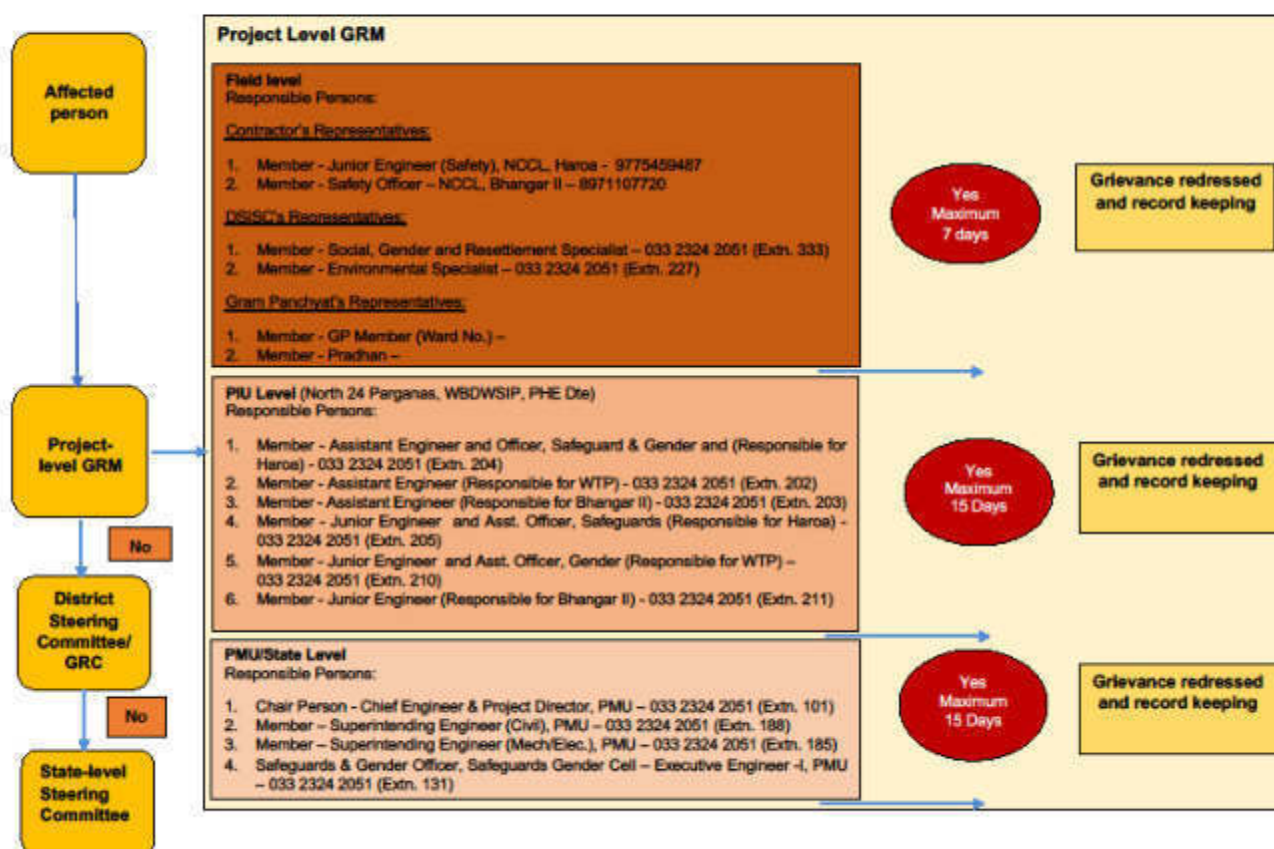


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



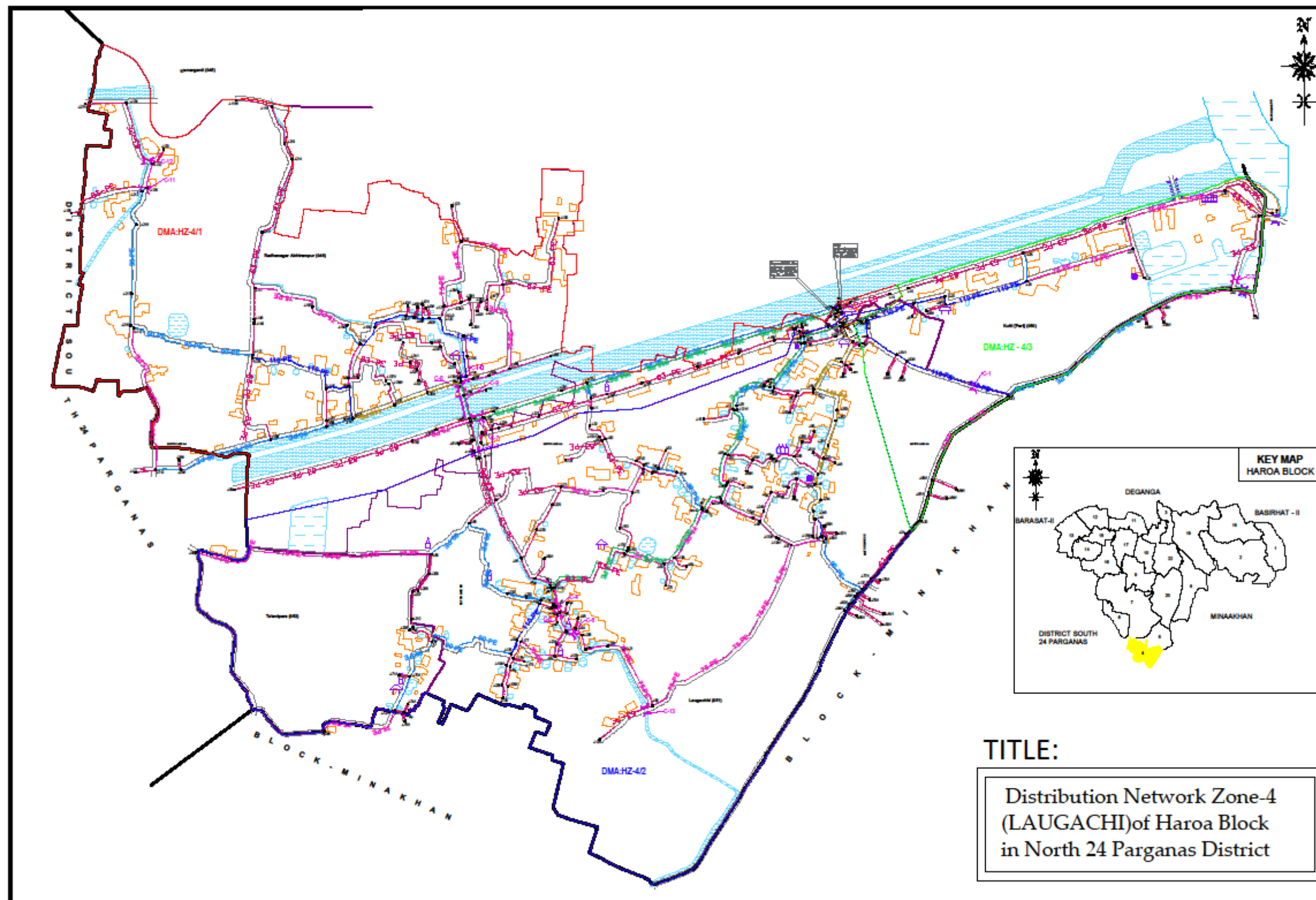
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchyat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



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Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-A1,
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ee.piu24p.adh@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The Executive Engineer,
Barisal Division, WBSRDA
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-04) Laugchil.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October 2018. Now the entrusted agency will start the laying of distribution network from 20.09.2019 in Kultu Gram Panchayat along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Yours faithfully,

Sd/-
Executive Engineer,
PIU, N-24 Pgs, WBDWSIP, PHE Dte.
Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Sahbadhipati, North 24 Parganas Zilla Parishad
2) The District Magistrate, North 24 Parganas
3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
4) The District Engineer, North 24 Parganas Zilla Parishad.

Sd/-
Executive Engineer,
PIU, N-24 Pgs, WBDWSIP, PHE Dte.
Dated, New Town, the, 19/09/2019

Memo No. 734 (4-3) /EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Assistant Engineer, PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Sd/-
Executive Engineer,
PIU, N-24 Pgs, WBDWSIP, PHE Dte.

Inward No. 1828
RECEIVED
Date 19/09/19
Signature
Time - 2:53

File
19/9/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 33 of 44 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piu24p.adb@wbphed.gov.in

Memo No. _____/AB(C)PIU-I/N24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNI, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-04) Laugachi.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 20.09.2019 in **Kulti Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, _____

Memo No. _____/AB(C)PIU-I/N24P,

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samity.
- 2) The Executive Officer, Haroa Panchayet Samity.

SD/-
S. BOSE

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 18/09/19

Memo No. 58/24/AB(C)PIU-I/N24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Manab Chakraborty, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

File
20/09/19
Time - 5:00 PM

RECEIVED
18/09/19
Signature

SD/-
S. BOSE
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

© Government of West Bengal

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 34 of 44 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.plun24p.adb@wbphed.gov.in

Memo No. 57 /AE(C)PIU-I/N24P.

Dated, New Town, the, 18/09/19.

To
The H.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayat Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-04) I. sugachi.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 20.09.2019 in Kulti Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 18/09/19.

Memo No. 57/11-3 /AE(C)PIU-I/N24P.

Copy forwarded for information to :-

- 1) The Sevapsai, Haroa Panchayat Samity.
- 2) The Pradhan, Kulti Gram Panchayat.
- 3) The Officer in Charge, Haroa Police Station.

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 18/09/19.

Memo No. 57/3(1-1) /AE(C)PIU-I/N24P.

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Menab Chakraborty, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISCO-North 24 Parganas, WBDWSIP.

Date 24.9.19 Signature

Time 5:00 PM

Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

OFFICE COPY

Printed and Published by the Director, PHE, Kolkata

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 35 of 44 Original Issue Date :
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Appendix P.B: Labour License

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure:

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 44 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North 24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor, D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038000		
Policy No Insured :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C1ZM	EGI GSTIN Number :	36AABCF019R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name :	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : Z9065378	 (Authorised Signatory)		
Date of Issue : 07/02/2019			
Place of Issuance : Mumbai*			
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/IN : IRDAN132P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sausapalli Bypass,

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Appendix P.D: PUC Certificates


POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)


Vehicle Registr. No. **WB15B2529** WB-01-**D 5678745**

Date of issue: **23-07-2019** Valid upto **22-01-2020**

Pollution Level

CO (%)	
HC (ppm)	
SD (HSU)	55.83

PUC Certificate issued by: 

Signature  32/D

COMPUTERISED EMISSION TEST CERTIFICATE
CMVR AUTHORISED BY : Govt. of we
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number **WB32D3647596** Licence No: **32/D**
Year Of Registration= **2011** Date : **23-07-2019**
vehicle registration no = **WB15B2529** TIME: **05:46:14**
Spedometer Reading[kms] = **2541** Owner: **NABA KUMAR GHOSH /851304**
Engine Number=**28746** Driver:- **SELF**
chasis Number=**B5954** Test Fee : **Rs.100/-**
Vehicle Colour = **OTHERS** Fule : **Diesel**
Vehicle Make : **HMT** Smk cell Temp : **00**
Vehicle Model : **4022** Oil Temp : **93.0**
:Type Of Engine : **OTHERS** Valid Up To : **22-01-2020**
Type Of Vehicle: **OTHERS** Grade : **A**

Test Result : Free Acceleration Validity 6 Months


	ideal Rpm	max Rpm	K Value	Hsu val	Oil Temp
1	860	2900	5.37	90.06	61
2	860	2900	0.17	6.9	68
3	852	2700	0.12	6.9	66
Avg	860	2930	1.9	55.83	

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Date of issue: **14-Sep-2019** Valid upto: **13-Mar-2020**

Pollution Level:

CO (%)	1.745
HC (ppm)	00542
SD (HSU)	00542

PUC Certificate issued by: 

License No. and Seal: **30/NAD/2011**

Signature: 

Vehicle Registration No.: **WB-52H-7637**

TEST REPORT

AUTHORISED BY **TRANSPORT DEPT. GOVT OF W.B.**
CHOWRASTA, NH-34, CHAKDAHA, NADIA

WB-01-D **3044009**

Vehicle Registration No.: WB-52H-7637 Test Fee : 80.00
Year of Registration: 01-02-2010 Fuel : PETROL
S odometer Reading(kms) : * Type Of Vehicle 2W
Engine Number: 33374 Type Of engine 4S
Chasis Number: 02501 Vehicle Make HERO HONDA
vehicle Color: RED Vehicle Model CDDAWN
I.D. Number: WBPP003628
Time : 04:03:26 Driver: SELF
Date : 14-Sep-2019 Owner: NAGARJUNA CONSTRUCTION LTD

Test Result: IDLING

	Regulation(%)	Actual Reading	
		Final	
CO	3.5	01.359	%Vol
HC	4500	00542	PPM
CO2	---	10.32	%Vol
O2	---	02.57	%Vol
NOx	---	---	%Vol
Lambda	---	4.1900	
Oil	---	141	°C
RPM	---	00000	
AFR	---	18.712	
PEF	---	---	
CO(corr.)	---	1.745	%Vol

Certified that this vehicle's CO and HC Emission Level confirm to the standards prescribed under Rule 115(2) of CMV Rules, 1989

Validity : 6 months

Valid UpTo 13-Mar-2020

Grade A

Seal Of Testing

Name of Authorised Signatory With Signature

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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)


Vehicle Registr. No. **PB02BL7373** WB-01-D **5679142**

Date of Issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	
HC (ppm)	
PM ₁₀ (µg/m³)	45.83

PUC Certificate No. **32/D**

Signature 

WB-01-D 5679142

COMPUTERISED EMISSION TEST CERTIFICATE

CMVR AUTHORISED BY : Govt. of we
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPOKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number	WB32D3647572	Liscence No.	32/D
Year Of Registration	2011	Date	16-08-2019
vehicle registration no	= PB02BL7373	TIME	02:47:14
Spedometer Reading(kms)	=21522	Owner	= N C C CO
Engine Number	=9218	Driver	= SELF
chassis Number	=G2011	Test Fee	= Rs. 100/-
Vehicle Colour	= YELLOW	Fule	= Diesel
Vehicle Make	= JCB	Smk cell Temp	= 00
Vehicle Model	= 3DX	Oil Temp	= 93.0
Type Of Engine	= OTHERS	Valid Up To	= 15-02-2020
Type OF Vehicle	= OTHERS	Grade	

Test Result : Free Acceleration Validity 6 Months

	ideal Rpm	max Rpm	K Value	Hsu_val	Oil Temp
1	860	2900	5.37	90.06	61
2	860	2900	0.17	5.9	68
3	852	2700	0.12	6.9	66
Avg	860	2930	1.9	55.83	



Seal Of Testing Center

Certified that this Vehicle's K-Mean and hsu% value conforms to the standards prescribed under rule 113(2) of CMB rules 1989, Operator- MD RAMIZ RANA

JCB

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Appendix P.2: Contractor's OHS Policy Statement

<p>NCC LIMITED</p> <p><i>Health, Safety & Environment Policy</i> For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:</p> <ul style="list-style-type: none"> • A proactive, role model HSE at Site. • All Sites related activities and Office Work will result in no one getting injured or made unwell. • Early identification of hazards and risk and the decision or adequate measures. • Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum. • Provide training in HSE knowledge and encourage continuous improvement and development of this. • Continuous monitoring of the HSE performance. • Promote the benefits of a healthy life-style amongst our employees. • Report and investigate accidents and incidents to take lessons and prevents similar events occurring again. • Preserve ecological balance and heritage. 				
Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ	গ্রক-	
		গ্রাম পঞ্চায়েত-	
		গ্রাম সংসদ-	
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম-	পাড়া-	পুরুষ -	
ফোন নং-	ই-মেইল-	মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

সুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ		
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে -	ই-মেইল-	মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ		
(নাম / পদ)		
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ		
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না		
কিভাবে জানানো হলঃ		

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
September 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 6 Pipeline - Puratan Kamarganti)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

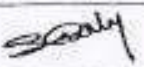
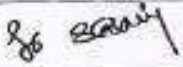

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 6 PURATAN KAMARGANTI (PIPELINE WORK)

0	26.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 41 Original Issue Date :
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Details of contractors on-site-personnel and workers	Zone-6 (Pipeline): Puratan Kamarganti village, Kulti Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Krishnapada Singh; 9735949496
Site Supervisor	Mr. Krishnapada Singh; 9735949496
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	5
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-7 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation is in a rented house near Puratan Kamarganti Bazar (As referred in Attachment P2)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 4 of 41 Original Issue Date :
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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barrication area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	documentation on material obtained from each source (quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ. Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material procurement	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust musk while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	impacts on water resources within the immediate area.		<ul style="list-style-type: none"> Dewatering, if any and hydro test water, will be also discharged to local drains after ensuring no contamination. 			
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Noise Levels	Increase in noise	<ul style="list-style-type: none"> Minimize noise from construction 	<ul style="list-style-type: none"> Consultation made with local 	Contractor	PIU through	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; <ul style="list-style-type: none"> Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. <ul style="list-style-type: none"> Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 		DSISC observation at site and document checking	
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			workers; <ul style="list-style-type: none"> Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		logging etc., <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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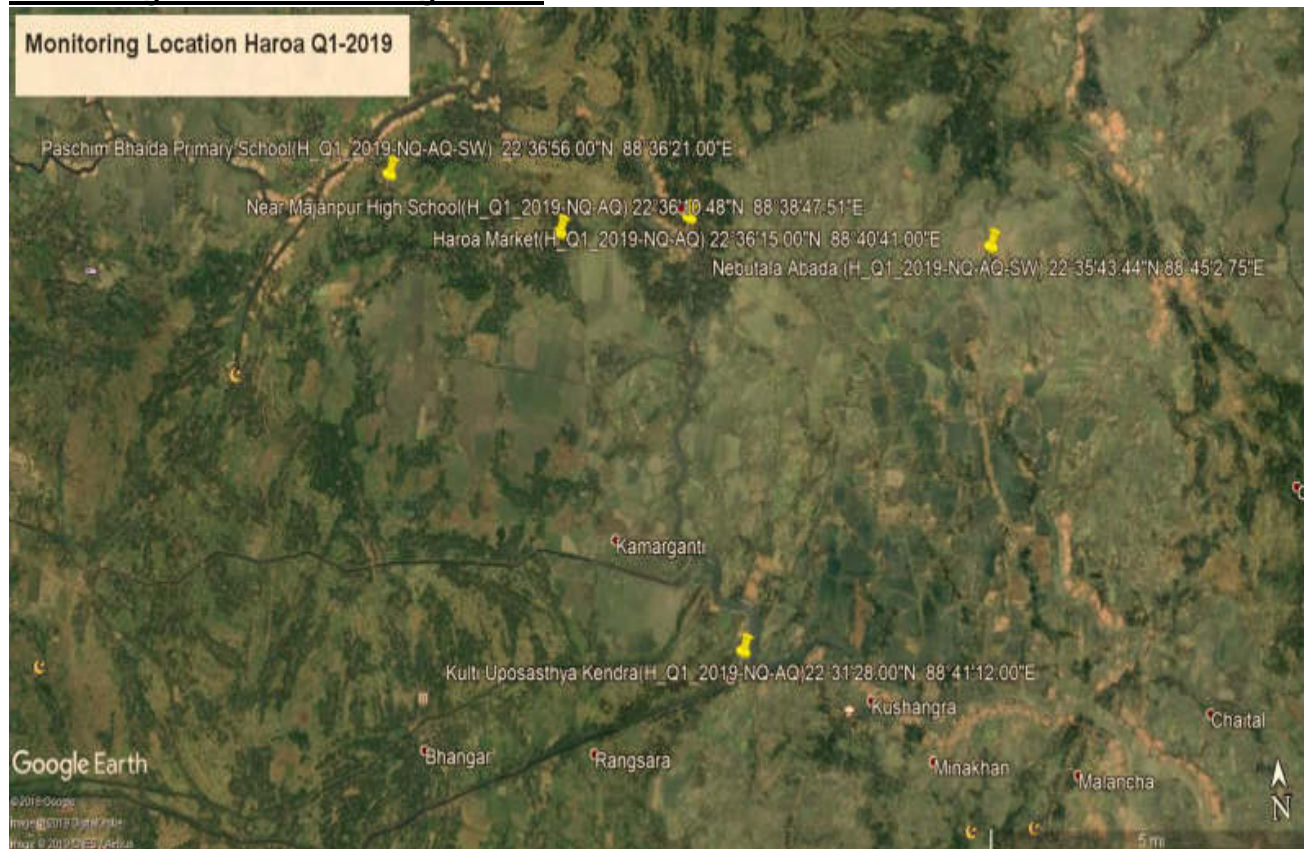
Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near Zone 02 Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School ,Zone 17,Near Majanpur High School, Zone 21, Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near zone 02, Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School Zone 17,Near Majanpur High School, Zone 21, Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Pond Water near Nebutola Abada, Zone-3, Pond Water in Paschim Bhaida in Zone 13	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,




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Attachment P1: Details of construction Work sites

1. Zone 6: Pipeline construction Site						
Location- Puratan Kamarganti						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 No 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/mechanical)
	DI Pipes (20 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	---	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	20	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (27,926 m)					
	200 mm	1041	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	2719	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	1273	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	1888	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	4360	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	16645	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 6	
Location- Puratan Kamarganti, Kulti, Latitude:22°31'50", Longitude: 88°38'43")		
A	Accommodation – For 7 construction workers. No women / families in the camp Facilities provided at Camp Site <ul style="list-style-type: none">• Type of living accommodation – Rented apartment• Accommodation provided for 7 workers• Separate cooking area• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs	Not applicable as rented house is being used as labour accommodation.	
		
		
	Accommodation and Toilet facility for labourer	

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 10 nos. • Gloves-1 no. • Helmet-12 nos. • Safety jacket- 9 nos. • Goggles- 1nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Krishnapada Singh Mob: 9735949496
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	8000.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 6 PURATAN KAMARGANTI (PIPELINE WORK)

0	26.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PHE

Environmental Specialist, DSISC
 West Bengal Drinking Water Sector Improvement Project
 North 24 Parganas
 WBDWSI Project

Assistant Engineer
 PHE
 Govt. Of West Bengal

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 21 of 41 Original Issue Date :
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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (6). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 8000 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Puratan Kamarganti (Zone 6) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	16652	0.25	1.063	4425.269
2	75	4349	0.25	1.075	1168.79375
3	90	1885	0.25	1.09	513.6625
4	110	1280	0.25	1.11	355.2
5	140	2717	0.25	1.14	774.345
6	200	974	0.25	1.2	292.2
7	200	63	0.3	1.2	22.68
8	250	20	0.3	1.25	7.5
10	Extra for bend, joints etc				440.34975
11	Approx. generated total Spoil at Puratan Kamarganti				8000.00

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Attachment P8: Traffic Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ TMP /01
	Traffic Management Plan	Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

**LOCATION: ZONE- 6 PURATAN KAMARGANTI
(PIPELINE WORK)**

0	26.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WBOWSI Project

Assistant Engineer
PIU-4, N-24 Pgs., WBOWSI, PHE Dto.
Govt. Of West Bengal

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 6 PURATAN KAMARGANTI.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

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5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

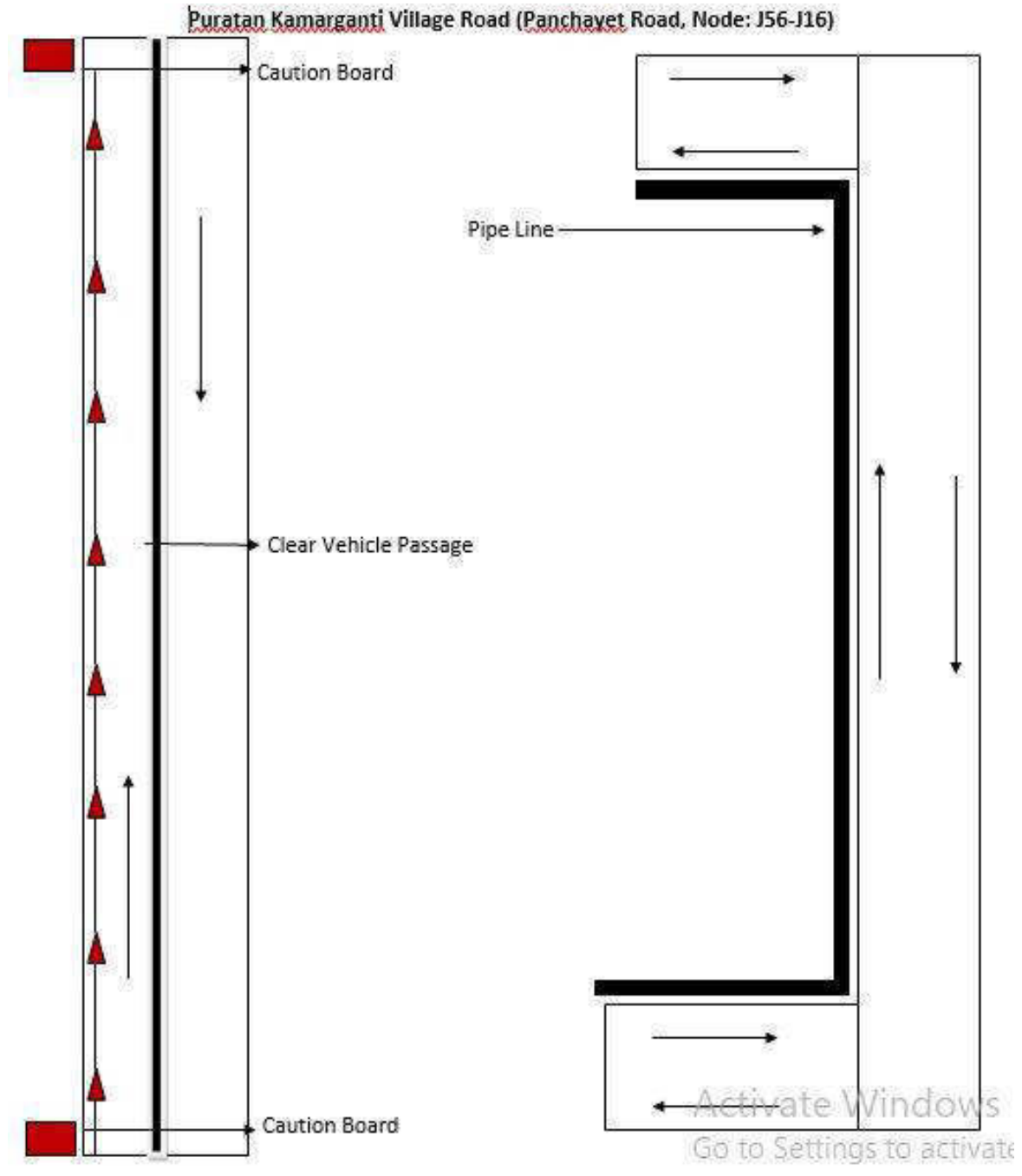
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

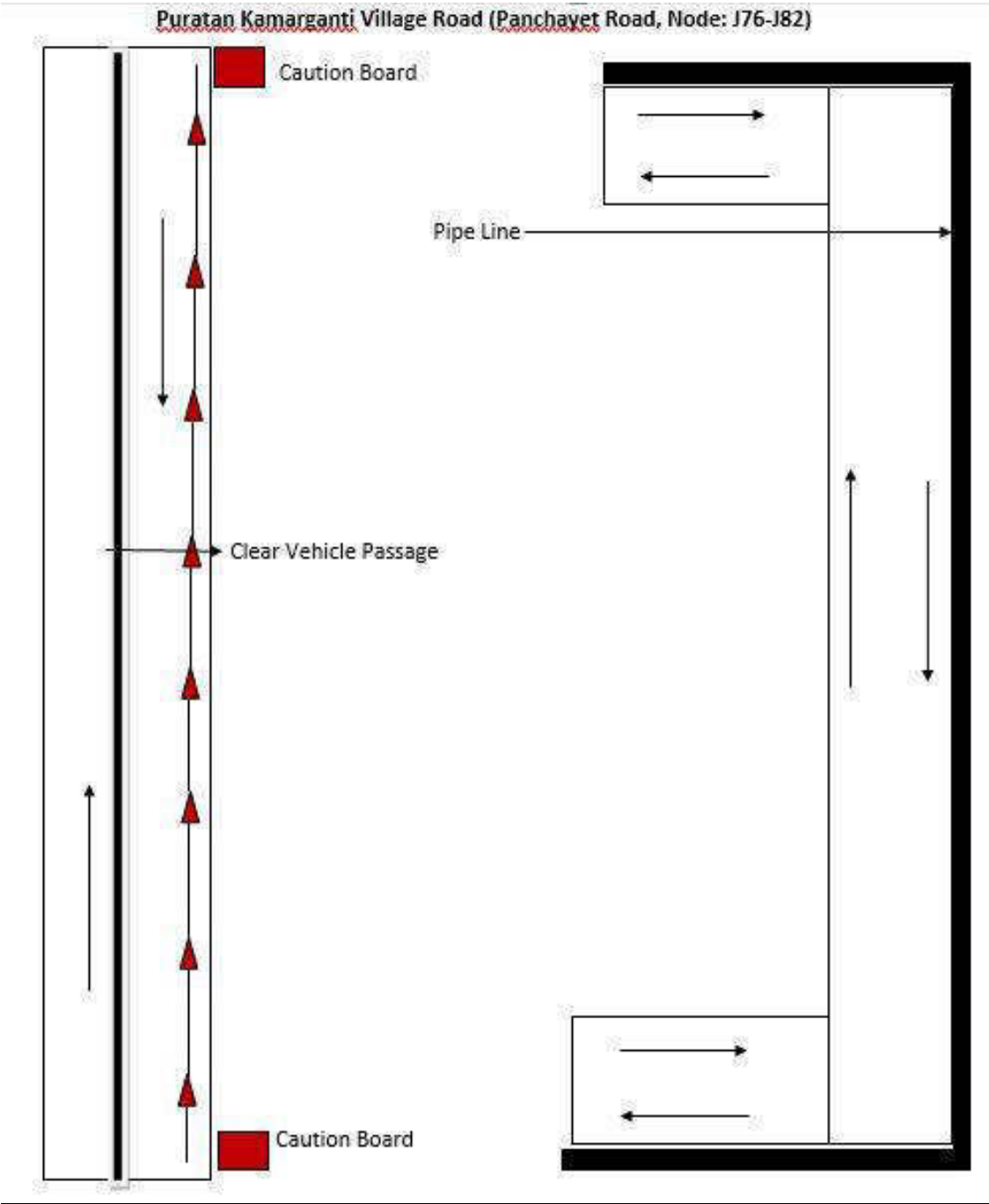
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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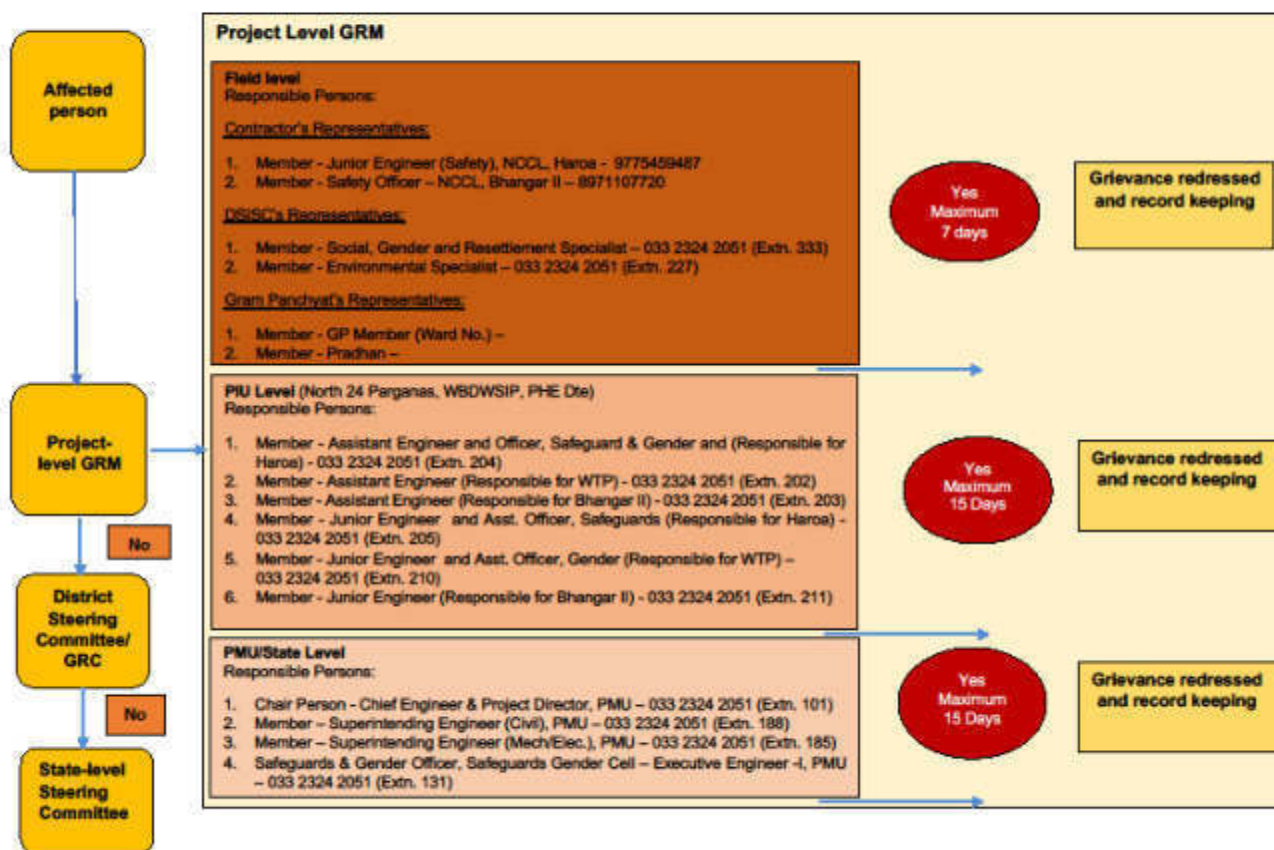


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



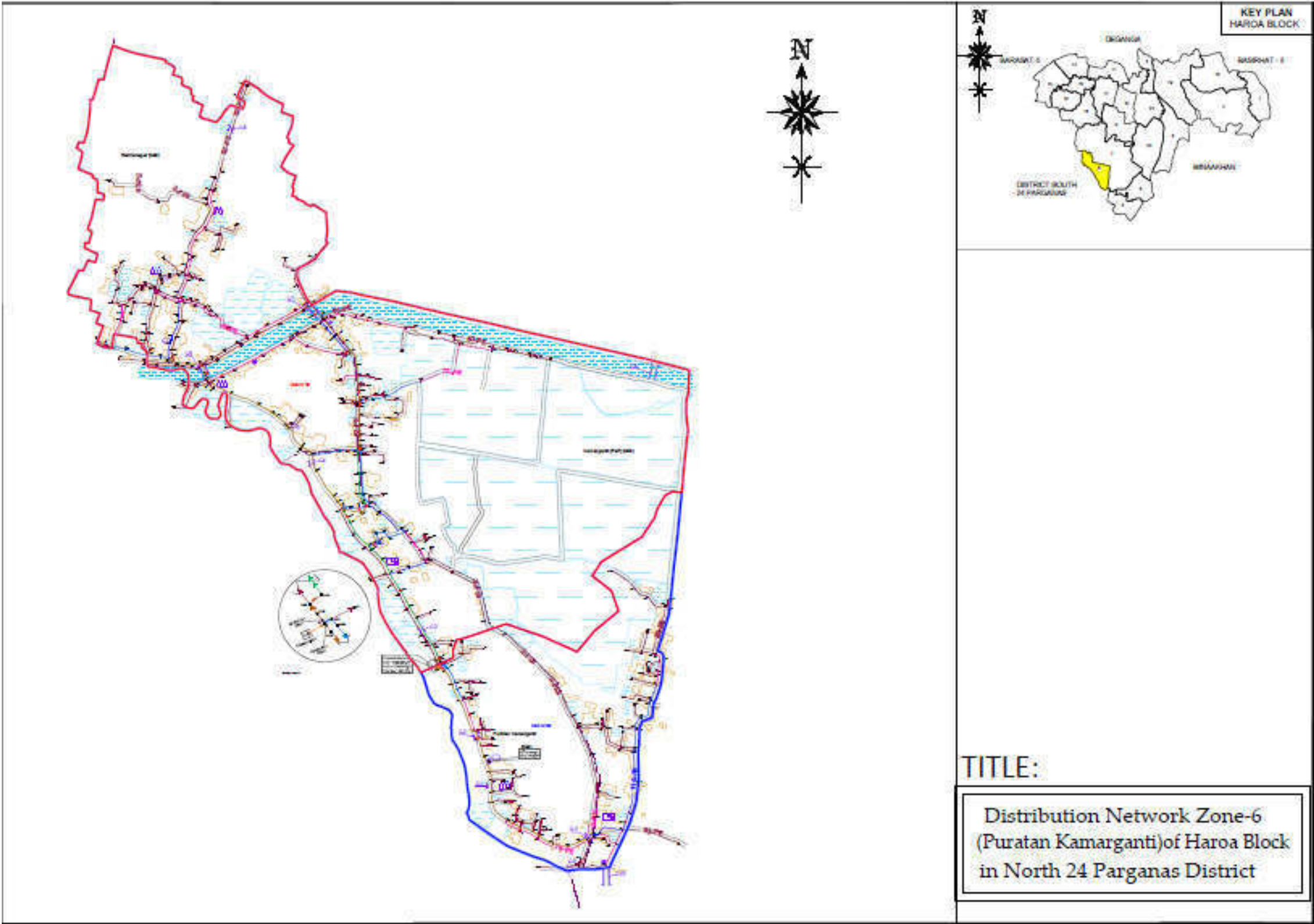
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



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Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-A1,
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ee.piun24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The Executive Engineer,
Basirhat Division, WBSRDA,
North 24 Parganas.


Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-06) Puratan Kamarganti.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October'2018. Now the entrusted agency will start the laying of distribution network from 25.09.2019 in **Kulti Gram Panchayet** along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Yours faithfully,

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Sabhadhipati, North 24 Parganas Zilla Parishad.
- 2) The District Magistrate, North 24 Parganas.
- 3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
- 4) The District Engineer, North 24 Parganas Zilla Parishad.

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 23/09/2019


Memo No. 766 (4-3) /EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer, PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 4) The Project Manager, NCC Ltd., Haroa Project.

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

RECEIVED
Date 24.9.19 Signature 1869

 24/9/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piun24p.adb@wbphed.gov.in

Memo No. _____/AE(C)PIU-I/N24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-06) Puratan Kamarganti.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 25.09.2019 in Kulti Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encl. : As stated.

SD/-
S. BOSE

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/AE(C)PIU-I/N24P,

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samity.
- 2) The Executive Officer, Haroa Panchayet Samity.

SD/-
S. BOSE

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 6242/1 /AE(C)PIU-I/N24P,

Dated, New Town, the, 28/09/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Mansb Chakraborty, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSJSC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Haroa Project.

[Handwritten signature]

Date 24/9/19 Signature [Signature]

Time - 5:00 Pm

[Handwritten signature]
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 32 of 41 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ae3.piun24p.adb@wbphed.gov.in

Memo No. 638 /AE(C)PIU-I/N24P,

Dated, New Town, the, 23/09/19

To
The B.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-06) Puratan Kamarganti.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 25.09.2019 in Kulti Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encl. : As stated.

[Signature]
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 23/09/19

Memo No. 638-5 /AE(C)PIU-I/N24P,

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samity.
- 2) The Pradhan, Kulti Gram Panchayet.
- 3) The Officer in Charge, Haroa Police Station.

[Signature]
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 23/09/19

Memo No. 638-5 /AE(C)PIU-I/N24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Manab Chakraborty, J.E., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Haroa Project.

Date 24/9/19 Signature *[Signature]*

Time - 5:00 PM

OFFICE COPY

[Signature]
Assistant Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 23/09/19

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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER , BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure:

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 23(1)]

Licence No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

*Licensing Officer
Under the Contract Labour(R&A) Act, 1970*

*&
Assistant Labour Commissioner
Basirhat, North 24 Parganas*

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dto. [BST09/CLL/000029]

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-13, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 040-66038600		
Policy No Insured :	2019-L0129168-FWC NCC Limited	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
GSTIN Number :	19AAACN7335C1ZM	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
		FCI GSTIN Number :	36AABCFH91R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	174,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	198,479.00
Risk Details			
Nature of Business :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Location :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Contractor/Sub-Contractor Name :	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important - 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings; 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorized Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address as mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/2179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sagarika Bypass,

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Appendix P.D: PUC Certificates

Vehicle Registr. No. **WB26T5753** WB-01-**D 6148795**
Date of Issue: **04/06/2019** Valid upto **03/12/2019**

Pollution Level
CO (%) **1.45**
HC (ppm) **1.45**
SD (HSU) **1.45**

PUC Certificate issued by: **MIRA SERVICE STATION** License No. and Seal: **0004/AETC/BST/II**
Signature: **[Signature]** New Town, Kolkata-700 156

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
PLOT-2, BLOCK-AH, NEW TOWN, KOLKATA-156

Liscence Number :- **0004/AETC/BST/II**
I.D. Number :- **001400** Date :- **04/06/2019**
Year Of Registration :- **2015** Time :- **4:08:58 PM**
Vehicle Registration Number :- **WB26T5753** Test Fee :- **100**
Speedometer :- **0**
Engine Number :- **E14884**
Chassis Number :- **E37419**
Vehicle Color :- **OTH**
Vehicle Make :- **MAHINDRA**
Vehicle Model :- **SCORPIO** Contact :- **9564932617**
Type Of Engine :- **4S** Oil Temperature :- **34**
Type of Vehicle :- **4W** Fuel :- **Diesel**
Owner :- **M.S NCC LTD** Result :- **Pass**
Driver :- Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	790	2490	0.04	1.54	34
Avg	796.00	2486.00	0.03	1.45	

Name of Authorise Signatory with Seal of Testing Center **MIRA SERVICE STATION**
Plot No - 2, Block-AH
New Town, Ratanpur
Kolkata-700 156

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **JH-10Z-9621** WB-01-D 5877301

Date of Issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level

CO (%)	0.181
HC (ppm)	119
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Emission Code: 00

PUC Number: P000000001694 Vehicle Type: 2 Wheeler

Name: M/S N.C.C. LIMITED Reg. No.: JH-10Z-9621

Address: Reg. Date: Apr-2011

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Test Date/Time: 24-Aug-2019 10:55 Engine Type: 4 Stroke

Catalyst: No Odometer Rdnng: 0

Engine Number: 21561

Chassis Number: 01148

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.181		
HC* (ppm)	4500	119		
CO2 (%)		1.49		
O2 (%)		18.72		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		—		
Lambda		—		
PEP		0.591		
CO-Aet (%)		1.462		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as 190C for LPG and NMHC for CNG

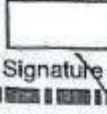
Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

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HC (ppm)
SD (HSU)

B9104

PUC Certificate issued by: M/S-NATURAL WORLD

Signature 

License No. and Seal: **Natural World**
N.H.-34, K.N. Road Back Side
Berhampore
Licence

Vehicle Pass



POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No. : 1B/2008-2009

Test Station Code : 002

PUC No. : WB4685

Vehicle Reg No:WB 57B-9104

Name : MD CHAND MAHAMMAD SEKH

Category : EARTH MOVING

Address : RANITALA

Make: TEREX EQUIPMENT

MSD

Model: EARTH MOVING

WB

Date of Reg. 2014

Date:17/04/2019

Speedo Mtr Rdg: x

Fuel: Diesel

Engine No : 1420359

Time : 1:29:14 P.M

Chassis No: 409159

Inr.	RPM min	RPM max	K m-1	HSU%	QTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

let	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Motor Vehicle

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Appendix P.2: Contractor OHS Policy Statement

NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দ্বারা করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে- ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
July 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 12- OHR Parchandpur)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

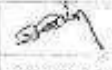
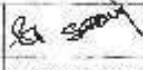


In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 12 PARICHANDPUR (OHR WORK)

D	1.0.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY: DMS	APPROVED BY: PU

Environmental Specialist, LotoC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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Package No,	Package No : N24P/02A Zone 12- OHR (Parchandpur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02B
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	17/07/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 350 KL
Project Area	No demolition activity involved
Gram Panchayets	Parchandpur, Bokjuri Gram Panchayet of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design
Gram Panchayet: Bokjuri	
Land Status	Private Land
OHR Capacity	350 KL
Location Map	



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Details of contractors on-site-personnel and workers	Zone 12- OHR (Parchandpur), Bokjuri Gram Panchayet of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Saha; 9732756414
Site Supervisor	Mr. Souvik Sarkar 8961348356
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-8 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One temporary labor accommodation constructed near the OHR site on a leased land (Ref. Attachment O2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils(Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBS&EDCL, Telecommunication, local administration and police etc. First, we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment 07 included with this SEMP 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	and water logging, and water pollution.	quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates(NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> Already done land requisition, electric connection, water source etc. Tree felling requirement for this site is not anticipated. Made provision for detailed design drawing and documented all conditions Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and construction resulting in dust and increase in concentration of vehicle-related pollutants such as	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the “Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009”: Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. Sprinkling and dust screen arrangement have been made, and will be used when required. Site has been access controlled to prevent trespassing. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	sprinkling of water and stabilization of soil for dust hazards to be carried out on site. • Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. • Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. • If required, then provide a dust screen/high compound wall around the construction sites (OHR).	• Stock piles will be maintained in such a way to minimise dust rising. • Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	• The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. • Where no local drains are available, a soak pit will be created on-site away from water bodies .	• The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. • Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site	Contractor	PIU through DSISC observation at site	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction	• Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors • Fuels and lubricants should be	• No stockpiles have been planned near drainage locations/ nearby water bodies. • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated materials expected to be utilized on-site only. No excess spoil	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	works can contaminate nearby surface water quality.	<p>stored away from drainage and spillage protection should be provided</p> <ul style="list-style-type: none"> • Provision for temporary silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. • Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. • Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration. 	<p>anticipated.</p> <ul style="list-style-type: none"> • Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> • For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. • For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> • So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation	<ul style="list-style-type: none"> • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; 	<ul style="list-style-type: none"> • Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. • Planned activities in consultation with 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	of equipment, materials by labours	<ul style="list-style-type: none"> • Horns not to be used unless it is necessary to warn other road users; • Ensure maximum work place noise level exposure not exceeding 85 decibels (dbA); • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<p>DSISC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.</p> <ul style="list-style-type: none"> • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE. 			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess spoils at the site for long time, if required, 	<ul style="list-style-type: none"> • Spoil management plan has been developed • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these are disposed as per law. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> • Based on NCC's OHS Plan, a site specific OHS plan has been developed. • Site OHS plan is attached at Attachment - O4. • All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; • H&S Training for all site personnel has been arranged and it will be continued; • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Drinking water provided after proper testing. • First Aid box provided at working sites; • Clean eating areas provided to workers; 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			<ul style="list-style-type: none"> Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment O3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	<ul style="list-style-type: none"> Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc. 	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		water logging etc., <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation are presented in Attachment O2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 			

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Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abda, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abda, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment O1: Details of construction Work sites
Attachment O2: Details of construction camp sites
Attachment O3: List of clearances & statutory requirements
Attachment O4: Contractor's OHS Policy & Organization
Attachment O5: Utility shifting/relocation
Attachment O6: Details of Construction Materials
Attachment O7: Spoil Management Plan
Attachment O8: Procedure for on-site Grievance Redressal Mechanism
Attachment O9: Procedure for information disclosure prior to start of works

[Appendix O.1: Site Layout Plan](#)

[Appendix O.A: Labour License](#)

[Appendix O.B: Workman Compensation](#)

[Appendix O.C: PUC Certificates](#)


[Appendix O.2: Contractor's OHS Policy Statement](#)

[Appendix O.3: Sample Grievance Registration Form](#)

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02B_Bhangar II block, _

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Attachment O1: Details of construction Work sites

1. Zone 12: OHR construction Site	
Location- Parchandpur, (Latitude: 22°37'41.16", Longitude: 88°37'46.36")	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos • Pile Driving Machine – 1Nos • DG (Less than 5KVA) – 1Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	
OHR before Construction	

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Project facilities
at Site




Project Information Board



First aid box

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 12, Parchandpur
Location- Parchandpur, Bokjuri GP (Latitude: 22°37'41.16, Longitude: 88°37'46.36")	
A	<p>Accommodation – For 8 Nos construction workers No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Labour accommodation has been arranged in a Camp near OHR site on a leased land • Accommodation provided for 8 workers • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not available
Photos of camp and facilities provided	 <p>Accommodation for labour at zone 12 -OHR</p>

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	Toilet for OHR workers at accommodation camp	

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.A]
2	Workmen Compensation	Obtained [Refer Appendix – O.B]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.C]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy		Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:		Yes [Refer Appendix O2] Yes
A	List safety risks anticipated in the project Work area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations		-
C	List personal protection equipment provided to workers • Boots- 9 nos. • Gloves-2 nos. • Helmet-8 nos. • Safety jacket- 10 nos. • Goggles- 2 nos.		Yes
D	Preventive Measures		
	• Orientation of all workers on OSH		Done
	• Work permit system		Yes – for work at height
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)		Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	• Safety signages		Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)		Yes
2	Contractor emergency procedure		
A	• In case of accident, first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.		
B	Contact information, staff and responsibilities for emergency situations		
	Designation	Staff name & contact	Emergency responsibility
	Site Engineer	Mr. Souvik Sarkar Mob: 8961348356	Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487	EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
	Project Manager Representative	Ramesh Singh Mob: 8170011450	Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.		Yes
D	Mandatory Reporting to Authorities		Yes
E	Prohibited Acts and Penalties for Violations		Yes

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Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (MT) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	392.22	Nalhati	Yes
2	Sand	198.9	Gopi Ballavpur	Yes
3	Steel (MT)	45.2	Approved supplier	Yes
4	Cement (MT)	122.72	Approved supplier	Yes

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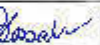
Attachment O7: Spoil Management Plan

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SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 12 PARCHANDPUR (OHR WORK)

1	1.07.2019				
C.V.	DATE	PREPARED BY	CH-CHES BY	APPROVED BY ESISC	APPROVED BY PIU

Environmental Specialist, ESISC

North 24 Parganas

WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for both OHR site in Zone (12). For the OHR site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will be confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

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6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need for transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Parchandpur (Zone 12)

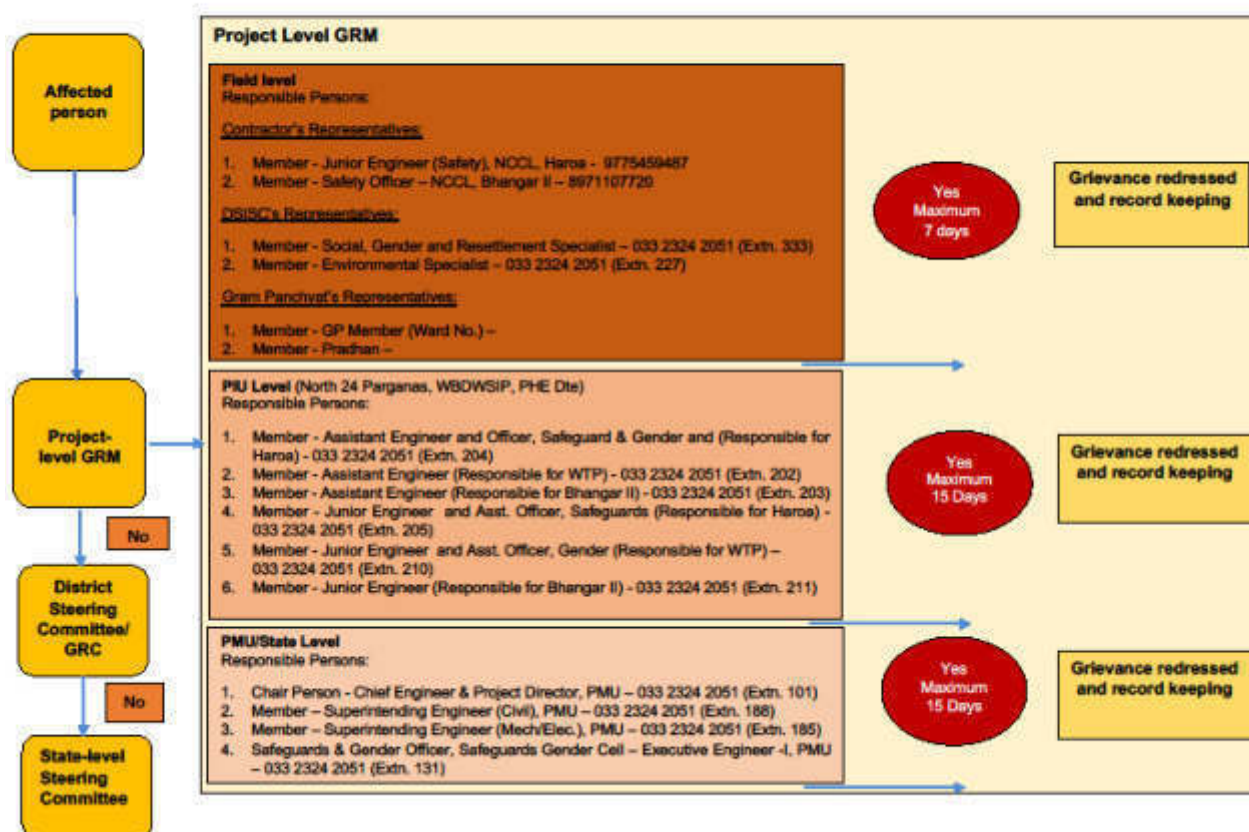
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

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Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed

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Appendix O.A: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI

[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009311-008372-17200-2019

1.Date of Renewal

02nd Dec, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 28 of 78 Original Issue Date :



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLL/000008)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL.: PEARA, PO+PS: HAROA, PIN: 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix O.B: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 040-66038000		
Policy No Insured :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
GSTIN Number :	19AAACN7335C1ZM	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
		FCI GSTIN Number :	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.76
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/her failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorised Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address as mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madhuk - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indira Park Finance Center, Senapati Bapat

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Appendix O.C: PUC Certificates

Vehicle Registr. No. **WB26T5753** WB-01-**D 6148795**
Date of Issue: **04/06/2019** Valid upto **03/12/2019**

Pollution Level
CO (%) **1.45**
HC (ppm) **1.45**
SD (HSU) **1.45**

PUC Certificate issued by: **MIRA SERVICE STATION**
Signature: **Plot No. 2, Block-AH, New Town, Kolkata-700 155**
License No. and Seal: **0004/AETC/BST/II**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
PLOT-2, BLOCK-AH, NEW TOWN, KOLKATA-155

License Number :- **0004/AETC/BST/II**
I.D. Number :- **001408** Date :- **04/06/2019**
Year Of Registration :- **2015** Time :- **4:08:58 PM**
Vehicle Registration Number :- **WB26T5753** Test Fee :- **100**
Speedometer :- **0**
Engine Number :- **E14884**
Chassis Number :- **E37419**
Vehicle Color :- **OTH**
Vehicle Make :- **MAHINDRA**
Vehicle Model :- **SCORPIO** Contact :- **9564932617**
Type Of Engine :- **4S** Oil Temperature :- **34**
Type of Vehicle :- **4W** Fuel :- **Diesel**
Owner :- **M S NCC LTD** Result :- **Pass**
Driver :- Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	790	2490	0.04	1.54	34
Avg	786.00	2486.00	0.03	1.45	

Name of Authorise Signatory with Seal of Testing Center **MIRA SERVICE STATION**
Plot No. 2, Block-AH
New Town, Rajarhat
Kolkata-700 155

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Haroa Block**

Site Specific Environmental Management Plan

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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **JH-10Z-9621** WS-01-D 5877301

Date of issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.161
HC (ppm)	119
SD (Hsu)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
(DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N))

Label Code: 00 License Number: 94/AETC/2016/PETROL Mon Code: 00

PUC Number: P000000001694 Vehicle Type: 2 Wheeler

Name: M/S N.C.C. LIMITED Reg. No.: JH-10Z-9621

Address: Reg. Date: Apr-2011

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Test Date/Time: 24-Aug-2019 10:55 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 21561

Chassis Number: 01148

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.161		
HC* (ppm)	4500	119		
CO2 (%)		1.49		
O2 (%)		18.72		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
A/Fr:		—		
Lambda:		—		
PEP:		0.501		
CD-Act (%)		1.462		

* Read as H/C for LFC and H/H/C for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

Vehicle Registr. No.: **WB30AC7817** WB-01- **D 4261432**

Date of issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	40.5%

PUC Certificate issued by: **MILI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Class: **WB-01-**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010895

Transport Department

Label Code: **WB** Licence No.: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000362** Vehicle Reg No.: **WB30AC7817**

Name: **NCC LTD** Category: **car**

Address: Make: **Mahindra**

Model: **BOLERO**

Date of Reg.: **2019**

Speedo mtr Rdg: **1094**

Mobile: **9735589348** Engine No.: **91913**

Date: **29-Mar-2019** Chassis No.: **10260**

Time: **10:54 AM** Emi Norms.: **BS IV or Onwards**

Fuel: **Diesel** Vehicle Type: **BS4 - 4 Wheeler**

Flushing Cycle Mean: **RPM Min: 0840 RPM Max: 1913**

S.No.	RPM min	RPM max	K m-l	HSU %	OTP C
1	0810	1630	01.20	40.5	041.00
2	0830	1830	01.21	40.6	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
K m-l	1.62 01.20
HSU %	50 40.5

Valid upto: **28-Mar-20**

Grade: **A**

Mean: **0816 1733 01.20 40.5% 041.00** Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorized Signatory: *[Signature]*

INDUS DlxX 2.8.8/0000-0000/4560

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Appendix O.2: Contractor's OHS Policy Statement

NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Appendix O.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে "গোপনীয়" কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দ্বারা করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে- ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 12 PARCHANDPUR (PIPELINE WORK)

0	13.08.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PHE

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Assistant Engineer
PHE D/o, N-24Pgs. WBDWSIP, PHE D/o
Govt. Of West Bengal

West Bengal Drinking Water Sector Improvement Project

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Package No	Package No : N24P/02A Zone 12- Pipeline works (Parchandpur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	23/08/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 27941m of pipeline as detailed below.
Demolition Works	No demolition activity involved
Gram Panchayats	Bokjuri Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1924 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Bokjuri

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H12	16650	3527	2519	2148	1758	1298		41			27941

Map of Distribution Network

Refer Appendix – P.1

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Details of contractors on-site-personnel and workers	Zone 12- Pipeline works (Parchandpur), Bokjuri Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Saha; 9732756414
Site Supervisor	Mr. Souvik Sarkar; 8961348356
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	3 skilled and 0 Semi-skilled
Unskilled workers	9
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-12 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at rented structure at Majampur Times Club, Majampur (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barrication area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns,	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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	ponding and water logging, and water pollution.	(quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	• All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained.	• We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances.	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	• Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground.	Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ. Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material Handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity	Due to the nature	<ul style="list-style-type: none"> For flora protection, tree 	<ul style="list-style-type: none"> Few trees are present 	Contractor	PIU through	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Fauna and Flora	and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	cutting is strictly prohibited; if necessary then obtain permission through proper channel. <ul style="list-style-type: none"> For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. <ul style="list-style-type: none"> So far no faunal movement has been observed in this site. 		DSISC observation at site and document checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and	Construction wastes as well as excess	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer 	Contractor	PIU through DSISC observation	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Aesthetics character, and sense of place	construction materials may show some impact.	<ul style="list-style-type: none"> Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	Attachment P7] <ul style="list-style-type: none"> Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 		at site and document checking	
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		(e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	and it will be continued; <ul style="list-style-type: none"> • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management	Irreversible impact to the environment, workers, and	Project Manager and all key workers will be required to undergo training on EMP	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Plan (EMP) Implementation Training	community	implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.			document checking	
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	household. <ul style="list-style-type: none"> • The details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abda, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abda, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


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Attachment P1: Details of construction Work sites

1. Zone 12 : Pipeline construction Site							
Location- Parchandpur							
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 						
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machine-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 						
C	Site office – No						
D	Laboratory – No						
E	Security cabin – No						
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 						
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below						
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)	Excavation method (manual/ mechanical)
	DI Pipes (41m)						
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen	Manual/Mech
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech
	300 mm	41	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech
	250 mm	---	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech
	Distribution Network— HDPE Pipes(27,900 m)						
	200 mm	1298	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech
	140 mm	1758	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech
	110 mm	2148	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech
	90 mm	2519	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech
	75 mm	3527	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech
	63 mm	16650	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 12	
Location- Majampur Times Club, Majampur,		
A	Accommodation – For 12 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented apartment• Accommodation provided for 12 workers• Separate cooking area• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs	Not applicable as rented house is being used as labour accommodation.	
Camp site with facilities photograph		
	Labor accommodation	



Sleeping area in labour accommodation

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix O.2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 13 nos. • Gloves-6 no. • Helmet-13 nos. • Safety jacket- 13 nos. • Goggles- 6 nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Saha Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	8120.52	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 12 PARCHANDPUR (PIPELINE WORK)

0	13.08.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIC	APPROVED BY PIL

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSIC
March 24, 2019
WBDWSIP-001

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 58 of 78 Original Issue Date :
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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (12).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 8120.52 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Parchandpur (Zone 12) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	16709	0.25	1.063	4440.42
2	75	3547	0.25	1.075	953.25
3	90	2567	0.25	1.09	699.50
4	110	2228	0.25	1.11	618.27
5	140	1753	0.25	1.14	499.60
6	200	675	0.25	1.2	202.5
7	200	625	0.3	1.2	225
8	300	41	0.6	1.3	31.98
9	Extra for bend, joints etc				450
10	Approx. generated total Spoil at Parchandpur				8120.52

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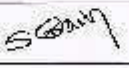
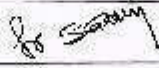


Attachment P8: Traffic Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ TMP /01 Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :
	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 12 PARCHANDPUR (PIPELINE WORK)

0	13.08.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
 North 24 Parganas
 WBDWSI Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 61 of 78 Original Issue Date :
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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 12 PARCHANDPUR.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 General

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 Planning Stage

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 On Site

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.

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- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

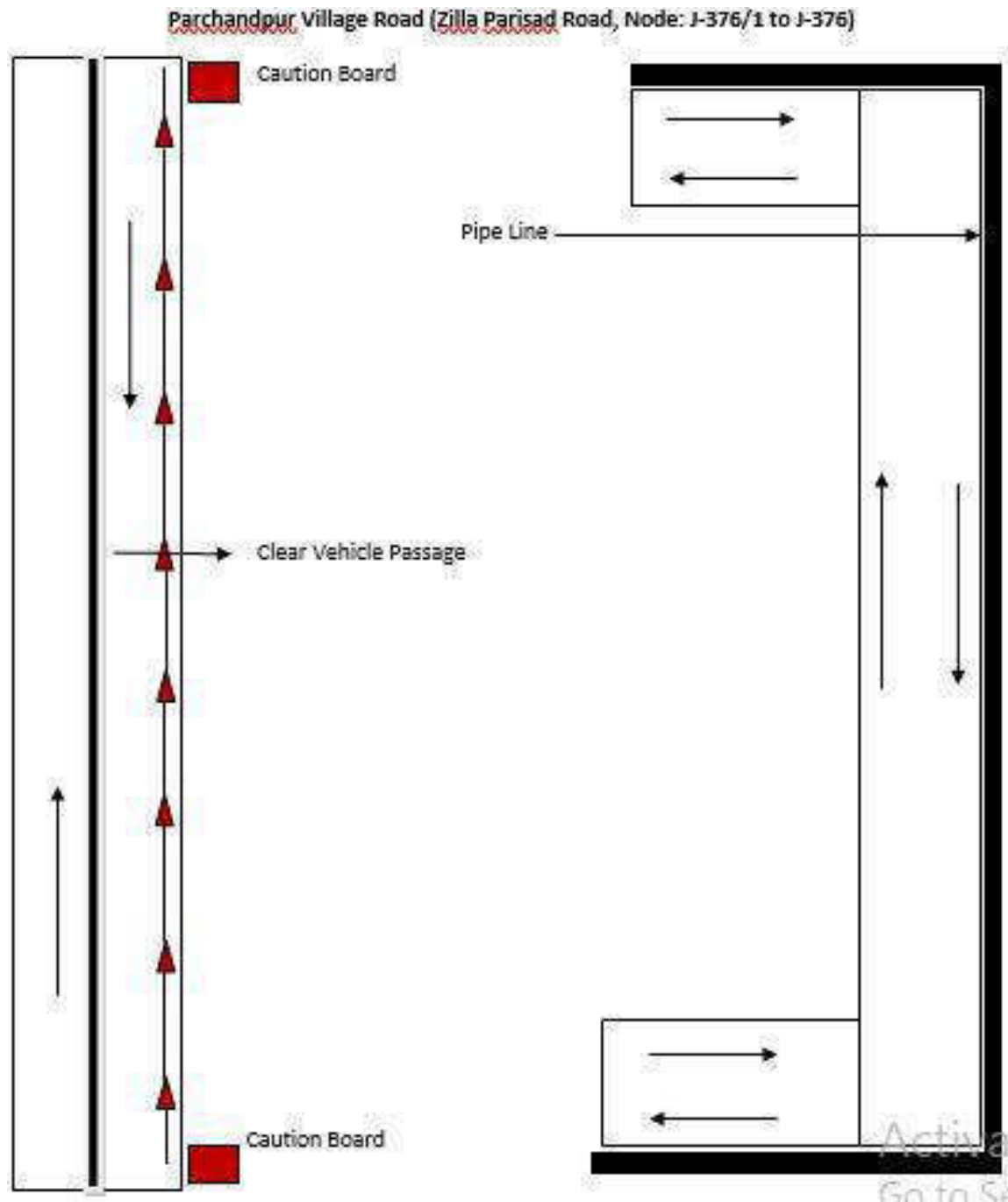
- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

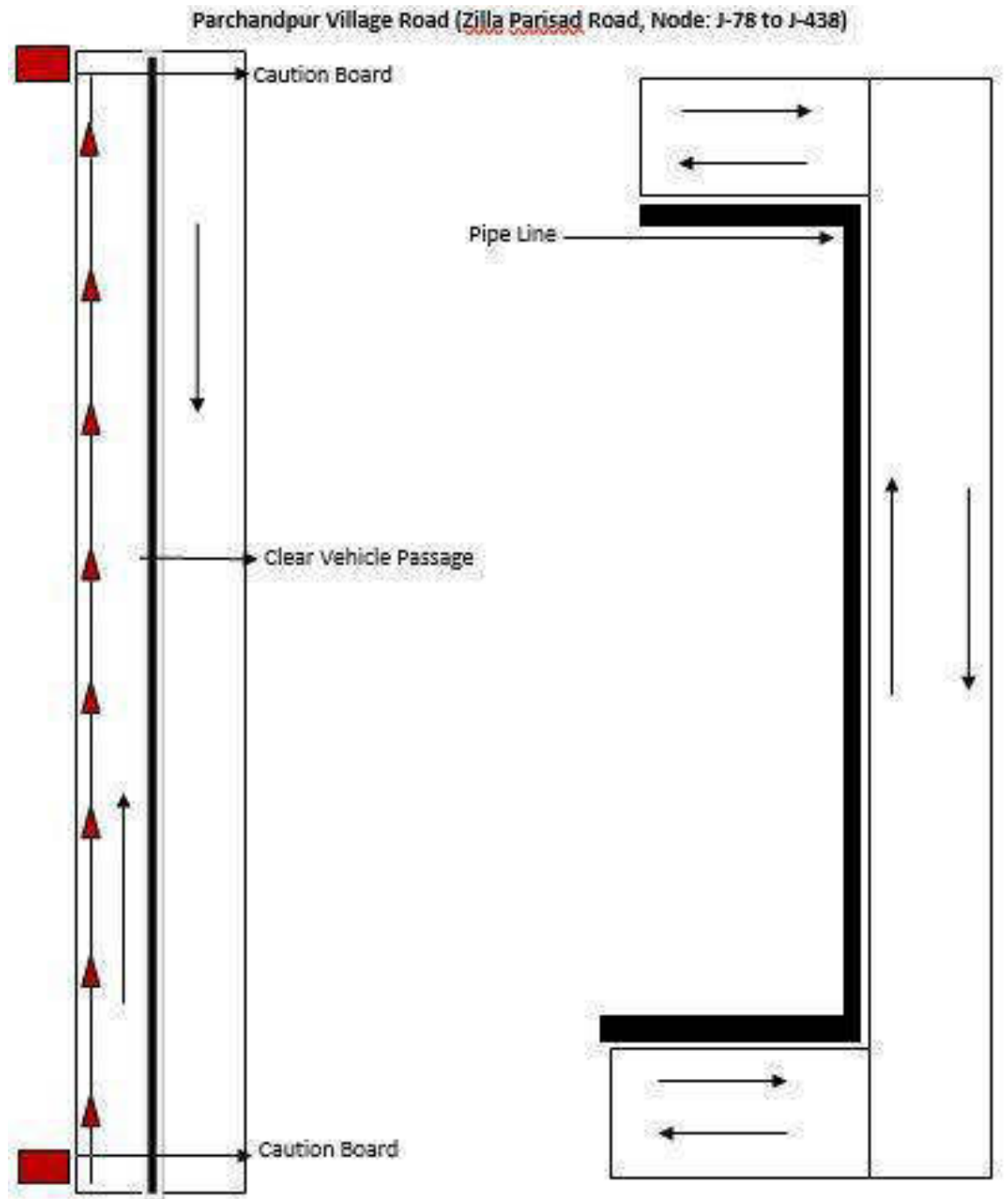
5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.



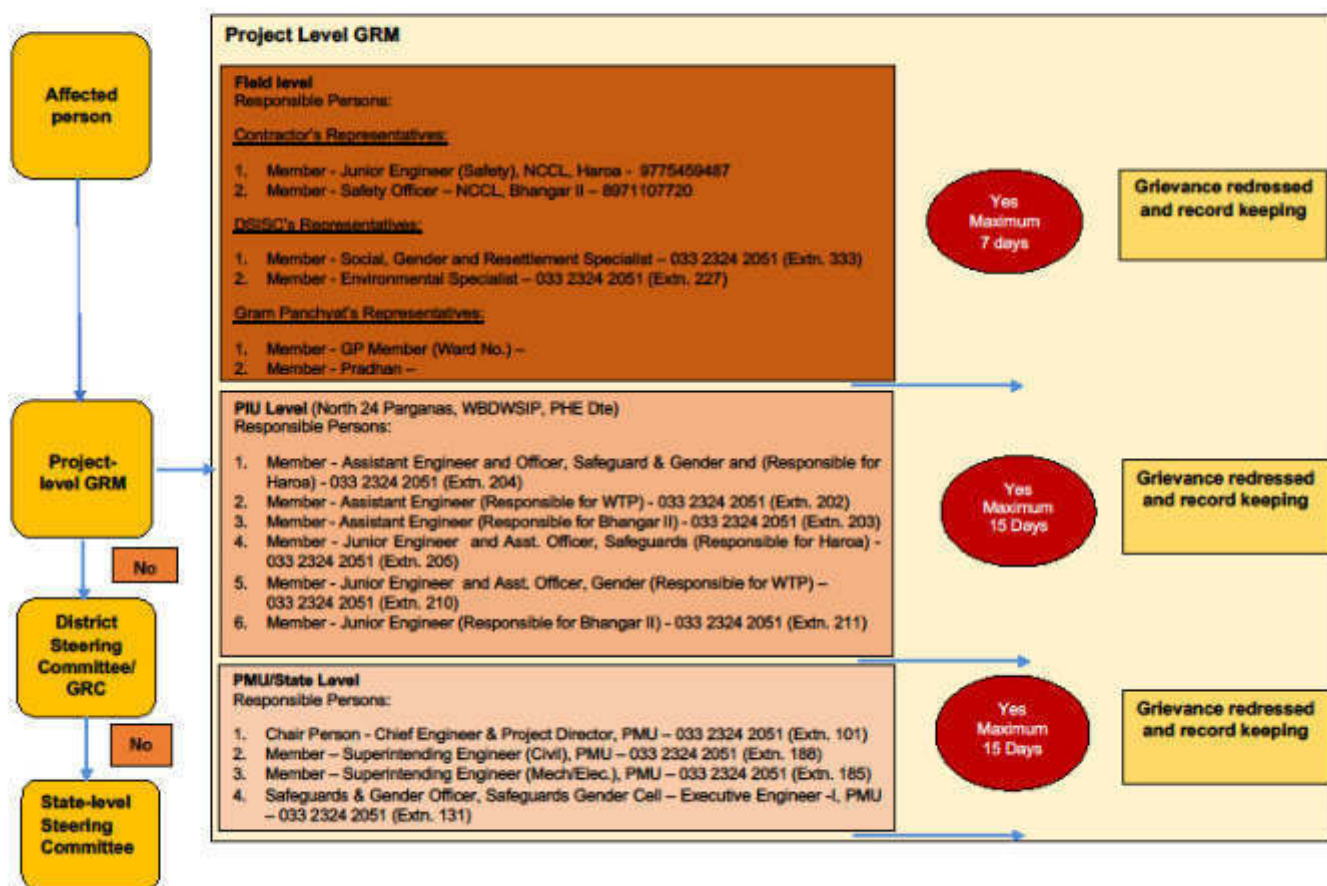


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



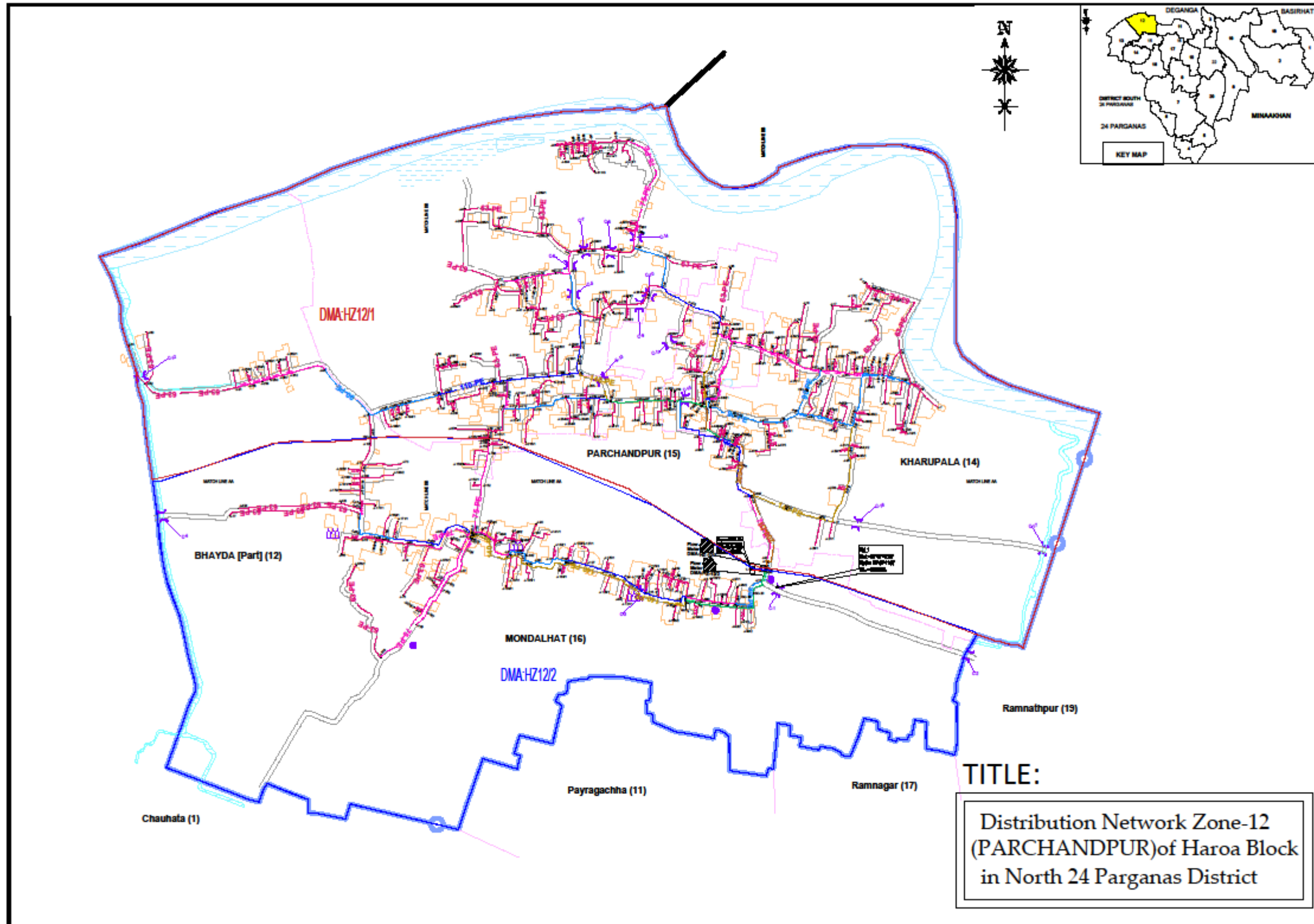
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchyat level and work details including time period is informed.

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Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 67 of 78 Original Issue Date :
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Appendix P.A: Gram Panchayat and other Authorities Permission

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**Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AI,
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ce.piu24p.adh@wbphed.gov.in**

Memo No. _____/EE(C)PIUN24P.

Dated, New Town, the, _____

To
The Head Project Implementation Unit,
WBSPDA,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haraa Block (Zone-12) Panchmulpur.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Haraa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October 2018. Now the entrusted agency will start the laying of distribution network from 07.08.2019 in Beldhari Gram Panchayat along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Yours faithfully,

SJ
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/EE(C)PIUN24P.

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Subdivisional Officer, North 24 Parganas Zilla Parishad.
- 2) The District Magistrate, North 24 Parganas.
- 3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
- 4) The District Engineer, North 24 Parganas Zilla Parishad.

SJ
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 318 (4-3) /EE(C)PIUN24P.

Dated, New Town, the, 05/08/19

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer, PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) The Team Leader, DSIS-C-North 24 Parganas, WBDWSIP.

Smanta
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.



File
Alip
06/08

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009311-008372-17200-2019

1.Date of Renewal

02nd Dec, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLL/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 70 of 78 Original Issue Date :
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dix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 29(1)]

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North 24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-Ia, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 049-6603600			
Policy No	2019-L0129168-FWC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home)	4027822990/09892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN7335C1ZM	PGI GSTIN Number	36AABCF019R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy: the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : Z9065378	Date of Issue : 07/02/2019	Place of Issuance : Mumbai*	
*Addresses mentioned below.		(Authorized Signatory)	
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sempati Bypass,

<p align="center">NCC LIMITED</p>	<p>Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block</p>	<p>Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 73 of 78 Original Issue Date :</p>
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Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** WB-01 **D 4224909**

Date of issue: **28-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSU)	37.00

PUC Certificate issued by: **MILI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: **WB-01-**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010695

Transport Department

Label Code: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000273** Vehicle Reg No: **WB30W2784**

Name: **N C C LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**

PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2016**

Date: **28-Feb-2019** Speedo mtr Rdg: **61372**

Time: **05.54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **75206**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2100** Eml Norms.: **BS-IV or Onwards**

S.No.	RPM min	RPM max	K m-l	HSU %	OTP C
1	0720	2000	01.12	38.2	026.00
2	0720	1970	01.09	37.5	026.00
3	0720	1820	01.01	35.3	026.00
Mean	0720	1930	01.07	37.0%	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre: *[Signature]* Authorised Signatory: *[Signature]*

INDUS D: *[Stamp]* Kolkata 700 156

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**


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HC (ppm)
SD (HSU)

B9104

PUC Certificate issued by:
M/S - NATURAL WORLD

Signature 

License No. and Seal:
Natural World
N.H. 34, K.N. Road Back Side
Berhampore
Licence

Vehicle Pass

Transport
Department,
Govt of West

POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No. : 1B/2008-2009

Test Station Code : 002

PUC No. : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA
MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg. x

Engine No : 1420359

Chassis No: 409159

iNr	RPM min	RPM max	K.m-1	HSU%	QTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leF	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Vehicle

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

Vehicle Regdn. No. **WB-26N-7523** WB-01 **D 5877050**

Date of Issue: **15-Jul-2019** Valid upto: **14-Jan-2020**

Pollution Level

CO (%)	2.782
HC (ppm)	583
SD (HSU)	

PUC Certificate Issued by: **M/S ZAMAN ENTERPRISE**

License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]*

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Pollution Code: 00

PUC Number: P000000001537 Vehicle Type: 2 Wheeler

Name: M/S NCC LTD Reg. No.: WB-26N-7523

Address: Reg. Date: Feb-2010

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Engine Type: 4 Stroke

Test Date/Time: 15-Jul-2019 15:58 Odometer Rdn: 0

Catalyst: No Engine Number: 26526

Chassis Number: 03093

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	2.782		
HC* (ppm)	4500	583		
CO2 (%)		1.92		
O2 (%)		15.26		
NOx (ppm)		0		
RPM:		0		
OT (C)		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Act (%)		8.874		

Test Result: **PASS**

Grade: **3**

Valid Upto: **14-Jan-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.



13579 Emission 23.1.0

[Signature]
15/08/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 76 of 78 Original Issue Date :
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Appendix P.2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood and the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
--------------	----------	----------------	--------------	------------

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রমাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে "গোপনীয়" কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রমাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যাঁ / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
August 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 14 Pipeline - Khalisadi)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

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**NCC
LIMITED**

Design and Construction of
Overhead Reservoir Including
Water Supply Distribution Network
and Metering Work in Haroa Block

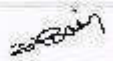


Site Specific Environment
Management Plan

Doc. No. NCC/SEMP/01
Revision No. 00
Revision Date : 00
Effective Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 14 KHALISADI (PIPELINE WORK)

0	19.08.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Package Area	Package No : N24P/02A Zone 14- Pipeline (Khalisadi) under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A										
Contractor	NCC Pvt. Ltd.										
Date of Contract Award	19/09/2018										
Date of works commencement	19/08/2019										
Contract period	Construction: 3 Years; O&M: 2 Years										
SEMP Component	Laying of 25396 m of pipeline as detailed below.										
Demolition work	No demolition activity involved										
Project Area	Salipur Gram Panchayat of Haroa Block										
Project Description	Individual household water supply schemes for the project Gram Panchayats										
Household Connection	1800 (Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not identified yet.										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Salipur											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) *External dia										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H14	10726	6832	3645	2019	1198	960	16				25396
Map of Distribution Network											
Refer Appendix – P.1											

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 44 Original Issue Date :
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Details of contractors on-site-personnel and workers	Zone - 14 (Pipeline) : Khalisadi village, Salipur Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Saha; 9732756414
Site Supervisor	Mr. Markindi Giri; 8597392124
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	1 skilled and 0 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local- Nil / Migrant- 7 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation in, Khalisadi Community Hall on rental (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	logging, and water pollution.	(quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond 	Contractor	PIU through DSISC observation at	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	unlikely to be any significant impacts on water resources within the immediate area.	runoff is achieved.	around the project site. • Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination.		site and document checking	
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> • Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors • Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> • Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. • Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> • For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. • For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> • Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary, trimming allowed. • So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>appropriate; no loose soil, slush, water logging etc.,</p> <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location,</p> <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • Details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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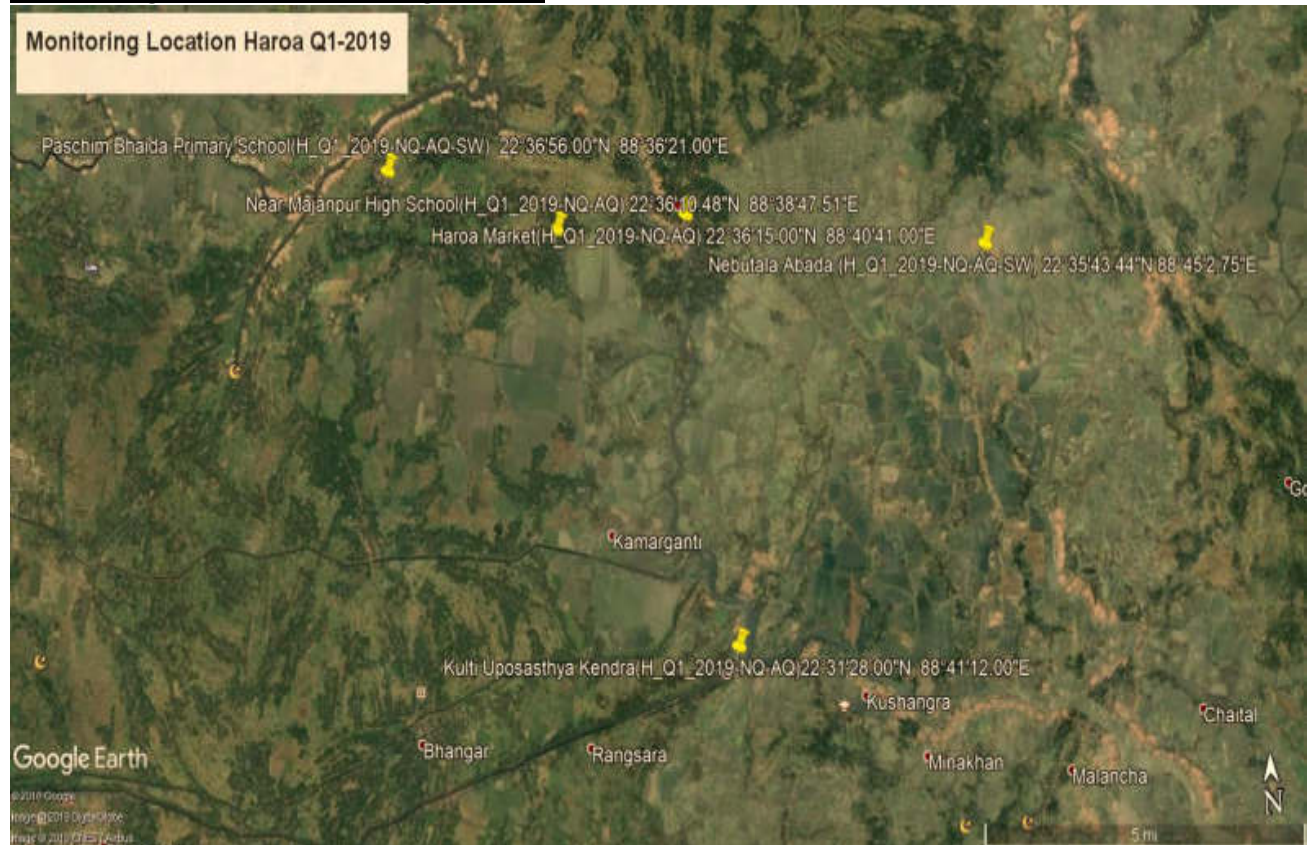
Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2-year construction period considered)	Zone-3 - Pond Water near Nebutala Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,



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Attachment P1: Details of construction Work sites

1. Zone 14: Pipeline construction Site						
Location – Khalisadi						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 No ▪ DG (less than 5 kVA) – 1 No 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/ mechanical)
	DI Pipes (664m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	---	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	16	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (25,380 m)					
	200 mm	960	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	1198	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	2019	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	3645	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	6832	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	10726	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 14
Location- Khalisadi, Salipur GP	
A	Accommodation – For 7 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – Rented Accommodation • Accommodation provided for 7 workers • Cooking gas • Drinking water • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	
	Kitchen in labour accommodation with cooking gas
	
	First-Aid Box

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 15 nos. • Gloves- 2 no. • Helmet - 15 nos. • Safety jacket- 15 nos. • Goggles- 2 nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Saha Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	7500	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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Spoil Management Plan		

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 14 KHALISADI (PIPELINE WORK)

0	19.08.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (14). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.
- WORKER:
- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 7500 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Khalisadi (Zone 14) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	11752	0.25	1.063	3123.094
2	75	6747	0.25	1.075	1813.256
3	90	4006	0.25	1.09	1091.635
4	110	1804	0.25	1.11	500.61
5	140	1200	0.25	1.14	360.00
6	200	816	0.25	1.2	244.8
7	200	13	0.3	1.2	4.68
8	250	78	0.3	1.3	30.42
9	Extra for bend, joints etc				331.505
10	Approx. generated total Spoil at Khalisadi				7500.00

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 14 KHALISADI.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 General

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 Planning Stage

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 On Site

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.

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- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

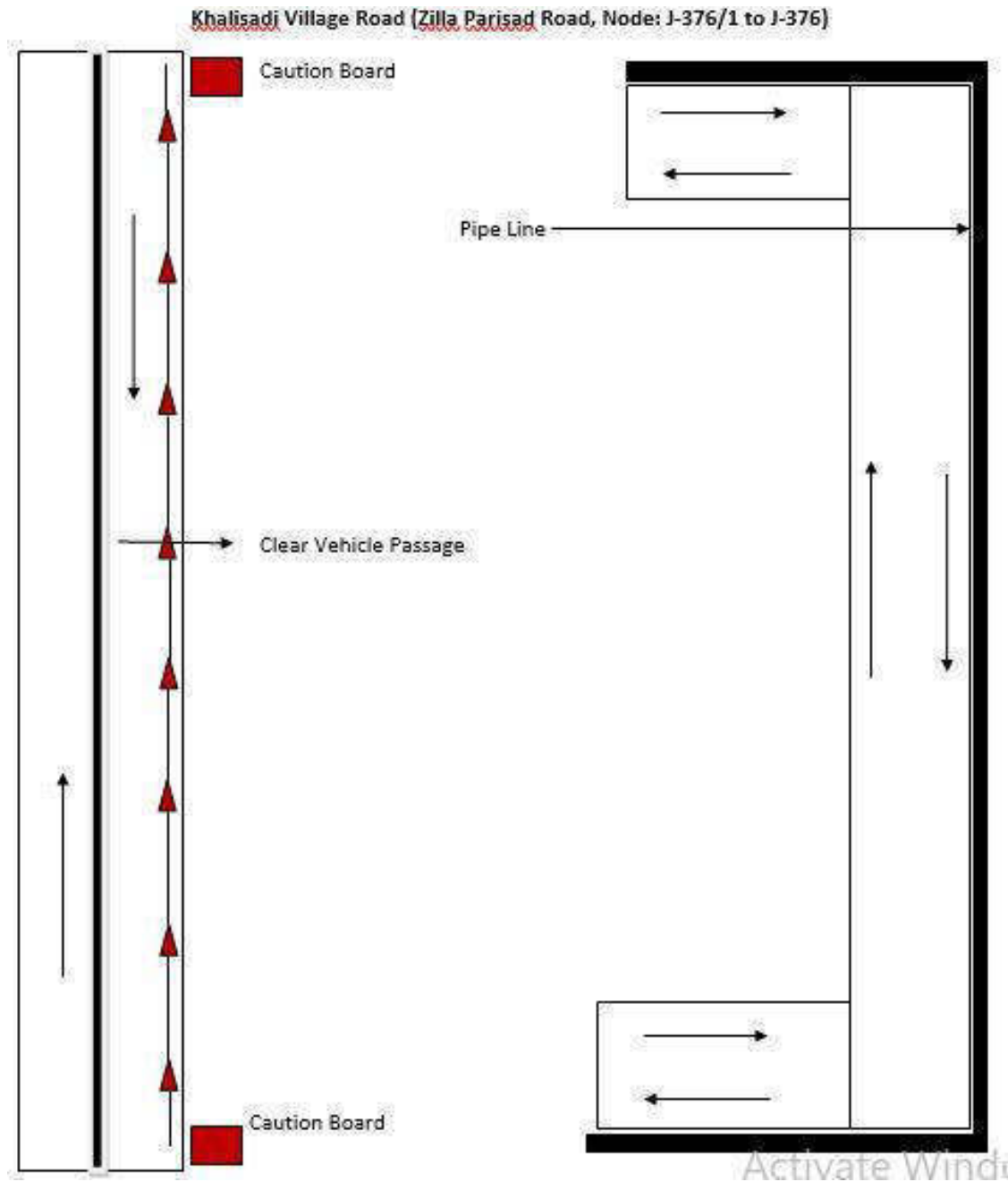
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

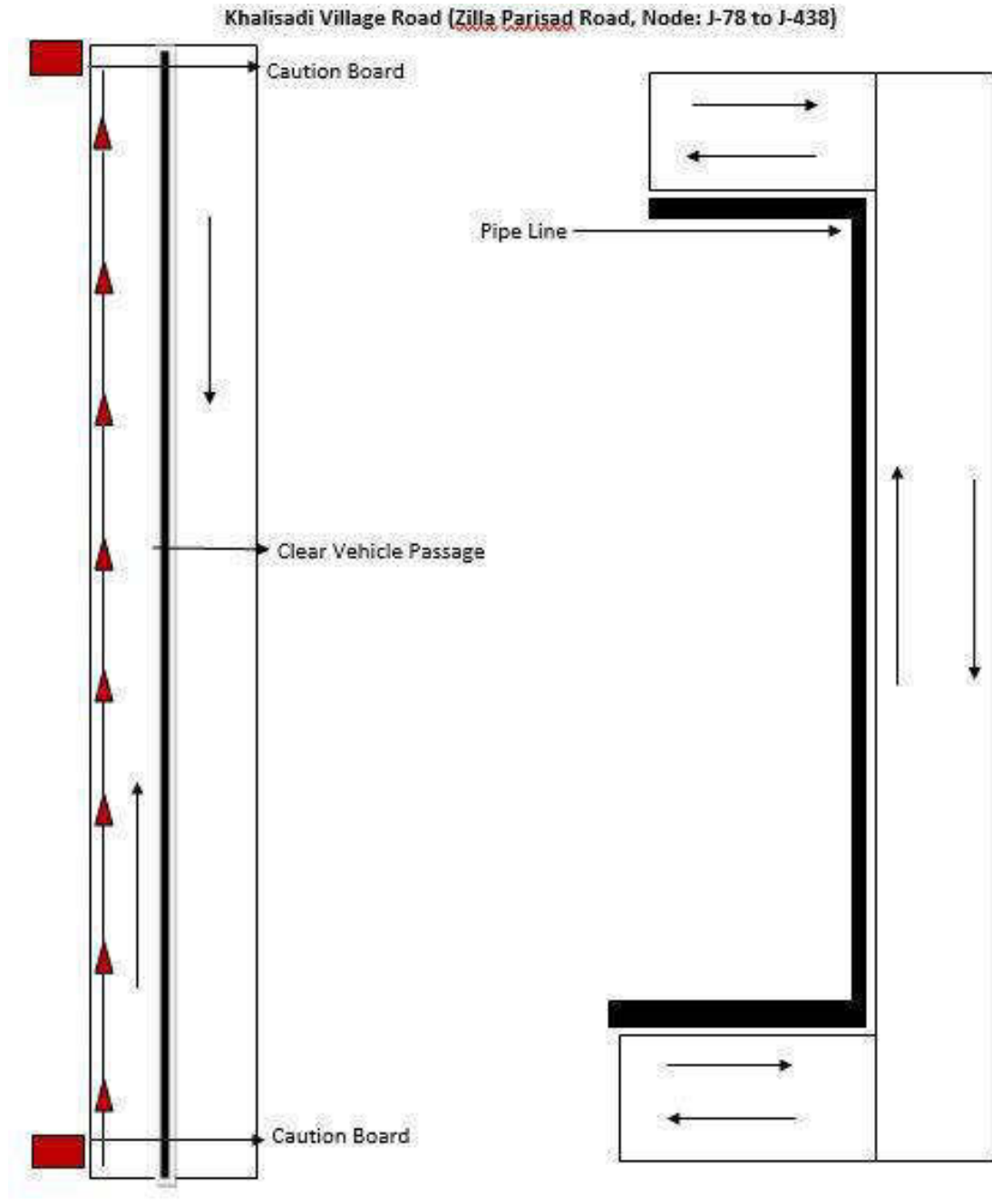
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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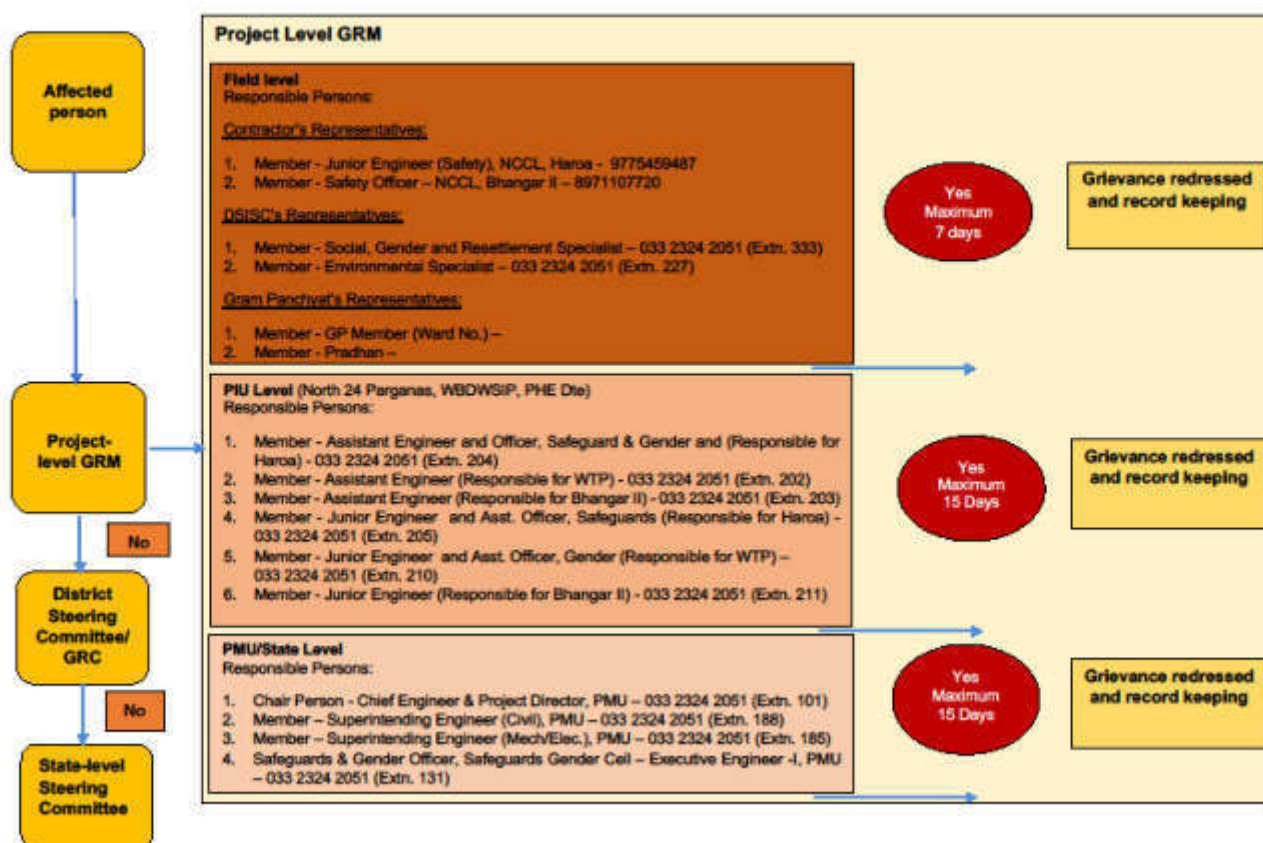


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



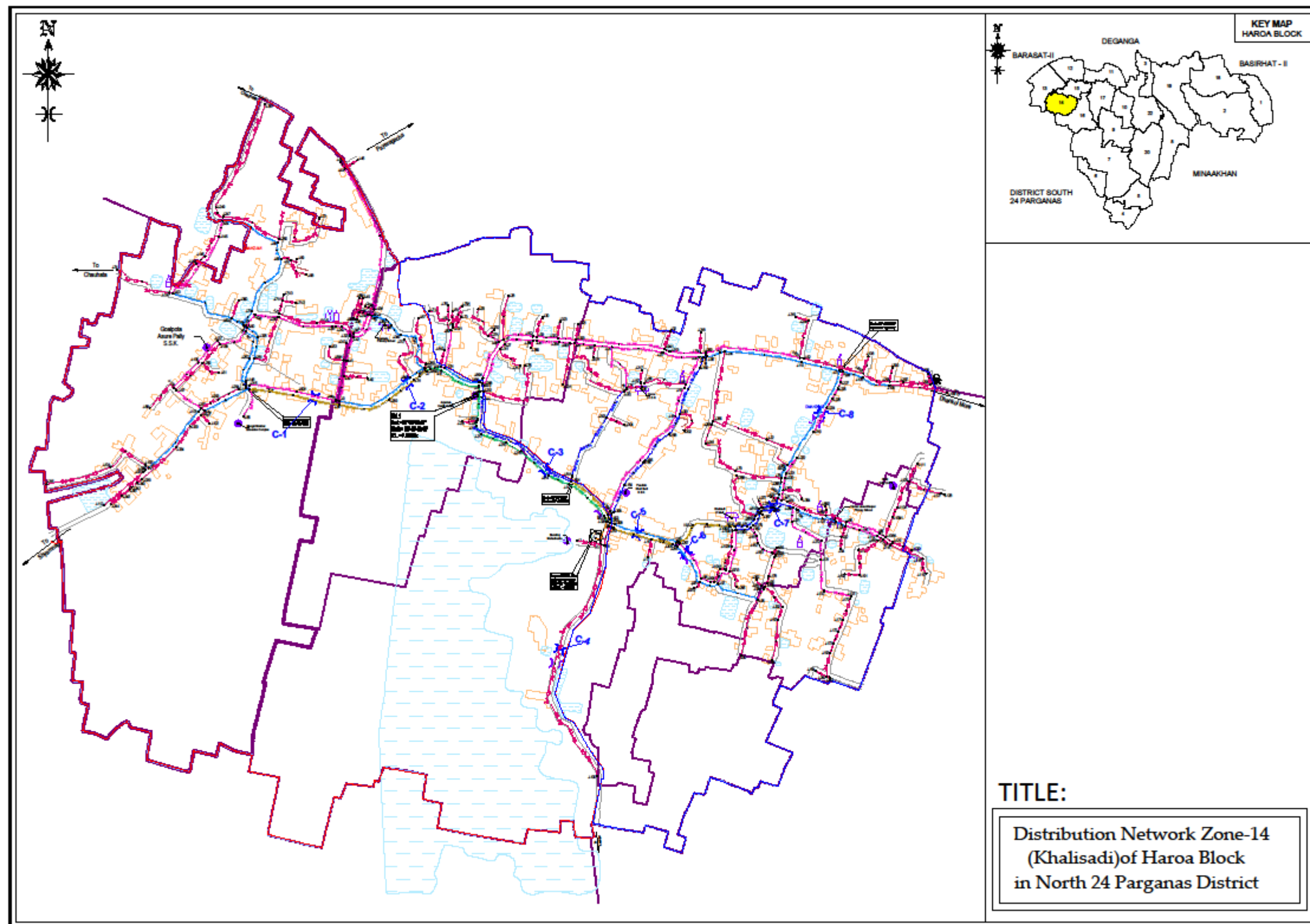
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 29 of 44 Original Issue Date :
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Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-A1,
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ee.pinn24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The Head Project Implementation Unit,
WBRIDA,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-14) Khulna.


Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October'2018. Now the entrusted agency will start the laying of distribution network from 19.08.2019 in **Salipur Gram Panchayat** along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.


Your kind co-operation in this regard is requested.

Encls. : As stated.


Yours faithfully,


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Sub-divisional Officer, North 24 Parganas Zilla Parishad.
2) The District Magistrate, North 24 Parganas.
3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
4) The District Engineer, North 24 Parganas Zilla Parishad.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 13/08/2019

Memo No. 301 /EE(C)PIUN24P,
Copy forwarded for information to :-
1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Assistant Engineer, PIU-1, North 24 Parganas, WBDWSIP, P.H.E. Dte.
3) The Team Leader, DSJSC-North 24 Parganas, WBDWSIP.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

DSJSC / WBDWSIP

Inward No. _____

RECEIVED

Date 14/08/19 P.12
Signature _____

File
14/08/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 31 of 44 Original Issue Date :
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**Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-1A, New Town, Kolkata-700156**

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Samiti,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 30.04.2019 in Salipur & Borjuri Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____ /SL-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samiti.
- 2) The Pradhan, Salipur / Borjuri, Gram Panchayet.

Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 6882/19 /SL-I, N-24 PGSD-II,

Dated, New Town, the 24/04/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WRDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBIDWSIP.

File
25/04/19



Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 32 of 44 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHIE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II.

Dated, New Town, the _____

To

- (1) The Assistant Engineer (PWD) Roads,
Basirhat Sub Division, North 24 Parganas.
- (2) The Station Manager,
WBSEDC, Haroa, North 24 Parganas.
- (3) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.



Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHIE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 30.04.2019 in Salipur & Burjuri Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contact details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II.

Dated, New Town, the _____

Copy forwarded for information to :

- 1) The Saripati, Haroa Panchayet Samiti.
- 2) The Executive Officer, Haroa Panchayet Samiti.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. 61/3/19 /SD-I, N-24 PGSD-II.

Dated, New Town, the 24/04/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHIE Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHIE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

File
25/04

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 33 of 44 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II.

Dated, New Town, the _____

To
 The B.D.O. & Executive Officer,
 Haroa Development Block & Haroa Panchayet Samity,
 North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 12.06.2019 in **Borjuri & Salipur Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**

Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II.

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Suvapati, Haroa Panchayet Samity.
- 2) The Pradhan, Borjuri / Salipur, Gram Panchayet.
- 3) The Officer in Charge, Haroa Police Station.

**SD/-
S. BOSE**

Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 21/1/19 /SD-I, N-24 PGSD-II.

Dated, New Town, the 10/06/19

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Manoh Chakraborty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC North 24 Parganas, WBDWSIP.

Handwritten signature and date: 21/1/19

DSISC / WBDWSIP

Inward No. 1008

RECEIVED

Date 13-79

Time - 0:30 PM

Handwritten signature and date: 10/06/19
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHE Dte.

2:00 PM 10/06/19

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 34 of 44 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHIE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To

- (1) The Station Manager,
WRSEDCL, Haroa, North 24 Parganas.
- (2) The Sub Division Engineer,
HSNI, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHIE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 12.06.2019 in **Borjuri & Salipur Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Sevapati, Haroa Panchayet Samity.
- 2) The Executive Officer, Haroa Panchayet Samity.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. 22/6/19 /SD-I, N-24 PGSD-II,

Dated, New Town, the 10/06/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, F.I.U., North 24 Parganas, WBDWSIP, PHIE Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHIE Dte.
- 3) Sri Manab Chakraborty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHIE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WRDWSIP.

DTL/AD
13/06

DSISC / WBDWSIP
Inward No. 1009
RECEIVED

Date 18/06/19

Time: 2:50 PM

SAC
10/6/19
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

CC: General AD, North 24 Parganas, New Town

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 35 of 44 Original Issue Date :
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Appendix P.B: Labour License

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009311-008372-17200-2019

1.Date of Renewal

02nd Dec, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLL/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 44 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
\$ Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Pesra, P.O. + PS. Haroa, Pin.- 743425., Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLL/000008)

W.Site- Utility Building, Tank No.-2, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL: PSARA, PO+PS: HAROA, PIN: 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038000		
Policy No Insured :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C1ZM	EGI GSTIN Number :	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name :	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : Z9065378	 (Authorised Signatory)		
Date of Issue : 07/02/2019			
Place of Issuance : Mumbai*			
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/IN : IRDAN132P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sausapatti Bypass,

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **UP-81AJ-9526** WB-01-**D 5877306**

Date of Issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level:

CO (%)	1.189
HC (ppm)	495
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

WB-01-**D 5877306**

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 09 License Number: 94/AETC/2016/PETROL Label Code: 09

PUC Number: P000000001698 Vehicle Type: 2 Wheeler

Name: N C C LTD Reg. No.: UP-81AJ-9526

Address: Reg. Date: Jan-2010

Manufacturer: HERO HONDA

Model: SUPER SPLENDOR

Test Date/Time: 24-Aug-2019 16:13 Engine Type: 4 Stroke

Catalyst: No Odometer Rdnng: 0

Engine Number: 10027

Chassis Number: 10479

Fuel ->	Petrol		Regulation	Measured
	Regulation	Measured		
CO (%)	3.5	1.189		
HC* (ppm)	4500	495		
CO2 (%)		4.5		
O2 (%)		13.31		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
A/F:		—		
Lambda:		—		
PEF:		0.501		
CO-Aet (%)		3.134		

* Read as RHC for LPG and BWHC for CNG

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Emission Test Centre Stamp: *[Stamp]* 24/08/19

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Haroa Block**

Site Specific Environmental Management Plan

Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** WB-01 **D 4224909**

Date of issue: **26-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSL)	37.0%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]*

Vehicle Pass

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MIL ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432910995

Transport Department

Label Code: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0081000273** Vehicle Reg No: **WB30W2784**

Name: **N C C LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**

PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2016**

Date: **26-Feb-2019** Speedo mtr Rdg: **61372**

Time: **05:54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **75206**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2100** Emi Norms.: **BS-IV or Onwards**

S.No.	RPM min	RPM max	K m-l	HSR %	OTF C
1	0720	2000	01.12	38.2	026.00
2	0720	1970	01.09	37.5	026.00
3	0720	1820	01.01	35.3	026.00
Mean	0720	1930	01.07	37.0%	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre:



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HC (ppm)		B9104
SD (HSU)		
PUC Certificate issued by:		License No. and Seal:
M/S-NATURAL WORLD		Natural World
Signature		N.H.-34, K.N. Road Back Side
		Berhampore
		Licence

Vehicle Pass

Transport Department, Govt of West	POLLUTION UNDER CONTROL CERTIFICATE (under the West Bengal Motor Vehicle rule's 1989)	D4637539
	M/S-NATURAL WORLD N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE, MSD	

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

IN:	RPM min	RPM max	K m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

let	01066	08000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

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Appendix P.2: Contractor OHS Policy Statement

<p>NCC LIMITED</p> <p><i>Health, Safety & Environment Policy</i></p> <p>For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:</p> <ul style="list-style-type: none"> • A proactive, role model HSE at Site. • All Sites related activities and Office Work will result in no one getting injured or made unwell. • Early identification of hazards and risk and the decision or adequate measures. • Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum. • Provide training in HSE knowledge and encourage continuous improvement and development of this. • Continuous monitoring of the HSE performance. • Promote the benefits of a healthy life-style amongst our employees. • Report and investigate accidents and incidents to take lessons and prevents similar events occurring again. • Preserve ecological balance and heritage. 				
Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্টি ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ			ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য				
নাম		লিঙ্গ	বয়স	
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-		
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-				
যদি কোন অতিরিক্ত কাগজ জড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।				
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?				

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
July 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 17 OHR - Salipiur)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.


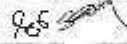


In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WRDWSIP BARDIA BLOCK

LOCATION: ZONE - IT SHALL BE FOR WORK

0	25.04.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DWSO	APPROVED BY EIC

Environmental Specialist, DSISO
North 24 Parganas
WEDWSI Project

West Bengal Drinking Water Sector Improvement Project

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Package No	Package No : N24P/02A Zone 17- OHR (Salipur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	17/07/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 350 KL
Demolition Works	No demolition activity involved
Project Area	Salipur village of Salipur Gram Panchayat under Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design
Gram Panchayat: Salipur	
Land Status	PHED
OHR Capacity	350 KL
Location Map	



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Details of contractors on-site-personnel and workers	Zone 17-(OHR) Salipur village of Salipur Gram Panchayat under Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Souvik Sarkar 8961348356
Site Supervisor	Mr. Souvik Sarkar 8961348356
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	13
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant- 15 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labour accommodation at a rented hoise at Majampur Times Club, Majampur (Ref. Attachment O2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils(Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment O7 included with this SEMP 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow areas, 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	water pollution.	prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> Already done land requisition, electric connection, water source etc. Tree felling requirement for this site is not anticipated. Made provision for detailed design drawing and documented all conditions Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	DSIS C observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and construction resulting in dust and increase in concentration of vehicle-related	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the “Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009”: <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. Sprinkling and dust screen arrangement have been made, and will be used when required. Site has been access 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	pollutants such as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	stabilization of soil for dust hazards to be carried out on site. • Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. • Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. • If required, then provide a dust screen/high compound wall around the construction sites (OHR).	controlled to prevent trespassing. • Stock piles will be maintained in such a way to minimise dust rising. • Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	• The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. • Where no local drains are available, a soak pit will be created on-site away from water bodies .	• The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. • Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during	• Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors	• No stockpiles have been planned near drainage locations/ nearby water bodies. • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained.	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Fuels and lubricants should be stored away from drainage and spillage protection should be provided Provision for temporary silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration. 	<ul style="list-style-type: none"> All excavated materials expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Some trees are present along the site boundary however felling of tree is not envisaged at this site. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Ensure maximum work place noise level exposure not exceeding 85 decibels 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Planned activities in consultation with DSISC so that activities with the greatest potential to generate noise are 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		(dbA); <ul style="list-style-type: none"> • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	conducted during periods of the day which will result in least disturbance. <ul style="list-style-type: none"> • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE. 			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess spoils at the site for long time, if required, dispose 	<ul style="list-style-type: none"> • Spoil management plan has been developed • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.	are disposed as per law.			
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - O4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Drinking water provided after proper testing. First Aid box provided at 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	• Employ local labour force as far as possible • Comply with labour laws	• Local labours are employed, on priority, whenever available. • Refer Attachment 03 for documents relating to statutory compliances	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	• Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	• Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m.), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility	• Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., Living quarters and construction camps shall be provided with standard materials; no shacks or huts Adequate lighting and ventilation Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested Provide clear pathways for safe movement Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed Construct septic tanks and soak pit arrangement for wastewater disposal Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	contamination and water contamination; <ul style="list-style-type: none"> Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, Daily generated effluent disposed by arrangements already present in camp/ household. The details of labour accommodation is presented in Attachment O2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> Strictly follow the protocol for chance finds in any excavation work; Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> No archaeological chance finds are reported at project sites till date. If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for Entire Package as per IEE

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2-year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments


Attachment O1: Details of construction Work sites
Attachment O2: Details of construction camp sites
Attachment O3: List of clearances & statutory requirements
Attachment O4: Contractor's OHS Policy & Organization
Attachment O5: Utility shifting/relocation
Attachment O6: Details of Construction Materials
Attachment O7: Spoil Management Plan
Attachment O8: Procedure for on-site Grievance Redressal Mechanism
Attachment O9: Procedure for information disclosure prior to start of works

Appendix O.1: Site Layout Plan
Appendix O.A: Labour License
Appendix O.B: Workman Compensation
Appendix O.C: PUC Certificates
Appendix O.2: Contractor's OHS Policy Statement
Appendix O.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02B_Bhangar II block, _

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Attachment O1: Details of construction Work sites

1. Zone 17: OHR construction Site	
Location- Salipur	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 no • Needle Vibrator – 1 no • Steel cutter – 1 no • Shuttering machine – 1no • Pile Driving Machine – 1no • DG (Less than 5KVA) – 1no
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	
OHR before Construction	

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Project facilities at Site



Project Information Board



Emergency Contact numbers on display

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IEC on use of safety equipment at OHR site



Provision of waste collection bins, OHR site

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First aid box



First aid box at Zone- 17

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 17: Salipur
Location- Salipur, Salipur GP	
A	Accommodation – For 15 Nos construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – at rented structure at Majampur Times Club, Majampur • Accommodation provided for 15 workers • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house will be used for labour accommodation
Photos of camp and facilities provided	Labour accommodation at same location as for pipeline workers. Refer P2 for details.

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.A]
2	Workmen Compensation	Obtained [Refer Appendix – O.B]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.C]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy	Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
A	List safety risks anticipated in the project Work area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations	-
C	List personal protection equipment provided to workers • Boots- 16 nos. • Gloves- 8 nos. • Helmet- 16 nos. • Safety jacket- 16 nos. • Goggles- 8 nos.	Yes
D	Preventive Measures	
D	• Orientation of all workers on OSH	Done
	• Work permit system	Yes – for work at height
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Yes
2	Contractor emergency procedure	
A	• In case of accident, first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Souvik Sarkar Mob: 8961348356
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487
	Project Manager Representative	Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (MT) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	392.22	Nalhati	Yes
2	Sand	198.9	Gopi Ballavpur	Yes
3	Steel	45.2	Approved supplier	Yes
4	Cement	122.72	Approved supplier	Yes

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Attachment O7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 17 SHALIPUR (OHR WORK)

0	18.06.2014	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
R/W	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY JH

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Supply Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for both OHR site in Zone (17). For the OHR site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will be confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

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6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reused as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is any extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need for transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at SHALIPUR (Zone 17)

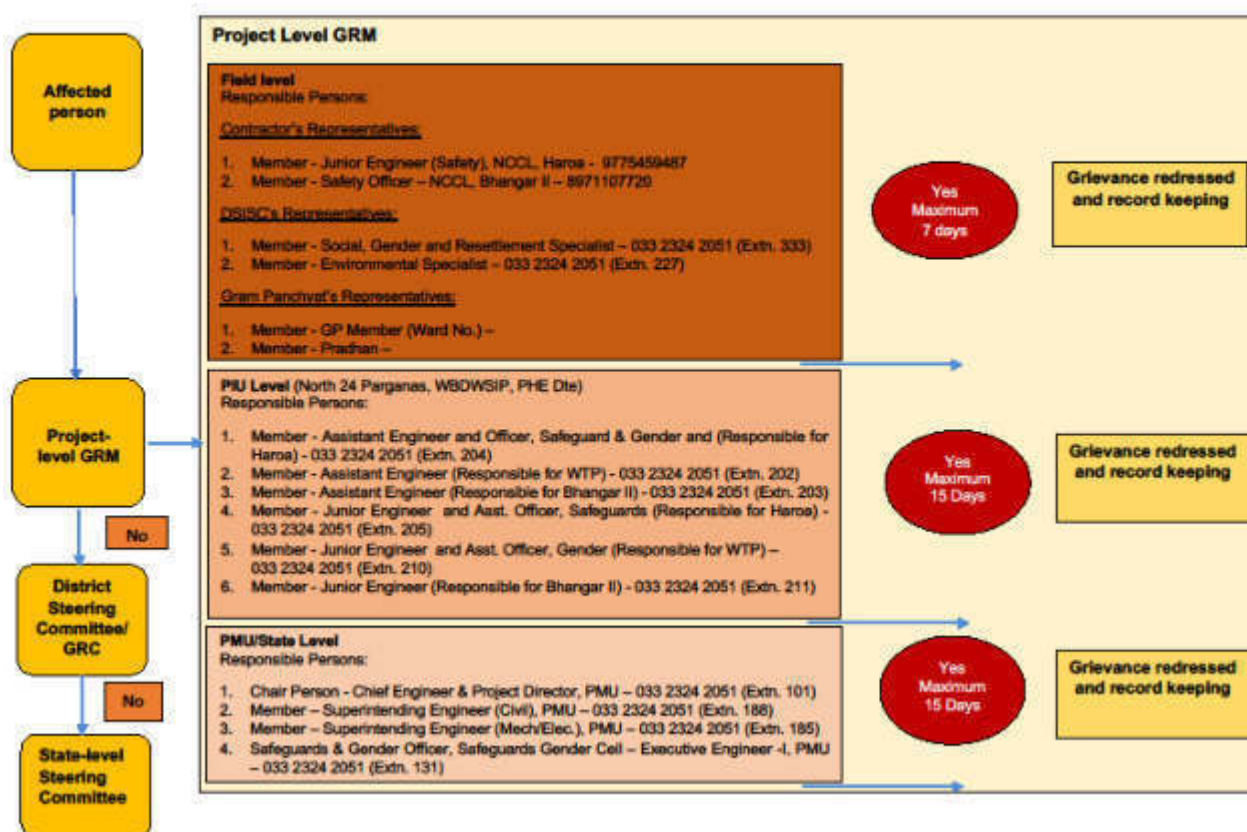
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

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Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

LEGEND:-

EXISTING ROAD	
PROPERTY LINE	
PROPOSED SEWER	
EXISTING ELECTRIC LINE	
EXISTING ELECTRIC POST	
EXISTING ROAD LEVEL	89.387 Mtr.
APPROX. GROUND LEVEL	89.82 Mtr.
PROPOSED SUTS	4.50 M x 0.50 M
DISCHARGE/INLET/SEWER	7.5 M x 0.75 M
INNER DIA	7.00 Mtr.
OUTER DIA	14.00 Mtr.
PROPOSED SEPTIC TANK SUTS	6 M x 1.50 Mtr.
LAMP POST WITH JUNCTION BOX	
ELECTRIC CABLE CONDUIT	
CHLORINE SODIUM PIPE LINE	

OTHER PIPES

S.NO.	OPENING DETAILS
1	SEWER PIPE
2	CHLORINE PIPE
3	CONCRETE PIPE
4	WATER PIPE

Notes:-

- All dimensions are in mtr. unless otherwise stated.
- All levels are in respect of M.S.L. +100.000 mtr. which will be linked with C.T.S.
- Total Area = 1218.100 Sqm.
- The Demarcated Area has been identified for Construction of Valve Chambers.
- The Demarcated Area has been identified for Construction of Septic Tank & SUTS.

WORKSHEET

City Building, Area & 1st Floor, Room No. 001/002/003/004/005/006/007/008/009/010/011/012/013/014/015/016/017/018/019/020/021/022/023/024/025/026/027/028/029/030/031/032/033/034/035/036/037/038/039/040/041/042/043/044/045/046/047/048/049/050/051/052/053/054/055/056/057/058/059/060/061/062/063/064/065/066/067/068/069/070/071/072/073/074/075/076/077/078/079/080/081/082/083/084/085/086/087/088/089/090/091/092/093/094/095/096/097/098/099/100/101/102/103/104/105/106/107/108/109/110/111/112/113/114/115/116/117/118/119/120/121/122/123/124/125/126/127/128/129/130/131/132/133/134/135/136/137/138/139/140/141/142/143/144/145/146/147/148/149/150/151/152/153/154/155/156/157/158/159/160/161/162/163/164/165/166/167/168/169/170/171/172/173/174/175/176/177/178/179/180/181/182/183/184/185/186/187/188/189/190/191/192/193/194/195/196/197/198/199/200/201/202/203/204/205/206/207/208/209/210/211/212/213/214/215/216/217/218/219/220/221/222/223/224/225/226/227/228/229/230/231/232/233/234/235/236/237/238/239/240/241/242/243/244/245/246/247/248/249/250/251/252/253/254/255/256/257/258/259/260/261/262/263/264/265/266/267/268/269/270/271/272/273/274/275/276/277/278/279/280/281/282/283/284/285/286/287/288/289/290/291/292/293/294/295/296/297/298/299/300/301/302/303/304/305/306/307/308/309/310/311/312/313/314/315/316/317/318/319/320/321/322/323/324/325/326/327/328/329/330/331/332/333/334/335/336/337/338/339/340/341/342/343/344/345/346/347/348/349/350/351/352/353/354/355/356/357/358/359/360/361/362/363/364/365/366/367/368/369/370/371/372/373/374/375/376/377/378/379/380/381/382/383/384/385/386/387/388/389/390/391/392/393/394/395/396/397/398/399/400/401/402/403/404/405/406/407/408/409/410/411/412/413/414/415/416/417/418/419/420/421/422/423/424/425/426/427/428/429/430/431/432/433/434/435/436/437/438/439/440/441/442/443/444/445/446/447/448/449/450/451/452/453/454/455/456/457/458/459/460/461/462/463/464/465/466/467/468/469/470/471/472/473/474/475/476/477/478/479/480/481/482/483/484/485/486/487/488/489/490/491/492/493/494/495/496/497/498/499/500/501/502/503/504/505/506/507/508/509/510/511/512/513/514/515/516/517/518/519/520/521/522/523/524/525/526/527/528/529/530/531/532/533/534/535/536/537/538/539/540/541/542/543/544/545/546/547/548/549/550/551/552/553/554/555/556/557/558/559/560/561/562/563/564/565/566/567/568/569/570/571/572/573/574/575/576/577/578/579/580/581/582/583/584/585/586/587/588/589/590/591/592/593/594/595/596/597/598/599/600/601/602/603/604/605/606/607/608/609/610/611/612/613/614/615/616/617/618/619/620/621/622/623/624/625/626/627/628/629/630/631/632/633/634/635/636/637/638/639/640/641/642/643/644/645/646/647/648/649/650/651/652/653/654/655/656/657/658/659/660/661/662/663/664/665/666/667/668/669/670/671/672/673/674/675/676/677/678/679/680/681/682/683/684/685/686/687/688/689/690/691/692/693/694/695/696/697/698/699/700/701/702/703/704/705/706/707/708/709/710/711/712/713/714/715/716/717/718/719/720/721/722/723/724/725/726/727/728/729/730/731/732/733/734/735/736/737/738/739/740/741/742/743/744/745/746/747/748/749/750/751/752/753/754/755/756/757/758/759/760/761/762/763/764/765/766/767/768/769/770/771/772/773/774/775/776/777/778/779/780/781/782/783/784/785/786/787/788/789/790/791/792/793/794/795/79

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Appendix O.A: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure:

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 29 of 82 Original Issue Date :
	Site Specific Environmental Management Plan	



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

Licence No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
\$ Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dist. (BST09/CLL/00000000)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN: 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix O.B: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 040-66038000		
Policy No :	2019-L0129168-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C12M	FCI GSTIN Number :	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location :	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name :	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/her failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai*		For Future Generali India Insurance Co. Ltd.  (Authorised Signatory)	
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDANI22P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Senapati Bapat

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Appendix O.C: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. **UP-81AJ-9526** WB-01-**D 5877306**

Date of Issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level	
CO (%)	1.188
HC (ppm)	495
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* Date: **24/08/19**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 09 License Number: 94/AETC/2016/PETROL Station Code: 00

PUC Number: P000000001698 Vehicle Type: 2 Wheeler

Name: NCC LTD Reg. No.: UP-81AJ-9526

Address: Reg. Date: Jan-2010

Manufacturer: HERO HONDA

Model: SUPER SPLENDOR

Test Date/Time: 24-Aug-2019 16:13 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 10027

Chassis Number: 10479

Fuel ->	Petrol				Test Result: PASS
	Regulation	Measured	Regulation	Measured	
CO (%)	3.5	1.188			Grade: A
HC* (ppm)	4500	495			
CO2 (%)		4.5			
O2 (%)		13.31			
NOx (ppm)		0			Valid Upto: 23-Feb-2020
RPM:		0			Test Fee: Rs. 80
OT (°C):		0			
AFR:		-			
Lambda:		-			
PEF:		0.501			
CO-Ast (%)		3.134			

* Read as RHC for LPG and RWHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Emission Test Centre Stamp: **05975 Endor 2310**

Authorized Signatory: *[Signature]* Date: **24/08/19**

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HC (ppm)		SD (HSU)		B9104
PUC Certificate issued by:				License No. and Seal:
M/S-NATURAL WORLD				Natural World
Signature				N.H. 34, K.N. Road Back Side
				Licence

Vehicle Pass

Transport Department, Govt of West	POLLUTION UNDER CONTROL	D4637539
	(under the West Bengal Motor Vehicle rule's 1989)	
M/S:-NATURAL WORLD		
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD		

Label Code:WB License No : 19/2009-2009 Test Station Code : 002

PUC No : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

INr	RPM min	RPM max	K m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

le	01066	06000	00.02	47.2	064.13
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**SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE**

Vehicle

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Appendix O.2: Contractor's OHS Policy Statement

NCC LIMITED

Health, Safety & Environment Policy
For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
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Appendix O.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই প্রকল্পটি সূষ্ঠ ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে "গোপনীয়" কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ	ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-	
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দ্বারা করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে- ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-





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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 17 SHALIPUR (PIPELINE WORK)

0	31.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PU

**Environmental Specialist, DSISC
North 24 Parganas**

West Bengal Drinking Water Sector Improvement Project WBDWSI Project

**Assistant Engineer
PU-1, N-24Pgs-WBDWSIP, PHE Dept.
Govt. Of West Bengal**

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Package No	Package No : N24P/02A Zone 17- Pipeline works (Salipur village) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	30/04/19
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 26133m of pipeline as detailed below.
Demolition work	No demolition activity involved
Project Area	Salipur Gram Panchayet under Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1914 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Salipur

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H17	9765	5259	5853	3139	740	1249	74	54			26133

Map of Distribution Network

Refer Appendix – P.1

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Details of contractors on-site-personnel and workers	Zone 17- Pipeline works (Salipur village) of Salipur Gram Panchayet under Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Singh; 9732756414
Site Supervisor	Mr. Sauvik Sarkar; 8961348356
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	1 skilled and 0 Semi-skilled
Unskilled workers	4
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-5 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at a rented house at Majampur Times Club (Ref. Attachemnt P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans. 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboots is a must. To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow areas, prior steps 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	patterns, ponding and water logging, and water pollution.	will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground AsbestosCement pipes • Locate the new pipe carefully to avoidcountering ACpipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust musk while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna	Due to the nature and locality of the	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of 	Contractor	PIU through DSISC observation at site	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
and Flora	project there is unlikely to be any significant impacts on bio-diversity within the area.	necessary then obtain permission through proper channel. <ul style="list-style-type: none"> For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	tree strictly banned without regulatory clearance, if necessary, trimming allowed. <ul style="list-style-type: none"> So far no faunal movement has been observed in this site. 		and document checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscap e and Aesthetics character, and sense	Construction wastes as well as excess construction materials may	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
of place	show some impact.	be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. <ul style="list-style-type: none"> As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	for backfilling purpose. <ul style="list-style-type: none"> Excavated earth will be backfilled on the same day. 			
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket,	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		(f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	• Employ local labour force as far as possible • Comply with labour laws	• Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works;	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Training		occupational health and safety (OHS), core labour laws, applicable environmental laws etc.				
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, • Daily generated effluent disposed by arrangements already present in camp/ household. • The details of labour accommodation is presented in 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	Attachment P2.			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	• PM ₁₀ , PM _{2.5} NO ₂ , SO ₂ , CO	Once before start of construction Quarterly (yearly 4-times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	• Day time and night time noise levels (24 hours)	Once before start of construction Quarterly (yearly 4-times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	• pH, Oil and grease, Cl, F, NO ₃ , TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	• Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
 Attachment P2: Details of construction camp sites
 Attachment P3: List of clearances & statutory requirements
 Attachment P4: Contractor's OHS Policy & Organization
 Attachment P5: Utility shifting/relocation
 Attachment P6: Details of Construction Materials
 Attachment P7: Spoil Management Plan
 Attachment P8: Traffic Management Plan
 Attachment P9: Procedure for on-site Grievance Redressal Mechanism
 Attachment P10: Procedure for information disclosure prior to start of works
 Appendix P1: Map of Distribution Network
 Appendix P.A: Gram Panchayat and other Authorities Permission
 Appendix P.B: Labour License
 Appendix P.C: Workman Compensation
 Appendix P.D: PUC Certificates
 Appendix P.2: Contractor's OHS Policy Statement
 Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


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Attachment P1: Details of construction Work sites

1. Zone 17: Pipeline construction Site						
Location- Salipur						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos ▪ JCB – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/mechanical)
	DI Pipes (542m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	45	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	17	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(34743 m)					
	200 mm	1158	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	1154	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	2146	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	1565	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	4662	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	10243	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone - 17
Location- Salipur, Salipur GP	
A	<p>Accommodation – For 20 construction workers (including 15 nos. from OHR). No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Rented apartment • Accommodation provided for 5 workers • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original camp Photographs	Not applicable as rented house is being used as labour accommodation.
Camp and facilities photograph	
Majampur Times Club as labour accommodation	

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	Sleeping arrangement at labour camp for workers	Toilet at labour camp for pipeline and OHR workers

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 6 nos. • Gloves-2 no. • Helmet- 6 nos. • Safety jacket- 6 nos. • Goggles- 2 nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	7000.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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Spoil Management Plan		

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 17 SHALIPUR (PIPELINE WORK)

U	31.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIC	APPROVED BY PSI

West Bengal Drinking Water Sector Improvement Project
 Environmental Impact Assessment, DSIC
 North 24 Parganas
 WBDWSI Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (17). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 7000 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need for transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Shalipur (Zone 17) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	9150	0.25	1.063	2431.61
2	75	2538	0.25	1.075	682.08
3	90	6271	0.25	1.09	1708.84
4	110	3137	0.25	1.11	870.51
5	140	739	0.25	1.14	210.61
6	200	145	0.25	1.2	43.5
7	200	1092	0.3	1.2	393.12
8	250	76	0.3	1.25	28.5
9	300	54	0.6	1.3	42.12
10	Extra for bend, joints etc				529.11
11	Approx. generated total Spoil at Shalipur				7000.00

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 60 of 82 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P8: Traffic Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ TMP /01 Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :
	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 17 SHALIPUR (PIPELINE WORK)

0	31.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIL

West Bengal Drinking Water Supply Improvement Project
Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 61 of 82 Original Issue Date :
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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 17 SHALIPUR.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 **Operators/Drivers**

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 62 of 82 Original Issue Date :
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- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

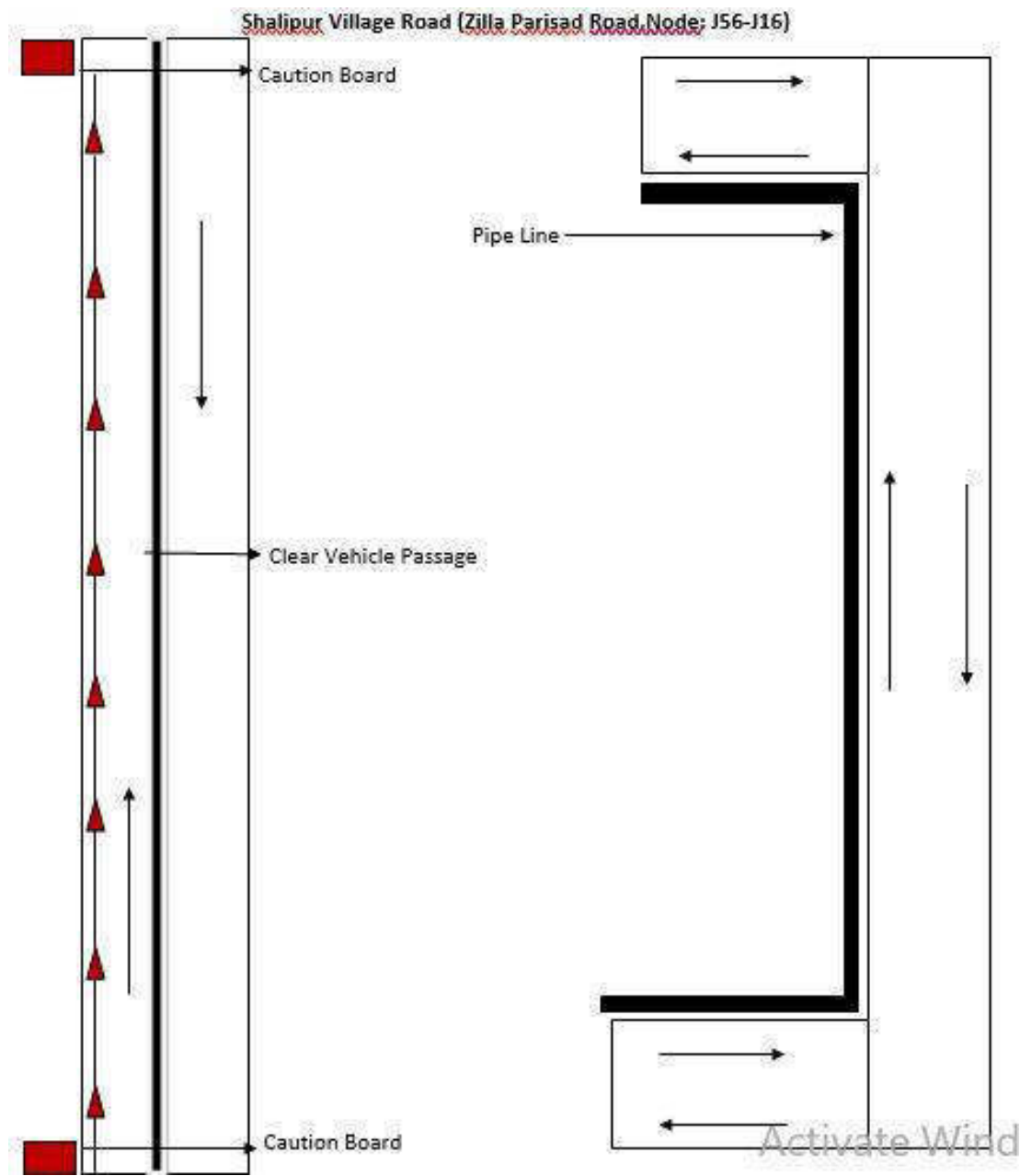
5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

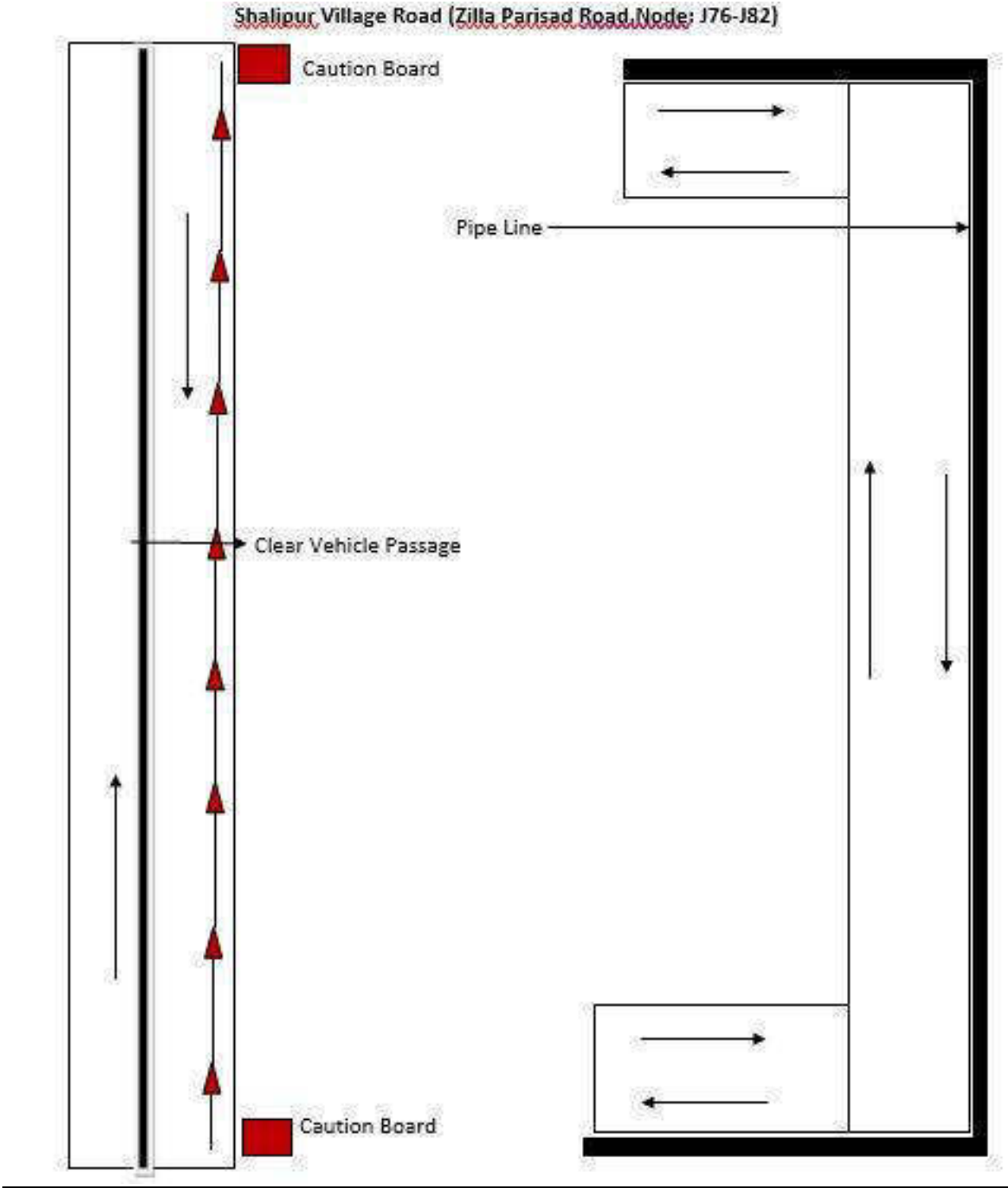
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
- Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 63 of 82 Original Issue Date :
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NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 64 of 82 Original Issue Date :
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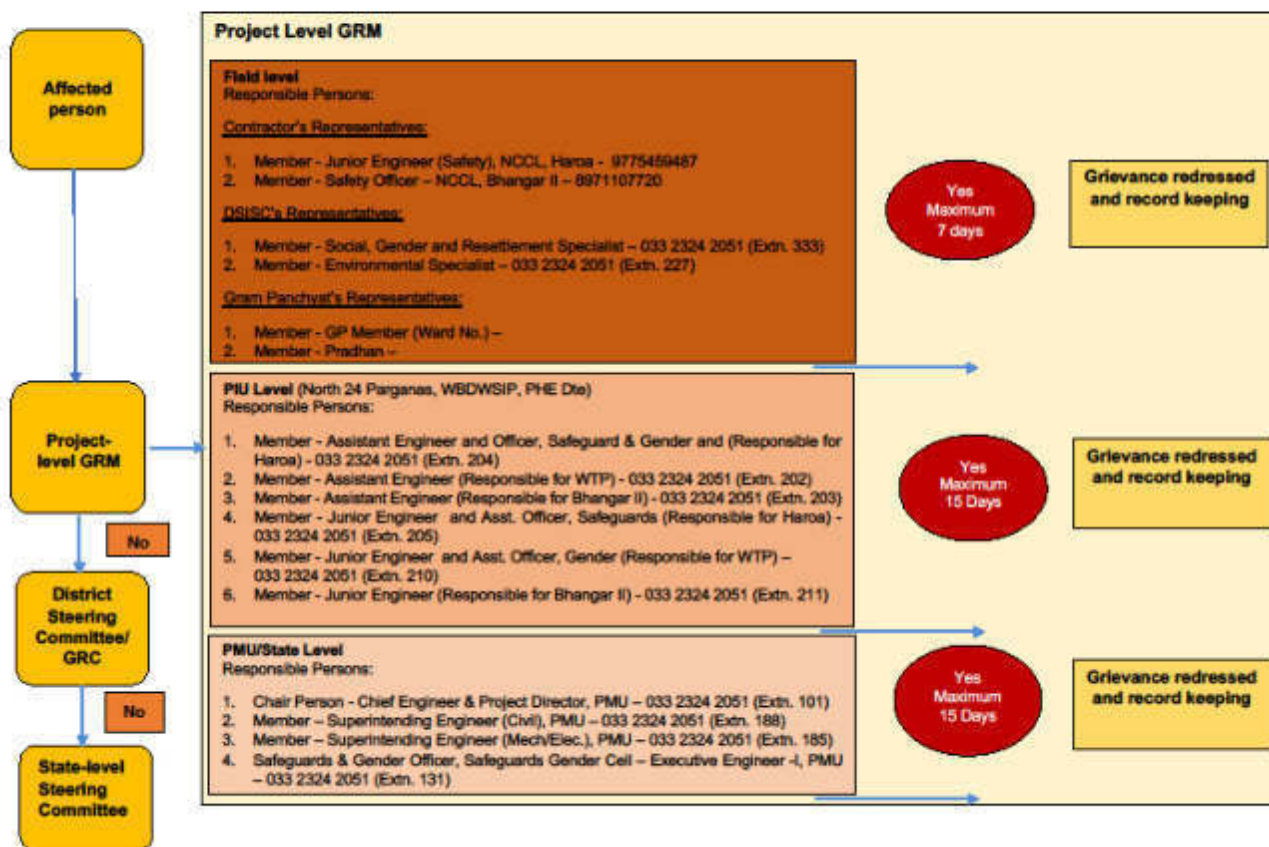


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism

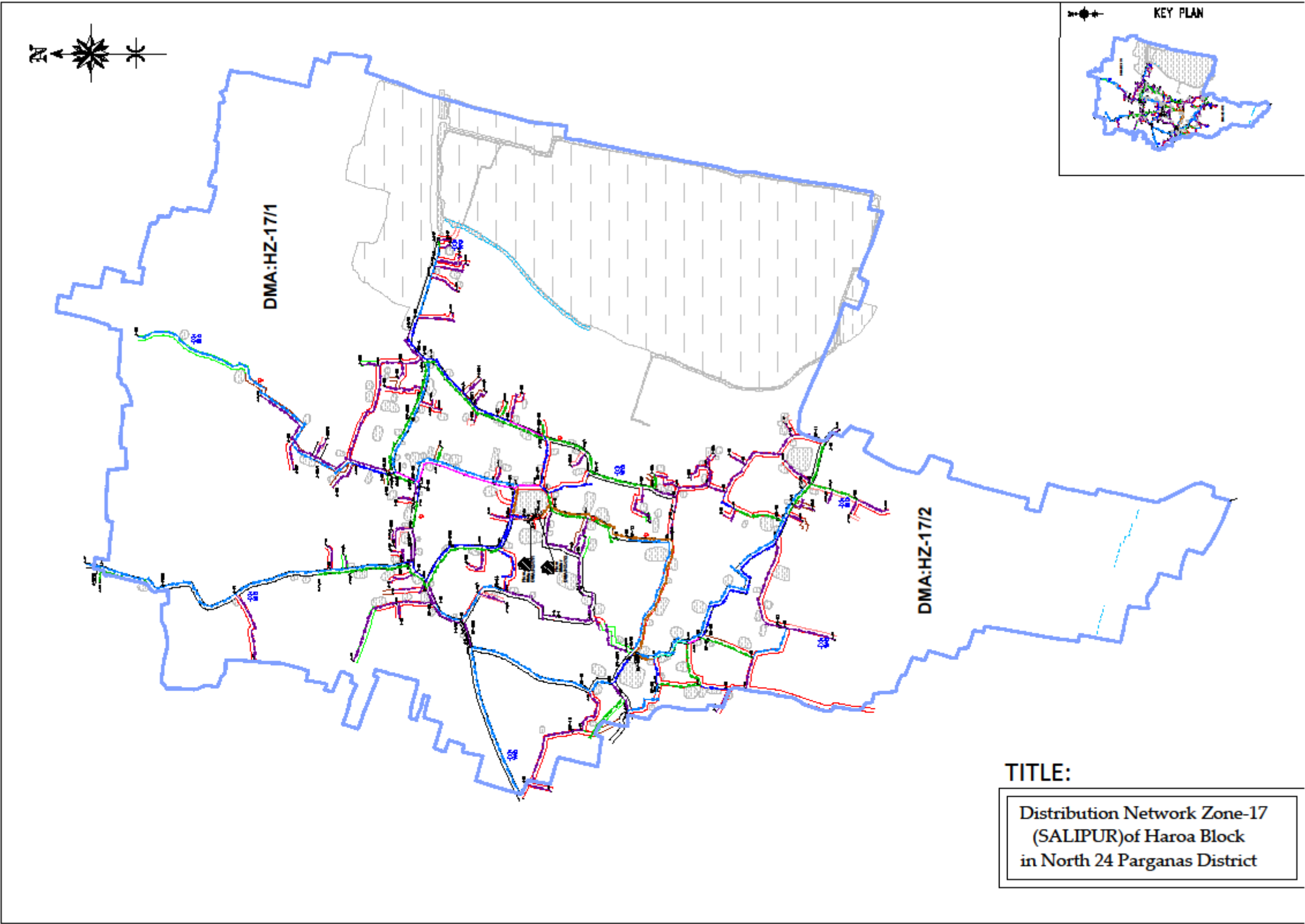


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 67 of 82 Original Issue Date :
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Appendix P.A: Gram Panchayat and other Authorities Permission

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 68 of 82 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____/SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Harua Development Block & Harua Panchayet Samiti,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Harua Block.

You are well aware that the water supply project under reference is being going on within Harua block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 30.04.2019 in Salipur & Bojuri Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Harua Panchayet Samiti.
- 2) The Pradhan, Salipur / Bojuri, Gram Panchayet.

Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

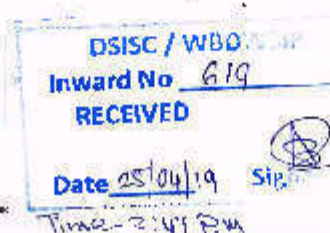
Memo No. 68/2/19/SD-I, N-24 PGSD-II,

Dated, New Town, the 24/04/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.L.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

File
25/04/19



Sd/-
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

<p align="center">NCC LIMITED</p>	<p>Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block</p>	<p>Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 69 of 82 Original Issue Date :</p>
	<p>Site Specific Environmental Management Plan</p>	



Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHED Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____/SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To

- (1) The Assistant Engineer (PWD) Roads,
Basirhat Sub Division, North 24 Parganas.
- (2) The Station Manager,
WBSEDCIL, Haroa, North 24 Parganas.
- (3) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.



Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHED Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 30.04.2019 in Salipur & Burjuri Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contact details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHED Dte.

Memo No. _____/SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :

- 1) The Sevapali, Haroa Panchayat Samiti.
- 2) The Executive Officer, Haroa Panchayat Samiti.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHED Dte.

Memo No. 64/34/SD-I, N-24 PGSD-II,

Dated, New Town, the 24/04/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBIDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHED Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHED Dte.
- ✓ 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Sd/-
 Assistant Engineer
 N-24 Pgs. W/S Sub-Divn.-I,
 Under N-24 Pgs. W/S Divn.-II, PHED Dte.

File
 25/04

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 70 of 82 Original Issue Date :
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NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 71 of 82 Original Issue Date :
	Site Specific Environmental Management Plan	



Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-1A, New Town, Kolkata-700156

Memo No. _____/SD-I, N-24 PGSD-II.

Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Harua Development Block & Harua Panchayet Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Harua Block.

You are well aware that the water supply project under reference is being going on within Harua block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 12.06.2019 in **Borjuri & Salipur Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/SD-I, N-24 PGSD-II.

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Suvapati, Harua Panchayet Samity.
- 2) The Pradhan, Borjuri / Salipur, Gram Panchayet.
- 3) The Officer in Charge, Harua Police Station.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 21/19/SD-I, N-24 PGSD-II.

Dated, New Town, the 10/06/19

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Manah Chakraborty, J.R., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC North 24 Parganas, WBDWSIP.

Handwritten signature and date 21/6/19

DSISC / WBDWSIP

Inward No 1008

RECEIVED

Date 13-7-19

Time - 0:30 PM

Handwritten signature and date 10/06/19
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

21/06/2019 09:00 AM

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 72 of 82 Original Issue Date :
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHIE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To

- (1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- (2) The Sub Division Engineer,
HSNI, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHIE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 12.06.2019 in **Borjuri & Salipur Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

SD/-
S. BOSE

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samity.
- 2) The Executive Officer, Haroa Panchayet Samity.

SD/-
S. BOSE

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

Memo No. 22/06/19 /SD-I, N-24 PGSD-II,

Dated, New Town, the 10/06/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHIE Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHIE Dte.
- 3) Sri Manab Chakraborty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHIE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

DR/AD
13/06

DSISC / WBDWSIP
Inward No 1009
RECEIVED

Date 19/06/19

Time: 2:50 PM

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHIE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 73 of 82 Original Issue Date :
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Appendix P.B: Labour License

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 74 of 82 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLL/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangan-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 75 of 82 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 29(1)]

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin,- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dn. (BST09/CLL/000029)

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block-Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 049-6603600			
Policy No : 2019-L0129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521 Telephone (Mob, Off, Home) : 4027822990/09892590738/4027822990 Fax No & Email Id : 02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM PGI GSTIN Number : 36AABCF0191R1ZA		
Address : WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425			
GSTIN Number : 19AAACN7335C1ZM			
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Contractor/Sub-Contractor Name : NCC LTD			
No of Employees	Description of work done by Employees		Declared Wages during the Period of Insurance (₹)
50	Highly Skilled workers		6,642,000.00
50	Skilled workers		6,048,000.00
50	Semi Skilled Workers		5,490,000.00
50	Unskilled Workers		4,986,000.00
Total			23,166,000.00
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy; the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for Occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.  (Authorized Signatory)			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Addresses mentioned below.	Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019		

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sempati Bypass,

<p align="center">NCC LIMITED</p>	<p>Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block</p>	<p>Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 77 of 82 Original Issue Date :</p>
	<p>Site Specific Environmental Management Plan</p>	

Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-52K-8579** WB-01 **D 4448685**

Date of issue: **03-Jun-2019** Valid upto: **02-Dec-2019**

Pollution Level	
CO (%)	3.201
HC (ppm)	881
SO (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]*

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

WB-01 **D 4448685**

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HARDA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Registration Code: 00

PUC Number: P000000001295 Vehicle Type: 2 Wheeler

Name: NAGARJUNA CONS CORP. LTD. No.: WB-52K-8579

Address: Reg. Date: Feb-2011

Manufacturer: HERO HONDA

Model: CD DELUX

Engine Type: 4 Stroke

Test Date/Time: 03-Jun-2019 14:11 Odometer Rdnng: 0

Catalyst: No Engine Number: 05100

Chassis Number: 04859

Fuel -->	Petrol		Diesel	
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	3.201		
HC* (ppm)	4500	881		
CO2 (%)		7.98		
O2 (%)		5.1		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		16.884		
Lambda		1.135		
PEF		0.501		
CO-Act (%)		4.302		

* Based on PPM for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Test Result: **PASS**

Grade: **B**

Valid Upto: **02-Dec-2019**

Test Fee: **Rs. 80**

[Signature]
03/06/19
Authorized Signatory

Emission Test Centre Stamp: 0219 - Smrvt 2219

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30AC7817** WB-01-**D 4261432**

Date of Issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	40.5

PUC Certificate issued by: **MLI ENTERPRISE** License No. and Seal: **151AETC/2018**

Signature: *[Signature]* **Vehicle Pass** **WB-01-**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Transport Department

MLI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010995

Label Code: WB License No.: 151AETC/2018 Test Station Code: 0001

PUC No.: WB0001000382 Category: car

Name: NCC LTD Make: Mahindra

Address: Model: BOLERO

Date of Reg.: 2019

Speedo mtr Rdg: 1094

Mobile: 9735589348 Engine No.: 91913

Date: 29-Mar-2019 Chassis No.: 10280

Time: 10:54 AM Emi Norms.: BS IV or Onwards

Fuel: Diesel Vehicle Type: BS4 - 4 Wheeler

Flushing Cycle Mean: RPM Min: 0840 RPM Max: 1913

S.No.	RPM min	RPM max	Km-1	HSU %	FTP C
1	0810	1630	01.20	40.5	041.00
2	0830	1630	01.21	40.6	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
Km-1	1.62 01.20
HSU %	50 40.5

Valid upto: 28-Mar-20

Grade: A

Mean 0816 1733 01.20 40.5% 041.00 Test Fee: 100

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

[Signature]
Authorized Signatory
INDUS Diesel X 2.8.5/0000-0000/4650

**NCC
LIMITED**

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HC (ppm) SD (HSU) **B9104**

PUC Certificate issued by: License No. and Seal: **Natural World**
N.H. 34, K.N. Road Back Side
Signature Licence

Vehicle Pass

Transport
Department,
Govt of West

POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Vehicle Reg No:WB 57B-9104

Name : MD CHAND MAHAMMAD SEKH

Category : EARTH MOVING

Address : RANITALA

Make: TEREX EQUIPMENT

MSD

Model: EARTH MOVING

WB

Date of Reg. 2014

Date:17/04/2019

Speedo Mtr Rdg. x

Fuel: Diesel

Engine No : 1420359

Time : 1:29:14 P.M

Chassis No: 409159

iN:	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leE	01066	06000	00.02	47.2	064.13
-----	-------	-------	-------	------	--------

SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Vehicle

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 80 of 82 Original Issue Date :
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Appendix P.2: Contractor's OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood and the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevent similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:
--------------	----------	----------------	--------------	------------

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে – ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
September 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 18 OHR – Gopalpur)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.


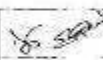

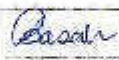
In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE 18 GOPALPUR (OHR WORK)

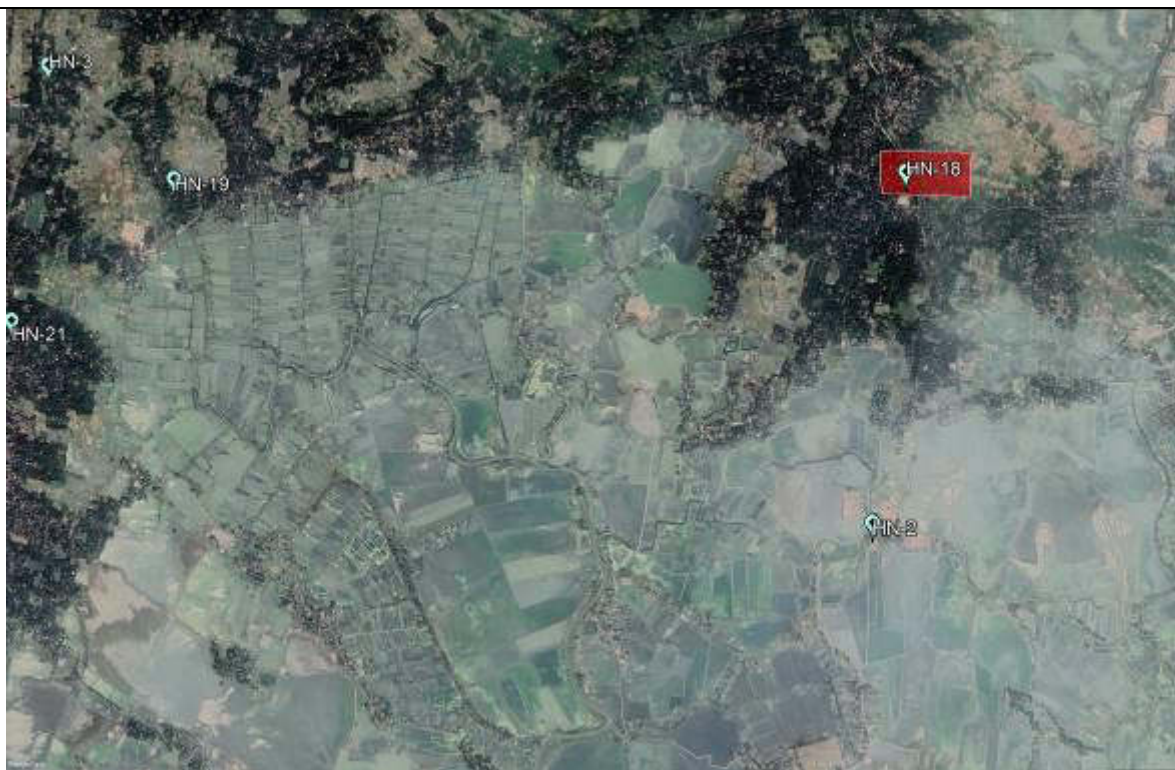
0	18.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY UNISU	APPROVED BY PD

Environmental Specialist, DSISC
North 24 Parganas

West Bengal Drinking Water Sector Improvement Project
WBDWSI Project

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Package No	Package No : N24P/02A Zone 18- OHR (Gopalpur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	26/09/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 1000 KL
Demolition Works	No demolition activity involved
Project Area	Gopalpur village , Gopalpur I Gram Panchayet of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design
Gram Panchayet: Gopalpur I	
Land Status	PHED
OHR Capacity	1000 KL
Location Map	



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Details of contractors on-site-personnel and workers	Zone 18- OHR (Gopalpur village), Gopalpur I Gram Panchayet of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Suman Paul; 7076274664
Site Supervisor	Mr. Tapendu Paramanik; 6296804910
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	4 skilled and 0 Semi-skilled
Unskilled workers	9
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-13 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at OHR site of Gopalpur village (Ref. Attachment O2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of OHR site.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils(Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First, we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The construction work to continue without disturbing the existing pipeline and electric poles. Spoil Management Plan is included in Attachment O7 included with this SEMP 	Contractor	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken as per PMU approved method. 	Contractor, PIU	DSISC observation at site document checking	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source (quarry/borrow pit) should be submitted. In case of involvement of new quarries/ borrow 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor, PIU	DSISC observation at site and document checking	Project cost

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Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	logging, and water pollution.	areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates(NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • Already done land requisition, electric connection, water source etc. • This site has numerous trees and would require tree felling. Accordingly, tree cutting permission has been obtained for cutting of 11 trees [refer Appendix O.A] • Made provision for detailed design drawing and documented all conditions • Please refer Attachment O3 for list of relevant permits and clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost

Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Air Quality	Emissions from construction vehicles, equipment machinery and DG set used for excavation and construction resulting in dust and increase in concentration of	<ul style="list-style-type: none"> • Following air pollution/dust control measures for construction activities stipulated by the “Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009”: ○ Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. ○ Vehicles transporting (cement, sands 	<ul style="list-style-type: none"> • Only vehicles having valid PUC certificate have been engaged in the project. • Mixer machine, winch machine and DG set used for concreting and pilling are not left for idling, after completion of work. • Sprinkling and dust screen arrangement have been made, and will be used when required. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	vehicle-related pollutants such as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. • Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. • Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. • If required, then provide a dust screen/high compound wall around the construction sites (OHR).	• Site has been access controlled to prevent trespassing. • Stock piles will be maintained in such a way to minimise dust rising. • Air quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	• The effluent should be discharged into local drains after passing through a sediment basin to prevent contamination of existing drains and local water bodies. • Where no local drains are available, a soak pit will be created on-site away from water bodies .	• The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. • Arrangements have been made to release effluent from the site to a local drain after passing through a sedimentation basin, so that it does not contaminate existing drain and pond around the project site	Contractor	PIU through DSISC observation at site and document checking	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and	• Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors	• No stockpiles have been planned near drainage locations/ nearby water bodies. • Storage areas are compacted and made impervious. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated materials expected to	Contractor	PIU through DSISC observation at site and document checking	• Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Fuels and lubricants should be stored away from drainage and spillage protection should be provided Provision for temporary silt traps or sedimentation basins along the drainage leading to the water bodies should be provided, according to situation. Temporary drainage channel around the work area should be made to accumulate the entry of runoff from upper areas into the work area. Provision of pumping out of the water from the pits/excavations to a temporary sedimentation pond or disposal after sedimentation should be taken into consideration. 	be utilized on-site only. No excess spoil anticipated. <ul style="list-style-type: none"> Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> So far no faunal movement has been observed in this site. Some trees are present on the site and felling of tree will be required at this site. Accordingly, tree cutting permission has been obtained (refer Appendix O.A). 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Planned activities in consultation 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	transportation of equipment, materials by labours	necessary to warn other road users; <ul style="list-style-type: none"> • Ensure maximum work place noise level exposure not exceeding 85 decibels (dbA); • Ensure noise level at site boundary comply with standard prescribed for local landuse; and • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	with DSISC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance. <ul style="list-style-type: none"> • Mixer machine, winch machine and DG sets used for concreting and pilling are properly maintained and stopped immediately after completion of work. • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Block as per requirements prescribed in IEE. 			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling any excess spoils at the site for long time, if required, 	<ul style="list-style-type: none"> • Spoil management plan has been developed • Waste/construction waste is being managed according to the following preferential hierarchy: reuse and dispose. • Waste material like concrete and excavated soils are utilized for reuse and filling purpose. Also, other solid waste like cement bags are collected in a place on site and then shifted to our godown, from where these are disposed as per law. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - O4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, safety belt, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Drinking water provided after proper testing. First Aid box provided at working sites; Clean eating areas provided to workers; 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			<ul style="list-style-type: none"> Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment O3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	<ul style="list-style-type: none"> Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc. 	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> Living quarters and construction camps shall be provided with standard materials; no shacks or huts Adequate lighting and ventilation Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested Provide clear pathways for safe movement Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed Construct septic tanks and soak pit arrangement for wastewater disposal Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	dustbin then it is disposed outside from area to designated disposal location, <ul style="list-style-type: none"> Daily generated effluent disposed by arrangements already present in camp/ household. Details of labour accommodation is presented in Attachment O2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> Strictly follow the protocol for chance finds in any excavation work; Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> No archaeological chance finds are reported at project sites till date. If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2-year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	Chance finds protocol	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment O1: Details of construction Work sites
Attachment O2: Details of construction camp sites
Attachment O3: List of clearances & statutory requirements
Attachment O4: Contractor's OHS Policy & Organization
Attachment O5: Utility shifting/relocation
Attachment O6: Details of Construction Materials
Attachment O7: Spoil Management Plan
Attachment O8: Procedure for on-site Grievance Redressal Mechanism
Attachment O9: Procedure for information disclosure prior to start of works

[Appendix O.1: Site Layout Plan](#)

[Appendix O.A: Labour License](#)

[Appendix O.B: Workman Compensation](#)

[Appendix O.C: PUC Certificates](#)


[Appendix O.2: Contractor's OHS Policy Statement](#)

[Appendix O.3: Sample Grievance Registration Form](#)

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02B_Bhangar II block,

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Attachment O1: Details of construction Work sites

1. Zone 18: OHR construction Site	
Location - Gopalpur	
A	Material storage <ul style="list-style-type: none"> • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery <ul style="list-style-type: none"> • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos • Steel Cutter – 1Nos • Pile Driving Machine – 1Nos • DG (Less than 5KVA) – 1Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan <i>Refer Appendix O.1</i>
H	Site photographs
Original site photographs	
OHR before Construction	

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Project facilities
at Site



Project Information Board




First Aid Box



Toilet for labours

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Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 18: Gopalpur
Location- Gopalpur, Gopalpur I,	
A	<p>Accommodation – For 13 Nos construction workers No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Camp at OHR site • Accommodation provided for 13 workers • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	
	Existing operator shelter on OHR site
Photos of camp and facilities provided	Same building is being used for labour accommodation

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	Toilet at labour Camp	Bottled drinking water

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Attachment O3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Possession of land	Available
2	Notice to Proceed from PIU	Available
3	Tree Cutting Permission	Obtained [Refer Appendix – O.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – O.B]
2	Workmen Compensation	Obtained [Refer Appendix – O.C]
C	Safety / liability safety related	
1	Medical Insurance	Tie-up with local hospital made
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – O.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment O4: Contractor's OHS Policy & Organization

1	Contractor agency has a OHS policy	Yes/ No
A	If yes, provide policy details 1. Policy statement: 2. EHS organization & responsibilities:	Yes [Refer Appendix O2] Yes
B	List safety risks anticipated in the project Work Area (OHR) • Trips and falls • Head injury from falling objects • Confined work space • Slope failure / trench collapse • Accidents from open excavations	-
C	List of personal protection equipment provided to workers • Boots- 13 nos. • Gloves-2 nos. • Helmet-15 nos. • Safety jacket- 15 nos. • Goggles- 1 nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OHS	Done
	Work permit system	Yes – for work at height
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work at height, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Yes
2	Contractor emergency procedure	
A	<ul style="list-style-type: none"> In case of accident, first aid treatment to injured labour/person shall be provided. In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. Details of accident shall be reported in accident register and the same shall be informed to client also. 	
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Suman Paul Mob: 7076274664
	EHS Supervisor	Mr. Saradindu Gain Mob: 9775459487
	Project Manager Representative	Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents <ul style="list-style-type: none"> Details of accidents shall be recorded in accident register. Copy of accident register shall be submitted to client at the end of every month. In case of any major accidents client shall be informed immediately. 	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment O5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (OHR)	Not Required

Attachment O6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m ³) for project	Source	Indicate if source has all necessary government clearances
1	Aggregate	1000.1	Nalhati	Yes
2	Sand	520.59	Gopi Ballavpur	Yes
3	Steel (MT)	113.12	Approved supplier	Yes
4	Cement (MT)	345.04	Approved supplier	Yes

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Attachment O7: Spoil Management Plan

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SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (OHR WORK)

Sl	18.06.21/9				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PII

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse spoil from works.

2. SCOPE:

This Spoil Management Plan developed for OHR site in Zone (18). For the OHR site we do not anticipate any excess Spoil for disposal as all excavated material will be reused at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 65 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES. IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is any extra soils for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transportation as there is no extra soils for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at GOPALPUR (Zone 18)

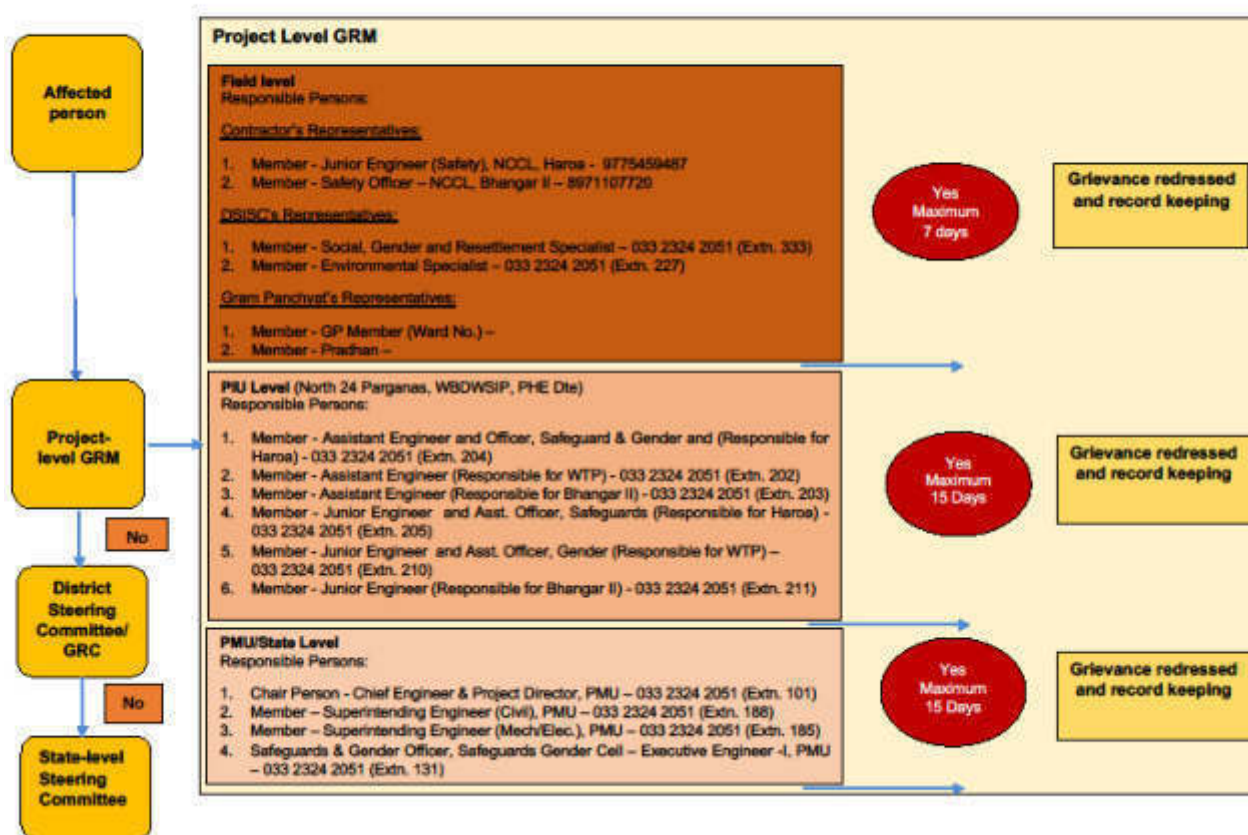
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	1	Boundary wall	65	21	44

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Attachment O8: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism

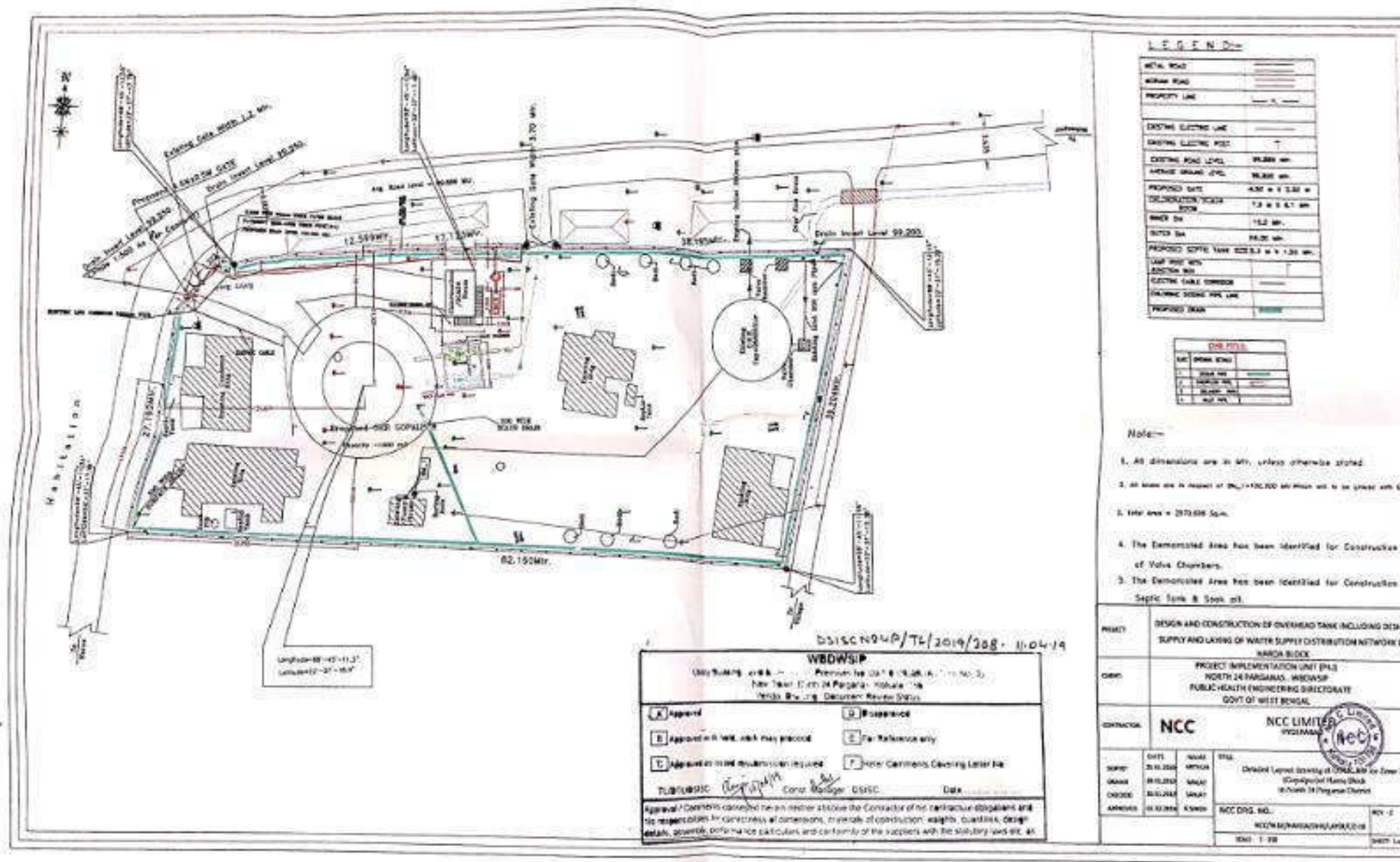


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment O9: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

Appendix O.1: Site Layout Plan



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 27 of 89 Original Issue Date :

Appendix O.A: Tree Cutting Permission

Handwritten: 7/05/19, Requested to take further action in this regard, 12/06/19

Stamp: Government of West Bengal, Directorate of Forests, Office Of The Divisional Forest Officer, 24 Parganas (North) Division, Court Complex (Near Barasat Bus Stand), Barasat, North 24 Parganas District. Phone: (033) 2552 0968/Fax: (033) 2584-0241. Email: dfo24pgsn@yahoo.co.in

No. 489 (7) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

From : The Divisional Forest Officer, 24-Parganas (North) Division

To : The Executive Engineer, North 24 Parganas, W/S Division-II, P.H.E. Dte. Utility Building, Tank No.3, 2nd Floor, Block – A1, AA-1A, New Town, Kol-156.

Sub : Felling permission of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas.

Ref : Your Memo No. 700/N-24PGSD-II, dated 10.05.2019 & Range Officer, Rampura S F Range memo no. 27/RMP-17-T, dated 29.05.2019.

Sir/Madam,

Enclosed please find a permission for felling of 11 number of trees for construction of overhead reservoir including water supply distribution network & metering works in Haroa Block, Mouza-Gopalpur, J.L. No.127, P.S.-Haroa under Gopalpur-I Gram Panchayat in the district of North 24-Parganas along with approved plantation plan.

You are requested to arrange to send a report on completion of plantation at an early date. Please arrange for maintaining the proposed plantation up to 5(five) years.

You are also requested to kindly explore the possibility of transplanting the trees as far as practical in the field if possible.

Enclro: As stated above.

Signature: Angshuman Mukhopadhyay
(Angshuman Mukhopadhyay, WBFS)
Divisional Forest Officer,
24 Parganas (North) Division.

No. (2) / 17-T-9 Dated, Barasat, the 03. 06. 2019.

Copy forwarded for information and taking necessary action to:-

1. The Prodhan, Gopalpur – I Gram Panchayet, Haroa, North 24 Parganas
2. The Range Officer, RMP SF Range along with approved plantation plan.

You are requested to inspect the area of plantation after monsoon and report to the undersigned.

Signature: Sd/- Angshuman Mukhopadhyay
Divisional Forest Officer,
24 Parganas (North) Division.

Stamp: Inward No. 976, RECEIVED, Date 12/06/19, Time - 1:07 PM

Handwritten: MEMO NO - 966 / N-24 PGSD-II dt 12-06-19

Handwritten: DTL / AD / Sasmahla, For n.a. please, 12/06

Handwritten: M4/15

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Form III

Form for Permission for Felling / Disposing of Trees in Non-Forest Areas
[See Rule 5 (2)]

Permit No. 5/PFO/2019-20,

Dated : 03.06.2019.

Whereas the applicant, Sri/Smt./Messrs. The Executive Engineer, North
24 Parganas W/S Division-II, P.H.E. Dist. UHUT,
Building Tank No. 3, 2nd Floor Block at A.A. Das
submitted an application with the prescribed fee on New Town, Kalyan,
GRN-19-2019-20-001510165-1 SRN-84164545 at 27.05.2019
disposing of trees for the purpose of for construction of overhead reservoir including
work in Haroa Block
(a) Location : water supply distribution network & metering
(b) Details of Plot(s) of Land : Mouza Gopalpur, SL No. 127,
Gopalpur-I, Gram Panchayat, under North 24
Parganas District

AND Whereas the undersigned is satisfied with regard to the legality of documents towards the proof of ownership or lease of the land on which such tree stands;

AND Whereas the purpose for which the trees are required to be felled is in conformity with rule 4 (1) of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006 :

AND Whereas an inquiry in the prescribed manner has been carried out on 23.05.2019. and the undersigned has examined the inquiry report with due care;

AND Whereas the land in question belongs to the Tea Garden and the applicant has produced a specific scheme framed under the provisions of the Plantations Labour Act, 1951 for utilizing the sale proceeds strictly for the purpose of welfare of the labourers;

AND Whereas the applicant is a developer who has already obtained a Certificate of Clearance No. dated Issued by the undersigned and sanction of the building / construction plan by the sanctioning authority, viz vide his letter No. Dated

AND Whereas it is found on inquiry that the proposed felling will not alter nature or character or mode of use of the land.

OR

The Applicant has produced the requisite permission under section 4C of the West Bengal Land Reforms Act, 1955.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 29 of 89 Original Issue Date :
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AND whereas the applicant has deposited the prescribed security amount for plantation of trees to the undersigned;

OR

The applicant has been exempted by the undersigned from the obligation of plantation of trees under sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2006;

OR

The applicant has expressed his inability to undertake the plantation of trees by himself and has deposited to the undersigned the amount for the designated agency as prescribed under sub-rule (3) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007.

OR

The applicant is a developer and not required to deposit the security amount.

- * Strike off if not applicable.
- * Strike off the option which is not applicable.

Now, therefore, in persons to the power conferred under sub-section (1) of section 5 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the undersigned permits the applicant to undertake the felling of the trees as included in the Annexure.

The undersigned also permits the applicant (not a developer) under the first proviso to section 8 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, to plant only _____ number of trees instead of the number prescribed under sub-rule (1) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) rules 2007. OR permits the applicant to plant _____ number of trees over different plots(s) of land (as indicated in Condition No. 3 below) because (give reasons) _____, which is in conformity with sub-rule (2) of rule 6 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Rules, 2007;

The permission as given above is subject to the following conditions:-

This permit is non-transferable and valid only up to 03 (Three) months from the date of issue of this permit.

1. the applicant (if a developer) shall take up plantation of trees in accordance with the approved plantation plan and the Certificate of Clearance within July 19 month(s) from the date of sanction of the building / construction plan by the sanctioning authority;
2. The applicant (if not a developer) shall take up plantation of _____ number of trees over the Plot(s) No. _____ within _____ months from the date of issue of this permit;

Annexure To Form III

Permit Number 5/DEO/2019-20,

Date: 03.06.2019,

Number of Tree	Location (Plot No.)	Species	Diameter at Breast Height (in. cm)	Condition of the tree
11 NDR	for construction	coconut		
	along n & over-	mango		
	head & ss	Jack fruit		List enclosed.
	water including			
	water supply			
	distribution			
	network & metering			
	works in Haroa			
	Block, Mouza-			
	Gopalpur, T. NP-127			
	Gopalpur-T. G.P.			
	24 P.S. (N)			

ABSTRACT

Species	Total No. of Trees
A.
B. <u>COCONUT</u>
C. <u>MANGO</u> 11 NDR
D. <u>JACK FRUIT</u>
E.
Grand Total 11 NDR

Anand Kumar Mukhopadhyay
(Signature of the Competent Authority)

Name : DIVISIONAL FOREST OFFICER
Designation 24-Pardana (North) Division
Official Seal :

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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3. As provided in section 10 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006, the applicant (if not a developer) shall start preparatory work for plantation within sixty days from the date for permit or the date of receipt of directions from the undersigned, as the case may be, and shall undertake plantation for trees in accordance with such directions;
4. The applicant shall inform the undersigned in writing immediately on completion of the plantation of trees;
5. The applicant shall, within a week of carrying out felling of trees, submit a report to the undersigned indicating the total number of logs and firewood produced against each species;
6. Stamps of the felled trees shall be retained for a least one month from the date of felling;
7. The felling and carriage of trees shall not be carried out after the sun-set and before the sun-rise.
8. This permission is subject to the provisions of the West Bengal forest (Establishment and Regulation of Saw Mills and Other Wood-based Industries) Rules, 1982 and The West Bengal Forest Produce Transit Rules, 1959.
9. This permit should be produced for inspection on demand to the undersigned or any of the authorities specified in sections 15 and 17 of the West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006.

(Signature of the Competent Authority)

Name : *Angshuman Mondal*

Designation : Divisional Forest Officer
24 Parganas (North) Division

Official Seal :

* Strike off if not applicable.



Government of West Bengal
Office of the Executive Engineer
North 24 Parganas W/S Division-II, P.H.E. Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AI, AA-IA, New Town, KOL-156
Phone No. : (033) 2324-2051, E-mail : ee_n24_div2@wbphed.gov.in

Plantation & maintenance cost details

Cost of plantation & maintenance of the plantation area is given below:

1st Year (2019) :

- i) Survey & cleaning of the area.
- ii) Digging of pits.
- iii) Purchase of Farm yard manure.
- iv) Filling up of pits with Farms yard manure & soil.
- v) Planting of saplings.
- vi) Watering.
- vii) Weeding hoeing.
- viii) Water 4 times a month.

Cost of seedling @ Rs.60.00 will be expenses per tree for 1st year. (55nos. tree X Rs. 60.00 = Rs.3,300.00)

2nd Year (2020) :

- i) Weeding.
- ii) Watering 6 times a month.
- iii) Casualty replacement.
- iv) Maintenance by mali.
- v) Watering 2 times a month during September'2020 to November'2020.

Cost of seedling @ Rs.35.00 will be expenses per tree for 2nd year. (55nos. tree X Rs. 35.00 = Rs.1,925.00)

3rd Year (2021) :

- i) Watering 4 times a month.
- ii) Casualty replacement.
- iii) Weeding.
- iv) Maintenance by mali.
- v) Watering 2 times a month during September'2021 to November'2021.

Cost of seedling @ Rs.25.00 will be expenses per tree for 3rd year. (55nos. tree X Rs. 25.00 = Rs.1,375.00)

4th Year (2022) :

- i) Watering 4 times a month.
- ii) Weeding.
- iii) Maintenance by mali.
- iv) Watering 2 times a month during September'2022 to November'2022.

Cost of seedling @ Rs.25.00 will be expenses per tree for 4th year. (55nos. tree X Rs. 25.00 = Rs.1,375.00)

Approved.

Angshuman Mukhopadhyay
Divisional Forest Officer
24 Parganas (North) Division

J. Manoj
Executive Engineer,
N-24 Pgs. W/S Divn- II, P.H.E. Dte.

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8. Proposed plantation programme

In order to compensate for the proposed felling of eleven (11) trees: a) Coconut – 8, b) Mango – 2 and c) Jack fruit – 1, we intend to plant 55 trees (1:5 ratio) in the same area as per the directive of the forest department. The proposed composition of these trees is presented below.

- a) Coconut (*Cocos nucifera*) – 24
- b) Mango (*Mangifera indica*) – 16
- c) Jack fruit (*Artocarpus heterophyllus*) – 6
- d) Neem (*Azadirachta indica*) – 5
- e) Krishnachura (*Delonix regia*) – 4

The saplings of these trees will be planted during early monsoon and will be guarded and maintained for 5 years. The proposed plantation area is shown in the drawing attached.

11. Risk Assessment

The trees proposed to be felled for implementation of this project are all native and commonly available. As none of these species belong to IUCN Red List and can be easily replanted, the potential risk to local ecology due to this felling will be Low.

[Signature]

Tapan Dasgupta, DSE
North 24 Parganas
WBHWSI Project

[Signature]
Executive Engineer
North 24 Parganas, WBHWSI
P.O. Box, Dist. Court, of W.B.

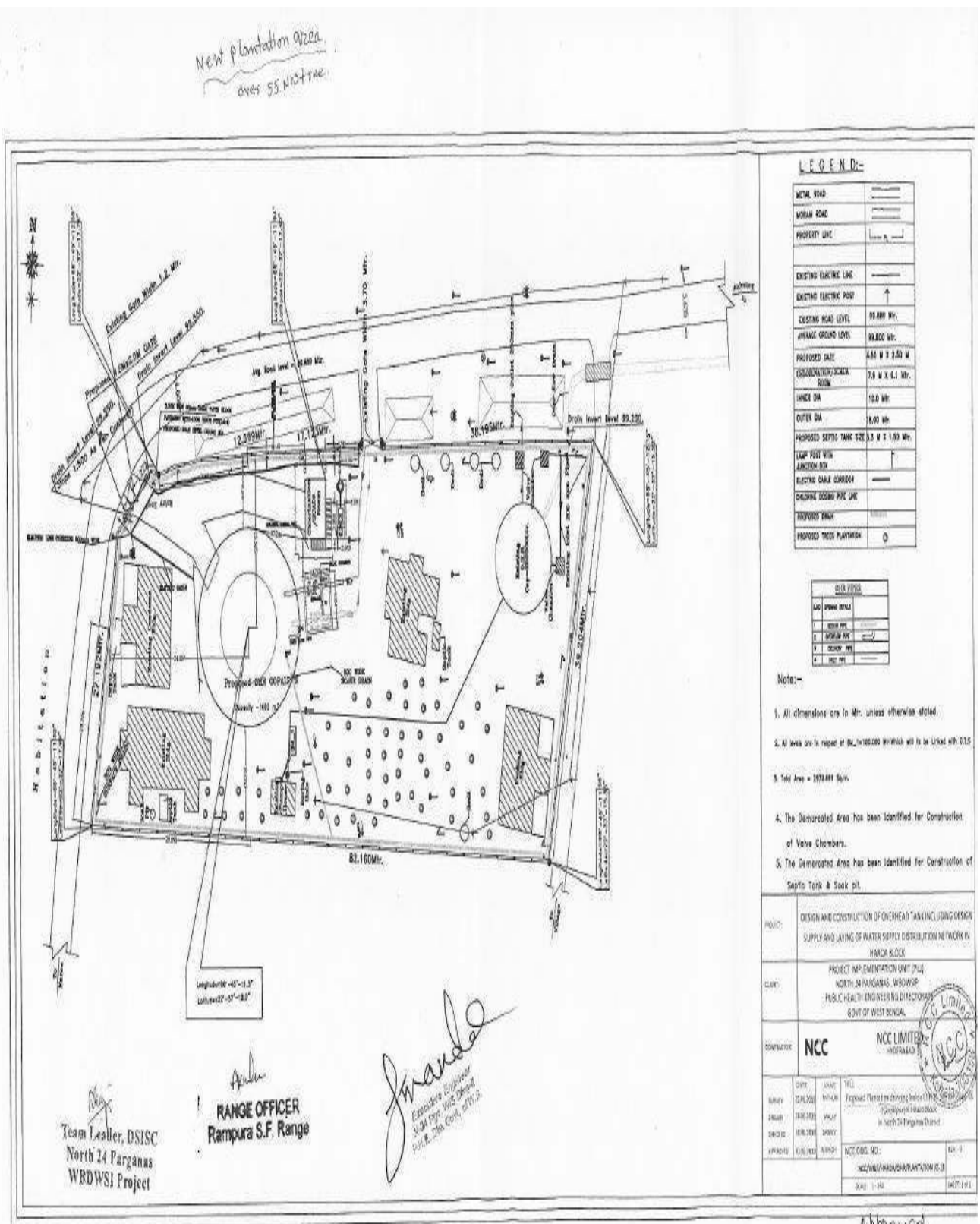
Marking List Of Trees Executive Engineer, N-24 PGS, W/S Divn.-II, P.H.E.Dte.

Inspection On 27-05-2019

TSL No	Name Of Trees	Girth(M)	Length(M)	Remarks
1	Mango	1.50	2	
2	Mango	0.90	1.50	
3	Jackfruit	0.90	2	
4	Coconut	0.70	3	
5	Coconut	0.75	2	
6	Coconut	0.80	3	
7	Coconut	0.70	2	
8	Coconut	0.65	2	
9	Coconut	0.70	3	
10	Coconut	0.75	2	
11	Coconut	0.80	2	

Total= 11 Nos trees

Submitted
Arjun
27-05-19
RANGE OFFICER
Rampura S.F. Range





NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 89 Original Issue Date :
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Appendix O.B: Labour License

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 39 of 89 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT-24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No. : **BST09/CLL/000029**

Date : **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour(RSA) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-B, P.H.E. D/o. (BST09/CLL/000029)

W. Site - Utility Building, Tank No.-2, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL: PEARA, PO+PS: HAROA, PIN: 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix O.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 040-66038600		
Policy No Insured :	2019-L0129168-FWC NCC Limited	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Address :	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
GSTIN Number :	19AAACN7335C12M	Telephone(Mob, Off, Home) :	4027822990/09892590738/4027822990
		Fax No & Email Id :	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
		FGI GSTIN Number :	36AABCF0191R12A
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage/liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Cn-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding War Risk, Blasting, Tunneling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important :- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorised Signatory)	
Date of Issue :	07/02/2019		
Place of Insurance :	Mumbai*		
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs. 67.15 paid by Letter Of Authorisation No. CSD/118/2018/3179/18, dated 16/08/2018 Madhuk - 2017/C.R. 97/M-1, dated 09/01/2018.

Product UIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 5, Indira Park Finance Center, Senapati Bapat

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Appendix O.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **JH-10Z-9621** WB-01 **D 5877301**

Date of Issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.181
HC (ppm)	119
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* Date: **24/08/19**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Station Code: 00

PUC Number: P000000001694 Vehicle Type: 2 Wheeler

Name: M/S N.C.C. LIMITED Reg. No.: JH-10Z-9621

Address: Reg. Date: Apr-2011

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Test Date/Time: 24-Aug-2019 10:55 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 21561

Chassis Number: 01148

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.181		
HC* (ppm)	4500	119		
CO ₂ (%)		1.49		
O ₂ (%)		18.72		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		—		
Lambda		—		
PEF		0.501		
CO-Aet (%)		1.452		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG.

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30AC7817** WB-01-**D 4261432**

Date of Issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	40.5%

PUC Certificate Issued by: **MILI ENTERPRISE**

Signature: **Kolkata**

License No. and Seal: **151/AETC/2018**

WB-01-

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010895

Label Code: **WB** License No.: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000382** Vehicle Reg No.: **WB30AC7817**

Name: **NCC LTD** Category: **car**

Address: **Mahindra**

Model: **BOLERO**

Date of Reg.: **2019**

Speedo mtr Rdg: **1094**

Mobile: **9735589348** Engine No.: **91913**

Date: **29-Mar-2019** Chassis No.: **10260**

Time: **10:54 AM** Emi Norms.: **BS IV or Onwards**

Fuel: **Diesel** Vehicle Type: **BS4 - 4 Wheeler**

Flushing Cycle Mean: **RPM Min: 0840 RPM Max: 1913**

SNo.	RPM min	RPM max	K m-l	HSU %	OTF C
1	0810	1630	01.20	40.5	041.00
2	0850	1830	01.21	40.6	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
K m-l	1.62 01.20
HSU %	50 40.5

Valid upto: **28-Mar-20**

Grade: **A**

Mean **0816 1733 01.20 40.5% 041.00** Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorised Signatory

INDUS DieselX 2.8.5/0000-0000/4550

**NCC
LIMITED**

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HC (ppm)
SD (HSU)

B9104

PUC Certificate issued by:
 M/S - NATURAL WORLD

Signature 

License No. and Seal:
Natural World
N.H. 34, K.N. Road Back Side
Berhampore
Licence

Vehicle Pass

POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

D4637539

Transport Department, Govt of West

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No. : 1B/2008-2009

Test Station Code : 002

PUC No. : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg. x

Engine No : 1420359

Chassis No: 409159

iN:	RPM min	RPM max	K.m-1	HSU%	QTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leF	01066	06000	00.02	47.2	064.13
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**SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE**

Vehicle

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Appendix O.2: Contractor OHS Policy Statement

NCC Ltd.	OH&S PLAN Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Works in Haroa Block	Doc. No. NCC/ OHSP /01 Revision No. 00 Revision Date : 00 Page 10 of 58 Effective Date :
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NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood and the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevent similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.:	Date of Issue:	Approved by:	Issued by:
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Appendix O.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন, আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ	ব্লক-	
		গ্রাম পঞ্চায়েত-	
		গ্রাম সংসদ-	
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম-	পাড়-	পুরুষ -	
ফোন নং-	ই-মেইল-	মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দ্বারা করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ/ মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ		
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে -	ই-মেইল-	মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ		
(নাম / পদ)		
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ		
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না		
কিভাবে জানানো হলঃ		

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (PIPELINE WORK)

0	02.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PUJ

Environmental Specialist, DSISC
North 24 Parganas

West Bengal Drinking Water Sector Improvement Project WBDWSIP Project Assistant Engineer
PIU-I, N-24 Pgs, WBDWSIP, PHE Dto.
Govt. Of West Bengal

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No	Package No : N24P/02A Zone 18- Pipeline works (Gopalpur) under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02A										
Contractor	NCC Pvt. Ltd.										
Date of Contract Award	19/09/2018										
Date of r works commencement	03/09/2019										
Contract period	Construction: 3 Years ; O&M: 2 Years										
SEMP Component	Laying of 91293 m of pipeline as detailed below.										
Demolition works	No demolition activity involved										
Project Area	Gopalpur I Gram Panchayat (GP) of Haroa Block.										
Project Description	Individual household water supply schemes for the project Gram Panchayats										
Household Connection	5583 (Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Gopalpur I											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - H18	47494	14503	10243	7485	4947	5667	783	145	26		91293
Map of Distribution Network											
Refer Appendix – P.1											

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Details of contractors on-site-personnel and workers	Zone 18- Pipeline works (Gopalpur), Gopalpur I Gram Panchayat of Haroa Block.
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Sing; 9732756414
Site Supervisor	Mr. Golam Murtaza; 8637383037
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	4 skilled and 0 Semi-skilled
Unskilled workers	29
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-33 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation is in a rented house of Gopalpur Resource Centre, Gopalpur village (Ref. Attachment P2

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis documentation on material obtained from each source 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	natural drainage patterns, ponding and water logging, and water pollution.	(quarry/borrow pit) should be submitted. <ul style="list-style-type: none"> In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law. 				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> We have already received pipe laying permission from local authorities, electric connection, water source etc. NOC taken from Gram Pradhans for carrying out the activity. DG sets of capacity less than 5 kVA only being used. Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	Obtain details on location of underground Asbestos Cement pipes <ul style="list-style-type: none"> Locate the new pipe carefully to avoid encountering AC pipes Leave the Asbestos Cement pipes undisturbed in the ground. 	Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ. Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs.	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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			Shalipur and Zone-21 Haroa) in the Haroa Package.			
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone- 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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			13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE.			
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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			kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work.			
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 	<ul style="list-style-type: none"> • Spoil management plan has been developed [Refer Attachment P7] • Excavated earth is utilized for backfilling purpose. • Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc.	<ul style="list-style-type: none"> • Based on NCC's OHS Plan, a site specific OHS plan has been developed. • Site OHS plan is attached at Attachment - P4. • All workers have been provided with and made to 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> • Project cost

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		(c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; • H&S Training for all site personnel has been arranged and it will be continued; • H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; • Documented procedures are followed for all site activities; • Work-related accidents will be recorded; • Bottled water provided at site. • First Aid box provided at working sites; • Clean eating areas provided to workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic	Generation of temporary	• Employ local labour force as far as possible	• Local labours are employed, on priority,	Contractor	PIU through DSISC	• Project cost

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Employment	employment and increase in local revenue	<ul style="list-style-type: none"> Comply with labour laws 	whenever available. <ul style="list-style-type: none"> Refer Attachment P3 for documents relating to statutory compliances 		observation at site and document checking	
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., Living quarters and construction camps shall be provided with standard materials; no shacks or huts 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to 	Contractor	PIU through DSISC observation at site and document checking	<ul style="list-style-type: none"> Project cost

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		<ul style="list-style-type: none"> • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location,</p> <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • Details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department		

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


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Attachment P1: Details of construction Work sites

1. Zone 18: Pipeline construction Site						
Location - Amta						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/ mechanical)
	DI Pipes (954 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	26	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	145	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	783	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network-HDPE Pipes (90,339 m)					
	200 mm	5667	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	4947	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	7485	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	10243	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	14503	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	47494	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 18
Location- Gopalpur, Gopalpur I	
A	<p>Accommodation – For 33 construction workers. No women / families in the camp</p> <p>Facilities provided at camp site</p> <ul style="list-style-type: none"> • Type of living accommodation – Rented Accommodation • Accommodation provided for 33 workers • Cooking gas • Drinking water • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	
	Labour accommodation

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	Toilet at accommodation

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 35 nos. • Gloves-4 no. • Helmet-33 nos. • Safety jacket- 35nos. • Goggles- 2nos.	Yes
D	Preventive Measures	
	Orientation of all workers on OHS	Done
	Work permit system	No
	Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	Safety signages	Displayed on site
	Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Sing Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accident client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	26400.00	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 1 AMTA (PIPELINE WORK)

0	15.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY OSISC	APPROVED BY PIU
Environmental Specialist, WBDWS North 24 Parganas West Bengal Drinking Water Sector Improvement Project WBDWSI Project					

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (18).

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with

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design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. **SPOIL VOLUMES AND CHARACTERISTICS:**

In this project, approx. Generation of excavated earth will be approx. 26400 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. **SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:**

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. **ON SITE SPOIL MANAGMENT APPROACH:**

In this project, no need of the approach as there is no extra soils for disposal.

9. **SPOIL TRANSPORTATION METHODOLOGY:**

In this project, no need of transport as there is no extra soil for disposal.

10. **MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:**

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Gopalpur (Zone 18) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	47508	0.25	1.063	12625.251
2	75	14500	0.25	1.075	3896.875
3	90	10240	0.25	1.09	2790.4
4	110	7484	0.25	1.11	2076.81
5	140	4947	0.25	1.14	1409.895
6	200	5669	0.25	1.2	1700.7
7	250	783	0.3	1.25	293.625
8	300	145	0.3	1.3	56.55
9	350	26	0.6	1.35	21.06
10	Extra for bend, joints etc				1528.834
11	Approx. generated total Spoil (Soil) at Gopalpur				26400.00

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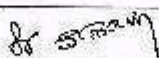


Attachment P8: Traffic Management Plan

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TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 18 GOPALPUR (PIPELINE WORK)

0	02.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WEDWSI Project

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone – 18 GOPALPUR.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

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5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

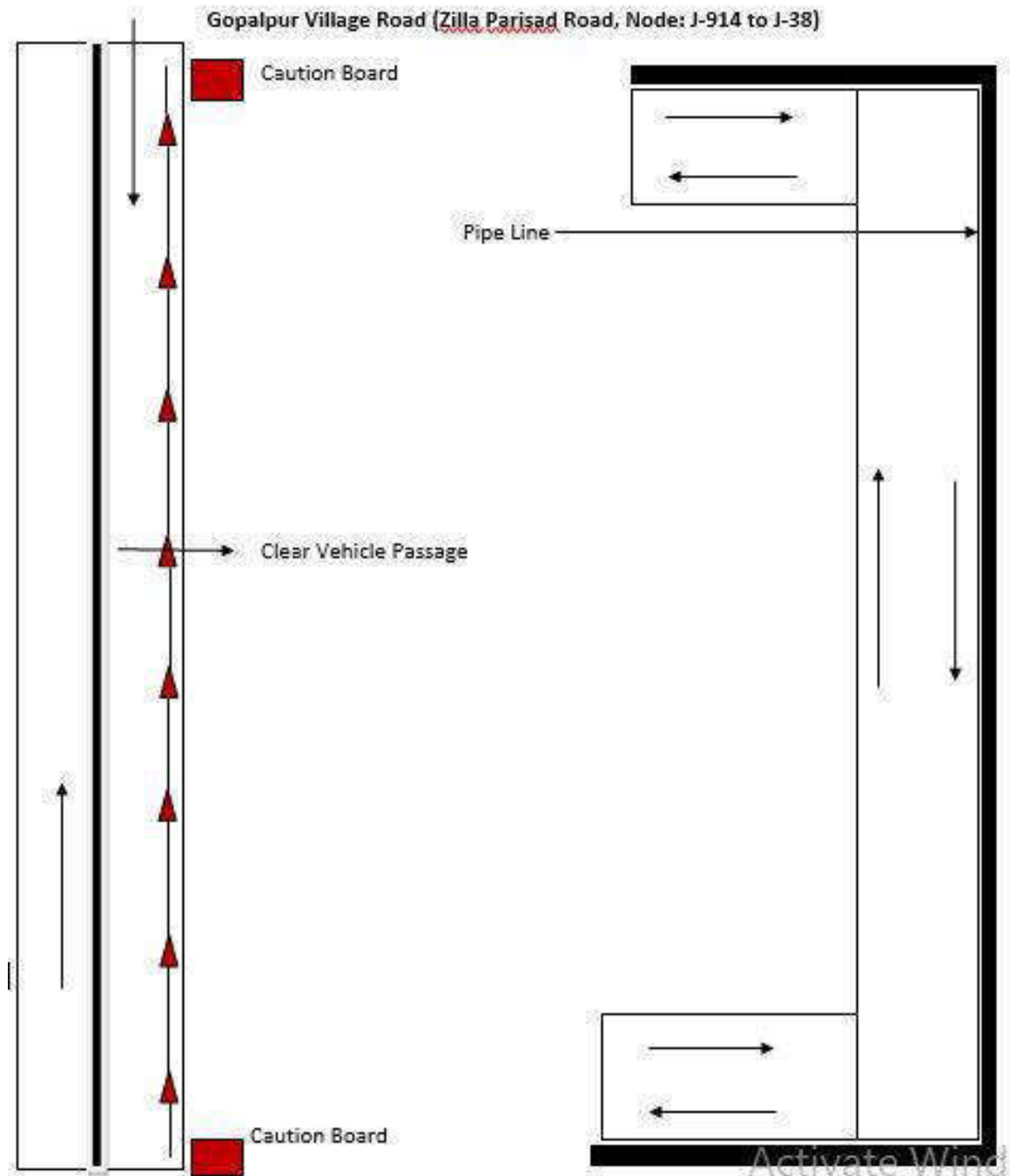
- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

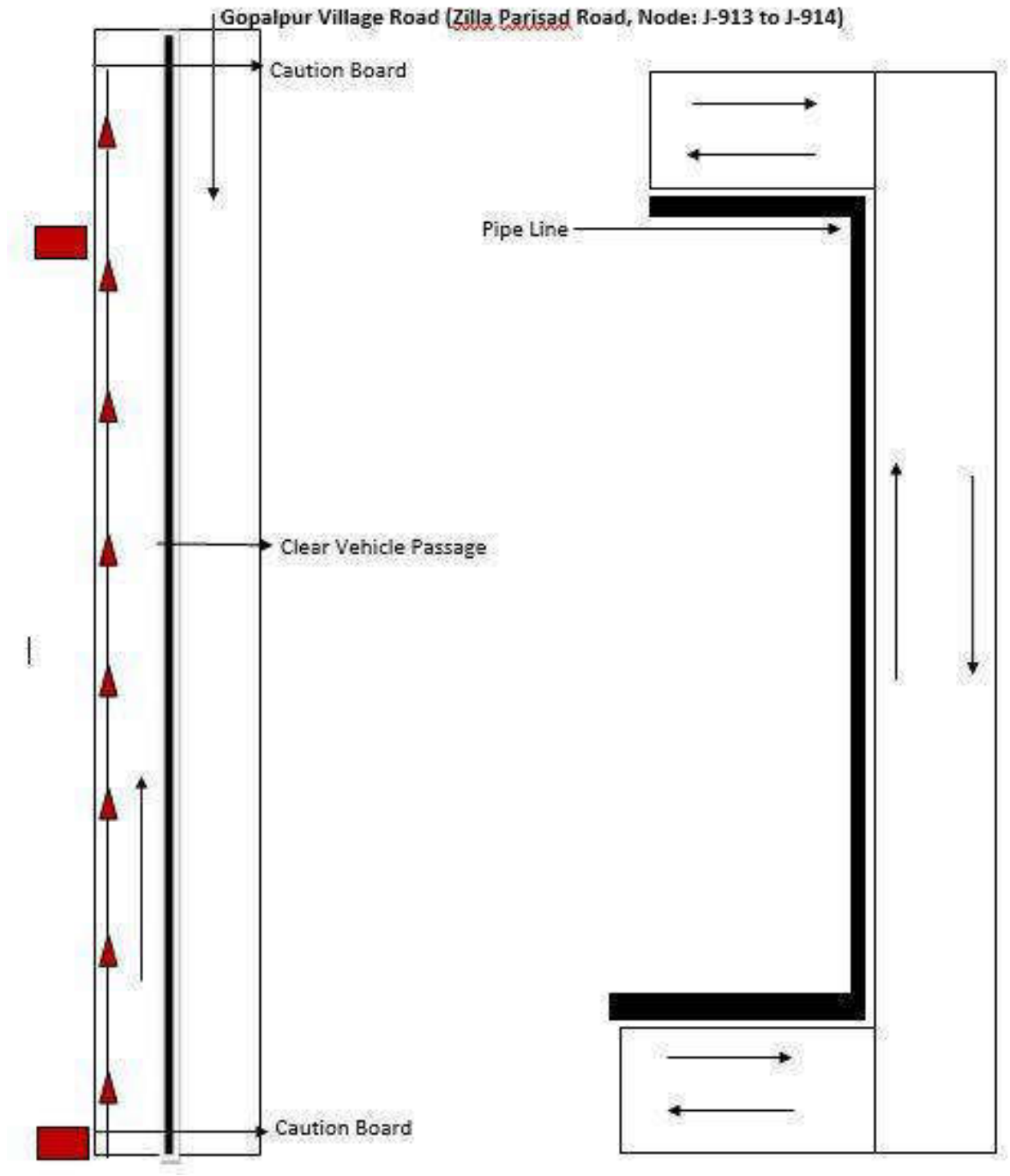
- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.
- Particular attention has been taken in working area:
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.



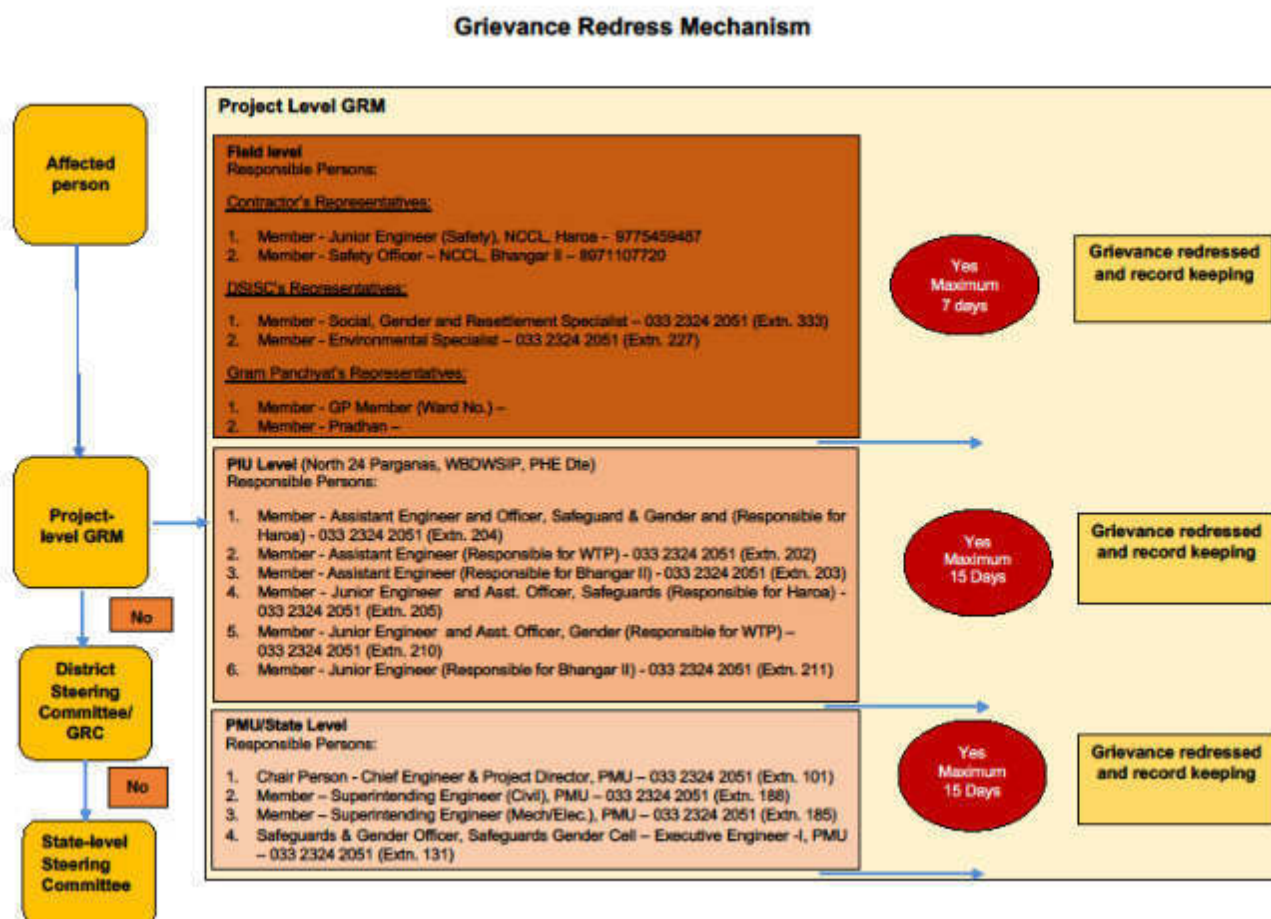
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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.



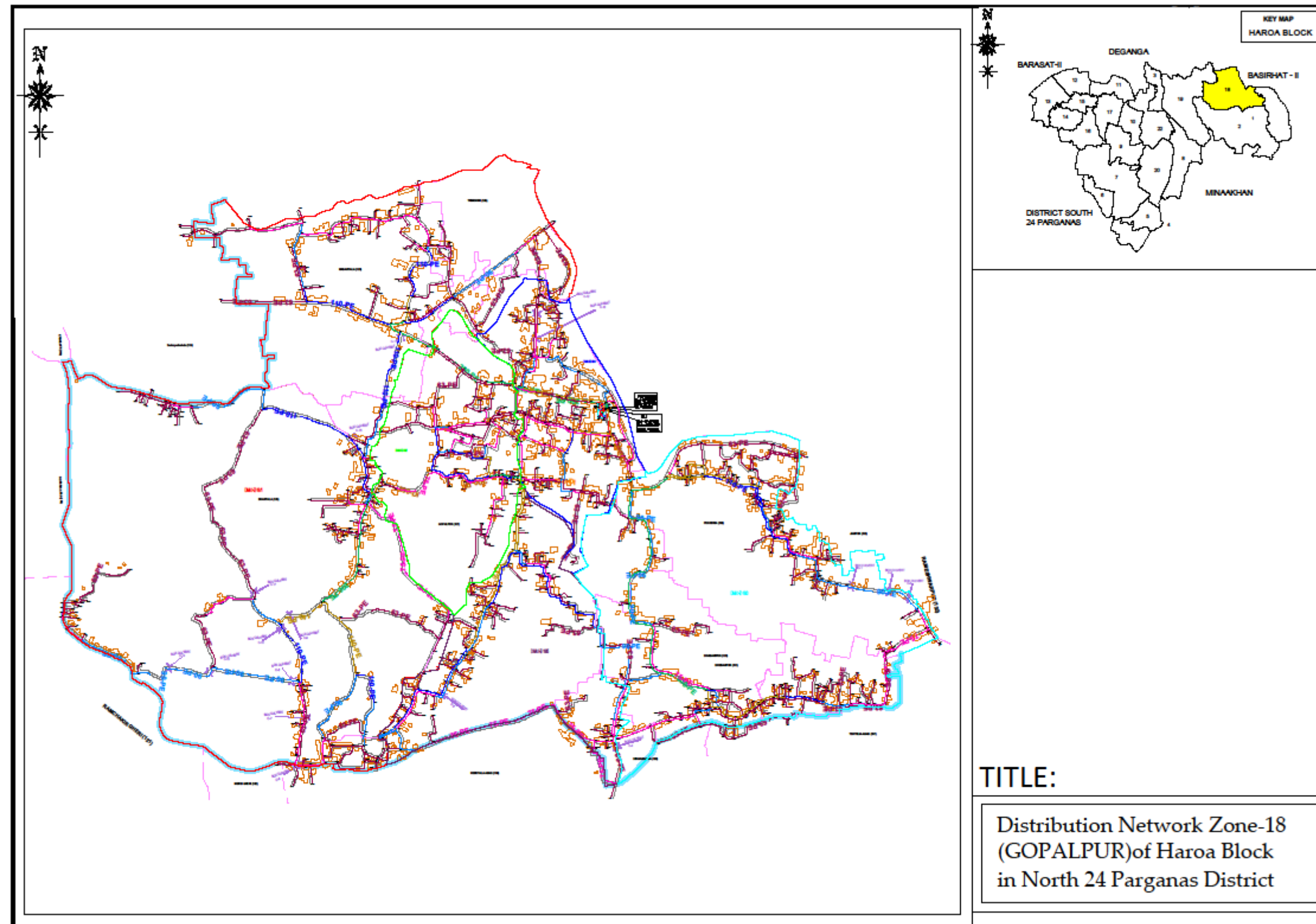
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.

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Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 78 of 89 Original Issue Date :
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Appendix P.A: Gram Panchayat and other Authorities Permission

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Government of West Bengal
Office of the Assistant Engineer
PIU-I, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-A1
Action Area-1A, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ac3.piun24p.adb@wbphed.gov.in

Memo No. _____/AE(C)PIU-I/N-24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- 2) The Sub Division Engineer,
BSNL, Basirhat Sub Division, North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-18) Gopalpur.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Haroa block with financial assistance of AD11. Now the entrusted agency will start laying distribution network from 02.09.2019 in Gopalpur-I, Gopalpur-II & Haroa Gram Panchayat along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

**SD/-
S. BOSE**

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, _____

Memo No. _____/AE(C)PIU-I/N-24P,

Copy forwarded for information to :-

- 1) The Sarapati, Haroa Panchayat Samity.
- 2) The Executive Officer, Haroa Panchayat Samity.

**SD/-
S. BOSE**

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 29/08/19.

Memo No. 17/2/4/AE(C)PIU-I/N-24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) Sri Pintu Naikar J.R., PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.



**SD/-
S. BOSE**

Assistant Engineer

PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.

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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure:

The License shall remain till-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 82 of 89 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA, MORE TANK ROAD, BASIRHAT-24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 35(1))

Licence No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
\$ Deposit	10000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peera, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

*Licensing Officer
Under the Contract Labour(R&A) Act, 1970*

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLL/000008)

W.Site - Utility Building, Tank No.-2, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL: PEERA, PO+PS: HAROA, PIN- 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 049-6603600			
Policy No : 2019-L0129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521 Telephone (Mob, Off, Home) : 4027822990/09892590738/4027822990 Fax No & Email Id : 02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM PGI GSTIN Number : 36AABCF0191R1ZA		
Address : WORKS IN HARDA BLOCK, North Twenty Four Parganas, West Bengal, 743425			
GSTIN Number : 19AAACN7335C1ZM			
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Harma Blue K Contractor/Sub-Contractor Name : NCC LTD			
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy; the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for Occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub-contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Address as mentioned below.	 (Authorized Signatory)		
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No.CSD/118/2018/3179/18, dated 16/08/2018, Madras - 2017/C.R.97/M-1, dated 09/01/2018.

Product/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower-3, Indiabulls Finance Center, Sempati Bypass,

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Appendix P.D: PUC Certificates

Vehicle Registr. No. **WB26T5753** WB-01-**D 6148795**
Date of Issue: **04/06/2019** Valid upto **03/12/2019**

	Pollution Level	
	CO (%)	
	HC (ppm)	
	SD (HSU)	1.45

PUC Certificate issued by: **MIRA SERVICE STATION** License No. and Seal: **0004/AETC/BST/II**
Signature: **Plot No - 2, Block-AH, New Town, Rajarhat, Kolkata-700 156**

COMPUTERISED EMISSION TEST CERTIFICATE
WB-01-**D 6148795**
Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
PLOT-2,BLOCK-AH,NEW TOWN,KOLKATA-156

Liscence Number :- **0004/AETC/BST/II**
I.D. Number :- **001408** Date :- **04/06/2019**
Year Of Registration :- **2015** Time :- **4:08:58 PM**
Vehicle Registration Number :- **WB26T5753** Test Fee :- **100**
Speedometer :- **0**
Engine Number :- **E14884**
Chassis Number :- **E37419**
Vehicle Color :- **OTH**
Vehicle Make :- **MAHINDRA**
Vehicle Model :- **SCORPIO** Contac :- **9564932617**
Type Of Engine :- **4S** Oil Temperature :- **34**
Type of Vehicle :- **4W** Fuel :- **Diesel**
Owner :- **M.S NCC LTD** Result :- **Pass**
Driver :- Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	790	2430	0.04	1.54	34
Avg	796.00	2486.00	0.03	1.45	

Name of Authorise Signatory with Seal of Testing Center: **MIRA SERVICE STATION**
Plot No - 2, Block-AH, New Town, Rajarhat, Kolkata-700 156

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **WB-52F-6123** WB-01-**D 5877303**

Date of issue: **24-Aug-2019** Valid upto: **23-Feb-2020**

Pollution Level

CO (%)	0.406
HC (ppm)	41
SD (HSU)	

PUC Certificate issued by:
M/S ZAMAN ENTERPRISE

License No. and Seal:
94/AETC/2016/PETROL

Signature: *[Signature]*
24/08/19

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

WB-01-**D 5877303**

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HARDA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL

PUC Number: P000000001696

Name: **N.C.C. LTD** Vehicle Type: **2 Wheeler**

Address: Reg. No.: **WB-52F-6123**

Reg. Date: **Aug-2007**

Manufacturer: **HERO HONDA**

Model: **CD DELUX**

Engine Type: **4 Stroke**

Test Date/Time: **24-Aug-2019 15:30** Odometer Rdn: **0**

Catalyst: **No** Engine Number: **3413**

Chassis Number: **7348**

Fuel	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.406		
HC* (ppm)	4500	41		
CO2 (%)		1.45		
O2 (%)		18.54		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		-		
Lambda		-		
PEF		0.501		
CO-Act (%)		3.274		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and NMHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Vehicle Test Centre Stamp

2019 Embos

23.10

Authorized Signature

[Signature]
24/08/19

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
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HC (ppm) SD (HSU) **B9104**

PUC Certificate issued by: License No. and Seal:

M/S - NATURAL WORLD Natural World

Signature N.H. 34, K.N. Road Back Side

Licence

Vehicle Pass

Transport
Department,
Govt of West

POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Vehicle Reg No:WB 57B-9104

Name : MD CHAND MAHAMMAD SEKH

Category : EARTH MOVING

Address : RANITALA

Make: TEREX EQUIPMENT

MSD

Model: EARTH MOVING

WB

Date of Reg. 2014

Date:17/04/2019

Speedo Mtr Rdg. x

Fuel: Diesel

Engine No : 1420359

Time : 1:29:14 P.M

Chassis No: 409159

iN:	RPM min	RPM max	K.m-1	HSU%	OTP C
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

leE	01066	06000	00.02	47.2	064.13
-----	-------	-------	-------	------	--------

SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

Vehicle

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 87 of 89 Original Issue Date :
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Appendix P.2: Contractor OHS Policy Statement

Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town Project:			
Contact information/personal details					
Name		Gender	* Male * Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)
Mode of communication: Note/letter E-mail Verbal/telephonic
Reviewed by: (Names/positions of officials reviewing grievance)
Action taken:

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 88 of 89 Original Issue Date :
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Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরনের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (খ) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (খ) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যাঁ / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
September 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 21 Pipeline - Haroa Village)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 21 HAROA (PIPELINE WORK)

0	07.09.2019	<i>S. Sami</i>	<i>S. Sami</i>	<i>Shy. J.</i>	<i>S. Sami</i>
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PHE Engineer

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

PIU-1, N-24 Pgs., WBDWSIP, PHE Div.
Govt. of West Bengal

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Package Area	Package No : N24P/02A Zone 21- (Pipeline works) Haroa village under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A										
Contractor	NCC Pvt. Ltd.										
Date of Contract Award	19/09/2018										
Date of particular works commencement	03/09/2019										
Contract period	Construction: 3 Years; O&M: 2 Years										
SEMP Component	Laying of 50692 m of pipeline as detailed below.										
Demolition work	No demolition activity involved										
Project Area	Haroa Gram Panchayat under Haroa Block										
Project Description	Individual household water supply schemes for the project Gram Panchayats										
Household Connection	4231(Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not identified										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Haroa											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H21	21301	11321	6478	4355	3525	2154	404	871	283		50692
Map of Distribution Network											
Refer Appendix – P.1											

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Details of contractors on-site-personnel and workers	Zone-21 (Pipe Line works) Haroa village of Haroa Gram Panchayat under Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Arijit Saha; 9732756414
Site Supervisor	Mr. Muftaza Kamal Mondal; 8372063735
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	13
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-15 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation is in a rented house in Haroa Bazar, near petrol Pump (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastruct ure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First, we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During laying use of Gumboot is a must. To avoid slip, trip and fall, no one is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	documentation on material obtained from each source (quarry/borrow pit) should be submitted. <ul style="list-style-type: none"> In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law. 				
Consents, permits, clearance s, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. All necessary approvals for construction to be obtained before start of construction. Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> We have already received pipe laying permission from local authorities, electric connection, water source etc. NOC taken from Gram Pradhans for carrying out the activity. DG sets of capacity less than 5 kVA only being used. Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> Obtain details on location of underground Asbestos Cement pipes Locate the new pipe carefully to avoid encountering AC pipes Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC - observation at site	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project site. 	Contractor	PIU through DSISC - observation at site and	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	significant impacts on water resources within the immediate area.		<ul style="list-style-type: none"> Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 		document checking	
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Noise Levels	Increase in noise level due to earth-	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work 	Contractor	PIU through DSISC -	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	moving and excavation equipment, and the transportation of equipment, materials by labours	fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; • Horns not to be used unless it is necessary to warn other road users; • Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted.	to identify and avoid working at sensitive times, such as religious and cultural festivals. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. • DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work.		observation at site and document checking	
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	• Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. • Avoid stockpiling excavated earth at the site for long time, if required, dispose	• Spoil management plan has been developed [Refer Attachment P7] • Excavated earth is utilized for backfilling purpose. • Excavated earth will be backfilled on the same day.	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			workers; • Moving equipment maintained with audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> • Employ local labour force as far as possible • Comply with labour laws 	<ul style="list-style-type: none"> • Local labours are employed, on priority, whenever available. • Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC - observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and establishment of habitation	<ul style="list-style-type: none"> • Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) • Use unused, vacant lands; no trees shall be cut • Provide a proper fencing/compound wall • Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility • Entire site/facility area shall be provided with hard levelled surface as 	<ul style="list-style-type: none"> • Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, • Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, • Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; • Solid waste managed 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>appropriate; no loose soil, slush, water logging etc.,</p> <ul style="list-style-type: none"> • Living quarters and construction camps shall be provided with standard materials; no shacks or huts • Adequate lighting and ventilation • Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested • Provide clear pathways for safe movement • Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed • Construct septic tanks and soak pit arrangement for wastewater disposal • Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. • According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location,</p> <ul style="list-style-type: none"> • Daily generated effluent disposed by arrangements already present in camp/ household. • Details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> • Strictly follow the protocol for chance finds in any excavation work; • Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> • No archaeological chance finds are reported at project sites till date. • If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC - observation at site and document checking	Project cost

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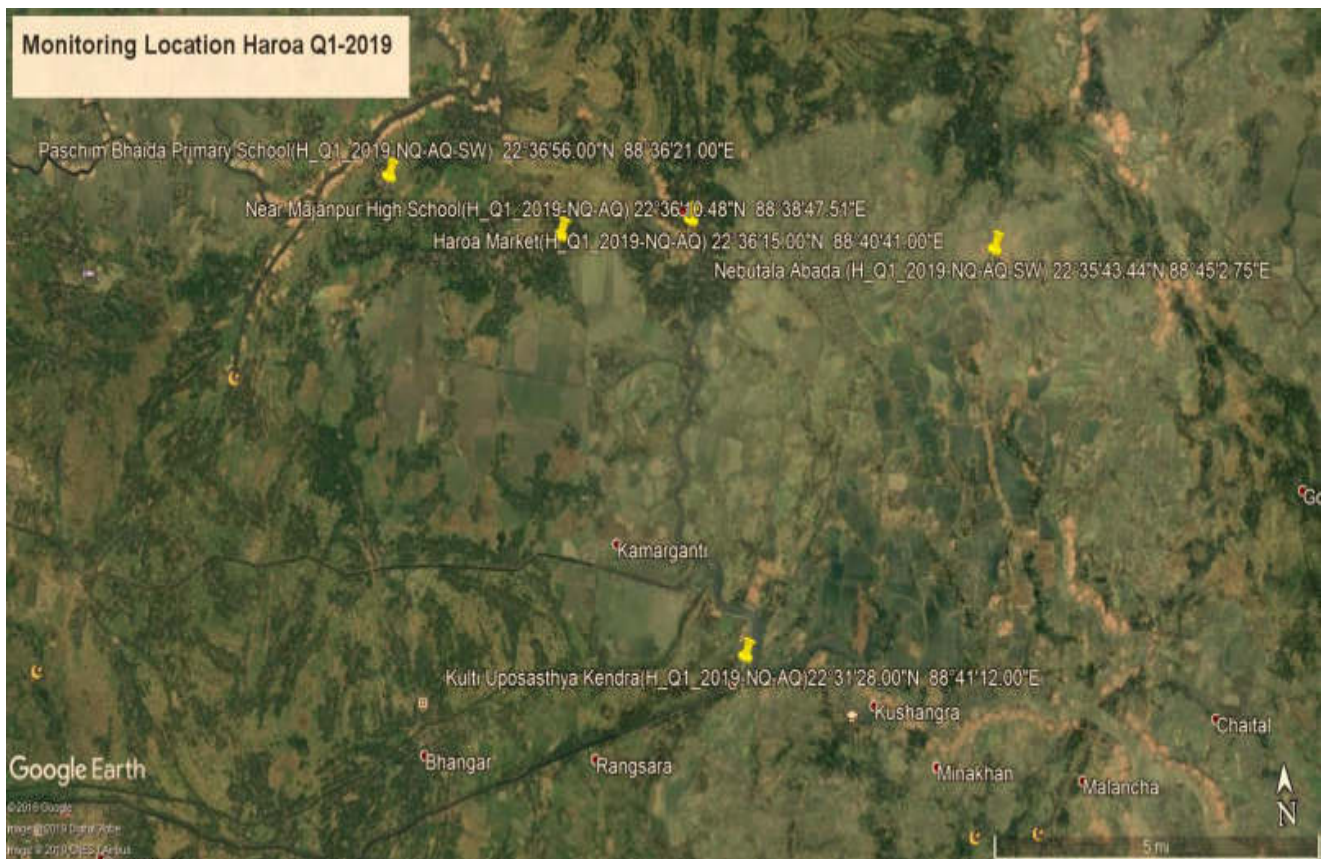
Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,


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Attachment P1: Details of construction Work sites

1. Zone 21: Pipeline construction Site						
Location - Haroa						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
	DI Pipes (1558 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	283	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	871	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	404	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (49,134 m)					
	200 mm	2154	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	3525	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	4355	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	6478	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	11321	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	21301	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen
	Excavation method (manual/mechanical)					

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 21
Location- Haroa, Haroa	
A	Accommodation – For 15 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none"> • Type of living accommodation – Rented Accommodation • Accommodation provided for 15 workers • Cooking gas • Drinking water • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Not applicable as rented house is being used as labour accommodation.
Photos of camp and facilities provided	
	Labour accommodation in rented house

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	Corridor at labour accommodation	Toilet at labour accommodation

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 15 nos. • Gloves-4 no. • Helmet-20 nos. • Safety jacket- 15 nos. • Goggles- 3 nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OHS	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Arijit Saha Mob: 9732756414
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
		Emergency responsibility
		Site Engineer shall be responsible for arranging of first aid treatment and other necessary action required in case of emergency. He will also be responsible for informing to EHS Supervisor.
		EHS Supervisor should assess the emergency situation and accordingly instruct the Site Engineer of appropriate actions. Depending on the gravity of the situation, he should also inform Project Manager Representative.
		Project Manager Representative shall be responsible for taking all necessary action and decisions.
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accident client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	15200.00	From trench cutting	Not required

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (21). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will be confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable their water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

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In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 15200 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Haroa (Zone 21) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	21673	0.25	1.063	5759.59975
2	75	11323	0.25	1.075	3043.05625
3	90	6479	0.25	1.09	1765.5275
4	110	4356	0.25	1.11	1208.79
5	140	3525	0.25	1.14	1004.625
6	200	2153	0.25	1.2	645.9
7	250	402	0.3	1.25	150.75
8	300	871	0.3	1.3	339.69
9	350	283	0.6	1.35	229.23
10	Extra for bend, joints etc				1052.8315
11	Approx. generated total Spoil (Soil) at Haroa				15200.00

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1. PURPOSE

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. SCOPE

The procedure is applicable for HDPE/DI pipe laying area for Zone – 21 HAROA.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. RESPONSIBILITY

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. LEGAL REQUIREMENT

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. REQUIREMENTS

5.1 General

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 Planning Stage

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.

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- All persons working on the road shall wear high visibility jackets.

5.3 On Site

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.

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- Turn buckle and side stoppers used while transporting as required.

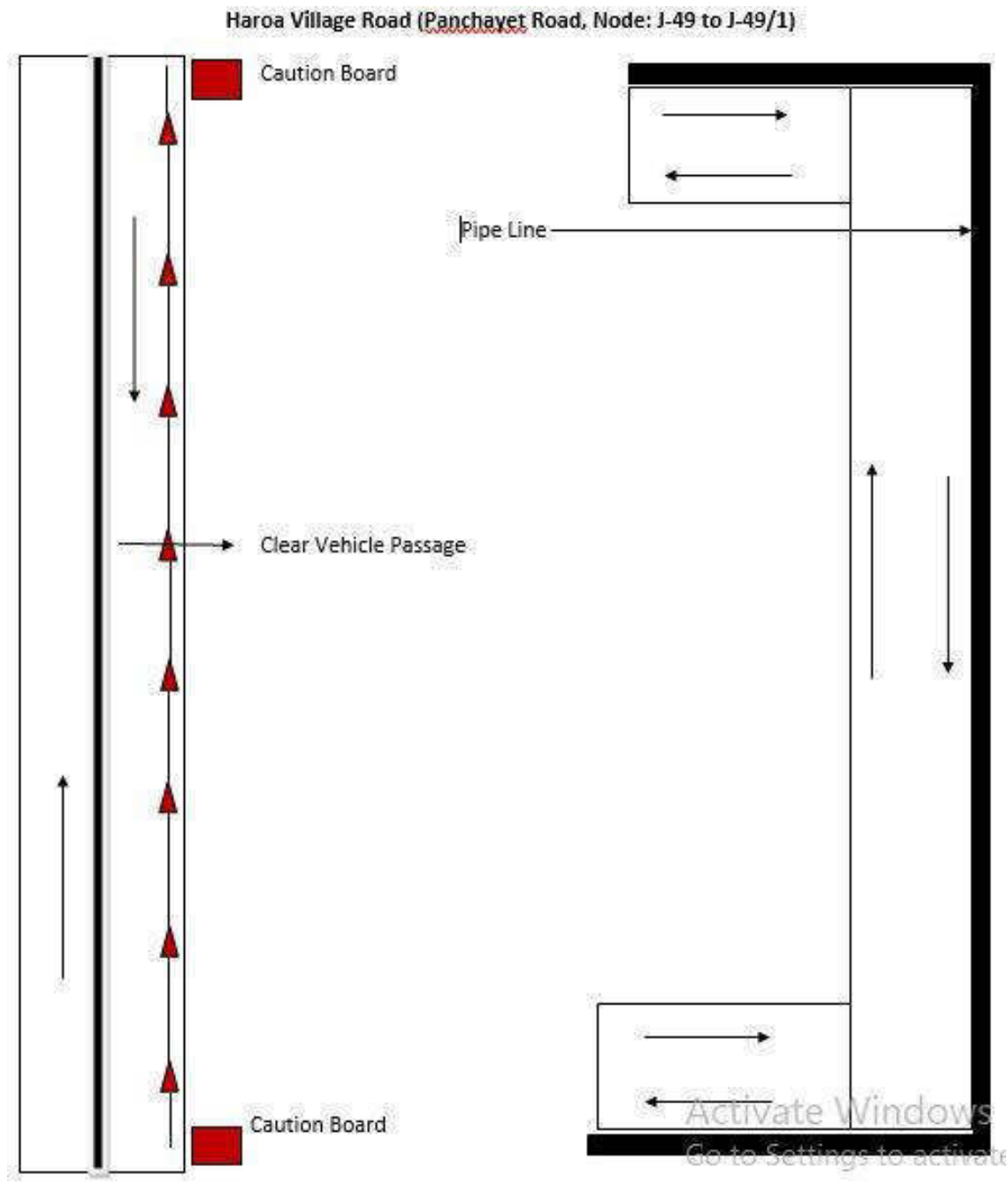
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

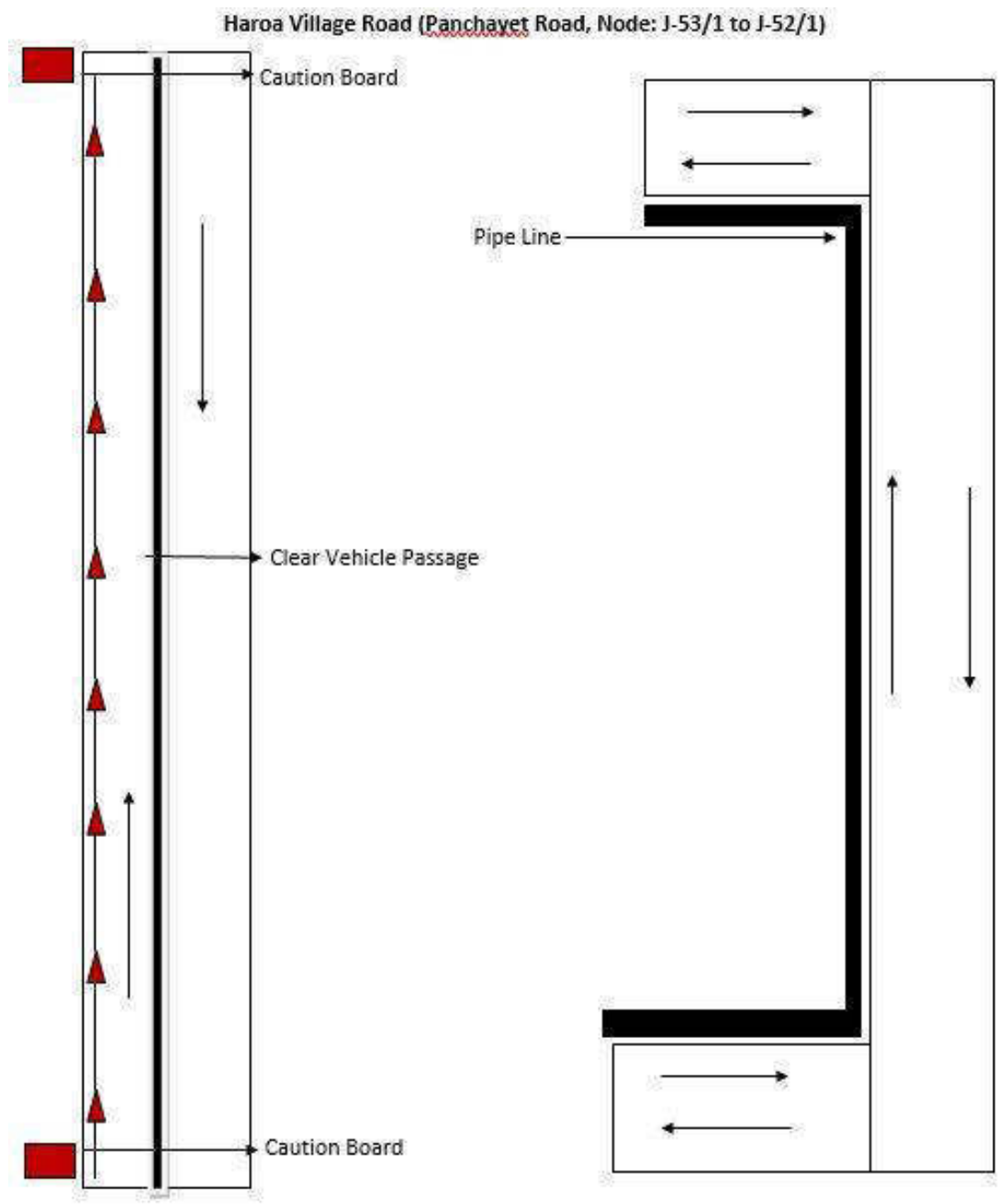
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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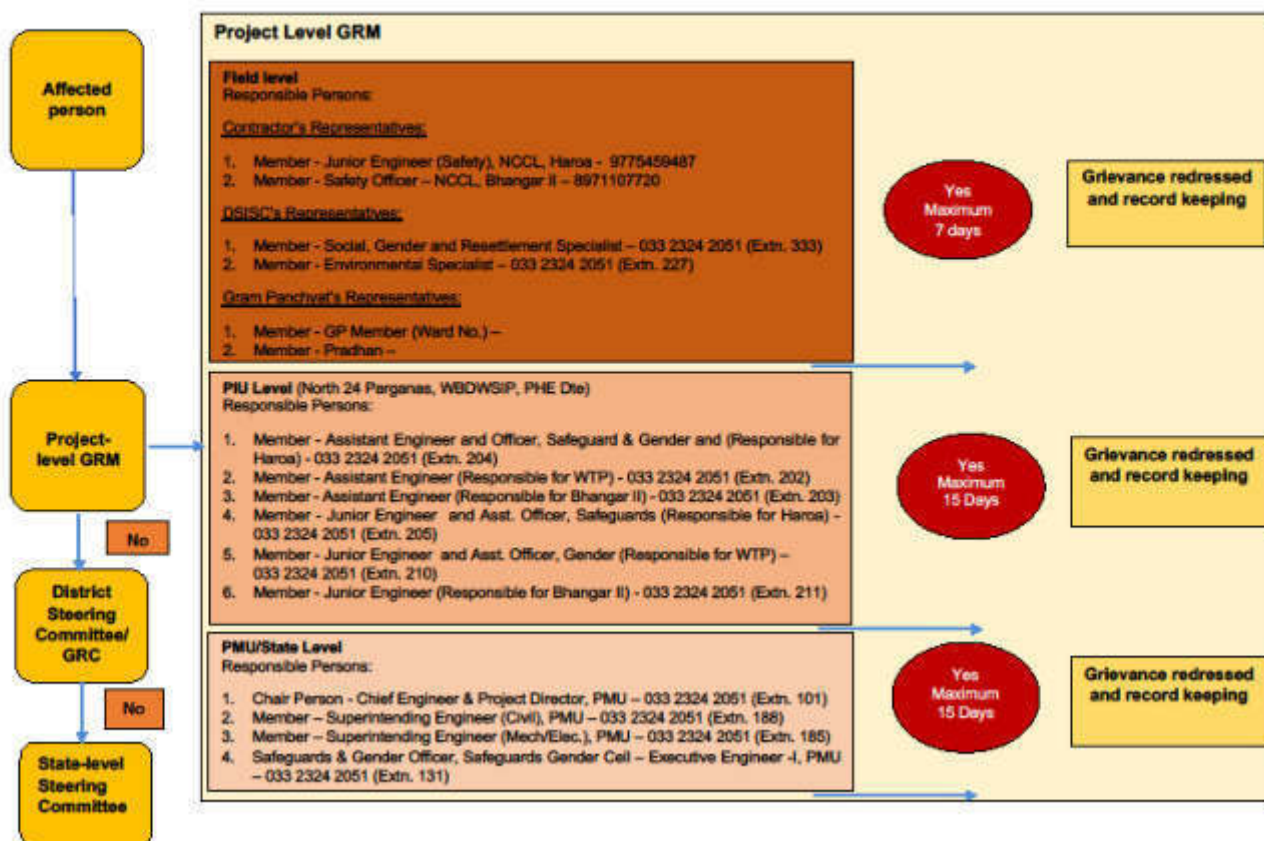


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



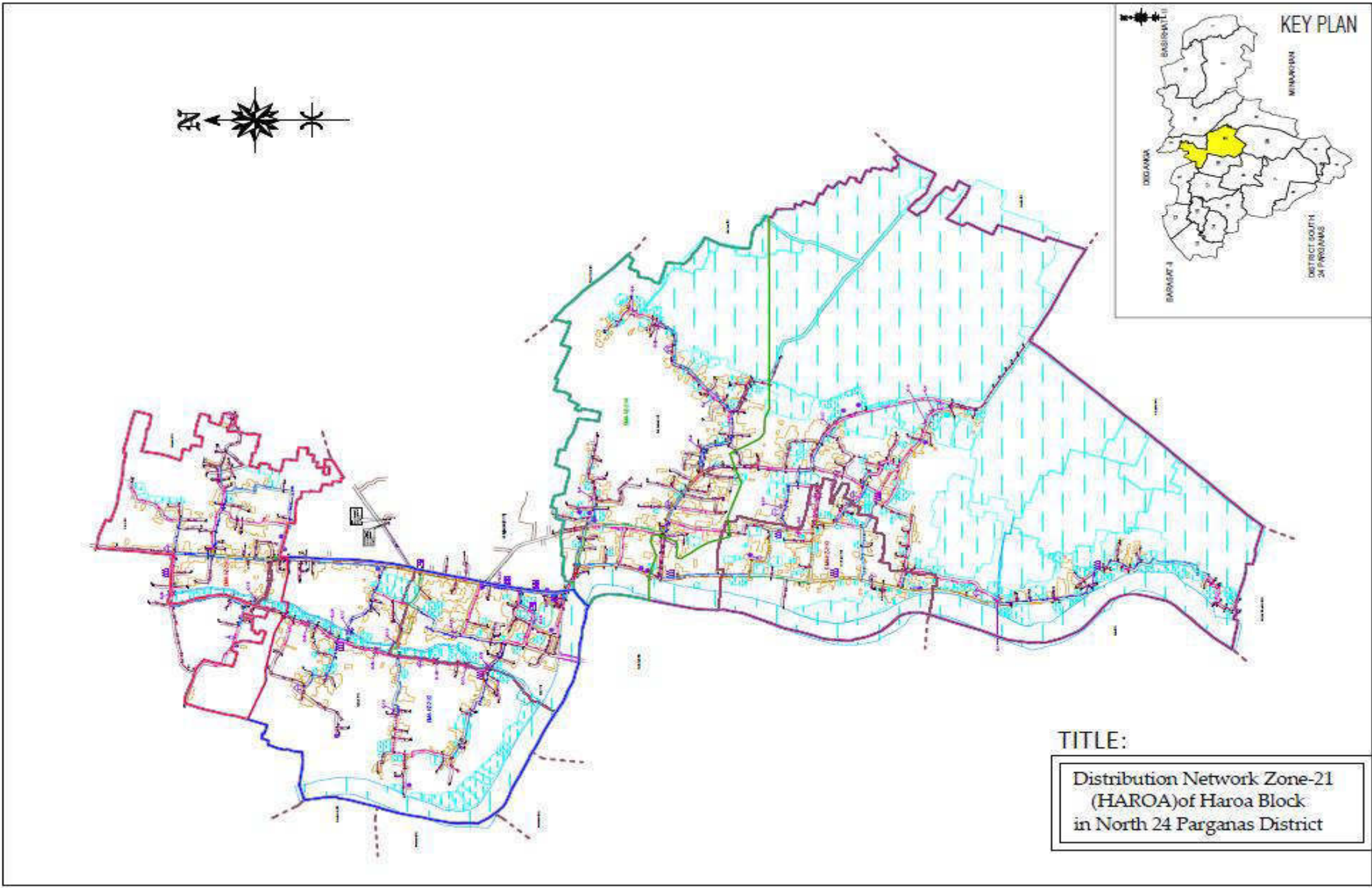
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.



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Appendix P.1: Map of Distribution Network



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Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER , BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 29(1)]

License No. : BST09/CLL/000029 **Date : 05th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL
[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-
Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

1 of 3

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKE ROAD, BASIRHAT-24 PARGANAS (NORTH) PIN - 743412

FORM VI
(See Rule 25(1))

Licence No.: **BST09/CLL/000029**

Date: **05th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425., Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The licence shall remain in force till: **04th Dec, 2019.**

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour (R&A) Act, 1970
&

Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Div. (BST09/CLL/000029)

W. Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata,

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co. Ltd, 1st Floor, D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038600			
Policy No	2019-L0129168-FWC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HAROA BLOCK, North Twenty Four Purgana, West Bengal, 743425	Telephone (Mob, Off, Home)	4017822990/09892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN7335C1ZM	PGI GSTIN Number	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage/liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Coin-surance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,364.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1923 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorised Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Addresses mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madrink - 2017/C.R.97/M-1, dated 09/01/2018.

Product I/JIN : IRDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Senapati Bapat

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Appendix P.D: PUC Certificates

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registrn. No. **UP-81AJ-9526** WB-01-**D 5877306**

Date of issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level:

CO (%)	1.189
HC (ppm)	495
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seat: **94/AETC/2016/PETROL**

Signature: *[Signature]* Date: **24/08/19**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Reason Code: 00

PUC Number: P000000001698 Vehicle Type: 2 Wheeler

Name: N C C LTD Reg. No.: UP-81AJ-9526

Address: Reg. Date: Jan-2010

Manufacturer: HERO HONDA

Model: SUPER SPLENDOR

Test Date/Time: 24-Aug-2019 16:13 Engine Type: 4 Stroke

Catalyst: No Odometer Rdnng: 0

Engine Number: 10027

Chassis Number: 10479

Fuel -->	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	1.189		
HC* (ppm)	4500	495		
CO2 (%)		4.5		
O2 (%)		13.31		
NOx (ppm)		0		
RFM:		0		
OT (°C):		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Act (%)		3.134		

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

* Read as RHC for LPG and RWHC for CNG

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Emission Test Centre Stamp: **0378 Embo 2.1.0**

Authorized Signatory: *[Signature]* Date: **24/08/19**

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Haroa Block**

Site Specific Environmental Management Plan

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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** WB-01 **D 4224909**

Date of issue: **28-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSL)	

PUC Certificate issued by: **MILT ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* WB-01-**4224909**

Vehicle Pass

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MILT ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010695

Transport Department

Label Code: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000273** Vehicle Reg No: **WB30W2784**

Name: **N C C LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**

PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2018**

Date: **28-Feb-2019** Speedo mtr Rdg: **81372**

Time: **05:54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **75206**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2100** Emi Norms.: **BS-IV or Onwards**

S.No.	RPM min	RPM max	K m-l	HSL %	OTP C
1	0720	2000	01.12	38.2	026.00
2	0720	1970	01.09	37.5	026.00
3	0720	1820	01.01	35.3	026.00
Mean	0720	1930	01.07	37.0%	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre:

Authorised Signatory

INDUS D...



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Appendix P.2: Contractor OHS Policy Statement

NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্টি ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরনের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
July 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 5: Pipeline - Tegharia)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

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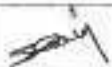



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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 5 TEGHORIA (PIPELINE WORK)

Environmental Sp-Cont, DWS
North 24 Parganas
WBDWSI Project

0	20.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

West Bengal Drinking Water Sector Improvement Project

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

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Package No.	Package No : N24P/02A Zone 5: Pipeline (Tegharia) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block , SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of particular works commencement	23/07/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 52041m of pipeline as detailed below.
Demolition work	No demolition activity involved
Project Area	Kulti Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1665 (Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Kulti

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H5	23266	3550	15627	3665	2958	2949	26				52041

Map of Distribution Network

Refer Appendix – P.1

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Details of contractors on-site-personnel and workers	Zone 5: (Pipeline) Tegharia villahge ,Kulti Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Krishnapada Singh; 9735949496
Site Supervisor	Mr. Krishnapada Singh; 9735949496
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	10
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-12 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One Labor accommodation at Rented house near Makhla Bazar (As referred in Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBSEDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During pipelaying use of Gumboot is a must. To avoid slip, trip and fall, no outsider is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	documentation on material obtained from each source (quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<ul style="list-style-type: none"> • Obtain details on location of underground Asbestos Cement pipes • Locate the new pipe carefully to avoid encountering AC pipes • Leave the Asbestos Cement pipes undisturbed in the ground. 	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE</p> <p>No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and	Due to the nature and locality of the	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not 	Contractor	PIU through DSISC	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
hydrology	projects there is unlikely to be any significant impacts on water resources within the immediate area.	that rapid and efficient evacuation of runoff is achieved.	contaminate existing drain and pond around the project site. <ul style="list-style-type: none"> Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination. 		observation at site and document checking	
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. Storage locations should have impervious floors Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant impacts on bio-diversity within the area.	<ul style="list-style-type: none"> For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. For faunal activity, instruction should be given to everyone to inform site EHS Coordinator who should take appropriate action for their protection and safe rescue. 	<ul style="list-style-type: none"> Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary, trimming allowed. So far no faunal movement has been observed in this site. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; Horns not to be used unless it is necessary to warn other road users; Maintain maximum sound levels not exceeding 75 decibels (dB(A)). When measured at a distance of 1m from the vehicle/s. Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> Prepare a construction waste management plan for site. Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. As far as possible utilize the debris and excess soil in construction purpose such as for site filling and labelling purpose. Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in 	<ul style="list-style-type: none"> Spoil management plan has been developed [Refer Attachment P7] Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.				
Occupational Health and Safety	Occupational hazards which can arise during work	Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc. (c) documentation of work related accidents. (d) Providing qualified first aider at all times. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to workers; Moving equipment maintained with 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			audible back-up alarms			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all the places in the facility Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for storage and handling of materials which can potentially cause soil contamination and water contamination; Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<ul style="list-style-type: none"> Living quarters and construction camps shall be provided with standard materials; no shacks or huts Adequate lighting and ventilation Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested Provide clear pathways for safe movement Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed Construct septic tanks and soak pit arrangement for wastewater disposal Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	dustbin then it is disposed outside from area to designated disposal location, <ul style="list-style-type: none"> Daily generated effluent disposed by arrangements already present in camp/ household. The details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> Strictly follow the protocol for chance finds in any excavation work; Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> No archaeological chance finds are reported at project sites till date. If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near Zone 02 Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School, Zone 17, Near Majanpur High School, Zone 21, Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Near zone 02, Nebutala Abda, Zone 05, Kulti Uposasthya Kendra, Zone 13, Paschim Bhaida Primary School Zone 17, Near Majanpur High School, Zone 21, Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Pond Water near Nebutola Abada, Zone-3, Pond Water in Paschim in Zone 13	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

Appendix P1: Map of Distribution Network
Appendix P.A: Gram Panchayat and other Authorities Permission
Appendix P.B: Labour License
Appendix P.C: Workman Compensation
Appendix P.D: PUC Certificates
Appendix P.2: Contractor's OHS Policy Statement
Appendix P.3: Sample Grievance Registration Form

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Harora block,
Attachment P1: Details of construction Work sites




1. Zone 5: Pipeline construction Site							
Location- Tegharia							
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 						
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 No ▪ DG (less than 5 kVA) – 1 No 						
C	Site office – No						
D	Laboratory – No						
E	Security cabin – No						
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 						
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below						
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)	Excavation method (manual/

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							mechanical)
DI Pipes (26 m)							
400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen	Manual/Mech	
350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech	
300 mm	---	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech	
250 mm	26	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech	
Distribution Network— HDPE Pipes (52,015 m)							
200 mm	2949	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech	
140 mm	2958	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech	
110 mm	3665	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech	
90 mm	15627	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech	
75 mm	3550	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech	
63 mm	23266	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech	

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 5	
Location- Near Makhla Bazar at Tegharia, Kulti, (Latitude: 22°32'21" Longitude: 88°41'12")		
A	Accommodation – For 12 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented apartment• Accommodation provided for 12 workers• Separate cooking area• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs	Not applicable as rented house is being used as labour accommodation.	
		
	Rented labour accommodation	
		
	Kitchen with gas connection	Community toilet

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2 Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 13 nos. • Gloves-1 no. • Helmet-15 nos. • Safety jacket- 15 nos. • Goggles- 1nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OSH	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
2	Contractor emergency procedure	
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Krishnapada Singh Mob: 9735949496
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accidents client shall be informed immediately.	Yes
D	Mandatory Reporting to Authorities	Yes
E	Prohibited Acts and Penalties for Violations	Yes

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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	14806.87	From trench cutting	Not required

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Attachment P7: Spoil Management Plan

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	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 5 TEGHORIA (PIPELINE WORK)

0	20.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (5). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable there water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 14806.87 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil generated at Teghoria (Zone 5) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	23267	0.25	1.063	6183.21
2	75	3548	0.25	1.075	953.53
3	90	15628	0.25	1.09	4258.63
4	110	4852	0.25	1.11	1346.43
5	140	2958	0.25	1.14	843.03
6	200	2501	0.25	1.2	750.30
7	200	450	0.3	1.2	162.00
8	250	26	0.3	1.25	9.75
9	Extra for bend, joints etc				300
10	Approx. generated total Spoil (Soil) at Teghoria				14806.87

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Attachment P8: Traffic Management Plan

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	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 5 TEGHORIA (PIPELINE WORK)

0	20.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area for Zone - 5 TEGHORIA.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and "A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE" to be follow.

5.4 **Operators/Drivers**

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.

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- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

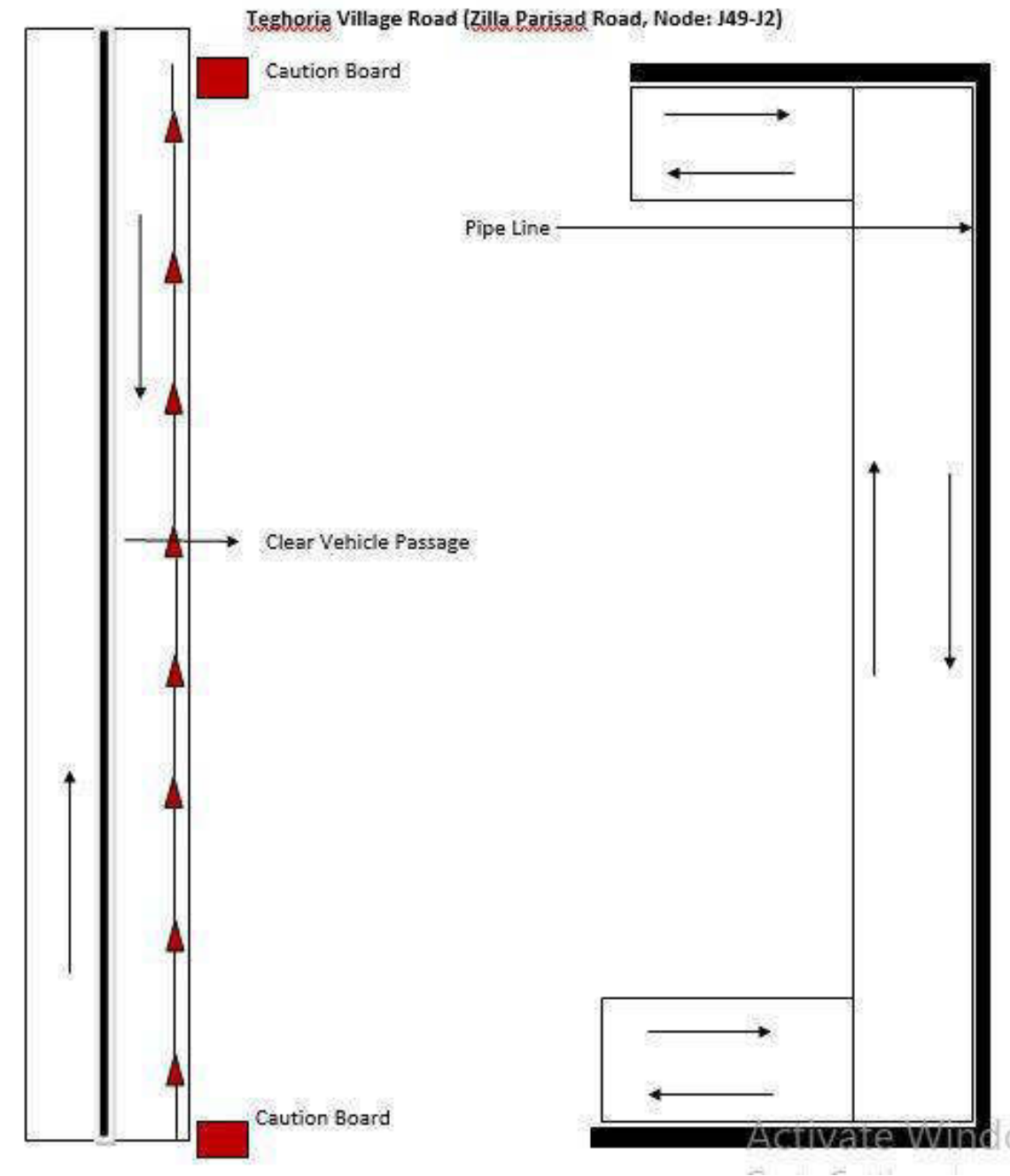
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

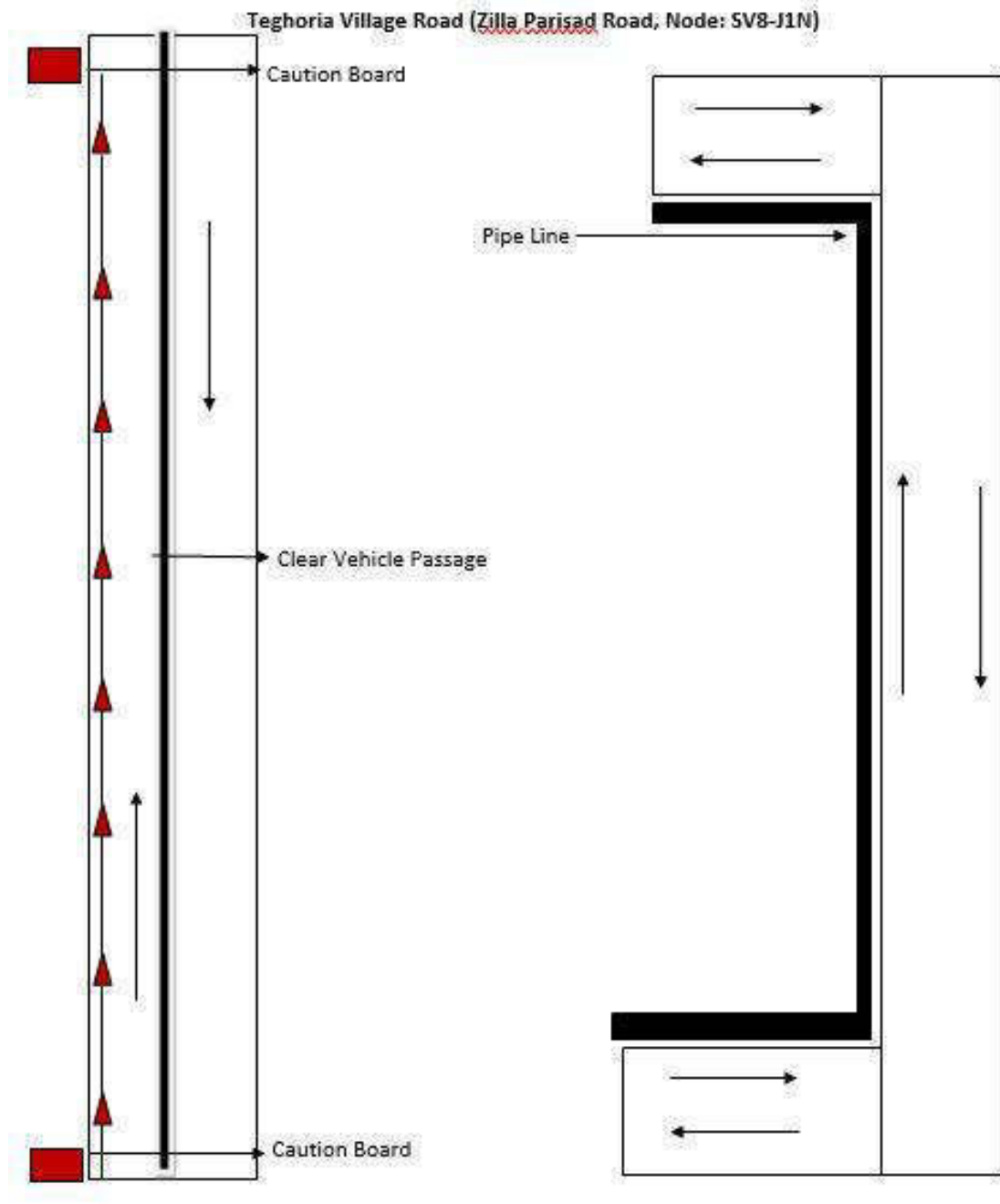
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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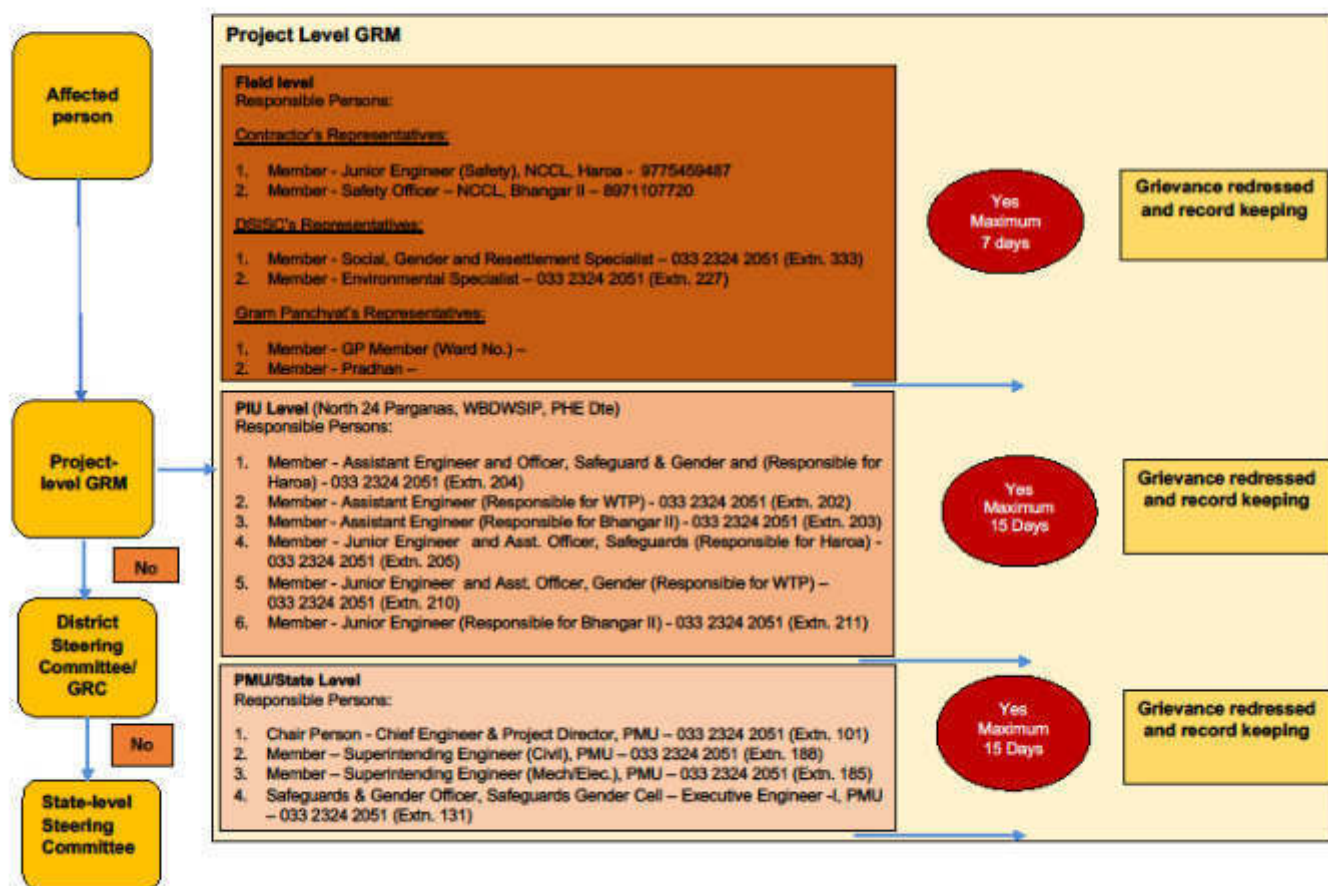


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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



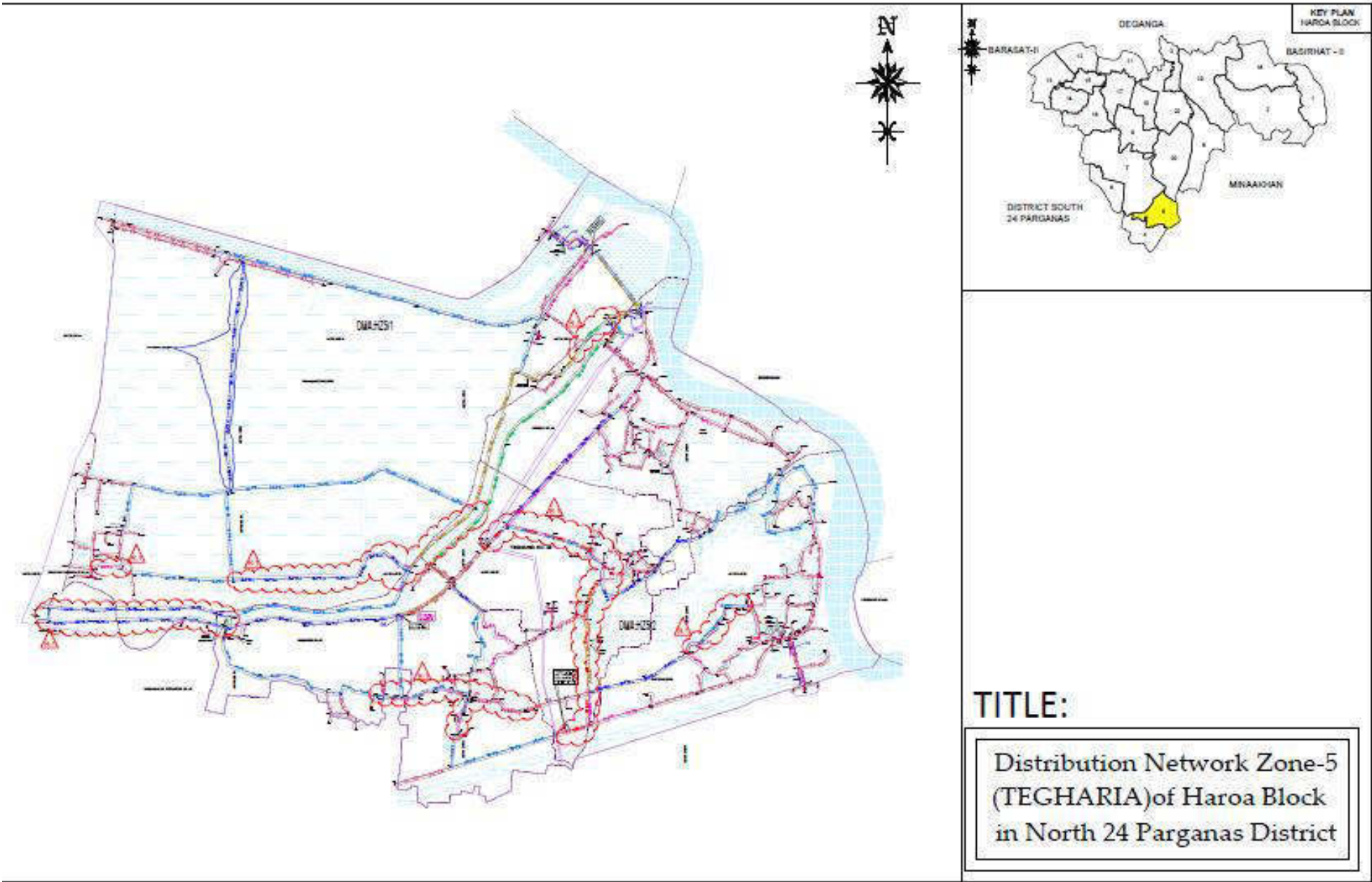
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



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Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AI,
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ee.piun24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The Head Project Implementation Unit,
WBSRDA,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block (Zone-05) Tegharia.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October'2018. Now the entrusted agency will start the laying of distribution network from 22.07.2019 in **Kulti Gram Panchayet** along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Yours faithfully,

sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Sabhadhipati, North 24 Parganas Zilla Parishad.
- 2) The District Magistrate, North 24 Parganas.
- 3) The Additional Executive Officer, North 24 Parganas Zilla Parishad.
- 4) The District Engineer, North 24 Parganas Zilla Parishad.

sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 176/(2-3)/EE(C)PIUN24P, Dated, New Town, the, 18-07-19

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer, PIU-I, North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

[Signature]
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

File
Regd. 18/07

DSISC / WBDWSIP
Inward No. 1311
RECEIVED
Date 18-07-19
Signature
Time - 4:19 PM

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 31 of 39 Original Issue Date :
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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1. Date of Renewal	02nd Dec, 2019
2. Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3. Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte. (BST09/CLR/000088)

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 32 of 39 Original Issue Date :
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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 23(1)]

Licence No. : BST09/CLL/000029

Date : 031h Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dto. [BST09/CLL/000028]

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor, D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038600			
Policy No	2019-L0129168-FWC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home)	4027822990/09892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN733SC12M	FGI GSTIN Number	36AABCF0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,286,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include			
i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923			
ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage.			
No cover for Medical Expenses, Unless specifically allowed in the policy.			
No Cover for Medical Expenses.			
No Cover for occupational Diseases.			
Jurisdiction/ Territory : India			
Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights.			
Contractors and sub-contractors employees are covered.			
Important - 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	Z9065378	 (Authorised Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address as mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madhuk - 2017/C.R.97/84-1, dated 09/01/2018.

Product UIN : IRIANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sagarika Bazar,

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.D: PUC Certificates

WEST BENGAL MOTOR VEHICLE CERTIFICATE
(Under the West Bengal Motor Vehicle Rules, 1988)

Vehicle Registr. No. **WB26T5753** WB-01-**D 6148795**

Date of Issue: **04/06/2019** Valid upto **03/12/2019**

Pollution Level

CO (%)	
HC (ppm)	
SD (HSU)	1.45

PUC Certificate issued by: **MIRA SERVICE STATION** License No. and Seal: **0004/AETC/BST/I**

Signature: **2, Block-AH**
New Town, Rajarhat
Kolkata-700 156

COMPUTERISED EMISSION TEST CERTIFICATE
WB-01-**D 6148795**
Authorised Transport Dept. of West Bengal
MIRA SERVICE STATION
PLOT-2,BLOCK-AH,NEW TOWN,KOLKATA-156

Liscence Number :- **0004/AETC/BST/I**

LD Number :- **001406** Date :- **04/06/2019**

Year Of Registration :- **2015** Time :- **4:08:58 PM**

Vehicle Registration Number :- **WB26T5753** Test Fee :- **100**

Speedometer :- **0**

Engine Number :- **E14884**

Chassis Number :- **E37419**

Vehicle Color :- **OTH**

Vehicle Make :- **MAHINDRA**

Vehicle Model :- **SCORPIO** Contac :- **9564932617**

Type Of Engine :- **4S** Oil Temperature :- **34**

Type of Vehicle :- **4W** Fuel :- **Diesel**

Owner :- **M.S.NCC LTD** Result :- **Pass**

Driver :- Valid Upto :- **03/12/2019**

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp
1	800	2330	0.03	1.41	34
2	800	2580	0.03	1.41	34
3	790	2490	0.04	1.54	34
Avg	786.00	2486.00	0.03	1.45	

Name of Authorise Signatory
with Seal of Testing Center

MIRA SERVICE STATION
Plot No - 2, Block-AH
New Town, Rajarhat
Kolkata-700 156

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 35 of 39 Original Issue Date :
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No. **JH-10Z-9621** WB-01-D 5877301

Date of issue: **24-Aug-2019** Valid upto **23-Feb-2020**

Pollution Level

CO (%)	0.161
HC (ppm)	119
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* 24/08/19

WB-01-D 5877301
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHALISADY, HAROA, 24PGS(N)

Label Code: 00 License Number: 94/AETC/2016/PETROL Emission Code: 00

PUC Number: P000000001694 Vehicle Type: 2 Wheeler

Name: M/S N.C.C. LIMITED Reg. No.: JH-10Z-9621

Address: Reg. Date: Apr-2011

Manufacturer: Hero MotoCorp

Model: CD-Dawn

Test Date/Time: 24-Aug-2019 10:55 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 21561

Chassis Number: 01148

Fuel →	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	0.161		
HC* (ppm)	4500	119		
CO2 (%)		1.49		
O2 (%)		18.72		
NOx (ppm)		0		
RPM		0		
OT (°C)		0		
AFR		—		
Lambda		—		
PEP		0.501		
CO-Aet (%)		1.452		

* Read as PNC for LPG and NMHC for CNG.

Certified that this vehicle's emission levels are within the limits under 115(2) of CMV Rules, 1989.

Test Result: **PASS**

Grade: **A**

Valid Upto: **23-Feb-2020**

Test Fee: **Rs. 80**

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HC (ppm)		B9104
SD (HSU)		
PUC Certificate issued by:		License No. and Seal:
M/S-NATURAL WORLD		Natural World
Signature		N.H.-34, K.N. Road Back Side Berhampore Licence

Vehicle Pass



POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

M/S:-NATURAL WORLD
N.H. 34, K.N ROAD BACK SIDE, BERHAMPORE,MSD

Label Code:WB

License No : 1B/2008-2009

Test Station Code : 002

PUC No : WB4685

Name : MD CHAND MAHAMMAD SEKH

Address : RANITALA

MSD

WB

Date:17/04/2019

Fuel: Diesel

Time : 1:29:14 P.M

Vehicle Reg No:WB 57B-9104

Category : EARTH MOVING

Make: TEREX EQUIPMENT

Model: EARTH MOVING

Date of Reg. 2014

Speedo Mtr Rdg: x

Engine No : 1420359

Chassis No: 409159

Slr	RPM min	RPM max	Km-1	HSU%	OTPC
1	01263	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto:16/10/2019

Grade: A

Test Fees: 100

let	01066	06000	00.02	47.2	064.13
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SAFE DRIVE, SAVE LIFE
NO ROUGH DRIVE

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 39 Original Issue Date :
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Appendix P.2: Contractor's OHS Policy Statement

<p>NCC LIMITED</p> <p><i>Health, Safety & Environment Policy</i> For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:</p> <ul style="list-style-type: none"> • A proactive, role model HSE at Site. • All Sites related activities and Office Work will result in no one getting injured or made unwell. • Early identification of hazards and risk and the decision or adequate measures. • Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum. • Provide training in HSE knowledge and encourage continuous improvement and development of this. • Continuous monitoring of the HSE performance. • Promote the benefits of a healthy life-style amongst our employees. • Report and investigate accidents and incidents to take lessons and prevents similar events occurring again. • Preserve ecological balance and heritage. 				
Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 38 of 39 Original Issue Date :
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Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

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অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই প্রকল্পটি সৃষ্টি ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের যথার্থ সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ ব্লক- গ্রাম পঞ্চায়েত- গ্রাম সংসদ-		
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম- ফোন নং-	পাড়া- ই-মেইল-	পুরুষ - মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (✓) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

গুণমাত্রা আফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (✓) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ (নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Site-Specific Environmental Management Plan

Project number: 49107-006
June 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block (Zone 13: Pipeline - Chauhata)

Package No: N24P/02A

Prepared by Public Health Engineering Department, Government of West Bengal for the Asian Development Bank.

This site-specific environmental management plan is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.





In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/SEMP/01 Revision No. 00 Revision Date : 00 Effective Date :
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SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 13 CHAUHATA (PIPELINE WORK)

0	18.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY	APPROVED BY

Environmental Specialist
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Package No.	Package No : N24P/02A Zone 13 – Pipeline work (Chauhata) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02A
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	12/06/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 26220m of pipeline as detailed below.
Demolition Work	No demolition activity involved
Project Area	Salipur Gram Panchayat of Haroa Block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	1718(Estimated HH Connection)
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not yet identified
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayat (GP): Salipur

Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm) <i>*External dia</i>										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone – H13	10371	6757	2154	2172	2198	2210	304	54			26220

Map of Distribution Network

Refer Appendix – P.1

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Details of contractors on-site-personnel and workers	Zone 13 - Pipeline work (Chauhata) Salipur Gram Panchayat of Haroa Block
Project Manager	Mr. Ramesh Singh; 8170011450
Site Engineer	Mr. Markindi Giri, 8597392124
Site Supervisor	Mr. Markindi Giri, 8597392124
EHS Supervisor	Mr. Saradindu Gain; 9775459487
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 0 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-8 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labor accommodation at Chauhata,village (Ref. Attachment P2)

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Table 1: Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Infrastructure and Services	Electric poles and wires, water lines within proposed project area of Pipe laying.	<ul style="list-style-type: none"> Locations and operators of these utilities to be identified as per detailed design documents to prevent unnecessary disruption of services during construction phase. Prepare spoils (Waste) management plan. 	<ul style="list-style-type: none"> Contingency Plan has been developed by informing to emergency services like WBS&EDCL, Telecommunication, local administration and police etc. First we are digging the trial pit manually, if any obstruction arise the same is removed as per direction of end user The pipe laying work to continue without disturbing the existing water pipelines and electric poles and overhead HT line. Flagman deployed on-site with Red and Green flags to control traffic and activity side by side. <p>Please refer Attachment P7 and P8 of this SEMP for site specific spoil management plan and traffic management plans.</p>	Contractor, PIU	DSISC observation at site and document checking	Project cost
Climate	The nature and intensity of rainfall events in an area, has implications for surface water management.	<ul style="list-style-type: none"> Seasonal climatic variations should be taken into account during scheduling of construction in the area. 	<ul style="list-style-type: none"> Excavation works schedule during dry season have been approved by PMU. If excavation work is to be conducted during rainy season then preventive measures will be taken like dewatering from the trench During pipelaying use of Gumboot is a must. To avoid slip, trip and fall, no outsider is allowed within the barricading area. 	Contractor, PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in	<ul style="list-style-type: none"> Obtain construction materials only from government approved quarries with prior approval of PIU. On a monthly basis 	No involvement of any new borrow area or quarry is anticipated. Excavated soil will be used for backfilling of trenches.	Contractor, PIU	DSISC document checking	Project cost

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	accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	documentation on material obtained from each source (quarry/borrow pit) should be submitted. • In case of involvement of new quarries/ borrow areas, prior steps will follow for all clearances and permissions as required under law.				
Consents, permits, clearances, no objection certificates (NOCs), etc.	Failure to obtain necessary consents, permits, NOCs, etc can result to design revisions and/or stoppage of works.	<ul style="list-style-type: none"> • All necessary consents, permits, clearance, NOCs, etc prior to award of civil works should be obtained. • All necessary approvals for construction to be obtained before start of construction. • Acknowledge in writing and report on compliance consents, permits, clearance, NOCs etc. obtained. 	<ul style="list-style-type: none"> • We have already received pipe laying permission from local authorities, electric connection, water source etc. • NOC taken from Gram Pradhans for carrying out the activity. • DG sets of capacity less than 5 kVA only being used. • Refer Attachment P3 for relevant clearances. 	Contractor and PIU	DSISC observation at site and document checking	Project cost
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	Obtain details on location of underground Asbestos Cement pipes Locate the new pipe carefully to avoid encountering AC pipes Leave the Asbestos Cement pipes undisturbed in the ground.	<p>Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE No asbestos pipes encountered till now. In any circumstances the Asbestos Cement pipes will not be disturbed and left in situ.</p> <p>Subproject does not includes rehabilitation of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs</p>	Contractor and PIU	DSISC observation at site and document checking	Project cost

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Table 2: Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Material handling	HDPE pipes gets heated during strong sun and at fusion weld joints.	Hand gloves, nose masks and related PPE's should be used by the workmen.	Continuous supervision regarding the use of safety gadgets is being ensured [Refer Attachment P4 for availability of PPEs at Site].	Contractor	PIU through DSISC observation at site and document checking	Project cost
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for excavation and pipe laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<ul style="list-style-type: none"> Following air pollution/dust control measures for construction activities stipulated by the "Direction of West Bengal Department of Environment under the Air Act, 1981 Direction No. EN/3170/T-IV-7/001/2009 dated: 10 December 2009": <ul style="list-style-type: none"> Only vehicles having valid Pollution Under Control Certificates should be engaged in the project. Vehicles transporting (cement, sands etc) should be covered and cleaned prior to release at site, sprinkling of water and stabilization of soil for dust hazards to be carried out on site. Damp down soil, sand/ earth stockpiled at site should be maintained as per site condition. Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	<ul style="list-style-type: none"> Only vehicles having valid PUC certificate have been engaged in the project. Sprinkling and dust screen arrangement have been made, and will be used when required. Workers has been instructed to always use dust mask while working in the trench. Site has been access controlled to prevent trespassing. Excavated earth piles will be maintained in such a way to minimise dust rising. Air quality monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 Haroa) in the Haroa Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is	<ul style="list-style-type: none"> The site surface should be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not contaminate existing drain and pond around the project 	Contractor	PIU through DSISC observation at	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	unlikely to be any significant impacts on water resources within the immediate area.		site. • Dewatering, if any and hydrotest water, will be also discharged to local drains after ensuring no contamination.		site and document checking	
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	<ul style="list-style-type: none"> • Avoid stockpiling of earth fill; especially in monsoon season, cover it with tarpaulins or plastic sheets. • Prioritize and implement reuse of excess spoil and materials in the construction work; if necessary, dispose in designated disposal area. • Storage locations should have impervious floors • Fuels and lubricants should be stored away from drainage and spillage protection should be provided. 	<ul style="list-style-type: none"> • Excavated earth from dug trenches will be stacked along the pipeline and away from drainage locations/ nearby water bodies. • Locations for fuels and lubricants store is away from drainage path and spill kits have been obtained. • All excavated soils are expected to be utilized on-site only. No excess spoil anticipated. • Surface water monitoring has been conducted already following two places (Zone-2 Nebutala Abad and Zone-13 Chauhata) in the Haroa project as per Environmental Monitoring Plan recommended in the IEE. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any significant	<ul style="list-style-type: none"> • For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper channel. • For faunal activity, instruction should be given to everyone to inform site EHS 	<ul style="list-style-type: none"> • Few trees are present along the existing alignment; cutting of tree strictly banned without regulatory clearance, if necessary trimming allowed. 	Contractor	PIU through DSISC observation at site and document	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	impacts on bio-diversity within the area.	Coordinator who should take appropriate action for their protection and safe rescue.	<ul style="list-style-type: none"> • So far no faunal movement has been observed in this site. 		checking	
Noise Levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials by labours	<ul style="list-style-type: none"> • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers minimising the sound impact to surrounding sensitive receptor; • Horns not to be used unless it is necessary to warn other road users; • Maintain maximum sound levels not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. • Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	<ul style="list-style-type: none"> • Consultation made with local communities in advance of the work to identify and avoid working at sensitive times, such as religious and cultural festivals. • Noise quality Monitoring has been conducted at following five places (Zone-2 Nebutala Abad, Zone-5 Tegharia, Zone-13 Chauhata, Zone-17 Shalipur and Zone-21 of Haroa) in the Haroa Package as per monitoring recommendation included in the IEE. • DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Landscape and Aesthetics character, and sense of place	Construction wastes as well as excess construction materials may show some impact.	<ul style="list-style-type: none"> • Prepare a construction waste management plan for site. • Hazardous wastes e.g. waste oil, empty paint cans, etc. should be stored on site and then shifted to a central location from where these will be disposed in accordance with Hazardous Wastes Management Rule, 2016. • As far as possible utilize the debris and 	<ul style="list-style-type: none"> • Spoil management plan has been developed [Refer Attachment P7] • Excavated earth is utilized for backfilling purpose. • Excavated earth will be backfilled on the same day. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>excess soil in construction purpose such as for site filling and labelling purpose.</p> <ul style="list-style-type: none"> Avoid stockpiling excavated earth at the site for long time, if required, dispose at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area. 				
Occupational Health and Safety	Occupational hazards which can arise during work	<p>Develop and implement a site specific occupational health and safety(OHS) plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use personal protective equipment like Helmet, Gumboot, Safety Belt, Gloves, Nose mask etc.</p> <p>(c) documentation of work related accidents.</p> <p>(d) Providing qualified first aider at all times.</p> <p>(e) Providing to all workers reflective jacket,</p> <p>(f) Marking and providing sign boards for most of hazardous areas such as high voltage equipment,</p> <p>(g) Workers allowed exposure to noise level up to 85 dB (A) only.</p>	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has been developed. Site OHS plan is attached at Attachment - P4. All workers have been provided with and made to use Personal Protective Equipment like helmet, gumboot, reflective jacket, gloves, nose mask and ear plugs; H&S Training for all site personnel has been arranged and it will be continued; H&S orientation training provided to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuries to fellow workers; Documented procedures are followed for all site activities; Work-related accidents will be recorded; 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			<ul style="list-style-type: none"> Bottled water provided at site. First Aid box provided at working sites; Clean eating areas provided to workers; Moving equipment maintained with audible back-up alarms 			
Socio Economic Employment	Generation of temporary employment and increase in local revenue	<ul style="list-style-type: none"> Employ local labour force as far as possible Comply with labour laws 	<ul style="list-style-type: none"> Local labours are employed, on priority, whenever available. Refer Attachment P3 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	Project Manager and all key workers will be required to undergo training on EMP implementation including spoils/waste management, Standard operating procedures (SOP) for construction works; occupational health and safety (OHS), core labour laws, applicable environmental laws etc.	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document checking	Project cost
Construction Camps	Temporary air, noise, land and water pollution from machine operation and after establishment of habitation	<ul style="list-style-type: none"> Camp sites shall be away from residential areas (100 m), sensitive areas (schools, hospitals, etc. 250 m), water bodies (500 m) and forests (more than 1 km) Use unused, vacant lands; no trees shall be cut Provide a proper fencing/compound wall Prepare a site layout plan & display at the site; uniformly label (name boards) all 	<ul style="list-style-type: none"> Before locating project offices, sheds, and construction plants we discussed with DSISC and within or nearest place has been selected, Till date no trees have been cut and no any destruction of property, irrigation and drinking water supply systems observed, Employees are trained for 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		<p>the places in the facility</p> <ul style="list-style-type: none"> Entire site/facility area shall be provided with hard levelled surface as appropriate; no loose soil, slush, water logging etc., Living quarters and construction camps shall be provided with standard materials; no shacks or huts Adequate lighting and ventilation Provide drinking water, water for other uses, and sanitation facilities; drinking water should be regularly tested Provide clear pathways for safe movement Provide cooking fuel (cooking gas); and a separate safe place to cook; fire wood not allowed Construct septic tanks and soak pit arrangement for wastewater disposal Solid waste shall be properly managed – provide separate bins, compost biodegradable waste; sell recyclable waste. According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work. 	<p>storage and handling of materials which can potentially cause soil contamination and water contamination;</p> <ul style="list-style-type: none"> Solid waste managed according to the following preferential hierarchy: reuse, and disposal to designated areas; Kitchen wastes collected in a dustbin then it is disposed outside from area to designated disposal location, Daily generated effluent disposed by arrangements already present in camp/ household. A house has been rented as labour accommodation. Location of Labour accommodation: Latitude-22.584607, Longitude-88.563024 The details of labour accommodation is presented in Attachment P2. 			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	<ul style="list-style-type: none"> Strictly follow the protocol for chance finds in any excavation work; Construction staff members should be made aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries. 	<ul style="list-style-type: none"> No archaeological chance finds are reported at project sites till date. If there is any such finding, action will be taken up as per requirement. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

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Table 3: Construction Phase Environmental Monitoring Plan for entire package

Monitoring Field	Monitoring Location	Monitoring Parameters	Frequency	Locations*	Cost as per budget (in Rs.)
Ambient air quality	5 locations (to be selected during implementation to represent the overall project area)	<ul style="list-style-type: none"> PM₁₀, PM_{2.5} NO₂, SO₂, CO 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	225,000
Ambient noise	5 locations (same as air quality monitoring)	<ul style="list-style-type: none"> Day time and night time noise levels (24 hours) 	Once before start of construction Quarterly (yearly 4- times) during construction (2-year period considered)	Zone 02 - Nebutala Abada, Zone 05 - Kulti Uposasthya Kendra, Zone 13 - Paschim Bhaida Primary School, Zone 17 - Near Majanpur High School, Zone 21 - Haroa Market	67,500
Surface water quality	2 locations (to be selected during implementation)	<ul style="list-style-type: none"> pH, Oil and grease, Cl, F, NO₃, TC, FC, Hardness, Turbidity BOD, COD, DO, Total Alkalinity 	Once before start of construction Half yearly during construction (2- year construction period considered)	Zone-3 - Pond Water near Nebutola Abada, Zone 13 - Pond Water in Paschim Bhaida	40,000
Chance Finds	Areas protected by ASI or West Bengal State Archaeology Department	<ul style="list-style-type: none"> Chance finds protocol 	Before finalization of detailed design, consult with ASI or West Bengal State Archaeology Department	-	-

Note: * It should be noted that every quarter only 5 locations in the entire package is monitored for air and noise while two locations are monitored for surface water every half-yearly. Locations are changeable with progress of work. Present locations as mentioned in mitigation tables are base line monitoring conducted as per EMP provision. The exact locations of these monitoring are reported in SEMR over google earth image. For all the packages conduct of these monitoring is responsibility of concerned Contractor and cost for such already budgeted in the IEE

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Monitoring Locations on Google Earth



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List of Attachments

Attachment P1: Details of construction Work sites
Attachment P2: Details of construction camp sites
Attachment P3: List of clearances & statutory requirements
Attachment P4: Contractor's OHS Policy & Organization
Attachment P5: Utility shifting/relocation
Attachment P6: Details of Construction Materials
Attachment P7: Spoil Management Plan
Attachment P8: Traffic Management Plan
Attachment P9: Procedure for on-site Grievance Redressal Mechanism
Attachment P10: Procedure for information disclosure prior to start of works

[Appendix P1: Map of Distribution Network](#)
[Appendix P.A: Gram Panchayat and other Authorities Permission](#)
[Appendix P.B: Labour License](#)
[Appendix P.C: Workman Compensation](#)
[Appendix P.D: PUC Certificates](#)
[Appendix P.2: Contractor's OHS Policy Statement](#)
[Appendix P.3: Sample Grievance Registration Form](#)

Enclosure 1 : Health_Safety_Management_Plan of Pkg.N24PGS/02A_Haroa block,



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Attachment P1: Details of construction Work sites

1. Zone 13: Pipeline construction Site						
Location- Salipur						
A	Material storage <ul style="list-style-type: none"> • Pipe • Fittings 					
B	Plant & Machinery <ul style="list-style-type: none"> ▪ Jointing Machin-1 Nos ▪ DG (less than 5 kVA) – 1 Nos 					
C	Site office – No					
D	Laboratory – No					
E	Security cabin – No					
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Drinking water • First Aid Box. 					
G	Road, agriculture land involvement and infrastructure facility No agricultural land involved No as such underground infrastructure available. No record for village road Details of pipeline, roads and construction methodology are presented below					
	Pipe Diameter (mm)	Length (m)	Width of trench (m)	Depth of Trench (m)	Width of roads (m)	Type of roads (earthen / BT / CC)
						Excavation method (manual/ mechanical)
	DI Pipes (358 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	54	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	304	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (25,862 m)					
	200 mm	2210	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	2198	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	2172	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	2154	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	6757	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	10371	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 13	
Location- Chauhata, Salipur		
A	Accommodation – For 8 construction workers. No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented apartment• Accommodation provided for 8 workers• Separate cooking area• Cooking gas• Drinking water• Bath rooms• Toilets• Drainage system• First aid box	
B	Camp photographs	
Original site Photographs	Not applicable as rented house is being used as labour accommodation.	
		
	Camp and facilities provided	
		
	Kitchen at labour camp	

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Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.A]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.B]
2	Workmen Compensation	Obtained [Refer Appendix – P.C]
C	Safety / liability safety related	
1	Medical insurance	Tie-up with local hospital done
D	Others	
1	Fitness certificate for vehicles, equipment used in construction	Obtained
2	Pollution under control (PUC) certificates for vehicles and equipment	Available [Refer Appendix – P.D]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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Attachment P4: Contractor's OHS Plan & Organization

1	Contractor agency has a OHS plan	Yes/No
A	If yes, provide policy details: 1. Policy statement 2. OHS organization & responsibilities:	Yes [Refer Appendix P2] Yes
B	List safety risks anticipated in the project Area works (Pipeline Work) • Trips and falls • Slope failure / trench collapse • Road accidents Linear works (pipelines) • Accidents from open trenches	-
C	List personal protection equipment provided to workers • Boots- 9 nos. • Gloves-1 no. • Helmet-10 nos. • Safety jacket- 8 nos. • Goggles- 1nos.	Yes
D	Preventive Measures	
	• Orientation of all workers on OHS	Done
	• Work permit system	No
	• Toolbox/safety meetings (how often will this be conducted, what are the minimum topics)	Twice Weekly on work inside trench, firefighting, first-aid, housekeeping, etc.
	• Safety signages	Displayed on site
2	• Barricades (more than 1 m deep requires hard barricading)	Wherever road width permits
A	Detail what steps/procedure to be adopted in emergency situation (eg. accidents) • In case of emergency first aid treatment to injured labour/person shall be provided. • In case hospitalization is required, concerned site in-charge will immediately take necessary action for hospitalization and he will inform to our Project Manager. • Details of accident shall be reported in accident register and the same shall be informed to client also.	Yes
B	Contact information, staff and responsibilities for emergency situations	
	Designation	Staff name & contact
	Site Engineer	Mr. Markindi Giri Mob: 8597392124
	EHS Supervisor	Saradindu Gain Mob: 9775459487
	Project Manager Representative	Mr. Ramesh Singh Mob: 8170011450
C	Reporting procedure in case of work accidents • Details of accidents shall be recorded in accident register. • Copy of accident register shall be submitted to client at the end of every month. • In case of any major accident client shall be informed immediately.	Yes
	Mandatory Reporting to Authorities	Yes
	Prohibited Acts and Penalties for Violations	Yes

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 19 of 42 Original Issue Date :
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Attachment P5: Utility shifting/relocation

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	6064.951	From trench cutting	Not required

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 20 of 42 Original Issue Date :
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Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date :
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 13 CHAUHATA (PIPELINE WORK)

0	18.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 21 of 42 Original Issue Date :
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1. INTRODUCTION OF SMP:

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for Pipeline network lying in Zone (13). For the Pipeline site we do not anticipated any excess Spoil for disposal as all excavated material will be reuse at site only.

3. LEGAL AND OTHER REQUIREMENTS:

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will be confirming the Environmental Protection Rules and Regulations of Govt. Of India and the State Govt.

4. ROLES AND RESPONSIBILITY:

SITE ENGINEER:

- Will strictly work as per drawing.
- Will stay at site during activity is going on.
- Will see excess earth is kept at a particular place after completion of backfilling.
- Will ensure quality of the work by discussing daily about the type of activity on that day with the workmen.
- Will check site drain outlets are not blocked due to excavated earth on the drain.

SAFETY PERSONNEL:

- Will constant Job Specific Tool Box Talk with Supervisor and Workmen.
- Will check excavated earth kept away from top.
- Will check if any underground pipeline is there or live electric cable their water should be sprayed to avoid dust hazard from excavation.
- Necessary Safety signage, Cones to be used.
- Vehicles reverse horn etc to be checked will ensure zero tolerance in safety.

WORKER:

- They will start activity only after Tool Box Talk done.
- They will wear job specific safety items before start of work.
- During working inside the excavated trench, they should use ladder for easy access.
- They should barricade the area of activity with Safety barricading tape.
- Worker should be skilled to carry out the work.

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff and worker under their supervision carry it out in this project. Major roles and responsibilities are mentioned below:

- Excavated earth should be utilized like refilling at site only.
- Traffic movement should not be obstructed by dumping soil during the work.
- No low land, pond, ditch etc. will be filled up by extra soil outside the work place.
- Ensuring no accident occurs during rainy season by excavated earth during or finished the work.
- All the drains, outlet should be free from excavated earth.

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5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, there are some places which will be assessed and identified jointly along with design engineer. Main places where the excavated earth can be utilized are the trench of pipes and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be 6064.951 cum. There is no excess earth in this project as the same earth is to be used to fill the low land area.

As per report from soil expert, excavated earth is cohesive in nature.

7. SPOIL REUSES OPPORTUNITIES, IDENTIFICATION AND ASSESMENT:

In this project, there is no excess quality of excavated earth; total excavated earth should be reuse as per plan.

8. ON SITE SPOIL MANAGMENT APPROACH:

In this project, no need of the approach as there is no extra soil for disposal.

9. SPOIL TRANSPORTATION METHODOLOGY:

In this project, no need of transport as there is no extra soil for disposal.

10. MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:

Monitoring, Reporting and all necessary improvements will be done as per requirements.

Expected Spoil (Soil) generated at Chauhata (Zone 13) for Pipe laying

Sl. No.	Dia(mm)	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	10243	0.25	1.063	2722.077
2	75	4662	0.25	1.075	1252.912
3	90	1565	0.25	1.09	426.462
4	110	2146	0.25	1.11	670.44
5	140	1154	0.25	1.14	328.89
6	200	1141	0.25	1.2	342.3
7	250(DI)	17	0.3	1.2	6.12
8	250(DI)	42	0.3	1.25	15.75
9	Extra for bend, joints etc				300.00
10	Approx. generated total Spoil at Chauhata				6064.951

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Attachment P8: Traffic Management Plan


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ TMP /01
	Traffic Management Plan	Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :

TRAFFIC MANAGEMENT PLAN

WBDWSIP HAROA BLOCK

LOCATION: ZONE- 13 CHAUHATA (PIPELINE WORK)

0	18.06.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, 
North 24 Parganas
WBDWSI Project

West Bengal Drinking Water Sector Improvement Project

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 24 of 42 Original Issue Date :
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1. **PURPOSE**

Main purpose is to prevent accident between vehicles, pedestrians and employees and also minimise inconvenience to the vehicle. To stop property damage and prevent injury to persons arising from site traffic and site transport.

2. **SCOPE**

The procedure is applicable for HDPE/DI pipe laying area Zone – 13 CHAUHATA.

Pipelaying works not required full road closure but partial closure is required on all these roads and hence, traffic management plans have been developed accordingly.

3. **RESPONSIBILITY**

It is the responsibility of the Engineers and all department head to implement this procedure and ensure that delegated staff under their supervision carries it out.

4. **LEGAL REQUIREMENT**

The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988

5. **REQUIREMENTS**

5.1 **General**

- All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.
- All the effects should be reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.
- A clear and early warning of any obstruction to all road users should be provided.
- All areas where work is going on should be clearly demarcated by proper barricading and entry into these areas should be restricted to only authorize personnel.
- Site access for local people.

5.2 **Planning Stage**

Particular attention should be given to:

- Traffic signs
- Cones
- Barriers
- Road hazard warning lights
- Information boards and
- Site lighting
- Site access for local people
- Consider necessity to traffic control systems such as temporary traffic lights or Stop/Go boards.
- Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).
- Provision of adequate lighting while working at night.
- All persons working on the road shall wear high visibility jackets.

5.3 **On Site**

The working space shall be defined and “A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE” to be follow.

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5.4 Operators/Drivers

- Only Experienced operators and drivers with valid licensed has been appointed.
- One copy of license has been collected.
- Refreshment training conducted for all operators and drivers.
- Operators/Drivers authentication and validation to operate the particular machinery displayed in the machine/vehicles.

5.5 Equipment

- Drivers undertake a daily visual inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.
- Safety Department along with Plant and machinery department shall check the vehicles as a monthly basis.
- All vehicles have reverse horns and it is in working properly.
- All vehicles, preventive maintenance schedule has to be followed strictly.

5.6 Roads

- For safe operation we are following the below safety measure:
- Safe width of road has been provided.
- Flag man deployed at every traffic point to control the vehicles and pedestrians.
- Speed limits 10km/hr within the working area.
- Caution board has been placed in every location within the site.
- Workers are working with reflective jacket as well as required PPE's.
- Road for use of pedestrian has been identified.
- Reverse horn used in vehicles.
- While reverse vehicles ensuring Banks man.
- Do's and Don'ts displayed at site office.

5.7 Loading and Unloading

- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators that when the drivers leave the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.
- Helper has been provided with all vehicles.
- After unloading, the banks man ensuring that the tipper is lowered before moving.
- Turn buckle and side stoppers used while transporting as required.

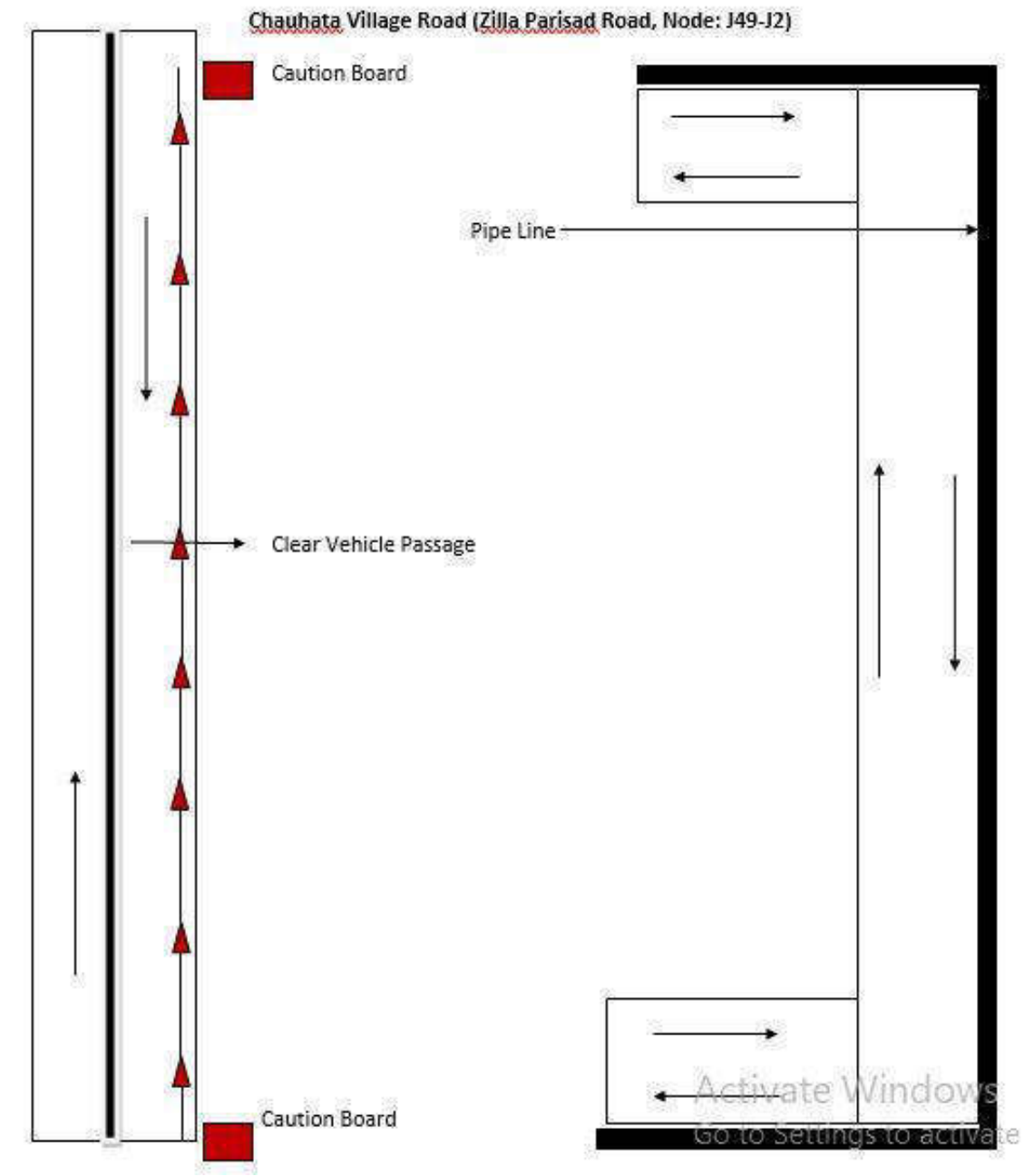
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

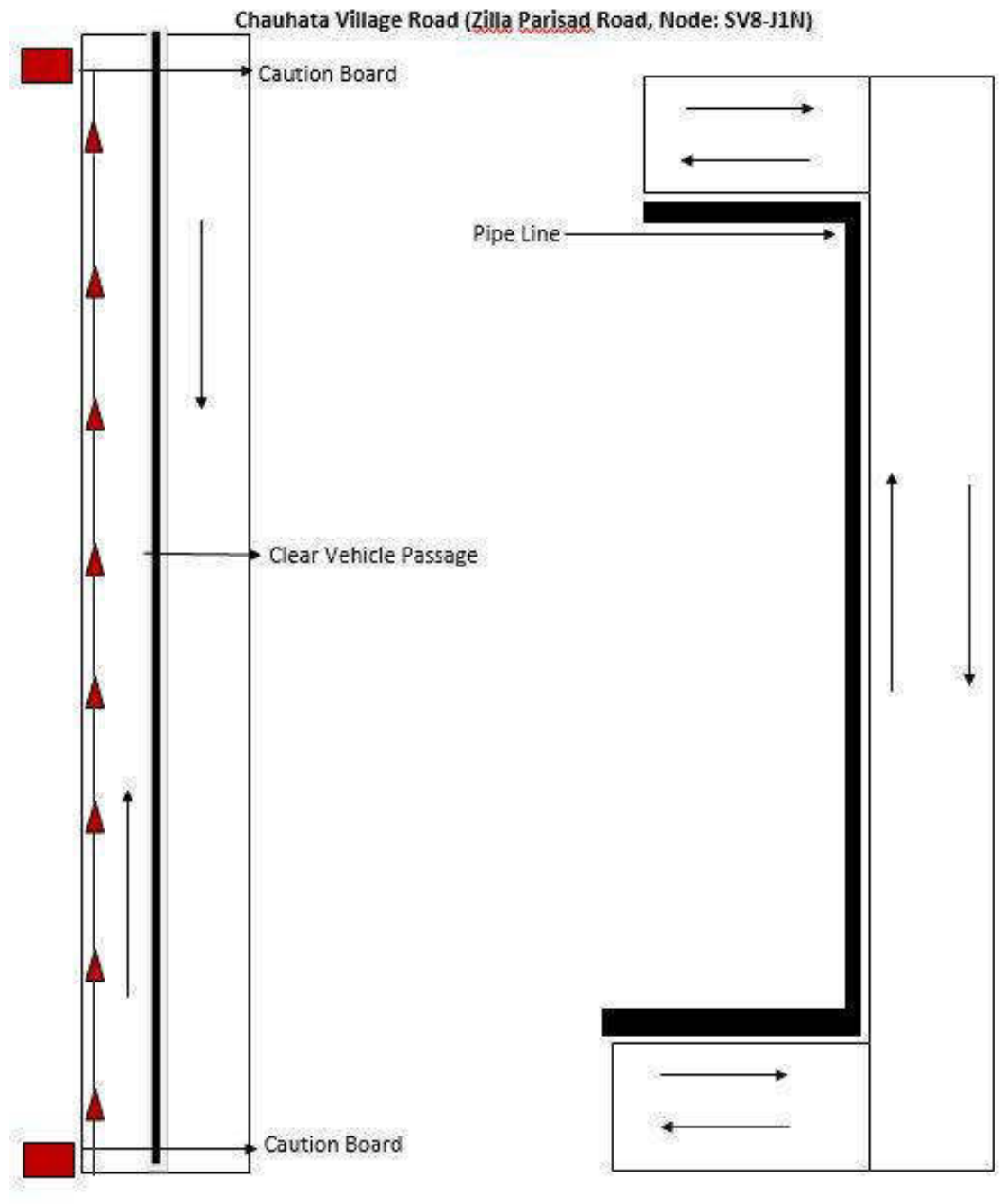
Particular attention has been taken in working area:

- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

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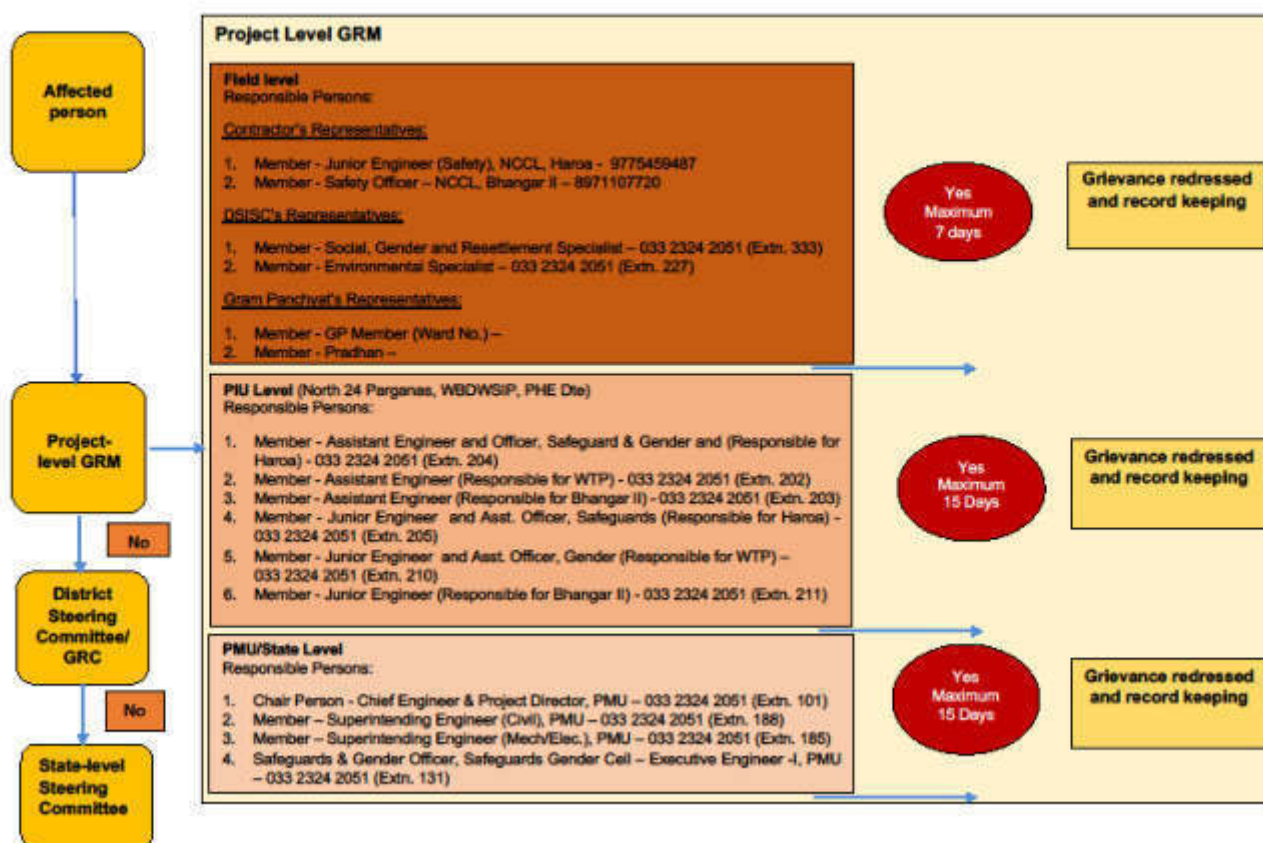


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Attachment P9: Procedure for on-site Grievance Redressal Mechanism

A common Grievance Redressal Mechanism (GRM) is in place to redress social, environmental or any other project and/or subproject related grievances. The GRM presented below has been developed in consultation with stakeholders. Public awareness campaign has been conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign has ensured that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and PIU will ensure that their grievances are addressed in time.

Grievance Redress Mechanism



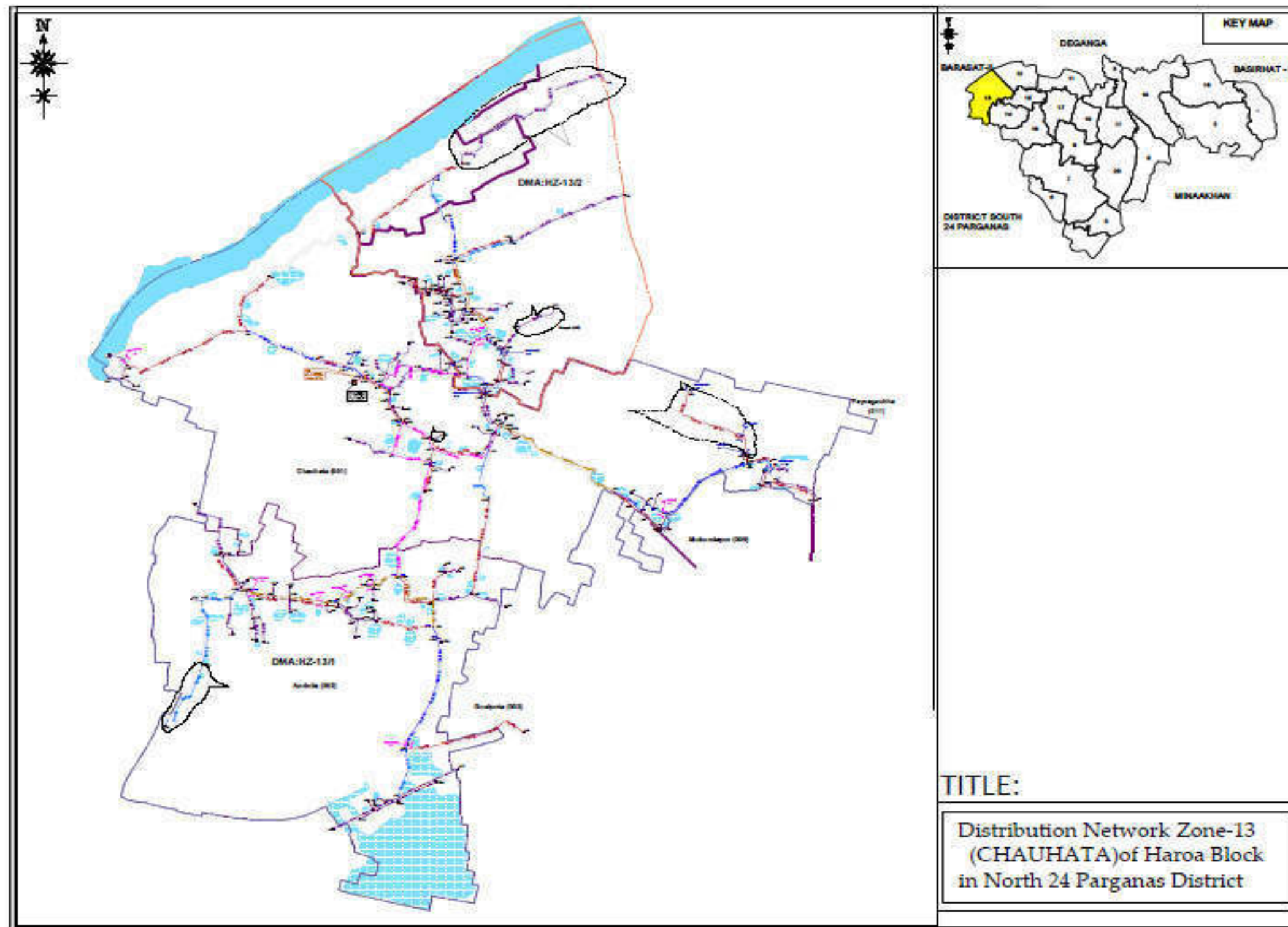
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

Attachment P10: Procedure for information disclosure prior to start of works

- Local population is informed through community leaders as well as by visiting individual households of the locality.
- Information board is placed at construction site
- Stakeholder consultation carried out at Gram Panchayat level and work details including time period is informed.


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Appendix P.1: Map of Distribution Network



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.A: Gram Panchayat and other Authorities Permission

 **Government of West Bengal**
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II, Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Samiti,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 30.04.2019 in Salipur & Borjuri Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Memo No. _____ /SD-I, N-24 PGSD-II, Dated, New Town, the _____


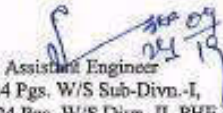
Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samiti.
- 2) The Pradhan, Salipur / Borjuri, Gram Panchayet.

Memo No. 63/2/19 /SD-I, N-24 PGSD-II, Dated, New Town, the 24/04/19

Copy forwarded for information to :-


- 1) The Superintending Engineer, P.L.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

 
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

File
25/04/19

25/04/19
Time- 2:47 PM

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 31 of 42 Original Issue Date :
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 **Government of West Bengal**
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II, Dated, New Town, the _____

To

- (1) The Assistant Engineer (PWD) Roads,
Basirhar Sub Division, North 24 Parganas.
- (2) The Station Manager,
WBSEDCL, Haroa, North 24 Parganas.
- (3) The Sub Division Engineer,
BSNL, Basirhar Sub Division, North 24 Parganas.

DSISC / WBDWSIP
Inward No. 620
RECEIVED
Date 25/04/19 **Signature**
Time - 2:47 PM

Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 30.04.2019 in Salipur & Borjuri Gram Panchayet along the road within ROW and a copy of drawing is herewith enclosed for your ready reference. In this matter you are requested to provide contract details of authorized person under your control regarding utilities & others if any during execution for smooth work progress without hampering existing services under your jurisdiction.

Your kind co-operation in this regard is requested.

Encls. : As stated.

sdr
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II, Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samiti.
- 2) The Executive Officer, Haroa Panchayet Samiti.

sdr
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.


Memo No. 64/3/19 /SD-I, N-24 PGSD-II, Dated, New Town, the 24/04/19.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Sujoy Basak, Junior Engineer, N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- ✓ 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

File
25/04
25/04
24/04/19
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 32 of 42 Original Issue Date :
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Government of West Bengal
Office of the Executive Engineer
North 24 Parganas W/S Division-II, P.H.E. Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AI, AA-IA, New Town, Kol-156
Phone No. : (033) 2324-2051, E-mail : ee_n24_div2@wbphed.gov.in

Memo No. _____/N-24 PGSD-II, Dated, New Town, the, _____

To
The Head Project Implementation Unit,
WBSRDA,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Haroa block under the financial assistance of ADB and laying of foundation stone of the same was done by Hon'ble Chief Minister of West Bengal on 26th October'2018. Now the entrusted agency will start the laying of distribution network from 12.06.2019 in Borjuri & Salipur Gram Panchayet along the road under your jurisdiction within the ROW and a copy of distribution network drawing is herewith enclosed for ready reference.

Your kind co-operation in this regard is requested.

Encls. : As stated.

Yours faithfully,

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn. - II, P.H.E. Dte.
Dated, New Town, the, _____

Memo No. 964/3/N-24 PGSD-II,
Copy forwarded for information to :-
1) The Sabhadhipati, North 24 Parganas Zilla Parishad.
2) The District Magistrate, North 24 Parganas.
3) The District Engineer, North 24 Parganas Zilla Parishad.

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn. - II, P.H.E. Dte.
Dated, New Town, the, 12-06-19

Memo No. 964/3/N-24 PGSD-II,
Copy forwarded for information to :-
1) The Superintending Engineer, P.L.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Assistant Engineer, Sub Divn.-I under North 24 Pgs. W/S Divn.-II, PHE Dte.
3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

[Signature]
Executive Engineer,
N-24 Pgs. W/S Divn. - II, P.H.E. Dte.

DTL/AD
[Signature]
12/6/19
Time - 12:50 PM

DSISC / WBDWSIP
Inward No 973
RECEIVED
12/6/19
Time - 12:50 PM

E:\MIS\NCC\Project\New\7712 Road.doc

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Government of West Bengal
Office of the Assistant Engineer
North 24 Parganas W/S Sub Division-I
Under North 24 Pgs. W/S Divn.-II, PHE Dte.
Utility Building, Tank No. - 3, 2nd Floor, Block-AI
Action Area-IA, New Town, Kolkata-700156

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

To
The B.D.O. & Executive Officer,
Haroa Development Block & Haroa Panchayet Samity,
North 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Haroa Block.

You are well aware that the water supply project under reference is being going on within Haroa block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 12.06.2019 in **Borjuri & Salipur Gram Panchayet** along the road within ROW and a copy of drawing is herewith enclosed for your ready reference.

Your kind co-operation in this regard is requested.

Enclo. : As stated.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____ /SD-I, N-24 PGSD-II,

Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapati, Haroa Panchayet Samity.
- 2) The Pradhan, Borjuri / Salipur, Gram Panchayet.
- 3) The Officer in Charge, Haroa Police Station.

**SD/-
S. BOSE**

Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 21/1/19 /SD-I, N-24 PGSD-II,

Dated, New Town, the 10/06/19

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.L.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Manab Chakraborty, J.E., N-24 Pgs. W/S Sub Divn.-I under N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

DTL/AB
13/5/19

DSISC / WBDWSIP
Inward No 1008
RECEIVED
Date 13-7-19
Time - 2:50 pm

10/06/19
Assistant Engineer
N-24 Pgs. W/S Sub-Divn.-I,
Under N-24 Pgs. W/S Divn.-II, PHE Dte.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI [See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa , Basirhat, PS - Haroa , District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009311-008372-17200-2019

1.Date of Renewal

02nd Dec, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dte.(BST09/CLR/000088)

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GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

Licence No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to NCC LIMITED at NCC Limited, Vill. Peara, P.O. + PS. Haroa, Pin.- 743425, Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425 under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in Annexure.

The Licence shall remain in force till: 04th Dec, 2019.

**Supriya
Bandyopadhyay**

Digitally signed by
Supriya Bandyopadhyay
Date: 2018.12.05
10:54:45 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970

&
Assistant Labour Commissioner
Basirhat, North 24 Parganas

Establishment Information:

Office of the Executive Engineer, North 24 Parganas Water Supply Division-II, P.H.E. Dto. [BST09/CLL/000029]

W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-1A, New Town, Kolkata.

Haroa, Block - Haroa, Basirhat - 743425, PS - Haroa, North 24 Parganas

Work site exact location:

NCC LIMITED, VILL. PEARA, PO+PS: HAROA, PIN. 743425

Haroa, Block- Haroa, Basirhat

PS - Haroa, District - North 24 Parganas, Pin Code - 743425

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 36 of 42 Original Issue Date :

Appendix P.C: Workman Compensation



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor, D.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038600			
Policy No Insured : 2019-L0129168-FWC Insured : NCC Limited	Period of Insurance : From 00:00 04/02/2019 To Midnight of 03/02/2020 Intermediary Name/Code : INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521		
Address : WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone (Mob, Off, Home) : 4027822990/09892590738/4027822990 Fax No & Email Id : 02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM		
GSTIN Number : 19AAACN733SC12M	FGI GSTIN Number : 36AABCF019R1ZA		
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties herein first set forth.			
Co-Insurance Details		Schedule Of Premium (₹)	
Insurer : FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	Share (In %): 100%	Gross Premium : 134,304.36 Goods and Service Tax : 24,174.78 Total Premium : 158,479.00	
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K Contractor/Sub-Contractor Name : NCC LTD			
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,986,000.00	
Total		23,166,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1933 and subsequent amendments thereon prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendment of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases. Jurisdiction/ Territory : India Excluding Wet Risk, Blasting, Tunneling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights. Contractors and sub-contractors employees are covered.			
Important - 1. All other Terms, Conditions and Exclusions as per attached Policy Wordings. 2. In case of payment by cheque, in the event of dishonour of cheque for any reason whatsoever insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd. Receipt No : Z9065378 Date of Issue : 07/02/2019 Place of Issuance : Mumbai* *Address as mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSD/118/2018/2179/18, dated 16/08/2018 Madras - 2017/C.R.97/84-1, dated 09/01/2018.

Product UIN : IRIANI32P0012V01200708




Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiabulls Finance Center, Sagarika Bazar,

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 37 of 42 Original Issue Date :

Appendix P.D: PUC Certificates

HC (ppm) SD (HSU) **B9104**

PUC Certificate issued by: M/S-NATURAL WORLD

Signature: 

License No. and Seal: **Natural World**
N.H. 34, K.N. Road Back Side, Berhampore, MSD
Licence

Vehicle Pass

POLLUTION UNDER CONTROL CERTIFICATE
(under the West Bengal Motor Vehicle rule's 1989)

Transport Department, Govt of West Bengal

D4637539

M/S-NATURAL WORLD
N.H. 34, K.N. ROAD BACK SIDE, BERHAMPORE, MSD

Label Code: WB License No : 18/2008-2009 Test Station Code : 002

PUC No : WB4685
Name : MD CHAND MAHAMMAD SEKH
Address : RANITALA
MSD
WB
Date: 17/04/2019
Fuel: Diesel
Time : 1:29:14 P.M

Vehicle Reg No: WB 57B-9104
Category : EARTH MOVING
Make: TEREX EQUIPMENT
Model: EARTH MOVING
Date of Reg. 2014
Speedo Mtr Rdg: x
Engine No : 1420359
Chassis No: 409159

Ink	RPM min	RPM max	K.m-1	HSU%	GTPC
1	01283	06000	00.02	46.2	065.01
2	01242	06000	00.02	46.9	062.83
3	01221	06000	00.02	46.5	061.14
4	00541	06000	00.02	47.2	065.11

Valid upto: 16/10/2019
Grade: A
Test Fees: 100

SAFE DRIVE. SAVE LIFE!
NO ROUGH DRIVE!

let 01066 08000 00.02 47.2 064.13

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 38 of 42 Original Issue Date :

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30W2784** **WB-01-D 4224909**

Date of issue: **28-Feb-2019** Valid upto: **27-Feb-20**

Pollution Level:
CO (%) **37.00**
HC (ppm) **01.07**
SD (HSU) **35.3**

PUC Certificate issued by: **MILI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* **Vehicle Pass** **WB-01-**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Transport Department

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010995

Label Code: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000273** Vehicle Reg No: **WB30W2784**

Name: **NCC LIMITED** Category: **CAR**

Address: **PURBA MEDINIPUR** Make: **MAHINDRA**

PIN-721134 Model: **BOLERO**

Mobile: **9735589348** Date of Reg.: **2016**

Date: **28-Feb-2019** Speedo mtr Rdg: **61372**

Time: **05:54 PM** Engine No.: **49749**

Fuel: **Diesel** Chassis No.: **76205**

Flushing Cycle Mean: **RPM Min: 0743 RPM Max: 2100** Emi Norms.: **BS IV or Onwards**

SNo.	RPM min	RPM max	Km-l	HSU %	OTTC
1	0720	2000	01.12	38.2	026.00
2	0720	1970	01.09	37.5	026.00
3	0720	1920	01.01	35.3	026.00

Valid upto: **27-Feb-20**

Grade: **A**

Test Fee: **100**

Mean **0720 1930 01.07 37.0% 026.00**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

INDUS Dis. No. 2.5/0000-5000-660



NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
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POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Registr. No.: **WB30AC7817** WB-01-**D 4261432**

Date of Issue: **29-Mar-2019** Valid upto: **28-Mar-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (HSU)	40.5

PUC Certificate issued by: **MILI ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* WB-01-

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010995

Transport Department

Label Code: **WB** Licence No: **151/AETC/2018** Test Station Code: **0001**

PUC No.: **WB0001000382** Vehicle Reg No: **WB30AC7817**

Name: **NCC LTD** Category: **car**

Address: **Mahindra**

Model: **BOLERO**

Date of Reg.: **2019**

Speedo mtr Rdg: **1094**

Mobile: **9735580348** Engine No.: **91913**

Date: **29-Mar-2019** Chassis No.: **10260**

Time: **10:54 AM** Emi Norms.: **BS-IV or Onwards**

Fuel: **Diesel** Vehicle Type: **BS4 - 4 Wheeler**

Flushing Cycle Mean: **RPM Min: 0840 RPM Max: 1913**

SNs	RPM min	RPM max	K m-1	HSU %	OTPC
1	0810	1630	01.20	40.5	041.00
2	0830	1630	01.21	40.5	041.00
3	0810	1740	01.20	40.5	041.00

Standard	Measured
K m-1	1.62 01.20
HSU %	50 40.5

Valid upto: **28-Mar-20**

Grade: **A**

Test Fee: **100**

Mean **0816 1733 01.20 40.5% 041.00**

This vehicle meets Emission Standards Prescribed under Rule 155(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorised Signatory: *[Signature]*

INDUS Dieux 2.8.0/0000-0000/4650

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 40 of 42 Original Issue Date :

Appendix P.2: Contractor OHS Policy Statement

NCC LIMITED

Health, Safety & Environment Policy

For Construction/Erection and Commissioning, the General Strategic Objectives Listed Below are Followed:

- A proactive, role model HSE at Site.
- All Sites related activities and Office Work will result in no one getting injured or made unwell.
- Early identification of hazards and risk and the decision or adequate measures.
- Reduction of negative impact on the neighborhood are the the environment in particular on fauna and flora to a minimum.
- Provide training in HSE knowledge and encourage continuous improvement and development of this.
- Continuous monitoring of the HSE performance.
- Promote the benefits of a healthy life-style amongst our employees.
- Report and investigate accidents and incidents to take lessons and prevents similar events occurring again.
- Preserve ecological balance and heritage.

Prepared by:	Copy No.	Date of Issue:	Approved by:	Issued by:

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 41 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.3: Sample Grievance Registration Form

(Available in Bengali and English)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration	Project Town			
		Project:			
Contact information/personal details					
Name		Gender	Male Female	Age	
Home address					
Place					
Phone no.					
E-mail					
Complaint/suggestion/comment/question Please provide the details (who, what, where, and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
Mode of communication: Note/letter E-mail Verbal/telephonic	
Reviewed by: (Names/positions of officials reviewing grievance)	
Action taken:	
Whether action taken disclosed:	Yes No
Means of disclosure:	

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Haroa Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 42 of 42 Original Issue Date :

অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি লিপিবদ্ধ করার নমুনা পত্র

এই _____ প্রকল্পটি সৃষ্ট ও সুন্দরভাবে রূপায়নের উদ্দেশ্যে সকলের অভিযোগ, পরামর্শ, প্রশ্ন এবং মন্তব্য প্রত্যাশা করে। আপনার কোনও অভিযোগ থাকলে আপনার নাম ও যোগাযোগের ঠিকানা দিয়ে আমাদের সহযোগিতা করবেন। আপনার অভিযোগ / প্রশ্নের স্বার্থে সদুত্তর ও আপনাকে পরিস্থিতি সম্পর্কে আমরা অবগত করবো।

যদি আপনি আপনার ব্যক্তি পরিচয় গোপন রাখতে চান তাহলে আপনার নামের উপরে " গোপনীয় " কথাটি লিখবেন।

ধন্যবাদান্তে

তারিখ	পঞ্জীকরণের বা Registration এর স্থানঃ	ব্লক-	
		গ্রাম পঞ্চায়েত-	
		গ্রাম সংসদ-	
যোগাযোগের ঠিকানা / ব্যক্তিগত তথ্য			
নাম		লিঙ্গ	বয়স
বাড়ির ঠিকানাঃ গ্রাম-	পাড়া-	পুরুষ -	
ফোন নং-	ই-মেইল-	মহিলা-	
অভিযোগ/ পরামর্শ/ মন্তব্য/ প্রশ্নাদি- দয়া করে কে, কি, কোথায় এবং কিভাবে - অভিযোগের এই বিশদ বিবরণ নিচে লিখুন-			
যদি কোন অতিরিক্ত কাগজ জুড়তে হয় / বা নোট থাকে বা চিঠি থাকে তাহলে এই ঘরে (৭) টীক দিন।			
আপনি কিভাবে আপনার অভিযোগ / মন্তব্য বিষয়ে অবগত হতে চান ?			

শুধুমাত্র অফিসের ব্যবহারের জন্যঃ

যে আধিকারিক অভিযোগ জমা নিলেন তার নামঃ
কিভাবে জানানো হল (৭) টীক দিনঃ নোট বা চিঠির মাধ্যমে - ই-মেইল- মুখে মুখে বা টেলিফোনে-
যিনি অভিযোগ পাবার পর খতিয়ে দেখেছেনঃ
(নাম / পদ)
কি ব্যবস্থা গ্রহণ করা হয়েছেঃ
ব্যবস্থা যা গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমোদনকারী -

তারিখ-

Appendix 16: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE ASSISTANT LABOUR COMMISSIONER, BASIRHAT
MOILAKHOLA MORE TAKI ROAD BASIRHAT 24 PARGANAS (NORTH) PIN - 743412

FORM VI
[See Rule 25(1)]

License No. : BST09/CLL/000029

Date : 05th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Haroa, Block- Haroa, Basirhat, PS - Haroa, District - North 24 Parganas, Pin Code - 743425** under Section 12(1) of the Contract Labour(Regulation and Abolition)Act,1970 subject to the condition specified in Annexure.

The License shall remain till:-04th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009311-008372-17200-2019
1.Date of Renewal	02nd Dec, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	04th Dec, 2020

**SUPRIYA
BANDYOP
ADHYAY**

Digitally signed by
SUPRIYA
BANDYOPADHYAY
Date: 2019.12.02
12:41:53 +05'30'

P.E. Details:-

Office of the Executive Engineer, North-24 Parganas Water Supply Division-II, P.H.E. Dto.(BST09/CLR/000088)

Appendix 17: Sample Accident Record

RECORD OF ACCIDENT/FIRST AID													
Package		WBDWSIP/DWW/NCB/924/02A/2017-18(OHR)										Month	1 August 2019
Sl. No.	Date	Name of Person	Sex	Age	Time	Design.	Company/ Sub contractor	Agency	Type of Accident	Nature of Injury	Location of Injury	Root Cause	Action Taken
1	01.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2	02.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3	03.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4	04.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5	05.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6	06.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7	07.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
8	08.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
9	09.08.2019	Ashok Sarkar	Male	37	10.55 am	Helper	Sub contractor	NA	Minor	Hand injury	OHR	Twisting wire	Give him first aid
10	10.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
11	11.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12	12.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
13	13.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
14	14.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
15	15.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
16	16.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
17	17.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
18	18.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
19	19.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
20	20.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
21	21.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
22	22.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
23	23.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
24	24.08.2019	Majeed Ali Mondal	Male	38	11.56 am	Helper	Sub contractor	NA	Minor	Finger injury	OHR	Bar bending wire	Give him first aid
25	25.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
26	26.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
27	27.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
28	28.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
29	29.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
30	30.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
31	31.08.2019	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Name & Sign of Safety Officer of Contractor

SARADHAN SAIN


31/8/19

Verification by DSISC sample basis

Rohankumar

Appendix 18: WC Policy for workers



Workmen's Compensation Policy- Policy Schedule			
Policy Servicing Office	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDE, Estate Opp Country Club, Begunpur, Hyderabad, Telangana, Pincode-500016, Tel No: 040-66038000		
Policy No	2019-L0129168-1 WC	Period of Insurance	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES-60001521
Address	WORKS IN HAROA BLOCK, North Twenty Four Parganas, West Bengal, 743425	Telephone(Mob,Off,Home)	4027822990/09802590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACN7335C1ZM	FGI GSTIN Number	36AABCT0191R1ZA
In consideration of the Policy holder named herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in reliance upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (In %)	Gross Premium	134,504.30
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Growth and Service Tax	24,174.79
		Total Premium	158,679.09
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Haroa Block K		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
50	Highly Skilled workers	6,642,000.00	
50	Skilled workers	4,048,000.00	
30	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,980,000.00	
Total		21,160,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law/ Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendments of the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not extended to include: i. Any interest and/or penalty imposed on the insured on account of his/their failure to comply with the requirements laid down under WC Act 1923. ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Terrorism is excluded from coverage. No cover for Medical Expenses, Unless specifically allowed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases Jurisdiction / Territory : India Excluding Wet Risk, Blasting, Tunnelling and Handling of Explosives Excluding loss arising out of installation and erosion of live wiring. Warranted that safety practices are followed by the workers and safety gadgets are used by the workers while working in heights Contractors and sub-contractors employees are covered.			
Important:- 1. All other Terms, Conditions and Exclusions as per attached Policy Wording. 2. In case of payment by cheque, in the event of dishonor of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the inception irrespective of whether a separate communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No	Z9065378	 (Authorized Signatory)	
Date of Issue	07/02/2019		
Place of Insurance	Mumbai*		
* Address as mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Lender Of Authorisation No. CSD/11/2018/37978 dated 16/08/2018, Madurai - 2017/C.R.97/M-1, dated 09/01/2018.

Product UIN : IRDAN132P0012V01201708



Appendix 19: Sample Environmental Site Inspection Report

ENVIRONMENTAL SITE INSPECTION REPORT

Project Name: WSDWSIP
Contract Number: WSDWSIP/DWW/NC3/N24P/02A/2017-13

Block: Harba DATE: 24/10/19

Zone: 18 (CHR) - Gopuram

WEATHER: Rainy / Cloudy

Project Activity Stage	Survey	
	Design	
	Implementation	✓
	Pre-Commissioning	
	Guarantee Period	

Sr. No.	Monitoring Items	
	Compliance marked as Yes/No/Not Applicable/Partially Implemented (PI)	
1	Environment, Health and Safety supervisor appointed by Contractor and available on site	Yes
2	Construction site management plan (spoils safety schedule, equipment etc.) prepared	Yes
3	Traffic Management Plan Prepared	NR
4	Dust is under control	Yes
5	Excavated soil properly placed within minimum space	PI
6	Construction area is confined no traffic/pedestrian entry observed	PI
7	Surplus soil/debris/waste is disposed without delay	PI
8	Construction material (sand/gravel/aggregate brought to site as and when required only	PI
9	Taraulins used to cover sand and other loose material when transported by vehicles	PI
10	After unloading, wheels and undercarriage of vehicles cleaned prior to leaving the site	Yes (During)
11	No AC pipes disturbed/removed during excavation	No
12	No chance finds encountered during excavation	NR
13	Work is planned in consultation with traffic police	NR
14	Work is not being conducted during heavy traffic	NR
15	Work at a stretch is completed within a day (excavation, pipe laying and backfilling)	NR
16	Pipe trenches are not kept open unduly	NR
17	Road is not completely closed, work is conducted on edge at least one line is kept open	NR
18	Road is closed alternative route provided and public informed, information board provided	NR
19	Pedestrian access to houses is not blocked due to pipe laying	NR
20	Spaces left in between trenches for access	NR
21	Wooden planks/metal sheets provided across trench for pedestrian	NR
22	No public/unauthorized entry observed in work site	NR
23	Children safety measures (barricades, security) in place at works in residential areas	Yes
24	Prior public information provided about the work, schedule and disturbances	PI
25	Caution/warning board provided on site	Yes
26	Guards with red flag provided during work at busy roads	NR
27	Workers using appropriate PPE (boots, gloves, helmets, ear muffs etc.)	PI *
28	Workers conducting or near heavy noise work is provided with ear muffs	NR
29	Contractor is following standard and safe construction practices	PI
30	Deep excavation is conducted with land slip/protection measures	PI
31	First aid facilities are available on site and workers informed	Yes
32	Drinking water provided at the site	Yes
33	Toilet facility provided at the site	Yes
34	Separate toilet facility is provided for women workers	NR

35	Workers camps are are maintain cleanly	PI
36	Adequate toilet and bath facilities provided	PI
37	Contractor employed local workers as far as possible	PI (50%)
38	Workers camp set up with the permission of PIU	—
39	Adequate housing provided	PI
40	Sufficient water provided for drinking/washing/bath	PI
41	No noisy work is conducted in the nights	PI
42	Local people informed of noisy work	NO
43	No blasting activity conducted	NR
44	Pneumatic drills or other equipment creating vibration is not used near old/insly building	NR
45	Funeral activity till date on site	NR
46	Waste water discharge from site	NO
48	Tree cutting/Trimming	Yes (from/along Camp)
49	Solid waste disposal from site under norms	NR
50		PI (Stored at site)

Signature <u>Suman Paul</u>	
Sign off	
Name <u>Rohan Kumar</u> 24/10/19	
Position	Environmental Safeguard

Fly wheel cover missing during visit at site,
 Must arrange hard barricade to that position of Machine.
 Partially use of PPE seen during visit, Jacket and
 Safety shoes missing.

Noted
 Suman Paul

Appendix 20: SAMPLE SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT TEMPLATE

1. Introduction

- | Overall project description and objectives
- | Environmental category as per ADB Safeguard Policy Statement, 2009
- | Environmental category of each subproject as per national laws and regulations
- | Project Safeguards Team

Name	Designation/Office	Email Address	Contact Number
1. PMU			
2. PIUs			
3. Consultants			

- | Overall project and sub-project progress and status
- | Description of subprojects (package-wise) and status of implementation (preliminary, detailed design, on-going construction, completed, and/or O&M stage)

Package Number	Components/List of Works	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M) ^a	Contract Status (specify if under bidding or contract awarded)	If On-going Construction	
				%Physical Progress	Expected Completion Date

^a If on-going construction, include %physical progress and expected date of completion.

2. Compliance Status With National/State/Local Statutory Environmental Requirements^a

Package No.	Subproject Name	Statutory Environmental Requirements ^b	Status of Compliance ^c	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ^d

^a All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s.

Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the “remarks” column.

^b Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

^c Specify if obtained, submitted and awaiting approval, application not yet submitted

^d Example: *Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.*

3. Compliance Status With Environmental Loan Covenants

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

4. Compliance Status With the Environmental Management Plan (Refer to EMP Tables In Approved IEE/S)

- Confirm if IEE/s require contractors to submit site-specific EMP/construction EMPs. If not, describe the methodology of monitoring each package under implementation.

Package-wise Implementation Status

Package Number	Components	Design Status (Preliminary Design Stage/Detailed Design Completed)	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
			Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		

- Identify the role/s of Safeguards Team including schedule of on-site verification of reports submitted by consultants and contractors.
- For each package, provide name/s and contact details of contractor/s' nodal person/s for environmental safeguards.
 - Include as appendix all supporting documents including **signed** monthly environmental site inspection reports prepared by consultants and/or contractors.
 - With reference to approved EMP/site-specific EMP/construction EMP, complete the table below
 - Provide the monitoring results as per the parameters outlined in the approved EMP (or site-specific EMP/construction EMP when applicable).
 - In addition to the table on EMP implementation, the main text of the report should discuss in details the following items:

(i) **Grievance Redress Mechanism.** Provide information on establishment of grievance redress mechanism and capacity of grievance redress committee to address project-related issues/complaints. Include as appendix Notification of the GRM (town-wise if applicable).

(ii) **Complaints Received during the Reporting Period.** Provide information on number, nature, and resolution of complaints received during reporting period. Attach records as per GRM in the approved IEE. Identify safeguards team member/s involved in the GRM process. Attach minutes of meetings (ensure English translation is provided).

- Confirm if any dust was noted to escape the site boundaries and identify dust suppression techniques followed for site/s.
- Identify muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads.
- Identify type of erosion and sediment control measures installed on site/s, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Identify designated areas for concrete works, chemical storage, construction materials, and refueling. Attach photographs of each area.
- Confirm spill kits on site and site procedure for handling emergencies.
- Identify any chemical stored on site and provide information on storage condition. Attach photograph.
- Describe management of stockpiles (construction materials, excavated soils, spoils, etc.). Provide photographs.
- Describe management of solid and liquid wastes on-site (quantity generated, transport, storage and disposal). Provide photographs.
- Provide information on barricades, signages, and on-site boards. Provide photographs.
- Provide information on Checking if there are any activities being under taken out of working hours and how that is being managed.

Summary of Environmental Monitoring Activities (for the Reporting Period)^a

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Design Phase						
Pre-Construction Phase						
Construction Phase						
Operational Phase						

^a Attach Laboratory Results and Sampling Map/Locations

Overall Compliance with CEMP/ EMP

No.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

5. Approach and Methodology for Environmental Monitoring of the Project

- ┌ Brief description on the approach and methodology used for environmental monitoring of each sub-project

6. Monitoring of Environmental Impacts on Project Surroundings (Ambient Air, Water Quality and Noise Levels)

- ┌ Brief discussion on the basis for monitoring
- ┌ Indicate type and location of environmental parameters to be monitored
- ┌ Indicate the method of monitoring and equipment to be used
- ┌ Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

Air Quality Results

Site No.	Date of Testing	Site Location	Parameters (Government Standards)		
			PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³

Water Quality Results

Site No.	Date of Sampling	Site Location	Parameters (Government Standards)					
			pH	Conductivity µS/cm	BOD mg/L	TSS mg/L	TN mg/L	TP mg/L

Site No.	Date of Sampling	Site Location	Parameters (Monitoring Results)					
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			pH	Conductivity $\mu\text{S/cm}$	BOD mg/L	TSS mg/L	TN mg/L	TP mg/L

Noise Quality Results

Site No.	Date of Testing	Site Location	LA _{eq} (dBA) (Government Standard)	
			Day Time	Night Time

Site No.	Date of Testing	Site Location	LA _{eq} (dBA) (Monitoring Results)	
			Day Time	Night Time

7. Summary of Key Issues and Remedial Actions

Summary of follow up time-bound actions to be taken within a set timeframe.

8. Appendixes

Photos
 Summary of consultations
 Copies of environmental clearances and permits
 Sample of environmental site inspection report
 Other

APPENDIX 21: SAMPLE CHANCE FIND PROTOCOL

Introduction

Project town being a heritage town, there are possibility of any chance finds (artefacts) recovery during excavations. Contractors working at heritage towns must take additional care not to destroy or damage historic features during excavations. There may be many buried historic features in heritage towns such as – idols, toys, wells, ancient drains, remains of buildings, other walls, grain pits, etc. Every care must be made not to destroy these during excavations.

Excavator drivers need to be instructed to be aware of hitting buried features and that they must be investigated before continuing work. When features are encountered during mechanical excavation, work should stop and the PIU/Consultants engineers must be informed immediately so that they can be inspected at the first opportunity.

When historic features such as walls, brick constructions and other features are encountered during excavation the excavation must be stopped immediately and the PIU/Consultants must be informed immediately.

- 1.1 **Contractors' instruction:** As soon as contractor recovers any chance find during any excavation works for pipe laying, they should immediately inform PIU/Consultant present in town about the chance find recovery. Immediately stop the excavation activity near point of recovery. After PIU/consultants engineers come at site, contractor should follow cleaning and photography in supervision of PIU/Consultant engineers.
- 1.2 **Cleaning** - When a feature/chance find is discovered it must be defined by careful cleaning. Roots must be removed and dirt must be carefully cleaned away. The section or trench base should also be cleaned back for a little distance around the feature.
- 1.3 **Record photography** – When the feature is clean good photography should be taken – vertical and face-on shots and a few general shots of the feature, also showing its position in relation to surrounding features, buildings, etc. The photographed should be catalogued (date, location, direction of shot)
- 1.4 **Drawn record** - When features/chance finds are revealed a drawn record should also be made.
 - a. General location record – measuring its position and orientation within the protected site / in relation to surrounding structures
 - b. Record drawings – detail drawings made in plan and section/profile. The extent (edges) of the feature should be drawn and the level of the existing ground surface and the top and base of the feature should be recorded. These levels should be marked on the drawings. The drawings should include detail of the construction of the feature. Perspective sketches could also be made if necessary. Explanatory notes can also be put on the drawings.
- 1.5 **Reporting finds** - When finds are made these should be reported to PIU/Consultants. Photographs and record drawings should be sent.
- 1.6 **Discovery of historic objects** - When clearance and excavation takes place artifacts and historic objects are sometimes found. These should be recovered and kept in a safe place. The place of discovery should be recorded and each find given a number and tag

tied to the find with the same number on it. A list of the finds should be kept (with the find No. And place of discovery and date of discovery recorded).

- 1.7 ***PIU/Consultants responsibility-*** PIU/Consultants should inform in written to the State Archaeological Department at the earliest with photographs and request to Archaeology Department to visit the site and hand over the chance finds to them.

**SOUTH ASIA REGIONAL DEPARTMENT
SAFEGUARDS INFORMATION LOG FOR SAUW PROJECTS**

SAFEGUARD INFORMATION REPORT FOR CASW PROJECT		
Project:	India: West Bengal Drinking Water Sector Improvement Project (WBDWSIP) – Subproject: Water Supply Distribution System for Haroa Block (North 24 Parganas)	
Loan No.:	49107 – 006 IND	Package No.: WBDWSIP/DWW/N24P/02A
Components:	Water Supply Distribution System	
	Project Component	Details
	Construction of OHRs	Construction of 21 nos. Overhead Storage Reservoirs (OHR) in Haroa block. Capacity ranging from 250 to 1000 KL.
	Distribution Network	Approximately 851 km distribution network in Haroa block. The diameter of pipeline ranges from 63 mm to 400 mm.
	Consumer connection with flow meters	Water delivery pipe (MPDE of dia 15 - 20 mm) will be connected to distribution lines and meters will be attached to the delivery pipe at each house with a meter chamber. It is estimated that approximately 60000 households will be connected in Haroa block
Contract Type:	Item Rate Contract Detailed design will be completed by contractor.	
Date of IEE:	Zone wise Updated IEE : December 2019	
Draft IEE	Updated/Revised IEE	Others/Remarks
(due to detailed engineering design)	<p>The IEE has been updated based on completion of design of zones upto 30th November 2019. and submitted to PIU/PMU for which SEMP were also submitted by the contractor to PIU/PMU for clearance prior to start of work. Work has been commenced only after the clearance of zone-wise SEMP by PIU and PMU.</p> <p>This IEE has been updated for OHR construction zones:</p> <ul style="list-style-type: none">• Z-1/ Amta;• Z-12/ Parchandpur;• Z-15/ Jinkia;• Z-17/ Salipur;• Z-18/ Gopalpur <p>Pipe laying at following zones</p> <ul style="list-style-type: none">• Z-1/ Amta;• Z-4/ Laugachi;	Further, on completion of detailed design, updated IEE including Site-specific EMPs (SEMPs) for the remaining zones will be submitted to PIU/PMU and ADB for review and disclosure

	<ul style="list-style-type: none"> • Z-5/ Tegharia; • Z-6/ Puratan Kamarganti • Z-12/ Parchandpur • Z-13/ Chauhata; • Z-14/ Khalisadi; • Z-15/ Jinkia; • Z-16/ Haripur; • Z-17/ Salipur; and • Z-18/ Gopalpur. • Z 21/ Haroa 	
--	--	--

	Activity	Status		Detailed Comments and Further Actions Required
		Yes	No	
1.	Environmental assessment has been satisfactorily conducted based on ADB REA Checklist and scoping checklist. ⁸	X		<p>The updated IEE covers the impacts of construction during implementation of water supply distribution system in Haroa block of 24 Parganas North. The environmental assessment is based on best available information and design (completed till 30th November 2019) as indicated in the package tender documents.</p> <p>Further action/s: The environmental assessment will be conducted based on detailed engineering design once it is completed for a particular zone. This is to confirm/verify findings of “Category B” and recorded in the final IEE.</p>
2.	Environmental assessment based on latest project components and design	X		<p>The updated environmental assessment is based on final design of the zones for which land has been</p>

⁸ ADB Rapid Environmental Assessment Checklist for screening and categorization. Scoping Checklist (“No Mitigation Scenario” Checklist) for scope of IEE, identification of impacts and development of environmental management plan.

	Activity	Status		Detailed Comments and Further Actions Required
				<p>handed over to the PIU. The detailed engineering designs are being completed by the contractor.</p> <p>Till 30th November 2019, nine (9) OHR sites in Haroa block has been handed over to contractor and work started in five sites.</p> <p>Laying of distribution network also started at 12 zones after finalization of design and approval of SEMP from PIU/PMU..</p> <p>Further action/s: The environmental assessment for the remaining zones will be conducted when detailed engineering design for these sites are completed.</p>
3.	Statutory Requirements ⁹		Forest Clearance	Not applicable. The components are not located in sites regulated under The Forest (Conservation) Act, 1980
			No Objection Certificate	Road cutting permissions are obtained for pipe laying work by the contractor under the supervision of PIU from PWD and Gram Panchayet authorities (continuous process as per requirement)
			Site Location Clearance	Part of the sub-project components are located within transition zone of Sundarban Biosphere

⁹ If applicable, Include date accomplished or obtained.

	Activity	Status		Detailed Comments and Further Actions Required
				Reserve (SBR). Hence, NOC has been obtained from SBR authority on 5 th March 2019
			Environmental Compliance Certificate	Not applicable. The components are not listed in the Schedule 1 of the EIA Notification Act and its rules and regulations.
			Permit to Construct (or equivalent)	Not required
		X	Permit to Operate (or equivalent)	<u>The following will require Consent to Operate from WBPCB:</u> (a) diesel generators; and (b) hot mix plants, wet mix plants, stone crushers, etc (if installed for construction). further action/s: The contractor under the supervision of PIU will obtain the Permit to Operate, if required. The application will be filed at West Bengal Pollution Control Board, Salt Lake Regional Office before mobilisation/installation of machineries at site.

	Activity	Status		Detailed Comments and Further Actions Required
		X	Others	Pollution Under Control (PUC) certificates are available for all the vehicles and construction equipment. PIU has obtained the Tree-felling permission from Forest Department under West Bengal Trees (Protection and Conservation in Non-Forest Areas) Act, 2006 for Zone 18 (Gopalpur). Further action/s: After completion of detailed design, if any tree felling is required then necessary application will be submitted to forest department for obtaining NOC. The replacement ratio of 1:5 will be maintained.
5.	Policy, legal, and administrative framework	Adequate		The IEE includes discussions on applicable policy, acts and rules. Obtaining the required permits and NOC is the responsibility of PMU/PIU. The IEE also confirmed that international best practices (specified in EHS Guidelines) have been incorporated in the design. Further action/s: All conditions in the permit/NOC will be incorporated in the updated IEE and contractor's SEMP's for rest of the zones.
		Not Adequate		
		X		
		Frameworks included:		
		X	National regulation/law on EIA	
		X	Environmental agency	
X	Relevant international environmental agreements			
X	Environmental standards (IFC's EHS Guidelines)			
6.	Anticipated environmental impacts and	Impacts and risks:	Mitigation Measures:	Activity wise site-specific EMP (SEMP) has been prepared by contractor
			Yes No	

	Activity	Status			Detailed Comments and Further Actions Required
	mitigation measures				after finalization of the detailed engineering design for a particular site. The SEMP has been reviewed and cleared by PIU and PMU before start of construction activities at that site. Work was not been allowed to commence until the SEMP was cleared. The zone wise updated IEE has been submitted by PMU to ADB for review and clearance. Implementation of the SEMPs will be recorded and reported to ADB.
			Biodiversity conservation	X	No as such biodiversity conservation area, but re-plantation of trees will be done in case of tree felling.
			Pollution prevention and abatement	X	The updated IEE also confirmed that international best practices (specified in EHS Guidelines) have been incorporated in the preliminary design.
			Health and safety	X	Included in the EMP/SEMPs The contractor has appointed an appropriately qualified Health and Safety Officer. Further action/s: The contractor is required to (i) follow the mitigation measures incorporated in the EMP; and (ii) if required, expand in the SEMP the mitigation measures as appropriate in the given site conditions.

	Activity	Status				Detailed Comments and Further Actions Required
			Physical cultural resources	X		Not applicable
			Cumulative impacts	X		Not applicable. There are no other on-going or planned projects that may cause negative cumulative impacts.
			Transboundary impacts	X		Not applicable. The subproject/package is relatively small-scale in nature to have potential transboundary impacts.
7.	Impacts from Associated Facilities ¹⁰	Addressed	Not Addressed	None		Not applicable. There are no associated facilities under this subproject/package.
				X		
8.	Analysis of Alternatives	Yes		No		Not applicable. This is Category B project. Alternatives analyses related to alignment/sites and designs were conducted as part of the design stage.
				X		
9.	EMP budget included	Yes		No		The indicative cost of EMP for the Package is INR 2,142,500. Further action/s: The cost of EMP and monitoring program will be reviewed based on complete detailed engineering design. The IEE will update the costs/budget of the contractor to implement the SEMP and other requirements related to environmental safeguards once all the other sites are handed over and detailed designs are completed
		X				

¹⁰ ADB SPS (Appendix 1 para 6) defines associated facilities as not funded as part of the project (funding may be provided separately by the borrower/client or by third parties), and whose viability and existence depend exclusively on the project and whose goods or services are essential for successful operation of the project.

	Activity	Status		Detailed Comments and Further Actions Required
		Yes	No	
10.	EMP implementation integrated in PAM and bid documents	X		<p>for all.</p> <p>(i) The Project Administration Manual (as cleared by ADB) included sections on environmental safeguards. Information in the PAM has been considered in the preparation of the updated IEE.</p> <p>(ii) The EARF also provided detailed requirements on EMP implementation. These are included in the updated IEE.</p> <p>(iii) The draft IEE (cleared by ADB) is included in the contract documents and has been provided to the contractor.</p> <p>Environmental Specialist of DSISC has provided EMP and safeguards induction sessions to contractors upon mobilization.</p> <p>Further action/s: The PAM and EARF should be used in the updation of the IEE after completion of detailed design of the remaining sites. Environmental Specialist of DSISC should ensure that the contractor is given a safeguards induction prior to mobilization.</p>
11.	Consultation and Participation	X		<p>Meaningful consultations were done with Government officials, women and residents during Q3-Q4/2019.</p> <p>Further action/s:</p>

	Activity	Status		Detailed Comments and Further Actions Required
				Meaningful consultations with stakeholders and affected people will be continued by PIU/ DSISC during detailed engineering design for remaining sites and on monthly basis during construction.
12.	Grievance Redress Mechanism	Yes	No	
		X		
		Description of GRM		Project GRM has been included in the PAM and EARF cleared by ADB. The same GRM is included in updated IEE (main text). Notification of the GRM, identification/ appointment/ designation of the GRC members has been completed. State, District, PMU and PIU level GRC included in Appendix of updated IEE. Further action/s: Capacity building of the GRC members by the PMU to ensure they are capable to address project-related complaints and grievances.
		Identification of GRC members		Completed. Notification issued.
13.	Disclosure		Endorsement to disclose on ADB website	Upon approval from ADB, PMU has disclosed the draft IEE in their Website. Further action/s: ADB will disclose updated and final IEE upon review and confirmation that

	Activity	Status		Detailed Comments and Further Actions Required
				these satisfactorily meet ADB SPS requirements
			Disclosed on project website	For follow-up
			Relevant information available to stakeholders and affected people in language and form they understand	Public disclosure meeting was held on 4 th January, 2018 at Haroa GP. Subsequently public disclosure meetings were organized at Shalipur and Bhagwanpur locations in Haroa and Bhangar-II blocks of 24 Parganas North and South respectively in Nov, 2019. Pamphlets in Bengali were distributed to the participants, describing the need and benefits provided by the project. Further action/s: Information sharing will be continued, recorded, and reported in the monitoring report during implementation.
14.	Mobilized Environment Specialist PMU	Yes	No	PMU Environmental Specialist Mr. Tanay Banerjee, Executive Engineer I
		X		
15.	Mobilized Environment Specialist PIU	Yes	No	PIU Environmental Specialist Mr. Sourav Bose Assistant Engineer, N24 Pgs PIU
		X		
16.	Mobilized Environment Specialist at PMU level	Yes	No	The Environmental specialist of PMU is supported by Environmental expert of Project Management Consultant (PMC) to supervise, monitor and oversee the implementation of
		X		

	Activity	Status		Detailed Comments and Further Actions Required
				safeguard issues. Dr. Ardhendu Mitra PMC, Environmental Specialist
17.	Mobilized Environment Specialist at PIU level	Yes X	No	Apart from Environmental Specialist of PIU, The PIU is assisted by DSISC team which include an Environmental Specialist to monitor environmental safeguard tasks and responsibilities and also ensure day-to-day supervision and monitoring of contractor's compliance. Mr. Swarnabha Bandyopadhyay DSISC, Environmental Specialist
18.	Awareness training on compliance to safeguard requirements	Yes X	No	The updated IEE included indicative training program. Awareness program continued. Further action/s: The training program to be provided by the DSISC will be updated with inclusion of new work sites.
19.	Others/Remarks	<p>The following information are based on partially completed design and included in the updated IEE:</p> <ol style="list-style-type: none"> 1. The Raw water source is Hooghly river, which has abundant quantity of water throughout the year, even during the lean flow season. The quality of raw water is good and is suitable for drinking water supply after conventional treatment and disinfection. Treated water for the subproject will be provided from bulk water supply system that is being developed under a parallel subproject, and the environmental impacts of which are assessed through an another IEE. 2. No significant involuntary resettlement impacts are anticipated due to implementation of the proposed sub- 		

	Activity	Status	Detailed Comments and Further Actions Required
			<p>projects components based on the present design and information received from PHED. Under the proposed subproject, (i) Construction of 21 Overhead storage reservoirs including associated distribution network (851 km) for Haroa block, (iii) provision of 60,000 household water connections with water meters in the project ward. 13 OHRs out of 21 OHRs proposed in this project are being/will be constructed on private land parcels and that have been/will be procured through negotiated purchase.</p> <p>3. Some of land parcels are in low-lying lands (e.g. Haripur, Tegharia, Bantoshia and Kalinagar,) resembling ponds. No significant negative impacts envisaged due to filling up and raising of these low-lying lands provided appropriate measures suggested to avoid or minimize the impact are implemented.. Measures are suggested to avoid, minimize, and carryout compensatory tree plantation in a ratio of 1:5. Proposed pipeline for rest of the zones will be laid along ROW of all the roads in the project area. Overall, there are no notable sensitive environmental features in the project sites.</p> <p>4. Construction activities for OHRs confined to the selected sites, and the interference with the general public and community around is minimal. There are temporary negative impacts, arising mainly from construction dust and noise, hauling of construction material, waste and equipment on local roads (traffic, dust, safety etc.), mining of construction material, occupational health and safety aspects. During the construction phase of pipeline work along the public roads, impacts arise from the construction dust and noise; disturbance to residents, businesses, traffic by the construction work, and from the need to dispose of waste soil, if excess. The social impacts (access disruptions) due to construction activities are minimal. Trenchless technology is suggested at critical sections where pipeline crosses the main transportation corridors. These are the general impacts of construction in semi-urban, rural and habitation areas, and there are well developed methods of mitigation that are suggested in the EMP.</p> <p>5. The project will benefit the general public by contributing to the long-term improvement of water supply system and community livability in the project block of Haroa. The potential adverse environmental impacts are mainly related to the construction period, which can be minimized by the mitigating measures and environmentally sound</p>

	Activity	Status	Detailed Comments and Further Actions Required
			<p>engineering and construction practices.</p> <p>6. Therefore, as per ADB SPS, the project is classified as environmental category B and does not require further environmental impact assessment.</p> <p>7. This IEE shall be updated further after completion of detailed design for all the zones to reflect any changes, amendments and will be reviewed and approved by PMU, and further submitted to ADB for approval. Civil works on subproject initiated only after approval of Site Specific EMP for the selected site by PIU/ PMU.</p> <p>Recommendations:</p> <ol style="list-style-type: none"> 1. The updated IEE for Package N 24pgs/ 02A is recommended for ADB Clearance for disclosure. 2. Cleared updated IEE to be disclosed on project website (PMU and PIU). 3. The relevant information in the updated IEE should also be disclosed to stakeholders and affected people in a timely manner in language/form they understand. 4. Continuous meaningful consultations including information dissemination on project GRM should be conducted during detailed engineering design (till completion) , construction and if required, until O&M. 5. Contractor should submit to PMU and PIU the SEMP/s upon completion of the detailed engineering design zone wise. No works should be allowed until the SEMP/s is/are cleared and confirmed to satisfactorily meet the requirements of Government of India laws, rules and regulations and ADB SPS. 6. PMU to submit to ADB the final IEE together with Contractor's SEMP/s for review and disclosure. The final IEE should include detailed information on how the above-mentioned further actions are conducted/met. 7. Reporting of SEMP/s implementation and environmental safeguards should be: (i) Contractor to PIU to be done on the monthly basis; (ii) PIU to PMU to be done every three months; and (iii) PMU to ADB every six months.

Prepared by:

Dr. Ardhendu Mitra Environment Specialist, PMC
Mr. Swarabha Bandyopadhyay, DSISC Environment Consultant,

Noted and Checked By:

Mr. Tanay Banerjee (EE), PMU Environmental Specialist

Documents/References:

1. Draft IEE
2. ADB REA Checklist
3. SEMP/s