

Initial Environmental Examination

Document Stage: Updated
Project Number: 49107-006
February 2020

IND: West Bengal Drinking Water Sector Improvement Project – Water Distribution Systems for Bhangar II Block, South 24 Parganas (OHR Zones: 4,10,12 and 13; Pipeline Zones 1, 4, 7, 9, 10, 11, 12, 13, 14, 15 and 16)

Package No: WBDWSIP/DWW/N24P/02B

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

This initial environmental examination 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.

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 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.

I.	EXECUTIVE SUMMARY	5
II.	INTRODUCTION	9
	A. Background	9
	B. Purpose of Initial Environmental Examination Report	10
	C. Report Structure	10
III.	DESCRIPTION OF THE PROJECT	11
	A. Project Area	11
	B. Change in Location from the Original IEE	11
	C. Existing Water Supply Situation	11
	D. Proposed Project	11
	E. Implementation Schedule	14
	F. Project Status as of 31 st January 2010	14
IV.	POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK	16
	A. ADB Policy	16
	B. National Environmental Laws	18
V.	DESCRIPTION OF THE ENVIRONMENT	22
	A. Methodology Used for Baseline Study	22
	B. Physical Resources	22
	C. Ecological Resources	30
	D. Economic Development	32
	E. Socio Cultural Resources	34
	F. Subproject Site Environmental Features	35
VI.	ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	37
	A. Pre-Construction Impacts – Design and Location	38
	B. Construction Impacts	39
	C. Operation and Maintenance Impacts	47
VII.	PUBLIC CONSULTATION AND INFORMATION DISCLOSURE	47
	A. Overview	47
	B. Public Consultation	48
	C. Information Disclosure	48
	D. Update on Public Consultation	49
VIII.	GRIEVANCE REDRESS MECHANISM	50
IX.	ENVIRONMENTAL MANAGEMENT PLAN	53
	A. Environmental Management Plan	53
	B. Implementation Arrangements	70
	C. Capacity Building and Training	72
	D. Monitoring and Reporting	74
	E. Environmental Management Plan Implementation Cost	74
X.	CONCLUSION AND RECOMMENDATIONS	76

LIST OF APPENDICES

APPENDIX 1: Rapid EA Checklist.....	83
APPENDIX 2: National Ambient Quality Standards.....	89
APPENDIX 3: Vehicle Exhaust Emission Norms.....	91
APPENDIX 4: Air Pollution from Construction Activity	92
APPENDIX 5:C & D Waste Management Rules.....	94
APPENDIX 6: Labour Laws.....	100
APPENDIX 7: Drinking Water Standards	102
APPENDIX 8: NOC for Sundarban Biosphere.....	105
APPENDIX 8A: NOC for EKWMA	106
APPENDIX 9: Recent Activities at Construction Sites – Photo Illustrations	107
APPENDIX 10: Stakeholder Consultation	111
APPENDIX 11: Sample GRC Form.....	122
APPENDIX 12: GRC Notification	125
APPENDIX 13: Sample Site Specific EMP (SEMP)	136
APPENDIX 14: OHS Records/ Registers	218
APPENDIX 15: Labour License.....	220
APPENDIX 16: Workman Compensation Policy.....	221
APPENDIX 17: Accident/ First Aid Register – Filled sample.....	222
APPENDIX 18: Environmental site Inspection Report Filled.....	223
APPENDIX 19: Sample Semi-annual Environmental Monitoring Report Template.....	224
APPENDIX 20: Sample Chance Find Protocol.....	225

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 Bhangar II in South 24 Parganas district 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 18 overhead reservoirs (OHRs) covering 18 zones in Bhangar II block; (ii) laying of 910 kilometers (km) distribution network in 18 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 will implement 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) will assist 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 rapid environmental assessment checklist for water supply distribution system. The potential negative impacts were identified in relation to pre- construction, construction and operation. This IEE document of Bhangar II block has been updated for the zones (zone 1, zone 4, zone 7, zone 9, zone 10, zone 11, zone 12, zone 13, zone 14, zone 15 and zone 16) where detailed design has been completed (for OHR or pipeline or both), SEMP submitted by the contractor and construction activities started by 31st January 2020.

Categorization. Environmental assessment has been conducted for the water supply subprojects based on (i) preliminary and zone wise completed detailed design, and (ii) most likely environmentally sensitive components. The environmental assessment used ADB's rapid

environmental assessment (REA) checklists for water supply works. The environmental assessment of the Bhangar II water supply distribution subprojects are not likely to have any significant adverse environmental impacts that are irreversible, diverse, or unprecedented. Potential impacts are mostly site-specific and few of them are irreversible. In most cases mitigation measures can be designed with uncomplicated measures commonly used at construction sites and known to civil works contractors.

Bhangar II water supply distribution subproject is classified as Environmental Category B as per the SPS as no significant impacts are envisaged. Accordingly, this Initial Environmental Examination (IEE) assesses the environmental impacts and provides mitigation and monitoring measures to ensure that there are no significant impacts as a result of the project.

Description of the Environment. The subproject components are located in Bhangar II block in South 24 Parganas districts, 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 the districts is plain, gently sloping and altitude ranges from 1 meter (m) to 14 m above mean sea level (MSL). South districts are divided into 29 community development blocks, of which subproject covers 2 blocks. 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. South 24 Parganas district is home to environmental sensitive areas like Sundarbans Biosphere Reserve (SBR) and East Kolkata Wetland (EKW). Based on the detailed design and survey it has been found that water supply distribution pipes laying route will pass through EKW areas (zone 1, zone 2 and zone 18) under the jurisdiction of EKW Management Authority. Accordingly, no over-ground constructions will be done in these three distribution zones and application has been submitted to the EKW Management Authority (EKWMA) for granting permission for pipe laying works in the EKW area falling under. Recently the EKWMA has given NOC for pipe laying in these three EKW zones. Further, land for overhead reservoirs in zone 2 and zone 18 have been identified outside the EKW while the distribution will be done through control valve in zone 1.

Based on detailed designs, no work is being conducted in the Sundarban Biosphere Reserve areas. The project has not considered any components in the core or buffer areas. However, some civil works i.e construction of GLSR and laying of small pipes have been considered in Bhangar II block of 24 South Parganas, located in the outer periphery of the transition zone of Sundarban biosphere reserve. NOC from Sundarban Biosphere reserve has been obtained, Further, Chintamani Kar Bird Sanctuary is in the southwest direction at about 20-30 km from the project area.

OHRs 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. OHR sites are mostly vacant or under agricultural use (private lands), 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 OHR sites.

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 is 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 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.

Consultation, Disclosure and Grievance Redress Mechanism. The stakeholders were involved in developing the IEE through discussions on-site and public consultation at several places in the subproject area, after which views expressed were incorporated into the IEE and in the planning and development of the project. The IEE will be made available at public locations and will be disclosed to a wider audience via the ADB and PHED/PMU websites. The consultation process will be 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, PIU and consultants will be responsible for monitoring and reporting. During construction, results from internal monitoring by the contractor will be reflected in their monthly EMP implementation reports to the PIU. PIU with the assistance of DSISC, will monitor the compliance of Contractor, prepare a quarterly environmental monitoring report (QEMR) and submit to PMU. The PMU will oversee the implementation and compliance and will submit Semi-Annual Environmental Monitoring Reports (SEMR) to ADB. ADB will post the environmental monitoring reports on its website. Monitoring reports will also be posted WBPHEd/WBDWSIP websites.

Conclusions and Recommendations. The people of the Bhangar II block will be the major beneficiaries. The subproject is primarily designed to improve environmental quality and living conditions of Bhangar II block through provision of treated surface water. The benefits arising from this subproject include: (i) increased availability of potable water at appropriate pressure to all households including rural poor; (ii) reduced time and costs in accessing alternative sources of water. (iii) better public health particularly reduction in waterborne and infectious diseases; (iv) reduced risk of groundwater contamination; (v) reduced risk of arsenic contamination.

The proposed project is therefore unlikely to cause significant adverse impacts. The potential impacts that are associated with design, construction and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended mitigation measures and procedures. Based on the findings of the IEE, there are no significant impacts and the classification of the project as Category “B” is confirmed. No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS (2009) or GoI EIA Notification (2006). **At present designing continued zone wise and this IEE report is for zone 1, zone 4, zone 7, zone 9, zone 10, zone 11, zone 12, zone 13, zone 14, zone 15 and zone 16 of Bhangar II Block.** After completion of design for the remaining project zones IEE shall be updated further and will be reviewed and approved by PMU and further submitted to ADB for approval.

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 aims 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 will be 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, will be sized to provide water supply en-route 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 will 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 will 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 framework of NRDWP.

5. In South 24 Parganas 9 of total 29 blocks are 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 Bhangar-II in South 24 Parganas is taken up on priority by the PHED and is proposed for implementation under 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 III.

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 updated for the eleven zones (zone 1, zone 4, zone 7, zone 9, zone 10, zone 11, zone 12, zone 13, zone 14, zone 15 and zone 16) where detailed design (for OHR or pipeline or both) has been completed, SEMP submitted by the contractor and construction activities have started by 31st January 2020, in accordance with ADB SPS's requirements for environment category B projects.

7. The draft IEE was 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 after final subproject designs. The IEE is based on field reconnaissance surveys, primary data and secondary sources of information as well as stakeholder consultation. 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. Stakeholders consultations are 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 south 24 Parganas¹ (prior to the bifurcation in 1986, both these areas were part of 24 Parganas district), eastern side of Kolkata City. Bhangar II block shares the boundary with Kolkata City, and new development and expansion of city can be witnessed in the block, especially in the areas adjoining the city limits. Total population of project block is 247,000 (2011 census) and has a geographical area of 162 square kilometer (km²).

10. The subproject components locations are in the block of Bhangar – II. Overhead reservoirs (OHRs) are located in each zone (except zone 1), outside habitations, and pipelines (distribution lines) are laid along the public roads.

B. Change in Location from the Original IEE

11. Three previously selected OHR locations in Zone 10, Zone 11 and Zone 12 have been changed. There are no environmental issues in these new locations.

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).

D. Proposed Project

13. Following table (Error! Reference source not found.) shows the nature and size of the various components of the subproject. **Figure 1A and 1B** shows location of reservoirs.

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	18 no. concrete reservoirs Capacity 300 kl to 1000 kl	One in each zone, on selected land parcels mostly outside habitation areas. OHR locations in Bhangar II are: Dharmatala

¹ Subproject location South Parganas is not within the core zone of the Sundarban National Park. No works will be allowed in the core zone. The GLSR and small pipes will be located in the transition zone where construction is allowed

Infrastructure		Function	Description	Location
				Pacharia, Swastayan gachhi, Shanpukuria, Bankochua, Baniara, Chanda Kanthal Beria, Paikan, , Tona, Shyamnagar, Jaynagar, Uttar Kashipur, Naglapapur, Dheyati, Pithapukuria, Kachua, Jawpur, Bhogali and Jothbhin. Details are provided in Table 2
Distribution network		To distribute water from OHRs to consumers	910 km DI and HDPE pipes of diameter 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 nos. in Bhangar II block	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

**Table 2: Details of Overhead Reservoirs and Land Status under the Subproject
(as on 31st January 2020)**

Overhead Reservoir Zone	Name of Village	Gram Panchayat	Capacity (kl)	Ownership Status	Land handed over to the Contractor
Updated Information – Design completed					
B-4	Sastyangachhi	Polerhat-I	450	Private	Yes
B-9	Naglapapur	Bhogali-I	300	Private	Yes
B-10	Shanpukuria	Shanpukur	500	Private	Yes
B-12	Bankochua	Bhogali-II	600	Private	Yes
B-13	Baniara	Bhogali-II	500	Private	Yes
B-14	Pithapukuria	Bhagabanpur	1000	Private	Yes
B-15	Kachua	Chaltaberia	1000	Private	Yes
B-16	Jawpur	Chaltaberia	1000	Private	Yes
To be updated					
B-1 – only control valve	Dharmatala Pacharia	Beonta-II	750	Private	In progress
B-2	Chandra Kanthal Beria	Beonta-I	400	Private	In progress
B-3	Paikan	Beonta-II	700	Private	In progress
B-5	Tona	Polerhat-II	750	Private	In progress
B-6	Shyamnagar	Polerhat-II	400	Private	In progress
B-7	Jaynagar	Polerhat-I	450	Private	In progress
B-8	Chandihat	Shanpukur	750	Private	In progress

B-11	Dheyati	Shanpukur	500	Private	In progress
B-17	Bhogali	Bhogali-I	350	Private	In progress
B-18	Jothbhin	Bamanghata	450	Private	In progress

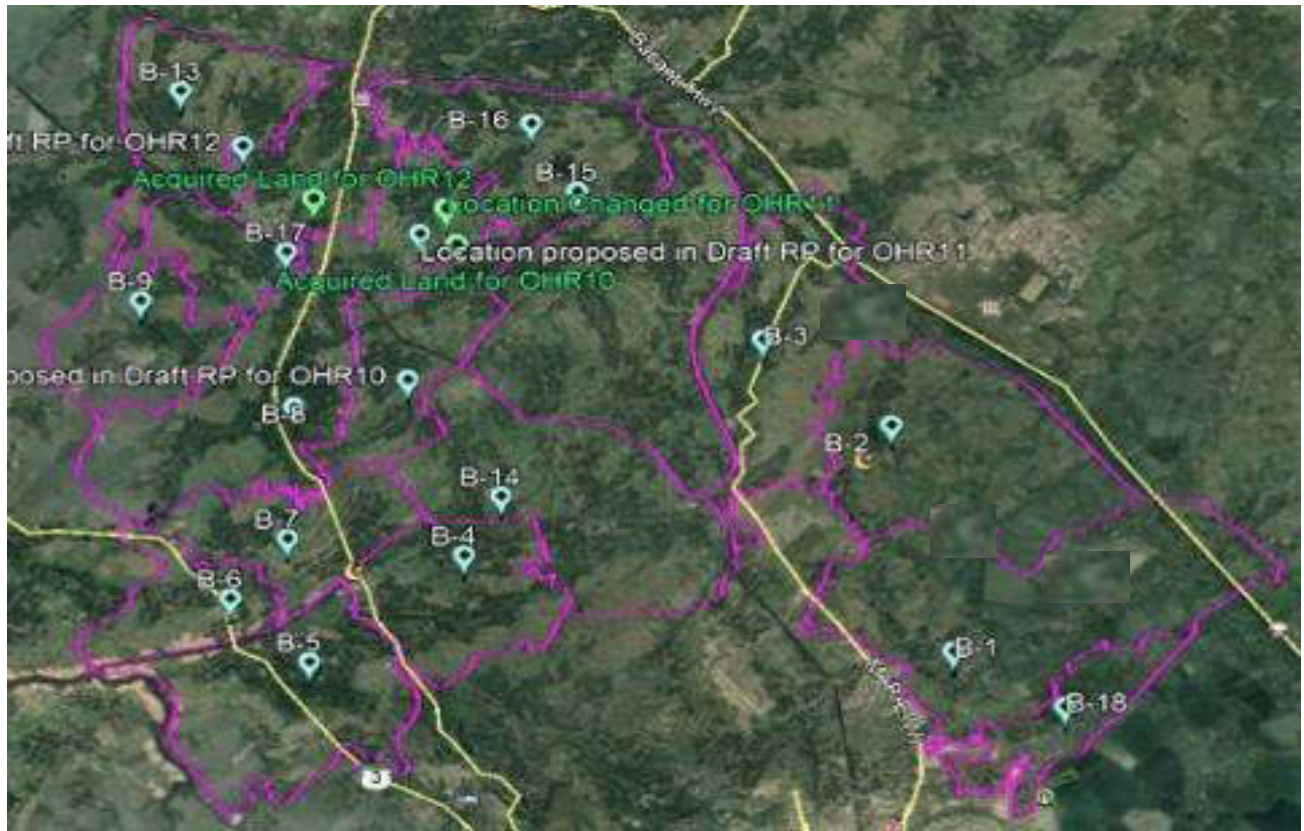


Figure 1A: Google Earth Image Showing Location of Overhead Reservoirs



Figure 2B: Google Earth Image Showing Location of Overhead Reservoirs in Zone 2 and 18 (outside of EKW)

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. Contractor was mobilized in January 2019 and zone wise detailed designs were prepared from March 2019 based on land availability. 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.

15. SEMP's were submitted by the contractor in May 2019 and construction work started in zone 1, zone 4, zone 7, zone 9, zone 10, zone 11, zone 12, zone 13, zone 14, zone 15 and zone 16 till 31st January, 2020. The detailed construction status for OHRs and Pipelines are given below:

F. Project Status as of 31st January 2020

16. **OHR:** This IEE is updated based on the following 4 OHRs where design have been completed The land use pattern in and around 4 OHR locations under construction, are shown in Error! Reference source not found.. Present IEE report is considered for four OHR zones.

Zone-4	Work upto bottom dome completed, rest undergoing
Zone-10	Column upto 1 st bracing completed, rest undergoing
Zone-12	Piling work completed, work on pile cap reinforcement undergoing
Zone-13	Work on pedestal and tie beam are in progress



OHR – 4, Swastyangachhi



OHR – 10, Shanpukuria



OHR – 12, Bankochua



OHR – 13, Baniara

Figure 2: Land use pattern in and around OHRs where construction started

17. **Pipeline:** 353 km out of 910 km of pipe laying has been completed till 31st January 2020. Till 31st January 2020 work continued for zone 1, zone 4, zone 7, zone 9, zone 10, zone 11, zone 12, zone 13, zone 14, zone 15 and zone 16. Present IEE report is considered for these eleven pipe line zones.

Table 3: Summary of Water Distribution Network of Bhanga-II Block

Bhangar-II Water Distribution Pipe Length (m)Summary											Total Length
Revised Zone ID	Pipe Diameters(mm)										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Updated Information- Design completed											
Zone -B1	23541	14552	27616	8994	4311	4427	3748	1244		98	88531
Zone -B4	19357	2154	1359	5072	4317	2484	497	45			35285
Zone -B7	502	6318	9456	4863	4410	3946	820				30315
Zone -B9	11153	1571	1618	924	1045	1245	52				17608
Zone -B10	24112	2260	3518	4983	2340	3176	1027	20			41436
Zone -B11	6822	685	7953	2922	2421	4692	60				25555
Zone -B12	23733	4797	4159	3416	3401	1675	1370			33	42594
Zone -B13	25146	7282	4187	3978	3173	3279	418				47463
Zone -B14		30173	21652	10720	7640	6738	4941	1905	68		83837
Zone -B16	28188	7432	4115	4336	3509	5460	448	7	8	28	53531
Zone -B15	17664	9976	19137	8403	14335	25859	2100	4254	5974		107702
Sub-Total	180218	87200	104770	58611	50902	62981	15481	7475	6050	159	573857
To be updated											
Zone -B2	11586	4913	25160	3522	6608	5896		52			57737
Zone -B3	28579	2327	10500	5390	11863	4281	137	4579			67656
Zone -B5	16202	1707	7488	6893	5715	8122	121	289	46		46583
Zone -B6	8854	790	9295	2274	3550	3464		88			28315
Zone -B8	23911	5014	10053	3488	6452	10458	536	69	47		60028
Zone -B17		7038	6343	3814	5309	3295	464				26263
Zone -B18	20328	7803	5363	5708	3205	6126	1360		14		49907
Sub-Total	109460	29592	74202	31089	42702	41642	2618	5077	107	0	336489
Total	289678	116792	178972	89700	93604	104623	18099	12552	6157	159	910346

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. ADB Policy

18. 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.

19. **Screening and Categorization with that of ADB SPS 2009.** 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:

Category A. A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.

Category B. A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and

in most cases mitigation measures can be designed more readily than for Category A projects. An initial environmental examination is required

Category C. A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.

Category FI. A proposed project is classified as category FI if it involves investment of ADB funds to or through a FI.

20. 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.

21. Public Disclosure. ADB posts the safeguard documents on its website as per following protocols as well as disclose relevant information to local communities: in an accessible place (e.g., local government offices, libraries, community centers, etc.), and a summary translated into local language for the project affected people and other stakeholders.

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

22. Consultation and Participation. ADB SPS require borrower to conduct meaningful consultation² with affected people and other concerned stakeholders, 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.

23. 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.

24. 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.

² 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 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

25. 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.

26. Occupational Health and Safety. ADB SPS requires the borrower³ to ensure that workers⁴ 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.

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

28. 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.

29. 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 5 and Sector Specific (Water and Sanitation) Guidelines 6). These standards contain performance levels and measures that are normally acceptable and applicable to projects. These standards contain

3 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

4 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.

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

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

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 are consistent with the requirements presented in ADB SPS.

B. National Environmental Laws

30. 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.

31. 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.

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

33. None of the components of this water supply distribution system subproject falls under the ambit of the EIA Notification 2006, and, therefore no EIA Study or environmental clearance is required for the subproject.

34. 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 **Table 4**.

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	Rule 3 of the Act specifies ambient air	Appendix 2 provides applicable

Law	Description	Requirement
and Control) Rules, 2000 amended up to 2010.	quality standards in respect of noise for different areas/zones.	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 Bengal Drinking Water Sector Improvement Project shall follow the norms 	Appendix 4 provides the pollution control measures indicated in the direction
West Bengal Inland Fisheries Act, 1984	<ul style="list-style-type: none"> -Act to conserve, develop, propagate, protect, exploitation of inland fish and fisheries. -No discharge of wastewater, pollutants into inland water bodies that may affect fish. -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. -prohibits filling up fishery areas to convert into solid land, e. g., for any construction. -Prohibits dividing water area into parts to make any part less than 0.035 ha. -if conversion/ filling up is for development works, prior permission is required. 	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.	Zone 1, 2, and 18 falls within EKW area hence prior permission should be obtained from the East Kolkata

Law	Description	Requirement
		Management Authority for laying water distribution pipe networks within EKW area Appendix 8A shows NOC from EKW Management Authority
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 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.	Appendix 6 provides applicable labour laws including amendments issued from time to time applicable to establishments engaged in construction of civil works.
The Child Labour (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

35. Clearances / permissions to 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
8	Temporary traffic diversion measures	District traffic police	Contractor	PIU
9	Road cutting for pipe laying works	Panchayet and PWD	Contractor	PIU

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

IV. DESCRIPTION OF THE ENVIRONMENT

A. Methodology Used for Baseline Study

37. **Data Collection and Stakeholder Consultations.** Data for this sub project has been primarily collected through comprehensive literature survey, discussion with stakeholders, and field surveys for the subproject sites. Later, primary data was collected for select zones as part of pre-construction baseline survey in accordance with monitoring requirements specified in the previous IEE. The monitoring data are included in respective sections below.

38. The literature survey broadly covered the following:

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

39. 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.

40. Field Surveys. During update 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

41. Project area is located in the Ganga- Brahmaputra River Delta, in the two administrative districts of North and South 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.

42. Geographically South 24-Parganas district is located between 22°30'45" to 20°29'00" North latitude and between 89°4'56" and 88°3'45" East longitudes, with a total geographical area of 9,960 sq.km. It is the largest district in West Bengal, and Alipore is the district headquarter town. District is bounded by the river Hooghly in the west, Bay of Bengal in the south, Kolkata city and North 24 Parganas in the north. Its shares eastern boundary with Bangladesh and Bidya and Matla River. District is located at an average altitude from 1 to 7 meter above MSL. South 24 Parganas district is divided into 29 Community Development blocks, and the project covers Bhargar II Community Development Block, located in the northern part of the district, under Baruipur sub-division. Bhargar-II is located at 22°31'52.15"N longitude and 88°35'21.66"E latitude, with an elevation ranges from 3 meter (m) to 9 m above MSL, and an area of 162.04 km².

43. 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).

2. Topography, Soils and Geology

44. 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.

45. South 24 Parganas district is located in the lower deltaic plain on the composite Gangetic Delta and is covered by the Quaternary sediments deposited by the Ganga and its tributaries. The top of the alluvium is clayey in nature with varying thickness of 15 to 75 m. Fine sand and silty-clay capping also occurs in small patches in the alluvium. Underlying the clay blankets occur a huge thickness of unconsolidated sediments composed of silt, fine to coarse grained sand and gravel with increasing thickness towards east and southeast. The gravel zone is underlain by another extensive clay zone at varying depths. There is a succession of Tertiary and Mesozoic formations within the depth range of 350 m to 4000 m. These geological horizons are sloping gently towards south-southeast. Other than this, no prominent rock and mineral formations are found in the project district.

46. Soils. The soils in South 24 Parganas are mostly sandy loam and clay loam in texture and contain large percentage of silt and clay with good water holding capacity. Soils are highly fertile. Only in areas close to rivers, soils are sandy clay. As per US soil taxonomy soil type in the district are broadly classified in to three groups: Entisols comprises of mainly sandy loam which is found in the western corner of the district; Alfisols which are typically deltaic alluvium soils, are present central part of the district, and Aridisols which are saline and saline-alkali in nature are present in the southern part of the district. Soil in Bhangar-I and Bhangar-II community development blocks is characterized by sandy loamy to clay loamy soil.

3. Seismology

47. As per the seismic zoning map of India, project area in the district 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

48. 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.

49. Average annual rainfall of South 24 Parganas district is 1663mm. Maximum and Minimum average temperature registered in the project district is 41°C and 10°C. Relative annual humidity in the district is lies from 71% to 85%.

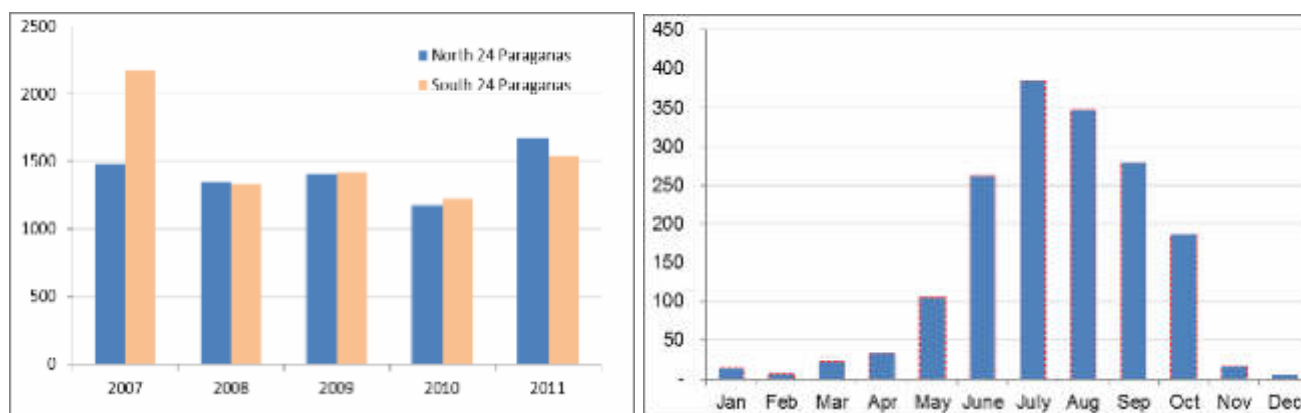


Figure 3. Annual Rainfall and Average Monthly Rainfall in Project Area



Figure 4: Average Minimum and Maximum Temperature in Project Area

5. Surface Water

50. Although there is no river passing through this sub-project but other forms of surface water resources such as reservoirs, ponds, lakes, bheris, canals, streams, roadside burrows, Beels etc., are found in plenty in the project block. Project area, specially the rural hinterland, is dotted with large number of small water bodies (ponds), mainly used for fisheries.

51. 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

52. In South 24 Parganas district, the ground water bearing aquifers are present within Quaternary and Tertiary sediments and generally occur under confined condition in the depth range of 75m to 360m with numerous alternations of clayey and sandy layers of varying thickness. The confined aquifers are divided into two groups, from north to extreme south. The upper one, usually in the depth span of 20m to 160m has a sandy gravel layer as a marker bed at its base which pinches out eastward. The ground water in general except at a few places occurring in this upper group of aquifers, is brackish to saline (chloride ranging from 1750 to

6300 ppm) and is not in use. The lower group of aquifers occurring in the depth range of 160 m to 360 m, is separated from the upper group by a thick impermeable sticky clay bed which is laterally extensive with varying thickness. The ground water occurring in this lower group of aquifers is generally fresh and is used extensively. Groundwater level lies from 1.70 mbgl to 6.00 mbgl during pre-monsoon period and from 0.50 m to 5.80 mbgl during post-monsoon period. Productive fresh water bearing zones are in depths ranging from 115 to 402 mbgl and are capable to yield 100 to 120 m³/h, with drawdown ranging from 2.3m to 16.5m. Transmissivity values range from 400 to 6500 m²/day and the Storativity values range from 0.0002 to 0.0015.

53. Groundwater Quality. Groundwater from unconfined aquifer except a few places is fresher within 60 mbgl than the deeper aquifers within 60 to 125 mbgl. Ground water from the unconfined aquifer is generally neutral to mildly alkaline with pH ranging from 7.2 to 8.1. Ground water in the western and central part of the district is primarily a Calcium-Magnesium-Bicarbonate type. The aquifer within the depth range of 150 mbgl in this area is generally marked by brackishness where chloride value ranges from 1750 to 6300 ppm. The deeper group of confined aquifers occurring within the depth range of 160 to 350 mbgl in the southern and south-eastern part of the district contain fresh water. The ground water is neutral to mildly alkaline with pH ranging from 7.4 to 8.1. Conductivity ranges from 714 to 2692 µs/cm and the chloride value ranges from 14 to 596 ppm. In the coastal belt of this district the aquifers under semi confined to confined condition contain ground water with very high dissolved salts. Arsenic content of groundwater has been found to be beyond permissible limit of 0.05 ppm in a number of localized patches in sporadic manner in 9 blocks-Baruipur, Sonarpur-Bhangar-I and II, Jaynagar-I, Bishnupur-I and II, Magrahat-II and Budge Budge-II in this district.

54. 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. Water quality is compared with drinking water standard as per IS10500(2012) (**Appendix 7**).

7. Air, Noise and Surface Water Monitoring

55. West Bengal Pollution Control Board (WBPCB) has established a network to monitor air and noise pollution in the State. WBPCB have monitoring stations located at various places across the state covering major cities, district headquarters and industrial locations. The sub-project area is not covered in this network.

56. In order to establish baseline and assess project impact, monitoring has been conducted in 1st Quarter (Pre construction phase base line monitoring), 2nd Quarter (Construction phase monitoring) and 4th Quarter. Quarter 3 being monsoon, no monitoring was performed in this period. Monitoring results are presented below. 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 IEE,

i. **Monitoring Results of 1st Quarter**

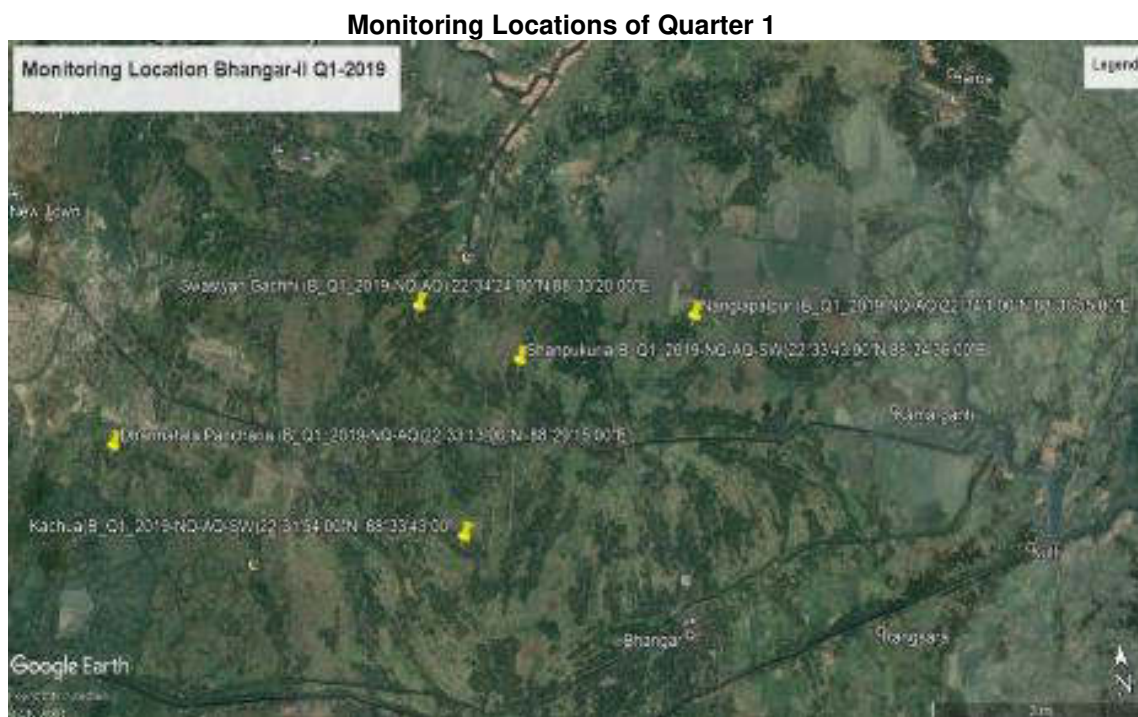


Figure 5: Ambient Air Quality, Noise Level and Surface Water Monitoring Stations in Bhangar-II Block in 1st Quarter

Table 5: Ambient Air Quality (Daily Average)

Site no.	Date of Testing	Site Location	Parameters (Government Standards)				
			PM10 ($\mu\text{g}/\text{m}^3$)	PM2.5 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
Zone 1	20 – 21.02.2019	Dharmatala Pacharia	185	98	0.59	10.3	32.3
Zone 4	20 – 21.02.2019	Swastayan Gacchi Near School	217	103	0.67	12.9	38.3
Zone 9	21-22.02.2019	Nanglapapur	137	68	0.57	11.4	35.5
Zone 10	18-19.02.2019	Near Paschim Maharaja Primary School	251	146	0.71	12	36.7
Zone 15	21-22.02.2019	Near Koach Pukur Primary School	198	87	0.55	9	31.9
National Ambient Air Quality Standard			100	60	2	80	80
WHO Standards			100	50	-	50	-

Table 6: Surface Water Quality

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
-----	------------	--------	--

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
Pond water of Zone 15 (Koach Pukur)		Date: 22.02.2019	
1	pH value at 25°C	7.59	6.5-8.5
2	Turbidity in NTU	9.8	
3	Chloride (as Cl) in mg/l	56.34	
4	Fluoride (as F) in mg/l	<0.10	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	39.2	
7	Bio-Chemical Oxygen Demand (BOD) in mg/l	10.3	3
8	Dissolved Oxygen (DO) in mg/l	5.06	5
9	Total Alkalinity (as CaCO ₃)	198	
10	Hardness (as CaCO ₃) in mg/l	220	
11	Oil & Grease in mg/l	1.0	
12	Total coliform MPN/100 ml	110	500
13	Faecal Coliform MPN/100 ml	22	
Pond water in Zone 10 (Majerhat)		Date: 22.02.2019	
1	pH value at 25°C	7.57	6.5-8.5
2	Turbidity in NTU	6.8	
3	Chloride (as Cl) in mg/l	71.88	
4	Fluoride (as F) in mg/l	<0.1	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	58.8	
7	Bio-Chemical Oxygen Demand (BOD) in mg/l	15.9	3
8	Dissolved Oxygen (DO) in mg/l	4.14	5
9	Total Alkalinity (as CaCO ₃)	224.4	
10	Hardness (as CaCO ₃) in mg/l	256	
11	Oil & Grease in mg/l	1.8	
12	Total coliform MPN/100 ml	30.0	500
13	Faecal Coliform MPN/100 ml	8.0	

Table 7: Ambient Noise Monitoring

Sl No.	Date of Monitoring	Location	Area Type	Leq dB (A) Day Time	Leq dB (A) Night Time
1	18-19.02.2019	Majerhat (Zone-10)	Residential	57.2	46.5
2	20 – 21.02.2019	Near Swastayan Gacchi School (Zone 4)	Silence zone	51.8	47.7
3	20 – 21.02.2019	Dharmatala Pachuria School (Zone 1)	Silence zone	65.6	56.1
4	21-22.02.2019	Nangla Palpur (Zone 9)	Residential	56.2	50.1
5	21-22.02.2019	Near Koach Pukur Primary School (Zone 15)	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

ii. Monitoring Results of 2nd Quarter

Monitoring Location of Quarter 2

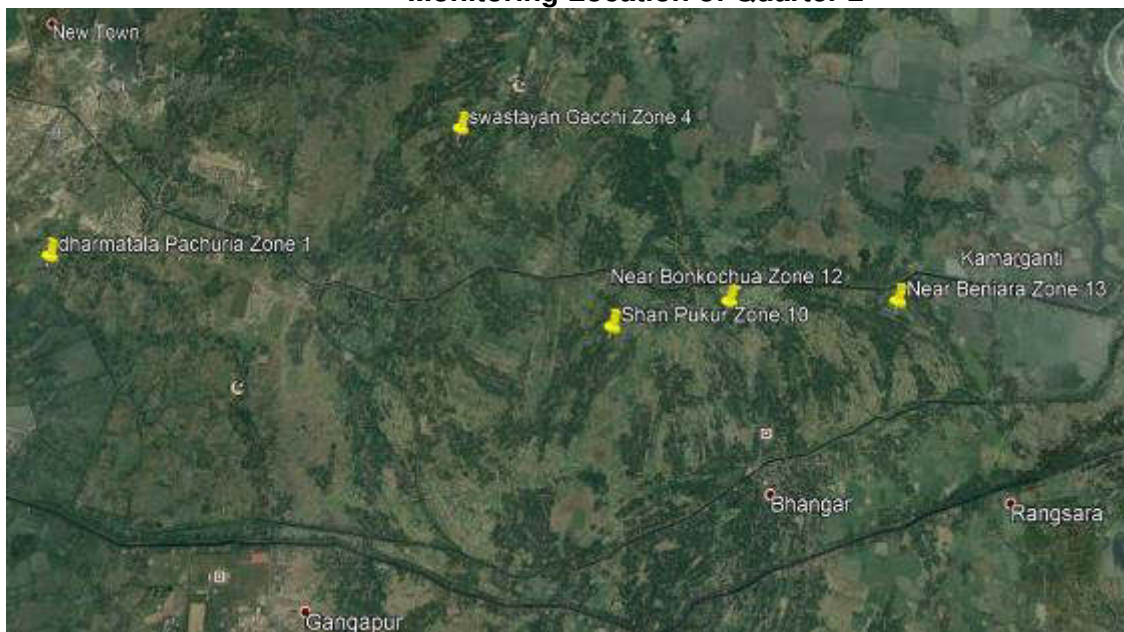


Figure 6: Ambient Air Quality and Noise Level Monitoring Stations in Bhargar-II Block in quarter 2

Table 9 : Ambient Air Quality (Daily Average)

Site no.	Date of Testing	Site Location	Parameters (Government Standards)				
			PM10 ($\mu\text{g}/\text{m}^3$)	PM2.5 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
Zone 1	14 – 15.06.2019	Dharmatala Pacharia	147	86	0.58	10.6	33.8
Zone 4	13 – 14.06.2019	Swastayan Gacchi Near School	142	79	0.59	9.5	34.5
Zone 10	15 – 16.06.2019	Near Shan Pukur	123	65	0.69	9.7	30.3
Zone 12	18 – 19.06.2019	Near Bonkochua	109	58	0.70	8.9	28.4
Zone 13	15 – 16.06.2019	Near Baniara	125	70	0.67	10.1	32.1
National Ambient Air Quality Standard			100	60	2	80	80
WHO Standards			100	50	-	50	-

Table 10: Ambient Noise Monitoring

SI No.	Date of Monitoring	Location	Area Type	Leq dB (A) Day Time	Leq dB (A) Night Time
--------	--------------------	----------	-----------	---------------------------	-----------------------------

1	15 – 16.06.2019	Near Shan Pukur (Zone-10)	Residential	57.1	50.3
2	13 – 14.06.2019	Near Swastayan Gacchi School (Zone 4)	Silence zone	56.6	47.8
3	14 – 15.06.2019	Dharmatala Pachuria School (Zone 1)	Silence zone	53.3	49.2
4	18 – 19.06.2019	Near Bonkochua (Zone 12)	Residential	55.2	48.9
5	15 – 16.06.2019	Near Baniara (Zone 13)	Residential	53.4	50.1
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 4th Quarter**

Table 11: Surface water Quality

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
Pond water in Zone 4 (Swastayangacchi)		Date-17.10.2019	
1	pH value at 25°C	7.62	6.5-8.5
2	Turbidity in NTU	6.2	
3	Chloride (as Cl) in mg/l	86.4	
4	Fluoride (as F) in mg/l	<0.1	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	58.8	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	15.9	3
8	Dissolved Oxygen (DO) in mg/l	4.6	5
9	Total Alkalinity (as CaCO ₃)	236	
10	Hardness (as CaCO ₃) in mg/l	228	
11	Oil & Grease in mg/l	4.2	
12	Total coliform MPN/100 ml	4.6	500
13	Faecal Coliform MPN/100 ml	Not detected	
Pond water of Zone 12 (Bankachua)		Date: 17.10.2019	
1	pH value at 25°C	7.59	6.5-8.5
2	Turbidity in NTU	9.8	
3	Chloride (as Cl) in mg/l	56.34	
4	Fluoride (as F) in mg/l	<0.10	1.5
5	Nitrate (as NO ₃) in mg/l	<0.5	
6	Chemical Oxygen Demand (COD) in mg/l	39.2	
7	Bio Chemical Oxygen Demand (BOD) in mg/l	10.3	3

No.	Parameters	Result	Surface water quality criteria by CPCB for class B
8	Dissolved Oxygen (DO) in mg/l	5.2	5
9	Total Alkalinity (as CaCO ₃)	198	
10	Hardness (as CaCO ₃) in mg/l	220	
11	Oil & Grease in mg/l	4.6	
12	Total coliform MPN/100 ml	4.2	500
13	Faecal Coliform MPN/100 ml	6.8	

iv. Discussions on Environmental monitoring results

- (i) For Bhangar II 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. Therefore, it can be inferred that the increased levels of PM₁₀ and PM_{2.5} are not due to combustion of fossil fuels but due to high background dust 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 (comparatively high BOD value) 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. No significant influence in the monitoring results due to construction (Quarter -2) was observed at the zones where monitoring was also conducted during pre-construction (Quarter-1) phase.

C. Ecological Resources

57. 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 (Hingalgaon, Hasnabad, Haroa, Sandeskhali - I, Iland Minakhan) and 13 CD blocks 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.

58. 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 forest in the project area, and mainly consists of agricultural, habitation areas and water bodies, etc. Based on detailed designs, no works is being conducted in the Sundarban Biosphere Reserve areas, except for small civil works in one mouza of Bhangar II block where the site for GSLR and small pipes are in the outer periphery of the transition zone of Sundarban biosphere reserve. The project preparatory team has noted that the site and alignment are in developed areas and construction is allowed. The project has not considered any components in the buffer or core areas. 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**.

59. 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. The proposed project (OHR) sites are mostly vacant; only few sites have few trees around them. Till date no tree cutting requirement has been encountered for the sites where construction is undergoing.

60. 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 farms, 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 wastes are 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.

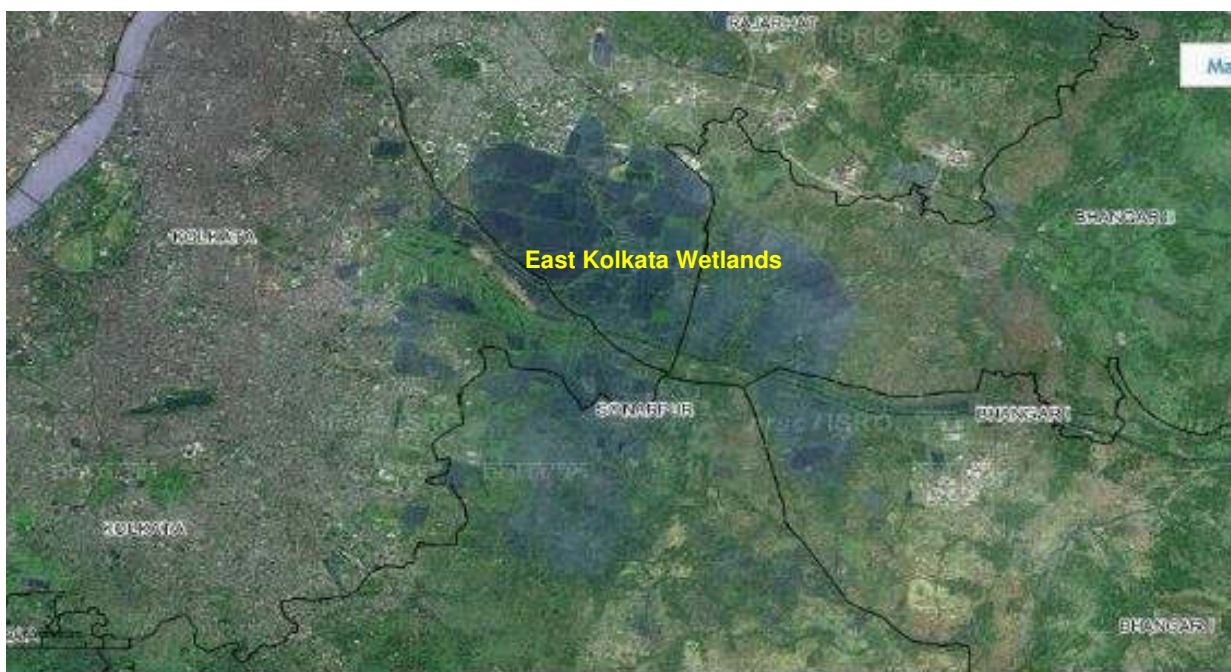


Figure 7: East Kolkata Wetlands Map

61. Besides providing the benefits of waste treatment and fish farming, wetlands have very rich biodiversity and is a waterfowl habitat. It is also known habitat for 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 sewage 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.

62. 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 (EKWMA) to regulate the activities in and around the EKW. Based on the detailed design and survey it has been found that water supply distribution pipes laying route in three zones will pass through EKW areas (zone 1, zone 2 and zone 18) under the jurisdiction of EKW Management Authority. Accordingly, no over-ground constructions will be done in these three distribution zones and application has been submitted to the EKW Management Authority (EKWMA) for granting permission for pipe laying works in the EKW area falling under. Recently the EKWMA has given NOC for pipe laying in these three EKW zones (**Appendix 8A**). Further, land for overhead reservoirs in zone 2 and zone 18 have been identified outside the EKW while the distribution will be done through control valve in zone 1.

D. Economic Development

1. Land Use

63. Following table shows the land use/utilization pattern as per Census 2011. In South 24 parganas district, nearly 45% of the total reporting area is under forest, 38% land is under

cultivation and 15% land is under non-agricultural use. However, in Project block of Bhangar II in the district, there is no forest area.

Table 12: Land Use in Project Area

Land use classification	S 24 PGS District	Bhangar II Block
	Areas in Hectares	
Forests	426,360	-
Area under non-agricultural uses	143,320	6,002.6
Barren and uncultivable land	70	-
Permanent pastures and other grazing lands	20	-
Land under miscellaneous tree crops	2,560	-
Culturable waste land	1,340	43.7
Fallow	16,700	-
Net area sown	358,400	7,935.6
<i>Total reported area (total district area excluding the area under census towns and urban areas)</i>	<i>948,770</i>	<i>13,177.7</i>
Total Geographical area	996,000	16,204

*Source: Census 2011.

2. Industry and Agriculture

64. Owing to its location close to Capital City Kolkata, and good connectivity, abundance of water infrastructure availability etc.

65. **South 24 Parganas.** Owing to various natural and man-made factors, industrial development in the district is very limited. Due to presence of large tracts of forest lands, numerous rivers, streams, creeks etc., much of the areas is not accessible to industrial development. Small scale household and cottage industries such as jute, handlooms, manufacturing cutlery, pottery, agriculturally based industries, are in the district. There are a small number of large-scale industrial units (dealing in food, chemical, engineering and ship building) in the district. Located in the vast delta with number rivers, streams, creeks etc., land suitable for agriculture is also limited. District comprises area with non-saline soils and with saline (coastal) soils of tidal origin. Non-saline soils are very fertile and rich with nutrient, and are very good for agriculture with abundance of water availability, while the coastal soils are not suitable for agriculture. As per the land use statistics, 38% of the area is under cultivation. Paddy is the main crop, and other include pulses, potato and cash crop Jute. Fishery is an important economic activity in the district. Due to presence of both fresh water and saline water bodies, fresh water and well as saline water fishing is practiced in the district, and a significant number of families depend on this activity for their livelihood.

3. Infrastructure

66. **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.

67. 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.

68. 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.

69. 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 condition is generally poor, with many roads in need of repairs and resurfacing.

E. Socio Cultural Resources

1. Demography

70. Total population of the project area, comprising 1 community development block in the district of south 24 Parganas, is 247,000 (2011 census). Population density is high in the project area, much higher than the state average. As this is one of the fastest 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 lower in south 24 Parganas blocks. Population of schedule castes is higher in the project district. Work participation rate is 33-34%. Agriculture is predominant economic activity in Bhangar II block, with large number of households engaged in agricultural activities. Main language spoken in the project area is Bengali.

Table 13: Demographic Characteristics

Demographic Parameters	West Bengal State	South 24 Parganas	Bangar II Block
Population (2011)	91,276,115	8,161,961	246,708
Geographical area (km ²)	88,752	9960	162.04
Total households	20,380,315	1,775,756	50,209
Decadal Growth rate (2001-11)	13.84%	18.87%	18.87%
Sex ratio	950	956	940
Population Density, (per km ²)	1028	819	1,523
Household size	4.5	4.6	4.9
literacy rate	76.26%	77.51%	74.45%
literacy rate (male)	81.69%	83.35%	78.01%
literacy rate (female)	70.54%	71.40%	70.64%
% of urban population	31.87%	25.58%	0.00%
SC Population	23.5%	30.19%	19.82%
ST Population	5.8%	1.19%	0.77%
Total workers	38.08%	36.32%	34.27%
Male workers	57.07%	56.46%	29.07%
Female workers	18.08%	15.24%	5.21%
Main workers	28.14%	24.55%	27.30%
Marginal workers	9.94%	11.77%	18.21%
Cultivators	14.72%	11.99%	26.44%
Agricultural Labourers	29.32%	27.21%	24.53%
HH industry workers	7.09%	8.13%	6.20%
Other workers	48.87%	52.68%	42.83%

2. History, Culture and Tourism

71. 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.

72. 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.

73. 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 attractions in South 24 Parganas includes Temple of Sagardiwp, Sunderban National Park, Bakkhali and Frasergunj beach, Diamond Harbour, Maheshtala, etc.

74. There is one protected monuments/archeological place of national importance in north 24 Parganas district. Jhater Deul Temple in Jhata is the only protected monument in south 24 Parganas district but not located in the project area.

F. Subproject Site Environmental Features

75. Features of the few selected subproject sites are presented in the **Table 14**. 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 Error! Reference source not found.. Recent photographs of the sites where construction activities are undergoing is presented in **Appendix 9**.

Table 14: Site Environmental Features

Infrastructure	Location and Environmental Features		Site Photograph
1. Overhead Reservoir Sites			
			
Swastyangachi: Private vacant land with few trees (Zone 4)	Chanda Kanthal Beria: Private agricultural land (Zone 2)	Shanpukuria: Private vacant land with few trees (Zone 10)	Joynagar: Private agricultural land with few trees (Zone 7)
			
Baniara: Private agricultural land covered with big trees (Zone 13)	Kachua: Private agricultural land (Zone 15)	Jothbhin: private vacant land (Zone 18)	Tona: Private agricultural land with few mango trees (Zone 5)
			
Dheyati, Majerhat: Private vacant land (Zone 11)	Shyamnagar: Private agriculture land (Zone 6)	Bankochua fallow land with some agriculture field (Zone 12)	Pithapukuria: Private agricultural land (Zone 14)
			
Paikan: Private agricultural land (Zone 3)			

Infrastructure 2. Distribution Lines

Location and Environmental Features

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

Pipelines are being 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 will be 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 most trees.

Site Photograph



V. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

VI.

76. 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.

77. 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.

78. 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).

79. 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.

80. The ADB Rapid Environmental Assessment Checklist for water supply has been used to screen the project for environmental impacts and to determine the scope of the IEE.

81. 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 rural area, will not cause direct impact on biodiversity values. The project components have been located in properties held by the local government (Gram Panchyat) and private owners 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. The private lands will be purchased through negotiated settlements.

A. Pre-Construction Impacts – Design and Location

82. **Design of the Proposed Components.** Technical design of the (i) overhead reservoirs, (ii) distribution pipelines, and (iii) 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.

83. **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.

84. 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 effect 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. Discussion with the local people indicated that this land was flat, but excavated for borrowing earth for increasing the level of adjoining school playground. 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'⁷ regulated under West Bengal Inland Fisheries Act, 1984, it needs to be

⁷ Fisher area is defined as "any water area, naturally or artificially depressed land, irrespective of ownership

reviewed during the detailed design stage about the applicability. Following measures need to be implemented:

- (i) Avoid using low-lying lands / ponds for construction of OHRs; alternative private lands may be explored within the vicinity;
- (ii) Review the applicability of West Bengal Inland Fisheries Act, 1984, whether the site falls under the definition of fisher area; obtained permission from Fisheries Department if required prior to start of construction.

85. Tree cutting. There are trees in some selected OHR sites (e.g., Shanpukuria, Joynagar, Tona, Sastyangachi OHRs). These are mostly mango trees or of other local species. Also, there are trees along the public roads – especially on the main roads. As of now, no tree has been cut at any of the OHR sites. As per the final design no tree removal is required for laying of pipes. IEE will be updated further during implementation phase, with the actual data.

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

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

87. 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. According to detailed design no utility shifting is required for the zones mentioned under this report.

88. 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 zones existing houses are being rented to accommodate workers. Extreme care has been taken to avoid disposals if any near forest areas, water bodies.

89. 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 contractor's responsibility to

measuring 0.035 ha or more, which retains water for more than 6 months and capable of being used as fishery".

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

90. Main civil works in the subproject includes 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.

91. Subproject also include laying of distribution lines. Distribution lines are 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.

92. 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 is 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 will be 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.

93. 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, leads to 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.

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

95. Sources of Materials. Significant amount of sand and coarse aggregates is required for this project, which are being sourced from existing government approved 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:

- Obtain construction materials only from government approved quarries with prior approval of PIU;
- PIU to review, and ensure that proposed quarry sources have all necessary clearances/ permissions in place prior to approval;
- Contractor to submit to PIU on a monthly basis documentation on material obtained from each source (quarry/ borrow pit);
- 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.

96. 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 initial construction phase of earth work, as the site is confined, dust can be effectively controlled with common measures. Dust generation more 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:

For All Construction Works

- 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**);
- Provide a dust screen/high compound wall around the construction sites (OHRs)
- Damp down the soil and any stockpiled material on site by water sprinkling;
- Use tarpaulins to cover the loose material (soil, sand, aggregate etc.,) when transported by trucks;
- Clean wheels and undercarriage of haul trucks prior to leaving construction site/quarry;
- Control dust generation while unloading the loose material (particularly aggregate, soil) at the site by sprinkling water and unloading inside the barricaded area
- Stabilize surface soils where loaders, support equipment and vehicles will operate by using water and maintain surface soils in a stabilized condition
- Apply water prior to levelling or any other earth moving activity to keep the soil moist throughout the process;
- Control access to work area, prevent unnecessary movement of vehicle, public trespassing into work areas; limiting soil disturbance will minimize dust generation;
- 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.

For Pipeline Works

- Barricade the construction area;
- Initiate site clearance and excavation work only after barricading of the site is done
- Confine all the material, excavated soil, debris, equipment, machinery (excavators, cranes etc.), to the barricaded area;
- Limit the stocking of excavated material at the site; remove the excess soil from the site immediately to the designated disposal area;
- Undertake the work section wise;
- 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;
- 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 is ready for back filling, use the freshly excavated soil for back filling, this will avoid stocking of material, and minimize 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 generate dust from backfilled section. Therefore, road restoration has been undertaken immediately.

○

97. 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, streams 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:

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

98. 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:

- Create a temporary drainage channel around the work area to arrest the entry of runoff from upper areas into the work area;
- 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;
- Consider safety aspects related to pit collapse due to accumulation of water.

99. 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 are also 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.

- Prepare and implement a Construction Waste Management Plan;
- 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.;
- Avoid stockpiling any excess spoils at the site for long time. If required excess excavated soils are disposed of to approved designated areas immediately;
- 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;
- 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 material are collected separately and sold in the local recycling material market;
- Residual and hazardous wastes such as oils, fuels, and lubricants are disposed of in disposal sites approved by WBPCB;
- Burning of construction and/or domestic waste are strictly prohibited;
- Ensured that wastes are not haphazardly thrown in and around the project site; provide proper collection bins, and create awareness to use the dust bins;
- 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.

100. 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 minimal as most of the OHR sites are 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 will 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 instructed to:

- 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;
- 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; and
- Identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity;
- Horns should not be used unless it is necessary to warn other road users or animals of the vehicle's approach;
- 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.

101. 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 Bhangar II block, 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 are 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 cause inconvenience to the local community and road users. Potential impact is negative but short term and reversible by mitigation measures. The construction contractor has been given the following responsibilities:

Hauling (material, waste/debris and equipment) Activities

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

Pipeline Works

- 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
- Leave spaces for access between mounds of soil to maintain access to the houses/ properties
- Provide pedestrian access in all the locations; provide wooden/metal planks over the open trenches at each house to maintain the access.
- Inform the affected local population 1-week in advance about the work

- schedule
- Plan and execute the work in such a way that the period of disturbance/ loss of access is minimum.
- Keep the site free from all unnecessary obstructions;
- Coordinate with Police for temporary road diversions, where necessary, and for provision of traffic aids if transportation activities cannot be avoided during peak hours

102. 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.

103. Socio-Economic – Employment. Manpower is required during the 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 engaging temporary local labours as far as possible.

104. 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:

- Comply with all national, state and local labour laws (**Appendix 6**);
- 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 Training⁸ for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents;
- Ensure that qualified first-aid is provided at all times. Equipped first-aid stations shall be easily accessible throughout the site;
- Provide medical insurance coverage for workers;
- Secure all installations from unauthorized intrusion and accident risks;
- 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 protection, and preventing injuring to fellow workers;
- 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

⁸ 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.

- do not enter hazard areas unescorted;
- Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;
- Ensured moving equipment is outfitted with audible back-up alarms;
- 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;
- The use of hearing protection shall be enforced actively.
- Provide supplies of potable drinking water;
- Provide clean eating areas where workers are not exposed to hazardous or noxious substances.

105. 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.

106. 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 committed to,

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

107. Construction Camps. Contractor sets up construction camps – for temporary storage of construction material (pipes, cement, steel, fixtures, fuel, lubricants etc.), and stocking of surplus soil, which 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 ensures that:

- As far as possible located 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);
- Avoid tree cutting for setting up camp facilities;
- 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
- Separate the workers living areas and material storage areas clearly with a fencing and separate entry and exit
- 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;
- Consult PIU before locating project offices, sheds, and construction plants;
- Minimize removal of vegetation and disallow cutting of trees
- 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
- Camp provided with proper drainage, there shall not be any water accumulation
- Provide drinking water, water for other uses, and sanitation facilities for employees
- Prohibit employees from cutting of trees for firewood; contractor should be providing proper facilities including cooking fuel (oil or gas; fire wood not allowed)
- Train employees in the storage and handling of materials which can potentially cause soil contamination
- Recover used oil and lubricants and reuse or remove from the site
- 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
- Remove all wreckage, rubbish, or temporary structures which are no longer required
- 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

108. 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 which 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.

109. 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.

110. The citizens of the Bhangar II block will be the major beneficiaries of the improved water supply system, as they will be provided with a constant supply of potable water, piped into their homes at an appropriate pressure. The project will improve the over-all health condition of the village as water borne diseases will be expected to 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.

111. 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:

- 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
- Water quality surveillance program to cover consumer end water quality.

VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

A. Overview

112. 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.

113. 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

1. Consultation During Project Preparation

114. 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.

115. 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 10**.

116. 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 meetings, 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

117. 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 successful implementation of the work. Focus Group Discussion (FGD) 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 network has been established with the affected communities to redress the environmental issues likely to surface during construction phase. The summary of public consultations conducted during construction phase is attached in the **Appendix 10** along with attendance sheets, photographs and a sample public consultation sheet used at site has been attached in **Appendix 10**.

C. Information Disclosure

118. 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 updated final 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 will also be made aware of grievance register and redress mechanism.

119. 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. Prior to start of construction, the PMU/PIU will issue Notification on the start date of implementation in local newspapers A board showing the details of the project displayed at the construction site for the information of general public.

120. Local communities are being 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.

D. Update on Public Consultation

121. The Safeguard and Gender Team jointly conducted public consultations at 9 places of Bhargar II block till January 2020. The consultations were held with Panchayat Pradhan, Upo-Pradhan, Gram Panchayat members, Public representatives, beneficiaries/Local villagers, land Sellers, Housewives and PHED engineers. These consultations helped to understand the view of community about the project. Table below provides details of locations where these consultations were conducted and the number of participants present during the consultation process. A total of 249 participants attended the consultation meeting out of which 127 (51%) were female participants.

Table 15: Details of Public Consultation Meeting during in Bhargar II Block

No.	Location	Date of Consultation	Zones covered under GP	Total No. of Participants	No. of Female Participants
1	Bhogali-I GP	11.07.19	9 & 17	27	12
2	Polerhat I GP	25.07.19	4 & 7	21	6
3	Chaltaberia Bijoyganj School	14.01.20	13, 15 & 16	47	43
4	Chaltaberia GP	14.01.20	13, 15 & 16	35	20
Third Party Certification					
5	Sastyangachhi, Polerhat-I GP	28.05.19	4	24	8
6	Katadanga, Bhogali-II GP	30.05.19	12	30	5
7	Uttar Baniyara, Bhogali-II GP	30.05.19	13	14	3
8	Shanpukur Kamarpara, Shanpukur GP	31.05.19	10	24	19
9	Kachua, Chaltaberiya GP	03.12.19	15	27	11

122. The public consultations were aimed to discussing on goals of the Project – (i) to supply safe Arsenic free drinking water to reduce health problem, (ii) use of surface water to save the ground water, (iii) livelihood generation for the poor and marginalized sections of the society, (iv) provision for Income augmentation as an attempt to stop migration, and (v) women empowerment.

123. Attendees mainly spoke about their happiness as the area was selected for this project. Land sellers were expressed gratitude to be a part of this project. Some of the participants expressed concern about affordability to pay water tax, if imposed, however, majority agreed to pay the water charges for the safe drinking water to be made available through water

connections to households, commercial units, educational, religious and health institutions. The consultations also helped to clarify that all pipelines will be installed in government land along roads and will be laid below ground.

124. All participants were informed about the roles and responsibilities of all stakeholders right from ADB, PHED, Consultants to the GP and VWSC (Village Water & Sanitation Committee), about training mechanism for GP/VWSC nominated persons for Operation and Maintenance of implemented systems. With special emphasis to women's empowerment and their livelihood issues. Women members of the VWSC in the Gram Panchayat would be able to take leadership training and other training to perform their envisaged role.

125. Detailed discussions on Grievance Redress Mechanism (GRM) and ways to register Complaints/ Questions/ Comments/ suggestions was also elaborated to the GP members and participants during consultation. Organogram of GRM was provided to GP with request to distribute among public with phone no of Pradhan and GP members in every Gram Sansad. It was informed that one grievance registers were available at all sites for writing down comments / suggestions / complaints, if any. It was intimated that problems could be resolved through discussions at the site level. Summary of public consultations are noted in **Appendix 10**.

VIII. GRIEVANCE REDRESS MECHANISM

126. 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 has been 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.

127. 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 Sample Grievance Registration Form has been translated in Bengali (**Appendix 11**). Notification was issued on constitution and function of GRC. GRC Notifications of PMU, PIU levels are attached in **Appendix 12**.

128. 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.

129. 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 DSISC 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.

130. 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.

131. 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.

132. 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.

133. Composition of Grievance Redress Committee and District Steering Committee. The DSC, acting as GRC 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.

134. The Hon'ble District Magistrate, North 24 Parganas suggested that PHED should put up the proposal for formation of the Steering Committee. The names/ positions of ADM, Zilla Parishad; ISGP Coordinator; Secretary, Zilla Parishad; NRDMS Coordinator and the CEO of NKDA are considered in the Steering Committee. The Importance of creating a WhatsApp group for effective communication is also considered. The steering committee is already formed for state and district level and copy is attached in **Appendix 12**.

135. Areas of Jurisdiction. The areas of jurisdiction of the GRC, headed by the District Magistrate covers (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).

136. 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 affected and final outcome is being kept by PIU (with the support of DSISC) and submitted to PMU.

137. 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 campaign ensures 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. A Sample Grievance Registration Form as well as Sample site grievance register has been attached in **Appendix 11**.

138. 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.

139. Costs. All costs involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) is being borne by the PMU. Cost

estimates for grievance redress are included in resettlement cost estimates. The grievance redress process is shown in **Figure 8**.

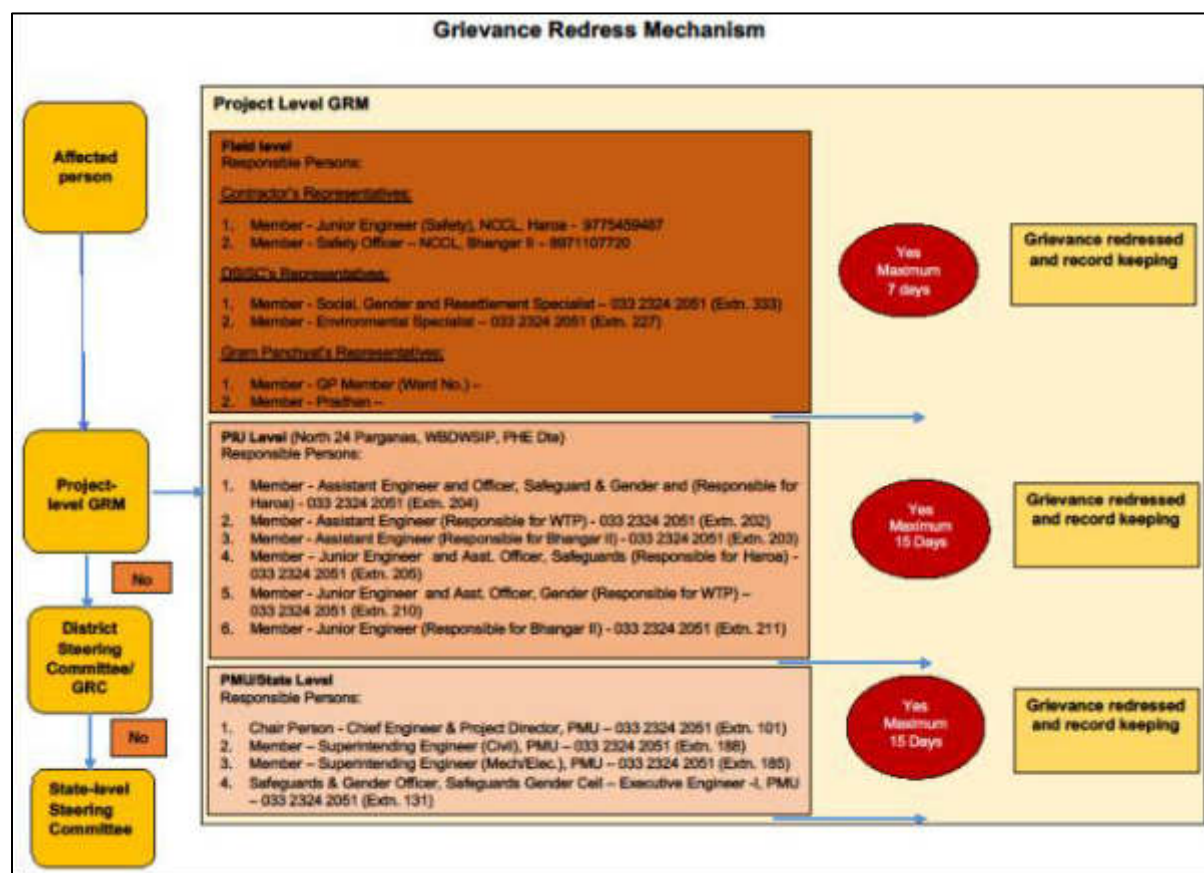


Figure 8: Grievance Redress Mechanism

140. 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 to be distributed to the affected communities, as part of the project GRM.

IX. ENVIRONMENTAL MANAGEMENT PLAN

A. Environmental Management Plan

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

142. The EMP guides 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.

143. The contractor submits 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. Contractor already submitted Site Specific Environment Management plan for the sites where construction has commenced. A sample Site Specific Environment Management plan (SEMP) is attached in **Appendix 13**. SEMP are being developed for the zones where detailed design is completed and construction activities started.

144. 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.

145. 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.

146. The following tables shows the potential environmental impacts, proposed mitigation measures and responsible agencies for implementation and monitoring for the zones where the construction works have started.

Table 16: 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) Till date no tree cutting requirement has been encountered for the sites where construction is undergoing. However, in future if such requirements arise appropriate permission will be obtained from concerned authority. (iv) In case of requirements, 5 trees for each tree that will be removed, will be planted and maintained.	Contractor/PIU	Project Costs

Table 17: Pre-construction Stage Environmental Impacts and Mitigation Measures

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation	Cost and Source of Funds
Utilities	Telephone lines, electric poles and wires, water lines within proposed project area	<ul style="list-style-type: none"> (i) Operators of these utilities have been identified and included in the detailed design documents to prevent unnecessary disruption of services during construction phase; and (ii) Construction contractor has prepared a contingency plan to include actions to be taken in case of unintentional interruption of services. (iii) Contractor has prepared spoils (waste) management plan (Refer to Attachment O7 & P7 of sample SEMP) and traffic management plan (Refer to Attachment P8 of sample SEMP) 	Contractor in collaboration with project implementation unit (PIU) and with approval of project management unit (PMU)	<ul style="list-style-type: none"> (i) List of affected utilities and operators; (ii) Bid document to include requirement for a contingency plan for service interruptions (example provision of water if disruption is more than 24 hours), waste management plan and traffic management plan. 	Project cost
Construction work camps, stockpile areas, storage areas,	Conflicts with local community; disruption to traffic flow and	<ul style="list-style-type: none"> (i) Areas within or nearest possible vacant space in the 	Contractor to finalize locations in Consultation and approval of PIU	<ul style="list-style-type: none"> (i) List of selected sites for construction 	Project cost

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation	Cost and Source of Funds
and disposal areas.	sensitive receptors	<p>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 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</p>		<p>work camps, hot mix plants, stockpile areas, storage areas, and disposal areas.</p> <p>(ii) Written consent of landowner/s(not lessee/s)</p>	

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation	Cost and Source of Funds
		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.			
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	(i) Construction materials are obtained only from government approved quarries with further approval (ii) PIU ensured that quarry sources have all necessary clearances/ permissions in place prior to approval (iii) Contractor submitted to PIU on a monthly basis documentation on	Contractor to prepare list of approved quarry sites and sources of materials with the approval of PIU	List of approved quarry sites and sources of materials;	Cost of obtaining all consents, permits, clearance, NOCs, etc. prior to start of civil works responsibility of PIU.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation	Cost and Source of Funds
		<p>material obtained from each source (quarry/ borrow pit)</p> <p>(iv) 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>			
Asbestos Cement Pipes	Health risk due to exposure to asbestos materials	<p>(i) Details on location of underground Asbestos Cement pipes will be noted, if encountered</p> <p>(ii) To avoid encountering AC pipes the new pipes has been aligned carefully</p> <p>(iii) Asbestos Cement pipes, if encountered, will be left undisturbed in the ground. Sample chance find protocol attached as Appendix 20</p>	Contractor in coordination with PIU and PMC	Detailed construction drawing showing alignment of AC pipes	<p>No cost required.</p> <p>Mitigation measures are part of terms of reference (TOR) of PIU and DSISC</p>

Table 18: 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	<p>(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. A sample training record is attached in Appendix 14.</p> <p>(ii) All condition specified in the NOC from EKWMA shall be complied with.</p>	Contractor	Project cost/project management unity (PMU) cost
Air Quality	Emissions from construction vehicles, equipment, and 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>For all construction works</p> <ul style="list-style-type: none"> ✓ 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” have been complied with. ✓ 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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
Surface water quality	Mobilization of settled silt materials, and chemical contamination from fuels and lubricants during construction can contaminate nearby surface water quality. Ponding of water in the pits / foundation excavations	<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 ✓ 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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.
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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		sensitive times, such as religious and cultural festivals.		
Landscape aesthetics – and 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, lubricants, and other similar items	<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 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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.
Existing Infrastructure and Facilities	Disruption of service and damage to existing infrastructure at specified project location	List of affected utilities and operators are prepared if required; 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.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
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. ✓ Till date no tree cutting requirement has been encountered for the sites where construction is undergoing. However, in future if such requirements arise appropriate permission will be obtained from concerned authority. ✓ 5 native trees will be planted for every one that will be removed. 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.
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. 	Construction 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 labour force is employed as far as possible ✓ Labour 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 labour laws are complied with (Appendix 6). Labour license is attached as Appendix 15. ✓ 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; ✓ WC policy for workers obtained (Appendix 16) ✓ 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 substances; ✓ 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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>equipment operating areas;</p> <ul style="list-style-type: none"> ✓ 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) <p>Sample accident register/ PPE register has been attached in Appendix 17.</p>		
Asbestos Cement (AC) Materials	Health risks associated with AC pipes	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 in any of the zones where construction has commenced	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 disturbance to communities ✓ Safe practices are adopted for micro tunnelling ✓ 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 	Contractor	Cost for implementation of mitigation measures responsibility of contractor.

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Cost and Source of Funds
		<p>implemented as suggested under air quality section</p> <ul style="list-style-type: none"> ✓ 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	<p>Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants</p> <p>Unsanitary and poor living conditions for workers</p>	<ul style="list-style-type: none"> ✓ Camp site are 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 ✓ 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) 	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"> ✓ 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, and non-biodegradable / recyclable waste are collected and sold in local market ✓ 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, Consult Archaeological Survey of India (ASI) or and West Bengal State Archaeology Department to be consulted to obtain an expert assessment of the archaeological potential of the site ✓ Include 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 	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 ✓ All excavated roads shall be reinstated to original condition. ✓ All disrupted utilities restored ✓ All affected structures rehabilitated/compensated ✓ The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. 	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"> ✓ 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 19: 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	(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
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 20: 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 21: 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 Fecal coliform	Monthly once	PHED	O&M costs (water quality will be tested at the internal laboratory part of water treatment plant)

B. Implementation Arrangements

147. 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 and 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).

148. 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:

- Ensure subprojects confirms to exclusion criteria and project selection guidelines as stipulated in the EARF;
- Approve subproject environmental category;
- Approve IEEs; ensure that updated IEEs/EMPs reflect final project designs;
- Ensure that EMPs are included in bidding documents and civil works contracts;
- Ensure proper implementation of EMPs by contractors;
- 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;
- Oversee public consultation and disclosure;
- Approve quarterly EMP implementation reports;
- Review and approve semi-annual monitoring reports prepared by PMC; and submit to ADB;
- Oversee grievances redress process and ensure timely redress;
- Undertake regular review of safeguards related loan covenants, and the compliance in program implementation; and
- Organize periodic capacity building and training programs for WBDWSIP stakeholders, PHED, PMU and PIU staff on safeguards.

149. 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:

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

- Oversee the implementation of SEMP by contractors and ensure corrective actions, where necessary;
- Review and approve quarterly environmental monitoring reports submitted by PIU/DSISCs;
- Conduct site visits of project facilities and work sites to oversee implementation;
- Prepare semi-annual environmental monitoring reports and submit to PMU SGC HSGO;
- Oversee grievance redress process; advise on critical grievance related to environmental issues and concerns; and
- Organize training and capacity development programs.

150. 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:

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

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

- Assist PIU in identifying projects/components in compliance with the project exclusion criteria and selection guidelines stipulated in EARF;
- Prepare environmental screening checklists and submit to PMU for categorization; update checklist and category as and when required to reflect projects, and report to PMU;
- Work closely with PIU and design teams to include environmental considerations in project location, design and technical specifications;
- Identify statutory clearance / permissions / approvals required for subproject; assist PIU in obtaining them;
- Assist in including standards/conditions, if any, stipulated in regulatory clearances, consents in the project design;
- Update IEE and EMP to reflect any changes in subproject during detail design / implementation; IEE shall reflect the final project design;
- Lead / assist PIU in public consultation in compliance with the EARF; reflect inputs from public consultation in IEEs, EMPs, and project design;
- Advise / assist PIU in disclosing relevant information on safeguards to stakeholders, affected people etc.;

- Assist / ensure all EMP measures related project design and location and included in the detailed designs;
- Integrate EMP into the bid and contract documents (for item rate contracts, include full IEE including EMP in bids);
- Advise contractor in preparation of SEMP as per the final design, prior to start of construction;
- Ensure that all necessary clearances/permission (including those required by Contractor) are in place prior to start of construction;
- Monitor implementation of SEMP;
- Ensure Contractors including subcontractor's, if any, comply with the measures set forth in the EMP;
- Assist PIU in establishing GRM for the Project:
- Assist PIU in grievance redress, advise the contractor on appropriate actions on grievances, ensure timely resolution and proper documentation;
- Identify, if any, non-compliance or unanticipated impacts; initiate corrective actions, report to PMU;
- Review and approve monthly monitoring reports submitted by Contractor; consolidate and prepare quarterly Environmental Monitoring Reports (EMR) and submit to PMU; and
- Conduct training and capacity building activities (workshops, hands-on trainings, visits etc.,) in EMP implementation.

152. 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 labour laws and core labour standards on (a) prohibition of child labour 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 labour; 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, 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

153. 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 detailed design; (iii) improved coordination within nodal departments; (iv) monitoring and reporting system; and (v) project GRM. Briefings on safeguards principles, GRM and GESI action plan have been conducted to the contractors upon their mobilization by PIU Safeguard Officers supported by DSISCs.

154. The following **Table 22** presents the outline of capacity building program to ensure EMP implementation. The estimated cost is ₹225,000 (excluding trainings of contractors which will be 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 22: Outline Capacity Building Program on EMP Implementation

Description	Target Participants and Venue	Estimate (Rupees)	Cost and Source 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 labour 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, -	All project implementation unit (PIU) staff, contractor staff and consultants involved in the subproject at PIU	Rs. 100,000.00 (Lump sum)	Included in subproject cost estimates

Description	Target Participants and Venue	Estimate (Rupees)	Cost and Source of Funds
Consultations - Grievance redress - Monitoring and corrective action planning - Reporting and disclosure - Construction site standard operating procedures (SOP) -- Chance find (archeological) protocol - AC pipe protocol - Traffic management plan - Waste management plan - Site clean-up and restoration			
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 labourers)	Rs. 25,000.00 (Lump sum)	Contractors cost

D. Monitoring and Reporting

155. Immediately after mobilization and prior to commencement of the works, the contractor 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 reviewed, and approved the report and permitted commencement of works.

156. 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 PMU a quarterly report on EMP implementation and compliance.

157. 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 19**). Once concurrence from the ADB is received the report will be disclosed on PHED/PMU websites.

158. 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.

159. 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

160. 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 23: 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	1,350	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

X. CONCLUSION AND RECOMMENDATIONS

161. The process described in this document has assessed the environmental impacts of all elements of the proposed water supply distribution system subproject for Bhangar II Blocks. 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.

162. 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.

163. 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. 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 Sundarban needs to be reviewed further during the final design stage about the applicability. Appropriate measures suggested to avoid or minimize the impact. There are trees in some selected OHR sites (e.g., Shanpukuria, Joynagar, Tona, OHRs), 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 pipelines are laid along all the roads in the project area.

164. South 24 Parganas district is home to environmental sensitive areas like Sundarbans Biosphere Reserve (SBR) and East Kolkata Wetland (EKW). Based on detailed designs, no works is being conducted in the Sundarban Biosphere Reserve areas, except for small civil works in Bhangar II block of 24 South Parganas where the site for GLSR and small pipes are in the outer periphery of the transition zone of Sundarban biosphere reserve. The project preparatory team has noted that the site and alignment are in developed areas and construction is allowed. The project has not considered any components in the buffer or core areas. 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**.

165. Based on the detailed design and survey it has been found that water supply distribution pipes laying route in three zones will passes through EKW areas (zone 1, zone 2 and zone 18) under the jurisdiction of EKW Management Authority. Accordingly, no over-ground constructions will be done in these three distribution zones and application has been submitted to the EKW Management Authority (EKWMA) for granting permission for pipe laying works in the EKW area falling under. Recently the EKWMA has given NOC for pipe laying in these three EKW zones (**Appendix 8A**) Further, land for overhead reservoirs in zone 2 and zone 18 have been identified outside the EKW while the distribution will be done through control valve in zone 1.

166. Construction activities are confined to the selected sites, so that 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, 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.

167. 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.

168. 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.

169. 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.

170. 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.

171. 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.

172. 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 Bhangar II. 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.

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

174. This IEE shall be updated again after finalization of design for all zones and in case of change in locations. Report will be reviewed by PMU, and further submitted to ADB for approval.

APPENDIX 1: RAPID EA 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.

RAPID ENVIRONMENTAL ASSESSMENT CHECKLIST

Country/Project Title: India / West Bengal Drinking Water Sector Improvement Project – Water Supply Distribution System for Bhargar II 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?	√		Subproject activities extend to the entire Bhargar II block including the densely populated areas. There are no major negative impacts envisaged, because pipeline will be located within ROW alongside the existing roads and can be constructed without causing any permanent impact to houses, and commercial establishments. OHRs site is sufficient away from habitations.
▪ Heavy with development activities?		√	Now a days urban expansion is considerable
▪ Adjacent to or within any environmentally sensitive areas?	√		South 24 Parganas district is home to environmental sensitive areas like Sundarbans Biosphere Reserve (SBR) and East Kolkata Wetland (EKW). No impact is envisaged due to any project components.
• Cultural heritage site		√	
• Protected Area		√	
• Wetland	√		Based on the detailed design and survey it has been found that water supply distribution pipes laying route in three zones will passes through EKW areas (zone 1, zone 2 and zone 18) under the jurisdiction of EKW Management Authority. Alternative land for three OHRs outside the EKW are being identified and application has been submitted to the EKW Management Authority (EKWMA) for granting permission for pipe laying works in the EKW area falling under three distribution zones. Recently the EMWMA has given NOC for pipe laying in the three EKW zone

• Mangrove		√	
• Estuarine		√	
• Buffer zone of protected area		√	
• Special area for protecting biodiversity	√		Based on detailed designs, no works is being conducted in the Sundarban Biosphere Reserve areas, except for small civil works in Bhangar II block of 24 South Parganas where the site for GSLR and small pipes are in the outer periphery of the transition zone of Sundarban biosphere reserve. The project preparatory team has noted that the site and alignment are in developed areas and construction is allowed. The project has not considered any components in the buffer or core areas. 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
• 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 are 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 historical/cultural monuments/ areas loss/damage to sites?		√	Project will have no any effect on historical/cultural monuments as there are no such monuments within influence of proposed works
• Hazard of land subsidence caused by excessive ground water pumping?		√	Only surface water will be used for water supply, no ground water pumping will be required
• 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 development/operation. does not involve source
• Unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?	√		Raw water may contain pathogens or mineral constituents and efficient treatment process will be required under the project
• Delivery of unsafe water to distribution system?	√		Unsafe water may be delivered if efficient water treatment is not done at WTP

<ul style="list-style-type: none"> Inadequate protection of intake works or wells, leading to pollution of water supply? 	√		Protection of intake works should be ensured
<ul style="list-style-type: none"> Over pumping of ground water, leading to salinization and ground subsidence? 		√	No ground water will be used in the project
<ul style="list-style-type: none"> Excessive algal growth in storage reservoir? 	√		Excessive algal growth may occur if storage reservoirs are not maintained regularly. Proper treatment, post chlorination and regular cleaning of storage reservoirs will be conducted during operation
<ul style="list-style-type: none"> 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.
<ul style="list-style-type: none"> 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? 	√		Low noise pumps and machineries should be used in pumping stations to avoid noise to nearby public
<ul style="list-style-type: none"> Impairments associated with transmission lines and access roads? 	√		Temporary impairments may be anticipated along the new transmission line routes during construction stage.
<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 labour force as far as possible; in case if it is unavoidable, labour 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? 		√	Unsafe water may be delivered if efficient water treatment is not done at WTP Appropriate O&M will be conducted
<ul style="list-style-type: none"> Delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals? 		√	Not envisaged. Non corrosive materials pipe will be used for distribution networks
<ul style="list-style-type: none"> Accidental leakage of chlorine gas? 		√	Not applicable
<ul style="list-style-type: none"> Excessive abstraction of water affecting downstream water users? 		√	Not applicable
<ul style="list-style-type: none"> Competing uses of water? 		√	Not applicable. Water for the project is allocated by Government and only allocated water shall be used for water supply services
<ul style="list-style-type: none"> Increased sewage flow due to increased water supply 	√		Sanitation and sewerage need to be improved
<ul style="list-style-type: none"> Increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant 	√		Sanitation and sewerage need to be improved
<ul style="list-style-type: none"> large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? 		√	Most of the unskilled workers will be hired locally, some of skilled workers will be brought from outside but numbers will not so large to have impacts on social infrastructure and services
<ul style="list-style-type: none"> social conflicts if workers from other regions or countries are hired? 		√	Outside workers will remain in labor camps and no social conflicts will envisaged
<ul style="list-style-type: none"> risks to community health and safety due to the transport, storage, and use and/or disposal of 		√	No explosives shall be used in project. Fuel and other chemicals will be used in very less quantities which will not have significant impact on community health and safety. Safe handling of fuels and chemicals will be ensured by contractor.

materials such as explosives, fuel and other chemicals during operation and construction?			
<ul style="list-style-type: none"> Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 	√		Community safety risk may be there during construction during excavation for pipe laying, equipment and vehicle operation, etc. for which mitigation measures will be required by contractor

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: India / West Bengal Drinking Water Sector Improvement Project – Water Supply Distribution System for Bhangar II 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 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)

Parameter	Location ^a	India Ambient Air Quality Standard	WHO Air Quality Guidelines ($\mu\text{g}/\text{m}^3$)		Applicable Per ADB SPS ^e
Ammonia (NH_3)	Industrial Residential, Rural and Other Areas	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)
	Sensitive Area	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)
Benzene (C_6H_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+ NO _x (g/km)
1991 Norms	14.3-27.1	2.0(Only HC)
1996 Norms	8.68-12.40	3.00-4.36
1998 Norms	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)	NO _x (g/kmhr)	PM(g/kmhr)
1991 Norms	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; NO_x = 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:C & D WASTE MANAGEMENT RULES

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 device 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: LABOUR LAWS

SALIENT FEATURES OF MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN CONSTRUCTION OF CIVIL WORKS

- (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 Labour (Regulation and Abolition) Act, 1970 - The Act provides for certain welfare measures to be provided by the Contractor to contract labour 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 labour.
- (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.
- (x) 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.

(xi) 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.

(xii) 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.

(xiii) Child Labour (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 labour is prohibited in Building and Construction Industry.

(xiv) 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.

(xv) 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 alter 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 adverse effects on domestic use.	200	-
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	1.5	-

No.	Substance or Characteristic	Requirement Desirable Limit	Undesirable Effect Outside the Desirable	Permissible Limit in the Absence of Alternate Source	Remarks
			pipes fittings and utensils will be caused beyond this.		
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, Cr ⁶⁺)	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	-

No.	Substance or Characteristic	Requirement Desirable Limit	Undesirable Effect Outside the Desirable	Permissible Limit in the Absence of Alternate Source	Remarks
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 FROM 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

[Signature]
25/03/19

Murmu/HC/SBR/05.03.19

APPENDIX 9A: NOC for EKWMA

NOC FROM EAST KOLKATA WETLAND MANAGEMENT AUTHORITY


Government of West Bengal
Department of Environment
East Kolkata Wetlands Management Authority
 Pranisampad Bhavan, 5th Floor, LB-2, Sector- III, Salt Lake, Kolkata- 700 106
 Ph: 91-33-2335 3003, Fax: 91-33-2335 6403

No: 015 - CTO/EN/097/2009-10 Date: 08.01.2020

From: Niraj Singhal, IFS
 Chief Technical Officer, EKWMA &
 Member, State Wetlands Authority

To: Chief Engineer & Project Director, PMU
 WBDWSIP, PHE Dte. Government of West Bengal
 Utility Building, 1st Floor, (Premises No.-09/1-0024)
 AA-IA (Tank No. 3)
 New Town, Kolkata-700 156

Sub: No Objection Certificate (NOC)

Ref: Your memo no. PMU/WBDWSIP/PHED/138/1195 dt 24.12.2019

Sir,

With reference to the above, you are hereby accorded NOC subject to following terms and conditions:

1. The project proponent should abide by the Wetlands (Conservation and Management) Rules, 2017 notified by the Ministry of Environment, Forest and Climate Change, Government of India.
2. The project proponent should also abide by the East Kolkata Wetlands (Conservation and Management) Act, 2006.
3. No permanent structure shall be created. All structures shall be purely temporary in nature and easily removable.
4. No water body shall be filled in any way or polluted in any manner.
5. Any change of character of land/ mode of use of land/conversion for non-wetland uses including encroachment of any kind is prohibited.
6. Any kind of waste/effluent/slurry if generated during the operation will not be discharged/dumped into water bodies within the boundary of the East Kolkata Wetlands.
7. Permission is temporary – only for the period of work or 31.12.2021 whichever is earlier.
8. Members/ officers / staff of EKWMA shall reserve the right to inspect the work at any time without notice.
9. Any liability due to adverse claim or direction/orders passed by any court of law or any statutory authority against the project shall be entirely borne by you.
10. The EKWMA reserves the right to recall the NOC granted at any time without incurring any liability.

These terms and conditions have been imposed so that the project work does not in any way adversely affect the wetlands. Any violation of the abovementioned terms and conditions will lead to cancellation and withdrawal of the NOC granted with immediate effect.

(Niraj Singhal)
 Signature
 Executive Engineer
 PMU, N-24Pgs, WBDWSIP, PHE Dte.
 Govt. of West Bengal

Memo NO-54/EE(C) PMU-N-24P Dated - 08/01/2020
 RECEIVED
 Date 10/01/20
 Time - 12:30 PM
 Work may be taken up subject to the enumerated above
 08/01/2020
 Signature
 Executive Engineer
 PMU, N-24Pgs, WBDWSIP, PHE Dte.
 Govt. of West Bengal

APPENDIX 10: RECENT ACTIVITIES AT CONSTRUCTION SITES – PHOTO ILLUSTRATIONS

PHOTO ILLUSTRATION: BHANGAR II BLOCK



First aid box noted at construction site



Backfilling is in progress at Zone 4 after pipe laying



Labour HSE Awareness Training at zone - 4(OHR)



Some safety signage noted at zone-4(OHR)



Emergency Contact number board at Zone 4 OHR



Proper Safety Signage Posters with local language at site



Use of proper PPEs seen at zone-12(OHR) in piling work



Placement of fire extinguisher in labour camp at zone -12(OHR)



Separate cemented tank constructed to save water in piling activity at zone 12(OHR)



Use of board, caution tape at zone-12(Pipe line)



Dust bin arranged at zone-13(OHR) after necessary instruction



Bamboo piling before pipe laying seen at zone -9(Pipe line)



Pilling work in progress for Zone 13



**Project board at Zone 4 OHR site
Shuttering work for coping beam in
progress**

APPENDIX 11: STAKEHOLDER CONSULTATION

STAKEHOLDER CONSULTATIONS




Consultation with Local Community Members at Bhangar (Dated 13.08.2017)


	Block	Mouza	Gram Panchayat	OHR/GLR Zone Code	No. of Participants	Concerns/Issues Discussed
1	Bhangar- II	Satulia	Bhagabanpur	GLR SITE	Male : 7 Female : 2 Total : 9	Requirement of piped water supply in the area is broadly accepted by all the participants. Poor quality of drinking water causing threat for the health of local villagers and cattle's too. Ground Water can be contaminated by Arsenic, hence, surface water is ideal. Apart from domestic connection, if possible, the authority may consider to expand the scope of use of piped water to agricultural purpose also. A reasonable and affordable water tariff fixed by the Govt. will be gladly accepted by all.
2	Bhangar- II	Satulia	Bhagabanpur	Irrigation Department land near approach to GLR site	8 women 2 girls Total=10	A cluster of squatter households is located on Irrigation Department land close to the proposed GLR site, Bhangar. On being asked where they collect water from at present, the participants replied that women and girl children had to travel almost 1 Km distance to fetch water from a tube well, and spend about 2 hours each day for the same. As squatter/non-titleholder households, they were concerned whether they would receive water from the project. Every household was desirous of an individual connection and indicated willingness to pay a reasonable user charge, while expressing inability to bear connection charge at one go. In case the project could not provide individual connections, they urged that their cluster be provided with Stand posts, which they would maintain.
3	Bhangar- II	Pithapukuria	Bhagabanpur	Bamunia sch (Z-1)	Male: 8 Female : 2 Total : 10	(i) Consultation with the local people revealed that, they are aware about the side effects of consuming arsenic contaminated water. As they do not have any alternate choices so they choose to use the same. Local tube wells are checked periodically through Panchayats and health dept. officials. (ii) The proposed water supply project of PHED will solve their problem permanently. Treated Surface water will not only be good for their health but at the same time people purchasing water from private source will be



						<p>able save money. Health related expenses due to water will be reduced which will indirectly increase the savings. Women & children are expected to have more benefits.</p> <p>(iii) In the question of affordability, the respondents unanimously said that they are willing to pay charges if provided individual household connections.</p>
--	--	--	--	--	--	--





SUMMARY OF PUBLIC CONSULTATION DURING CONSTRUCTION

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
1	Bhangar II	Dated 11.07.19 at Bhogali-I	9 & 17	Total - 27 Male - 15 Female - 12	<p>Discussions:</p> <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). Goals of the Project: 1) The project is to supply safe Arsenic free drinking water to reduce health problem. 2) Use the surface water to save the ground level water. 3) This project also generates the livelihood for the poor & marginalized sections of the society. 4) Provision for Income augmentation as an attempt to stop migration. 5) Women empowerment is a key component. For Operation & Maintenance training will be given to selected persons nominated by GP/VWSC. Target is to provide purified water 70 liters per capita per day through metered house connection on 24/7 basis. Also, this project will give the safe water to all Commercial, Educational Religious and Health institutions. All participants are informed about the roles & responsibilities of all stakeholders right from PHED and its consultants to the VWSCs. PHED should bear all cost of pipe line distribution and meter connection of each house. VWSC formation or reformation is very important for the project. The appointed NGO will give training to strengthen the VWSCs and finally PHED will hand over all assets to the Gram Panchayats. 33% of the Members 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. 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 	  

Sl.	Block	Date & Place	Zone	No of Participants	Concerns/ Issues Discussed	Photographs
					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 through discussions with the contractor's people in the site. • Connection of pipeline will be one in every single structure, even the brothers are separated. • Pipelines will be installed in government land beside the road. And It will be Underground. • Soft copy of the National Population Register of the GP is necessary for same unique ID of every household. • 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. <p>Concerns of the Participants:</p> <ul style="list-style-type: none"> • Who will take responsibility for Income Generation activities training? • 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? • After preparing the National Population Register many families have been separated and new families are not enrolled. In this case what will be the Unique ID of those families? • About the pipeline laying on the road or underground? • About the pipeline laying middle of the road or one side of the road? 	

Sl.	Block	Date & Place	Zone	No of Participant s	Concerns/ Issues Discussed	Photographs
2	Bhangar II	Date: 25.07.19 at Polerhat I	4 & 7	Total - 21 Male - 15 Female - 6	<p>Discussions:</p> <ul style="list-style-type: none"> • <i>Goals of the Project:</i> 1) The project is to supply safe Arsenic free drinking water to reduce health problem. 2) Use the surface water to save the ground level water. 3) This project also generates the livelihood for the poor & marginalized sections of the society. 4) Provision for Income augmentation as an attempt to stop migration. 5) Women empowerment is a key component. • Target is to provide purified water 70 liters per capita per day through metered house connection on 24/7 basis. Also, this project will give the safe water to all Commercial, Educational Religious and Health institutions. • Connection of pipeline will be one in every single structure, even the brothers are separated. • 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. • According to ADB norms 33% members of the VWSC should be females. • Women members of the VWSC in the Gram Panchayat can take leadership training and other training to perform their envisaged role. • 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. • 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. 	 

Sl.	Block	Date & Place	Zone	No of Participant s	Concerns/ Issues Discussed	Photographs
					<ul style="list-style-type: none"> • All the working labours are given training on First aid for the safety & security of them. There have to kept First aid box in every work site for their safety. • Soft copy of the National Population Register of the GP is necessary for same unique ID of every household. • 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"> • Who will bear the cost of tap with metered connection? • The pipe line didn't reach some places. • The road damaged when JCB excavate the road edge. So the road has been inadequate for walking in rain. • Najrul Islam, Ex GP member of Polerhat GP informed that Bagdi para after crossing to polarhat bazaar, during the pipeline laying the entire stretch (Width) was occupied. People could not even move with their bi-cycles & Motor cycles. Requested to the contractor's people to work from one side of the road, but the contractor's people used abusive languages. • Mr. Sirajul Islam, Sansad member of Swastyengachhi village informed that there is no survey from house of Saidul Master's house to Abdar Rahim Molla's house. • Mr. Mijanur Alam, Member of Panchayat Samiti informed that from Anantapur More to Pakapol Bazaar (approx 3.5 km) piling was done by the Jila Paroshad for preparation of the new road construction. But the contractor is working from inside the pilling, which maybe causes the weakness of the new road. 	 

List of Participants in Consultation: Bhangar

13/8/17

Sl. NO	Names	Ph. NO	Signature
1.	Haran chandra Mondal	9933506809	- Brahm.
2.	...	No -	
3.	...	No -	
4.	...	No	
5.	...	No	
6.	...	No	
7.	...	8001274900	
8.	...	7074078961	
9.	Subhas Chandra	9735241611	- Karkha
10.	...	9733293984	
11.	...	9733651201	
12.	...	9733678186	
13.	...	9836866159	
14.	...	8001415018	
15.	...	9883916454	
16.	...	9735366524	
17.	...	9732559525	
18.	...	8016672640	
19.	...	No	
20.	...	No	
21.	...	9732707676	- ...
22.	...	No	
23.	...	No	
24.	...	No	
25.	...	No	
26.	...	No	
27.	...	No	
28.	...	No	
29.	...	No	
30.	...	No	
31.	...	No	
32.	...	No	
33.	...	No	
34.	...	9139175206	
35.	...	No	

Stakeholder Consultations



Attendance sheet Public Consultation - Bhogali GP

Support Enabling and Skilling Communities for Sustainable Operation and Management of Services- North 24 Parganas District				
under				
West Bengal Drinking Water Sector Improvement Project (WBDSIP), An Initiation of Asian Development Bank (ADB)				
Attendance Sheet for Induction Meeting at Bhogali GP, Bhargar II Block				
Venue:		Date:		

Sl No	Name of Participants	Designation	Mobile No/ Email Address	Signature
1	শ্রী প্রদীপ কুমার	সহকারী 10	9564752788	শ্রী প্রদীপ কুমার
2	গুরুদাস সর্মা	সহকারী 804	9733588743	গুরুদাস সর্মা
3	Pratima Mondal	সহকারী 1305	9732714249	Pratima Mondal
4	Nusrunnеча kiki	সহকারী 602	8001767411	Nusrunnеча kiki
5	Mya Mondal	Sup ICPS	9091436681	Mondal
6	Tripti Mandal	ASHA	9735008943	T. Mandal
7	Aleyna Khatun	ASHA	9732705326	A. Khatun
8	Taslima Khatun	ASHA	9733270893	T. Khatun
9	Sabina Jasmim	A.W.W	9647704647	S. Jasmim
10	Kimatarra Khatun	A.W.W	9733835064	Khatun
11	Krishna Gain	Supervisor	9733574116	Krishna Gain
12	Rousanora Bibi	Supervisor	9735599409	Rousanora Bibi

13	মল্লিকা বানু মন্ডল	সহকারী 12	9775504732	মল্লিকা বানু মন্ডল
14	Sh. Choudhury Ratnam	Sup. Sam-12	9093593926	Sh. Choudhury
15	Kartik Das	Sup Sam-7	9733906686	Kartik Das
16	Abdul Mujit Khan	Sup Sam-9	7407396231	Abdul Mujit Khan
17	Suluzz Malla	Sup Sam-9	6296791926	Salla
18	Nurul Hasan Molla			Nur
19	Bidyut Mondal			Bidyut
20	Ashok kr. Bhattacharya	Sahakar	9088312529	Bhattacharya
21	Sadhan Mondal	Supervisor	8509373326	Sadhan
22	md. Sahibul Khan	Supervisor	9733903018	Sahibul
23	Tapan Chakrabarty	Special Assistant to Executive Engineer	8761805667	Chakrabarty
24	Mozaffar Hussain	Pradhan	9732970012	Mozaffar
25	Dr. Aniruddha Das	Special Assistant to Executive Engineer	9748107612	Dr. Das
26	Partha Chatterjee	JE - PIV	9182710599	Partha
27	Dilip Kumar Das	Support Staff Social Engineer	9732996972	Dilip
28				
29				
30				
31				

ATTENDANCE SHEET

Programme - Public Consultation

Venue- Polerhat I Gram Panchayat, Bhangan II

Date - 25.07.2019

Time- 3.15 pm



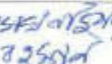
Sl. No	Name	Designation	Contact No.	Signature
01	Rafia Bibi	Prodhani (Polerhat - I)	9609306084	Bibi-25/7/19
02	Shahidul	Polerhat-I	9733842624	Shahidul
03	Dimamath Biswas	Polerhat-I	9732591171	Biswas
04	Nazma Ahmed Bibi	Polerhat-I	9734604038	N. Ahmed Bibi
05	Radhika Sarin'sardar	Polerhat-I	9064373746	R. Sardar
06	Sabina Bibi Molla	Polerhat-I	8017305685	S-a Bibi
07	Tripti Ghosh	Polerhat-I	9732618600	Tripti
08	Tapasi Mondal	Polerhat-I	9775659938	Tapasi
09	Ume Habibaparin	Polerhat-I	9733861560	U.H.P
10	Girish Mishra	Member	9775213454	Girish
11	Sajjan Rotuman	Polerhat-I	9732739988	S. Rotuman
12	Amal Adhikary	Sahayak Polerhat-I	9732142338	Amal
13	Risajeeel Barman	Secretary Polerhat-I	8967265899	Risajeeel
14	Shahidul		9609306084	Shahidul
15	Khokan Mondal	Polerhat-I	9775659938	K. Mondal
16	Manik Sardar	Polerhat-I	9064373746	Manik
17	Nazimul Islam	POLERHAT	8017305685	N-1 Islam
18	Md. Mijam Alam	P.S. Member Bhangan II	7907475243	Md. Mijam
19	Dibakar Pan	N.S.	9748912302	Dibakar
20	Aniruddha Dey	Social Gender & Resettlement Specialist	9748107672	Aniruddha
21	Dilip Roy	Support Staff Social Safeguard	9936996977	Dilip

SAMPLE PUBLIC CONSULTATION DURING CONSTRUCTION PHASE

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


Package- 02(B) - Bhongar-II.

Area- 2ow - 13 (PIP) -

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.		11/12/19	NIL	NIL	Repairing Required.	NIL	Not Seen always	NIL	NIL	Abdul Saker Khan - 9733555870	
2.		11/12/19	NIL	NIL	"	NIL	"	NIL	NIL	S.K. Geyasuddin - 9732877825	
3.		11/12/19	NIL	NIL	"	NIL	"	NIL	NIL	S.K. Nayab Rahman - 9733632595	

Note: At least 8 such consultation in a month

Need clear view from locals


 RANDHAR SHUKLA
 PCC Limited
 (Date & Signature of Safety officer/ Engineer of Contractor)

APPENDIX 12: SAMPLE GRC FORM**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 যুক্ত করতে 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
প্রকাশের উপায়	

SAMPLE COPY OF GRIEVANCE REGISTER

Sr No	Sl. No.	Date	Phone / Letter / Cite	TYPE COMPLAINTS	Details of Complaint	Response	Remarks
1	9/1	26/9/19	Site villager.	Nirman Mandar	Pipeline trench excavated not mowing the road.	Told to subcontractor to keep the excavated soil just beside trench so that road space increase on the day.	Completed within one hour on the day.
2	9/2	26/9/19	villager.	Tuned Hume	Job movement in the narrow and busy road, More attention	Immediately flagman with flag posted near the job location for better public tempo movement in a safe manner	Completed immediately
3	9/3	29/9/19	Shop site	Sonab-naiti	Drill pipe (backfilling) soil, laying concrete, temporary access.	Immediately road was put near the shop for uninterrupted turnover from the shop.	Completed within 30 minutes on the same day.
4	9/4	30/9/19	Pedestrian	Homenin Shikha Hannayon Street	Excavated muddy soil making the road slippery	Four workers engaged to mix spunash, stones and using shovel immediately road cleaning	Completed within one hour of the complaint.
5	9/5	03/11/19	villager.	Henri Das	Demarcation tape missing in few locations.	Immediately told subcontractor to put cone and interchain Safety barricading tape to block children's movement near the trench as a safety.	Completed immediately
6	9/6	15/11/19	House Owner	Dipankar Ghosh	Too Access from home to road.	Immediately he excavated soil for near his house and restricted	Completed immediately

APPENDIX 13: 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, Panchayats & 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.


(Malay Kr. De, IAS)

Chief Secretary
Government of West Bengal



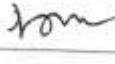


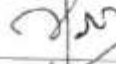

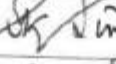


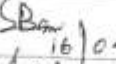
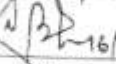
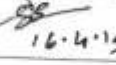
Meeting on 16.04.2019- 1st State Level Steering Committee

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 K. Sinha Addl. Secretary, Finance		sudipkumar.sinha@yahoo.in
9	Subhanis Ray		Se. Pimpurmed. adk @wbphed.gov.in
10	Dobash Bhowmik		SE PUNUM Pym
11	Sujoy Barua		SE/PIU, Bankura
12	Nityananda Khan		SE/ME/PMU. Sema.pmu.adb@wbphed.gov.in
13	Samarak San		ce2.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 COMMITTEE

Grievance Redressal Committee
Social Safeguard
1887
23-05-2019
1
Superintending Engineer, PIU, North 24 Parganas WBDWSIP, P.H.E. Dte. Govt. of West Bengal

Open for Grievance Social Safeguard
27/5/19

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;
pmu.adb@wbphed.gov.in

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, PHED 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.

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.

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

PIU LEVEL COMMITTEE



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.-09/1-0024)
AA-1A (TANK NO. 3), NEW TOWN, KOLKATA-700156
Email : se.pinn24p.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 Bhangan-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 Bhangan-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 14: SAMPLE SITE SPECIFIC EMP (SEMP)

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 Revision No. 00 Revision Date : 00 Page 1 of 8 Effective Date :			
	Site Specific Environmental Management Plan				

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 4,OHR (Swastyan Gachhi)

0	07.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

may be approved
Junior Engineer
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Counter signed
Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

Junior Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

1

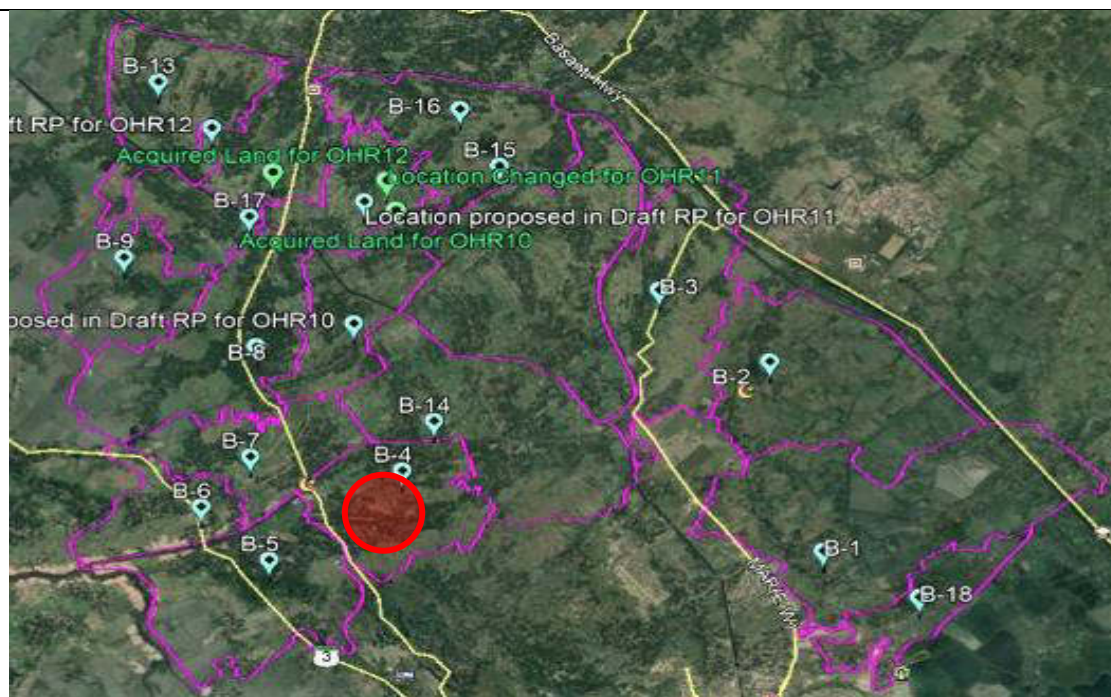
Package No.	Package No : N24P/02B ; Zone 4- OHR (Swastyangachhi) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block SEMP is as per requirement of the Draft IEE covering Package no. N24P/02B
Contractor	NCC Pvt. Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	14/05/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 450 KL capacity
Demolition work	No demolition activity involved
Project area	Swastyangachhi Village, Polerhat-I Gram Panchayet of Bhargar II block
Project Description	Individual household water supply schemes for the project Gram Panchayets
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayet: Polerhat-I of Bhargar II block

Land Status Private and Transferred

OHR Capacity 450 KL

Location Map



Details of contractors on-site-personnel and workers

Zone 4-OHR (Swastyangachhi)
Polerhat-I Gram Panchayets of Bhargar II block

Project Manager	Mr. Goutam Paul; 9733333053
Site Engineer	Mr. Sandeep; 8886748948
Site Supervisor	Mr. Sandeep; 8886748948
EHS Supervisor	Mr. Nitin Kumar; Mob: 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	5 skilled and 4 semi-skilled
Unskilled workers	5
Women workers	Nil
Workers – local / migrant	Migrant-14 from other districts within West Bengal
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation Rented Apartment at Swastyangachi Village {Refer Attachment O2 for details}

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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 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 	<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 (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	natural drainage 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"> • 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 (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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 	<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 piling are not left for idling, after completion of work. • Sprinkling and dust screen 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	resulting in dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulphur dioxides, particulate matter, nitrogen oxides, and hydrocarbons	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 wall around the construction sites (OHR). 	arrangement have been made, and will be used when required. <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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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	Project cost
River/	Mobilization of	<ul style="list-style-type: none"> Avoid stockpiling of earth 	<ul style="list-style-type: none"> No stockpiles have been 	Contractor	PIU	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
Surface water quality	settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	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 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.	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 monitoring has been conducted already following two places (Koach Pukur Zone:- 15, and (Majer hat) Zone-10, Shanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE.		through DSISC observation at site and document checking	
Biodiversity Fauna and Flora	Due to the nature and locality of the project there is unlikely to be any	• For flora protection, tree cutting is strictly prohibited; if necessary then obtain permission through proper	• So far no faunal movement has been observed in this site. • Some trees are present along the existing boundary wall of the	Contractor	PIU through DSISC observation	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	significant impacts on bio-diversity within the area.	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.	site however felling of tree is not envisaged at this site.		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; • 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. 	<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 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 (Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			II Block as per requirements prescribed in IEE.			
Landscaping 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 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 • 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
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	<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; 	Contractor	PIU through DSISC observation at site and document checking	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		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"> • 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 			
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	DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	1. 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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		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 	<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 O2. 	Contractor	PIU through DSISC observation at site and document checking	Project cost

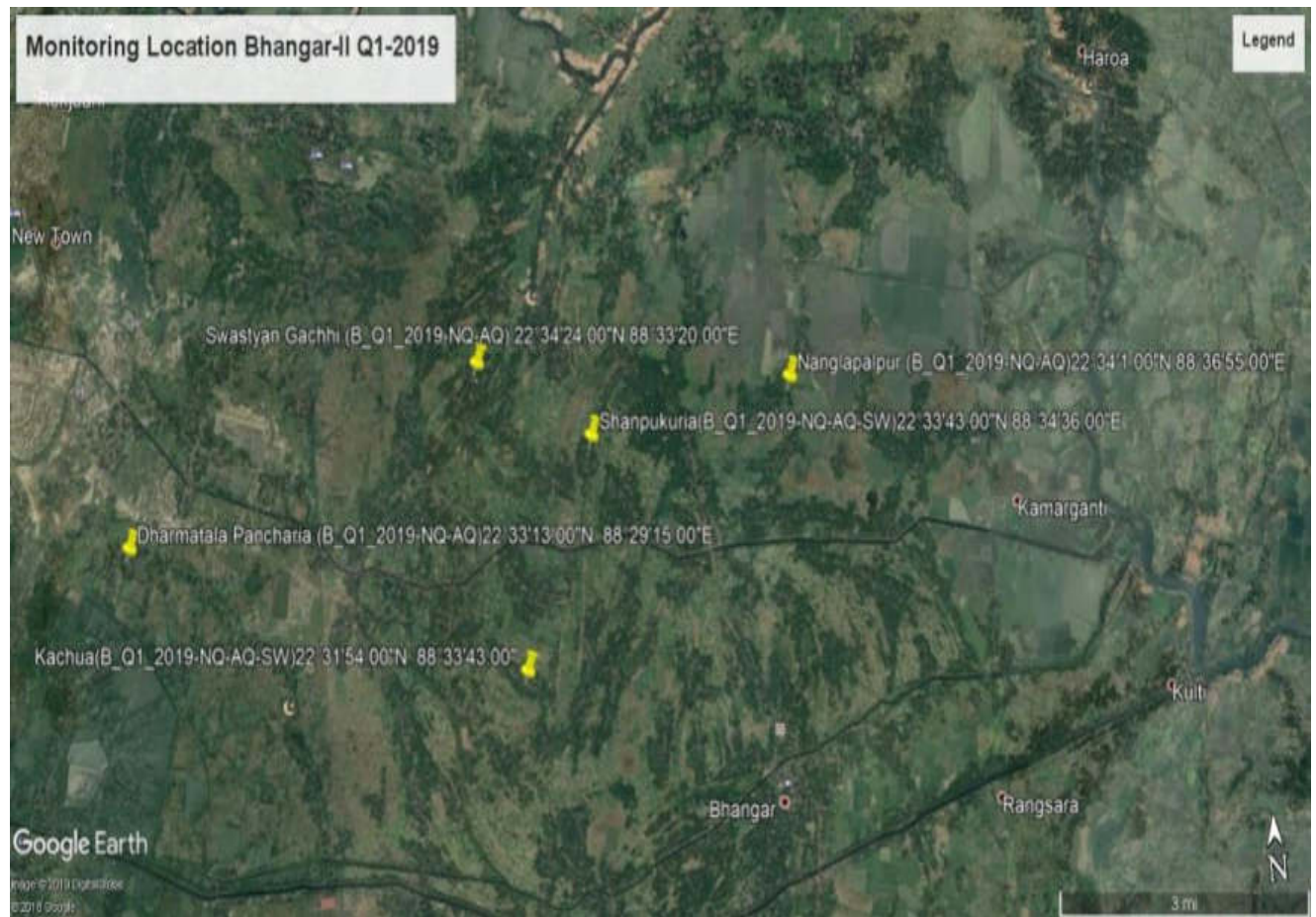
Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		<ul style="list-style-type: none"> • Provide cooking fuel (cooking gas); and a separate safe place to cook; 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

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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

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



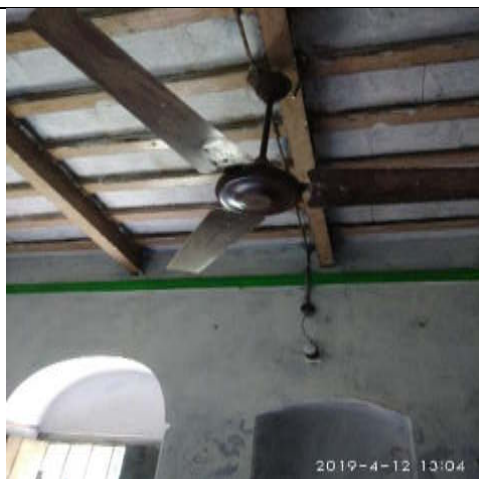
Enclosure 1 : Health_ Safety_ Management_Plan of Pkg.N24PGS/02B_Bhangar II block, _

Attachment O1: Details of construction Work sites

1. Zone 4: OHR construction Site	
Location- Sastyangachhi	
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
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Labor rest area • Toilets • Drinking water • First Aid Box.
G	Site Layout Plan Refer Appendix O.1
H	Site photographs
Original site photographs	
OHR before Construction	
Project facilities at Site	  

	<div>Project Information Board</div> <div></div> <div>PPEs use at site</div>	<div>Safety signage at site</div> <div></div> <div>First Aid Box at site</div>	<div>Toilet on OHR site</div> <div></div> <div>Labour Rest Area</div>
--	---	--	--

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 4: Sastyangachhi	
Location- Sastyangachhi, Polerhat - I (Latitude: 22°34'16", Longitude: 88°33'21")		
A	Accommodation – For 14 Nos construction workers No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented house• Accommodation provided for 14 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 camp is not located on OHR site.	
Photos of camp and facilities provided		
	Rented labour camp at zone 4-OHR	Arrangement of kitchen and packed drinking water
		
Availability of Fan at Labour camp		

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

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- 30No. • Gloves-5no. • Helmet-29no.s • Safety jacket- 31nos. • Goggles- 4 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. Md Sukur Ali Mob: 8327043932	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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

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 (MT) required for project	Source	Indicate if source has all necessary government clearances
1	Steel	49.38	Approved supplier	-
2	Cement	135.75	Approved supplier	-
3	Sand	207.92	From approved quarries at Gopiballavpur/ Bardhaman	Yes
4	Aggregate	400.22	From approved quarries at Nalhati/ Rampurhat	Yes

Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
	Spoil Management Plan	

SPOIL MANAGEMENT PLAN (SMP)**WBDWSIP BHANGAR-II BLOCK****LOCATION – ZONE- 4,OHR (Swastyan Gachhi)**

0	13.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dto.
Govt. Of West Bengal

Junior Engineer
PIU-1, N-24Pgs., WBDWSIP, PHE Dto Assistant Engineer-II (Civil)
Govt. Of West Bengal PIU, N-24 Pgs., WBDWSIP, PHE Dto.
Govt. of West Bengal

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 in Zone (04). 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.

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, places will be identified jointly along with design engineer for utilisation. 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. 181 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 for spoil transport 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.

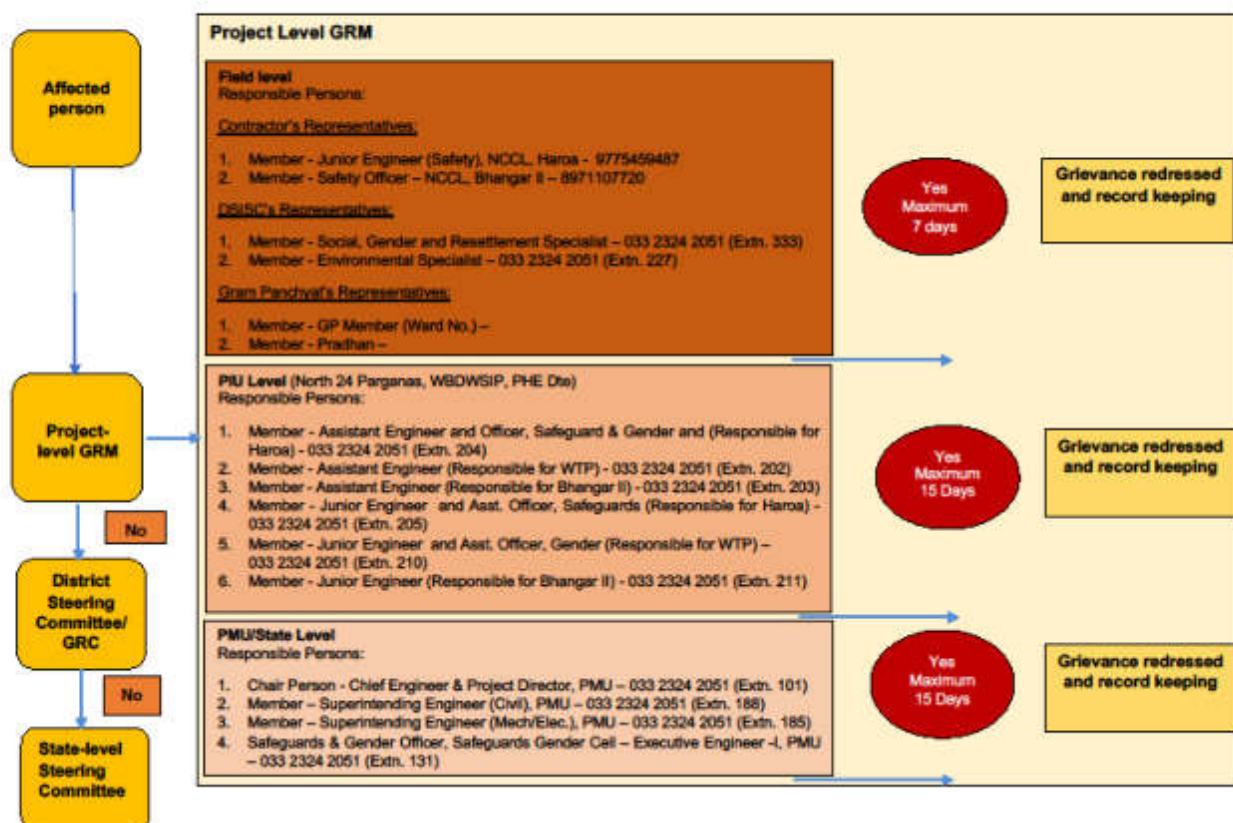
SPOIL DETAILS

Sl. No.	Zone	Name of Structure	Excavation Total Qty (C.U.M)	Back Filling Total Qty (C.U.M)	Reuse Excess Qty (C.U.M)
1.	04	Boundary wall	180.833	148.541	32.292

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

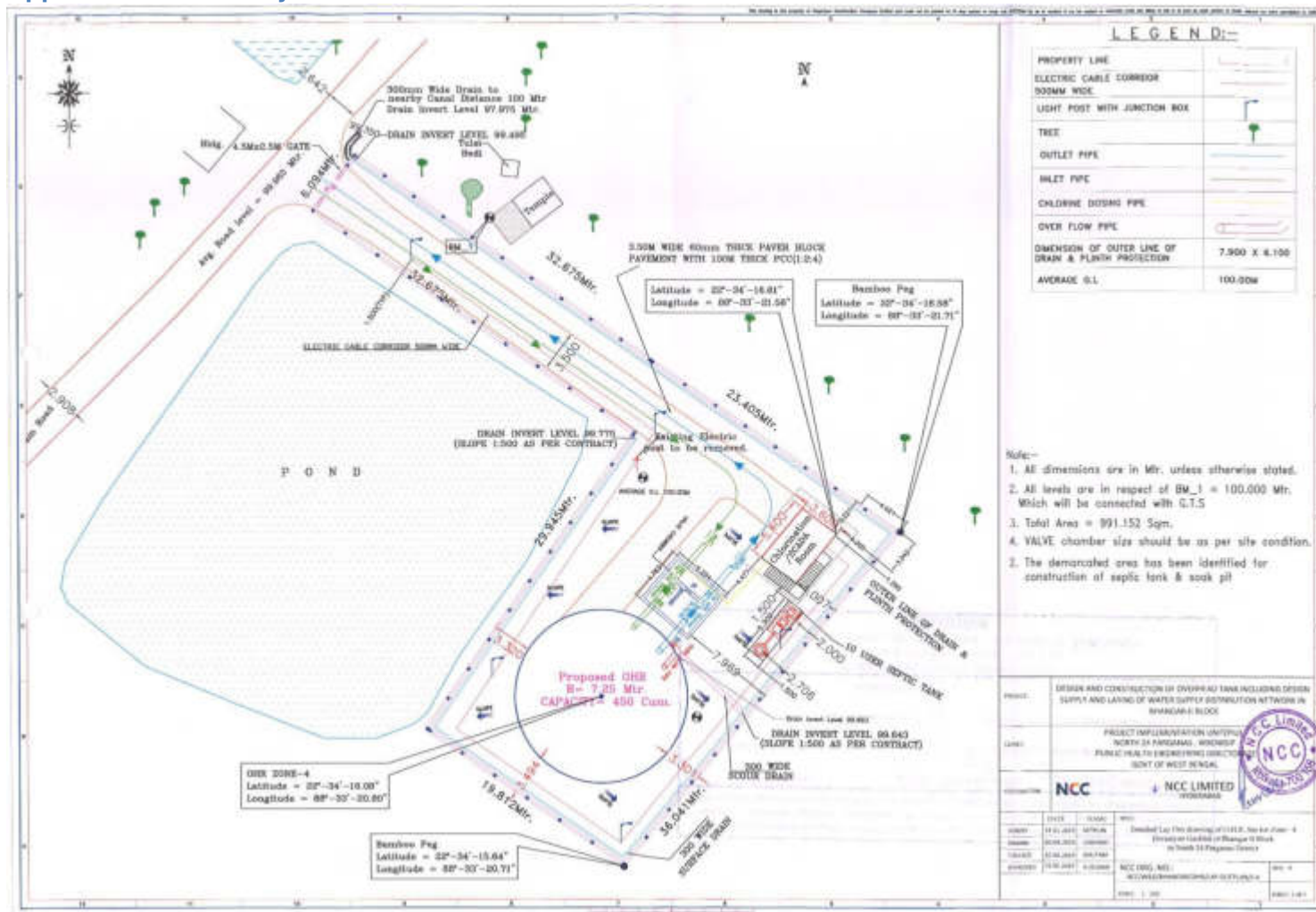


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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



Appendix O.A: Labour License

**GOVERNMENT OF WEST BENGAL**

OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR

South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruipur, Kolkata-700144

FORM VI

[See Rule 25(1)]

License No. : BRP04/CLL/000191**Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-

Signature & Seal

Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009474-008133-26939-2019

1.Date of Renewal

21st Nov, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

26th Dec, 2020

SHREEJITA
SAHA

Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'

Signature & Seal

Licensing Officer

Labour Licence
DWS Bhagwati
Expire on 26/12/19




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nanderani Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Barulpur, Kolkata-700144

FORM VI
[See Rule 35(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown - 700136, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**


Tapas Kumar Sinha Roy
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Barulpur, South 24 Parganas
[BRP04/CLL/000092]

Digitally signed by
Tapas Kumar Sinha
Roy
Date: 2018.12.27
15:32:23 +05'30'

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IIA, New Town, Kolkata,
Bhogati-II, Block - Bhanga - II , Barulpur - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhogati-II, Block - Bhanga - II , Barulpur
PS - Bhanga, District - South 24 Parganas, Pin Code - 700135

1 of 2

Workmen's Compensation Policy- Policy Schedule			
Policy Serving Office	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDL, Status Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No: 940-66008002		
Policy No	2019-16129169-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/0001531
Address	BHANGAR II BLOCK, South Twenty Four Pergam, West Bengal, 743552	Telephone(Mob, Off, Home)	4621822000/66803390738/4627822090
		Fax No & Email Id	80256791416 / PADMAJA.SUREYARAJAN@INDIAINSURE.COM
GTIN Number	19AAACH733C12M	PGT GTIN Number	36AADC0191812A
In consideration of the Policy holder annual premium payable 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 insured, hereinafter called the Insured, agrees to provide insurance against loss damage liability or expense to the extent and in the manner herein provided subject to all terms, conditions, exclusions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premiums (₹)	
Insurer	Share (in %)	Gross Premium	114,304.50
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Claims and Service Tax	34,174.78
		Total Premium	158,479.28
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhagar II Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhagar II Block		
Contractor/Job-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
30	Highly Skilled workers	6,642,000.00	
30	Skilled workers	6,648,000.00	
30	Semi Skilled Workers	5,490,000.00	
30	Unskilled Workers	4,589,000.00	
Total		23,369,000.00	
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 indemnities stipulated against each Law:			
Law	Limit of Indemnity	Coverage	
Employee's Compensation Act, 1923 and subsequent amendments thereon payable to the date of issue of this Policy	Subject otherwise, to the terms, conditions, scope, Exclusions of the Policy, the extent of liability incurred by the Insured	Yes	
Common Law and Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendments to the said Act prior to the date of issue of the policy provided that the insurance granted hereunder is not restricted to include			
1. 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			
2. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
(Terms are included 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, Trenching and Handling of Exp. material Excluding loss arising out of installation and erection of live wiring. Warranted that safety practices are followed by the workers/employees. Contracted 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 :	23065378	 (Authorized Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address mentioned below.			
Note: This document is digitally signed by Shurada Ramakrishnan, Authorized 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. CSER/18/2018/17914, dated 16/09/2018, Mumbai - 20/74C.X.9156-1, dated 09/01/2018.

Product UIN : IBSANT33P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 8th Floor, Tower - 1, Indiabulls Finance Centre, Emerald Bopet, Mang. Bldg, Hyderabad Road, Mumbai - 400013, Maharashtra. Call Line: (800-710-211, 1600-300-111), 022-67817809. Email: fgm@futuregenerali.in, Website: www.futuregenerali.in RFA Reg.No. 112, CH - 106010A/312556FLC/431287.

Appendix O.C: PUC Certificates

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

Vehicle Registr. No.: **WB08G1752** WB-01-**D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO (%)	
HC (ppm)	
BD (HSU)	44.1%

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

Signature: *[Signature]* Vehicle Pass: *[Stamp]*

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.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9830728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdg: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: RPM Min: **0820** RPM Max: **1923** Emission Norms.: **BS IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	HSU %	OTPC
1	0710	2050	01.23	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.38	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
HSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

[Signature]
Authorized Signatory

JNDUS DiesX 2.8.6/0000-0000/4660

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1986)


Vehicle Registrn. 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/m ³)	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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572
 Year Of Registration= 2011
 vehicle registration no = PB02BL7373
 Spedometer Reading[kms] =21522
 Engine Number=9218
 chasis Number=G2011
 Vehicle Colour = YELLOW
 Vehicle Make : JCB
 Vehicle Model : 3DX
 :Type Of Engine :OTHERS
 Type OF Vehicle: OTHERS

Liscence No: 32/D
 Date :16-08-2019
 TIME= 02:47:14
 Owner= N C C CO
 Driver:- SELF
 Test Fee : Rs.100/-
 Fule : Diesel
 Smk cell Temp : 00
 Oil Temo : 93.0
 Valid Up To : 15-02-2020
 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	6.9	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

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

Vehicle Registr. No. **WB-30P-5178** WB-01 **D 4448893**

Date of issue: **26-Jun-2019** Valid upto: **25-Dec-2019**

Pollution Level

CO (%)	2.527
HC (ppm)	1490
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **26/06/19**

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

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

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHAUSADY, HAROA, 24PGS(N)

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

PUC Number: P000000001437 Vehicle Type: 2 Wheeler

Name: NCC LTD Reg. No.: WB-30P-5178

Address: Reg. Date: Nov-2013

Manufacturer: Bajaj

Model: Discover

Engine Type: 4 Stroke

Test Date/Time: 26-Jun-2019 10:16 Odometer Rding: 0

Catalyst: No Engine Number: 05086

Chassis Number: 75215

Fuel -->	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	2.527		
HC* (ppm)	4500	1490		
CO2 (%)		2.53		
O2 (%)		14.9		
NOx (ppm)		0		
RPM:		0		
OT (°C)		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		7.495		

Test Result: **PASS**

Grade: **B**

Valid Upto: **25-Dec-2019**

Test Fee: **Rs. 80**

* Read as RHC for LPG and HHC for CNG

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

Appendix O.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 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:
--------------	----------	----------------	--------------	------------

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 গৃহীত হয়েছে তা জানানো হয়েছে কি না - হ্যা / না
কিভাবে জানানো হলঃ

মন্তব্য-

প্রস্তুতকারক -

আনুমদনকারী -





তারিখ-

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 Revision No. 00 Revision Date : 00 Page 1 of 9 Effective Date :
	Site Specific Environmental Management Plan	

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 4,PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Assistant Engineer - II
PIU, N-24Pgs.,WBDWSIP, PHE Coe.
Govt. Of West Bengal

Package No.	Package No: N24P/02B; Zone 4 - Pipe Laying (Swastyangachhi) , under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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 work commencement	14/6/2019										
Contract period	Construction: 3 Years ; O&M: 2 Years										
SEMP Component	Laying of 35285 m of pipeline as detailed below.										
Demolation Activity	No demolition activity involved										
Project Area	Polerhat-I Gram Panchayet ,Bhangar II block										
Project Description	Individual household water supply schemes for the project Gram Panchayets										
Household Connections	2325 (Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not finalized yet										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Polerhat-I											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm)										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - B4	19357	2154	1359	5072	4317	2484	497	45			35285
Map of Distribution Network											
Refer Appendix – P1											
Details of contractors on-site-personnel and workers							Zone-4 (Pipeline works), Polerhat-I GP of Bhangar II block				

Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Amlan Singha Roy; 9734667934
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 2 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant -10 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One at Anantapur, Polerhat-I (Refer Attachment P2 for details]

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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	<ul style="list-style-type: none"> Obtain construction materials only from 	No involvement of any new borrow area or quarry is anticipated.	Contractor, PIU	DSISC document	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	government approved quarries with prior approval of PIU. <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. 	Excavated soil will be used for backfilling of trenches.		checking	
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 	Pipelaying work will be continued without disturbing existing pipelines as recommended in the IEE.	Contractor and PIU	DSISC observation at site and	Project cost

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		<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. 	<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>		document checking	

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	<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. 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 	Contractor	PIU through DSISC observation at site	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	laying resulting in dust and increase in concentration of vehicle-related noxious compounds that causes pollution.	<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. 	<p>trench.</p> <ul style="list-style-type: none"> • 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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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	Project cost
River/Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials,	<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 	<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 	Contractor	PIU through DSISC observation at site and document	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	construction work; if necessary, dispose in designated disposal area. <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. 	lubricants store is away from drainage path and spill kits have been obtained. <ul style="list-style-type: none"> 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 (Koach Pukur Zone:-15, and (Majerhat) Zone-10, Sanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE. 		checking	
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-moving and excavation equipment, and the transportation of equipment,	<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 	<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 (Majerhat Sanpukuria Zone:-10, Near Swastayan) 	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
	materials by labours	not exceeding 75 decibels (dbA). When measured at a distance of 1m from the vehicle/s. <ul style="list-style-type: none"> Baseline and construction phase Noise Monitoring (Day & Night time) should be conducted. 	gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15 in the Bhangar Project for Environmental Monitoring Report. <ul style="list-style-type: none"> DG set (less than 5 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	Project cost
Occupational Health	Occupational hazards	Develop and implement a site specific occupational health and	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a site specific OHS plan has 	Contractor	PIU through	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementatio n	Monitoring of mitigation	Cost and source of fund
and Safety	which can arise during work	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.	been developed. <ul style="list-style-type: none"> 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 audible back-up alarms 		DSISC observation at site and document checking	
Socio Economic Employment	Generation of temporary employment	<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 	Contractor	PIU through DSISC	Project cost

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
t	and increase in local revenue		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 • Adequate lighting and ventilation • Provide drinking water, water 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 	Contractor	PIU through DSISC observation at site and document checking	Project cost

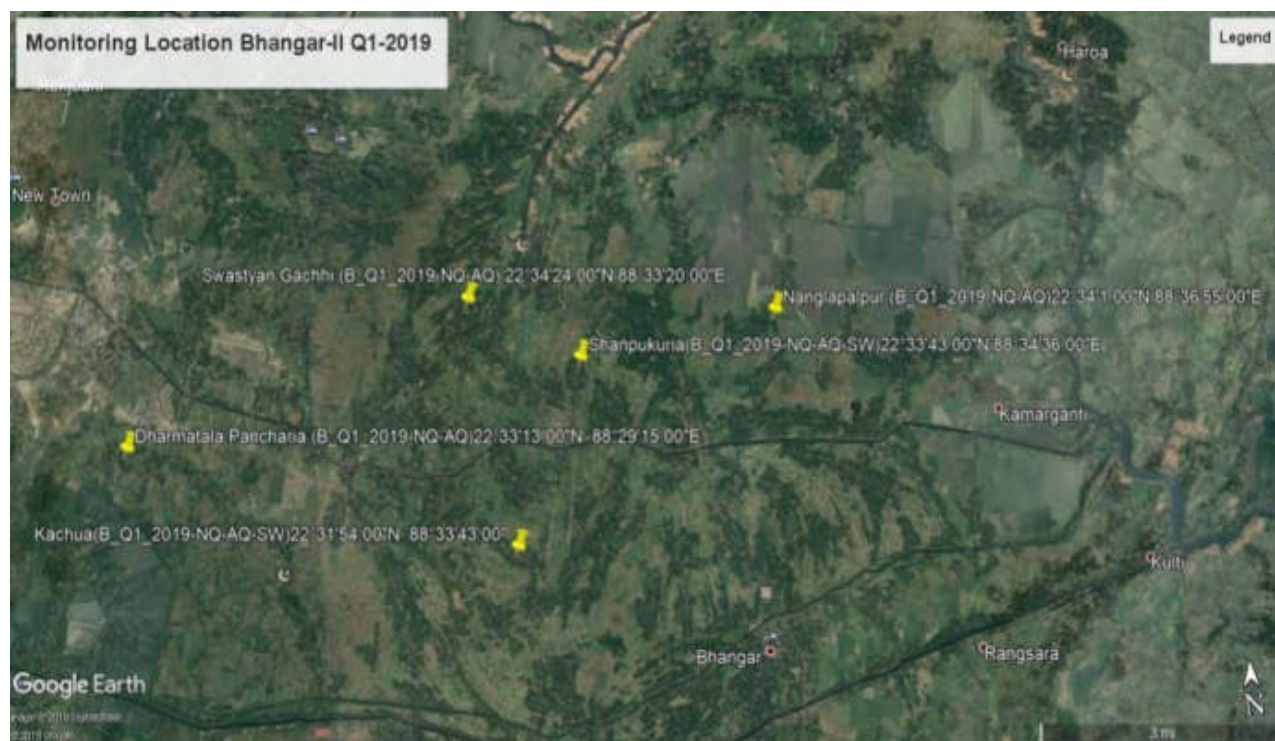
Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementatio n	Monitoring of mitigation	Cost and source of fund
		<p>other uses, and sanitation facilities; drinking water should be regularly tested</p> <ul style="list-style-type: none"> • Provide 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. 	<p>disposed by arrangements already present in camp/ household.</p> <ul style="list-style-type: none"> • The details of labour accommodation is presented in Attachment P2. 			
Archaeologi cal and Cultural characteristi cs	Risk of archaeologic al 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. 			

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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 are 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



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/02B_Bhangar II block

Attachment P1: Details of construction Work sites

1. Zone 4: Pipeline construction Site						
Location- Sastyangachhi						
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	497	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(34743 m)					
	200 mm	2484	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	4317	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	5072	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	1359	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	2154	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	19357	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 4	
Location- Anantapur, Polerhat - I (Latitude: 22°35'0", Longitude: 88°33'37")		
A	Accommodation – For 10 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 10 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		
	Rented house as labour accommodation	Sleeping area with electrical lights

Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayet 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 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- 10No. • Gloves-3no. • Helmet-10nos. • Safety jacket- 10nos. • 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	Emergency responsibility
	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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 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	10915	From trench cutting	Not required




Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block		Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5		
	Spoil Management Plan				

SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 4,PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environment
North 24 Parganas
WBDWSI Project

may be approved
Junior Engineer
PIU, N-24Pgs.,WBDWSIP, PHE
Govt. Of West Bengal

elc
Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE
Govt. of West Bengal

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 of spoil from works.

2. SCOPE:

This Spoil Management Plan developed for pipeline network laying in Zone (4). For this 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 be conforming 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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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. 10915 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 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 Swastyangachhi (Zone 04) for Pipe laying

S.I.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	19350	0.3	1	5805
2	75	2155	0.3	1	646.5
3	90	1357	0.3	1	407.1
4	110	5074	0.3	1	1522.2
5	140	4318	0.3	1	1295.4
6	200	1999	0.4	1	799.6
7	200	483	0.4	1	193.2
8	250	497	0.45	1	223.65
9	300	45	0.5	1	22.5
2	Approx. generated total Spoil at ZONE-04				10915

Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-4, PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

may be approved

West Bengal Drinking Water Sector Improvement 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.

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

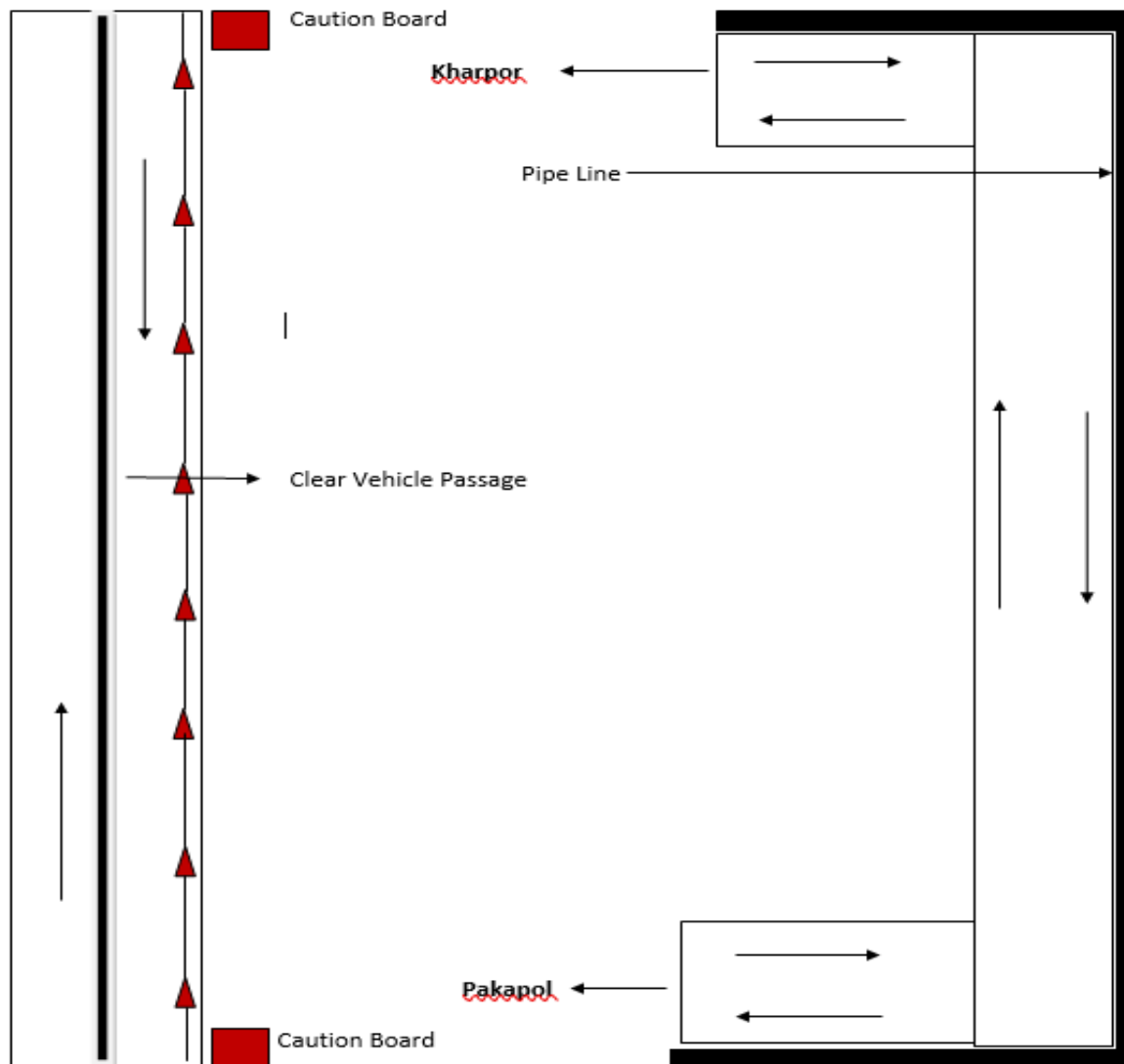
- The working area has been restricted from unauthorized entry.
- The working space has been defined.

Particular attention has been taken in working area:

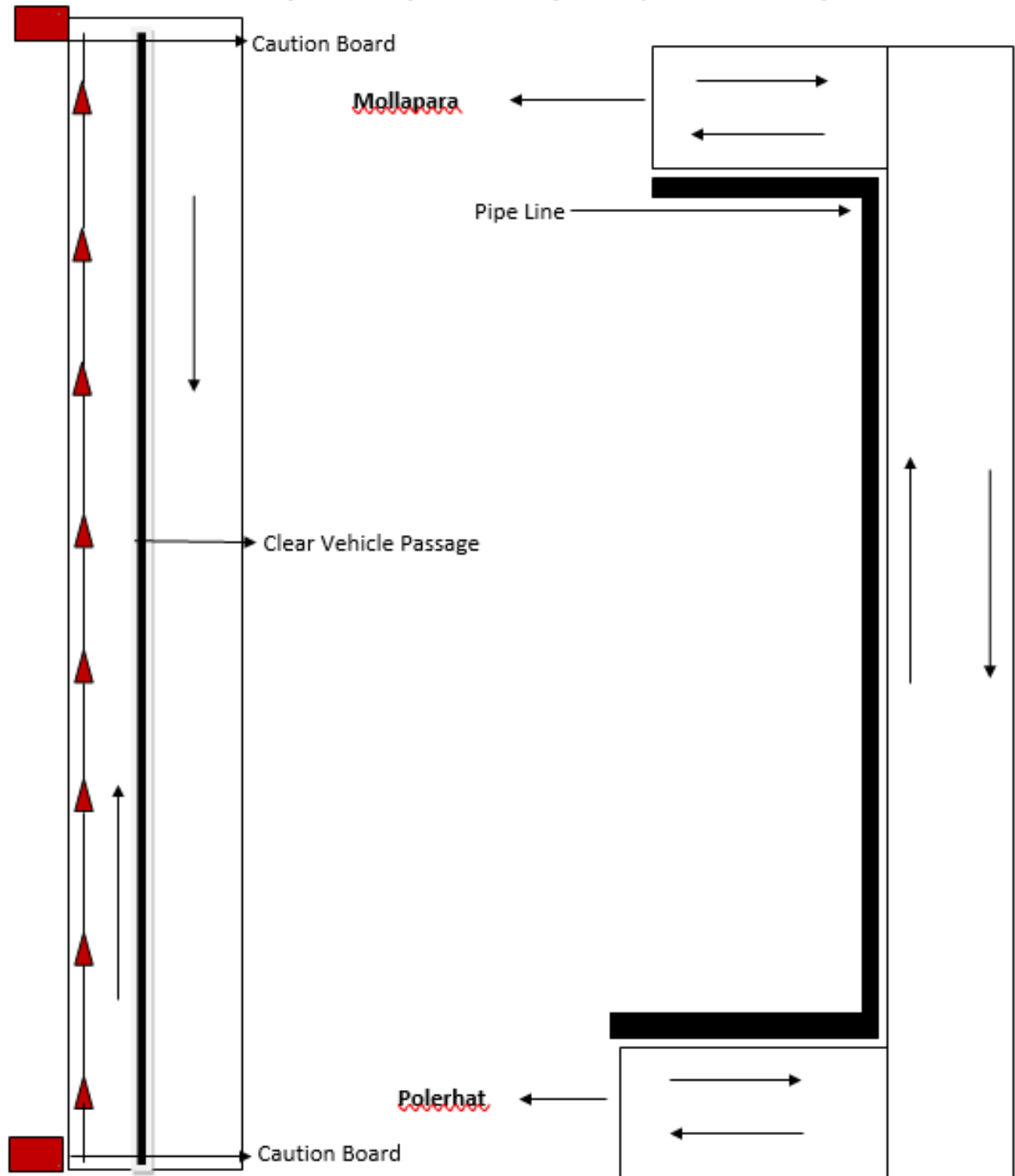
- Traffic signs
- Cones
- Barriers
- Information boards, and

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

Swastyan Gachhi (Gram Panchayat Road, Node: J1-J150)



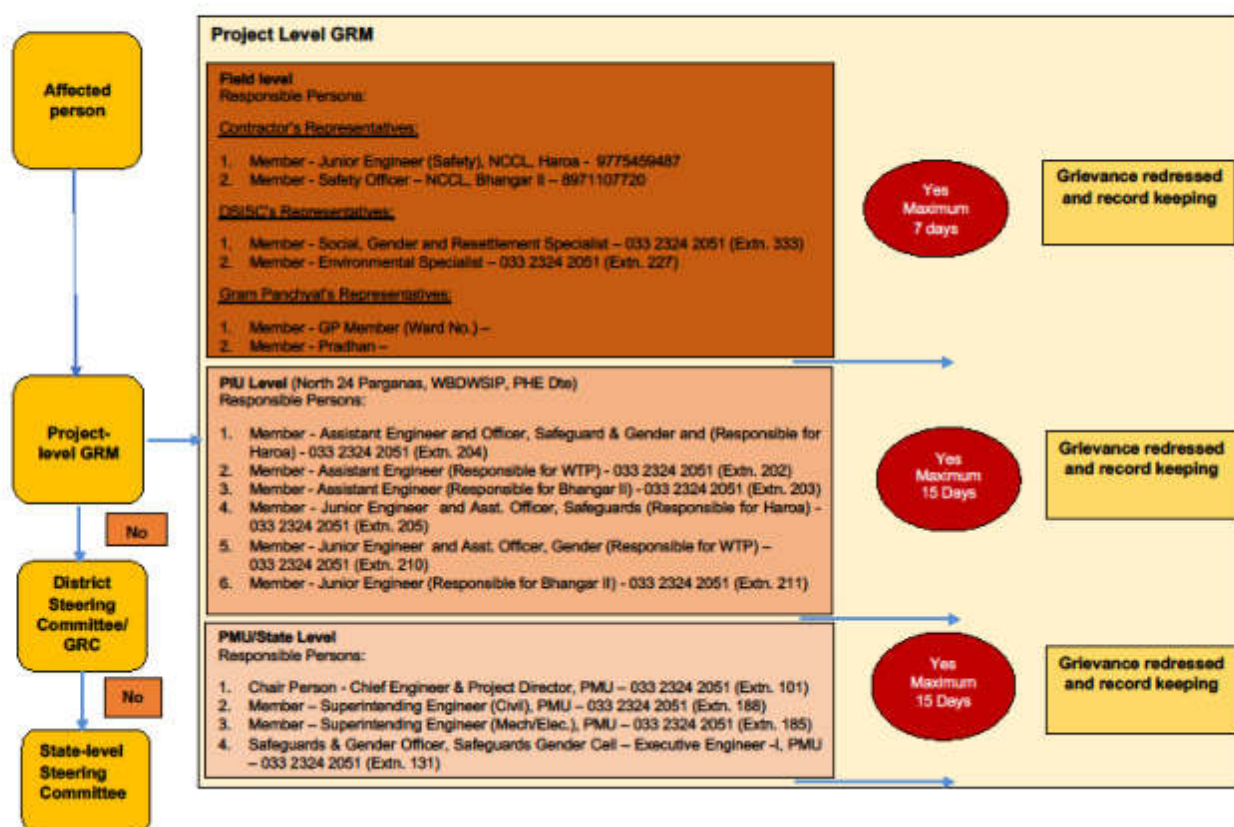
Swastyan Gachhi (Gram Panchayat Road, Node: J150-J280)



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

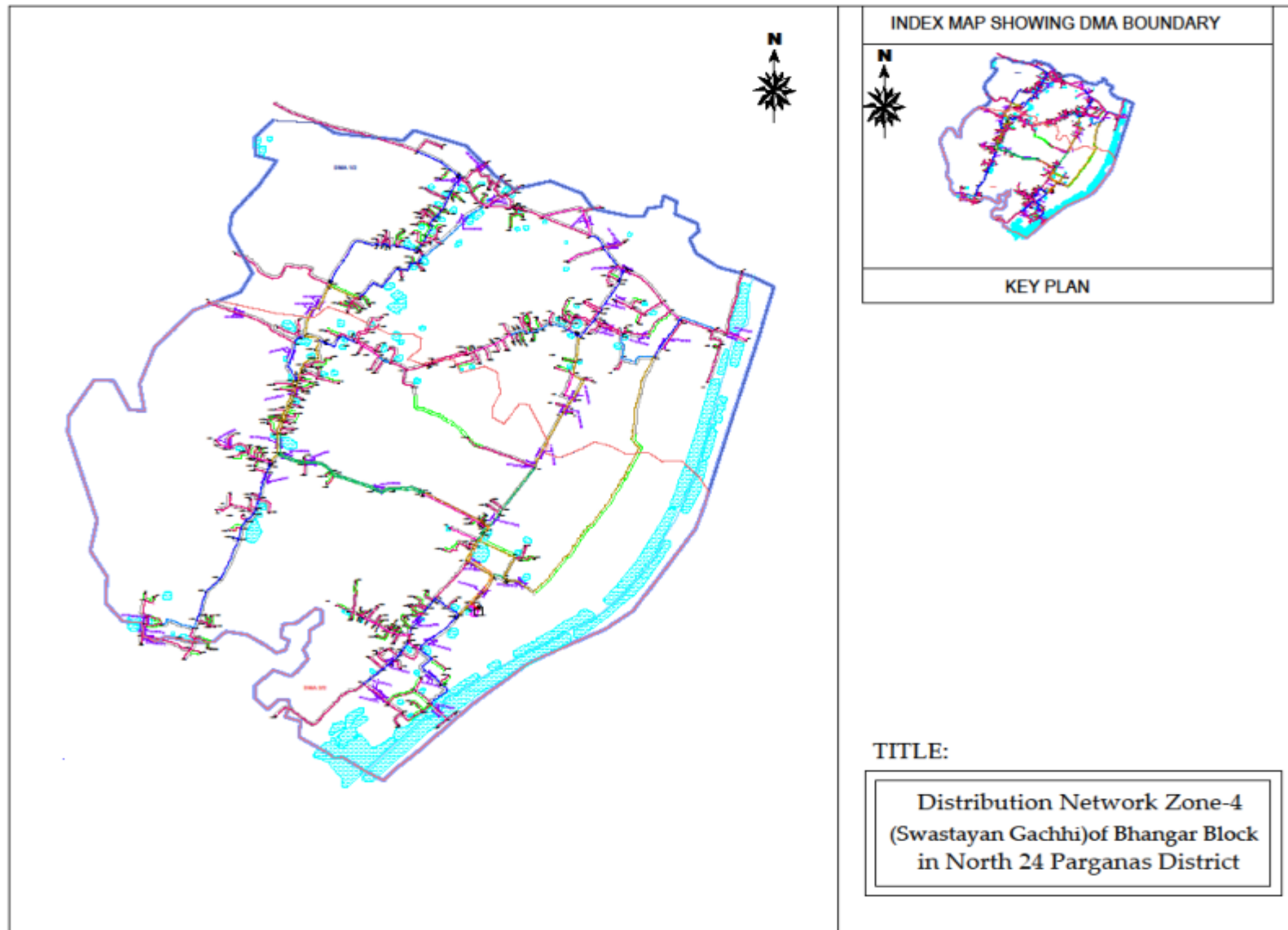


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.


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.

Appendix P1: Map of Distribution Network



Appendix P.A: Gram Panchayat and other Authorities Permission


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 District Engineer,
 South 24 Parganas Zilla Parishad,
 Alipur, South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II 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 17.06.2019 in Poterhar-I 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,
 N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
 Dated, New Town, the, _____

Memo No. _____ /N-24 PGSD-II,
 Copy forwarded for information to :-

- 1) The Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The Executive Engineer, WBSRDA, South 24 Parganas Unit.

sd/-
 Executive Engineer,
 N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
 Dated, New Town, the, 13-06-19

Memo No. 987/33 /N-24 PGSD-II,
 Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer-II, North 24 Pgs. W/S Divn.-II, PHE Dte.
- ✓ 3) The Team Leader, DSISC:North 24 Parganas, WBDWSIP.

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

DSISC / WBDWSIP

Inward No. 1022

RECEIVED

Date 14/06/19

Time - 12:53 PM

File
 14/6/19



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 Executive Engineer,
WBSRDA,
South 24 Parganas Unit.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II 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 17.06.2019 in **Polerhar-I 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.

Encl. : As stated.

Yours faithfully,

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

Dated, New Town, the, _____

Memo No. _____/N-24 PGSD-II,

Copy forwarded for information to :-

- 1) The Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

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

Dated, New Town, the, 13-06-19

Memo No. 988/13-3/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-II, North 24 Pgs. W/S Divn.-II, PHE Dte.
- ✓ 3) The Team Leader, DSISC, North 24 Parganas, WBDWSIP.

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

DSISC / WBDWSIP	
Invo No. <u>1023</u>	
RECEIVED	
Date <u>16/06/19</u>	Signature <u>[Signature]</u>

C:\Users\ADMIN\Documents\11478101.doc

File
11478101



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 B.D.O. & Executive Officer,
 Bhangar-II Development Block & Bhangar-II Panchayet Samiti,
 South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhangar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 17.06.2019 in **Polehat-I 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.

Yours faithfully,

sd/-
 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/N-24 PGSD-II,

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Bhangar-II Panchayet Samity.
- 2) The Pradhan, Polehat-I, Gram Panchayet.
- 3) The Officer in Charge, Kashipur Police Station.

sd/-
 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 989/9-1/N-24 PGSD-II,

Dated, New Town, the, 13-06-19


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 Partha Chakraborty, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP

File
16/06/19

Received No. <u>1024</u> Date <u>16/06/19</u> Signature

sd/- 13/6/19
 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.


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
 1) The Station Manager,
 WBSEDCL, Bhangar, South 24 Parganas.
 2) The Sub Divisional Engineer,
 BSNL, Canning Sub Division, Canning Telephone Exchange,
 South 24 Parganas.


Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,


This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October*2018 in Bhangar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 17.06.2019 in **Polerhat-I 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.

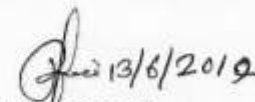
Encl. : As stated.

Yours faithfully,

 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/N-24 PGSD-II, Dated, New Town, the, _____
 Copy forwarded for information to :-
 1) The Savapati, Bhangar-II Panchayet Samity.
 2) The Executive Officer, Bhangar-II Panchayet Samity.


 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.
 Dated, New Town, the, 13/06/2019

Memo No. 990-991 (2-4) /N-24 PGSD-II,
 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 Partha Chakraborty, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHE Dte.
 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.


 Assistant Engineer-II
 N-24 Pgs. W/S Divn.-II, PHE Dte.

Inward No. 1025
 RECEIVED
 Date 19/06/19

File
 14/06

E:\Gostia\ADB Proj\adimg\74-Letter for AE-2.doc



GOVERNMENT OF WEST BENGAL

OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR

South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruipur, Kolkata-700144

FORM VI

[See Rule 25(1)]

License No. : BRP04/CLL/000191

Date : 27th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-

Signature & Seal

Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009474-008133-26939-2019

1.Date of Renewal

21st Nov, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

26th Dec, 2020

**SHREEJITA
SAHA**

Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'

Signature & Seal

Licensing Officer

Labour Licence
DWS Bhogani
Ref: 26/12/19




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandanani Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiipur, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown - 700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Digitally signed by Tapas Kumar Sinha Roy
Date: 2018.12.27 15:32:23 +05'30'
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiipur, South 24 Parganas
[BRP04/CLL/000092]

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
W Site - Utility Building, Tank No- J, 2nd Floor, Action Area-IA, New Town, Kolkata.
Bhogani-II, Block - Bhangan - II , Baruiipur - 700135, PS - Kashiipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhogani-II, Block- Bhangan - II , Baruiipur
PS - Bhangan , District - South 24 Parganas, Pin Code - 700135

1 of 2



Workmen's Compensation Policy: Policy Schedule			
Policy Serving Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-31A, APOL Buss Opp Country Club, Bagongel, Hyderabad, Telangana, Pincode-500016, Tel No : 940-66038600		
Policy No :	1019-LE129169-FWC	Period of Insurance :	From 06/03/2019 To Midnight of 03/02/2020
Insured :	MCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES/0001521
Address :	BHANGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone (Mobi, Off, Home) :	4027822990/0089239073/4027822990
		Fax No & Email Id :	02236791416 / PADMASA.SURYAKA.JAN@INDIAINSURE.COM
GETIN Number :	19AAACH725CIZM	PGI GETIN Number :	MAABCF0191K1ZA
In continuation of the Policy holder covered 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.			
Policy Insurance Details		Schedule Of Premium (₹)	
Insurer	Where (In %)	Gross Premium	134,504.76
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Quota and Service Tax	24,174.78
		Total Premium	158,679.50
Risk Details			
Nature of Business :	Design and Construction of overhead reservoirs including water supply distribution and masonry works in Bhongar II Block		
Location :	Design and Construction of overhead reservoirs including water supply distribution and masonry works in Bhongar II Block		
Contractor/Sub-Contractor Name :	MCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
10	Highly Skilled workers	6,642,000.00	
10	Skilled workers	6,648,000.00	
10	Semi Skilled Workers	3,490,000.00	
10	Unskilled Workers	4,580,000.00	
Total		21,360,000.00	
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, scope, Exclusion of the Policy, the system of liability covered by the Insured	Yes	
Common Law Fatal Accident		Yes	
Law(s)			
WC Act 1933 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 its failure to comply with the requirements laid down under WC Act 1933			
II. Occupational diseases of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination 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			
Detention/Torture: India			
Excluding War Risk, Striking, Tunnelling and Handling of Dry Ice			
Excluding loss arising out of installation and erection of fire wiring.			
Wherever the safety practices are followed by the workers 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 dishonour of cheque for any reason however 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 :	23605278		
Date of Issue :	07/02/2019	(Authorized Signatory)	
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 67.13 paid by Letter Of Authorisation No. CSDN/18/2018/0179154, dated 16/08/2018, Madras - 2017/C.R.95/h-1, dated 02/05/2018.
Product UIN : IBDANI32PG012V01206708



Future Generali India Insurance Company Limited, Corporate & Regional Office: 6th Floor, Tower - 3, Indira Finance Centre, Bagongel Depot
Bang. Hyderabad Road, Mumbai - 400011, Maharashtra. Call Line: 1800-210-213, 080-100-3333-07877800, Email: fgi@futuregenerali.in,
Website: www.futuregenerali.in/IDA Reg No. 132, CIN - U68010G012000PLC165387.

Appendix P.D: PUC Certificates

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

Vehicle Register No.: **WB08G1752** WB-01-**D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO ₂ (%)	
HC (ppm)	
SO ₂ (HSU)	44.1%

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

Signature: *[Signature]* Vehicle Pass: **WB-01: 151/AETC/2018**

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

Transport Department

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010925

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

PUC No.: **FWB0001000006** Vehicle Reg No.: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9830728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdg: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0820 RPM Max: 1923** Emission Norms.: **BS-IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	HSU %	OTPC
1	0710	2050	01.23	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.38	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
HSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

[Signature]
Authorized Signatory

JNDUS DiesX 2.6.6/0000-0000/4660

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1986)


Vehicle Registrn. 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/m ³)	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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572

Year Of Registration= 2011

vehicle registration no = PB02BL7373

Spedometer Reading[kms] =21522

Engine Number=9218

chasis Number=G2011

Vehicle Colour = YELLOW

Vehicle Make : JCB

Vehicle Model : 3DX

Type Of Engine : OTHERS

Type OF Vehicle: OTHERS

Liscence No: 32/D

Date : 16-08-2019

TIME= 02:47:14

Owner= N C C CO

Driver= SELF

Test Fee : Rs.100/-

Fule : Diesel

Smk cell Temp : 00

Oil Temo : 93.0

Valid Up To : 15-02-2020

Grade : 

Test Reasult : Free Acceleration

Validity 6Months

	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	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and Hsu% value conforms to the standerds

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

Vehicle Registrn. No. **WB-30P-5178** **WB-01-D 4448893**

Date of issue: **26-Jun-2019** Valid upto: **25-Dec-2019**

Pollution Level

CO (%)	2.527
HC (ppm)	1490
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **26/06/19**

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

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHAUSADY, HARDA, 24PGS(N)

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

PUC Number: P000000001437 Vehicle Type: 2 Wheeler

Name: NCC LTD Reg. No.: WB-30P-5178

Address: Reg. Date: Nov-2013

Manufacturer: Bajaj

Model: Discover

Test Date/Time: 26-Jun-2019 10:16 Engine Type: 4 Stroke

Catalyst: No Odometer Rdn: 0

Engine Number: 05086

Chassis Number: 75215

Fuel	Petrol			
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	2.527		
HC* (ppm)	4500	1490		
CO2 (%)		2.53		
O2 (%)		14.9		
NOx (ppm)		0		
RPM:		0		
OT (°C)		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		7.495		

Test Result: **PASS**

Grade: ☐

Valid Upto: **25-Dec-2019**

Test Fee: **Rs. 80**

* Read as RHC for LPG and HHC for CNG

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

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:
--------------	----------	----------------	--------------	------------

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:	

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 ?			

গুরুত্বপূর্ণ 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-

LINKS TO SEMPs

[SEMP PkgNP02B Bhangar II - Zone 13 - combined](#)
[SEMP Pkg.NP 02B Bhangar II - Zone 14 - Pipeline](#)
[SEMP Pkg NP02B Bhangar II - Zone 12 - combined Final](#)
[SEMP Pkg NP02B Bhangar II - Zone 4 - combined](#)
[SEMP Pkg NP 02B Bhangar II Zone 10 – combined](#)
[SEMP for Bhangar II - Zone 1 – Pipeline](#)
[SEMP Pkg NP02B Bhangar II Zone 9 Pipelaying](#)
[SEMP Pkg NP0B Bhangar II - Zone 16 - Pipeline](#)

Site-Specific Environmental Management Plan

Project number: 49107-006
October 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block (Zone 16: OHR - Jawapur)

Package No: N24P/02B

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 Bhargar-II Block


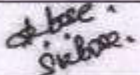


Site Specific Environmental
Management Plan

Doc. No. NCC/SEMP/01
Last Revision No. 00
Last Revision Date : 00
Page 1 of 7
Original Issue Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-16, PIPE LAYING (Jawapur)

0	22.10.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSIS	APPROVED BY PIU

Environmental Specialist, DSIS
North 24 Parganas
WBDWSI Project

Assistant Engineer - II
PIU, N-24Pgs, WBDWSIP, PHE DU
Govt. Of West Bengal

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 2 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No.	Package No : N24P/02B ; Zone 16-OHR (Jawapur) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block . SEMP is as per requirement of the Draft IEE covering package no. N24P/02B
Contractor	NCC Ltd.
Date of Contract Award	19/09/2018
Date of works commencement	22/10/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Laying of 43825m of pipeline as detailed below.
Demolition Activity	No demolition activity involved
Project Area	Chaltaberia Gram Panchayat of Bhargar II block
Project Description	Individual household water supply schemes for the project Gram Panchayats
Household Connection	4031 (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): Chaltaberia

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 - B16	-	20790	5237	661	7124	5927	4037	71	-	32	43825

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	
Details of contractors on-site-personnel and workers		Zone-16 (pipeline) Jawapur village, Chaltaberia Gram Panchayat of Bhangar II block
Project Manager		Mr. Durga Prasad; 9836803672
DPM/Site Engineer		Mr. Ansari ; 7417526845
Site Supervisor		Mr. Ramveer Yadav; 7017978072
EHS Supervisor		Mr. Nitin Sartape; 8971107720
Archeological supervisor		NA
Skilled / semi-skilled workers		2 Skilled and 0 Semi-skilled
Unskilled workers		14
Women workers		Nil
Workers – local / migrant		Local-Nil / Migrant-16 (from neighboring districts of West Bengal)
Details of facilities		
Construction camps, (no's and locations)		One labor accommodation at Jawapur near the market on a rented structure [Refer Attachment P2 for details]

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 4 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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.	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	<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

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 5 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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.	<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 pipelaying 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

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 6 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package. 	Contractor	PIU through DSISC observation at site	Project cost
Drainage and hydrology	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 	<ul style="list-style-type: none"> We have ensured run-off through the site to a local drain does not 	Contractor	PIU through	Project cost

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 7 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	projects there is unlikely to be any significant impacts on water resources within the immediate area.	way that rapid and efficient evacuation of runoff is achieved.	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.		DSISC 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 (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II 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	• Minimize noise from	• Consultation made with local	Contractor	PIU through	Project cost

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 8 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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	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"> 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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. 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 	<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

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 9 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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 - 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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 10 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			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 logging etc., • Living quarters and construction 	<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	Project cost

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 11 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		camps shall be provided with 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. • 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

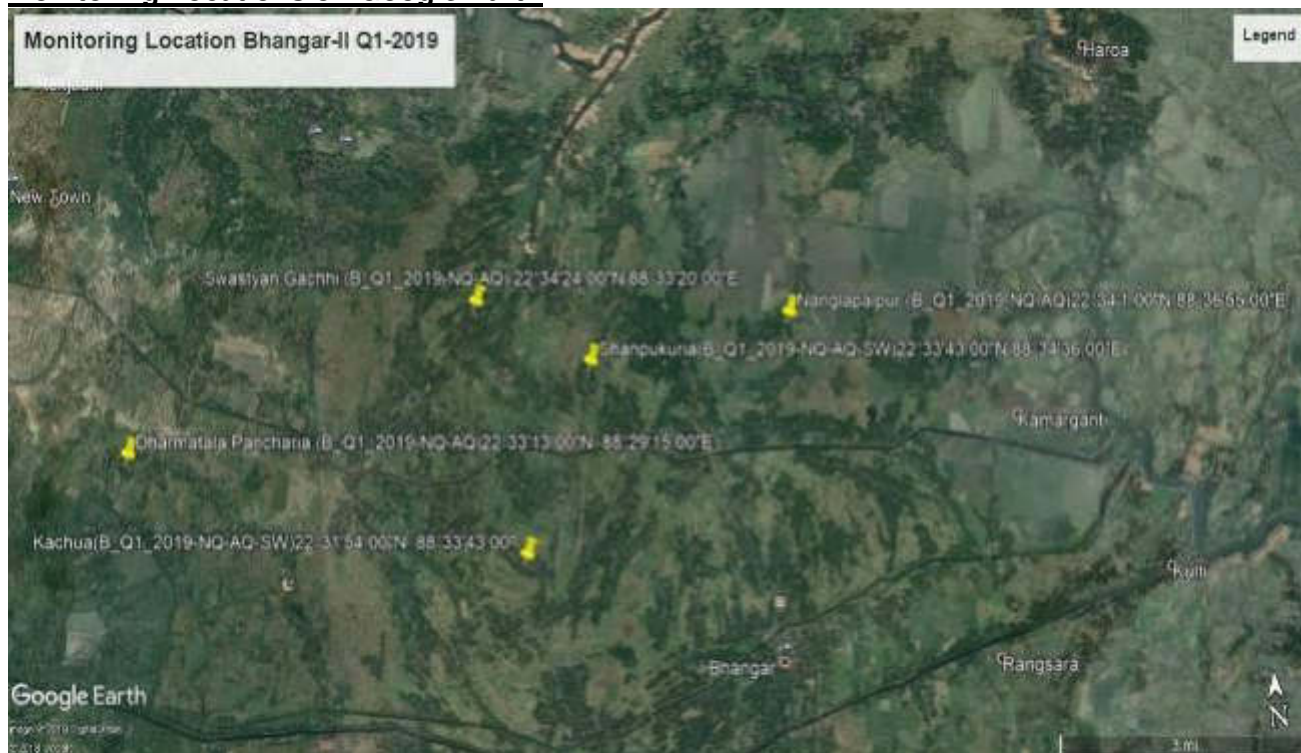
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 12 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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 period considered)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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	-	-

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 13 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Monitoring Locations on Google Earth



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 14 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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/02B_Bhangar II block,


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 15 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 16: Pipeline construction Site																																																																																																	
Location- Jawapur																																																																																																	
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. 																																																																																																
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> <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> <tr> <td colspan="7">DI Pipes (6,914 m)</td></tr> <tr> <td>400 mm</td><td>28</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>8</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>7</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>448</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 (76,923m)</td></tr> <tr> <td>200 mm</td><td>5460</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>3509</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>4336</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>4115</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>7432</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>28188</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> </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 (6,914 m)							400 mm	28	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen	Manual/Mech	350 mm	8	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech	300 mm	7	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech	250 mm	448	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech	Distribution Network— HDPE Pipes (76,923m)							200 mm	5460	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech	140 mm	3509	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech	110 mm	4336	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech	90 mm	4115	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech	75 mm	7432	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech	63 mm	28188	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech
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 (6,914 m)																																																																																																	
400 mm	28	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
350 mm	8	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
300 mm	7	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
250 mm	448	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
Distribution Network— HDPE Pipes (76,923m)																																																																																																	
200 mm	5460	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
140 mm	3509	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
110 mm	4336	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
90 mm	4115	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
75 mm	7432	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											
63 mm	28188	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech																																																																																											

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 16 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 16
Location- Jawapur	
A	<p>Accommodation – For 16 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 16 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	 <p>Accuracy: 1.383 Time: 2019-10-31 10:25:43 Longitude: 88.6059233 Latitude: 22.5162733 Weather: null Temperature: -273.15°C</p>
	Labour accommodation at a rented house

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 17 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 18 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 Work area (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- 16 nos. • Gloves-3 no. • Helmet-17 nos. • Safety jacket- 18 nos. • Goggles- 2 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
	DPM /Site Engineer	Mr. Ansari Mob:7417526845
	EHS Supervisor	Mr. Nitin Sartape; Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
		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

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 19 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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	16716.3	From trench cutting	Not required

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 20 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
SPOIL MANAGEMENT PLAN (SMP)		
WBDWSIP BHANGAR-II BLOCK		
LOCATION – ZONE-16, PIPE LAYING (JAWAPUR)		
0	22.10.2019	
REV	DATE	PREPARED BY
		
		CHECKED BY
		
		APPROVED BY DSISC
		
		APPROVED BY PIU

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

Environmental Specialist, DS
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 21 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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

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 22 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

and backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 16716.3 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 generated at JAWAPUR (Zone 16) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	28060	0.3	1	8418
2	75	7586	0.3	1	2275.8
3	90	4109	0.3	1	1232.7
4	110	4335	0.3	1	1300.5
5	140	3508	0.3	1	1052.4
6	200	1727	0.4	1	690.8
7	200	3734	0.4	1	1493.6
8	250	447	0.5		223.5
9	300	7	0.6	1	4.2
10	350	8	0.6	1	5.2
11	400	28	0.7	1	19.6
12	Approx. generated total Spoil at ZONE-16				16716.3

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 23 of 42 Original Issue Date :





Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-16, PIPE LAYING (JAWAPUR)

0	22.10.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24 Pgs., WBDWSIP, PHE Dte
Govt. Of West Bengal

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 24 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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.

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.

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 25 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

- 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

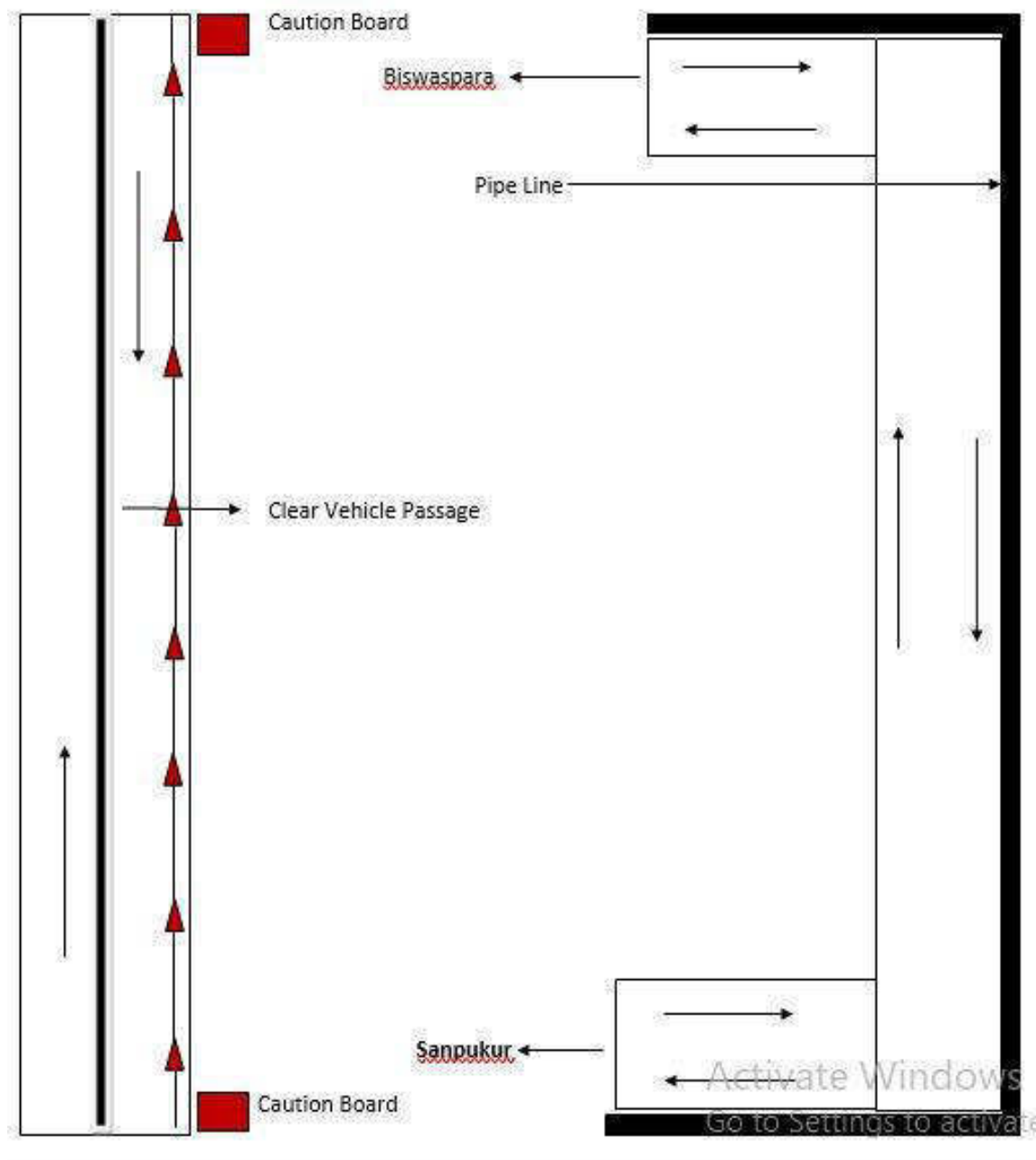
- The working area has been restricted from unauthorized entry.
- The working space has been defined.

Particular attention has been taken in working area:

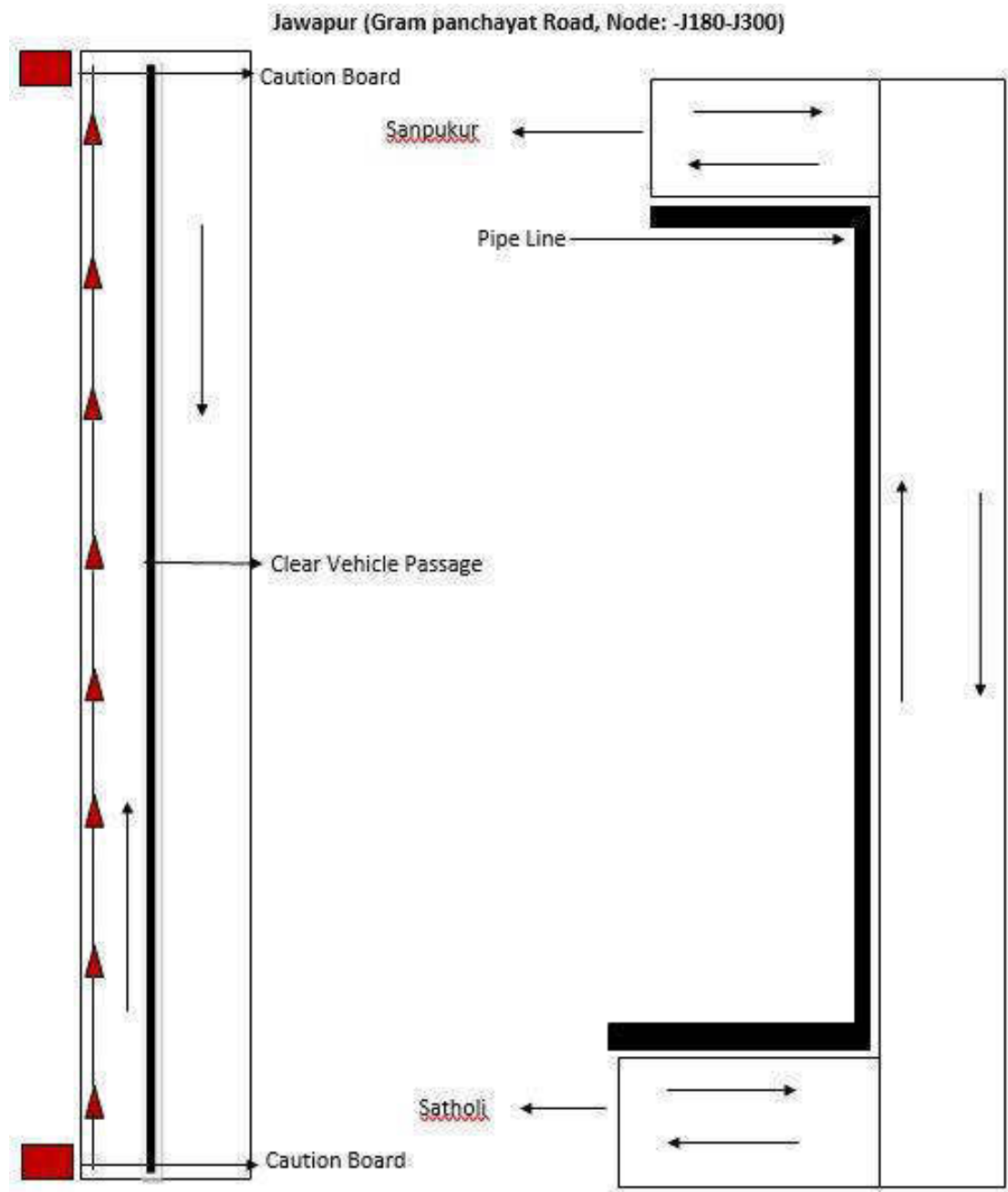
- Traffic signs
- Cones
- Barriers
- Information boards, and
- Site lighting
- Adequate lighting has been provided at working area at night.
- All persons wear high visibility jackets.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 26 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

Jawapur (Gram panchayat Road, Node: J82-J180)



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 27 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

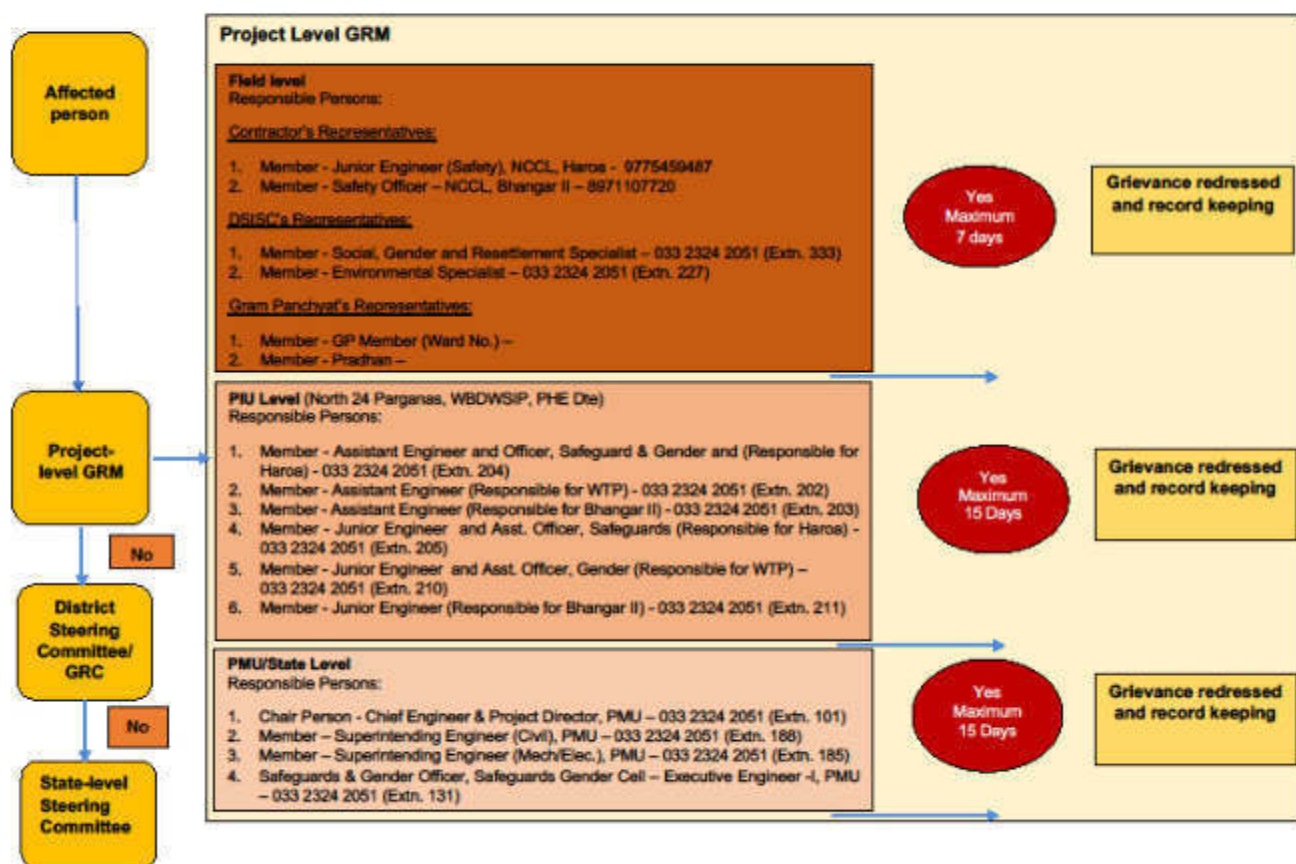


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 28 of 42 Original Issue Date :

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



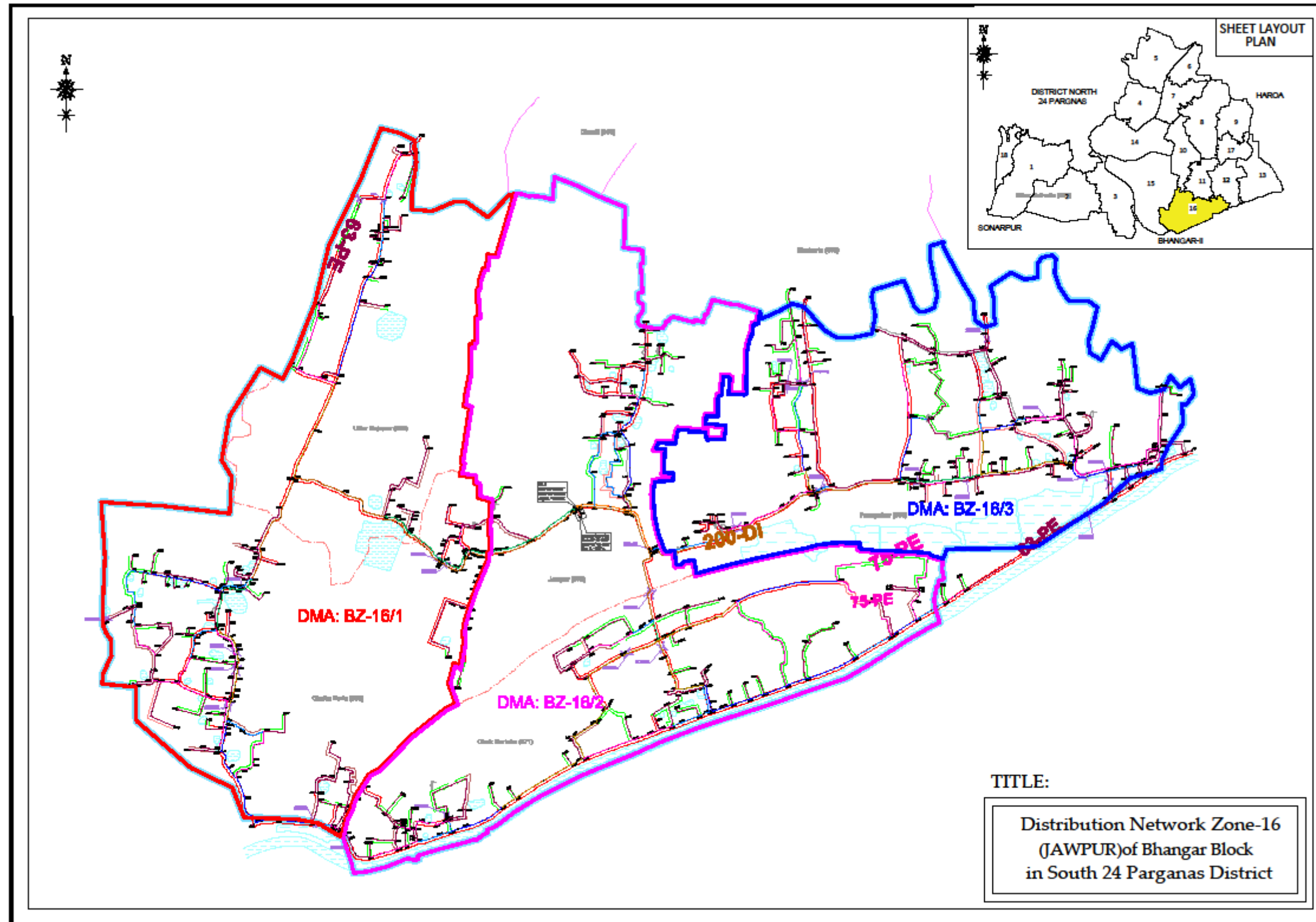
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

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.


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 29 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 30 of 42 Original Issue Date :

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,
WBSRIA,
South 24 Parganas Unit.

Suh. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-16) Jawpur.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II 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 03.10.2019 in Sanpakur 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 Subdivisional Officer, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

Sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 01/10/2019

Memo No. 816/(3-3)/EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Assistant Engineer-II, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSIS-North 24 Parganas, WBDWSIP.
- 4) The Project Manager, NCC Ltd., Bhangar-II Block, WBDWSIP.

[Signature]
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

File
Alm
10/10/19

Date 1/10/19
Time - 3:15 P.M.

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 42 Original Issue Date :



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

- 1) The Station Manager,
WSEDCL, Bhargar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
BSNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

**Sub. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block (Zone-16) Jampur.**

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 03.10.2019 in **Sanpakur 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.

Yours faithfully,

sd/-
 Assistant Engineer-II
 PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Savapali, Bhargar-II Panchayet Samity.
- 2) The Executive Officer, Bhargar-II Panchayet Samity.

sd/-
 Assistant Engineer-II
 PIU, N-24 Pgs., WBDWSIP, PHE Dte.
 Dated, New Town, the, 01/10/2019

Memo No. 818-879 /EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Samrat Banerjee, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP
- 5) The Project Manager, NCC Ltd., Bhargar-II Project

sd/-
 Assistant Engineer-II
 PIU, N-24 Pgs., WBDWSIP, PHE Dte.


File
01/10

Date 1/10/19

Signature

Time - 2:18 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 32 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	


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.piu24p.adb@wbphed.gov.in

Memo No. _____ /EE(C)PIUN24P, Dated, New Town, the, _____

To
The B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayat Samit',
South 24 Parganas.

Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-16) Jawpur.


Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 03.10.2019 in Nanpukur 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.


Yours faithfully,


Assistant Engineer-II
PIU, N 24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____ /EE(C)PIUN24P, Dated, New Town, the, _____

Copy forwarded for information to :-


- 1) The Savanati, Bhargar-II Panchayat Samiti.
- 2) The Pradhan, Nanpukur Gram Panchayat.
- 3) The Officer in Charge, Keshipur Police Station.


Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 890/3-7 /EE(C)PIUN24P, Dated, New Town, the, 01/10/2019

Copy forwarded for information to :-


- 1) The Superintending Engineer, PIU., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU., N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Samrat Ranerjee, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSIS- North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NOQ Ltd., Bhargar-II Project.


Assistant Engineer-II
PIU., N-24 Pgs., WBDWSIP, PHE Dte.

Date 11/10/19 Time 3:13 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 33 of 42 Original Issue Date :

Appendix P.B: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandaran Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibbanipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL
[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

**SHREEJITA
SAHA**
Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'
Signature & Seal
Licensing Officer

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 34 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

*Kaboo Licence
DWS Bhargar-II
effective 26/12/19*





GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandaram Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibbanipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Digitally signed by Tapas Kumar Sinha Roy
Date: 2018.12.27 15:32:33 +05'30'
Licensing Officer
Under the Contract Labour(R&A) Act, 1970

Assistant Labour Commissioner
Baruiপুর, South 24 Parganas
(BRP04/CLL/000092)

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dto. (BRP04/CLL/000092)
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-4A, New Town, Kolkata.
Bhargar-II, Block - Bhargar - II , Baruiপুর - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhargar-II, Block- Bhargar - II , Baruiপুর
PS - Bhargar, District - South 24 Parganas, Pin Code - 700135

1 of 2

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 35 of 42 Original Issue Date :

Appendix P.C: Workman Compensation

FUTURE GENERALI
TOTAL INSURANCE SOLUTIONS

Workman'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	2019-16129169-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/0001521
Address	BHARGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone (Able, CH, Hous)	4027822990/00892580738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURJAYAKAIAH@INDIAINSURE.COM
GSTIN Number	19AAACN7235CTZM	PGI GSTIN Number	26AAACF499KJZA

In consideration of the Policy holder insured 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 representation therein, the Insurer agrees to provide insurance against loss/damage liability or expenses in 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 %)	Chosen 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 included log water supply distribution and metering works in Bhargar II Block
Location : Design and Construction of overhead reservoir included log water supply distribution and metering works in Bhargar II Block
Contract/Job/Operation Name : NCC LTD

No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)
30	Highly Skilled workers	6,642,000.00
50	Skilled workers	6,048,000.00
30	Semi Skilled Workers	2,400,000.00
30	Unskilled Workers	4,380,000.00
	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 & except Exclusions of the Policy, the amount of liability incurred by the Insured	Yes
Common Law and 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

Termination 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
Including Wet Risk, Diving, Trenching and Handling of Explosives
Excluding loss arising out of installation and operation of fire wiring.
Warranted that safety practices are followed by the workers 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 contract is in force or not.

For Future Generali India Insurance Co. Ltd.

Receipt No : Z006378
Date of Issue : 07/02/2019
Place of Issue : Mumbai*
*Address 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.67.35 paid by Letter Of Authorisation No. CSD/152018/179/18, dated 16/08/2018, Mumbai - 2017/C.R.9554-1, dated 09/11/2018.

Policy UIN : 18DAN137P0012V01200708

Future Generali India Insurance Company Limited, Corporate & Registered Office: 4th Floor, Tower - 3, Indira Park, Sanganu Road, Begumpet, Hyderabad, Telangana - 500016, India. Phone: 040-66038600, Fax: 040-66038601, Email: info@futuregeneralindia.com, Website: www.futuregeneralindia.com. CIN: 19AAACN7235CTZM.

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 36 of 42 Original Issue Date :

Appendix P.D: PUC Certificates

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 (%)	5.83
HC (ppm)	32/D

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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

ID Number: WB32D3647572
Year Of Registration: 2011
vehicle registration no = PB02BL7373
Spedometer Reading[kms] = 21522
Engine Number = 9218
chasis Number = G2011
Vehicle Colour = YELLOW
Vehicle Make : JCB
Vehicle Model : 3DX
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date : 16-08-2019
TIME = 02:47:14
Owner = N C C CO
Driver: SELF
Test Fee : Rs.100/-
Fuel : Diesel
Smk cell Temp : 00
Oil Temp : 93.0
Valid Up To : 15-02-2020
Grade: **32/D**

Test Result : Free Acceleration Validity 6 Months

	ideal Rpm	max Rpm	K Value	Hsu val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	8.9	88
3	852	2700	0.12	8.9	88
Avg	860	2900	1.9	55.83	

Seal Of Testing Center

Certified that this vehicle's K-Mean and hsu/N value conforms to the standards prescribed under rule 113(2) of CMV rules 1989, Operator: MD RAMIZ RANA

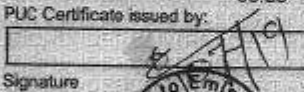
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

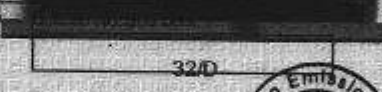
Vehicle Registrn. No. **WB15B2529** WB-01 **D 5678745**

Date of issue: **23-07-2019** Valid upto **22-01-2020**

Pollution Level


CO (%)	
HC (ppm)	
SD (HSU)	66.83

PUC Certificate issued by: 

Signature: 

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	Liscence 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	: 

Test Result : Free Acceleration

	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	

Validity 6 Months



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 38 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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

Vehicle Registrn. No. **WB06J1978** **WB-01-D 5892300**

Date of issue: **03-07-2019** Valid upto: **02-01-2020**

Pollution Level

CO (%)	
HC (ppm)	
SD (HSU)	0.24

PUC Certificate Issued By: **ADHOC MIRA SERVICE STATION**

Signature: **[Signature]**

License No. and Seal: **148/AETC/2018**

COMPUTERISED EMISSION TEST CERTIFICATE
WB-01-D 5892300

Authorised Transport Dept. of West Bengal
M/S ADHOC MIRA SERVICE STATION
AA-111C/1 STREET NO-3333 NEW TOWN, RAJARHAT KOLKA

License Number :- 148/AETC/2018

I.D. Number :- 000497 Date :- 03-07-2019
Year Of Registration :- 2011 Time :- 5:40:06 PM
Vehicle Registration Number :- WB06J1978
Speedometer :-
Engine Number :- 7941
Chassis Number :- 7409
Vehicle Color :- WHITE
Vehicle Make :- mahindra
Vehicle Model :- BALERO
Type Of Engine :- 4S
Type of Vehicle :- 4W
Owner :- K C COM
Driver :-

Contact :- 9831332294
Oil Temperature :- 36
Fuel :- Diesel
Test Fee :- 100
Result :- Pass

Valid Upto :- 02-01-2020

	Ideal RPM	Max RPM	K Value	HSU Value	Oil Temp.
1	890	2370	0.01	0.31	36
2	890	2330	0.00	0.21	36
3	900	2400	0.00	0.21	36
Avg	893.00	2366.00	0.01	0.24	

Name of Authorise Signatory
with Seal of Testing Center

ADHOC MIRA SERVICE STATION
KOL-156
New Town

POLLUTION EMISSION CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicle Rules, 1988)

Vehicle Registr. No. **JH 01N 7488** WB-01 **D 5972591**

Date of issue: **06/11/2019** Valid upto **05/05/2020**

Pollution Level
CO (%) **0.000**
HC (ppm) **0.000**
SD (HSU) **0.000**

PUC Certificate issued By: **[Signature]** License No. and Seal: **32/P**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal

AKBAR AUTO EMISSION TESTING CENTRE WB-01 **D 5972591**
ASANTI HIGHWAY, GHATAKPUKUR, PO:PS-BHANGAR, 24 PGS(S), PIN-743502

U/C No:- 009480 Licence No:- 32/P
Vehicle No:- JH 01N 7488 Test Date:- 06/11/2019
Year Of Reg:- 2000 Test Time:- 9:59:10 AM
Speedo Meter:- 2221 Fuel:- Petrol
Vehicle Make:- HERO, HONDA Test Fee:- 80
Vehicle Model:- CD-DELUX Vehicle Type:- 2W
Engine Number:- 09368 Engine Type:- 4S
Chassis Number:- 03818 Result:- Pass
Vehicle Color:- BLACK Valid Upto:- 05/05/2020
Compliant:- Non BS
Contact:- 7995958341
Owner:- N. C. C. LTD

IDLE EMISSION

	Regulation	Actual	
Ideal CO:-	3.5	0.000	%VOL
CO corrected:-	3.5	0.000	%VOL
Idle HC:-	4500	0	PPM
CO2:-		0.00	%VOL
O2:-		27.58	%VOL
NOx:-		0	%VOL
Lambda:-		0.000	
PEF:-		0.544	
RPM:-		00000	
AFR:-		00000	
Oil Temp:-		00000	°C

HIGH IDLE EMISSION

CO:-	0.2		%VOL
CO2:-			%VOL
O2:-			%VOL
Lambda:-			
RPM:-			

Name of Authorise Signatory
with Seal of Testing Center

AKBAR AUTO EMISSION TESTING CENTRE

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 40 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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 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?					

6. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 42 of 42 Original Issue Date :
	Site Specific Environmental Management Plan	

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 -

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 Bhangar-II Block (Zone 9 - Pipe Laying Naglapalpur)

Package No: N24P/02B

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 Bhargar-II Block

Site Specific Environmental
Management Plan

Doc. No. NCC/SEMP/01

Last Revision No. 00

Last Revision Date : 00

Page 1 of 7

Original Issue Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-9, PIPE LAYING (Nangla Palpur)

0	25.09.2019		 (Subse)	 2019/09	
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIC

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

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

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 2 of 45 Original Issue Date :

Package No					Package No: N24P/02B; Zone 9 - Pipe Laying (Naglapalpur) under PIU North 24 Parganas						
Package title					Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II 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 particular works commencement					28/09/2019						
Contract period					Construction: 3 Years ; O&M: 2 Years						
SEMP Component					Laying of 17608 m of pipeline as detailed below.						
Demolition Work					No demolition activity involved						
Project Area					Bhogali I Gram Panchayat of Bhargar-II Block						
Project Description					Individual household water supply schemes for the project Gram Panchayats						
Household Connection					1524 (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): Bhogali 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 – B9	11153	1571	1618	924	1045	1245	52				17608
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-9 (Pipeline works) Bhogali I GP of Bhangar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Abhijit Ghosh; 8170011648
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	3 Skilled and 2 Semi-skilled
Unskilled workers	14
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-19 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Labour accommodation at rented house at Satberia, Bhogali I [Refer P2 for details].

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 4 of 45 Original Issue Date :

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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 respectively.</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.	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. On a monthly basis documentation on material 	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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 5 of 45 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	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, clearance s, no objection certificate s (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 pipelaying 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

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 6 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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 	Contractor	PIU through DSISC observation at site and	Project cost

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 7 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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.		site. • 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 (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria) in the Bhangar II 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	Increase in noise	• Minimize noise from construction	• Consultation made with local	Contractor	PIU through	Project cost

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 8 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Levels	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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. • 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 	Landscape and Aesthetics character, and sense of place	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 9 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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 workers; Moving equipment maintained 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 10 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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., • 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 designated areas; Kitchen wastes collected in a dustbin then it is 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 11 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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"> • 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>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. • 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. 			

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 12 of 45 Original Issue Date :

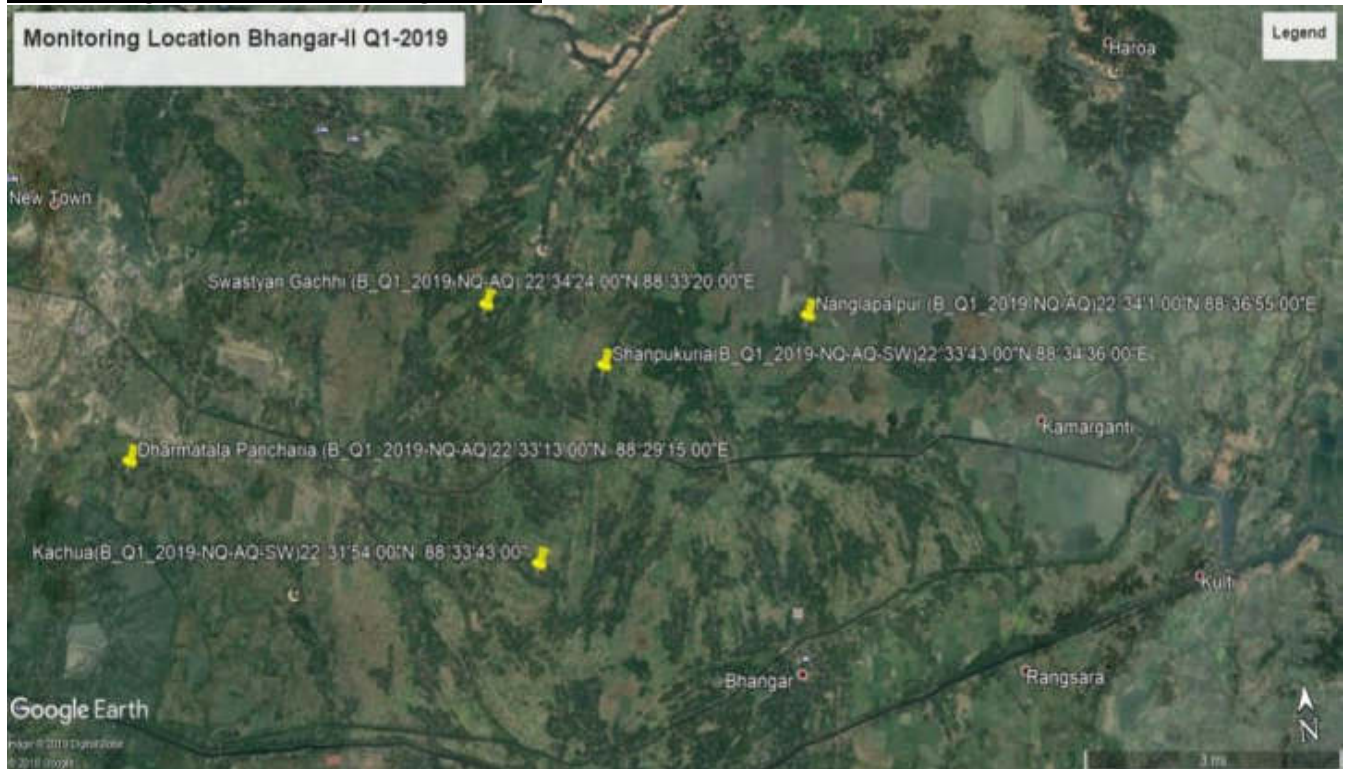
Table 3: Construction Phase Environmental Monitoring Plan for entire package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	(Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria	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 are responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 13 of 45 Original Issue Date :

Monitoring Locations on Google Earth



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 14 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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/02B_Bhangar II block,


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 15 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 9: Pipeline construction Site						
Location- Bhogali						
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 (52m)					
	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	52	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (17556 m)					
	200 mm	1245	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	1045	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	924	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	1618	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	1571	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	11153	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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 16 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 9
Location- Satberia, Bhogali I (Latitude: 22°33'54", Longitude: 88°36'27")	
A	<p>Accommodation – For 19 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 19 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 used as labour accommodation
Photos of camp and facilities provided	
	Rented accommodation for labour

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 17 of 45 Original Issue Date :

	
	Kitchen at labour camp

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 18 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 19 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 20 nos. • Gloves-3 no. • Helmet-20 nos. • Safety jacket- 25 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	Emergency responsibility
	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 20 of 45 Original Issue Date :

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 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 21 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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	5420.2	From trench cutting	Not required

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 22 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
SPOIL MANAGEMENT PLAN (SMP)		
WBDWSIP BHANGAR-II BLOCK		
LOCATION – ZONE-9, PIPE LAYING (Nangla Palpur)		
0	25.09.2019	
REV	DATE	PREPARED BY
		CHECKED BY
		APPROVED BY DS/SE
		APPROVED BY DS/SE

Assistant Engineer
 PIU, N-24 Pgs, WBDWSIP, PHE Ltd.
 Govt. Of West Bengal
 Environmental Specialist, DSJSC
 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 23 of 45 Original Issue Date :

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 (9).

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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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.

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 24 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 5420.2 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 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 generated at Nangla Palpur (Zone-9) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	11152	0.3	1	3345.6
2	75	1569	0.3	1	470.7
3	90	1614	0.3	1	484.2
4	110	925	0.3	1	277.5
5	140	1046	0.3	1	313.8
6	200	1097	0.4	1	438.8
7	200	159	0.4	1	63.6
8	250	52	0.5	1	26
Approx. generated total Spoil at ZONE-9					5420.2

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 25 of 45 Original Issue Date :


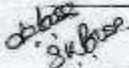


Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 9, PIPE LAYING (Nangla palpur)

0	25.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer PIU
 PIU, N-24 Pgs., WBDWSIP, PHE Dte.
 Govt. of West Bengal

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 26 of 45 Original Issue Date :

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.

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

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 27 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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.

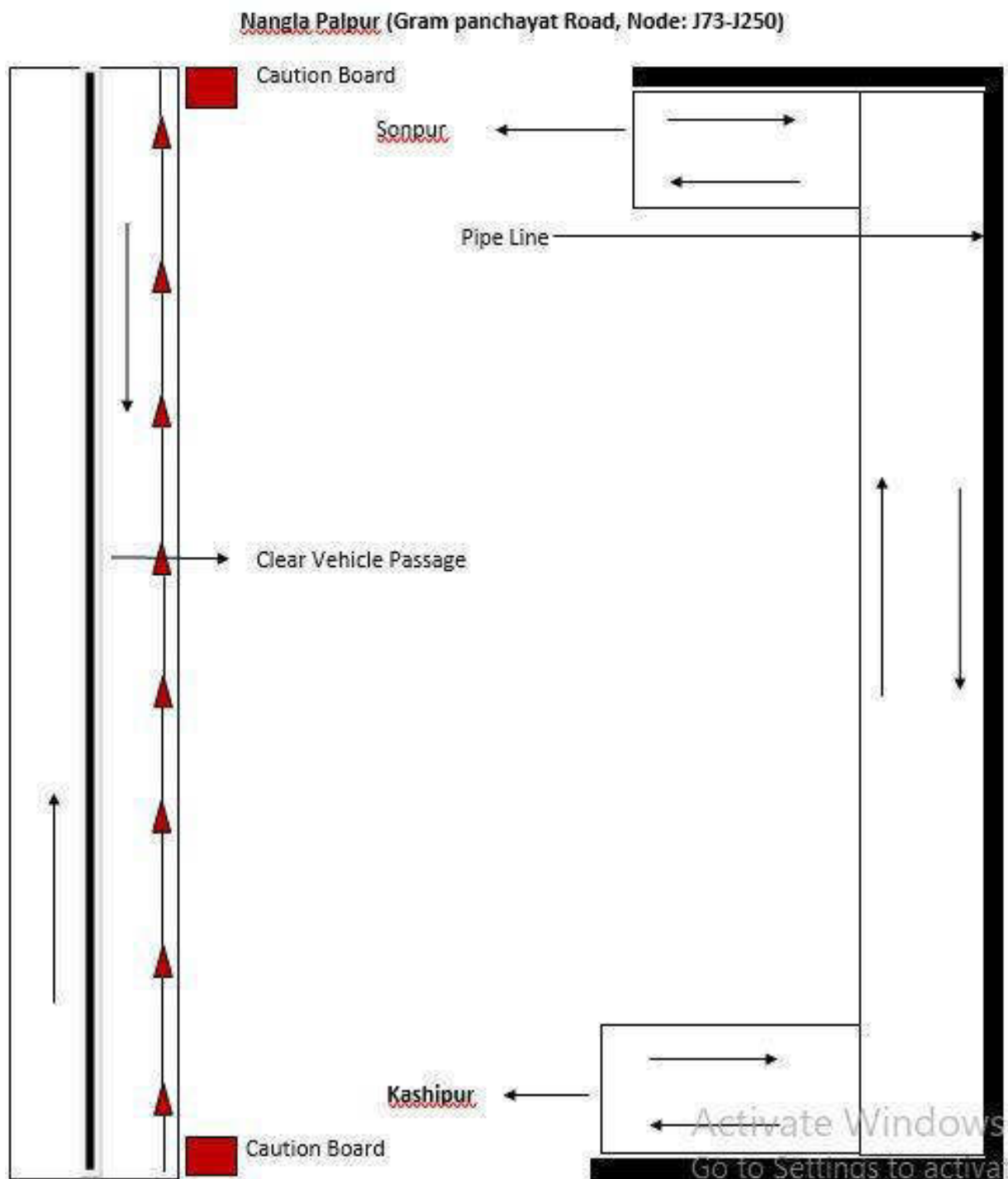
5.7 Loading and Unloading

- 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.

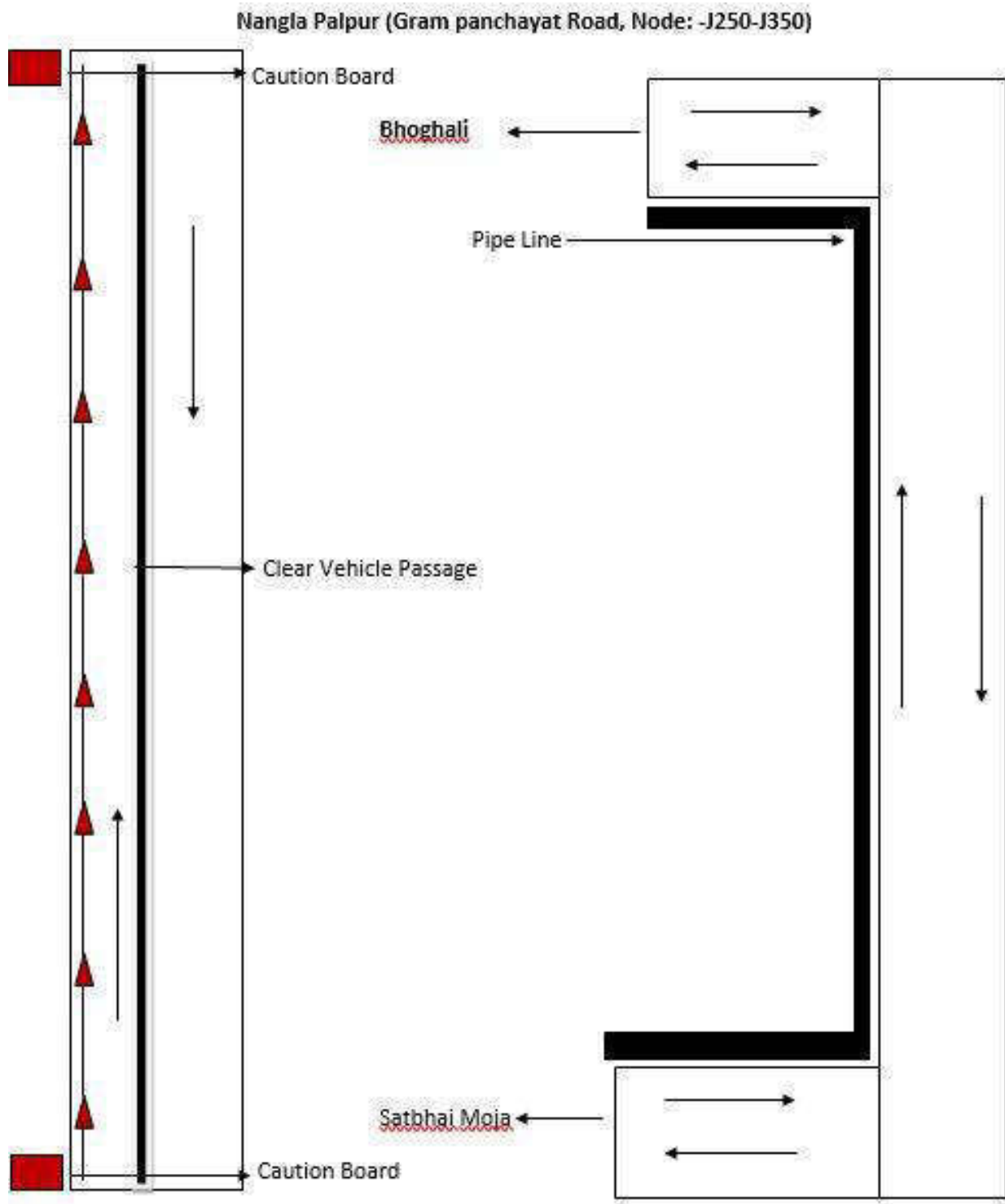
5.8 Working Area

- 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.

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 28 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	



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 29 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

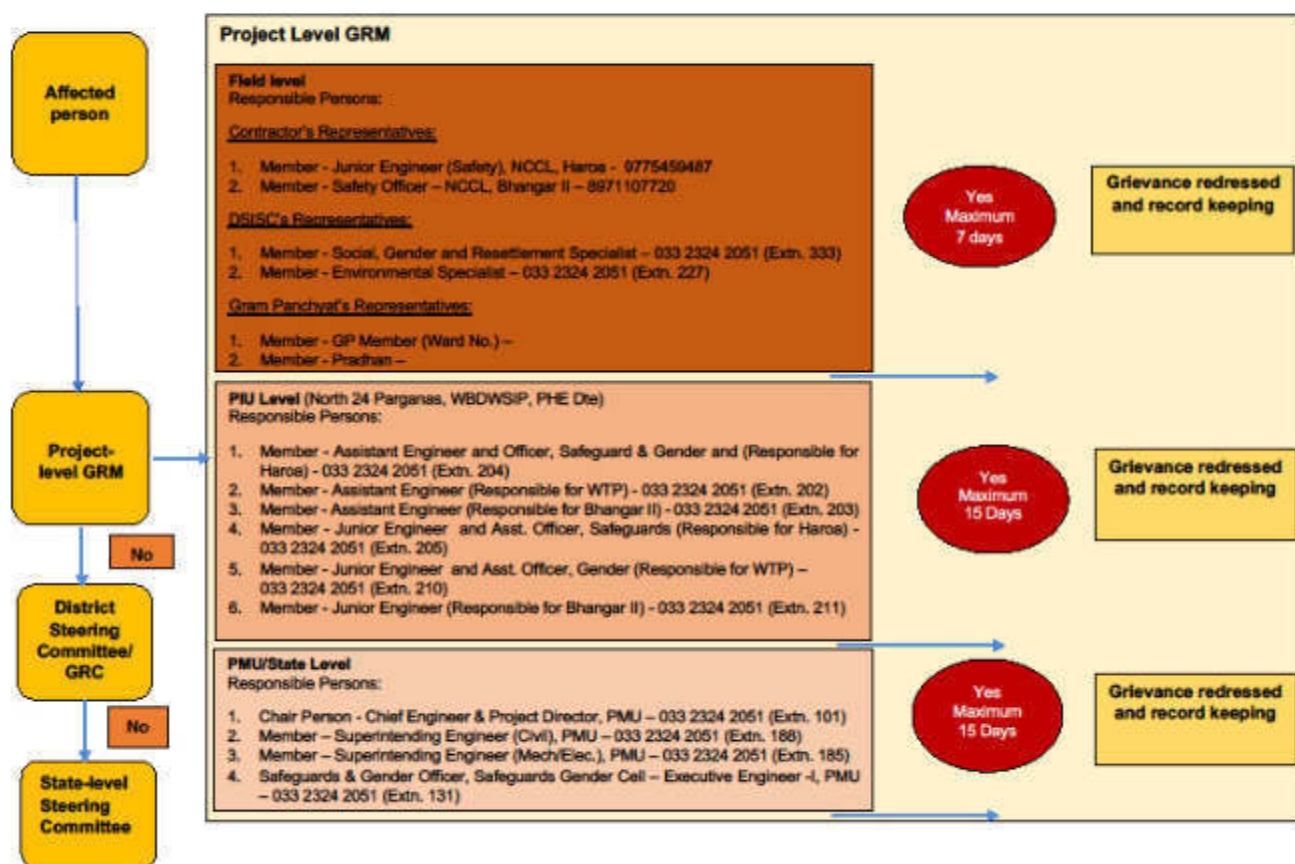


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 30 of 45 Original Issue Date :

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



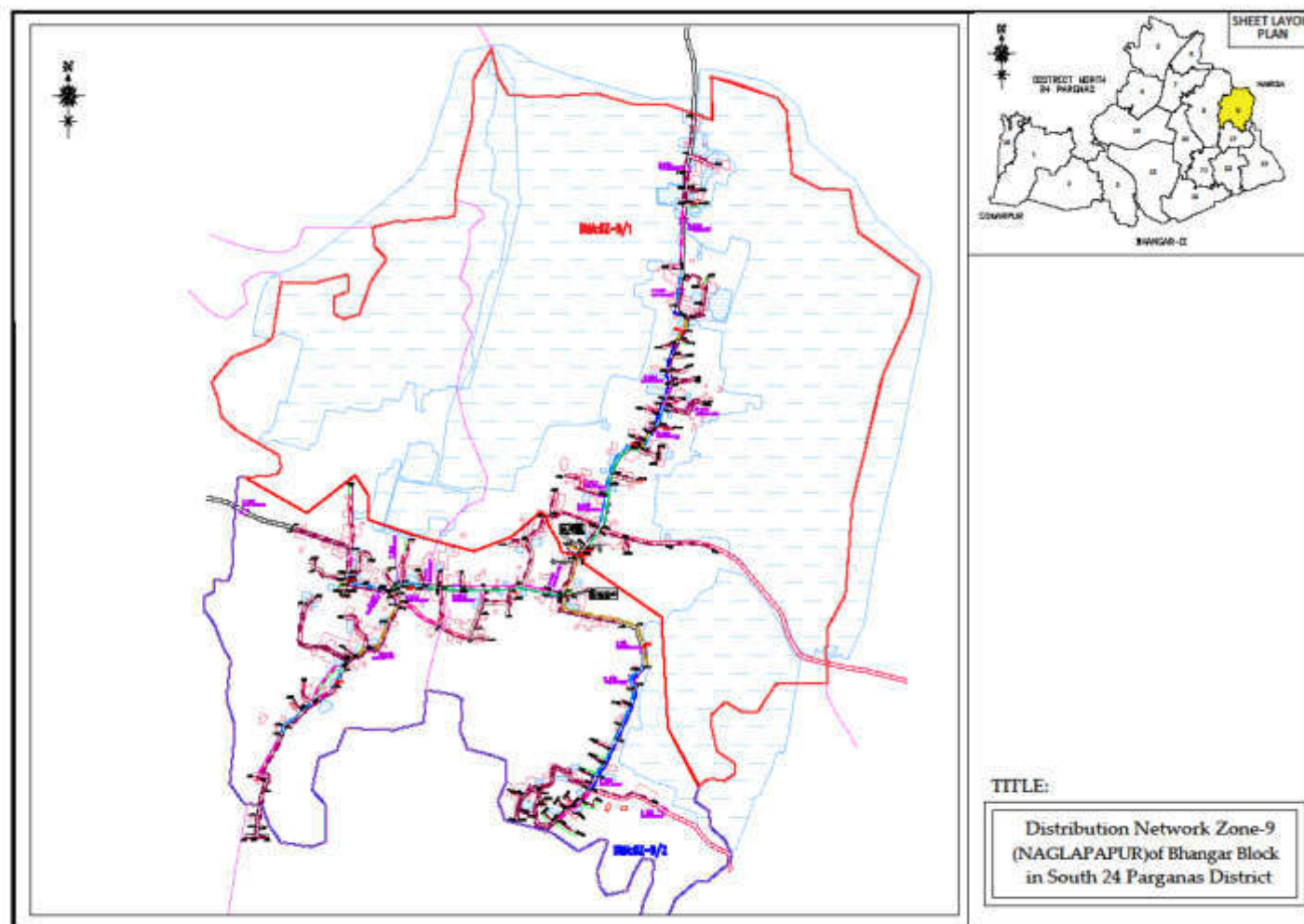
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

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.


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 31 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 32 of 45 Original Issue Date :

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.pium24p.adb@wbphed.gov.in

Inward No. 1851.
RECEIVED
Date 23/09/19
Signature
Time - 3:22 PM

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To

- 1) The Station Manager,
WBNSICL, Bhargar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
BSNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-09) Naglapalpur.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 19.09.2019 in Bhogar-II 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.

Yours faithfully,

sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,

Copy forwarded for information to :-

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

sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 16/09/2019

Memo No. 714-715 (2-A) /EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Dehadhikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Bhargar-II Project.


sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

16/09/2019

16/09/2019

16/09/2019

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhanger-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 33 of 45 Original Issue Date :


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 R.D.O. & Executive Officer,
Bhanger-II Development Block & Bhanger-II Panchayat Samiti,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhanger-II Block (Zone-09) Nagdipalpur.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhanger-II Block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 19.09.2019 in **Bhogoli-I 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.

Yours faithfully,

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the,

Memo No. EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Savapati, Bhanger-II Panchayat Samiti.
- 2) The Pradhan, Bhogoli-I Gram Panchayat.
- 3) The Officer in Charge, Kashipur Police Station.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 16/09/2019

Memo No. 716/1(3-1) EE(C)PIUN24P,

Copy forwarded for information to :-



- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debathakur, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Bhanger-II Project.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

1852-
RECEIVED
Time-3:22 PM
Date 23/09/19 Signature [Signature]

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 36 of 45 Original Issue Date :

Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER , BARUIPUR
South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA SAHA
Signature & Seal
Licensing Officer

Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhanger-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	


 GOVERNMENT OF WEST BENGAL
 OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
 South 24 Parganas, Nandarami Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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: **26th Dec, 2019.**

**Tapas
Kumar
Sinha Roy**
 Digitally signed by
 Tapas Kumar Sinha
 Roy
 Date: 2018.12.27
 15:32:23 +05'30'
 Licensing Officer
 Under the Contract Labour(R&A) Act, 1970
 &
 Assistant Labour Commissioner
 Baruiপুর, South 24 Parganas

Establishment Information:
 Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dtn. [BRP04/CLL/000092]
 W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
 Bhagati-II, Block - Bhanger - II , Baruiপুর - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
 Vill. Kantadanga, P.O. Shonepur
 Bhogati-II, Block- Bhanger - II , Baruiপুর
 PS - Bhanger, District - South 24 Parganas, Pin Code - 700135

1 of 2

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 38 of 45 Original Issue Date :

Appendix P.C: Workman Compensation

FUTURE GENERALI
TOTAL INSURANCE SOLUTIONS

Workman'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	2019-16129169-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/0001521
Address	BHARGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone(Abbr,CHT,Home)	4027822990/00892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURJAYAKAIAH@INDIAINSURE.COM
GSTIN Number	19AAACH7235CTZM	PGI GSTIN Number	26AAACF499KJZA

In consideration of the Policy holder insured 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 representation therein, the Insurer agrees to provide insurance against loss/damage liability or expenses in 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 %)	Chosen Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Cloths and Service Tax	24,174.78
		Total Premium	158,479.00

Risk Details

Nature of Business : Design and Construction of overhead reservoir included ing water supply distribution and metering works in Bhargar II Block
Location : Design and Construction of overhead reservoir included ing water supply distribution and metering works in Bhargar II Block
Contractor/Sub-Contractor Name : NCC LTD

No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)
30	Highly Skilled workers	6,642,000.00
50	Skilled workers	6,048,000.00
30	Semi Skilled Workers	2,400,000.00
30	Unskilled Workers	4,380,000.00
	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 & except Exclusions of the Policy, the amount of liability incurred by the Insured	Yes
Common Law and 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

Terminates 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
Including Wet Risk, Diving, Trenching and Handling of Explosives
Excluding loss arising out of installation and erection of fire wiring.
Warranted that safety practices are followed by the workers 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 contract is in force or not.

For Future Generali India Insurance Co. Ltd.

Receipt No : Z0065378
Date of Issue : 07/02/2019
Place of Issue : Mumbai*
*Address 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.67.35 paid by Letter Of Authorisation No. CSD/15/2018/179/18, dated 16/08/2018, Mumbai - 2017/C.R.9554-1, dated 09/11/2018.
Policy UIN : 18DAN137P0012V01200708

Future Generali India Insurance Company Limited, Corporate & Registered Office: 4th Floor, Tower - 3, Indira Park, Begumpet, Hyderabad, Telangana, India - 500016, Maharashtra Circle Ltd - 1808-216-213, 1850-520-3333, 022-67837800, Email: agm@bangalore.in, Website: www.bangalore.in/INDIA Regn.No. 132, CIN : U68010MH2006PL1616387.

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 39 of 45 Original Issue Date :

Appendix P.D: PUC Certificates

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

Vehicle Registrn. No. **PB02BL7373** WB-01-**D 5679142**

Date of issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	5.83
HC (ppm)	32/D

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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572 Licence 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
chasis Number=G2011 Test Fee : Rs.100/-
Vehicle Colour = YELLOW Fuel: 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: **32/D**

Test Result : Free Acceleration Validity 6 Months

	ideal Rpm	max Rpm	K Value	Hsu val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	8.9	88
3	852	2700	0.12	8.9	88
Avg	860	2900	1.9	55.83	

Seal Of Testing Center

Certified that this vehicle's K-Mean and hsu/N value conforms to the standards prescribed under rule 113(2) of CMV rules 1989, Operator: MD RAMIZ RANA

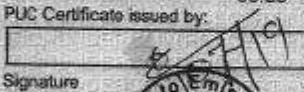
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)

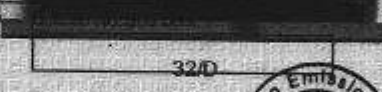
Vehicle Registrn. No. **WB15B2529** WB-01 **D 5678745**

Date of issue: **23-07-2019** Valid upto **22-01-2020**

Pollution Level


CO (%)	
HC (ppm)	
SD (HSU)	66.83

PUC Certificate issued by: 

Signature: 


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 : 

Test Reasult : 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	



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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 41 of 45 Original Issue Date :

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

Vehicle Register No: **WB08G1752** WB-01: **D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (MSU)	44.1%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: **WB-01: 00000000000000000000**

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

MIL 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.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9630728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdy: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0820 RPM Max: 1823** Emission Norms.: **BS IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	BSU %	OTP C
1	0710	2050	01.25	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.36	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
BSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

[Signature]
Authorized Signatory

JNCUS DiesX 2.8.6/0000-0000/4660

POLLUTION EMISSION CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicle Rules, 1988)

Vehicle Registr. No. **JH 01N 7488** WB-01 **D 5972591**

Date of issue: **06/11/2019** Valid upto **05/05/2020**

Pollution Level
CO (%) **0.000**
HC (ppm) **0.000**
SO (HSU) **0.000**

PUC Certificate issued By: **[Signature]** License No. and Seal: **32/P**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal

AKBAR AUTO EMISSION TESTING CENTRE WB-01 **D 5972591**
ASANTI HIGHWAY, GHATAKPUKUR, PO:PS-BHANGAR, 24 PGS(S), PIN-743502

U/C No:- 009480 Licence No:- 32/P
Vehicle No:- JH 01N 7488 Test Date:- 06/11/2019
Year Of Reg:- 2000 Test Time:- 9:59:10 AM
Speedo Meter:- 2221 Fuel:- Petrol
Vehicle Make:- HERO, HONDA Test Fee:- 80
Vehicle Model:- CD-DELUX Vehicle Type:- 2W
Engine Number:- 09368 Engine Type:- 4S
Chassis Number:- 03818 Result:- Pass
Vehicle Color:- BLACK Valid Upto:- 05/05/2020
Compliant:- Non BS
Contact:- 7995958341
Owner:- N. C. C. LTD

IDLE EMISSION

	Regulation	Actual	
Ideal CO:-	3.5	0.000	%VOL
CO corrected:-	3.5	0.000	%VOL
Idle HC:-	4500	0	PPM
CO2:-		0.00	%VOL
O2:-		27.58	%VOL
NOx:-		0	%VOL
Lambda:-		0.000	
PEF:-		0.544	
RPM:-		00000	
AFR:-		00000	
Oil Temp:-		00000	°C

HIGH IDLE EMISSION

CO:-	0.2		%VOL
CO2:-			%VOL
O2:-			%VOL
Lambda:-			
RPM:-			

Name of Authorise Signatory
with Seal of Testing Center

AKBAR AUTO EMISSION TESTING CENTRE

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 43 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.2: Contractor's 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:

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 44 of 45 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?					

1. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 45 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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		
	গ্রাম- 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 ?			

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
January 2020

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block (Zone – 01: Dharmatala Pachuria)

Package No: N24P/02B

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.


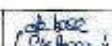
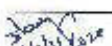

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

NCC LIMITED	Design and Construction of Overhead Reservoir including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc.No. NCC/SEMP/01 Last Revision No. 00 Last Revision Date : 00 Page 1 of 3 Original Issue Date :
	Site Specific Environmental Management Plan	

SITE SPECIFIC ENVIRONMENT MANAGEMENT PLAN

WBDWSIP BHANGAR - II BLOCK

**LOCATION: ZONE- 1 DHARMATALA PACHURIA
(PIPELINE WORK)**

0	09-01-2020				
REV	DAT#	PREPARED BY	CHECKED BY	APPROVED BY DSSC	APPROVED BY Assistant Engineer - II

Environmental Specialist, NSISC
North 24 Parganas
WBDWSI Project

Pic, N-24 Pgs. WBDWSIP, PHE Dte.
Govt. Of West Bengal

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 2 of 45 Original Issue Date :

Package No.	Package No WBDWSIP/DWW/NCB/N-24P/02B/2017-18 Zone -01(Dharmatala Pachuria) : Pipeline work under PIU North 24 Parganas											
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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	18/01/2020											
Contract period	Construction: 3 Years ; O&M: 2 Years											
Demolition Activity	No demolition activity involved											
Project Area	Bamanghata & Benota -II Panchayet of Bhangar-II block											
SEMP Component	Laying of 88,531m of pipeline as detailed below											
Project Description	Individual household water supply schemes for the project Gram Panchayets											
Household Connection	4025 (Estimated HH Connection)											
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not finalized yet											
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-											
Project Components	As per project detailed design											
Gram Panchayet (GP) – Bamanghata & Benota –II												
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	450	
Zone – B01	23541	14552	27616	8994	4311	4427	3748	1244	-	98	-	88531
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Sandeep -9515994508
Site Supervisor	Mr. Sain Alam; 9327815543
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 Skilled and 0 Semi-skilled
Unskilled workers	12
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-14 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation at rented house in Swastyangachhi village. [Refer Attachment P2]

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 4 of 45 Original Issue Date :

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

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and source of Fund (7)
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 respectively.</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.	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

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 5 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and source of Fund (7)
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 water pollution.	<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 permissions as required under law. 	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
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"> • This zone falls under the East Kolkata Wetland and necessary permission for pipe laying work obtained from East Kolkata Wetland Management Authority (EKWMA). Conditions mentioned consent will be complied with. (ref. Appendix – P.A) • Permission received from other local authorities for 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 list of relevant clearances. 	Contractor and 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 6 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and source of Fund (7)
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

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

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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	<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 	<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. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	and increase in concentration of vehicle-related noxious compounds that causes pollution.	engaged in the project. <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. 	<ul style="list-style-type: none"> • 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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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	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	<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 	<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. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 8 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	nearby surface water quality.	protection should be provided.	<ul style="list-style-type: none"> Surface water monitoring has been conducted already following two places (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria) in the Bhangar II 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	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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone:-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00
	Site Specific Environmental Management Plan	Last Revision Date : 00 Page 9 of 45 Original Issue Date :

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			<ul style="list-style-type: none"> DG set (less than 5 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. 	Landscape and Aesthetics character, and sense of place	Contractor	PIU through DSISC observation at site and document checking	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. (c) documentation of work related	<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; 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 10 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		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"> • 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 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	Training session for all employees has been arranged.	Contractor	PIU through DSISC observation at site and document	Project cost

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 11 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		(OHS), core labour laws, applicable environmental laws etc.			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 • 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 	<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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 12 of 45 Original Issue Date :

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		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. 			

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	(i) Once before start of construction. (ii) Yearly 3 times (for seasons: pre-monsoon, post-monsoon and winter) during construction (3-years period considered)	Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	(Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	67,500

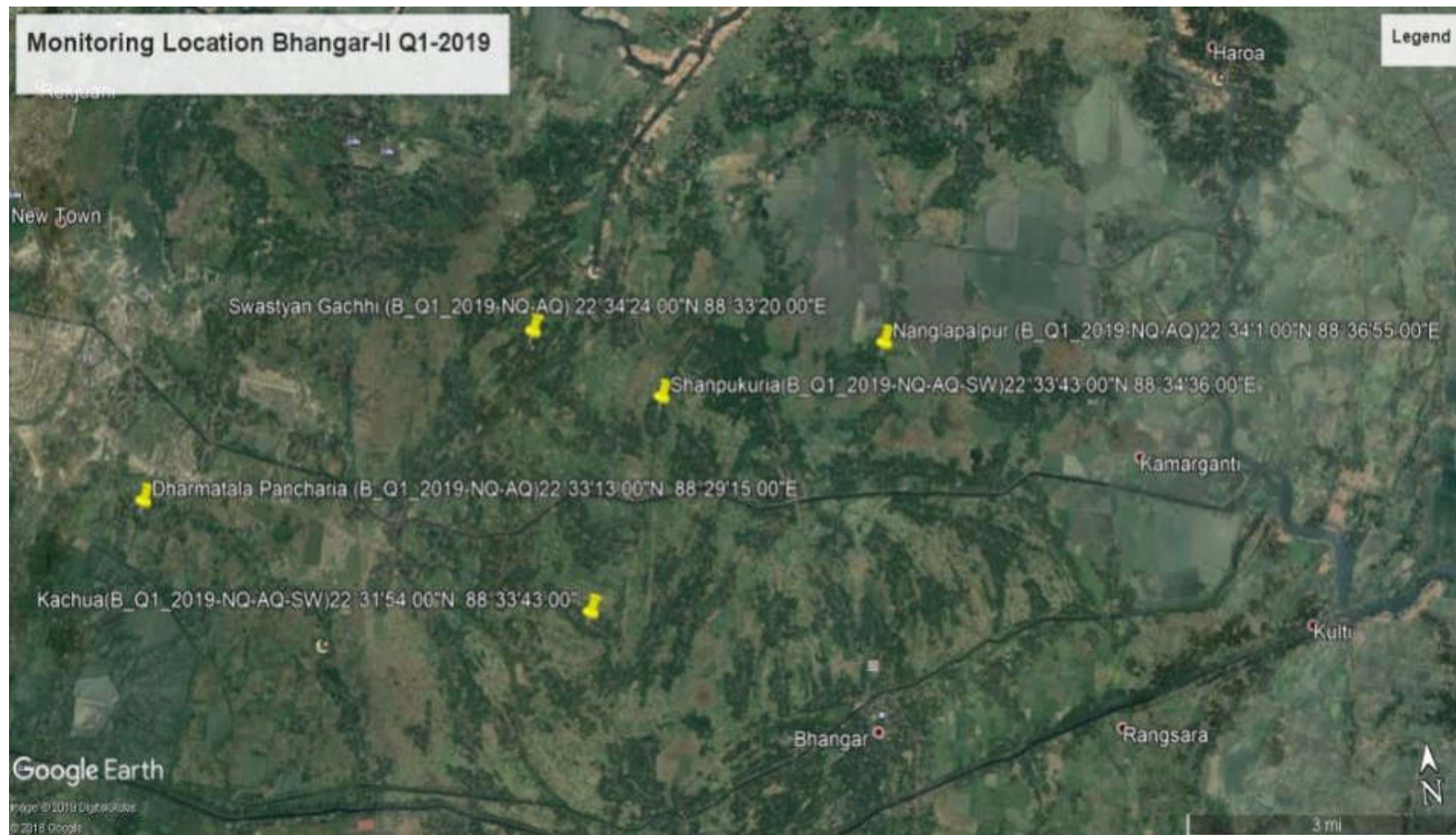
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 13 of 45 Original Issue Date :

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 (3-years construction period considered)	Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria	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 are responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 14 of 45 Original Issue Date :

Monitoring Locations on Google Earth



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 15 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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

List of Appendices

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/02B



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 16 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 01: Pipeline construction Site						
Location- Dharmatala Pachuria						
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)
	DI Pipes (9,517 m)					
	400 mm	98	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	300 mm	1244	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	250 mm	3748	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	200 mm	4427	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(79,014m)					
	140 mm	4311	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	8994	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	27616	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	14552	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	23541	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen
	Excavation method (manual/mechanical)					
	Manual/Mech					

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 17 of 45 Original Issue Date :

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone-01	
	Location – Labour camp at Swastyangachhi in a rented apartment	
A	Accommodation – For 14 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 at Swastyangachi • Accommodation provided for 14 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		
	Camp Location rented	Cooking facility at camp

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 18 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	NOC from EKWMA	Obtained [Refer Appendix – P.A]
2	Gram Panchayat and Other Authorities Permission	Obtained [Refer Appendix – P.B]
B	Labour Safety / Welfare Related	
1	Labour license	Obtained [Refer Appendix – P.C]
2	Workmen Compensation	Obtained [Refer Appendix – P.D]
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.E]
3	Driving licenses for drivers	Obtained
4	Insurance for vehicles / equipment, as required	Obtained

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 19 of 45 Original Issue Date :

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- 14 nos. • Gloves-3 no. • Helmet-14nos. • Safety jacket- 14nos. • 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. Sandeep Mob: 9515994508
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
		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

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 20 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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	27841.70	From trench cutting	Not required

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 21 of 45 Original Issue Date :

Attachment P7: Spoil Management Plan

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 2 of 3 Original Issue Date :

SPOIL MANAGEMENT PLAN

WBDWSIP BHANGAR - II BLOCK

**LOCATION: ZONE- 1 DHARMATALA PACHURIA
(PIPELINE WORK)**

0	09.01.2020	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
RFV	DATE	PREPARED BY	CHECKED BY	APPROVED BY	DS/EC

Environmental Specialist, DS/EC
Kach 24 Parganas
WBDWSIP Project

Assisted Engineer - II
01.11.24 Pgs. WBDWSIP, PHE Dle.
01.11.24 Pgs. WBDWSIP, PHE Dle.

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 22 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 23 of 45 Original Issue Date :

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. 27841.70 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 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 generated at Dharmatala Pachuria (Zone 01) for Pipe laying

SI. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	23541	0.30	1	7062.30
2	75	14552	0.30	1	4365.60
3	90	27616	0.30	1	8284.10
4	110	8994	0.30	1	2698.20
5	140	4311	0.30	1	1293.30
7	200	4427	0.40	1	1770.80
8	250	3748	0.45	1	1686.60
9	300	1244	0.50	1	622.00
10	400	98	0.60	1	58.80
Approx. generated total Spoil at Zone-1					27841.70

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 24 of 45 Original Issue Date :

Attachment P8: Traffic Management Plan

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 9 of 9 Original Issue Date :

TRAFFIC MANAGEMENT PLAN **WBDWSIP BHANGAR - II BLOCK** **LOCATION: ZONE- 1 DHARMATALA PACHURIA** **(PIPELINE WORK)**

1	09.01.2020	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY DSISC

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Director - II
WBDWSIP, PHE Dist.
North 24 Parganas
Govt. of West Bengal

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 25 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 26 of 45 Original Issue Date :

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.

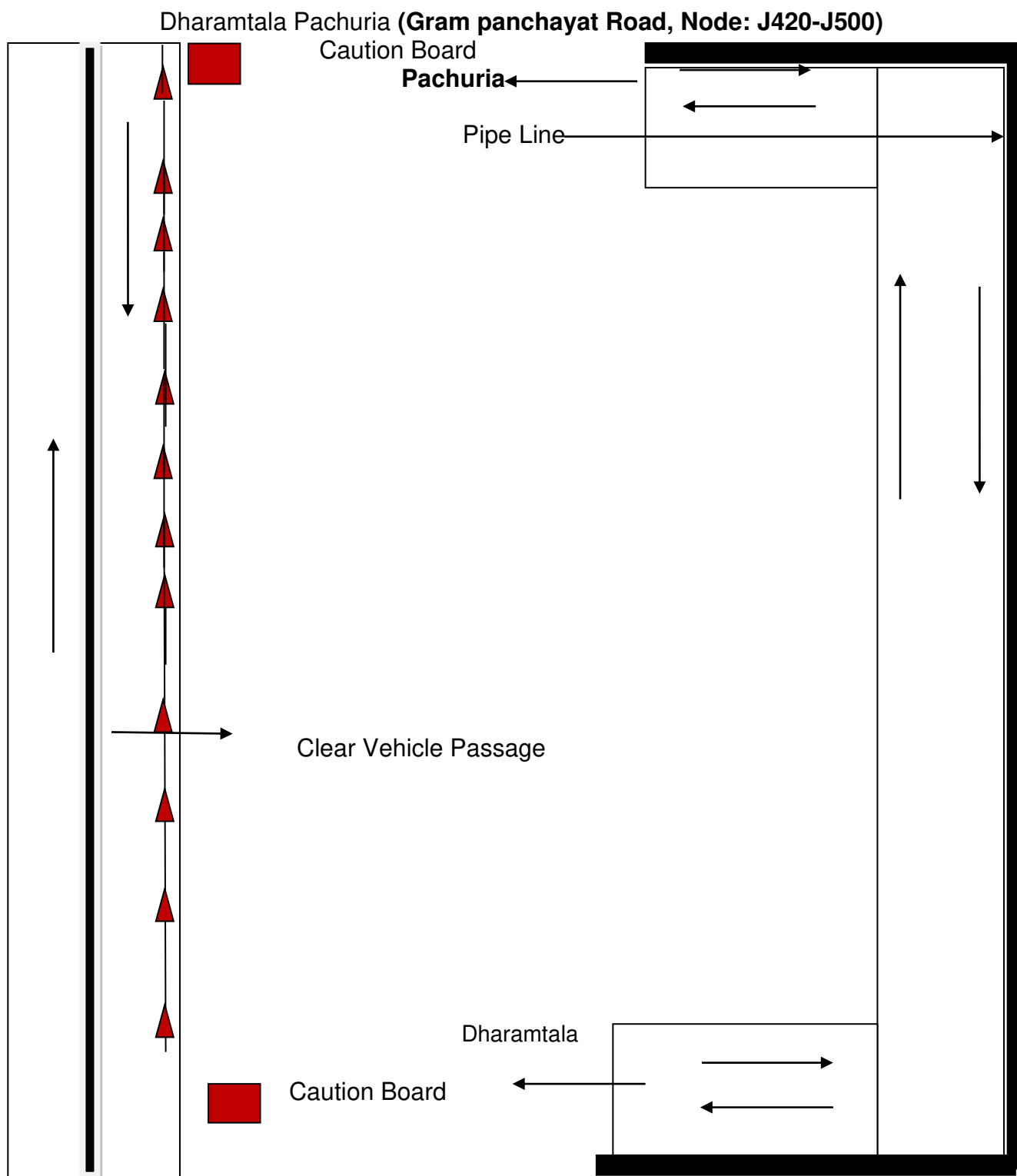
5.7 Loading and Unloading

- 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.

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 27 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

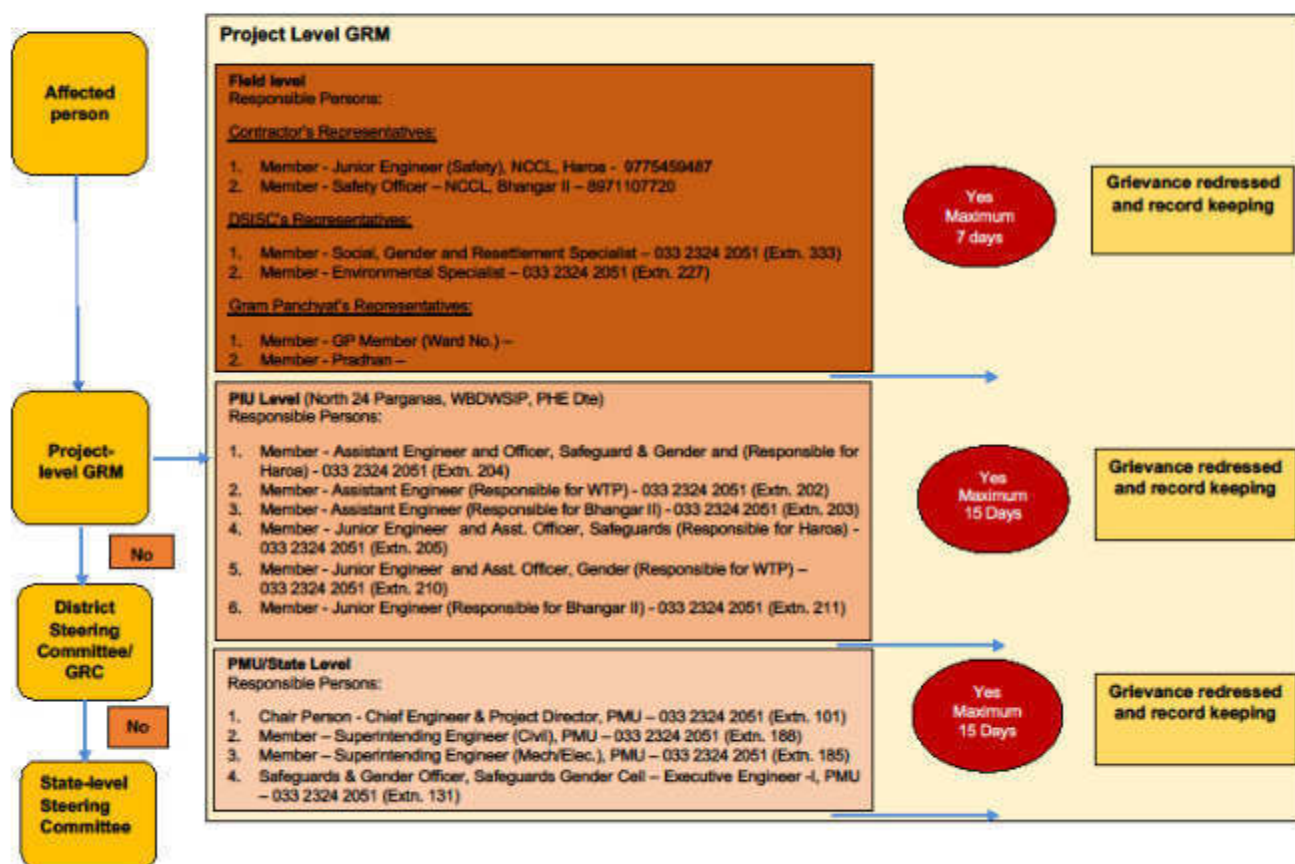


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 28 of 45 Original Issue Date :

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

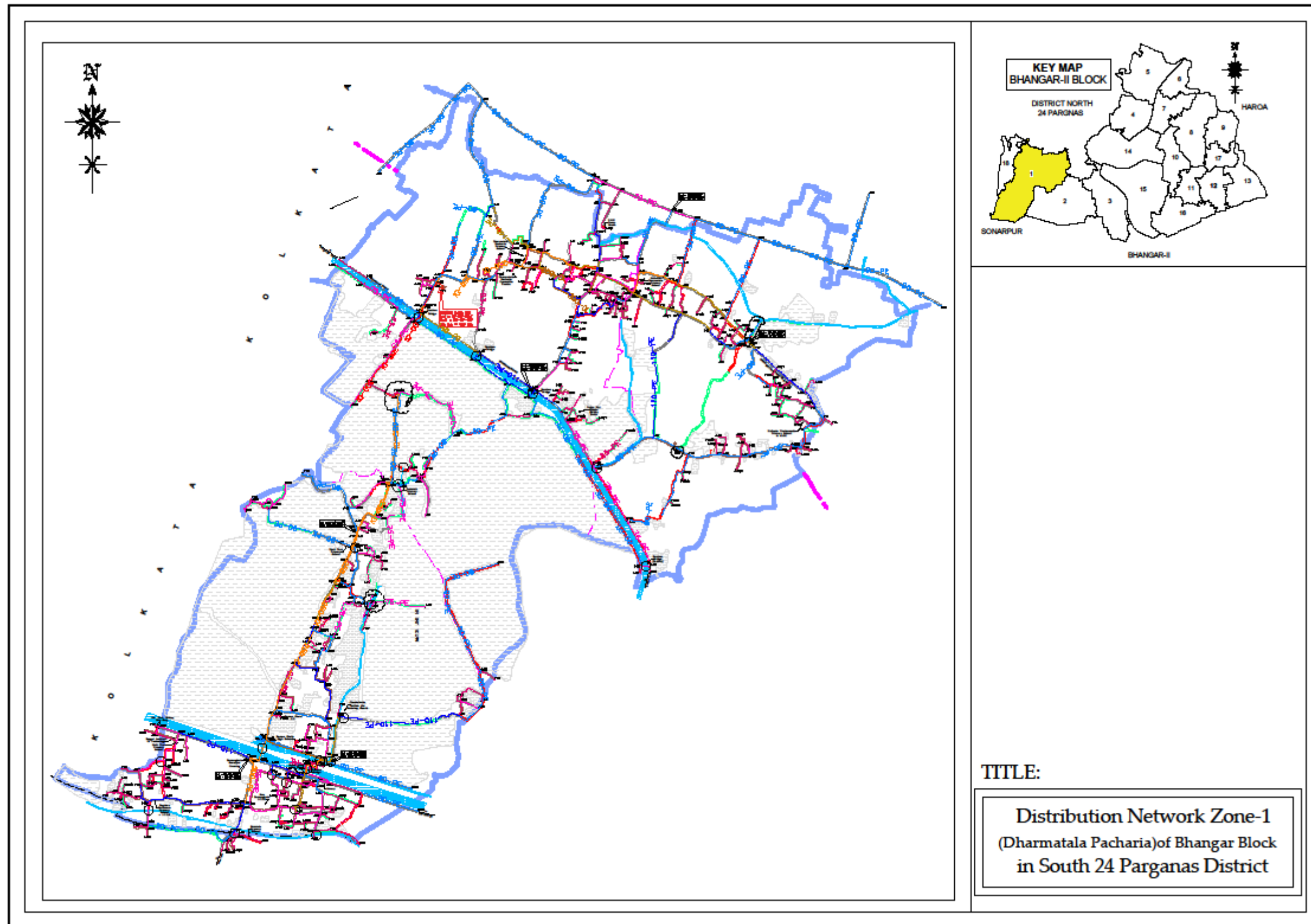


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix P3.

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 Panchayet 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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 31 of 45 Original Issue Date :

Appendix P.B: Gram Panchayat and other Authorities Permission


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-1A, 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 District Engineer,
South 24 Parganas Zilla Parishad,
Alipura, South 24 Parganas.

Sub: Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II 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 24.05.2019 in Bamangbata & Bonga-II 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. /N-24 PGSD-II.

Copy forwarded for information to:-

- 1) The Sahbadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The Executive Engineer, WBSRDA, South 24 Parganas Unit.

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, 21/05/2019

Memo No. 789 /N-24 PGSD-II.

Copy forwarded for information to:-

- 1) The Superintending Engineer, P.H.E., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer-II, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

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

DTL
21/05

DSISC / WBDWSIP
Inward No 789
RECEIVED
Date 22/05/19 Signature [Signature]
Time - 3:50 PM (no enclosure)

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 32 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	



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, Kal.-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 B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayet Samiti.
South 24 Parganas.

**Sub. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block.**

You are well aware that the water supply project under reference is being going on within Bhargar-II Block with financial assistance of AIDB. Now the entrusted agency will start laying distribution pipe network from 24.05.2019 in Bamanghata & Benota-II 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.

Enclu. : As stated.

Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHH Dte.

Memo No. N-24 PGSD-II,

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Bhargar-II Panchayet Samity.
- 2) The Pradhan, Bamanghata : Benota-II, Gram Panchayet.

Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHH Dte.

Memo No. 779/(2-4)
N-24 PGSD-II,

Dated, New Town, the, 21/05/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHH Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHH Dte.
- 3) Sri Shyamalendu Debadhikary, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHH Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

DTL
22/05
25/5

DSISC / WBDWSIP
Inward No 788
RECEIVED
Date 02/06/19 Signature (Signature)
Time - 3:50 PM (No enclosure)

(Signature)
21/5/2019
Assistant Engineer-II
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 33 of 45 Original Issue Date :



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-A1, AA-1A, 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 Executive Engineer,
 West Bengal High Way Development Corporation,
 HRBC Bhavan,
 4th & 5th Floor, Munshi Premchand Sarani,
 Kol-700021

**Sub. : Design and construction of overhead reservoir including water supply distribution
 network & metering works in Bhangar-II Block.**

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II block under the financial assistance of ADB. Now the entrusted agency will start the laying of distribution network from 24.05.2019 in Bamanghata & Beana-II 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,

edt
 Executive Engineer,
 N-24 Pgs. W/S Divn. II, P.H.E. Dte.
 Dated, New Town, the, 21/05/2019

Memo No. 781/3 /N-24 PGSD-II,
 Copy forwarded for information to :-

- 1) The Superintending Engineer, P.J.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer-II, 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
24/05
2516

DSISC / WBDWSIP	
Inward No <u>790</u>	<i>[Signature]</i>
RECEIVED	
Date <u>22/05/19</u>	Signature

Time 3:50 PM
(No encl. later)

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 34 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	



**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-A1, AA-1A, 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 Executive Engineer,
WBSRDA,
South 24 Parganas Unit.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHR Dto. has undertaken a water supply project in the month of October 2018 in Bhangar-II Block under the financial assistance of AIDH 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 24.05.2019 in Bamanghata & Benota-II 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,
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 Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

Memo No. 782 (3-3) /N-24 PGSD-II,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, P.H.E. Dto.
- 2) The Assistant Engineer-II, North 24 Pgs. W/S Divn.-II, PHE Dto.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

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

Dated, New Town, the, 21/05/2019


DTL
21/5
21/5

DSISC / WBDWSIP
Inward No 791
RECEIVED
Date 20/05/19 Signature [Signature]

[Signature]
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dto.

Time - 3:50 PM
(As enclosed)

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 35 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	


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-A1, AA-1A, 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 Executive Engineer,
South 24 Parganas High Way Division,
KIT Building, P-16 Indian Exchange Place Extension,
Kol.-700073

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhargar-II block under the financial assistance of ADB. Now the entrusted agency will start the laying of distribution network from 24.05.2019 in Bamanghata & Hanota-II 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.

Encl. : As stated.

Yours faithfully,

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, 21/05/2019


Memo No. 783/2 /N-24 PGSD-II,
Copy forwarded for information to :-
1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
2) The Assistant Engineer-II, North 24 Pgs. W/S Divn.-II, PHE Dte.
3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

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

DTE
21/5/19

Inward No 792
RECEIVED
Date 22/05/19 Signature [Signature]
Time - 3:50 PM
(are concurred)

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 36 of 45 Original Issue Date :


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

- (1) The Assistant Engineer,
Calcutta Drainage Outfall Subdivision-III,
Irrigation & Water Ways Dto., South 24 Parganas.
- (2) The Station Manager,
WBSECL, Bhargar, South 24 Parganas.
- (3) The Sub Divisional Engineer,
BSNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

DTC
22/05
29/5

Suh. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block.

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 24.05.2019 in Bamanghata & Benota-II 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/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. N-24 PGSD-II, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savaputi, Bhargar-II Panchayet Samity.
- 2) The Executive Officer, Bhargar-II Panchayet Samity.

Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 776-778/N-24 PGSD-II, Dated, New Town, the, 21/05/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.L.U., North 24 Parganas, WHDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, North 24 Pgs. W/S Divn.-II, PHE Dte.
- 3) Sri Shyamalendu Debadhikary, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSIS-North 24 Parganas, WBIDWSIP.

Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Inward No. 787
RECEIVED
Date 22/05/19 Signature
Time - 3:50 PM (No enclosure)

21/5/2019

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 37 of 45 Original Issue Date :

Appendix P.C: Labour License



GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruipur, Kolkata-700144

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA
SAHA
Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:07:48
+05'30'
Signature & Seal
Licensing Officer

1 of 3

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 38 of 45 Original Issue Date :

Appendix P.D: Workman Compensation

FUTURE GENERALI
TOTAL INSURANCE SOLUTIONS

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, APOL, Bata Opp. Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016., Tel. No : 040-66038600		
Policy No	2019-1.0129169-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/0001521
Address	BHARGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone (Ablet, Off, Home)	4027822990/00892590738/4027822990
		Fax No & Email Id	02256791416 / PADMAJASURICARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACH7335C1Z6	PGI GSTIN Number	36AABCP0699K1ZA

In consideration of the Policy holder agreed 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 misstatements therein, the Insurer agrees to provide insurance against loss damage liability or expenses in 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	24,174.18
		Total Premium	158,478.50

Risk Details

Nature of Business : Design and Construction of overhead reservoir included ing water supply distribution and metering works in Bhargar II Block

Location : Design and Construction of overhead reservoir included ing water supply distribution and metering works in Bhargar II Block

Contractor/Sub Contractor Name : NCC LTD

No of Employees	Description of work done by Employees	Declared Wage during the Period of Insurance (₹)
30	Highly Skilled workers	6,642,000.00
30	Skilled workers	6,048,000.00
30	Semi Skilled Workers	2,490,000.00
30	Unskilled Workers	4,389,000.00
	Total	22,166,000.00

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	Subject otherwise, to the terms, conditions & except Exclusions of the Policy, the amount of liability incurred by the Insured	Yes
Contract Act 1932 and subsequent amendments	Subject otherwise, to the terms, conditions & except Exclusions of the Policy, the amount of liability incurred by the Insured	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 extend 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 & except Exclusions

Terminations 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

Insulation of Territory: India

Excluding War Risk, Blasting, Trenching and Handling of Explosives

Excluding loss arising out of installation and erection of live wiring

Warranted that safety practices are followed by the workers in light

Contractors and sub contractors employees are covered.

Important:- I. 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 : Z0605378
Date of Issue : 07/02/2019
Place of Issuance : Mumbai*
*Address as stated below.

(Authorized Signatory)

Note: This document is digitally signed by Sharada Hanan Krishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019

The stamp duty of Rs 67.35 paid by Letter Of Authorisation No. CSD/152018/179/18, dated 16/08/2018, is attached. - 2017/C.R.9554-1, dated 09/01/2018.

Product UIN : ISDAN132P0012V01200708

Future Generali India Insurance Company Limited, Corporate & Registered Office: 4th Floor, Tower - A, Indira Finance Centre, Begumpet Road, Hyderabad-500016, Maharashtra. Call Center: 1800-216-211, 1800-500-3333, 022-47837800. Email: gic@futuregenerali.in, Website: www.futuregenerali.in/INDIA Reg. No. 152, CIN : U66010MH2006PL1C163387.

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 39 of 45 Original Issue Date :

Appendix P.E: PUC Certificates

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

Vehicle Registr. No. **JH 01N 7488** WB-01-D 5972591

Date of Issue: **06/11/2019** Valid upto: **05/05/2020**

Pollution Level

CO (%)	0.000
HC (ppm)	
SO (HSU)	

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE** License No. and Seal: **32/P**

Signature: **AKBAR AUTO EMISSION TESTING CENTRE**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal

AKBAR AUTO EMISSION TESTING CENTRE
ASANTI HIGHWAY, GHATAKPUKUR, P.O:PS-BHANGAR, 24PGS(S), PIN-743502

PUC No:- 009480 Licence No:- 32/P

Vehicle No:- JH 01N 7488 Test Date:- 06/11/2019

Year Of Reg:- 2000 Test Time:- 3:59:10 AM

Speedo Meter:- 2221 Fuel:- Petrol

Vehicle Make:- HERO_HONDA Test Fee:- 80

Vehicle Model:- CD-DELUX Vehicle Type:- 2W

Engine Number:- 09368 Engine Type:- 4S

Chassis Number:- 03818 Result:- Pass

Vehicle Color:- BLACK Valid Upto:- 05/05/2020

Compliant:- Non BS

Contact:- 7995958341

Owner:- N. C. C. LTD

IDLE EMISSION

	Regulation	Actual	
Ideal CO:-	3.5	0.000	%VOL
CO corrected:-	3.5	0.000	%VOL
Idle HC:-	4500	0	PPM
CO2:-		0.00	%VOL
O2:-		27.58	%VOL
NOx:-		0	%VOL
Lambda:-		0.000	
PEF:-		0.544	
RPM:-		00000	
AFR:-		00000	
Oil Temp:-		00000	°C

HIGH IDLE EMISSION

CO:-	0.2		%VOL
CO2:-			%VOL
O2:-			%VOL
Lambda:-			
RPM:-			

Name of Authorised Signatory
with Seal of Testing Center

AKBAR AUTO EMISSION TESTING CENTRE

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 (%)	5.83
HC (ppm)	5.83

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-D 5679142

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 **WB32D3647572** Licence No: **32/D**
Year Of Registration: **2011** Date: **16-08-2019**
vehicle registration no = **PB02BL7373** TIME: **02:47:14**
Speedometer Reading[kms] = **21522** Owner: **N C C CO**
Engine Number=**9218** Driver: **SELF**
chasis Number=**G2011** Test Fee : **Rs.100/-**
Vehicle Colour = **YELLOW** Fuel: **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: **32/D**

Test Result : Free Acceleration Validity: 6 Months

	Ideal Rpm	max Rpm	K Value	Hsu_val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	6.9	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'N value conforms to the standards prescribed under rule 115(2) of CMC rules 1989, Operator: MD RAMIZ RANA

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 41 of 45 Original Issue Date :

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

Vehicle Register No: **WB08G1752** WB-01: **D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO (%)	
HC (ppm)	
SD (BSU)	44.1%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: **WB-01: 00000000000000000000**

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

MIL 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.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9630728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdy: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0820 RPM Max: 1823** Emission Norms.: **BS-IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	BSU %	OTP C
1	0710	2050	01.25	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.36	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
BSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorized Signatory

JNCUS DiesX 2.8.6/0000-0000/4660

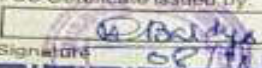
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1989)


Vehicle Registr. No. **WB57D7179** **WB-01-D 4777045**

Date of issue: **08-Nov-2019** Valid upto **07-May-2020**

Pollution Level

CO (%)	0
HC (ppm)	0
SD (HSU)	0

PLC Certificate issued by: 

Signature: 


License No. and Seal: **54/2017**

WB-01-D 4777045

COMPUTERISED EMISSION TEST CERTIFICATE
AUTHORISED BY: **TRANSPORT DEPT. GOVT OF WB**
R R ENTRPRISE
GHATAKAPUR BAZAR, BHANGAR, SOUTH 24
PGS, PIN-743502, PH. NO-9874124328

I. D. Number: **WB0000000724**
Vehicle Registration No: **WB57D7179**
Year Of Registration: **2019**
Speedometer Reading(Kms): **6935**
Engine Number - **20793**
Chassis number - **13958**
Vehicle Color - ***YELLOW/BLACK**
Owner : ***A H**
Driver : ***SELF**
Vehicle Make : **MANITOU**
Vehicle Model : **B LOADER**
Type Of Vehicle : **4W**
Type Of Engine : **4S**


Test Fee : Rs. 100/-
Date : **08-Nov-2019**
Time : **19:10**
DISEL


Valid UpTo : **07-May-2020**
Grade A 

Test Result : IDLING Validity : 6 months

	Regulation(%)	Actual Reading	
CO	3	1.012	
COCorrected	-	2.124	
HC	1500	0	PPM
CO2	0	0	% Vol
O2	0	2.021	
NOX	0	2145	
Lambda	-	0	
PEF	-	0	
RPM	-	0	
AFR	-	0	
Amb temp.	-	0	°C

The vehicle is Passed.

Seal Of Testing Center 

Name Of Authorised Signatory With 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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 43 of 45 Original Issue Date :

Appendix P.2: Contractor's OHS Policy Statement

<p>NCC LIMITED</p> <p>Health, Safety & Environment Policy 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 44 of 45 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?					

1. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 45 of 45 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 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 ?			

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
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 Bhangar-II Block (Zone 10 - OHR Sanpukuria)

Package No: N24P/02B

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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Revision No. 00 Revision Date : 00 Page 1 of 8 Effective Date :
	Site Specific Environmental Management Plan	


SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN


WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 10,OHR (Sanpukuria)

0	07.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project


Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

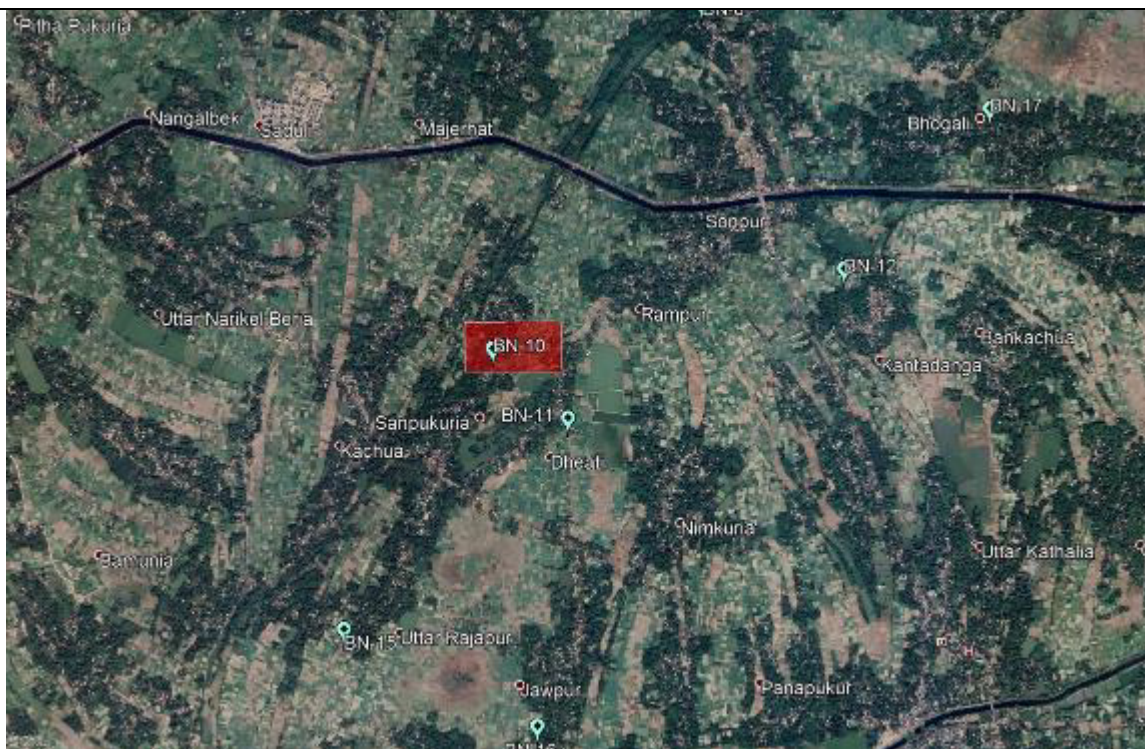
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 2 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No	Package No : N24P/02B Zone 10 -OHR (Sanpukuria) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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	30/06/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 550 KL
Demolition work	No demolition activity involved
Project area	Sanpukuria Gram Panchayet of Bhangar II block
Project Description	Individual household water supply schemes for the project Gram Panchayets
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design

Gram Panchayet: Sanpukur

Land Status	Private and Transferred
OHR Capacity	550 KL

Location



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 3 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-10 OHR (Shanpukuria) San-Pukur Gram Panchayet of Bhangar II block
Project Manager	Mr. Ansari; 7417526845
Site Engineer	Mr. Md. Sukur Ali; 8327043932
Site Supervisor	Mr. SK Sharma; 9754981670
EHS Supervisor	Mr. Nitin Kumar; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	3 skilled and 4 Semi-skilled
Unskilled workers	10
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-17 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation Rented Apartment at Sanpukuria Village [Ref. Attachment O2]

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 4 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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
(1)	(2)	(3)	(4)	(5)	(6)	(7)
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 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 documentation on material obtained from each source (quarry/borrow pit) 	<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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 5 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

	erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	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.	• 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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 6 of 77 Original Issue Date :

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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 wall around the construction sites (OHR). 	<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 piling 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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts on water resources	<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. 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 7 of 77 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	within the immediate area.	<ul style="list-style-type: none"> Where no local drains are available, a soak pit will be created on-site away from water bodies . 	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			
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 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 	<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 monitoring has been conducted already following two places (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE. 	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 Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 8 of 77 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		disposal after sedimentation should be taken into consideration.				
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 along the existing boundary wall of 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 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 (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. 	<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 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. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 9 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			<ul style="list-style-type: none"> Noise quality Monitoring has been conducted at following five places (Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar II 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 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 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
Occupation	Occupational hazards	Develop and implement a site specific	<ul style="list-style-type: none"> Based on NCC's OHS Plan, a 	Contractor	PIU through	Project cost

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 10 of 77 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
al Health and Safety	which can arise during work	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.	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; • Moving equipment maintained		DSISC observation at site and document checking	

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 11 of 77 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			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. 	<ul style="list-style-type: none"> 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; 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 12 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		<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 <p>1. According to rule and regulation camp will be vacated and restored to pre-project conditions before acceptance of work.</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. 			
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 	<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	Project cost

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 13 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		discoveries.			checking	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 14 of 77 Original Issue Date :

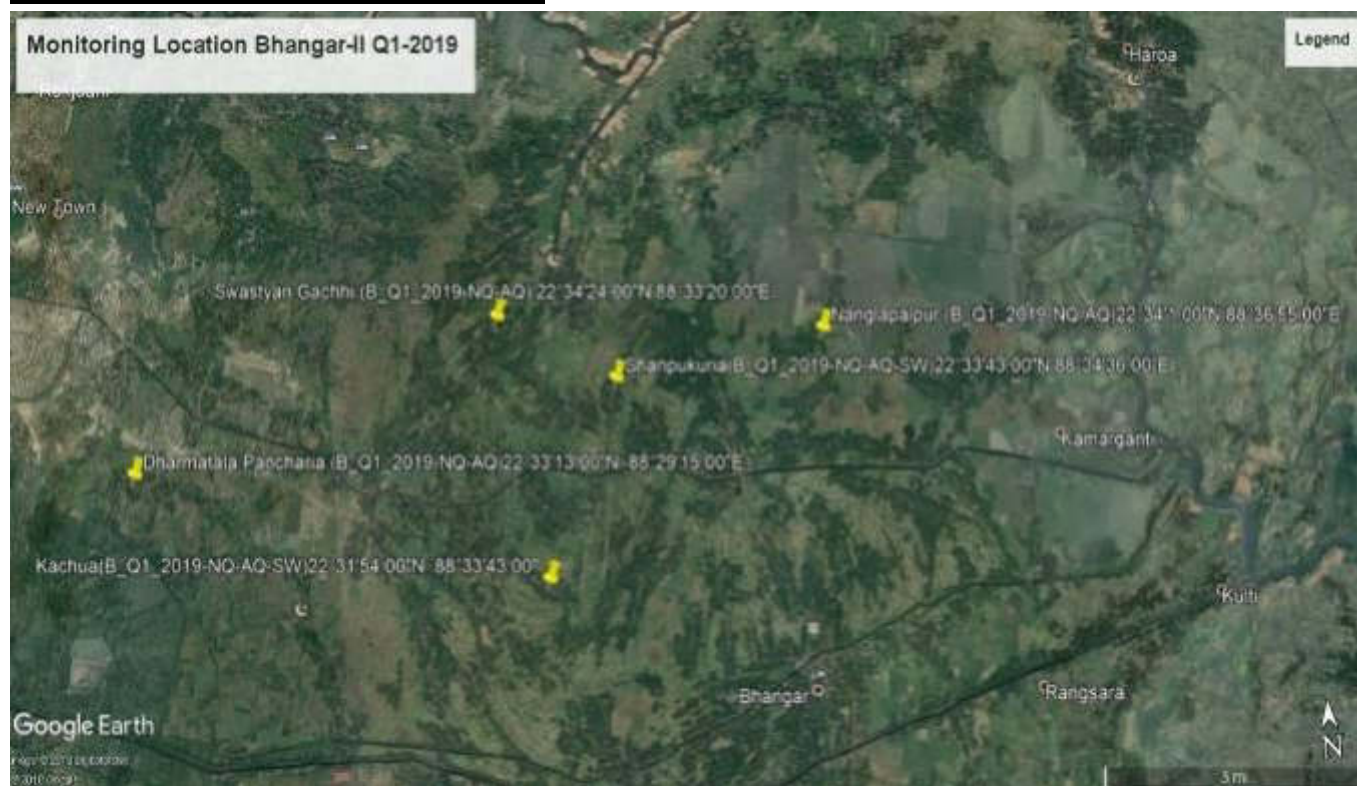
Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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.

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 15 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Monitoring Locations on Google Earth



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 16 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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



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 17 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O1: Details of construction Work sites

1. Zone 10: OHR construction Site		
Location- Sanpukuria		
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 	
C	Site office – No	
D	Laboratory – No	
E	Security cabin – No	
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Labor rest area • Toilets • Drinking water • First Aid Box. 	
G	Site Layout Plan <i>Refer Appendix O.1</i>	
H	Site photographs	
Original site photographs	 <p>OHR before Construction</p>	
Project facilities at Site	 <p>Project Information Board</p>	 <p>PPE's used by Workers</p>  <p>Site Barricading- use of caution tape at boundary construction site</p>

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 18 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 10: Sanpukuriya
Location- Sanpukuriya, Sanpukur (Latitude: 22°32'15", Longitude: 88°34'57")	
A	<p>Accommodation – For 17 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 – Rented accommodation • Accommodation provided for 17 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 it is a rented pre-existing accommodation
Photos of camp and facilities provided	 <p>Labour accommodation near OHR Zone-10</p>
	 <p>Toilet</p>

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 19 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 20 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 17 nos. • Gloves-2 nos. • Helmet-20 nos. • Safety jacket- 20 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 signage	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. Md Sukur Ali Mob: 8327043932
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
		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

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 21 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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	500.94	Nalhati/Rampurhat	Yes
2	Sand	260.25	Gopi Ballavpur/ Bardhaman	Yes
3	Steel	56.56	Approved supplier	Yes
4	Cement	172.52	Approved supplier	Yes

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 22 of 77 Original Issue Date :

Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5			
	Spoil Management Plan				

SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 10,OHR (Sanpukuria)

0	13.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Control Unit, DSISC
North 24 Parganas
WBDWSI Project

May be approved

Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

West Bengal Drinking Water Sector Improvement Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 23 of 77 Original Issue Date :

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 (10). 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 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.

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 24 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. generation of excavated earth will be 95 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.

SPOIL DITAILS

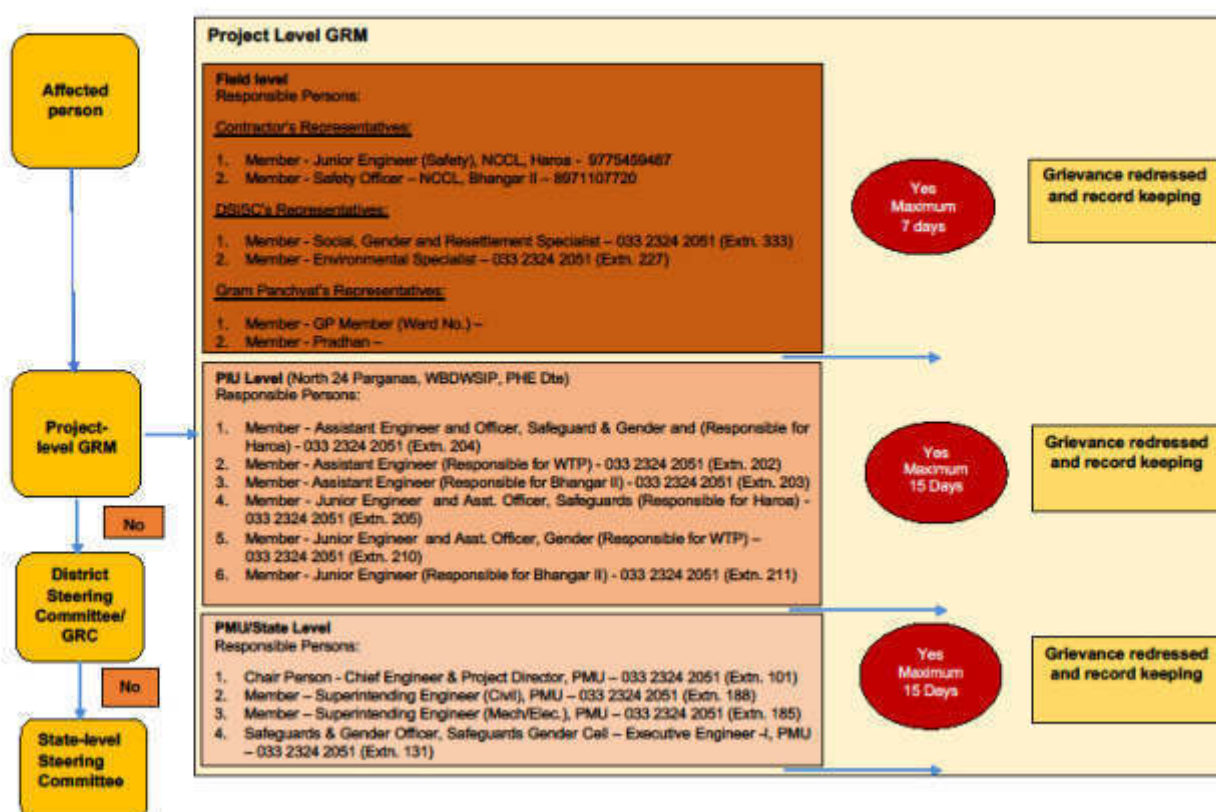
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	10	Boundary wall	95.128	69.584	25.544

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 25 of 77 Original Issue Date :

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

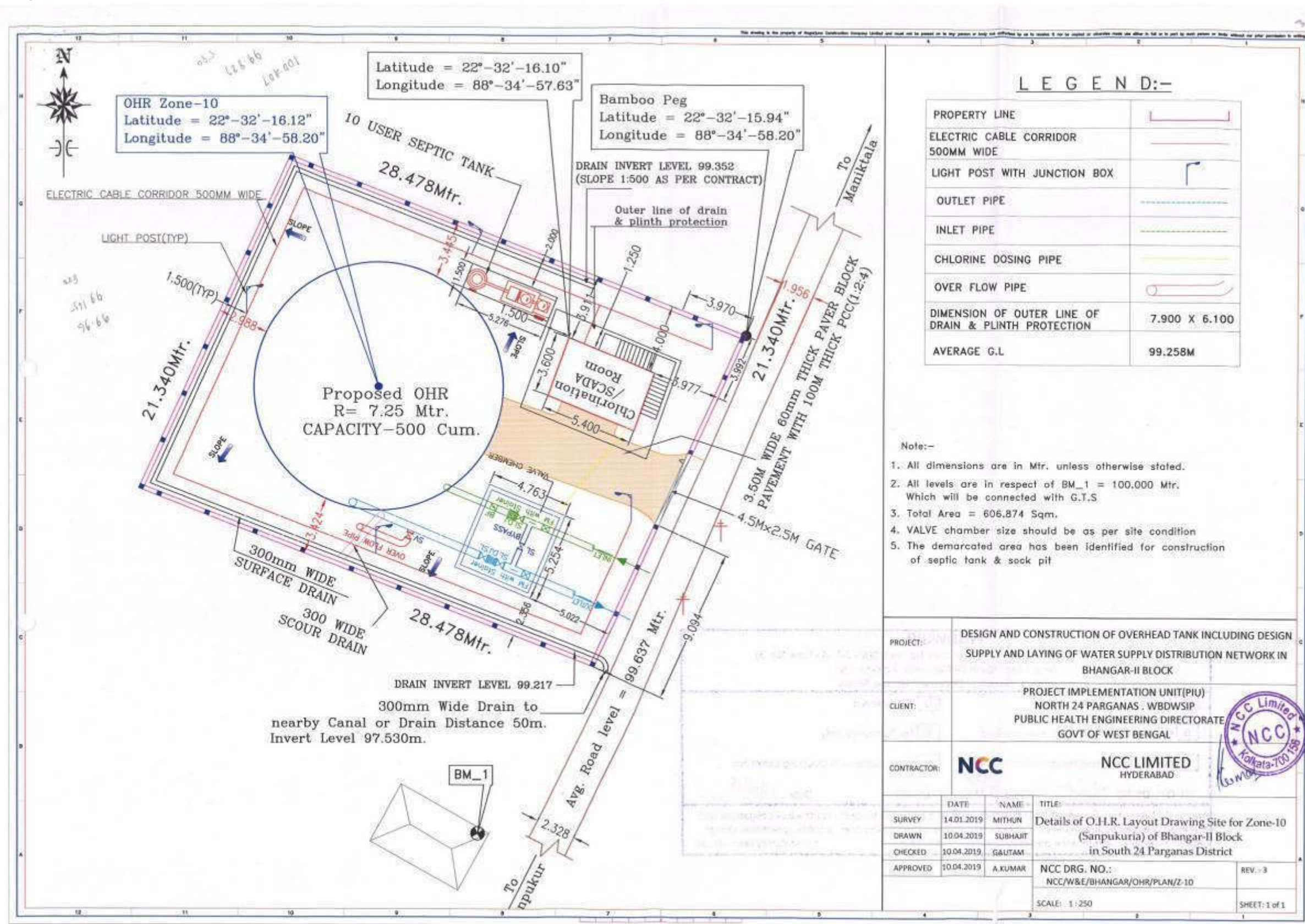


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 27 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.A: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
*South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144*

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

**SHREEJITA
SAHA**
Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'
Signature & Seal
Licensing Officer

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 28 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BAHUJPUR
 South 24 Parganas, Nandarami Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shubansipith, Barasat, Kolkata-700144

FORM VI
 [See Rule 25(1)]

Licence No. : **BRP04/CLL/000191**
Date : **27th Dec, 2018**

Lic. Fee	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at Eco Space Business Park, Block 4A, 3th Floor, Action Area-II, Newtown -700156, Patharghata, Block- Bazarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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: **26th Dec, 2019.**

**Tapas
Kumar
Sinha Roy**

Licensing Officer
Under the Contract Labour(R&A) Act, 1970

&
Assistant Labour Commissioner
Barasat, South 24 Parganas
[BRP04/CLL/000082]

Digitally signed by
Tapas Kumar Sinha
Roy
Date: 2018.12.27
15:32:23 +05'30'

Establishment Information:
 Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dns. [BRP04/CLL/000082]
 W Site - Utility Building, Tank No-3, 2nd Floor, Action Area-24, New Town, Kolkata,
 Bhagali-II, Block - Bhangar - II, Barasat - 700135, PS - Keshipur, South 24 Parganas

Work site exact location:
 Vill. Kantadanga, P.O. Shanapur
 Bhagali-II, Block - Bhangar - II, Barasat
 PS - Bhangar, District - South 24 Parganas, Pin Code - 700135

4 of 2

Appendix O.B: Workman Compensation



Workmen's Compensation Policy: Policy Schedule			
Policy Serving Office : Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.3-1-21A, APOL, Estate Opp Conventy Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel No : 040-56038600			
Policy No	2019-L0129160-FWC	Period of Insurance	From 01-01-2019 To Midnight of 31/03/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES#0001321
Address	BHANGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743502	Telephone(Mob,Off,Home)	4027823950/09892590736/027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURVARAJAN@INDIAINSURE.COM
GSTIN Number	19AAACH2333C1ZM	PGI GSTIN Number	36AABCP0181ZA
In consideration of the Policy holder issued 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 representation 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	Future Generali India Insurance Company Limited	Share (in %)	100%
		Gross Premium	134,104.50
		Goods and Service Tax	24,174.78
		Total Premium	158,279.28
Risk Details			
Nature of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block			
Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block			
Construction/Contract Name : NCC LTD			
No of Employees	Description of work done by Employee	Declared Wage during the Period of Insurance (₹)	
50	Highly Skilled workers	5,842,500.00	
50	Skilled workers	5,048,000.00	
50	Semi Skilled Workers	3,470,000.00	
50	Unskilled Workers	4,389,000.00	
Total		23,146,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as annexed, 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 and scope, limitations of the Policy, the amount of liability covered by the Insured	Yes	
Common Law and 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:			
1. 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			
2. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination 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, Trenching and Handling of Exp. Items			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers/agents			
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 specific communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No : 23465378		(Authorized Signatory)	
Date of Issue : 07/02/2019		Note: This document is digitally signed by Sharada Ramakrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019	
Place of Issue : Mumbai			
*Address as mentioned below.			

The stamp duty of Rs 67.15 paid by Letter Of Authorisation No. CSO/18/2018/3179/18, dated 18/08/2018, Madras - 2017/C.R.9156-1, dated 09/01/2018.
Product UIN : IB-DAN132P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Regional Office: 6th Floor, Tower - 3, India Cyber Park, Sreejith Begun
Bang. Hyderabad Road, Mumbai - 400013, Maharashtra. Call Line - 1800-226-2333/800-300-3333/022-47877800, Email: agn@futuregeneral.co.
Website: www.futuregeneral.co/INDIA Regs.No. 132, CIN - U66036MH2000PLC101281.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 30 of 77 Original Issue Date :

Appendix O.C: PUC Certificates


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


Vehicle Registr. No.: **WB-52H-7637** WB-01-D 3044009

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: 

TEST REPORT

AUTHORISED BY: **TRANSPORT DEPT. GOVT OF W.B.** WB-01-D 3044009
CHOWRASTA, NH-34, CHAKDAH, NADIA

Vehicle Registration No.: **WB-52H-7637** Test Fee: **80.00**

Year of Registration: **01-02-2010** Fuel: **PETROL**

Spedometer 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	---	80000	
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: 

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 (%) **66.83**
HC (ppm) **66.83**
SD (Hsu) **66.83**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE**

Signature: **[Signature]**

COMPUTERISED EMISSION TEST CERTIFICATE
CMVR AUTHORISED BY : Govt. of West Bengal
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPUR, 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**
Speedometer Reading[kms] = **2541** Owner: **NABA KUMAR GHOSH /851304**
Engine Number=**28746** Driver: **SELF**
chassis Number=**B5954** Test Fee : **Rs.100/-**
Vehicle Colour = **OTHERS** Fuel : **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 : **32**

Test Result : Free Acceleration

	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	66
3	860	2700	0.12	6.9	66
Avg	860	2900	1.9	55.83	

Validity: 6 Months

AKBAR AUTO EMISSION TESTING CENTRE

(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 (%)	5.63
HC (ppm)	
NOx (ppm)	

PUC Certificate No. **32/D**


Signature: 





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 = W332D3847572	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 : 90.0
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	6.9	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 11(2) of CMB rules 1989. Operator- MD RAMIZ RANA

JCB

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 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.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:
--------------	----------	----------------	--------------	------------

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 34 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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:	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 35 of 77 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 স্বার্থ 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-


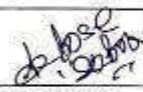
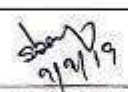

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 36 of 77 Original Issue Date :

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 1 of 7 Original Issue Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-10, PIPE LAYING (SANPUKURIA)

0	05.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer, PHE Dte.
PIU, N-24 Pgs., WBDWSIP, Govt. Of West Bengal
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 37 of 77 Original Issue Date :

Package No.	Package No : N24P/02B										
	Zone 10 - Pipe Laying (Sanpukuria) under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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 particular works commencement	08/09/2019										
Contract period	Construction: 3 Years ; O&M: 2 Years										
SEMP Component	Laying of 41436 m of pipeline as detailed below.										
Demolation Activity	No demolition activity involved										
Project area	Sanpukuria Gram Panchayet of Bhangar II block										
Project Description	Individual household water supply schemes for the project Gram Panchayats										
Household Connection	2652(Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not finalized yet										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Sanpukur											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm)										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - B10	24112	2260	3518	4983	2340	3176	1027	20			41436
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 38 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-10 (Pipeline works) Shan Pukuria GP of Bhangar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Amlan Singha Roy; 9734667934
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	5 Skilled and 4 Semi-skilled
Unskilled workers	20
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-29
Details of facilities	
Construction camps, (no's and locations)	One at Sanpukuria village (Ref. Attachment P2]

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 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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.	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	<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 	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

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 40 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

	in natural drainage patterns, ponding and water logging, and water pollution.	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.	• 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 pipelaying 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, 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, 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 41 of 77 Original Issue Date :

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. <p>Air quality monitoring has been conducted at following five places (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package.</p>	Contractor	PIU through DSISC observation at site	Project cost
Drainage and	Due to the nature and	• The site surface should be	• We have ensured run-off	Contractor	PIU through	Project cost

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 42 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
hydrology	locality of the projects there is unlikely to be any significant impacts on water resources within the immediate area.	engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved.	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.		DSISC observation at site	
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 (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II 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 	<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

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 43 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		should take appropriate action for their protection and safe rescue.				
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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. 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 	<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

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 44 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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	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.	• 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

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 45 of 77 Original Issue Date :

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	<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. 	<ul style="list-style-type: none"> 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/ 	<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, 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 46 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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 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	• 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.			

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 47 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 48 of 77 Original Issue Date :

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 49 of 77 Original Issue Date :

Monitoring Locations on Google Earth



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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 50 of 77 Original Issue Date :

List of Attachments

Attachment P 1: Details of construction Work sites
Attachment P 2: Details of construction camp sites
Attachment P 3: List of clearances & statutory requirements
Attachment P 4: Contractor's OHS Policy & Organization
Attachment P 5: Utility shifting/relocation
Attachment P 6: Details of Construction Materials
Attachment P 7: Spoil Management Plan
Attachment P 8: Traffic Management Plan
Attachment P 9: 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/02B_Bhangar II block,



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 51 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 10: Pipeline construction Site						
Location- Sanpukuria						
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)
	DI Pipes (1047m)					
	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	20	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	1027	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(40389 m)					
	200 mm	3176	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	2340	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	4983	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	3518	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	2260	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	24112	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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 52 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 10	
Location- Sanpukuria, Sanpukur		
A	Accommodation – For 29 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 29 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		

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 53 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 54 of 77 Original Issue Date :

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- 29 nos. • Gloves-4 no. • Helmet-20nos. • Safety jacket- 22nos. • Goggles- 3nos.	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 at height, firefighting, first-aid, housekeeping, etc.
	• Safety signage	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
		Emergency responsibility
	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
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

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 55 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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:
--------------	-----------	----------------	--------------	------------

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 56 of 77 Original Issue Date :

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:
--------------	----------	----------------	--------------	------------

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 57 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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


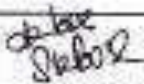


Attachment P6: Details of Construction Materials

Sl. No	Material	Approximate quantity required (m3) for project	Source	Indicate if source has all necessary government clearances
1	Earth	12962.1	From trench cutting	Not required

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 58 of 77 Original Issue Date :

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SMP /01
	Spoil Management Plan	Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5

SPOIL MANAGEMENT PLAN (SMP) WBDWSIP BHANGAR-II BLOCK LOCATION – ZONE-10, PIPE LAYING (SANPUKURIA)					
0	05.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
 North 24 Parganas
 WBDWSIP Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 59 of 77 Original Issue Date :

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 (10).

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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 60 of 77 Original Issue Date :

location.

6. **SPOIL VOLUMES AND CHARACTERISTICS:**

In this project, approx. Generation of excavated earth will be approx. 12962.1 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, transportation of extra soils for disposal, not envisaged.

10. **MONITORING, REPORTING, REVIEW AND IMPROVEMENTS:**

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

Expected Spoil generated at Sanpukuria (Zone 10) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	24120	0.3	1	7236
2	75	2261	0.3	1	678.3
3	90	3519	0.3	1	1055.7
4	110	4983	0.3	1	1494.9
5	140	2343	0.3	1	702.9
6	200	2693	0.4	1	1077.2
7	200	484	0.4	1	193.6
8	250	1027	0.5	1	513.5
9	300	20	0.5	1	10
Approx. generated total Spoil at ZONE-10					12962.1

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 61 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	


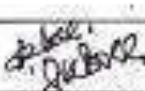


Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-10, PIPE LAYING (SANPUKURIA)

0	05.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24Pgs., WBDWSIP, PHE Dist.
Govt. Of West Bengal

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 62 of 77 Original Issue Date :

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.

Pipe laying 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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 63 of 77 Original Issue Date :

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

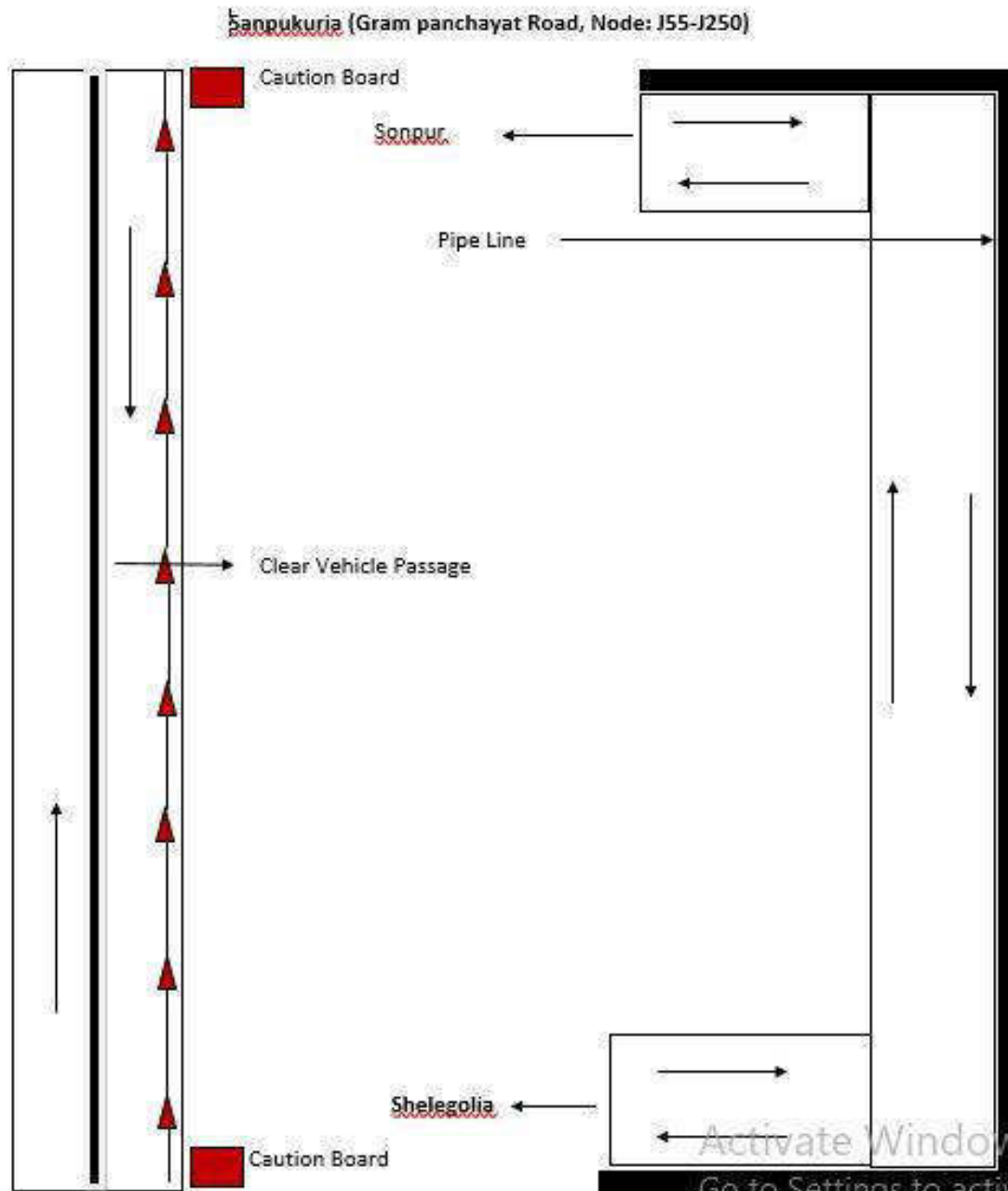
- Only authorized persons were engage loading/unloading.
- Materials loaded within the permitted safe weight limit (as per RTO) for the truck.
- Ensuring Soil and Sand loaded trucks are covered with tarpaulin while transporting
- During Toolbox talk's intimation has been delivered to all drivers/operators 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.

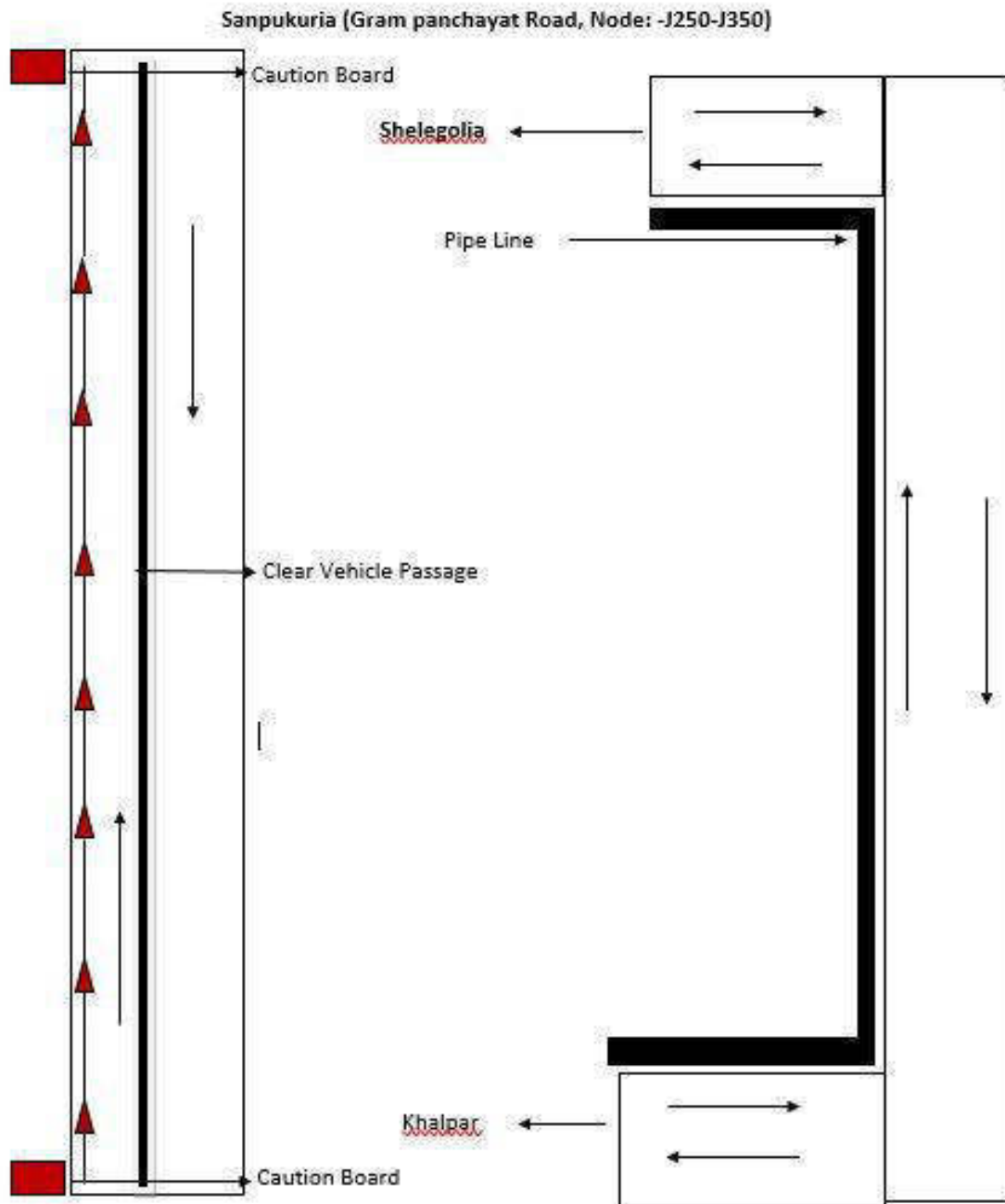
5.8 Working Area

- 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.



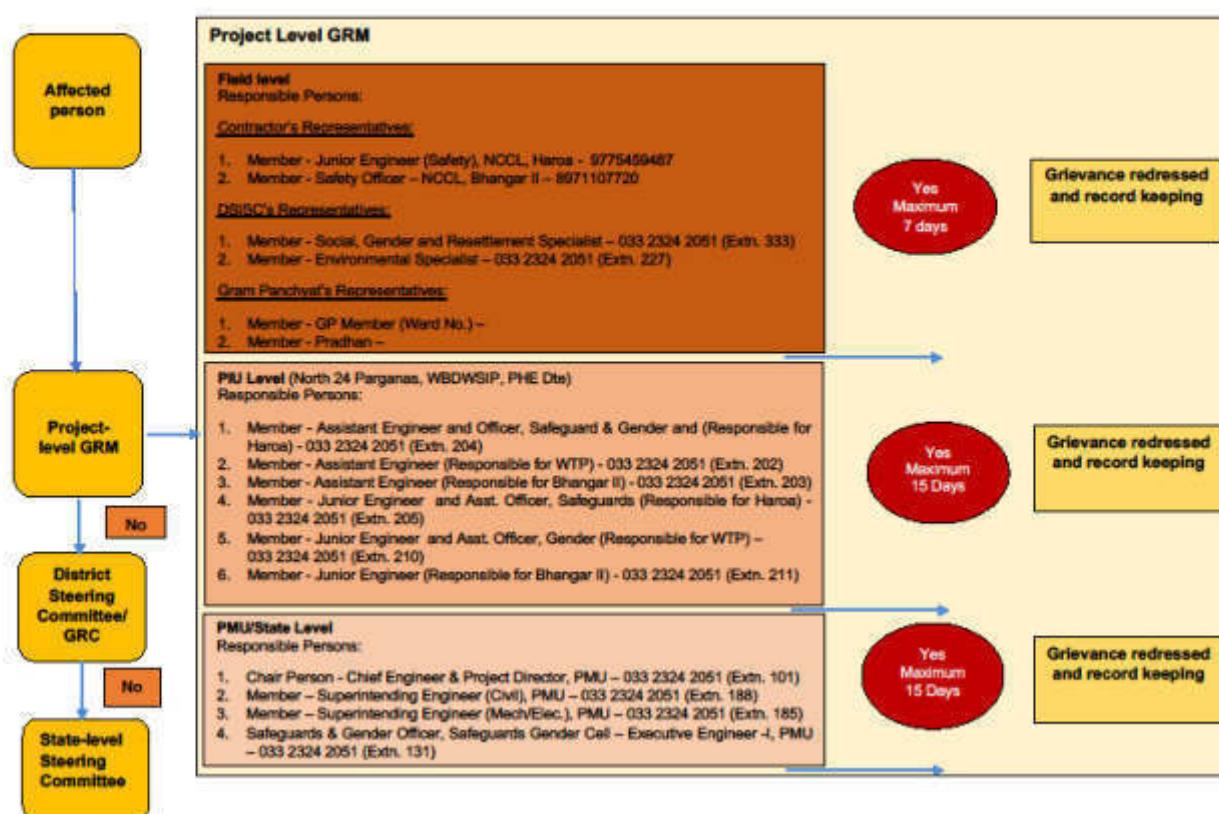


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 66 of 77 Original Issue Date :

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



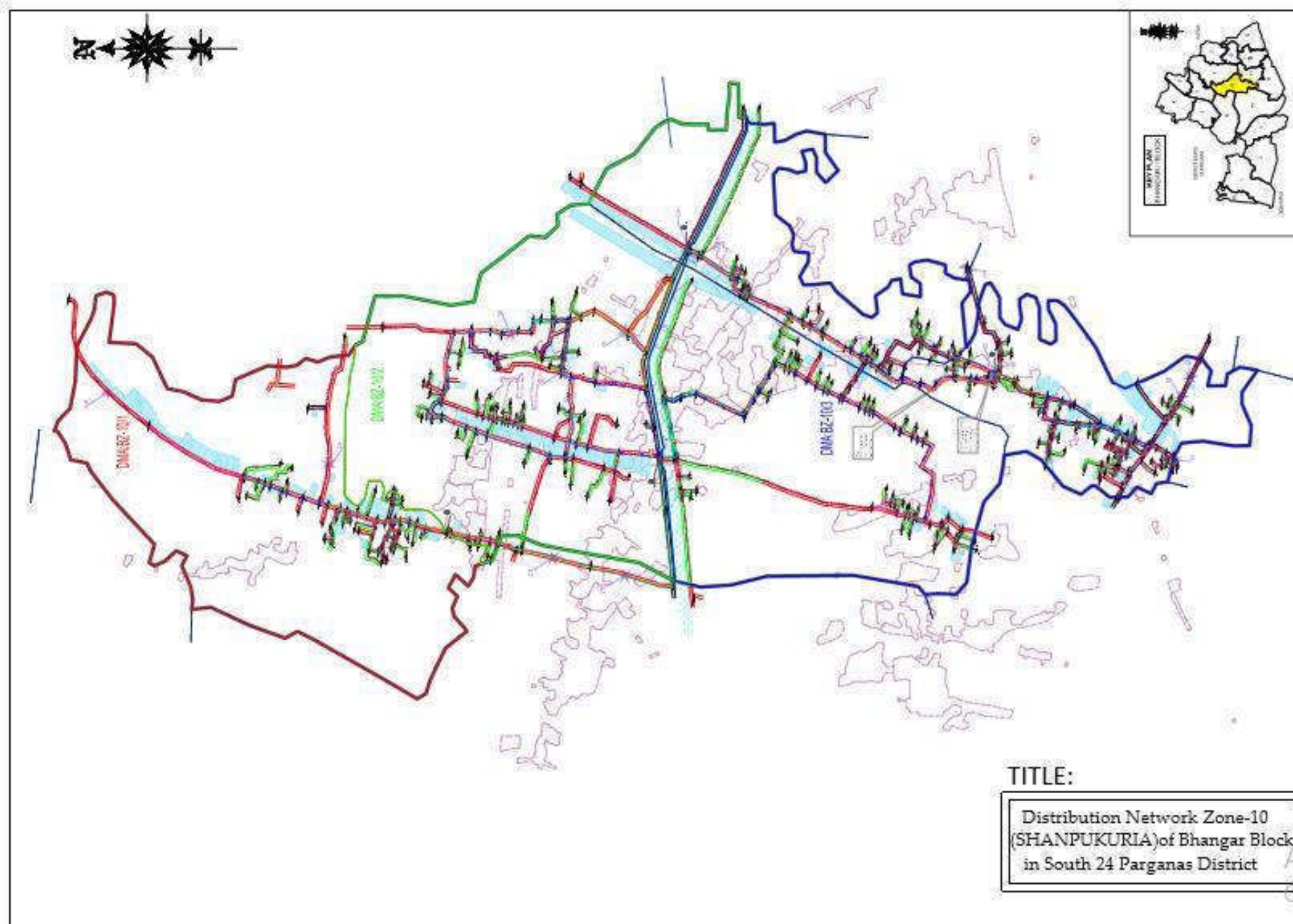
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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.


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 77 Original Issue Date :
	Site Specific Environmental Management Plan	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 68 of 77 Original Issue Date :

Appendix P.A: Gram Panchayat and other Authorities Permission



Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WRDWSIP, 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.adb@wbphed.gov.in

Memo No. EE(C)PIUN24P. Dated, New Town, the, _____

To
The B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayat Samiti,
South 24 Parganas.

Sub: Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-10) **Shanpukuria**.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 05.09.2019 in **Shanpukuria 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.

Yours faithfully,

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WRDWSIP, PHE Dte.

Memo No. EE(C)PIUN24P. Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Suvapati, Bhargar-II Panchayat Samiti.
- 2) The Pradhan, Shanpukuria Gram Panchayat.
- 3) The Officer in Charge, Keshipur Police Station.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WRDWSIP, PHE Dte.

Memo No. 548/3-3 *EE(C)PIUN24P.* Dated, New Town, the, 03/09/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WRDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WRDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debadhikari, Junior Engineer, PIU, N-24 Pgs., WRDWSIP, PHE Dte.
- 4) The Team Leader, DSIS-North 24 Parganas, WRDWSIP.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WRDWSIP, PHE Dte.

RECEIVED
1314
Signature

File
03/09/2019



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-LA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : en.piun24p.adh@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Bhangar, South 24 Parganas.
- 2) The Sub-Divisional Engineer,
BSNL, Canning Sub-Division, Canning Telephone Exchange,
South 24 Parganas.

Subj. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-10) Shampukuria.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II Block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 05.10.2019 in **Shampukuria 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.

Yours faithfully,

[Signature]

Assistant Engineer-II

PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,

Copy forwarded for information to :

- 1) The Saripati, Bhangar-II Panchayat Samity.
- 2) The Executive Officer, Bhangar-II Panchayat Samity.

[Signature]
Assistant Engineer-II

PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 03/09/2019

Memo No. 519-550/(P.A.)/EE(C)PIUN24P,

Copy forwarded for information to :

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debadhikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.


[Signature]
Assistant Engineer-II

PIU, N-24 Pgs., WBDWSIP, PHE Dte.

[Handwritten notes]
File
04/09/19

RECEIVED
17/9/19

[Signature]
Signature



**Government of West Bengal
Office of the Executive Engineer
P.U., 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.pun24p.adb@wbphed.gov.in**

Memo No. _____ /EL(C)PU/N24P, Dated, New Town, the _____

To
The District Engineer,
South 24 Parganas Zila Parishad,
Alipor, South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-10) Shampukuria.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II 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 05.09.2019 in Shampukuria 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,
P.U., N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the _____

Memo No. _____ /EL(C)PU/N24P,
Copy forwarded for information to :-
1) The Subhadrakshi, South 24 Parganas Zila Parishad.
2) The District Magistrate, South 24 Parganas.

sd/-
Executive Engineer,
P.U., N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the 03/09/2019

Memo No. 551/(2-3) /EL(C)PU/N24P,
Copy forwarded for information to :-
1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, PHE Dte.
2) The Assistant Engineer-II, P.U., N-24 Pgs., WBDWSIP, PHE Dte.
3) The Team Leader, DSIS-North 24 Parganas, WBDWSIP.

sd/-
Executive Engineer,
P.U., N-24 Pgs., WBDWSIP, PHE Dte.

RECEIVED
13-16

File
along
PHE Dte.



**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, Dte.,

To
The Executive Engineer,
WBRIDA,
South 24 Parganas Unit.

**Sub : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhangar-II Block (Zone-10) Shampukuria.**

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II 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 05.09.2019 in Shampukuria 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 Subdivisional Officer, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

Sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 02/09/2019

Memo No. 552 (3-3) EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Assistant Engineer-II, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DNISC-North 24 Parganas, WBDWSIP.

Sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

RECEIVED



(Signature)

(Signature)

Digitally signed by [Name] DN: cn=[Name], o=[Organization], ou=[Unit], email=[Email]

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 72 of 77 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
 South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
 [See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer


RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA SAHA
 Digitally signed by SHREEJITA SAHA
 Date: 2019.11.21 00:57:48 +05'30'
 Signature & Seal
Licensing Officer

Kabano Dican
DWS Bhargar II
Expire on 26/12/19


GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandarami Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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: **26th Dec, 2019**.

**Tapas
Kumar
Sinha Roy**
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas

Digitally signed by
Tapas Kumar Sinha
Roy
Date: 2018.12.27
15:32:23 +05'30'

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dto: [BRP04/CLL/000092]
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhogati-II, Block - Bhargar - II, Baruiপুর - 700135, PS - Kashipur, South 24 Parganas
Work site exact location:
VII. Kantadanga, P.O. Shonepur
Bhogati-II, Block- Bhargar - II, Baruiপুর
PS - Bhargar, District - South 24 Parganas, Pin Code - 700135

1 of 2

Appendix P.C: Workman Compensation

FUTURE GENERALI
TOTAL INSURANCE SOLUTIONS

Workmen's Compensation Policy, Policy Schedule

Policy Sertifying Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDCL, Estate Opp. Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 040-66038600		
Policy No. Issued :	2019-16129169-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/06001521
Address :	BHANGAR II BLOCK, South Twenty First Pargana, West Bengal, 743302	Telephone (A/c, O/H, Home) :	4027812990/0602590738/4027822990
GSTIN Number :	19AAACH2335C1ZE	Fax No & Email Id :	02256791416 / PADMINIA.SURYAKAIAANG@INDIAINSURE.COM
PGI GSTIN Number :	29AABCF0191K1ZA		

In consideration of the Policy holder insured 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 expenses in 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%	Gross 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 Bhangar II Block

Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block

Contractor/Sub-Contractor Name : NCC LTD

No of Employees	Description of work done by Employees	Declared Wage during the Period of Insurance (₹)
30	Highly Skilled workers	6,642,000.00
30	Skilled workers	6,048,000.00
30	Semi Skilled Workers	5,490,000.00
30	Unskilled Workers	4,598,000.00
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	Subject otherwise, to the terms, conditions & scope, Exclusions of the Policy, the amount of liability incurred by the Insured	Yes
Common Law and 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 extend to include

I. Any interest and/or penalty imposed upon 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

Termination 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

Including War Risk, Dismantling, Towing and Handling of Explosives

Excluding loss arising out of insurrection and occasion of fire & rioting.

Warranted that safety provisions are followed by the workers/agents

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 dishonour of cheque for any reason whatsoever, insurance provided under this document automatically stands cancelled from the date of dishonour of cheque till a separate communication is sent or not.

For Future Generali India Insurance Co. Ltd.

Sharada

(Authorized Signatory)

Receipt No : Z5065378
Date of Issue : 07/02/2019
Place of Issuance : Mumbai*
*Address 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. C3D/15/2018/3179/18, dated 16/08/2018, Madras - 2017C.R.9194-1, dated 09/01/2018.

Policy UIN : ISDAN132P001V01200708

Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indiatelco Finance Centre, Strategypoint
Mtg. Hyderabad Road, Mumbai - 400015, Maharashtra. C/o. UIN - 1800-226-211, 1800-520-1111, 022-47837800, Email: fgi@futuregenerali.in,
Website: www.futuregenerali.in/IRDA Reg.No. 133, COV - U66030/022060P/1C163283.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 75 of 77 Original Issue Date :

Appendix P.D: PUC Certificates


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


Vehicle Registr. No.: **WB-52H-7637** WB-01-D 3044009

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: 

TEST REPORT

AUTHORISED BY: **TRANSPORT DEPT. GOVT OF W.B.**
CHOWRASTA, NH-34, CHAKDAH, NADIA

Vehicle Registration No.: **WB-52H-7637** Test Fee: **80.00**

Year of Registration: **01-02-2010** Fuel: **PETROL**

Speedometer Reading(kms): ***** Type Of Vehicle: **2W**

Engine Number:- **33374** Type Of engine: **4S**

Chassis Number:- **02501** Vehicle Make: **HERO HONDA**

Vehicle Color:- **RED** Vehicle Model: **CDDAWN**

I.D. Number:- **WBPP003628**


Time: **04.03.28** 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: 

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicle Rules, 1985)

Vehicle Registr. No. **WB15B2529** **WB-01-D 5678745**

Date of issue: **23-07-2019** Valid upto: **22-01-2020**

Pollution Level
CO (%) **55.83**
HC (ppm) **55.83**
SD (HSU) **55.83**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE**

Signature: **[Signature]**

COMPUTERISED EMISSION TEST CERTIFICATE
CMVR AUTHORISED BY : Govt. of West Bengal
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPOKUR, 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**
Speedometer Reading[kms] = **2541** Owner: **NABA KUMAR GHOSH /851304**
Engine Number=**28746** Driver:- **SELF**
chasis Number=**B5954** Test Fee : **Rs.100/-**
Vehicle Colour = **OTHERS** Fuel : **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 : **[Redacted]**

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	860	2700	0.12	6.9	66
Avg	860	2900	1.9	55.83	

AKBAR AUTO EMISSION TESTING CENTRE

(Under the West Bengal Motor Vehicles Rules, 1989)

Vehicle Regdn. No. **PB02BL7373** WB-01-**D 5679142**

Date of issue **15-08-2019** Valid upto **15-02-2020**

Pollution Level

CO (%) **5.83**
HC (ppm) **5.83**

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-**D 5679142**

COMPUTERISED EMISSION TEST CERTIFICATE

CMVR AUTHORISED BY : Govt. of we
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPOKUR, PO: BANGAR, 24 PGS (S), W.B-743502

I.D Number **WB32C0647572** Licence No. **32/D**
Year Of Registration **2011** Date **15-08-2019**
vehicle registration no **PB02BL7373** TIME **02:47:14**
Speedometer Reading(kms) **21522** Owner **N C C CO**
Engine Number **9219** Driver **SELF**
chassis Number **G2011** Test Fee **Rs. 100/-**
Vehicle Colour **YELLOW** Fuel **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

	Idlest Rpm	max Rpm	K Value	Hau val	Oil Temp
1	860	2900	5.37	90.06	61
2	860	2900	0.17	6.9	88
3	852	2700	0.12	6.9	66
Avg	860	2900	1.9	55.83	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and hau/k value conforms to the standards prescribed under rule 113(2) of CME rules 1989. Operator- MD RAMIZ RANA

JCB

Site-Specific Environmental Management Plan

Project number: 49107-006
May 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block (Zone 4 - OHR Swastyangachhi)

Package No: N24P/02B

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 Bhargar-II Block	Doc. No. NCC/SEMP/01 Revision No. 00 Revision Date : 00 Page 1 of 8 Effective Date :
	Site Specific Environmental Management Plan	

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN


WBDWSIP BHANGAR-II BLOCK


LOCATION – ZONE- 4,OHR (Swastyan Gachhi)

0	07.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

may be approved
Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

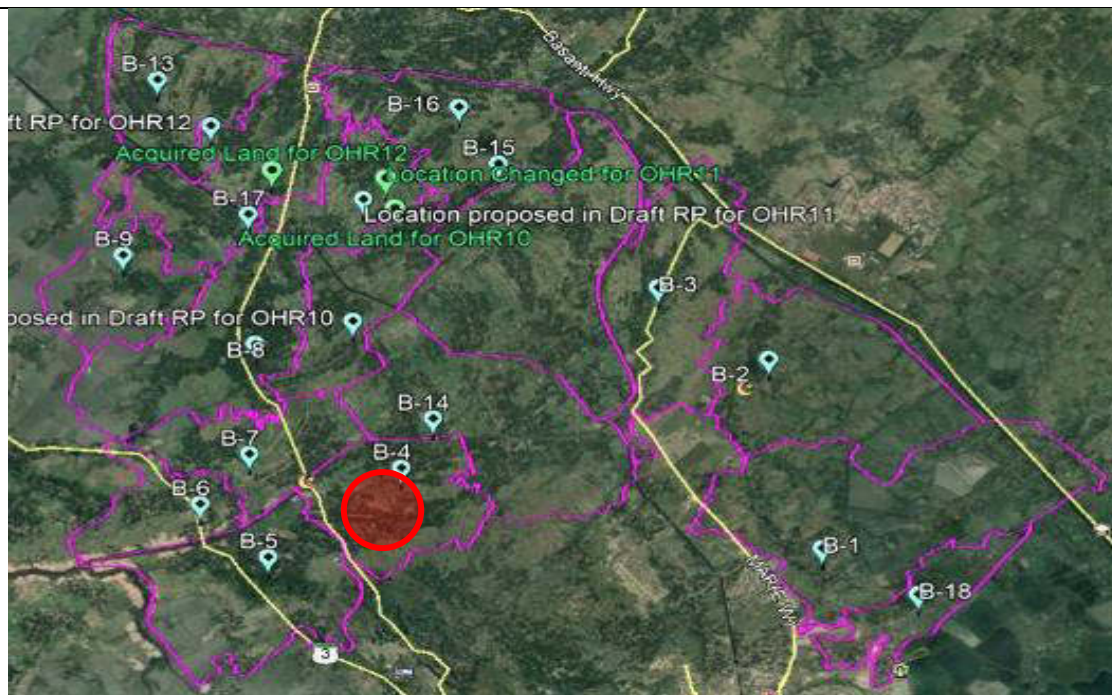

Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

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 2 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No.	Package No : N24P/02B ; Zone 4- OHR (Swastyangachhi) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II 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	14/05/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 450 KL capacity
Demolition work	No demolition activity involved
Project area	Swastyangachhi Village, Polerhat-I Gram Panchayet of Bhargar II block
Project Description	Individual household water supply schemes for the project Gram Panchayets
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-
Project Components	As per project detailed design
Gram Panchayet: Polerhat-I of Bhargar II block	
Land Status	Private and Transferred
OHR Capacity	450 KL

Location Map



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 3 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone 4-OHR (Swastyangachhi) Polerhat-I Gram Panchayets of Bhangar II block
Project Manager	Mr. Goutam Paul; 9733333053
Site Engineer	Mr. Sandeep; 8886748948
Site Supervisor	Mr. Sandeep; 8886748948
EHS Supervisor	Mr. Nitin Kumar; Mob: 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	5 skilled and 4 semi-skilled
Unskilled workers	5
Women workers	Nil
Workers – local / migrant	Migrant-14 from other districts within West Bengal
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation Rented Apartment at Swastyangachi Village {Refer Attachment O2 for details}

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 4 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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
(1)	(2)	(3)	(4)	(5)	(6)	(7)
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 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 documentation on material obtained from each source 	<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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 5 of 81 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	erosion, disturbance in natural drainage 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"> • 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 (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
Air Quality	Emissions from construction vehicles, equipment, machinery and DG set used for	<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. 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 6 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	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	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 wall around the construction sites (OHR). 	of work. <ul style="list-style-type: none"> 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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		created on-site away from water bodies .	not contaminate existing drain and pond around the project site			
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 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 	<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 monitoring has been conducted already following two places (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Shanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE. 	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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 8 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		or disposal after sedimentation should be taken into consideration.				
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 along the existing boundary wall of 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 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 (dbA); Ensure noise level at site boundary comply with standard prescribed for local landuse; and Baseline and construction phase Noise Monitoring (Day & 	<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 conducted during periods of the day which will result in least disturbance. Mixer machine, winch machine and DG sets used for concreting and piling are properly maintained and stopped immediately after completion of work. Baseline monitoring has been conducted. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 9 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		Night time) should be conducted.	<ul style="list-style-type: none"> Noise quality Monitoring has been conducted at following five places (Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar II 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 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 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

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 10 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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; Moving equipment maintained 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 11 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			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 03 for documents relating to statutory compliances 	Contractor, PIU	DSISC observation at site and document checking	Project cost
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	1. 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 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 12 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		the facility <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 	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 O2. 			

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 13 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
		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

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 14 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

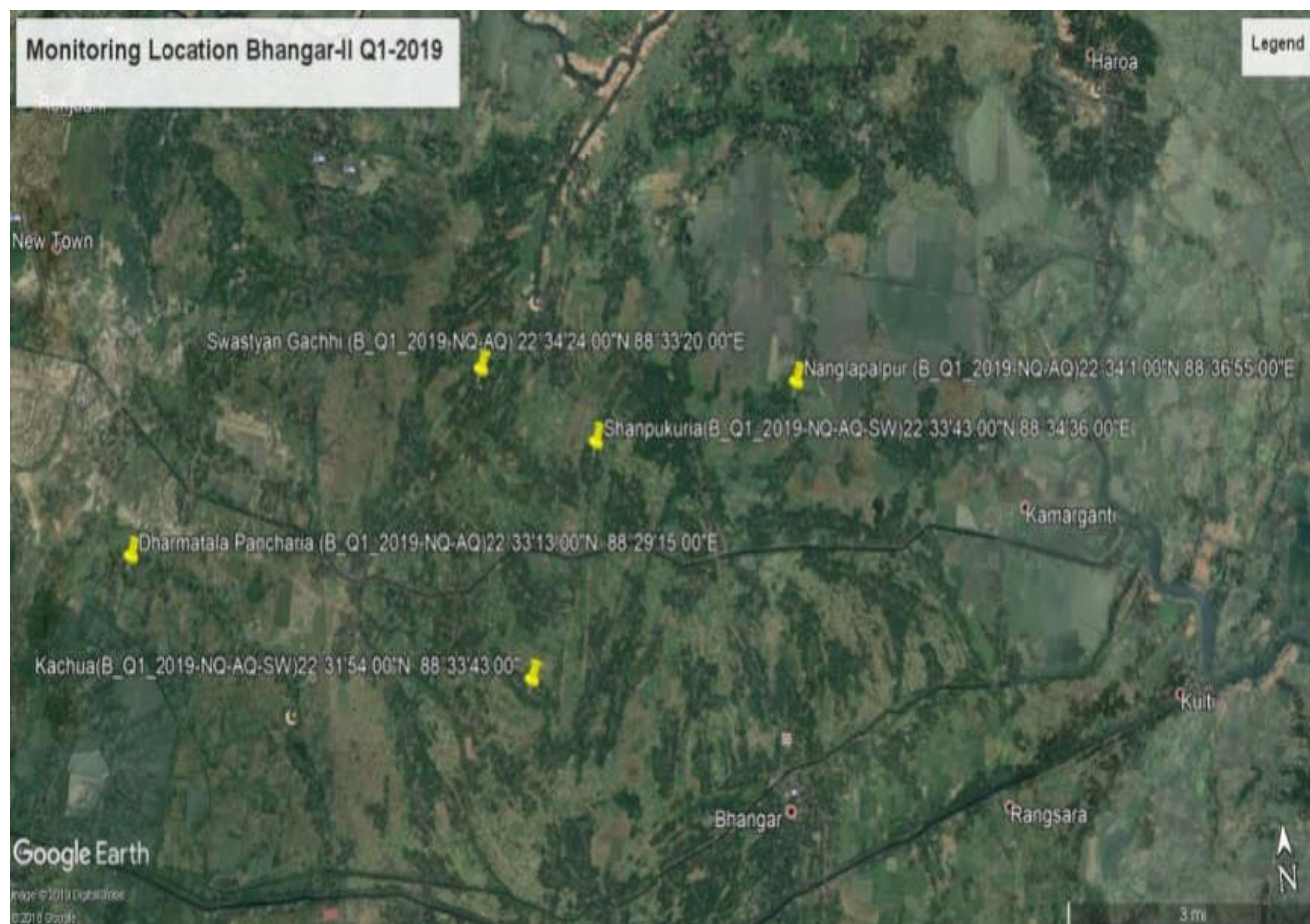
Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 15 of 81 Original Issue Date :

Monitoring Locations on Google Earth



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 16 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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, _

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 17 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O1: Details of construction Work sites

1. Zone 4: OHR construction Site		
Location- Sastyangachhi		
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 	
C	Site office – No	
D	Laboratory – No	
E	Security cabin – No	
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Labor rest area • Toilets • Drinking water • First Aid Box. 	
G	Site Layout Plan Refer Appendix O.1	
H	Site photographs	
Original site photographs		
	OHR before Construction	

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 18 of 81 Original Issue Date :

Project
facilities at Site



Project Information Board



Safety signage at site



Toilet on OHR site



PPEs use at site





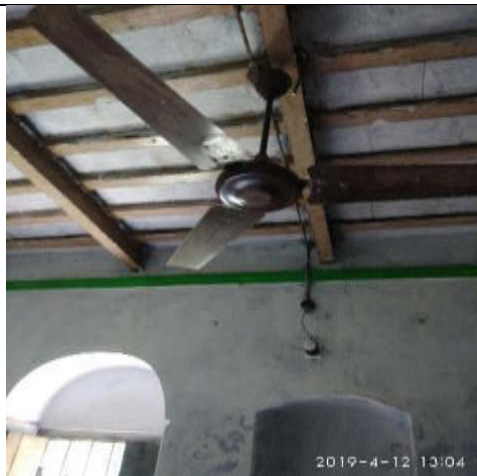
First Aid Box at site



Labour Rest Area

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 19 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 4: Sastyangachhi	
Location- Sastyangachhi, Polerhat - I (Latitude: 22°34'16", Longitude: 88°33'21")		
A	Accommodation – For 14 Nos construction workers No women / families in the camp Facilities provided at camp site <ul style="list-style-type: none">• Type of living accommodation – Rented house• Accommodation provided for 14 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 camp is not located on OHR site.	
Photos of camp and facilities provided		
	Rented labour camp at zone 4-OHR	Arrangement of kitchen and packed drinking water
		
Availability of Fan at Labour camp		

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 20 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 21 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 30No. • Gloves-5no. • Helmet-29no.s • Safety jacket- 31nos. • Goggles- 4 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. Md Sukur Ali Mob: 8327043932
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
		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

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 22 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (MT) required for project	Source	Indicate if source has all necessary government clearances
1	Steel	49.38	Approved supplier	-
2	Cement	135.75	Approved supplier	-
3	Sand	207.92	From approved quarries at Gopiballavpur/ Bardhaman	Yes
4	Aggregate	400.22	From approved quarries at Nalhati/ Rampurhat	Yes

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 23 of 81 Original Issue Date :




Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
Spoil Management Plan		


SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK


LOCATION – ZONE- 4,OHR (Swastyan Gachhi)

0	13.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

may be approved



Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal



Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte Assistant Engineer-II (Civil)
Govt. Of West Bengal PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

West Bengal Drinking Water Sector Improvement Project

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 24 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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 in Zone (04). 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.

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 25 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

5. IDENTIFICATION AND ASSESSMENT OF SPOIL ASPECTS AND IMPACTS:

In this project, places will be identified jointly along with design engineer for utilisation. 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. 181 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 for spoil transport 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.

SPOIL DETAILS

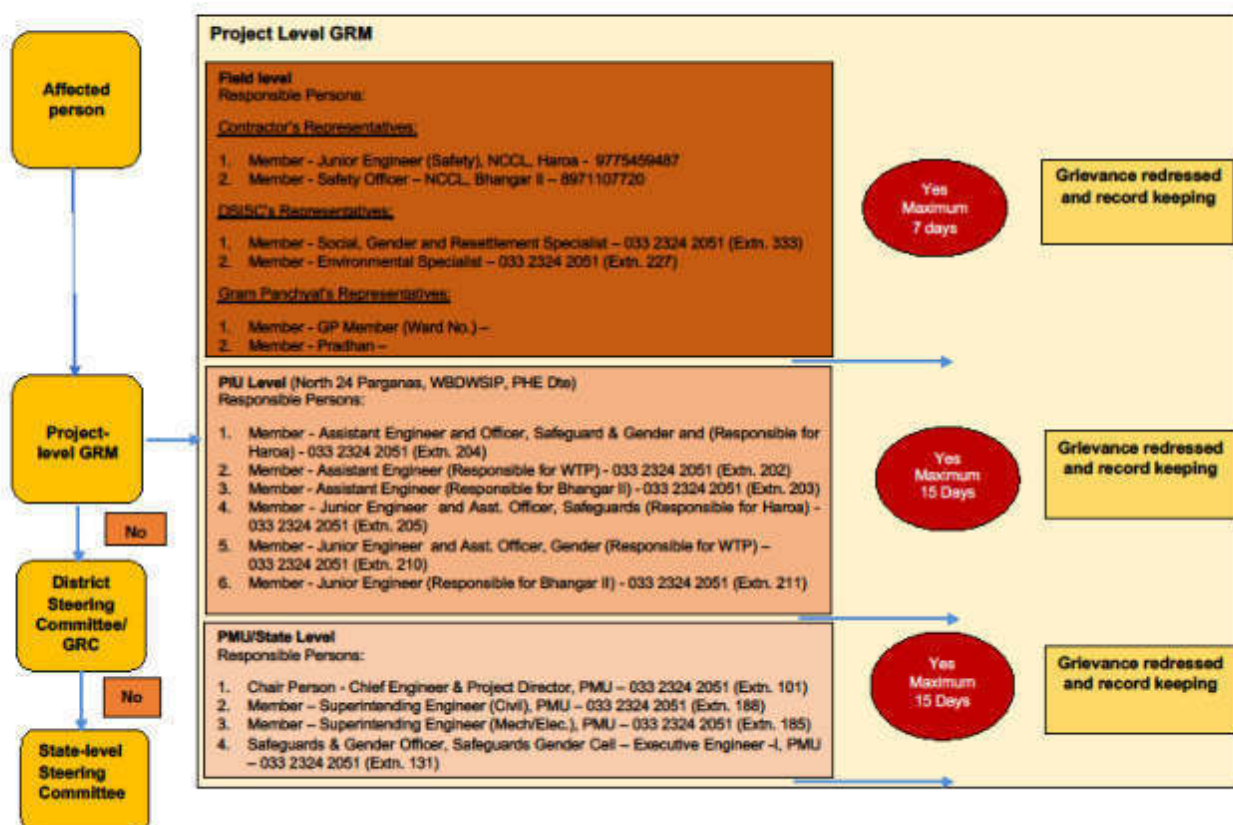
Sl. No.	Zone	Name Of Structure	Excavation Total Qty (C.U.M)	Back Filling Total Qty (C.U.M)	Reuse Excess Qty (C.U.M)
1.	04	Boundary wall	180.833	148.541	32.292

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 26 of 81 Original Issue Date :

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



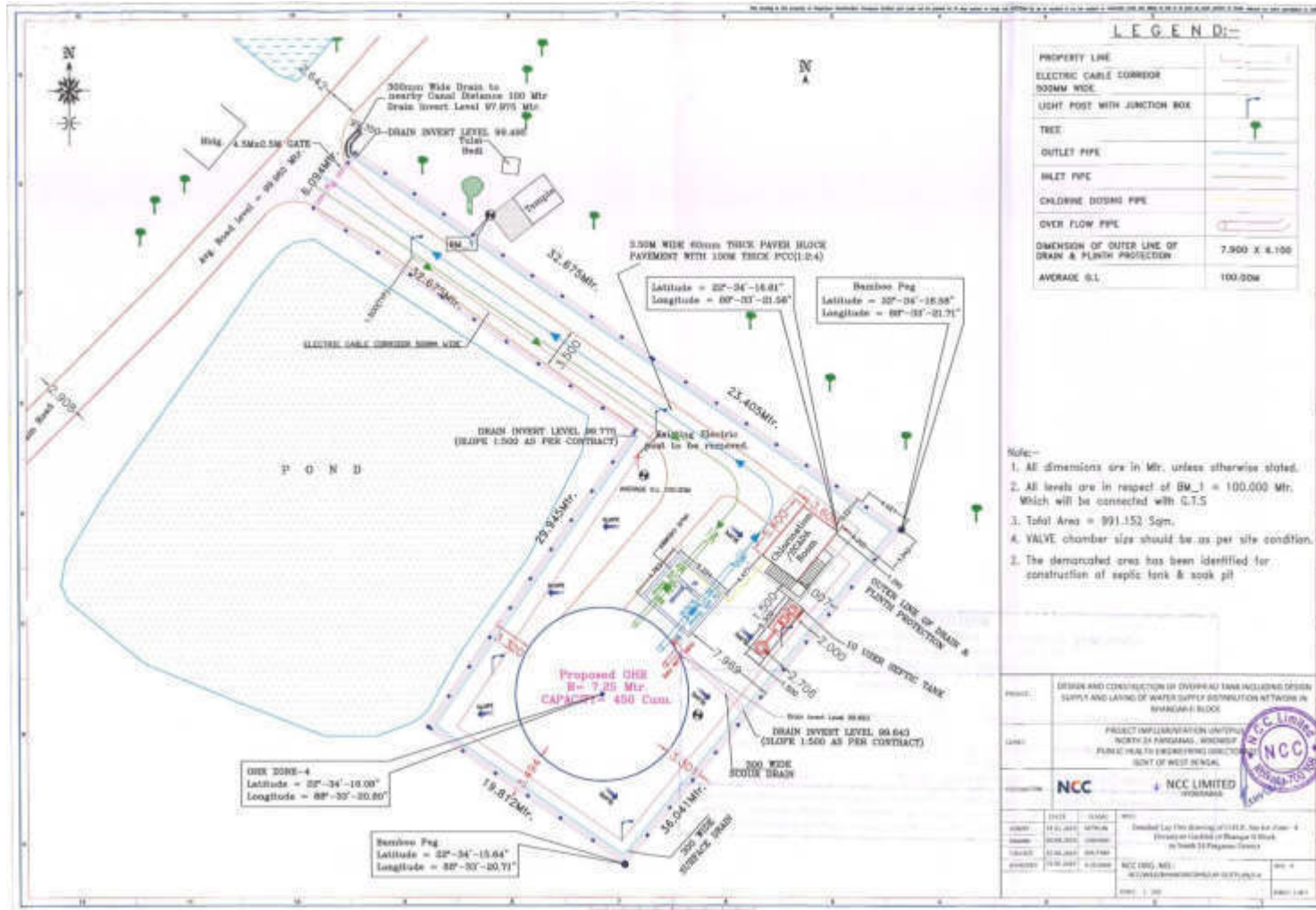
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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 27 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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




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 29 of 81 Original Issue Date :

Appendix O.A: Labour License

 					
GOVERNMENT OF WEST BENGAL OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road, Ward No - 5, Shibaniptith, Baruiপুর, Kolkata-700144					
FORM VI [See Rule 25(1)]					
License No. : BRP04/CLL/000191	Date : 27th Dec, 2018				
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Lic Fees</td> <td>1000</td> </tr> <tr> <td>S.Deposit</td> <td>30000</td> </tr> </table>		Lic Fees	1000	S.Deposit	30000
Lic Fees	1000				
S.Deposit	30000				
<u>LICENSE</u>					
License is hereby granted to NCC LIMITED at Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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:-26th Dec, 2019					
sd/- Signature & Seal Licensing Officer					
<u>RENEWAL</u>					
[Rule 29]					
Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019				
1.Date of Renewal	21st Nov, 2019				
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)				
3.Date of Expiry	26th Dec, 2020				
SHREEJITA SAHA Digitally signed by SHREEJITA SAHA Date: 2019.11.21 00:52:48 +05'30' Signature & Seal Licensing Officer					

*Labour Licence
DWS Bhargar-II
Expire on 26/12/19*


GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandaram Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Barulpur, Kolkata-700144

FORM VI
[See Rule 35(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700136, Patharghata, Block- Rajarhat , Baraset, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

**Tapas
Kumar
Sinha Roy**
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Barulpur, South 24 Parganas
[BRP04/CLL/000092]

Digitally signed by
Tapas Kumar Sinha
Roy
Date: 2018.12.27
15:32:23 +05'30'

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
W Site - Utility Building, Tank No - 3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhogati-II, Block - Bhargar - II , Barulpur - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhogati-II, Block - Bhargar - II , Barulpur
PS - Bhargar, District - South 24 Parganas, Pin Code - 700135

1 of 2

Appendix O.B: Workman Compensation



Workman's Compensation Policy- Policy Schedule			
Policy Serving Office	Off Code-13, Future Generali India Insurance Co Ltd, 1st Floor G.No.7-1-21A, APDL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 940-66038500		
Policy No	2019-LI29169-FWC	Period of Insurance	From 00:00 04/03/2019 To Midnight of 03/03/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES/60001531
Address	BHANGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743552	Telephone(Mch,Off,Home)	4521822990/60002390738/4021822990
		Fax No & Email Id	82256791416 / PADMALA.BHUYARAJAN@INDIAINSURE.COM
GETIN Number	16AAACHT33C12M	PGI GETIN Number	36A-BCF0191812A
In consideration of the Policy holder having been 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 represented 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, co-payments and warranties herein after set forth.			
Co-insurance Details		Schedule Of Premium (₹)	
Insurer	Share (in %)	Gross Premium	114,504.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Claims and Service Tax	24,174.78
		Total Premium	138,679.14
Risk Details			
Name of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
30	Highly Skilled workers	6,647,000.00	
30	Skilled workers	6,648,000.00	
30	Semi Skilled Workers	3,490,000.00	
30	Unskilled Workers	4,985,000.00	
Total		21,770,000.00	
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 extent of liability incurred by the Insured	Yes	
Common Law and Fatal Accident		Yes	
Law(s)			
WC Act 1923 and subsequent amendments to the said Act prior to the date of issue of the policy provided that the insurance quoted hereunder is not extended to include: 1. 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 2. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Damages is excluded from coverage. We cover for Medical Expenses, Unless specifically offered in the policy. We Cover for medical Expenses. We Cover for occupational Diseases. Jurisdiction/Territory : India Excluding War Risk, Blasting, Trenching and Handling of Explosives Excluding loss arising out of installation and erection of live a wiring. Warranted that safety precautions are followed by the workers heights. Contractors and sub-contractors employees 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 :	23065378	 (Authorized Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address mentioned below.			
Note: This document is digitally signed by Sharada Ramakrishnan, Authorized Signatory of Future Generali India Insurance Company Limited on 07/02/2019			

The stamp duty of Rs 67.15 paid by Letter Of Authorization No. CSD/518/2018/117918, dated 16/09/2018, Mumbai - 20/747, 8, 9/16-1, dated 05/01/2018.

Product UIN : 18DANT32P0012V01200708



**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**

Site Specific Environmental Management Plan

Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
Page 32 of 81
Original Issue Date :

Appendix O.C: PUC Certificates

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

Vehicle Registr. No.: **WB08G1752** WB-01-**D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO (%)	
HC (ppm)	
BD (HSU)	44.1%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: **WB-01-151/AETC/2018**

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

MIL 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.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9830728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdg: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0620 RPM Max: 1923** Emission Norms.: **BS IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	HSU %	OTP C
1	0710	2080	01.23	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.38	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
HSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre: *[Seal]* Authorised Signatory: *[Signature]*

JINDUS DiesX 2.6.6/0000-0000/4660

**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**

Site Specific Environmental Management Plan

**Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
Page 33 of 81
Original Issue Date :**

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1986)

Vehicle Registrn. No. **PB02BL7373** WB-01-D **5679142**

Date of Issue: **16-08-2019** Valid upto **15-02-2020**

Pollution Level

CO (%)	
HC (ppm)	
% of EW	55.83

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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572 Licence 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
chasis Number=G2011 Test Fee : Rs.100/-
Vehicle Colour = YELLOW Fule : Diesel
Vehicle Make : JCB Smk cell Temp : 00
Vehicle Model : 3DX Oil Temo : 93.0
Type Of Engine :OTHERS Valid Up To : 15-02-2020
Type OF Vehicle: OTHERS Grade

Test Reasult : Free Acceleration Validity 6Months

	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	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and hsu% value conforms to the standards.

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

Vehicle Registr. No. **WB-30P-5178** **WB-01 D 4448893**

Date of Issue: **26-Jun-2019** Valid upto: **25-Dec-2019**

Pollution Level

CO (%)	2.527
HC (ppm)	1490
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **26/06/19**

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

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHAUSADY, HAROA, 24PGS(N)

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

PUC Number: P000000001437 Vehicle Type: 2 Wheeler

Name: NCC LTD Reg. No.: WB-30P-5178

Address: Reg. Date: Nov-2013

Manufacturer: Bajaj

Model: Discover

Engine Type: 4 Stroke

Test Date/Time: 26-Jun-2019 10:16 Odometer Rding: 0

Catalyst: No Engine Number: 05086

Chassis Number: 75215

Fuel	Petrol		LPG	
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	2.527		
HC* (ppm)	1500	1490		
CO2 (%)		2.53		
O2 (%)		14.9		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		7.490		

*Read as RHC for LPG and HHC for CNG

Test Result: **PASS**

Grade: **B**

Valid Upto: **25-Dec-2019**

Test Fee: **Rs. 80**

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

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 35 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.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 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:
--------------	----------	----------------	--------------	------------

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 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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:	

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 37 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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-



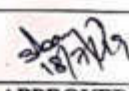

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 38 of 81 Original Issue Date :

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 Revision No. 00 Revision Date : 00 Page 1 of 9 Effective Date :
	Site Specific Environmental Management Plan	

**SITE SPECIFIC ENVIRONMENTAL
MANAGEMENT PLAN**

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 4,PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24Pgs.,WBDWSIP, PHE Coe.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

1

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 39 of 81 Original Issue Date :

Package No.	Package No: N24P/02B; Zone 4 - Pipe Laying (Swastyangachhi) , under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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 work commencement	14/6/2019										
Contract period	Construction: 3 Years ; O&M: 2 Years										
SEMP Component	Laying of 35285 m of pipeline as detailed below.										
Demolation Activity	No demolition activity involved										
Project Area	Polerhat-I Gram Panchayet ,Bhangar II block										
Project Description	Individual household water supply schemes for the project Gram Panchayets										
Household Connections	2325 (Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not finalized yet										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Polerhat-I											
Water Distribution Pipe Length (m) Summary											Total Length
Zone ID	Pipe Diameters(mm)										
	63*	75*	90*	110*	140*	200*	250	300	350	400	
Zone - B4	19357	2154	1359	5072	4317	2484	497	45			35285
Map of Distribution Network											
Refer Appendix – P1											

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 40 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-4 (Pipeline works), Polerhat-I GP of Bhangar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Amlan Singha Roy; 9734667934
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and 2 Semi-skilled
Unskilled workers	6
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant -10 (from other districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One at Anantapur, Polerhat-I (Refer Attachment P2 for details)

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 41 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
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,	<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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 42 of 81 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
	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</p>	Contractor and 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 Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 43 of 81 Original Issue Date :

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of Mitigation (6)	Cost and Source of Fund (7)
			of existing infrastructure like replacement of AC pipes, tube wells, pumping stations and OHSRs			

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	<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 	<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 (Near School Swastayangachhi. 	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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 44 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	that causes pollution.	as per site condition. <ul style="list-style-type: none"> Control unnecessary movement of vehicle, public trespassing into work areas for control of dust generation. 	Zone-04, Near Paschim Majarhat primary school Shanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhargar II 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	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	<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 (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhargar II 	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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 45 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	water quality.		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	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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhargar Project for Environmental Monitoring Report. 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	Construction	<ul style="list-style-type: none"> Prepare a construction waste 	<ul style="list-style-type: none"> Spoil management plan has 	Contractor	PIU through	Project cost

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 46 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
and Aesthetics character, and sense of place	wastes as well as excess construction materials may show some impact.	management plan for site. <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. 	been developed [Refer Attachment P7] <ul style="list-style-type: none"> Excavated earth is utilized for backfilling purpose. Excavated earth will be backfilled on the same day. 		DSISC observation 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. (e) Providing to all workers reflective jacket, (f) Marking and providing sign boards for	<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 	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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 47 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		most of hazardous areas such as high voltage equipment, (g) Workers allowed exposure to noise level up to 85 dB (A) only.	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 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	<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) 	<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 	Contractor	PIU through DSISC observation at site and document	Project cost

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 48 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	after establishment of habitation	<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 • 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>and no any destruction of property, irrigation and drinking water supply systems observed,</p> <ul style="list-style-type: none"> • 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. 		checking	

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 49 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 			

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 50 of 81 Original Issue Date :

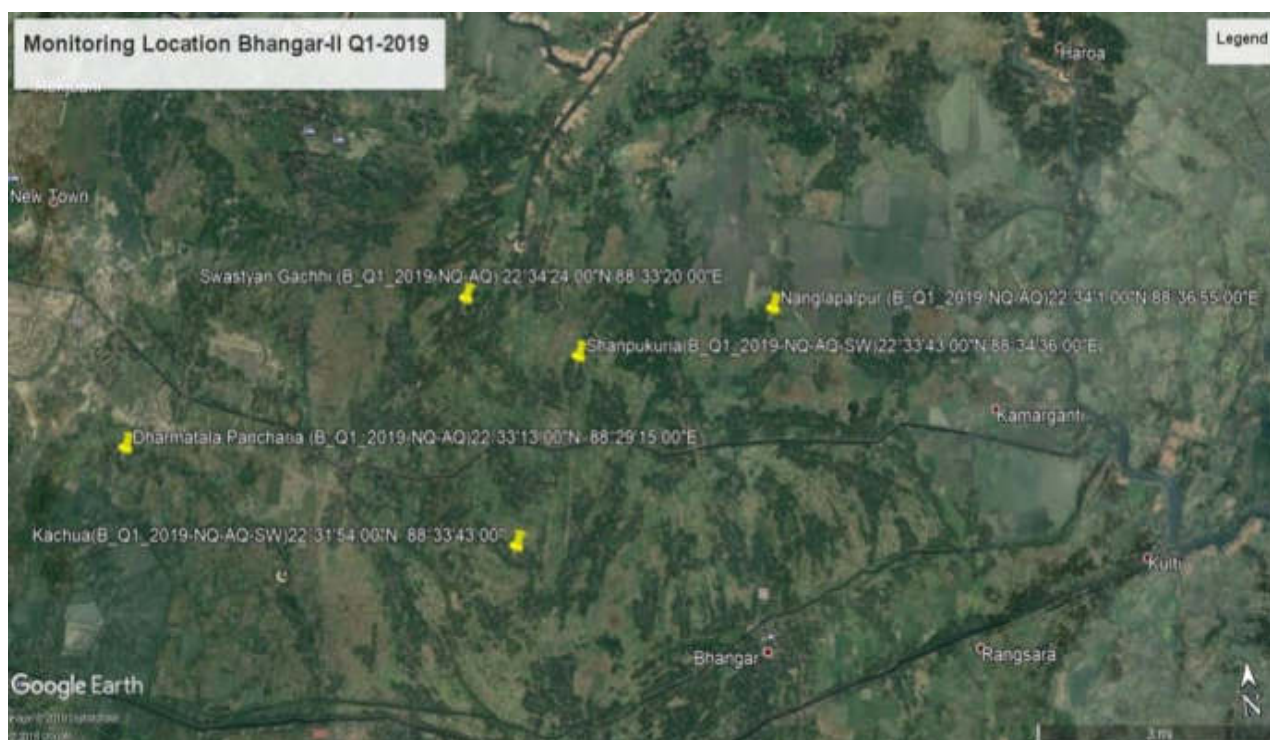
Table 3: Construction Phase Environmental Monitoring Plan for entire package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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 are responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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 51 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Monitoring Locations on Google Earth



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 52 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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/02B_Bhangar II block



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 53 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 4: Pipeline construction Site							
Location- Sastyangachhi							
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	Manual/Mech
	350 mm	---	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen	Manual/Mech
	300 mm	45	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen	Manual/Mech
	250 mm	497	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen	Manual/Mech
	Distribution Network— HDPE Pipes(34743 m)						
	200 mm	2484	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen	Manual/Mech
	140 mm	4317	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen	Manual/Mech
	110 mm	5072	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen	Manual/Mech
	90 mm	1359	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen	Manual/Mech
	75 mm	2154	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen	Manual/Mech
	63 mm	19357	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen	Manual/Mech

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 54 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 4	
Location- Anantapur, Polerhat - I (Latitude: 22°35'0", Longitude: 88°33'37")		
A	Accommodation – For 10 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 10 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		
	Rented house as labour accommodation	Sleeping area with electrical lights

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 55 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P3: List of clearances & statutory requirements

Sl. No.	Project related	Status
A	Construction/work related	
1	Gram Panchayet 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

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 56 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 10No. • Gloves-3no. • Helmet-10nos. • Safety jacket- 10nos. • 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													
	<table border="1"> <thead> <tr> <th>Designation</th><th>Staff name & contact</th><th>Emergency responsibility</th></tr> </thead> <tbody> <tr> <td>Site Engineer</td><td>Mr. Amlan Singh Roy Mob: 9734667934</td><td>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.</td></tr> <tr> <td>EHS Supervisor</td><td>Mr. Nitin Kumar Mob: 8971107720</td><td>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.</td></tr> <tr> <td>Project Manager Representative</td><td>Druga Prasad Mob: 9836803672</td><td>Project Manager Representative shall be responsible for taking all necessary action and decisions.</td></tr> </tbody> </table>	Designation	Staff name & contact	Emergency responsibility	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	Project Manager Representative shall be responsible for taking all necessary action and decisions.	
Designation	Staff name & contact	Emergency responsibility												
Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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												

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 57 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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	10915	From trench cutting	Not required

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 58 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	




Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block Spoil Management Plan	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
--------------------	--	---


SPOIL MANAGEMENT PLAN (SMP)


WBDWSIP BHANGAR-II BLOCK


LOCATION – ZONE- 4,PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environment Section
North 24 Parganas
WBDWSI Project


Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE
Govt. Of West Bengal


Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte
Govt. of West Bengal

West Bengal Drinking Water Sector Improvement Project

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 59 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (4). For this 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 be conforming 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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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.

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 60 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 10915 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 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 Swastyangachhi (Zone 04) for Pipe laying

Sl.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	19350	0.3	1	5805
2	75	2155	0.3	1	646.5
3	90	1357	0.3	1	407.1
4	110	5074	0.3	1	1522.2
5	140	4318	0.3	1	1295.4
6	200	1999	0.4	1	799.6
7	200	483	0.4	1	193.2
8	250	497	0.45	1	223.65
9	300	45	0.5	1	22.5
12	Approx. generated total Spoil at ZONE-04				10915

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 61 of 81 Original Issue Date :

Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-4,PIPE LAYING (Swastyan Gachhi)

0	16.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

maybe approved

Countersign

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Junior Engineer
PIU-i, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

West Bengal Drinking Water Sector Improvement Project

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 62 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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.

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.

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 63 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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

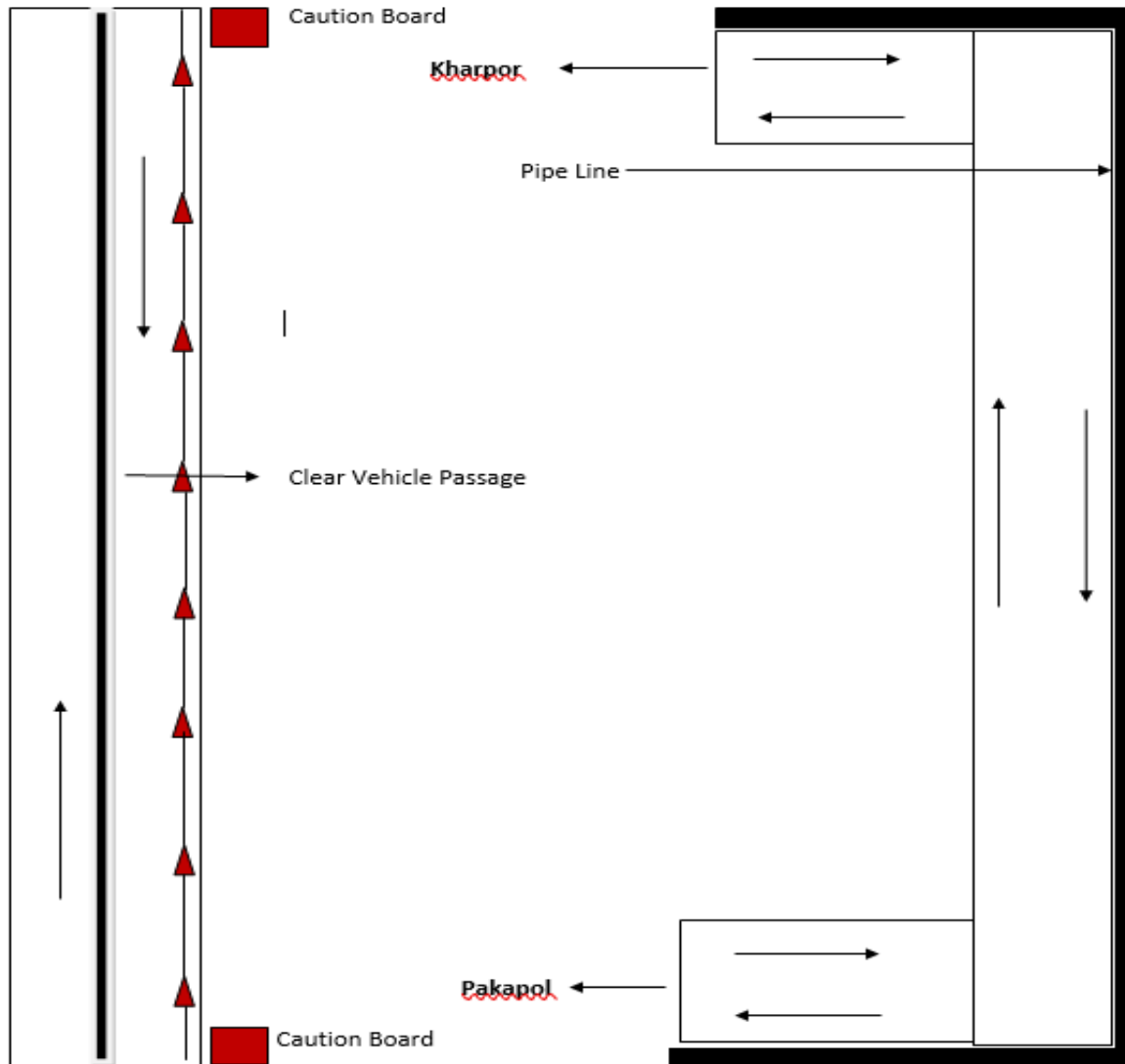
- The working area has been restricted from unauthorized entry.
- The working space has been defined.

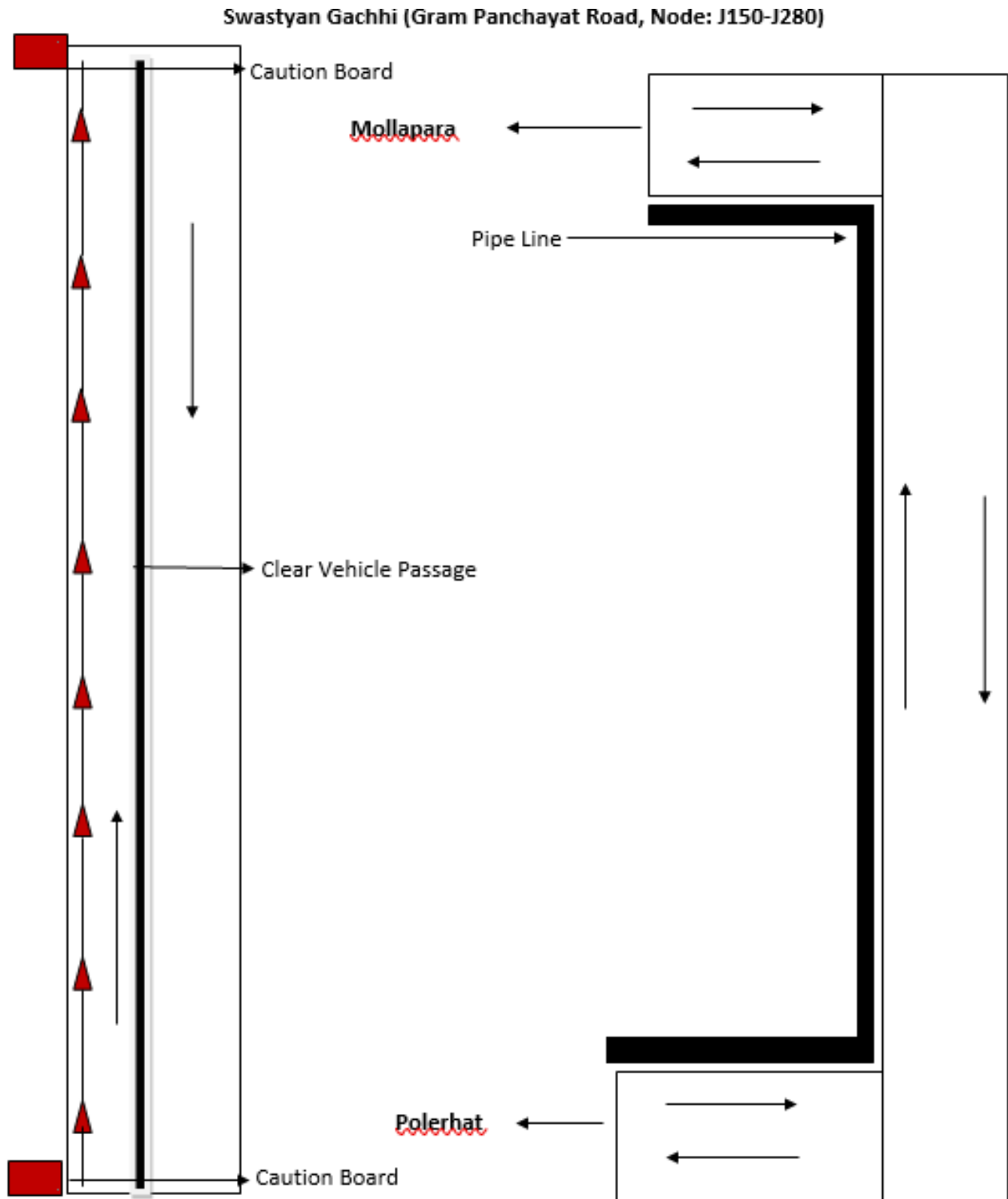
Particular attention has been taken in working area:

- 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.

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 64 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Swastyan Gachhi (Gram Panchayat Road, Node: J1-J150)



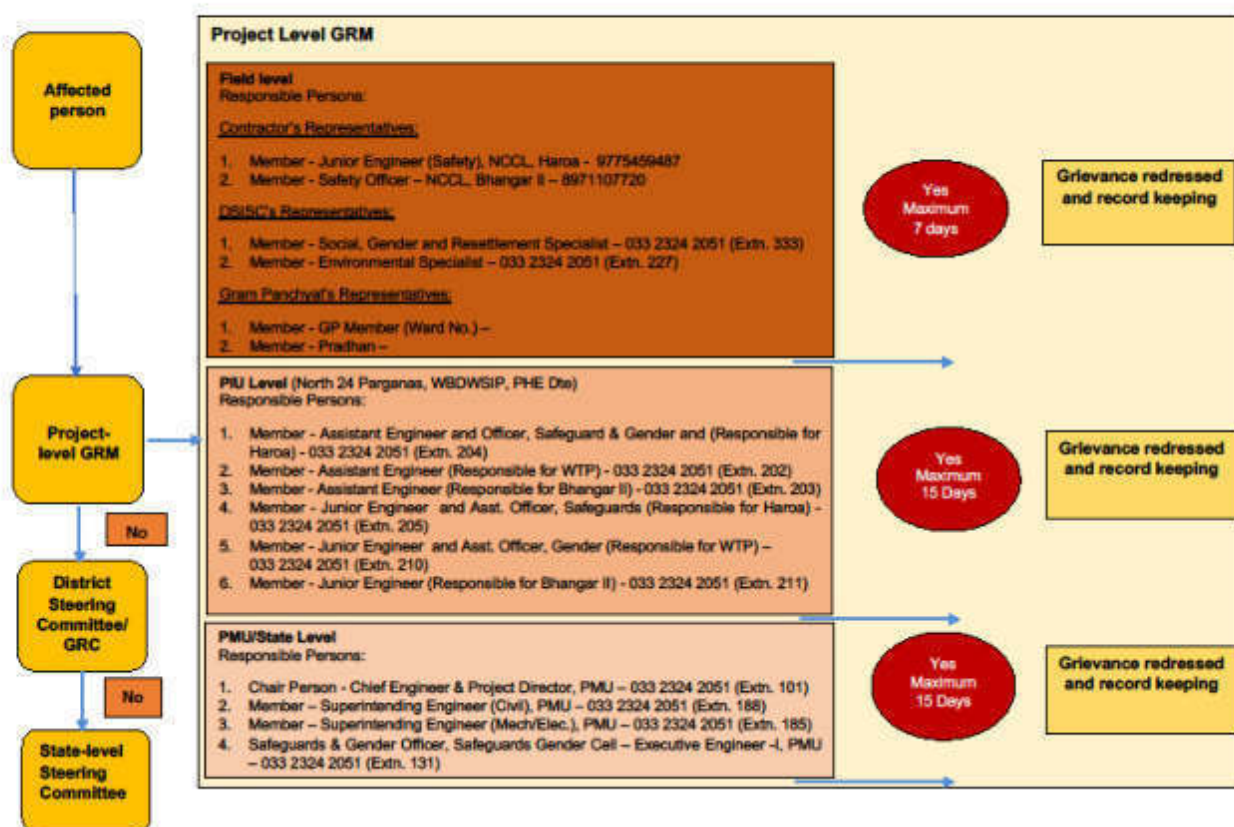


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 66 of 81 Original Issue Date :

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.

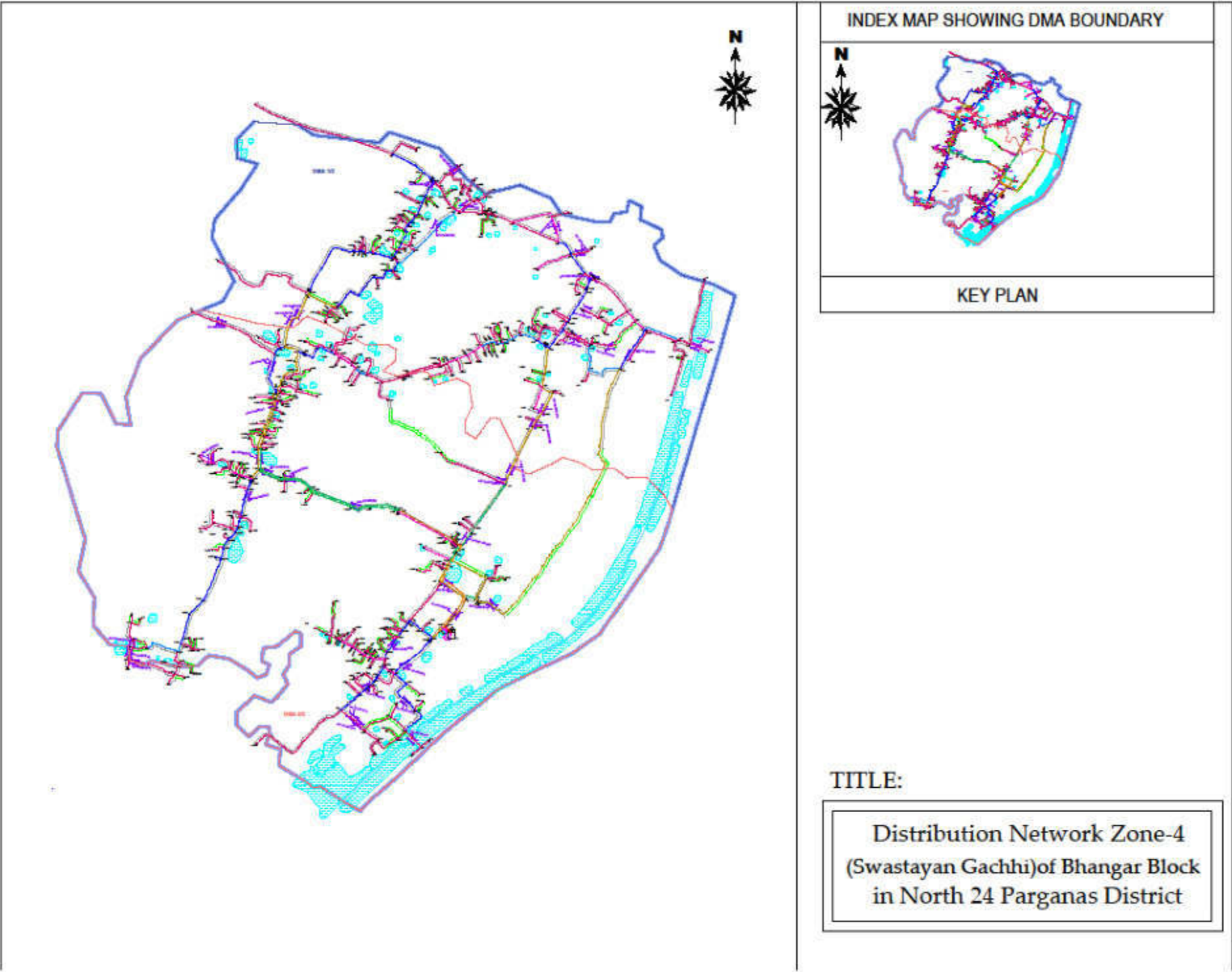
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 67 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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.


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 68 of 81 Effect Issue Date :
	Site Specific Environmental Management Plan	

Appendix P1: 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 69 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.A: Gram Panchayat and other Authorities Permission


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 District Engineer,
South 24 Parganas Zilla Parishad,
Alipur, South 24 Parganas.

Sub : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II 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 17.06.2019 in Poterhar-I 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.

Enclo. : As stated.

Yours faithfully,

sd1-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, _____

Memo No. _____/N-24 PGSD-II,
Copy forwarded for information to :-

- 1) The Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The Executive Engineer, WBSRDA, South 24 Parganas Unit.

sd1-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, 13-06-19

Memo No. 987/333/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-II, North 24 Pgs. W/S Divn.-II, PHE Dte.
- ✓ 3) The Team Leader, DSISC:North 24 Parganas, WBDWSIP.

Amundal
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
File
agp 14/6

DSISC / WBDWSIP
Inward No. 1022
RECEIVED
Date 14/06/19
Time 12:53 PM

C:\Users\NCC Project\Bhangar-II\NCC\NCC.doc

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 81 Original Issue Date :
	Site Specific Environmental Management Plan	


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-A1, AA-1A, 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 Executive Engineer,
WBSRDA,
South 24 Parganas Unit.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhargar-II 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 17.06.2019 in **Polerhar-I 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.

Encl. : As stated.

Yours faithfully,

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, _____

Memo No. _____/N-24 PGSD-II,
Copy forwarded for information to :-

- 1) The Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

Sd/-
Executive Engineer,
N-24 Pgs. W/S Divn.- II, P.H.E. Dte.
Dated, New Town, the, 13-06-19

Memo No. 988/13-3/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-II, 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.

DSISC / WBDWSIP
Inv. No. 1023
Date 16/06/19 Signature *[Signature]*

File
14/6

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 71 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	


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 B.D.O. & Executive Officer,
Bhangar-II Development Block & Bhangar-II Panchayet Samiti,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhangar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 17.06.2019 in **Polehat-I 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.

Yours faithfully,

sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/N-24 PGSD-II, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Bhangar-II Panchayet Samity.
- 2) The Pradhan, Polehat-I, Gram Panchayet.
- 3) The Officer in Charge, Kashipur Police Station.

sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. 989/13-1/N-24 PGSD-II, Dated, New Town, the, 13-06-19


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 Partha Chakraborty, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP

sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

File
16/06/19
Signature

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 72 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	


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

- 1) The Station Manager,
WBSEDCL, Bhangar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
BSNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October*2018 in Bhangar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 17.06.2019 in **Polerhat-I 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.

Yours faithfully,
Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

Memo No. _____/N-24 PGSD-II, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Bhangar-II Panchayet Samity.
- 2) The Executive Officer, Bhangar-II Panchayet Samity.

Memo No. 990-991 (2-4) /N-24 PGSD-II, Dated, New Town, the, 13/06/2019

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 Partha Chakraborty, Junior Engineer, N-24 Pgs. W/S Divn.-II, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Sd/-
Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

13/6/2019

Inward No. 1025
RECEIVED
Date 19/06/19



Assistant Engineer-II
N-24 Pgs. W/S Divn.-II, PHE Dte.

File
14/06

E:\Gostia\26 Proj\Bhangar-II\Letter to AE-2.doc



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 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.B: Labour License

						
GOVERNMENT OF WEST BENGAL						
OFFICE OF THE DEPUTY LABOUR COMMISSIONER , BARUIPUR						
South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road, Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144						
FORM VI [See Rule 25(1)]						
License No. : BRP04/CLL/000191	Date : 27th Dec, 2018					
		<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Lic Fees</td> <td>1000</td> </tr> <tr> <td>S.Deposit</td> <td>30000</td> </tr> </table>	Lic Fees	1000	S.Deposit	30000
Lic Fees	1000					
S.Deposit	30000					
<u>LICENSE</u>						
License is hereby granted to NCC LIMITED at Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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:-26th Dec, 2019						
		sd/- Signature & Seal Licensing Officer				
<u>RENEWAL</u>						
[Rule 29]						
Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019					
1.Date of Renewal	21st Nov, 2019					
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)					
3.Date of Expiry	26th Dec, 2020					
	SHREEJITA SAHA	Digitally signed by SHREEJITA SAHA Date: 2019.11.21 00:57:48 +05'30'				
	Signature & Seal Licensing Officer					

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 74 of 81 Original Issue Date :

Labour Licence
DWS Bhangan-II
Expire on 26/12/19

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandanani Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Digitally signed by Tapas Kumar Sinha Roy
Date: 2018.12.27 15:32:23 +05'30'
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas
[BRP04/CLL/000092]


Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IIA, New Town, Kolkata.
Bhagan-II, Block - Bhangan - II , Baruiপুর - 700135, PS - Kashiপুর, South 24 Parganas

Work site exact location:
VIII. Kantadanga; P.O. Shonapur
Bhagan-II, Block- Bhangan - II , Baruiপুর
PS - Bhangan, District - South 24 Parganas, Pin Code - 700135

1 of 3

Appendix P.C: Workman Compensation

FUTURE GENERALI
TOTAL INSURANCE SOLUTIONS

Workmen's Compensation Policy- Policy Schedule			
Policy Serving Office :	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-4-31A, APDL Binnu Opp Country Club, Begunur, Hyderabad, Telangana, Pincode-500016, Tel No : 940-66038600		
Policy No :	2019-LE129169-FWC	Period of Insurance :	From 00:00 04/02/2019 To Midnight of 03/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INERA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES/0061521
Address :	BHARGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone (Main, Off, Home) :	4037822990/00892390738/4827822990
		Fax No & Email Id :	02236791456 / PAIDHADA.SUREYARAJAN@DHKAINSURE.COM
GSTIN Number :	19AAACH3335C1ZM	PGI GSTIN Number :	MAABCF0191K1ZA
In consideration of the Policyholder agreed 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 incorporation thereof, 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, exclusions and warranties hereinafter set forth.			
Co-insurance Details		Schedule Of Premiums (₹)	
Insurer	Share (in %)	Gross Premium	134,304.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Quota and Service Tax	24,174.78
		Total Premium	158,479.14
Risk Details			
Nature of Business :	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Location :	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Contractor/Sub-Contractor Name :	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
30	Highly Skilled workers	6,642,000.00	
30	Skilled workers	6,048,000.00	
30	Semi Skilled Workers	3,490,000.00	
30	Unskilled Workers	4,580,000.00	
	Total	20,760,000.00	
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, 1935 and subsequent amendments	Subject otherwise, to the terms, conditions and scope, Extent of the Policy, the system of liability covered by the Insured	Yes	
Common Law Tort Liability		Yes	
Law(s)			
WC Act 1935 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:			
1. Any interest and/or penalty imposed on the Insured on account of its failure to comply with the requirements laid down under WC Act 1935			
2. Occupational diseases 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			
Restriction of Territory: India			
Excluding War Risk, Blasting, Tunneling and Handling of Exp. Involves			
Excluding loss arising out of installation and erection of the writing			
Whereas that safety provisions are followed by the workers 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 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 :	23605278		
Date of Issue :	07/02/2019		
Place of Issue :	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. CSDN/18/2018/317915, dated 16/08/2018, checked - 2019/C.R.93/64-1, dated 08/01/2019.			
Product Code : IRDAIN/3290012/01206708			
Future Generali India Insurance Company Limited, Corporate & Regional Office: 4th Floor, Tower - 3, Indira Park, Begunur, Begunur, Hyderabad, Telangana - 500013, Maharashtra Circle: 1800-210-213, 1800-100-3333, 022-47817800, Email: gins@futuregenerali.in, Website: www.futuregenerali.in/IRDA Reg.No. 132, CIN - U06010AH2000PLC165287.			

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 81 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.D: PUC Certificates

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

Vehicle Registr. No.: **WB08G1752** WB-01-**D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO ₂ (%)	
HC (ppm)	
SO ₂ (HBU)	44.1%

PUC Certificate issued by: **MIL ENTERPRISE** License No. and Seal: **151/AETC/2018**

Signature: *[Signature]* Vehicle Pass: *[Stamp]*

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

Transport Department

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

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

PUC No.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9830728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdg: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0620 RPM Max: 1923** Emission Norms.: **BS IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	BSU %	OTF C
1	0710	2050	01.23	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.35	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
BSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre: *[Stamp]* Authorised Signatory: *[Signature]*

JNDUS DiesX 2.6.6/0000-00004660

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1986)

Vehicle Registrn. No. **PB02BL7373** WB-01-**D 5679142**

Date of Issue: **16-08-2019** Valid upto **15-02-2020**

Pollution Level

CO (%)	
HC (ppm)	
PM ₁₀ (ppm)	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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572
Year Of Registration= 2011
vehicle registration no = PB02BL7373
Spedometer Reading[kms] =21522
Engine Number=9218
chasis Number=G2011
Vehicle Colour = YELLOW
Vehicle Make : JCB
Vehicle Model : 3DX
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date :16-08-2019
TIME= 02:47:14
Owner= N C C CO
Driver:- SELF
Test Fee : Rs.100/-
Fule : Diesel
Smk cell Temp : 00
Oil Temp : 93.0
Valid Up To : 15-02-2020
Grade :

Test Reasult : Free Acceleration

Validity 6Months

	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	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and Hsu% value conforms to the standards

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

Vehicle Registrn. No. **WB-30P-5178** **WB-01-D 4448893**

Date of issue: **26-Jun-2019** Valid upto: **25-Dec-2019**

Pollution Level

CO (%)	2.527
HC (ppm)	1490
SD (HSU)	

PUC Certificate issued by: **M/S ZAMAN ENTERPRISE** License No. and Seal: **94/AETC/2016/PETROL**

Signature: *[Signature]* **26/06/19**

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

M/S ZAMAN ENTERPRISE
DHANPOTABAZAR, KHAUSADY, HAROA, 24PGS(N)

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

PUC Number: **P000000001437** Vehicle Type: **2 Wheeler**

Name: **NCC LTD** Reg. No.: **WB-30P-5178**

Address: Reg. Date: **Nov-2013**

Manufacturer: **Bajaj**

Model: **Discover**

Engine Type: **4 Stroke**

Test Date/Time: **26-Jun-2019 10:16** Odometer Reading: **0**

Catalyst: **No** Engine Number: **05086**

Chassis Number: **75215**

Fuel	Petrol		Diesel	
	Regulation	Measured	Regulation	Measured
CO (%)	3.5	2.527		
HC* (ppm)	4500	1490		
CO2 (%)		2.53		
O2 (%)		14.9		
NOx (ppm)		0		
RPM:		0		
OT (°C):		0		
AFR:		-		
Lambda:		-		
PEF:		0.501		
CO-Aet (%)		7.495		

*Read as RHC for LPG and HHC for CNG

Test Result: **PASS**

Grade: **0**

Valid Upto: **25-Dec-2019**

Test Fee: **Rs. 80**

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

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 79 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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:
--------------	----------	----------------	--------------	------------

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 80 of 81 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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 81 of 81 Original Issue Date :
	Site Specific Environmental Management Plan	

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
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 Bhangar-II Block (Zone 12 - OHR Bankachua)

Package No: N24P/02B

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 Bhargar-II Block




**Site Specific Environmental
Management Plan**


Doc. No. NCC/SEMP/01
Revision No. 00
Revision Date : 00
Page 1 of 8
Effective Date :


SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN


WBDWSIP BHANGAR-II BLOCK

LOCATION - ZONE- 12,OHR (Bankachua)

0	07.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU


Junior Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Die.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Die.
Govt. of West Bengal


Junior Engineer
PIU, N-24 Pgs., WBDWSIP, PHE Die.
Govt. Of West Bengal

WBDWSI Project

may be approved

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 2 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No	Package No : N24P/02B
Package title	Zone 12-OHR (Bankachua) under PIU North 24 Parganas Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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	26/07/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 600 KL
Demolition work	No demolition activity involved
Project Area	Bankachua village , Bhogali II Gram Panchayats of Bhangar II 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: Bhogali II	
Land Status	Private and Transferred
OHR Capacity	600 KL
Location	



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 3 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone 12-OHR (Bankachua) of Bhogali II GP of Bhangar II block
Project Manager	Mr. Ansari; 7417526845
Site Engineer	Mr. Md. Sukur Ali; 8327043932
Site Supervisor	Mr. SK Sharma; 9754981670
EHS Supervisor	Mr. Nitin Kumar; Mob: 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and Semi-skilled
Unskilled workers	10
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-12 (from neighboring districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation at Bankachua near the OHR site on a leased land (Ref. Attachment O 2]

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 4 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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,	<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 	<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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 5 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field /Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	disturbance in natural drainage patterns, ponding and water logging, and water pollution.	<p>obtained from each source (quarry/borrow pit) should be submitted.</p> <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"> • 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

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 6 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 wall around the construction sites (OHR). 	<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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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	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 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 	<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 monitoring has been conducted already following two places (Koach Pukur Zone:- 15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 8 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		made to accumulate the entry of runoff from upper areas into the work area. <ul style="list-style-type: none"> 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. 				
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 along the existing boundary wall of 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 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 (dbA); Ensure noise level at site boundary comply with standard prescribed for local landuse; and Baseline and construction phase 	<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 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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 9 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		Noise Monitoring (Day & Night time) should be conducted.	completion of work. <ul style="list-style-type: none"> • Baseline monitoring has been conducted. • Noise quality Monitoring has been conducted at following five places (Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar II 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 at the site selected, in consultation with local GP preferably from barren, infertile 	<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

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 10 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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 - 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

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 11 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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	1. 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 	<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

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 12 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 	<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. • The details of labour accommodation is presented in Attachment O2. 			

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 13 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 14 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

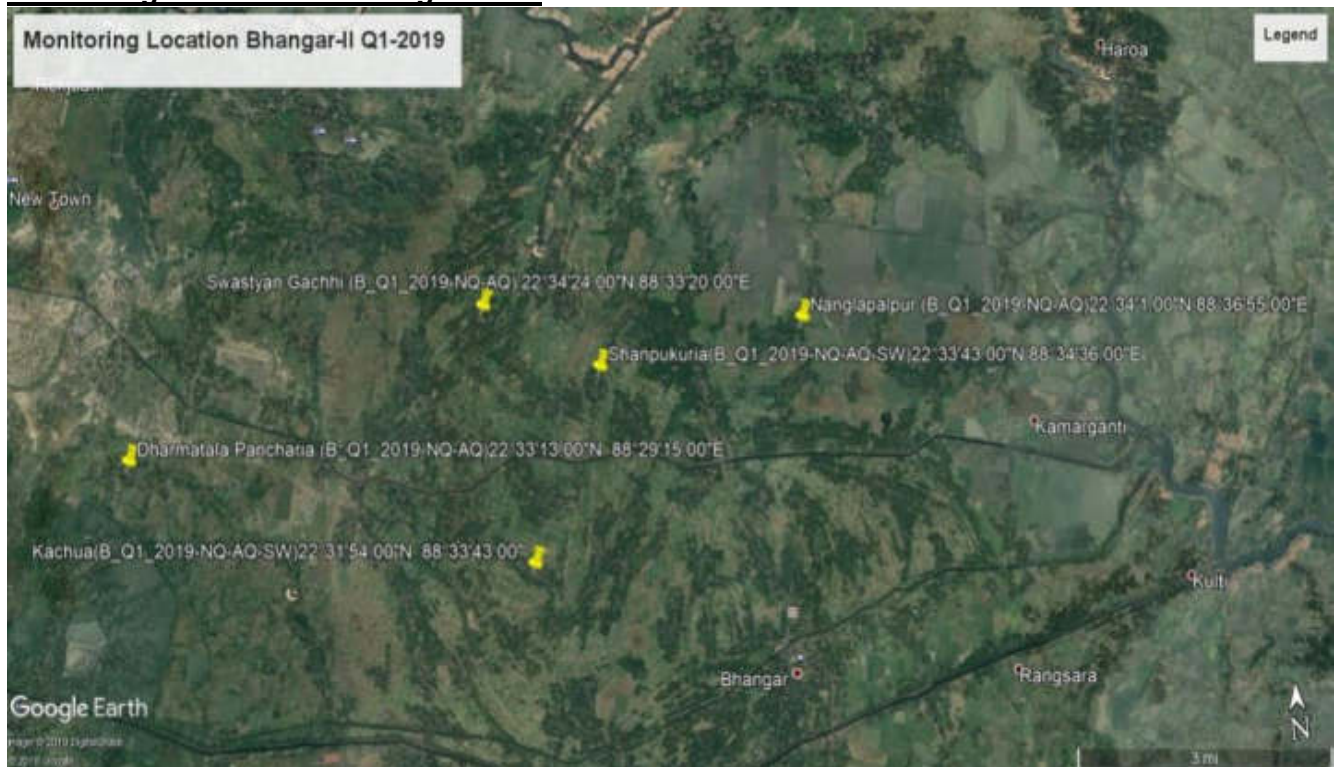
Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 15 of 83 Original Issue Date :

Monitoring Locations on Google Earth



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 16 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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, _

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 17 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O1: Details of construction Work sites

1. Zone 12: OHR construction Site	
Location- Bankachua/ Bhogali II	
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
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site <ul style="list-style-type: none"> • Labor rest area • 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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 18 of 83 Original Issue Date :

Project facilities
at Site



Barricading by caution tape at working site.




Display of emergency contact number at Zone- 12

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 19 of 83 Original Issue Date :

		
	First Aid training conducted for labour at Zone -12	

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 20 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 12: Bankachua	
Location- Bankachua, Bhogali II (Latitude: 22°32'30", Longitude: 88°36'14")		
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 – Labour accommodation at a camp on leased land• 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		

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 21 of 83 Original Issue Date :

Photos of camp and facilities provided		
	Labour accommodation at OHR Zone-12	
		
	Toilet facility	

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 22 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 23 of 83 Original Issue Date :

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- 17 nos. • Gloves-2 nos. • Helmet-20 nos. • Safety jacket- 20 nos. • Goggles- 2 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	• 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. Md Sukur Ali Mob: 8327043932	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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	

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 24 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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	515.37	Nalhati/Rampurhat	Yes
2	Sand	267.74	Gopi Ballavpur/ Bardhaman	Yes
3	Steel	49.45	Approved supplier	Yes
4	Cement	175.36	Approved supplier	Yes

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 25 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	


Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
	Spoil Management Plan	


SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 12,OHR (Bankchua)

0	13.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project


Junior Engineer
 PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
 Govt. Of West Bengal


Junior Engineer
 PIU, N-24Pgs., WBDWSIP, PHE Dte.
 Govt. Of West Bengal


Assistant Engineer-II (Civil)
 PIU, N-24 Pgs., WBDWSIP, PHE Dte.
 Govt. of West Bengal

may be approved

West Bengal Drinking Water Sector Improvement Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 26 of 83 Original Issue Date :

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 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

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 27 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 97.917 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.

SPOIL DITAILS

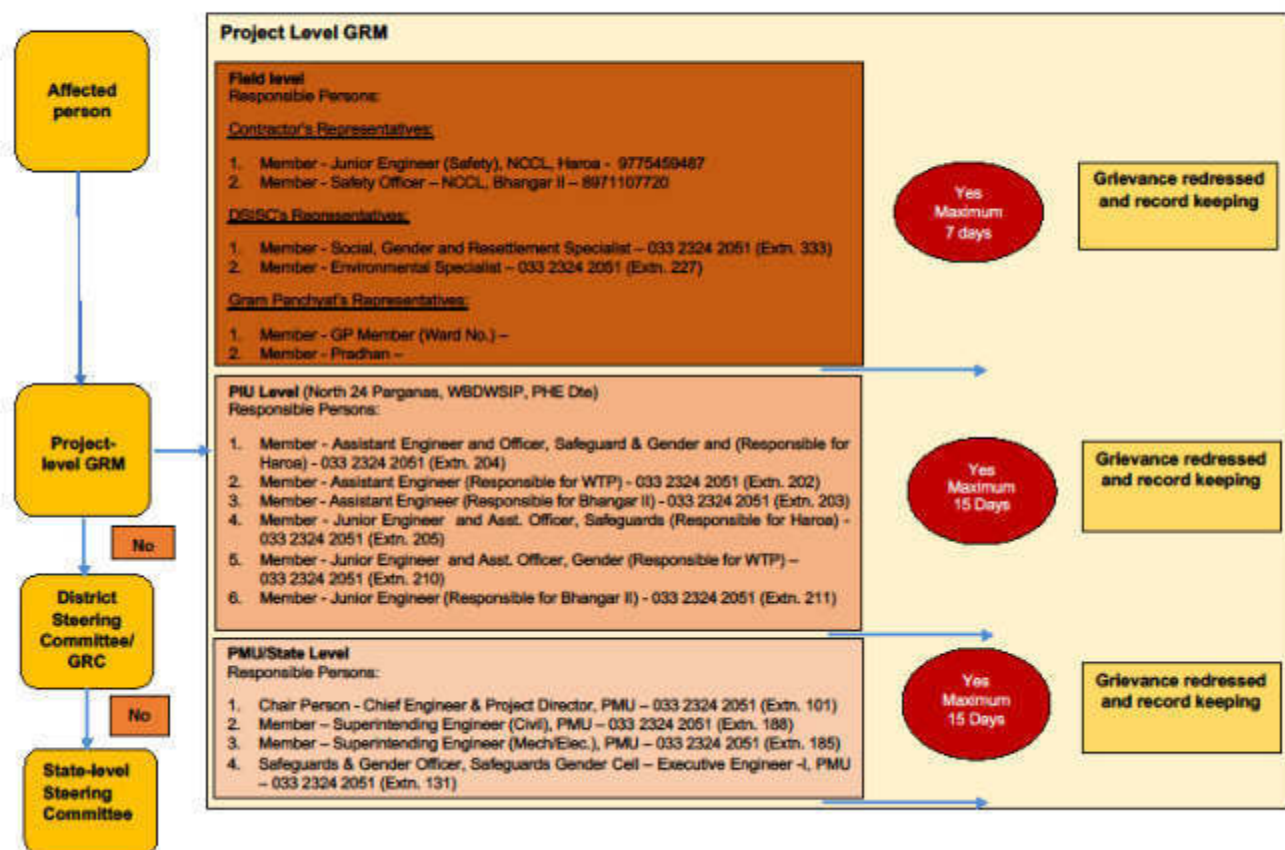
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	12	Boundary wall	97.917	77.350	20.567

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 28 of 83 Original Issue Date :

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

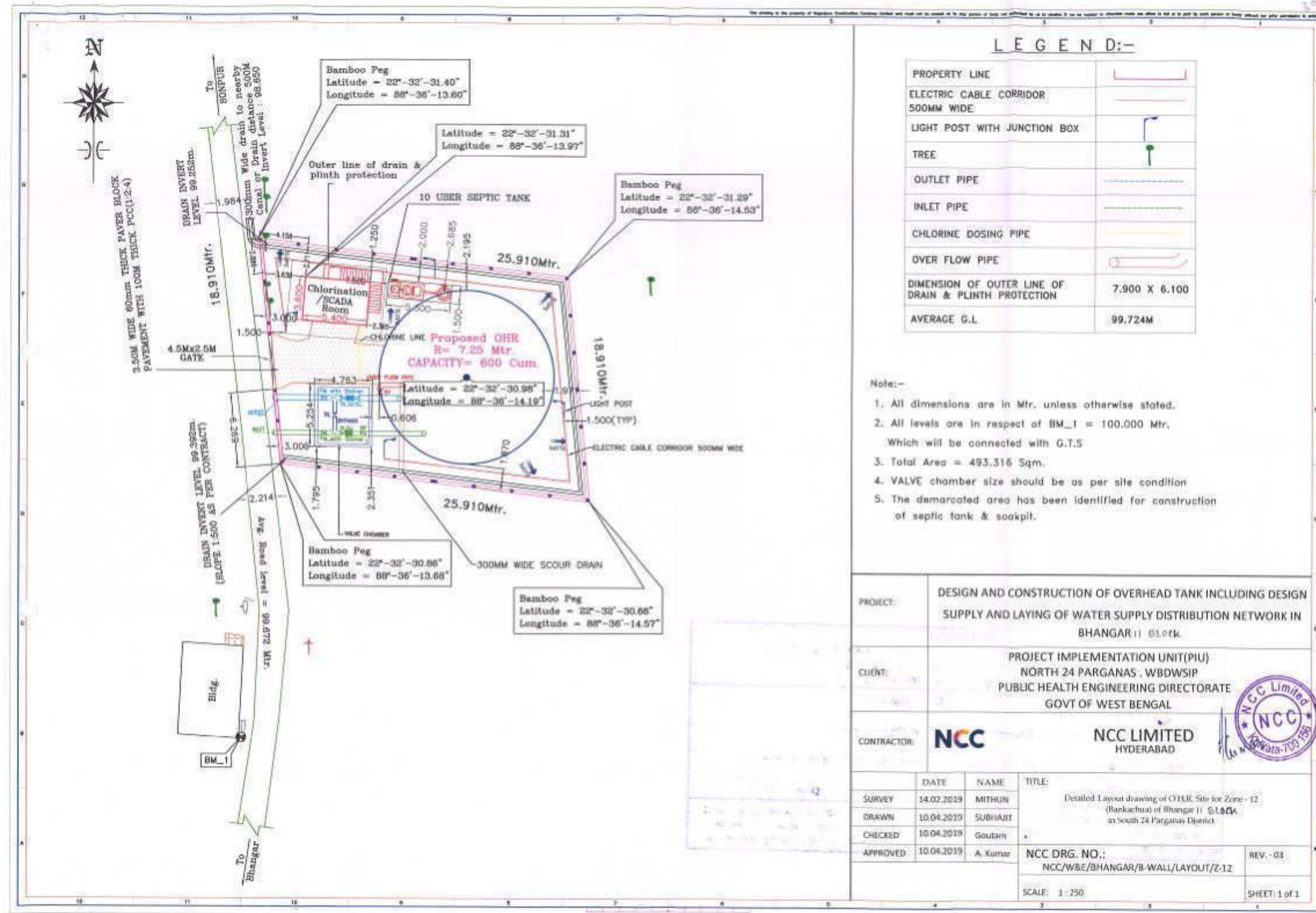


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 30 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.A: Labour License

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 31 of 83 Original Issue Date :



GOVERNMENT OF WEST BENGAL

OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR

South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road, Ward No - 5, Shibanipith, Baruipur, Kolkata-700144

FORM VI

[See Rule 23(1)]

License No. : BRP04/CLL/000191

Date : 27th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-

Signature & Seal

Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.

RENEWAL-LIC-009474-008133-26939-2019

1.Date of Renewal

21st Nov, 2019

2.Fees paid for Renewal

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

3.Date of Expiry

26th Dec, 2020

SHREEJITA SAHA



Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'

Signature & Seal

Licensing Officer

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhanger-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 32 of 83 Original Issue Date :

labour licence
DWS Bhanger II
expiry on 26/12/19

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
 South 24 Parganas, Nandanani Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibaniipith, Barulpur, Kolkata-700144

FORM VI
 [See Rule 25(1)]

Licence No. : **BRP04/CLL/000191**
Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown - 700156, Patharghata, Block- Rajarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Barulpur, South 24 Parganas

Digitally signed by
 Tapas Kumar Sinha
 Roy
 Date: 2018.12.27
 15:32:23 +05'30'


Establishment Information:
 Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
 W Site - Utility Building, Tank No-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
 Bhogoli-II, Block - Bhanger - II, Barulpur - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
 Vill. Kantadanga, P.O. Shonepur
 Bhogoli-II, Block- Bhanger - II, Barulpur
 PS - Bhanger, District - South 24 Parganas, Pin Code - 700135

1 of 2

Appendix O.B: Workman Compensation



Workmen's Compensation Policy: Policy Schedule			
Policy Serving Office:	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-21A, APDC Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-505016, Tel. No : 040-56038600		
Policy No	2019-L0129169-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 INSURANCE BROKING SERVICES/0001321
Address	BHANGAR-II BLOCK, South Twenty Four Pergana, West Bengal, 743502	Telephone(Mob,Off,Home)	4927812590/09892599738/4027822990
		Fax No & Email Id	02254791418 / PADMALA.SURVARAJAN@INDIAINSURE.COM
GETIN Number	19AAACN733C12M	PGI GETIN Number	36AABCF0191812A
In consideration of the Policy holder agreed 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	134,104.34
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Goods and Service Tax	24,174.78
		Total Premium	158,279.00
Risk Details			
Name of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wage during the Period of Insurance (₹)	
30	Highly Skilled workers	6,642,000.00	
30	Skilled workers	6,048,000.00	
30	Semi Skilled Workers	5,490,000.00	
30	Unskilled Workers	4,980,000.00	
Total		23,160,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as annexed, 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 thereunder as amended up to the date of issue of this Policy	Subject otherwise, to the terms, conditions and exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Contract and Fire 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 confined to include			
1. Any interest and/or penalty imposed on the Insured on account of failure to comply with the requirements laid down under WC Act 1923			
2. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination 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 protocols are followed by the workers/employees			
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 specific communication is sent or not.			
For Future Generali India Insurance Co. Ltd.			
Receipt No :	29065378	 (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 CSO/118/2018/0179/18, dated 18/08/2018, Mumbai - 2017/C.R.9361-1, dated 09/01/2018.

Product UIN : IBDANI32P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Regional Office: 6th Floor, Tower - A, Indira Park, Connaught Place, New Delhi-110001, India. Phone: 011-26111880-223, 1800-300-3333, 022-47877800, Email: fginfo@futuregenerali.in, Website: www.futuregenerali.in. RDA Reg. No. 132, CYN - 036030A012009PLC161381.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 34 of 83 Original Issue Date :

Appendix O.C: PUC Certificates

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


Vehicle Registr. No. **PB02BL7373** WB-01-**D 5679142**

Date of Issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	5.83
HC (ppm)	5.83

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, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

I.D Number WB32D3647572
Year Of Registration= 2011
vehicle registration no = PB02BL7373
Spedometer Reading(kms) =21522
Engine Number=9218
chasis Number=G2011
Vehicle Colour = YELLOW
Vehicle Make : JCB
Vehicle Model : 3DX
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date :16-08-2019
TIME= 02:47:14
Owner= N C C CO
Driver:- SELF
Test Fee : Rs.100/-
Fuel: Diesel
Smk cell Temp: 00
Oil Temp: 83.0
Valid Up To : 15-02-2020
Grade: **32/D**

Test Result : Free Acceleration Validity 6 Months

	Ideal Rpm	max Rpm	K Value	Hsu val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	6.9	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/N value conforms to the standards prescribed under rule 115(2) of CMB rules 1989, Operator- MD RAMIZ RANA

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)	66.83

PUC Certificate issued by:

Signature

32/D

WB-01-**D 5678745**

COMPUTERISED EMISSION TEST CERTIFICATECMVR 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
Year Of Registration= 2011
vehicle registration no = WB15B2529
Spedometer Reading[kms] =2541
Engine Number=28746
chasis Number=B5954
Vehicle Colour = OTHERS
Vehicle Make : HMT
Vehicle Model : 4022
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date :23-07-2019
TIME:05:46:14
Owner:NABA KUMAR GHOSH /851304
Driver:- SELF
Test Fee : Rs.100/-
Fule : Diesel
Smk cell Temp : 00
Oil Temp : 93.0
Valid Up To : 22-01-2020
Grade

Test Reasult : 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	



NCC LIMITED

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhangar-II Block**

Site Specific Environmental Management Plan

Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
Page 36 of 83
Original Issue Date :

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

Vehicle Regdn. No.: **WB08G1752** WB-01: **D 4231066**

Date of Issue: **07-May-2019** Valid upto: **06-May-20**

Pollution Level:

CO (%)	
HC (ppm)	
SO (HSU)	44.1%

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: 9432010095

Transport Department

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

PUC No.: **FWB0001000006** Vehicle Reg No: **WB08G1752**

Name: **NCC LIMITED** Category: **car**

Address: **NEW TOWN** Make: **MAHINDRA**

KOL-156 Model: **BOLERO**

Mobile: **9830728872** Date of Reg.: **2019**

Date: **07-May-2019** Speedo mtr Rdg: **252**

Time: **11:17 AM** Engine No.: **16280**

Fuel: **Diesel** Chassis No.: **32097**

Flushing Cycle Mean: **RPM Min: 0820 RPM Max: 1923** Emi Norms.: **BS-IV or Onwards**

Vehicle Type: **BS4 - 4 Wheeler**

SNo.	RPM min	RPM max	K m-l	HSU %	OTF C
1	0710	2080	01.25	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.36	44.2	041.00

Standard	Measured
K m-l	1.62 01.35
HSU %	60 44.1

Valid upto: **06-May-20**

Grade: **B**

Test Fee: **100**

Mean **0716 2080 01.35 44.1% 041.33**

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorised Signatory

JNDUS DiesX 2.8.6/0000-0000/4660

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 37 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.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:
--------------	----------	----------------	--------------	------------

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 38 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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?					

1. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 39 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (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 - হ্যাঁ / 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 40 of 83 Original Issue Date :

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 1 of 7 Original Issue Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-12, PIPE LAYING (BANKACHUA)

0	05.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24 Pgs. WBDWSIP, PHE Dist.
Govt. Of West Bengal

Environmental Specialist, DSISO
North 24 Parganas
WBDWSI Project

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 41 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No.	Package No: N24P/02B; Zone 12 - Pipe Laying (Bankachua) under PIU North 24 Parganas										
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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 particular works commencement	31/09/2019										
Contract period	Construction: 3 Years ; O&M: 2 Years										
SEMP Component	Laying of 42594 m of pipeline as detailed below.										
Demolation Activity	No demolition activity involved										
Project Area	Bhogali II Gram Panchayats of Bhangar-II Block.										
Project Description	Individual household water supply schemes for the project Gram Panchayats										
Household Connection	3086 (Estimated HH Connection)										
Non-Household Connection	All Commercial, Educational, Religious and Health institutions will get potable water from this project. Numbers are not finalized yet										
Indicative Budget for EMP Implementation for the entire package	INR 21,42,500/-										
Project Components	As per project detailed design										
Gram Panchayat (GP): Bhogali II											
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 - B12	23733	4797	4159	3416	3401	1675	1370			33	42594
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 42 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-12 (Pipeline works) (Bankachua) Bhogali II G.P of Bhangar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Ramveer Yadav; 7017978072
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 Skilled and 0 Semi-skilled
Unskilled workers	14
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-16 (from neighboring districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation at Bankachua near the OHR site on a leased land [Ref. Attachment P2]

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 43 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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.	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, 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 	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

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 44 of 83 Original Issue Date :

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.	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 pipelaying 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

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 45 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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

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 46 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II 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-moving and	<ul style="list-style-type: none"> • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise- 	<ul style="list-style-type: none"> • Consultation made with local communities in advance of the work to identify and avoid working at sensitive 	Contractor	PIU through DSISC observation at	Project cost

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 47 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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	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.	times, such as religious and cultural festivals. • Noise quality Monitoring has been conducted at following five places (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. • DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work.		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 at the site selected, in consultation with local GP preferably from barren, infertile land, which is located away from any sensitive area.	• 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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 48 of 83 Original Issue Date :

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
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 audible back-up alarms 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Socio Economic Employment	Generation of temporary employment and	<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 	Contractor	PIU through DSISC	Project cost

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 49 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	increase in local revenue		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 • Adequate lighting and ventilation • Provide drinking water, water 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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 50 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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.	camp/ household. • The details of labour accommodation is presented in Attachment P2 .			
Archaeological and Cultural characteristics	Risk of archaeological chance finds	• 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.	• 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.			

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 51 of 83 Original Issue Date :

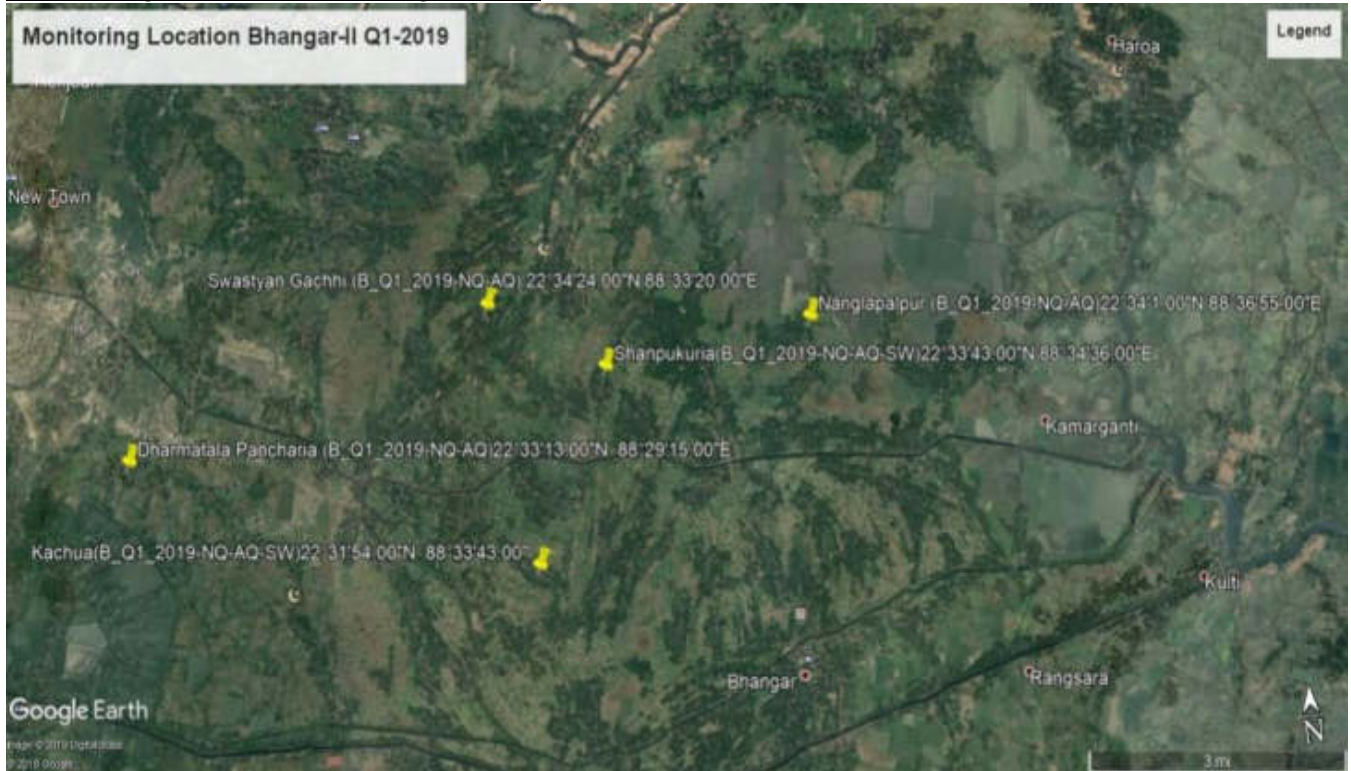
Table 3: Construction Phase Environmental Monitoring Plan for entire package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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 are responsibility of concerned Contractor and cost for such already budgeted in the IEE.

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 52 of 83 Original Issue Date :

Monitoring Locations on Google Earth



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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 53 of 83 Original Issue Date :

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/02B_Bhangar II block,


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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 54 of 83 Original Issue Date :

Attachment P1: Details of construction Work sites

1. Zone 12: Pipeline construction Site						
Location- Bankachua/ Bhogali II						
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 (1047m)					
	400 mm	33	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	1370	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes(40389 m)					
	200 mm	1675	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	3401	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	3416	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	4156	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	4797	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	23733	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen
	Excavation method (manual/mechanical)					
	Manual/Mech					

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 55 of 83 Original Issue Date :

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 12
Location- Bankachua, Bhogali II (Latitude: 22°32'514", Longitude: 88°36'231")	
A	<p>Accommodation – For 14 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 – <i>Accommodation shared with OHR's Labours</i> • Accommodation provided for 14 workers • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Same as given in OHR Camp
Photos of camp and facilities provided	 <p>Site labour camp</p>

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 56 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 57 of 83 Original Issue Date :

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- 15 nos. • Gloves-3 no. • Helmet-15 nos. • Safety jacket- 14 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 at height, firefighting, first-aid, housekeeping, etc.	
	• Safety signage	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	Emergency responsibility
	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Druga Prasad Mob: 9836803672	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	

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 58 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P5: Utility shifting/relocation


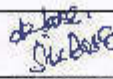
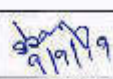

Sl. No.	List work sites that require utility shifting, relocation, temporary shut off	Remarks
1	Area work sites (Pipeline)	Not Required

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	13234.4	From trench cutting	Not required

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 59 of 83 Original Issue Date :

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
SPOIL MANAGEMENT PLAN (SMP) WBDWSIP BHANGAR-II BLOCK LOCATION – ZONE-12, PIPE LAYING (BANKACHUA)		
0	05.09.2019	
REV	DATE	PREPARED BY
		
		CHECKED BY
		
		APPROVED BY DSIC
		
		APPROVED BY PW

Assistant Engineer - II
 P.W. N-24 Pgs. WBDWSIP, PHE Div.
 Govt. Of West Bengal

Environmental Specialist, LGISD
 North 24 Parganas
 WBDWSIP 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 60 of 83 Original Issue Date :

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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 61 of 83 Original Issue Date :

backfilling location.

6. SPOIL VOLUMES AND CHARACTERISTICS:

In this project, approx. Generation of excavated earth will be approx. 13234.4 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 generated at Bankachua (Zone 12) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	23741	0.3	1	7122.3
2	75	4795	0.3	1	1438.5
3	90	4163	0.3	1	1248.9
4	110	3417	0.3	1	1025.1
5	140	3401	0.3	1	1020.3
6	200	1531	0.4	1	612.4
7	200	144	0.4	1	57.6
8	250	1379	0.5	1	689.5
9	400	33	0.6	1	19.8
Approx. generated total Spoil at ZONE-12					13234.4

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 62 of 83 Original Issue Date :





Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-12, PIPE LAYING (BANKACHUA)

0	05.09.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
 PIU, N-24 Pgs. WBD/WSIP, PHE Dept.
 Govt. Of West Bengal
 Environmental Specialist, DSISC
 North-24 Parganas
 WBD/WSIP 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 63 of 83 Original Issue Date :

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.

Pipe laying 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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 64 of 83 Original Issue Date :

- 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.

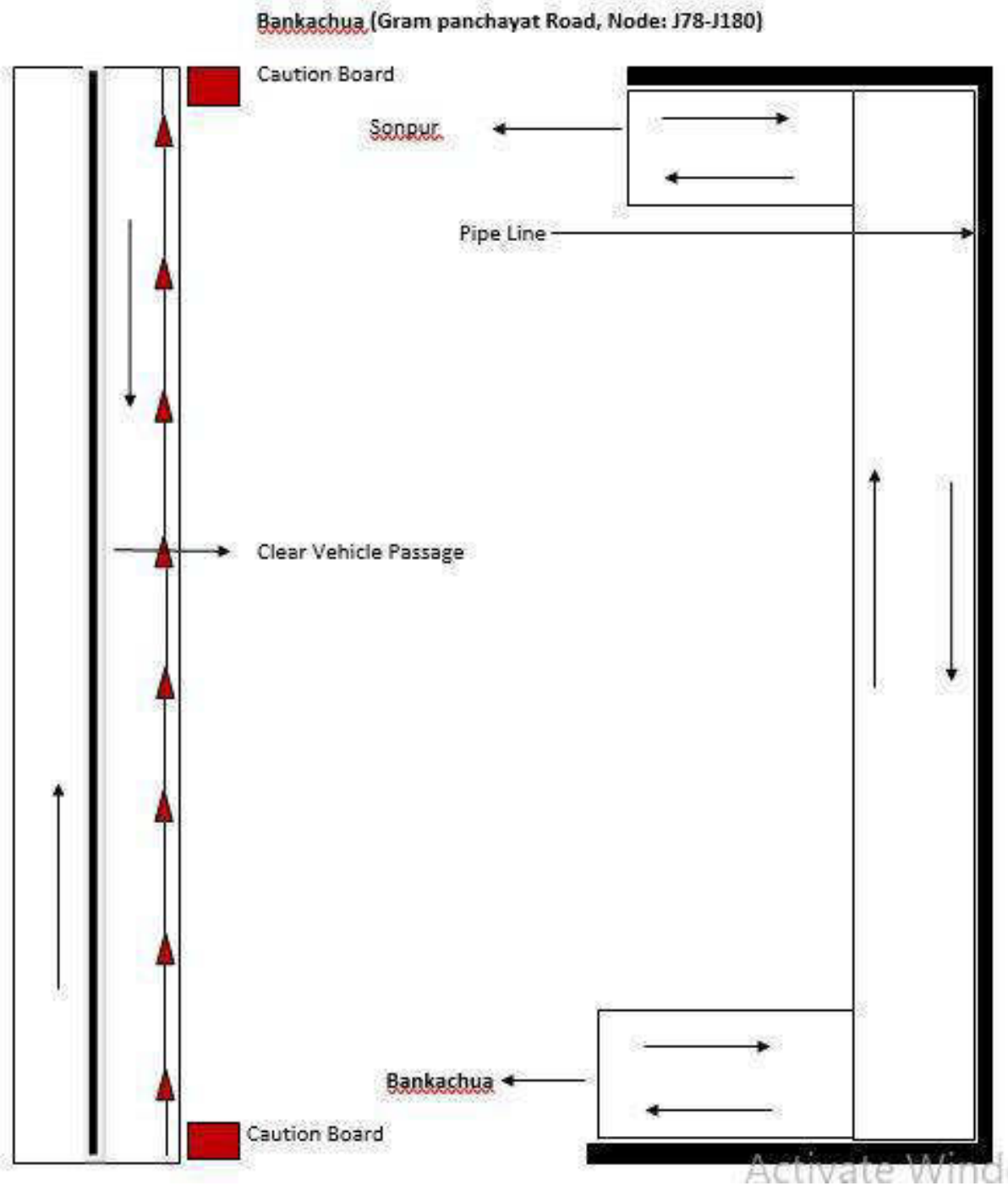
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

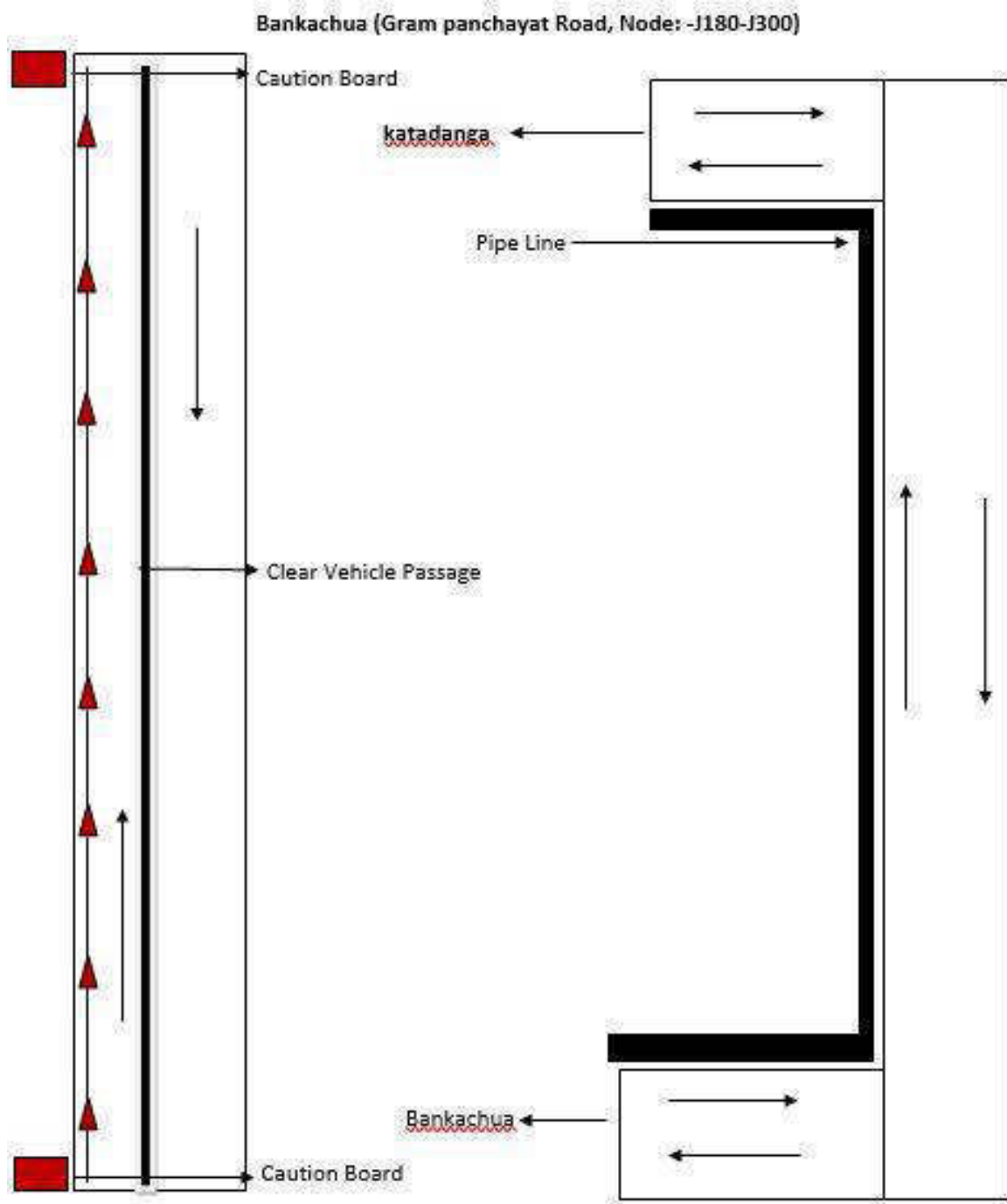
Particular attention has been taken in working area:

- 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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 65 of 83 Original Issue Date :



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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 66 of 83 Original Issue Date :

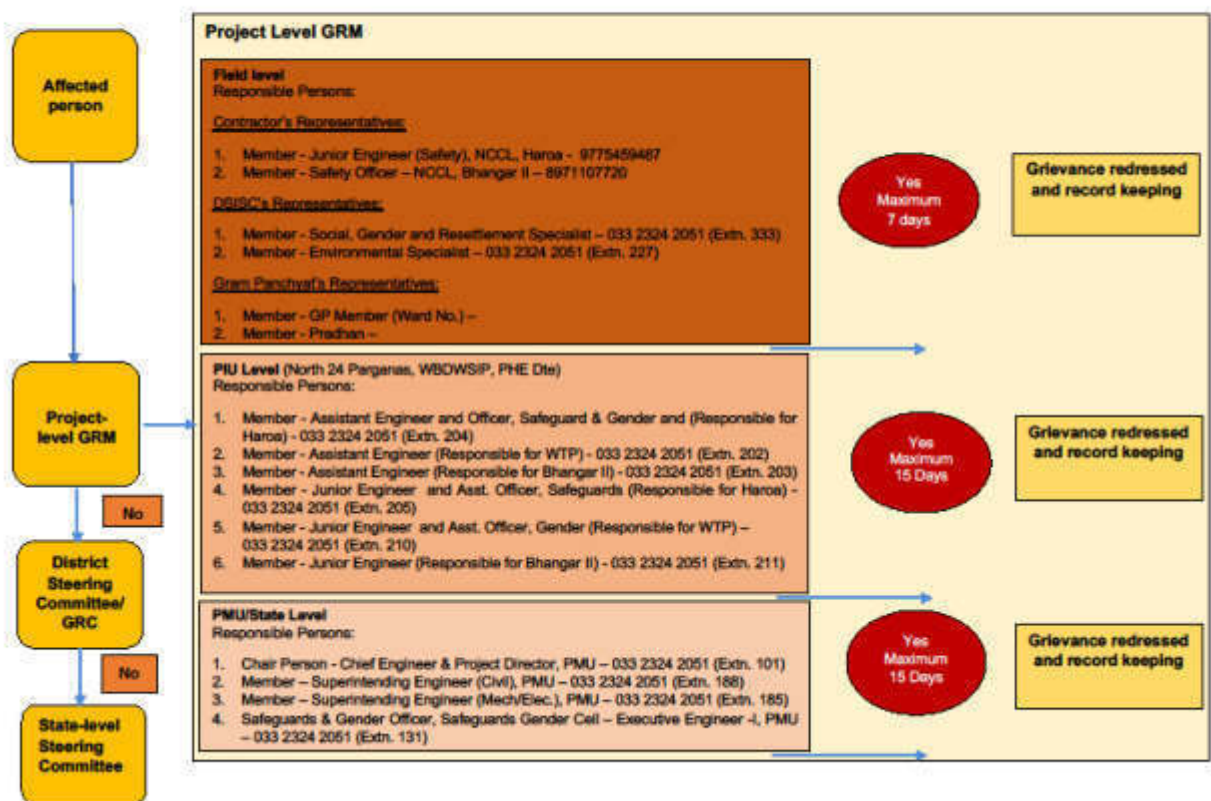


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 67 of 83 Original Issue Date :

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



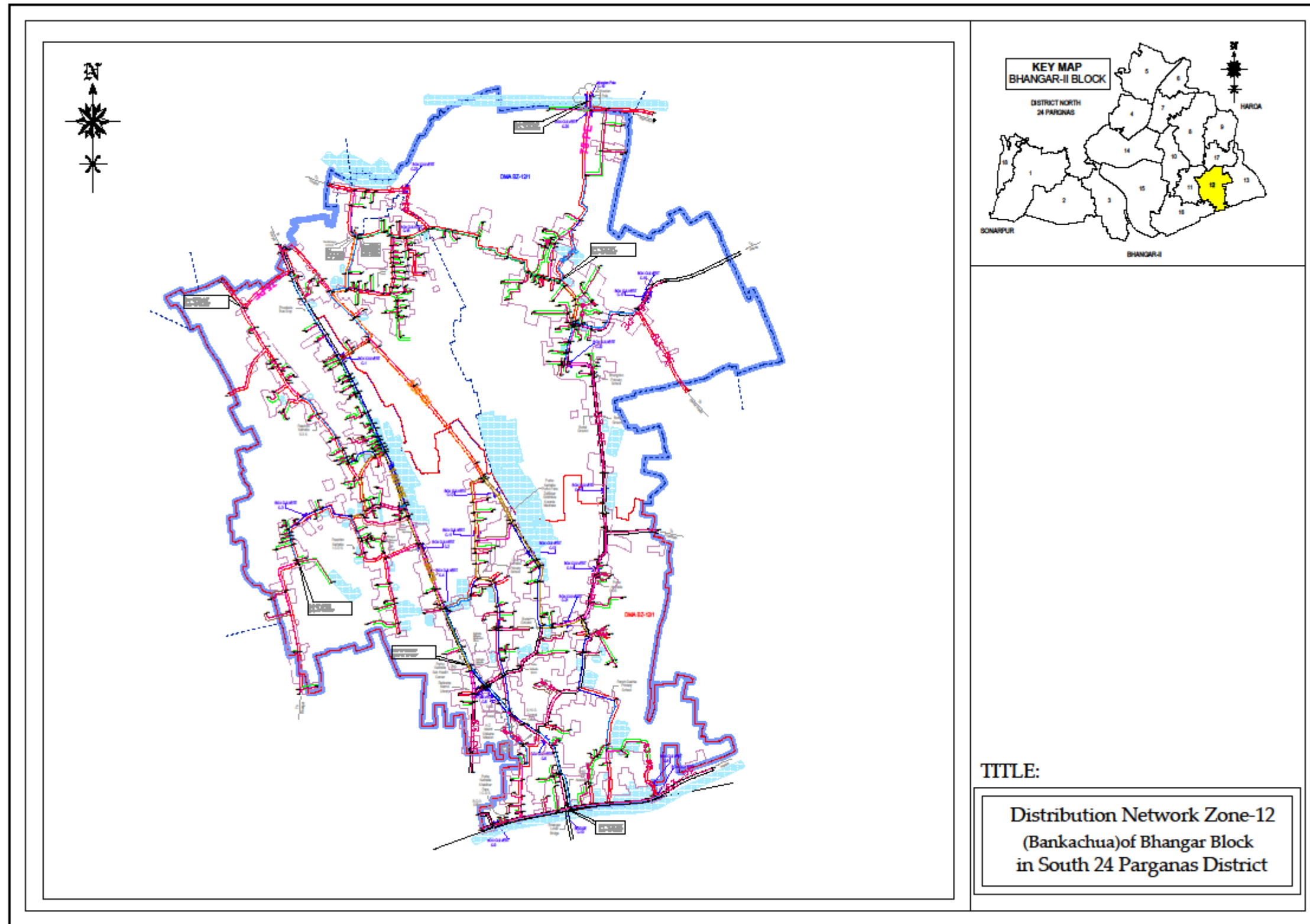
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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.

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 68 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 69 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 70 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	



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.piu24p.adb@wbphed.gov.in

Memo No. /EE/C/PIUN24P,

Dated, New Town, the,

To
The B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayat Samiti,
South 24 Parganas.

Sub : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block (Zone-12) **Baukachna**.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 26.08.2019 in **Bhogali-II 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.

Yours faithfully,

[Signature]
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. /EE/C/PIUN24P,

Dated, New Town, the,

Copy forwarded for information to :-

- 1) The Sarpanch, Bhargar-II Panchayat Samiti.
- 2) The Pradhan, Bhogali-II, Gram Panchayat.
- 3) The Officer in Charge, Kachipur Police Station.

[Signature]
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

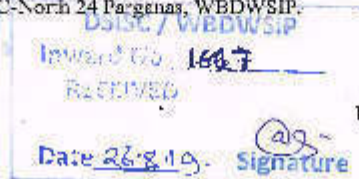
Memo No. 149 (3-A) /EE/C/PIUN24P,

Dated, New Town, the, 22/08/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debbarikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

File
22/8/19



[Signature]
Assistant Engineer-II
PIU, 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 Last Revision No. 00 Last Revision Date : 00 Page 71 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	



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 : ce.piu24p.adh@wbphed.gov.in

Memo No. _____/EE(C)PIU.N24P, Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Bhargar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
BSCNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block (Zone-12) **Baukuchua**.

Dear Sir,

This is to inform you that, PHE Dte, has undertaken a water supply project in the month of October 2018 in Bhargar-II block with financial assistance of ADH. Now the entrusted agency will start laying distribution network from 26.08.2019 in **Bhogali-II 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.

Yours faithfully,

sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/EE(C)PIU.N24P.

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, **Bhargar-II Panchayet Samity**.
- 2) The Executive Officer, **Bhargar-II Panchayet Samity**.

Memo No. 450-45/EE(C)PIU.N24P, (2-A)

sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 22/08/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, P.H.D. Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendo Debadhikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Insured No. 1623

RECEIVED

Date 26-8-19

Signature

Signature of the Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.

sd/-
Assistant Engineer-II
PIU, 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 Last Revision No. 00 Last Revision Date : 00 Page 72 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	



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.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P,

Dated, New Town, the, _____

To
The Executive Engineer,
WBKDDA,
South 24 Parganas Unit.

**Sub. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block (Zone-12) Bankachua.**

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhargar-II 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 26.08.2019 in Bhogali-II 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,

(Signature)

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 Sabhadhiputi, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

(Signature)

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 22/08/2019

Memo No. 452 *(3-3)* /EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Assistant Engineer-II, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSJSC-North 24 Parganas, WBDWSIP.

(Signature)

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

EE(C) / WBDWSIP

Inward No. 1624

RECEIVED

Date 26-8-19 *(Signature)*

Time - 2:17



Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE, Etc.
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.adb@wbphed.gov.in

Memo No. _____/BE(C)PJN24P,

Dated, New Town, the, _____

To
The District Engineer,
South 24 Parganas Zilla Patisbadi,
Alipur, South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-12) Bankachia.

Dear Sir,

This is to inform you that, PHE, Dc, has undertaken a water supply project in the month of October 2018 in Bhangan-II 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 26.08.2019 in **Bhogan-II 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,

Memo No. AEE(C)PIJN24P.

Dated New Town, the

Copy forwarded for information to :-

- 1) The Sabhadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.

Memorandum No. 153 / EE(C)PTUN24P

Dated, New Town, the,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Div.
- 2) The Assistant Engineer-II, PU, N-24 Pgs., WBDWSIP, PHE Div.
- 3) The Team Leader, DBISC-North 24 Parganas, WBDWSIP.

3) The Team Leader, DSISC-North 24 Parganas, WB DWSIP.



© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 103–110

BASSCO International
 Issued Date 16.05
 RECEIVED
 Date 26.2.15 Signature [Signature]
 T2012-2013

Executive Engineer,
PTU, N-24 Pgs., WBDWSIP, PHED Me.

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 74 of 83 Original Issue Date :

Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER , BARUIPUR
 South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibaniipith, Baruipur, Kolkata-700144

FORM VI
 [See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA
SAHA
Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:48
+05'30'
Signature & Seal
Licensing Officer

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 75 of 83 Original Issue Date :

Labour Licence
DWS Bhangar II
Expiry date 26/12/19




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandaram Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas
(BRP04/CLL/000092)

Digitally signed by
Tapas Kumar Sinha Roy
Date: 2018.12.27
15:32:23 +05'30'

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dto: (BRP04/CLL/000092)
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhogati-II, Block - Bhangar - II, Baruiপুর - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhogati-II, Block - Bhangar - II, Baruiপুর
PS - Bhangar, District - South 24 Parganas, Pin Code - 700135

1 of 2

Appendix P.C: Workman Compensation



Workmen's Compensation Policy, Policy Schedule			
Policy Issuing Office	Off Code-15, Future Generali India Insurance Co Ltd, 1st Floor D.No.7-1-31A, APDL, Bazaar Opp. Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 045-66038600		
Policy No	2019-16129169-FWC	Period of Insurance	From 00/00/2019 To Midnight of 03/02/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES/00051521
Address	BHARGAR II BLOCK, South Twenty First Pargana, West Bengal, 743302	Telephone (Atch, Off, Home)	4027812590/00892540738/4027822990
		Fax No & Email Id	02256791416 / PADMAJA.SURYA@INDIAINSURE.COM
GSTIN Number	19AAACH7335C1ZNE	PGI GSTIN Number	35AABCF0191K1ZA
In consideration of the Policy holder insured 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 attachment or otherwise, and the material incorporated therein, the Insurer agrees to provide insurance against loss/damage liability or expense in 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	134,504.36
FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	100%	Gross and Service Tax	24,174.78
		Total Premium	158,679.20
Risk Details			
Nature of Business	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Location	Design and Construction of overhead reservoir including water supply distribution and metering works in Bhargar II Block		
Contractor/Sub-Contractor Name	NCC LTD		
No of Employees	Description of work done by Employees	Declared Wages during the Period of Insurance (₹)	
30	Highly Skilled workers	6,542,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,588,000.00	
Total		22,668,000.00	
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 & scope, Exclusions of the Policy, the amount of liability incurred by the Insured	Yes	
Common Law and 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 extendable to include:			
1. 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			
2. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination 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			
Including War Risk, Blasting, Trenching and Handling of Explosives			
Excluding loss arising out of installation and operation of fire wiring.			
Warranted that safety practices are followed by the workers/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 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 : Z5065378		For Future Generali India Insurance Co. Ltd.	
Date of Issue : 07/02/2019			
Place of Issuance : Mumbai*		(Authorized Signatory)	
*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 Authorization No. CSD/15/2018/179/18, dated 16/08/2018, Madras - 2017/C.R.9133-1, dated 09/11/2018.
Policy UIN : ISDAN137P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 1, Indira Park Plaza, Sarajit Bazar, Mang. Hyderabad Road, Mumbai - 400015, Maharashtra. Call Log - 1800-210-211, 1800-020-3333, 022-67817800, Email: fgi@futuregenerali.in, Website: www.futuregenerali.in/IRDA Reg.No. 132, CIN - U66010MH2006PLC161213.

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 83 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.D: PUC Certificates

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

Vehicle Registr. No. **WB02BL7373** WB-01-D **5679142**

Date of issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	
HC (ppm)	
PM ₁₀ (µg/m ³)	45.83

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-D **5679142**

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: **WB32D3647572** Licence No: **32/D**
Year Of Registration: **2011** Date: **16-08-2019**
vehicle registration no = **WB02BL7373** TIME: **02:47:14**
Speedometer Reading(kms) = **21522** Owner: **N C C CO**
Engine Number = **9218** Driver: **SELF**
chassis Number = **G2011** Test Fee : **Rs.100/-**
Vehicle Colour = **YELLOW** Fuel: **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	Of Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	6.9	68
3	852	2700	0.12	5.9	66
Avg	860	2930	1.9	55.83	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and hsu/N value conforms to the standards prescribed under rule 115(2) of CMB rules 1989, Operator: MD RAMIZ RANA

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)	66.83

PUC Certificate issued by:

Signature

32/D

WB-01-**D 5678745**

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
Year Of Registration= 2011
vehicle registration no = WB15B2529
Speedometer Reading[kms] =2541
Engine Number=28746
chasis Number=B5954
Vehicle Colour = OTHERS
Vehicle Make : HMT
Vehicle Model : 4022
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date :23-07-2019
TIME:05:46:14
Owner:NABA KUMAR GHOSH /851304
Driver:- SELF
Test Fee : Rs.100/-
Fule : Diesel
Smk cell Temp : 00
Oil Temp : 93.0
Valid Up To : 22-01-2020
Grade : A

Test Reasult : Free Acceleration

	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	

Validity 6 Months



**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**

Site Specific Environmental Management Plan

**Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
Page 79 of 83
Original Issue Date :**

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

Vehicle Register No: WB08G1752 WB-01: **D 4231066**

Date of Issue: 07-May-2019 Valid upto: 06-May-20

Pollution Level:
CO (%)
HC (ppm)
SO (HSU) 44.1%

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

Signature: [Signature] Vehicle Pass: [Stamp] WB-01: [Stamp]

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

Transport Department

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010095

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

PUC No.: FWB0001000006 Vehicle Reg No: WB08G1752

Name: NCC LIMITED Category: car

Address: NEW TOWN Make: MAHINDRA

KOL-156 Model: BOLERO

Date of Reg.: 2019

Mobile: 9830728872 Speedo mtr Rdg: 252

Date: 07-May-2019 Engine No.: 16280

Time: 11:17 AM Chassis No.: 32097

Fuel: Diesel Emi Norms.: BS IV or Onwards

Vehicle Type: BS4 - 4 Wheeler

Flushing Cycle Mean: RPM Min: 0820 RPM Max: 1923

S.No.	RPM min	RPM max	Km-l	HSU %	OTPC
1	0710	2050	01.25	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.36	44.2	041.00

Standard	Measured
Km-l	1.62 01.36
HSU %	60 44.1

Valid upto: 06-May-20

Grade: B

Test Fee: 100

Mean 0716 2080 01.35 44.1% 041.33

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorized Signatory

JNDUS DiesX 2.8.6.0000-0000/4880

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

Vehicle Registr. No. **JH 01N 7488** WB-01-**D 5972591**

Date of issue: **06/11/2019** Valid upto: **05/05/2020**

Pollution Level
CO (%) **0.000**
HC (ppm) **0.000**
SD (ppm) **0.000**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE** License No. and Seat: **32/P**

Signature: **[Signature]**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal

AKBAR AUTO EMISSION TESTING CENTRE WB-01-**D 5972591**
ASANTI HIGHWAY, GHATAKPUKUR, PO:PS-BHANGAR, 24PGS(S), PIN-743502

UC No:- 009480 Licence No :- 32/P
Vehicle No :- JH 01N 7488 Test Date :- 06/11/2019
Year Of Reg :- 2000 Test Time :- 9:59:10 AM
Speedo Meter :- 2221 Fuel :- Petrol
Vehicle Make :- HERO HONDA Test Fee :- 80
Vehicle Model :- CD-DELUX Vehicle Type :- 2W
Engine Number :- 09368 Engine Type :- 4S
Chassis Number :- 03818 Result :- Pass
Vehicle Color :- BLACK Valid Upto :- 05/05/2020
Compliant :- Non BS
Contact :- 7995958341
Owner :- N. C. C. LTD

IDLE EMISSION

	Regulation	Actual	
Ideal CO:-	3.5	0.000	%VOL
CO corrected:-	3.5	0.000	%VOL
Idle HC:-	4500	0	PPM
CO2 :-		0.00	%VOL
O2 :-		27.58	%VOL
NOx :-		0	%VOL
Lambda :-		0.000	
PEF :-		0.544	
RPM :-		00000	
AFR :-		00000	
Oil Temp :-		00000	°C

HIGH IDLE EMISSION

CO :-	0.2		%VOL
CO2 :-			%VOL
O2 :-			%VOL
Lambda :-			
RPM :-			

Name of Authorise Signatory
with Seal of Testing Center

AKBAR AUTO EMISSION TESTING CENTRE

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 81 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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 82 of 83 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 83 of 83 Original Issue Date :
	Site Specific Environmental Management Plan	

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 Bhargar-II Block (Zone 14: Pipe Laying - Pitha Pukuria)

Package No: N24P/02B

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.


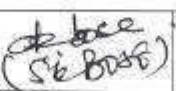


In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 1 of 7 Original Issue Date :
	Site Specific Environmental Management Plan	

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-14, PIPE LAYING (PITHA PKURIA)

0	31.10.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24Pgs., WBDWSIP, PHE Dto.
Govt. Of West Bengal

Environmental Specialist, DSISC
North 24 Parganas
WBDWSIP Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 2 of 44 Original Issue Date :

Package No.				Package No: N24P/02B; Zone 14 - Pipe Laying (Pitha Pukuria) under PIU North 24 Parganas									
Package title				Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block. SEMP is as per requirement of the Draft IEE covering package no. N24P/02B									
Contractor				NCC Ltd.									
Date of Contract Award				19/09/2018									
Date of works commencement				13/11/2019									
Contract period				Construction: 3 Years ; O&M: 2 Years									
SEMP Component				Laying of 75791m of pipeline as detailed below.									
Demolition Work				No demolition activity involved									
Project Area				Bhagabanpur Gram Panchyet of Bhangar II block									
Project Description				Individual household water supply schemes for the project Gram Panchayats									
Household Connection				3086 (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): Bhagabanpur													
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	450		
Zone - B14	40081	9737	7068	6045	5179	3597	1375	11	931	1518	1518	75791	
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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 3 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-14 (Pitha Pukuria) : (Pipeline works) Bhagabanpur GP of Bhangar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Sain Alam; 9327815543
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 Skilled and 0 Semi-skilled
Unskilled workers	14
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-16 (from neighboring districts of West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation at Pitha Pukuria [Refer Attachment P2 for details]

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 4 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of mitigation (6)	Cost and source of fund (7)
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.	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,	<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

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 5 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of mitigation (6)	Cost and source of fund (7)
	disturbance in 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 pipelaying 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

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 6 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Koach Pukur Zone:- 15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II 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	<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 	<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

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 8 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	on bio-diversity within the area.	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. 		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 (Majerhat Sanpukuria Zone:-10, Near Swastayan gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. • 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 	<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

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 9 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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. 				
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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 10 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			followed for all site activities; <ul style="list-style-type: none"> • 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 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 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 11 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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 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 	<p>property, irrigation and drinking water supply systems observed,</p> <ul style="list-style-type: none"> • 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. 			

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 12 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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

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 13 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

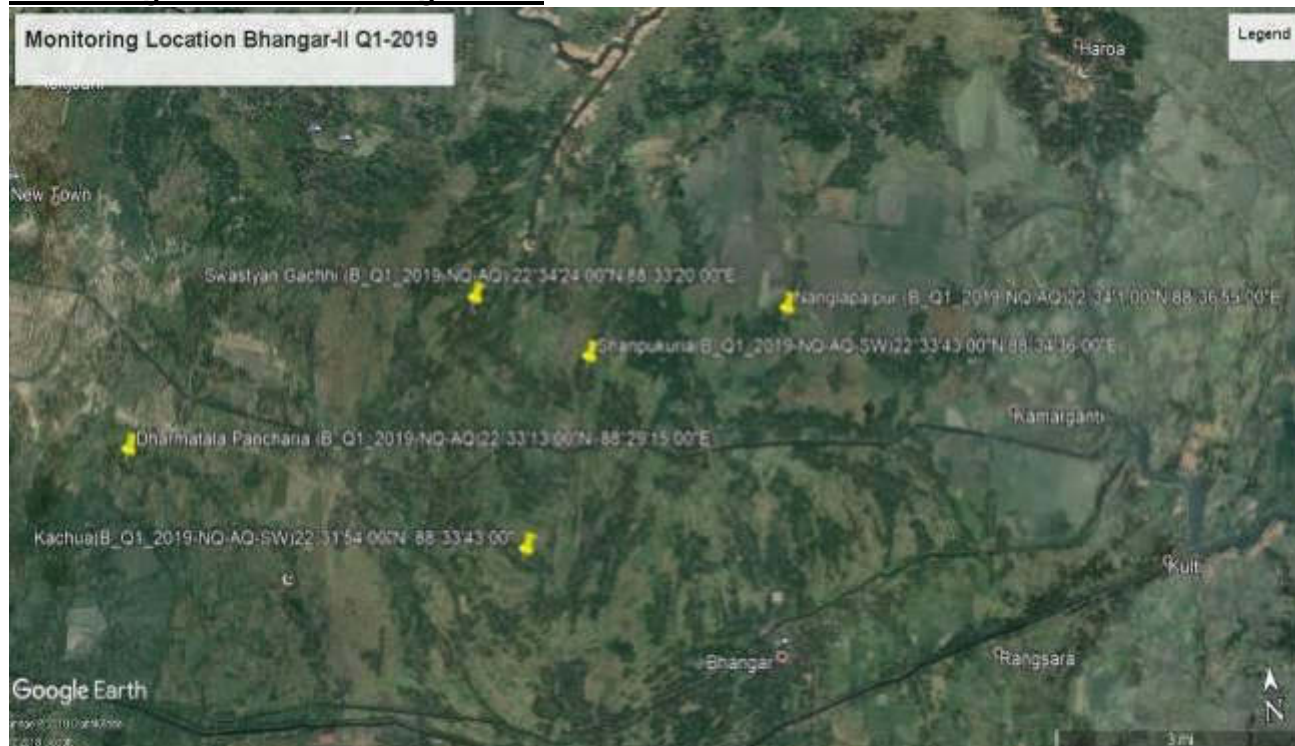
Table 3: Construction Phase Environmental Monitoring Plan for entire package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 14 of 44 Original Issue Date :

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

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/02B_Bhangar II block,



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 15 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 14: Pipeline construction Site						
Location- Pitha Pukuria						
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 (6,914 m)					
	400 mm	---	0.4- 0.8	1.250	2.0-6.0	CC/BT/Earthen
	350 mm	68	0.4- 0.8	1.140	2.0-6.0	CC/BT/Earthen
	300 mm	1905	0.4- 0.8	1.30	2.0-6.0	CC/BT/Earthen
	250 mm	4941	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (76,923m)					
	200 mm	6738	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	7640	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	10720	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	21652	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	30173	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	---	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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 16 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 14	
Location- Pitha Pukuria, (Latitude: 22°33'3", Longitude: 88°33'17")		
A	Accommodation – For 16 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 16 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 it is a rented pre-existing accommodation	
Photos of camp and facilities provided		
	Labour accommodation in rented house	Toilet facility for labours

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 17 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 18 of 44 Original Issue Date :

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- 16 nos. • Gloves-3 no. • Helmet-16 nos. • Safety jacket- 14 nos. • Goggles- 2 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. Amlan Singh Roy Mob: 9734667934
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Druga Prasad Mob: 9836803672
		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

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 19 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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	24355.75	From trench cutting	Not required

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 20 of 44 Original Issue Date :



Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
--------------------	--	---

SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-14, PIPE LAYING (Pitha Pukuria)

0	31.10.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24Pgs, WBDWSIP, PHE Dta.
Govt. Of West Bengal

*Environmental Specialist, DSISC
North 24 Parganas
WBDWSIP 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 21 of 44 Original Issue Date :

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 (14).

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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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

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 22 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 24355.75 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 generated at Pitha Pukuria (Zone 14) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	39921	0.3	1	11976.3
2	75	9735	0.3	1	2920.5
3	90	7076	0.3	1	2122.8
4	110	6046	0.3	1	1813.8
5	140	5176	0.3	1	1552.8
6	200	2601	0.4	1	1040.4
7	200	989	0.4	1	395.6
8	250	1374	0.5	1	687
9	300	11	0.6	1	6.6
10	350	931	0.6	1	605.15
11	400	1515	0.7	1	1060.5
12	450	249	0.7	1	174.3
12	Approx. generated total Spoil at ZONE-14				24355.75

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 23 of 44 Original Issue Date :


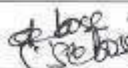
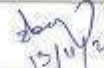

Attachment P8: Traffic Management Plan

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

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-14,PIPE LAYING (Pitha Pukuria)

0	31.10.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
 N-24 Pgs. WBDWSIP, PHE Dte.
 Govt. Of West Bengal
 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 Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 24 of 44 Original Issue Date :

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.

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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 25 of 44 Original Issue Date :

- 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.

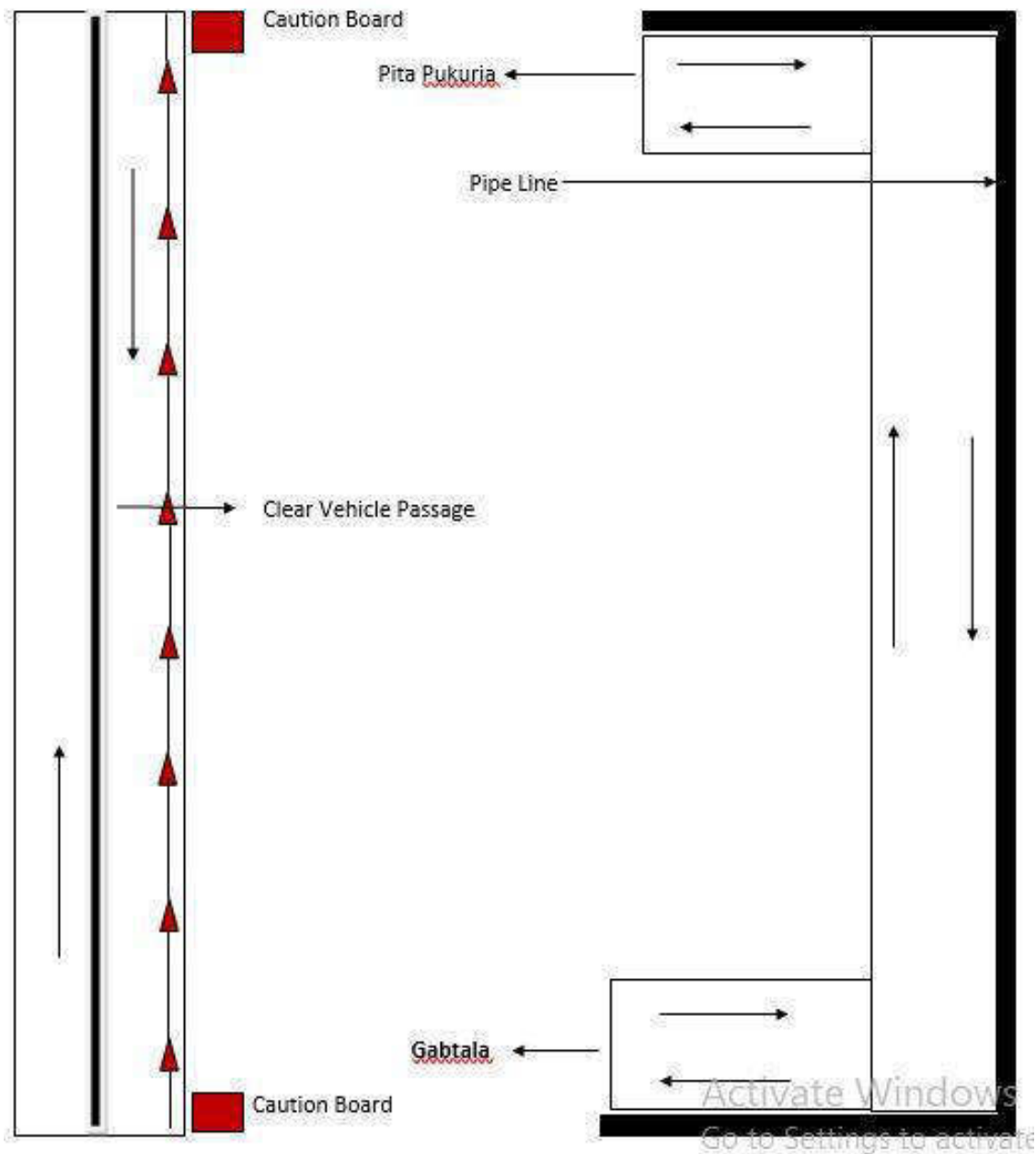
5.8 Working Area

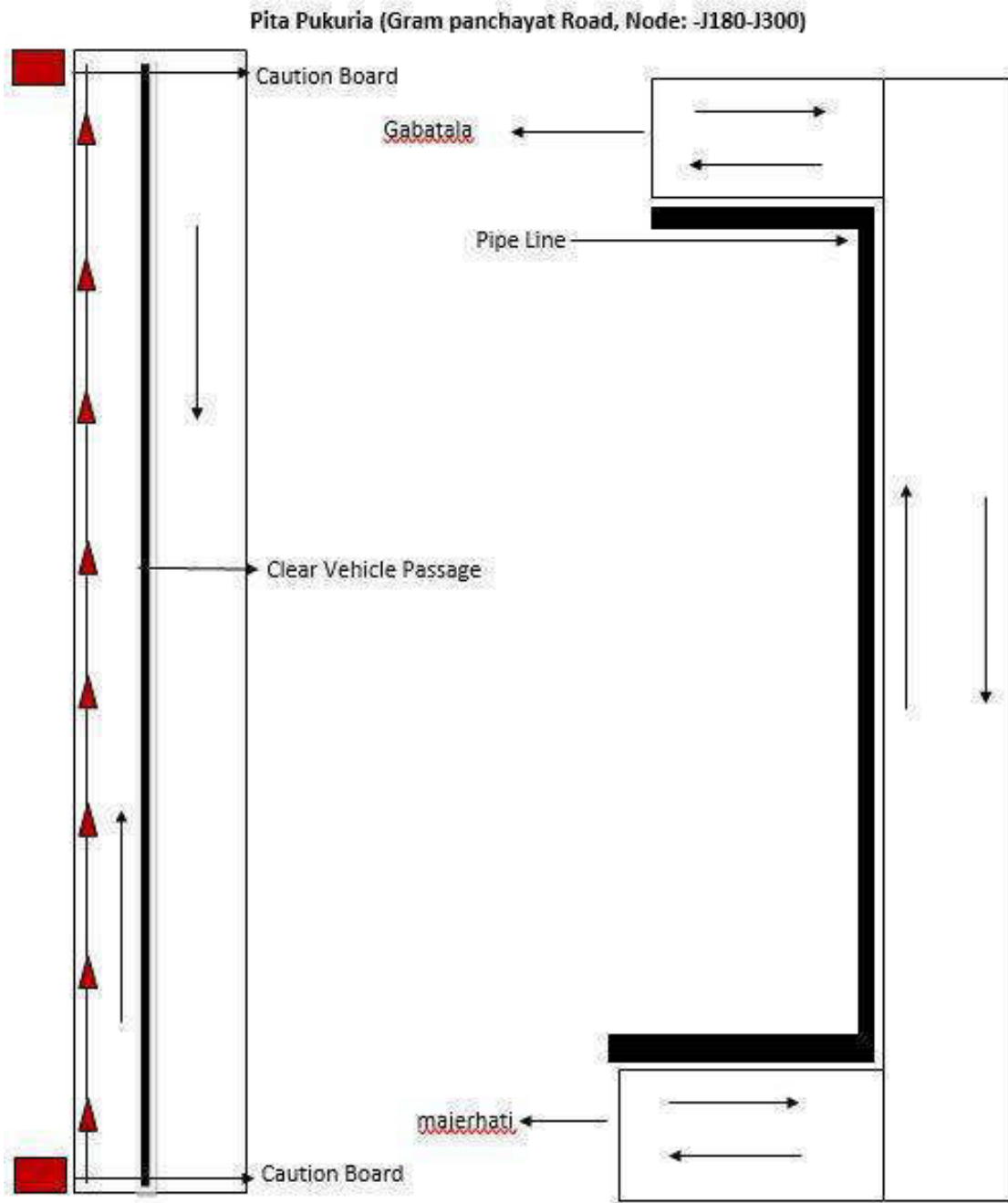
- The working area has been restricted from unauthorized entry.
- The working space has been defined.

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.

Pitha Pukuria (Gram panchayat Road, Node: J30-J180)



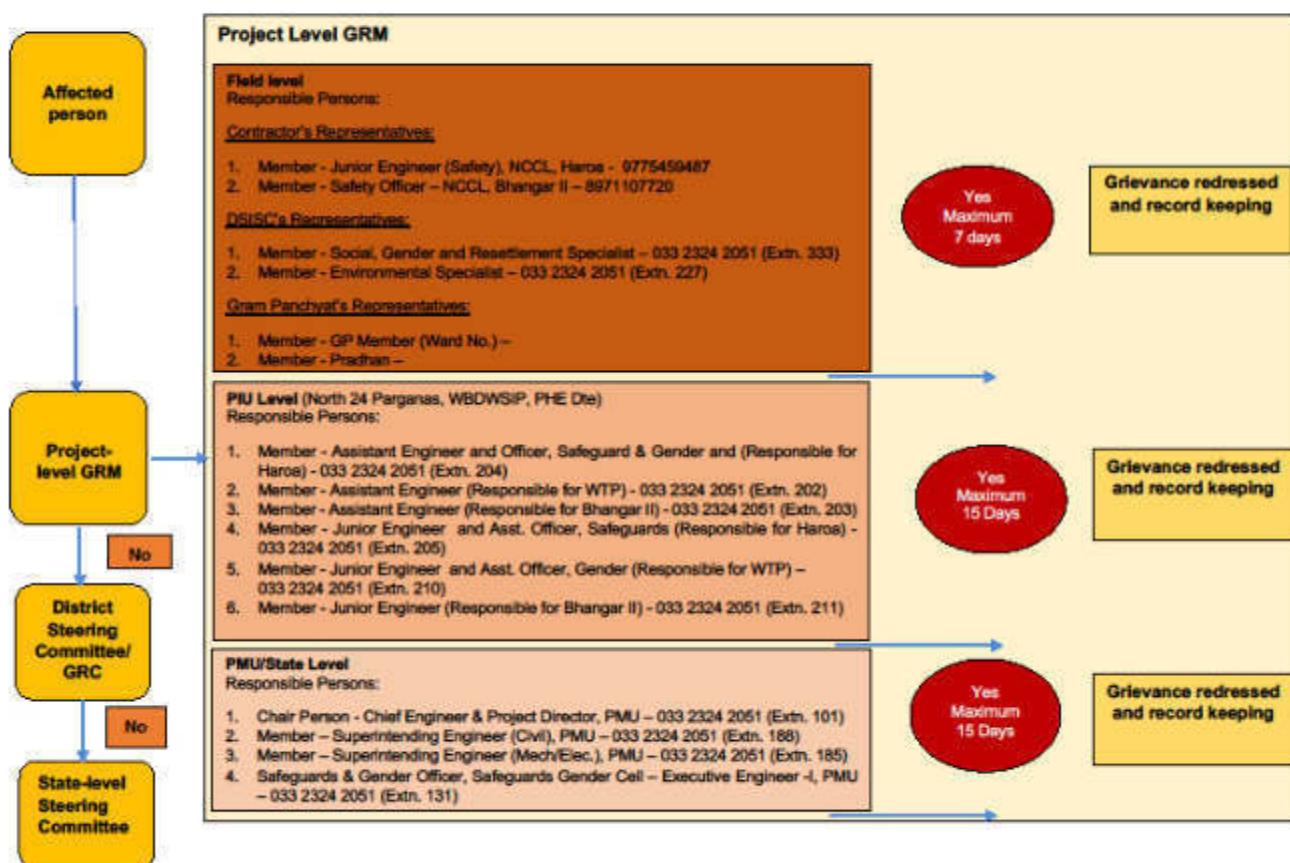


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 28 of 44 Original Issue Date :

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.

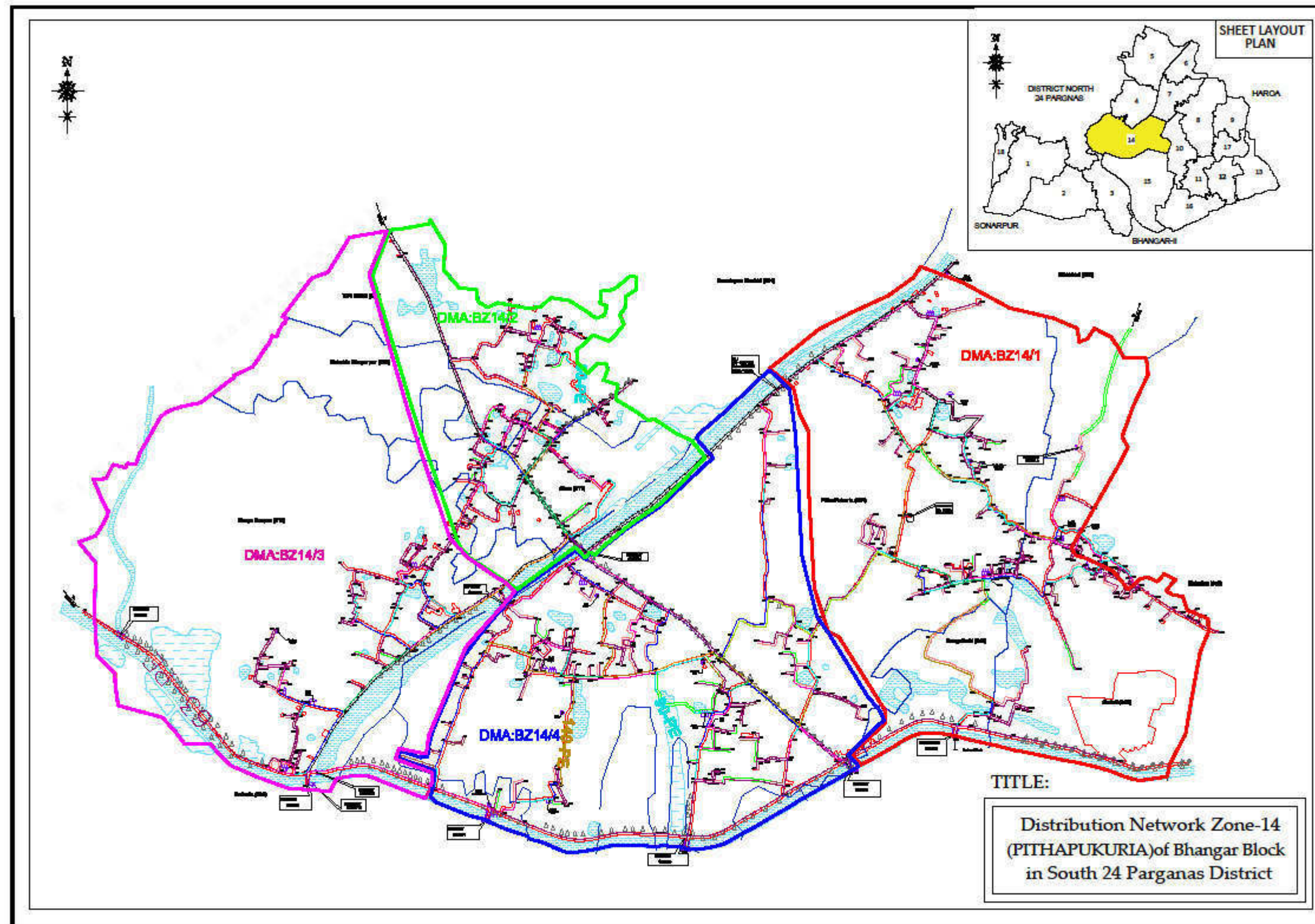
NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 29 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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.


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 30 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 31 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.A: Gram Panchayat and other Authorities Permission


Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHB 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.adh@wbphcd.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the _____

To

- 1) The Station Manager,
WBSEDCL, Bhargar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
ISNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.


Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-14) Pitha Pukuria.

Dear Sir,

This is to inform you that, PHB Dte. has undertaken a water supply project in the month of October 2019 in Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 06.11.2019 in Bhagabhanpur 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.

Yours faithfully,

Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHB Dte.
Dated, New Town, the _____

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the _____

Copy forwarded for information to :-

- 1) The Savapali, Bhargar-II Panchayat Samity.
- 2) The Executive Officer, Bhargar-II Panchayat Samity.

Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHB Dte.
Dated, New Town, the 05/11/2019

Memo No. 915/16/EE(C)PIUN24P, Dated, New Town, the 05/11/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHB Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHB Dte.
- 3) Sri Pankaj Chakraborty, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHB Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Bhargar-II Project.

Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHB Dte.
05.11.2019

Time- 1:20 PM
Date 06/11/19

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 Last Revision No. 00 Last Revision Date : 00 Page 32 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	



Government of West Bengal
Office of the Executive Engineer
PIU, North 24 Parganas, WBDWSIP, PHE Dte.
Utility Building, Tank No.3, 2nd Floor, Block-AL
Action Area-IA, New Town, Kolkata-700156
Phone No. : (033) 2324-2051, E-mail : ce.pian24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P.

Dated, New Town, the, _____

To
The B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayat Samiti,
South 24 Parganas.

Subj. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhargar-II Block (Zone-14) Pitha Pukuria.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhargar-II
block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from
06.11.2019 in Bhagabanpur 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.

Yours faithfully,

sd/-

Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/RE(C)PIUN24P.

Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Sarapati, Bhargar-II Panchayat Samiti.
- 2) The Pradhan, Bhagabanpur Gram Panchayat.
- 3) The Officer in Charge, Keshipur Police Station.

sd/-

Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 919/(3-1)/EE(C)PIUN24P.

Dated, New Town, the, 05/11/2019

Copy forwarded for information to :-


- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Partha Chakraborty, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC North 24 Parganas, WBDWSIP.
- 5) The Project Manager, NCC Ltd., Bhargar-II Project.

DTL
day 05/11
General Manager, Project Team, NCC Ltd.

2089
Time: 1:20 PM
Date: 05/11
Signature

05-11-2019
Assistant Engineer-II
PIU, 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 Last Revision No. 00 Last Revision Date : 00 Page 33 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	


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.piu24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The District Engineer,
South 24 Parganas Zilla Parishad,
Alipor, South 24 Parganas.


Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-14) Pitha Pukuria.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhargar-II block under the financial assistance of ADD 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 06.11.2019 in Bhagabanpur 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, _____

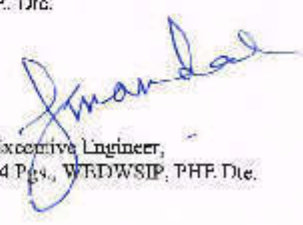
Memo No. _____/EE(C)PIUN24P,
Copy forwarded for information to :-


- 1) The Subhadrapati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.

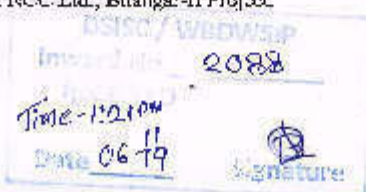

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 05/11/2019

Memo No. 913 (9-3)/EE(C)PIUN24P,
Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer-II, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 4) The Project Manager, NCC Ltd., Bhargar-II Project.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.


DTL
Alipor 06/11



I:\Gadgaonkar\Project\Design\DSISC\DSISC.doc

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 34 of 44 Original Issue Date :



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,
WBSRDA,
South 24 Parganas Unit.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-14) Pitha Pukuria.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhargar-II 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 06.11.2019 in Bhagabanpur 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.

Enclu. : 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 Sahbadhipati, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Zilla Parishad.

sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 912 (3-3) /EE(C)PIUN24P,

Dated, New Town, the, 05/11/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, PIU, North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Assistant Engineer-II PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.
- 4) The Project Manager, NCC Ltd., Bhargar-II Project.



[Signature]
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

DTL
[Signature]
06/11/19



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 35 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER , BARUIPUR
*South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruipur, Kolkata-700144*

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA SAHA
Digitally signed by SHREEJITA SAHA
Date: 2019.11.21 00:57:48 +05'30'
Signature & Seal
Licensing Officer

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 36 of 44 Original Issue Date :

Labour Licence
DWS Bhargar-II
Expiry date 26/12/19




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandarami Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibanipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Licensing Officer
Under the Contract Labour(R&A) Act, 1970

Digitally signed by
Tapas Kumar Sinha Roy
Date: 2018.12.27
15:32:23 +05'30'

&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas
(BRP04/CLL/000092)

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dtn. (BRP04/CLL/000092)
W.Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhogati-II, Block - Bhargar - II , Baruiপুর - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhogati-II, Block- Bhargar - II , Baruiপুর
PS - Bhargar , District - South 24 Parganas, Pin Code - 700135

1 of 2

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 38 of 44 Original Issue Date :

Appendix P.D: PUC Certificates

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

Vehicle Registr. No. **WB02BL7373** WB-01-D **5679142**

Date of issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	
HC (ppm)	
PM ₁₀ (µg/m ³)	45.83

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-D **5679142**

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 **WB32D3647572** Licence No: **32/D**
Year Of Registration: **2011** Date: **16-08-2019**
vehicle registration no = **WB02BL7373** TIME: **02:47:14**
Speedometer Reading[kms] = **21522** Owner: **N C C CO**
Engine Number=**9218** Driver: **SELF**
chassis Number=**G2011** Test Fee : **Rs.100/-**
Vehicle Colour = **YELLOW** Fuel: **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	Of Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	6.9	68
3	852	2700	0.12	5.9	66
Avg	860	2930	1.9	55.83	

Seal Of Testing Center

Certified that this Vehicle's K-Mean and hsu/N value conforms to the standards prescribed under rule 115(2) of CMB rules 1989, Operator: MD RAMIZ RANA

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)	66.83

PUC Certificate issued by:

Signature

32/D

WB-01-**D 5678745**

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
Year Of Registration= 2011
vehicle registration no = WB15B2529
Speedometer Reading[kms] =2541
Engine Number=28746
chasis Number=B5954
Vehicle Colour = OTHERS
Vehicle Make : HMT
Vehicle Model : 4022
Type Of Engine : OTHERS
Type OF Vehicle: OTHERS

Liscence No: 32/D
Date :23-07-2019
TIME:05:46:14
Owner:NABA KUMAR GHOSH /851304
Driver:- SELF
Test Fee : Rs.100/-
Fule : Diesel
Smk cell Temp : 00
Oil Temp : 93.0
Valid Up To : 22-01-2020
Grade : A

Test Reasult : Free Acceleration

	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	

Validity 6 Months



**NCC
LIMITED**

**Design and Construction of Overhead Reservoir
Including Water Supply Distribution Network and
Metering Work in Bhargar-II Block**

Site Specific Environmental Management Plan

**Doc. No. NCC/ SEMP /01
Last Revision No. 00
Last Revision Date : 00
Page 40 of 44
Original Issue Date :**

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

Vehicle Register No: WB08G1752 WB-01: **D 4231066**

Date of Issue: 07-May-2019 Valid upto: 06-May-20

Pollution Level:

CO ₂ (%)	
HC (ppm)	
SO ₂ (NSU)	44.1%

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

Signature: [Signature] Vehicle Pass: [Stamp] WB-01: [Stamp]

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

Transport Department

MILI ENTERPRISE
BP RAJARHAT NEW TOWN, KOLKATA - 700156, WEST
PH: 9432010095

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

PUC No.: FWB0001000006 Vehicle Reg No: WB08G1752

Name: NCC LIMITED Category: car

Address: NEW TOWN Make: MAHINDRA

KOL-156 Model: BOLERO

Date of Reg.: 2019

Mobile: 9830728872 Speedo mtr Rdg: 252

Date: 07-May-2019 Engine No.: 16280

Time: 11:17 AM Chassis No.: 32097

Fuel: Diesel Emi Norms.: BS IV or Onwards

Vehicle Type: BS4 - 4 Wheeler

Flushing Cycle Mean: RPM Min: 0820 RPM Max: 1923

SN.	RPM min	RPM max	Km-l	BSU %	OTPC
1	0710	2050	01.25	41.2	042.00
2	0720	2110	01.47	46.9	041.00
3	0720	2080	01.36	44.2	041.00

Standard	Measured
Km-l	1.62 01.36
BSU %	60 44.1

Valid upto: 06-May-20

Grade: B

Test Fee: 100

Mean 0716 2080 01.35 44.1% 041.33

This vehicle meets Emission Standards Prescribed under Rule 115(2) of Central Motor Vehicle Rule's 1989.

Seal of Testing Centre

Authorized Signatory

JNDUS DiesX 2.8.6:0000-0000/4880

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

Vehicle Registr. No. **JH 01N 7488** WB-01 **D 5972591**

Date of issue: **06/11/2019** Valid upto: **05/05/2020**

Pollution Level
CO (%) **0.000**
HC (ppm) **0.000**
SD (ppm) **0.000**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE** License No. and Seat: **32/P**

Signature: **[Signature]**

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal

AKBAR AUTO EMISSION TESTING CENTRE WB-01 **D 5972591**
ASANTI HIGHWAY, GHATAKPUKUR, PO:PS-BHANGAR, 24PGS(S), PIN-743502

UC No:- 009480 Licence No :- 32/P
Vehicle No :- JH 01N 7488 Test Date :- 06/11/2019
Year Of Reg :- 2000 Test Time :- 9:59:10 AM
Speedo Meter :- 2221 Fuel :- Petrol
Vehicle Make :- HERO_HONDA Test Fee :- 80
Vehicle Model :- CD-DELUX Vehicle Type :- 2W
Engine Number :- 09368 Engine Type :- 4S
Chassis Number :- 03818 Result :- Pass
Vehicle Color :- BLACK Valid Upto :- 05/05/2020
Compliant :- Non BS
Contact :- 7995958341
Owner :- N. C. C. LTD

IDLE EMISSION

	Regulation	Actual	
Ideal CO:-	3.5	0.000	%VOL
CO corrected:-	3.5	0.000	%VOL
Idle HC:-	4500	0	PPM
CO2 :-		0.00	%VOL
O2 :-		27.58	%VOL
NOx :-		0	%VOL
Lambda :-		0.000	
PEF :-		0.544	
RPM :-		00000	
AFR :-		00000	
Oil Temp :-		00000	°C

HIGH IDLE EMISSION

CO :-	0.2		%VOL
CO2 :-			%VOL
O2 :-			%VOL
Lambda :-			
RPM :-			

Name of Authorise Signatory
with Seal of Testing Center

AKBAR AUTO EMISSION TESTING CENTRE

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 42 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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 43 of 44 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?					

6. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 44 of 44 Original Issue Date :
	Site Specific Environmental Management Plan	

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 পঞ্চায়ত- 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-

Site-Specific Environmental Management Plan

Project number: 49107-006
May 2019

IND: West Bengal Drinking Water Sector Improvement Project – Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block (Zone 13: OHR - Baniara)

Package No: N24P/02B

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 Bhargar-II Block

**Site Specific Environmental
Management Plan**

Doc. No. NCC/SEMP/01

Revision No. 00

Revision Date : 00



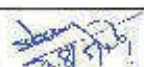
Page 1 of 8

Effective Date :

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN


WBDWSIP BHANGAR-II BLOCK


LOCATION – ZONE- 13,OHR (Baniara)

0	07.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DESEC	APPROVED BY PIC

Environmental Specialist, DESEC
North 24 Parganas
WBDWSI Project

may 28 2019
Junior Engineer
PIU, N-24 Pgs., WBDWSIP, P.
Govt. Of West Bengal


Junior Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. of West Bengal

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 2 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No	Package No : N24P/02B Zone 13- OHR (Baniara) under PIU North 24 Parganas
Package title	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II 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	28/05/2019
Contract period	Construction: 3 Years ; O&M: 2 Years
SEMP Component	Construction of Overhead Reservoir – 500 KL
	No demolition activity involved
Project area	Baniara village , Bhogali II Gram Panchayats of Bhangar II 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: Bhogali II	
Land Status	Private and Transferred
OHR Capacity	500 KL
Location	



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 3 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-13 OHR (Baniara), Bhogali II Gram Panchayats of Bhangar II block
Project Manager	Mr. Ansari; 7417526845
Site Engineer	Mr. Md. Sukur Ali; 8327043932
Site Supervisor	Mr. SK Sharma; 9754981670
EHS Supervisor	Mr. Nitin Kumar; Mob: 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 skilled and Semi-skilled
Unskilled workers	8
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-10 (from other districts within West Bengal)
Details of facilities	
Construction camps, (no's and locations)	One labor accommodation adjacent to OHR site on a leased land _[Ref. Attachment O 2]

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 4 of 79 Original Issue Date :

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

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of mitigation (6)	Cost and source of fund (7)
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 and 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 and PIU	DSISC observation at site	Project cost
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion,	<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 	<ul style="list-style-type: none"> No involvement of any new borrow area or quarry is anticipated. 	Contractor and 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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 5 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues (1)	Anticipated Impact (2)	Recommended Mitigation Measures (3)	Actions Taken/ Status (4)	Responsibility of Implementation (5)	Monitoring of mitigation (6)	Cost and source of fund (7)
	disturbance in 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"> 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

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 6 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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 wall around the construction sites (OHR). 	<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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II Package. 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Drainage and hydrology	Due to the nature and locality of the projects there is unlikely to be any significant impacts	<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. 	<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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 7 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	on water resources within the immediate area.	<ul style="list-style-type: none"> Where no local drains are available, a soak pit will be created on-site away from water bodies . 	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			
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 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"> 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 monitoring has been conducted already following two places (Koach Pukur Zone:-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II project as per Environmental Monitoring Plan recommended in the IEE. 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 8 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
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 along the existing boundary wall of 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 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 (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. 	<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 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 (Majerhat Sanpukuria 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 9 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
			Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar II Block as per requirements prescribed in IEE.			
Landscap e 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 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 • 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
Occupatio nal 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;	<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. 	Contractor	PIU through DSISC observation at site and document	Project cost

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 10 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		(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"> • 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; • Moving equipment maintained with audible back-up alarms 		checking	
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 03 for documents relating to statutory compliances 	Contractor	PIU through DSISC observation at site and	Project cost

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 11 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
					document checking	
Environmental Management Plan (EMP) Implementation Training	Irreversible impact to the environment, workers, and community	1. 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 • Adequate lighting and ventilation • Provide drinking water, water 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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 12 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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.	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	• 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.	• 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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 13 of 79 Original Issue Date :

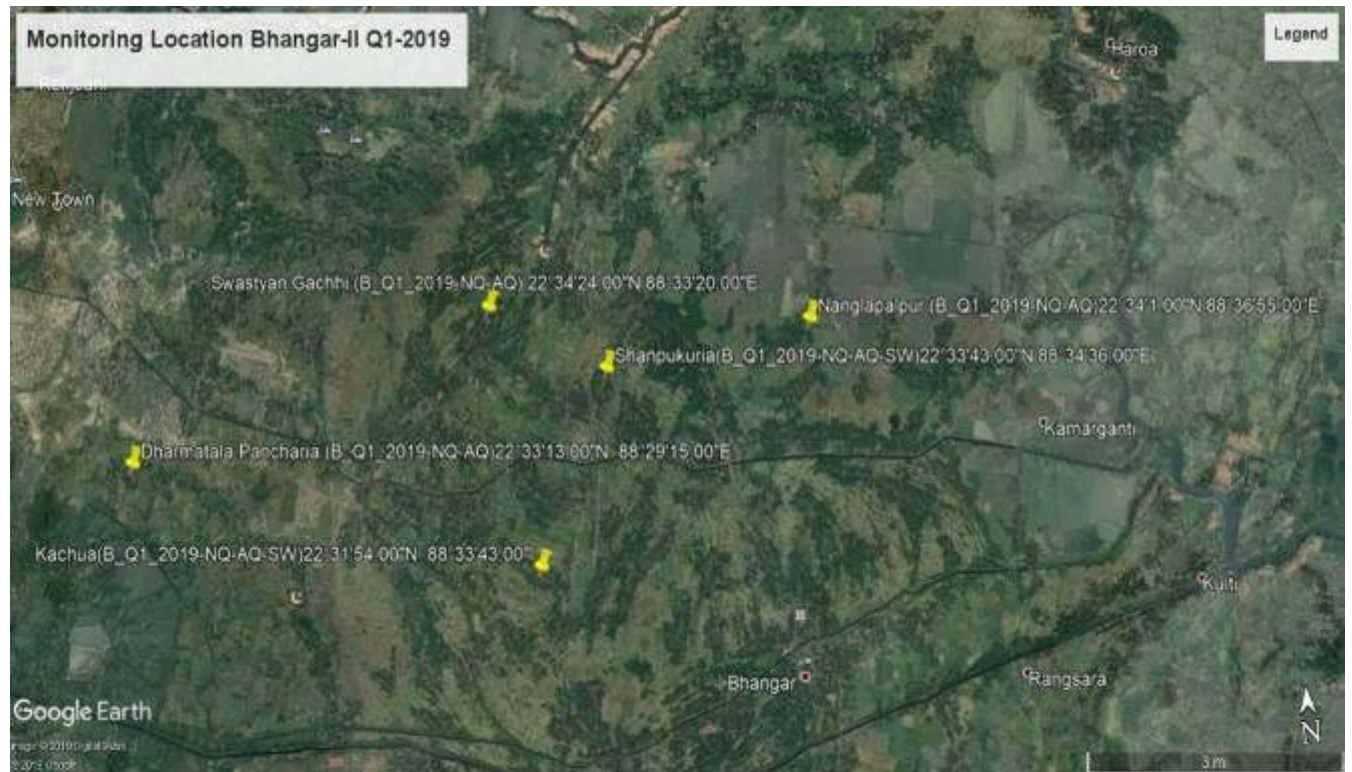
Table 3: Construction Phase Environmental Monitoring Plan for Entire Package

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 14 of 79 Original Issue Date :

Monitoring Locations on Google Earth



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 15 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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, _

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 16 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O1: Details of construction Work sites

1. Zone 13: OHR construction Site	
Location- Baniara	
A	Material storage • Cement • Steel • Fine Aggregate • Coarse Aggregate • Shuttering Material • Shuttering Oil
B	Plant & Machinery • Concrete Mixer – 1 Nos • Needle Vibrator – 1 Nos
C	Site office – No
D	Laboratory – No
E	Security cabin – No
F	Labor welfare facilities at Site • Labor rest area • 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



Display of emergency contact number




First Aid program conducted for labours

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 18 of 79 Original Issue Date :

		
	Designated scrap yard	

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 19 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment O2: Details of construction camp sites

1.	Labour accommodation, OHR site – Zone 13: Baniara
Location- Baniara, Bhogali II (Latitude: 22°32'25", Longitude: 88°38'1")	
A	Accommodation – For 10 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 Accommodation at OHR site • Accommodation provided for 10 workers • Separate cooking area • Cooking gas • Drinking water • Bath rooms • Toilets • Drainage system • First aid box
B	Camp photographs
Original site Photographs	Adjacent to OHR Site
Photos of camp and facilities provided	
	Labour accommodation at OHR Zone-12

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 20 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

	 <p>22°32'25".88°38'1", -53.7m 07/01/2019 02:51:52 pm</p>	
	Toilet facility	

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 21 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 22 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 10 nos. • Gloves-2 nos. • Helmet-10 nos. • Safety jacket- 15 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 signage	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. Md Sukur Ali Mob: 8327043932
	EHS Supervisor	Mr. Nitin Kumar Mob: 8971107720
	Project Manager Representative	Mr. Ansari Mob: 7417526845
		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

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 23 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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	500.94	Nalhati/Rampurhat	Yes
2	Sand	260.25	Gopi Ballavpur/ Bardhaman	Yes
3	Steel	56.56	Approved supplier	Yes
4	Cement	172.52	Approved supplier	Yes

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 24 of 79 Original Issue Date :




Attachment O7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SMP /01
	Spoil Management Plan	Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5

SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE- 13,OHR (Banlara)

0	13.05.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

may be approved

Junior Engineer
PIU, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Junior Engineer
PIU-I, N-24Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal

West Bengal Drinking Water Sector Improvement Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 25 of 79 Original Issue Date :

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 in Zone (13). 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.

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 26 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 130.853 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 the 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.

SPOIL DITAILS

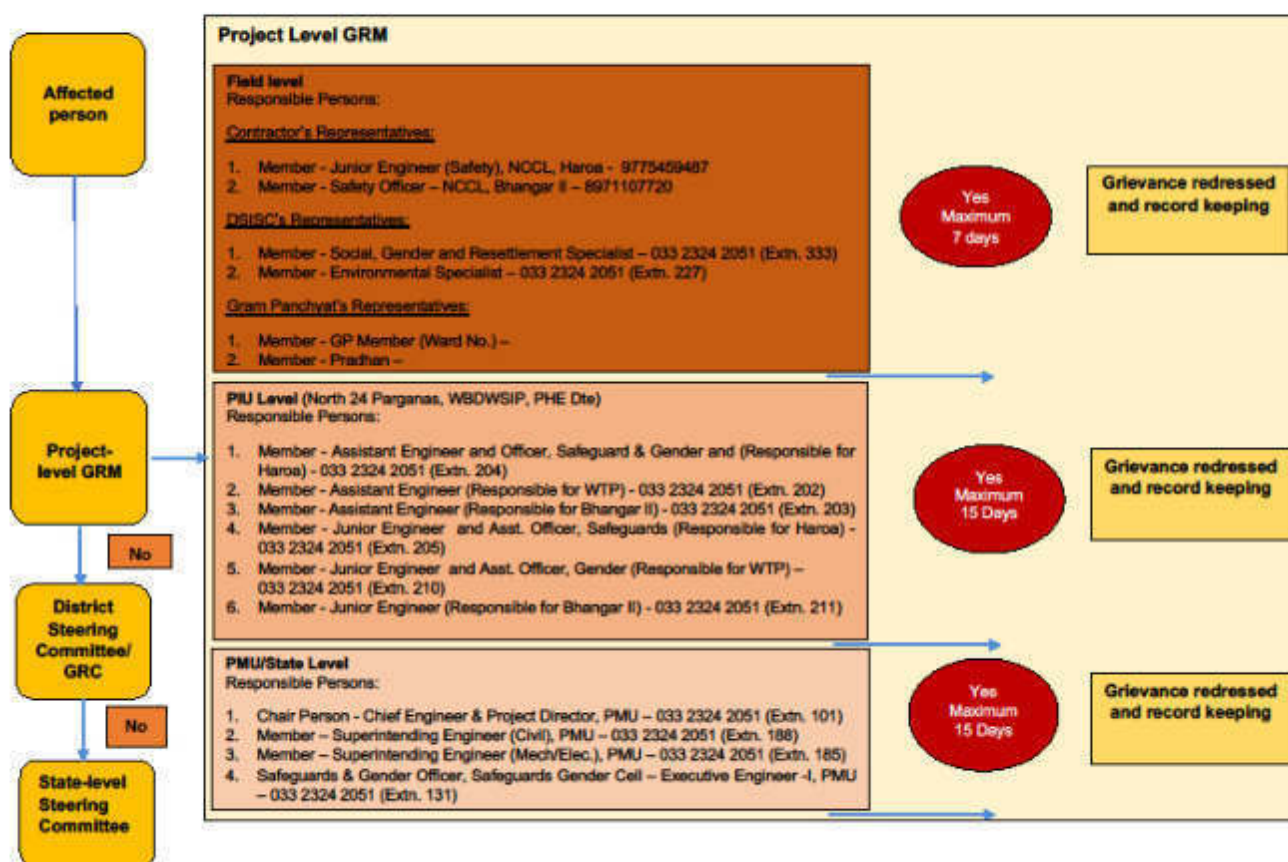
Sl. No.	ZONE	NAME OF STRUCTURE	EXCAVATON TOTAL QTY (C.U.M)	BACK FILLING TOTAL QTY (C.U.M)	REUSE EXECES QTY(C.U.M)
1.	13	Boundary wall	130.853	99.392	31.461

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 27 of 79 Original Issue Date :

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

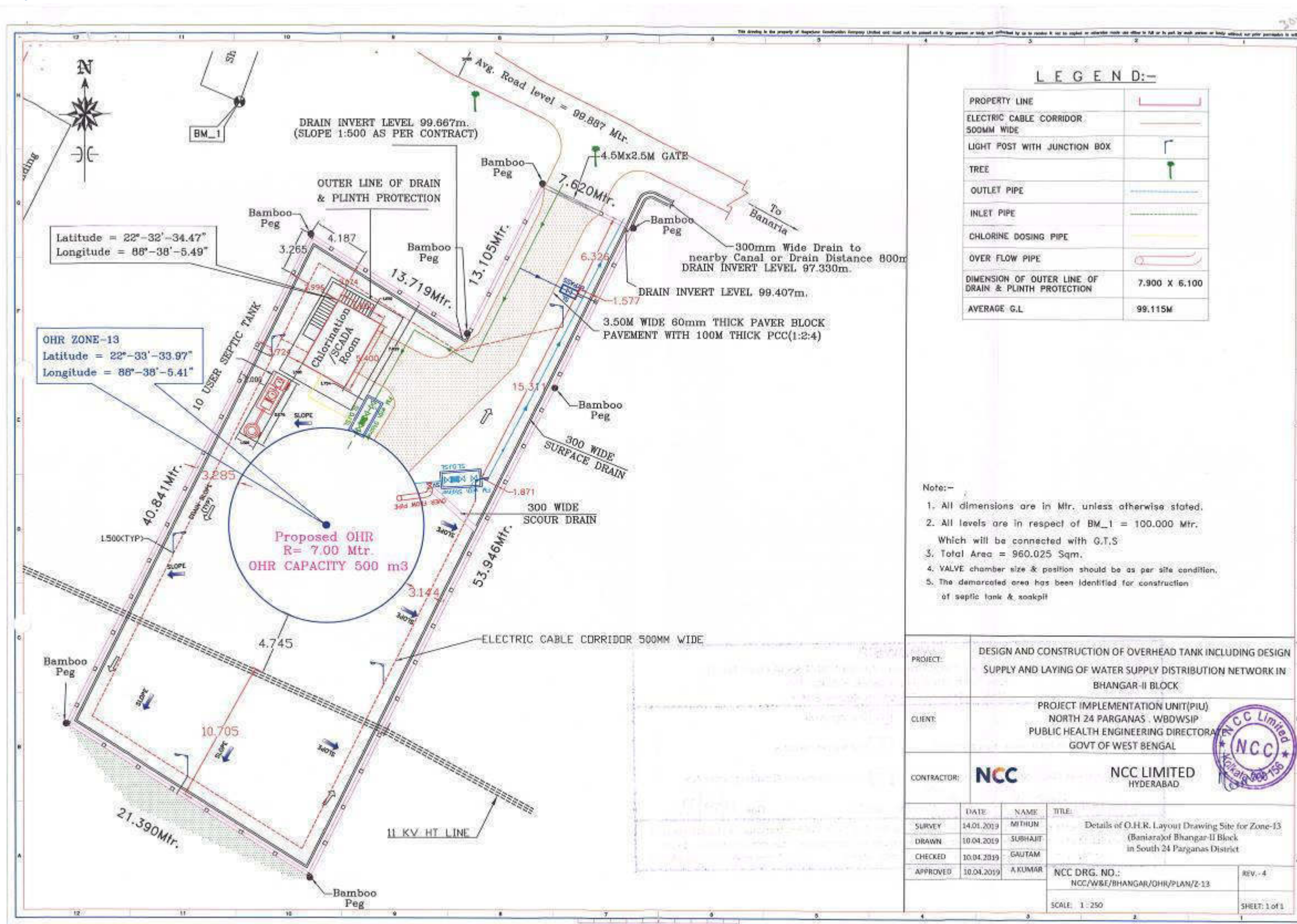


All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

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



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 29 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.A: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
*South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144*

FORM VI
[See Rule 25(1)]

License No. : BRP04/CLL/000191

Date : 27th Dec, 2018

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th 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-009474-008133-26939-2019

21st Nov, 2019

₹ 1250 (One Thousand Two Hundred Fifty rupees only)

26th Dec, 2020



**SHREEJITA
SAHA**

Digitally signed by
SHREEJITA SAHA
Date: 2019.11.21 00:57:44
+05'30'

Signature & Seal
Licensing Officer

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 30 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

*Labour Licence
DWS Bhangar-II
Expire on 26/12/19*

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandaram Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibaniipith, Barulpur, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**

Tapas Kumar Sinha Roy
Digitally signed by Tapas Kumar Sinha Roy
Date: 2018.12.27 15:32:23 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Barulpur, South 24 Parganas

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. [BRP04/CLL/000092]
W Site - Utility Building, Tank No-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhogati-II, Block - Bhangar - II, Barulpur - 700135, PS - Kashiapur, South 24 Parganas

Work site exact location:
VII, Kantadanga, P.O. Shonepur
Bhogati-II, Block- Bhangar - II, Barulpur
PS - Bhangar, District - South 24 Parganas, Pin Code - 700135

1 of 2

Appendix O.B: Workman Compensation



Workmen's Compensation Policy, Policy Schedule			
Policy Serving Office : Off Code-15, Future Generali India Insurance Co. Ltd, 1st Floor D.No.7-1-21A, APOL Estate Opp Country Club, Begumpet, Hyderabad, Telangana, Pincode-500016, Tel. No : 040-55038600			
Policy No	2519-L0129160-FWC	Period of Insurance	From 02-09-2019 To Midnight of 31/03/2020
Insured	NCC Limited	Intermediary Name/Code	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES/60011521
Address	BHANGAR II BLOCK, South Twenty Four Parganas, West Bengal, 743302	Telephone(Mob,Off,Home)	4027823950/0692590136/027822990
		Fax No & Email Id	02256791416 / PADMAJA SURYARAJAN@INDIAINSURE.COM
GETEN Number	19AAACH7333C/ZME	PGI GETEN Number	36AACHP01011ZA
In consideration of the Policy holder's agreed herein paying to the Future Generali India Insurance Company Limited (herein after called the Insurer) the premium as stated in the Schedule and in release upon the statements made by the Policy holder in the proposal including its attachments or otherwise, and the material representation therein, the Insurer agrees to provide insurance against loss damage liability or exposure to the extent and in the manner herein provided subject to all terms, conditions, exceptions and warranties hereinafter set forth.			
Insurance Details		Schedule Of Premium (₹)	
Insurer	FUTURE GENERALI INDIA INSURANCE COMPANY LIMITED	Share (In %)	100%
		Core Premium	134,304.54
		Goods and Service Tax	24,174.78
		Total Premium	158,479.00
Risk Details			
Plants of Business : Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block			
Location : Design and Construction of overhead reservoir including water supply distribution and metering works in Bhangar II Block			
Construction/Job Construction Name : NCC LTD			
No of Employees	Description of work done by Employees	Declared Wage during the Period of Insurance (₹)	
50	Highly Skilled workmen	8,647,000.00	
50	Skilled workers	5,248,000.00	
50	Semi Skilled Workers	3,470,000.00	
50	Unskilled Workers	4,989,000.00	
Total		22,354,000.00	
Coverage Details			
The Policy covers Liability of the Insured under the following Law(s) shown as annexed, 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	Subject otherwise, in the terms, conditions and scope of Exclusions of the Policy, the amount of liability incurred for the Insured	Yes	
Workmen's Compensation Act, 1923 and subsequent amendments	Subject otherwise, in the terms, conditions and scope of Exclusions of the Policy, the amount of liability incurred for the Insured	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 late/their failure to comply with the requirements laid down under WC Act 1923			
II. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination 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 Exp Insives			
Excluding loss arising out of installation and erection of live wiring.			
Warranted that safety practices are followed by the workers/agents			
Contractors and sub contractors employees are covered.			
Important:- I. 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, Insurer 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 :	29465378		
Date of Issue :	07/02/2019		
Place of Insurance :	Mumbai*		
*Address mentioned below.		(Authorized Signatory)	
Note: This document is digitally signed by Sharada Rameshkrishnan, Authorised Signatory of Future Generali India Insurance Company Limited on 07/02/2019.			

The stamp duty of Rs 67.13 paid by Letter Of Authorization No. CSE/18/2018/317918, dated 18/08/2018, Madras - 2017/C.B.9161-1, dated 09/01/2018.
Policy UIN : IBDAN132P0012V01200708



Future Generali India Insurance Company Limited, Corporate & Regional Offices: 6th Floor, Tower - 3, Indian Finance Centre, Begumpet Begum
Mang. Hyderabad Road, Mumbai - 400013, Maharashtra. Call Line - 1800-226-2333, 886-358-3333, 022-47827800, Email: agent@futuregeneral.co,
Website: www.futuregeneral.co, Reg. No. 132, CIN - 06601040120001C103181.

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 32 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix O.C: PUC Certificates

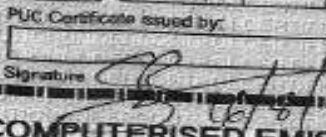
POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1988)


Vehicle Registr. No. **WB 08G 5386** WB-01-**D 5679131**

Date of Issue: **16/08/2019** Valid upto **15/08/2020**

Pollution Level

CO (%)	0.000
HC (ppm)	554
SO (HSU)	

PUC Certificate issued by:  License No. **SP-32/P**

Signature 

COMPUTERISED EMISSION TEST CERTIFICATE
Authorised by Transport Dept. of West Bengal
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPUKUR, PO/PS-BHANGAR, 24PGS(S), PIN-743502

PUC No. :- 008431 Licence No. :- 32/P

Vehicle No. :- WB 08G 5386 Test Date :- 16/08/2019

Year Of Reg :- 2019 Test Time :- 10:26:44 AM

Speedo Meter :- 1205 Fuel :- Petrol

Vehicle Make :- HERO Test Fee :- 80

Vehicle Model :- HF DELUXE Vehicle Type :- 2W

Engine Number :- 10845 Engine Type :- 4S

Chassis Number :- 05724 Result :- Pass

Vehicle Color :- BLACK Valid Upto :- 15/08/2020

Compliant :- BS-IV

Contact :- 8755017446



Owner :- NCC LIMITED

IDLE EMISSION

Regulation	Actual	
Ideal CO :- 3.5	0.000	%VOL
CO corrected :- 3.5	0.000	%VOL
Ideal HC :- 4500	554	PPM
CO2 :-	0.00	%VOL
O2 :-	36.05	%VOL
NOx :-	5	%VOL
Lambda :-	0.000	
PEF :-	0.542	
RPM :-	00000	
AFR :-	00000	
Oil Temp :-	00000	°C

HIGH IDLE EMISSION

Regulation	Actual	
CO :- 0.2		%VOL
CO2 :-		%VOL
O2 :-		%VOL
Lambda :-		
RPM :-		

Name of Authorised Signatory 
with Seal of Testing Centre 

WB 08G 5386

27/08/19

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

Vehicle Registr. No. **PB02BL7373** WB-01-**D 5679142**

Date of issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	5.83
HC (ppm)	5.83

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-**D 5679142**

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 **WB32D3647572** Licence No: **32/D**
Year Of Registration= **2011** Date: **16-08-2019**
vehicle registration no = **PB02BL7373** TIME= **02:47:14**
Speedometer Reading[kms] =**21522** Owner= **N C C CO**
Engine Number=**9218** Driver= **SELF**
chasis Number=**G2011** Test Fee : **Rs.100/-**
Vehicle Colour = **YELLOW** Fuel: **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	81
2	860	2900	0.17	8.9	66
3	852	2700	0.12	8.9	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 CMC rules 1989, Operator: MD RAMIZ RANA

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 (%) **55.83**
HC (ppm) **32.0**
SD (HSU) **55.83**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE**

Signature: **[Signature]**

COMPUTERISED EMISSION TEST CERTIFICATE
CMVR AUTHORISED BY : Govt. of West Bengal
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**
Speedometer Reading[kms] = **2541** Owner: **NABA KUMAR GHOSH /851304**
Engine Number=**28746** Driver:- **SELF**
chasis Number=**B5954** Test Fee : **Rs.100/-**
Vehicle Colour = **OTHERS** Fuel : **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

	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	2900	1.9	55.83	

Validity 6 Months

Seal Of Testing Center

Certified that this Vehicle's K-Mean and Hsu% value conforms to the standards prescribed under rule 115(2) of CMB rules 1989. Operator- MD RAMIZ RANA.

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 35 of 79 Original Issue Date :

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 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:

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 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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?					

1. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 37 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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-	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 - হ্যাঁ / 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 Bhargar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 38 of 79 Original Issue Date :

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SMP /01
	Site Specific Environmental Management Plan	Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5

SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

WBDWSIP BHANGAR-II BLOCK

LOCATION :ZONE-13,PIPE LAYING (BANIARA)

0	<u>22.07.19</u> 22.07.19				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Assistant Engineer - II
PIU, N-24Pgs.,WBDWSIP, PHE D.K.
Govt. Of West Bengal

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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 39 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Package No.				Package No: N24P/02B							
				Zone 13 - Pipe Laying (Baniara) under PIU North 24 Parganas							
Package title				Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II 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 particular works commencement				22/07/2019							
Contract period				Construction: 3 Years ; O&M: 2 Years							
SEMP Component				Laying of 47463m of pipeline as detailed below.							
Demolition Work				No demolition activity involved							
Project Area				Bhogali II Gram Panchayet ,Bhargar II block							
Project Description				Individual household water supply schemes for the project Gram Panchayats							
Household Connection				2676 (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 the EMP Implementation for the entire package				INR 21,42,500/-							
Project Components				As per project detailed design							
Gram Panchayat (GP): Bhogali II											
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 - B13	25146	7282	4187	3978	3173	3279	418				47463
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 Bhargar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 40 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Details of contractors on-site-personnel and workers	Zone-13 (Pipeline works), Baniara village, Bhogali II GP of Bhargar II block
Project Manager	Mr. Durga Prasad; 9836803672
Site Engineer	Mr. Amlan Singha Roy; 9734667934
Site Supervisor	Mr. Randhir Shukla; 8755017446
EHS Supervisor	Mr. Nitin Sartape; 8971107720
Archeological supervisor	NA
Skilled / semi-skilled workers	2 Skilled and 0 Semi-skilled
Unskilled workers	18
Women workers	Nil
Workers – local / migrant	Local-Nil / Migrant-20 (from other districts within West Bengal)
Details of facilities	
Construction camps, (no's and locations)	Rented accommodation for labours at Baniara Market [Ref. Attachment P2]

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 41 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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.	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	<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 	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

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 42 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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.	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 pipelaying 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, 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, 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 43 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (Near School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09) in the Bhangar II 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 impacts	<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

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 44 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
	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. 			
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 (Koach Pukur Zone-15, and (Majer hat) Zone-10, Sanpukuria) in the Bhangar II 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-moving and	<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 at 	Contractor	PIU through DSISC observation at site and document	Project cost

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 45 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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	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. 	sensitive times, such as religious and cultural festivals. <ul style="list-style-type: none"> • Noise quality Monitoring has been conducted at following five places (Majerhat Sanpukuria Zone:-10, Near Swastayan gchhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Koach Pukur Primary School Zone:-15) in the Bhangar Project for Environmental Monitoring Report. • DG set (less than 5 kVA) are used for connecting the HDPE lines. This is properly maintained and stopped immediately after completion of work. 		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 at the site selected, in consultation with local 	<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

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 46 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
		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; 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 	Contractor	PIU through DSISC observation at site and document checking	Project cost
Socio	Generation of	<ul style="list-style-type: none"> Employ local labour force as far 	<ul style="list-style-type: none"> Local labours are employed, on 	Contractor	PIU through DSISC	Project cost

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 47 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Field/ Issues	Anticipated Impact	Recommended Mitigation Measures	Actions Taken/ Status	Responsibility of Implementation	Monitoring of mitigation	Cost and source of fund
Economic Employment	temporary employment and increase in local revenue	as possible • Comply with labour laws	priority, whenever available. • 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 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 	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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 48 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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"> 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"> camp/ household. Rented house is used as labour accommodation. Location of Labour accommodation: Rented accommodation at Baniyara Market 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

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 49 of 79 Original Issue Date :

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 School Swastayangachhi. Zone-04, Near Paschim Majarhat primary school Sanpukuria. Zone-10, Dharmatala Pachuria Zone:-01 Nangla Palpur Zone:-09	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)	Majerhat Sanpukuria Zone:-10, Near Swastayan Gachhi School Zone :-04, Dharmatala Pachuria School Zone:-01, Nangla Palpur Zone:-09, Near Coch Pukur Primary School Zone:-15	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)	Koach Pukur Zone:-15, and Majerhat, Sanpukuria Zone-10	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 are responsibility of concerned Contractor and cost for such already budgeted in the IEE

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 50 of 79 Original Issue Date :

Monitoring Locations on Google Earth



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 51 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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/02B_Bhangar II block,


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 52 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P1: Details of construction Work sites

1. Zone 13: Pipeline construction Site						
Location- Baniara						
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. 					
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 (418m)					
	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	418	0.4- 0.8	1.25	2.0-6.0	CC/BT/Earthen
	Distribution Network— HDPE Pipes (47045m)					
	200 mm	3279	0.4- 0.8	1.20	2.0-6.0	CC/BT/Earthen
	140 mm	3173	0.4- 0.8	1.14	2.0-6.0	CC/BT/Earthen
	110 mm	3978	0.4- 0.8	1.11	2.0-6.0	CC/BT/Earthen
	90 mm	4187	0.4- 0.8	1.09	2.0-6.0	CC/BT/Earthen
	75 mm	7282	0.4- 0.8	1.08	2.0-6.0	CC/BT/Earthen
	63 mm	25146	0.4- 0.8	1.06	2.0-6.0	CC/BT/Earthen

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 53 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P2: Details of construction camp sites

1.	Labour Accommodation, Pipeline site – Zone 13
Location- Baniyara Market, Bhogali II	
A	<p>Accommodation – For 20 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 at Baniara Market • Accommodation provided for 20 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 it is a rented pre-existing accommodation
Photos of camp and facilities provided	
	Labour accommodation

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 54 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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

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 55 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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- 20 nos. • Gloves- 3 no. • Helmet - 26 nos. • Safety jacket- 25 nos. • Goggles- 2 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	Emergency responsibility
	Site Engineer	Mr. Amlan Singh Roy Mob: 9734667934	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. Nitin Kumar Mob: 8971107720	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	Mr. Ansari Mob: 7417526845	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

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 56 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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	14650.6	From trench cutting	Not required

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 57 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Attachment P7: Spoil Management Plan

NCC LIMITED	Design and Construction of Reservoir Including Water Supply Distribution Network and Metering Work in Bhargar-II Block	Doc. No. NCC/ SEMP /01 Revision No. 00 Revision Date : 00 Effective Date : Page 1 of 5
Spoil Management Plan		

SPOIL MANAGEMENT PLAN (SMP)

WBDWSIP BHANGAR-II BLOCK

LOCATION – ZONE-13,PIPE LAYING (BANIARA)

0	22.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

may be approved

Junior Engineer
PIU, N-24 Pgs., WBDWSIP, PHE Dto.
Govt. Of West Bengal

Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE
Govt. of West Bengal

West Bengal Drinking Water sector improvement Project

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 58 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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 (13).

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:

- Workers will start activity only after job specific Tool Box Talk done by the job supervisor.
- 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/Safety cone/ Caution Boards at the start and end of a road under excavation
- Worker should be skilled to carry out the work.
- Workers should take care of the pedestrians and vehicles safe movement.

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.

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 59 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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. 14650.6 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 Baniara (Zone 13) for Pipe laying

Sl. No.	Dia	Length(m)	Width(m)	Depth(m)	Total(cum)
1	63	25145	0.3	1	7543.5
2	75	7281	0.3	1	2184.3
3	90	4186	0.3	1	1255.8
4	110	3978	0.3	1	1193.4
5	140	3174	0.3	1	952.2
6	200	2872	0.4	1	1148.8
7	200	409	0.4	1	163.6
8	300	418	0.5	1	209
9	Approx. generated total Spoil at ZONE-13				14650.6

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 60 of 79 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 Bhangar-II Block	Doc. No. NCC/ TMP /01 Revision No. 00 Revision Date : 00 Page 1 of 7 Effective Date :
	Traffic Management Plan	

TRAFFIC MANAGEMENT PLAN (TMP)

WBDWSIP BHANGAR-II BLOCK


LOCATION – ZONE-13, PIPE LAYING (BANIARA)


0	22.07.2019				
REV	DATE	PREPARED BY	CHECKED BY	APPROVED BY DSISC	APPROVED BY PIU

Environmental Specialist, DSISC
North 24 Parganas
WBDWSI Project

may be approved

Junior Engineer
PIU, N-24 Pgs., WBDWSIP - PHE Dte.
Govt. Of West Br


Junior Engineer
PIU-I, N-24 Pgs., WBDWSIP, PHE Dte.
Govt. Of West Bengal


Assistant Engineer-II (Civil)
PIU, N-24 Pgs., WBDWSIP, PHE D
Govt. of West Bengal

West Bengal Drinking Water Sector Improvement Project

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 61 of 79 Original Issue Date :

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.

Pipe laying 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**

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 62 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

- 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.

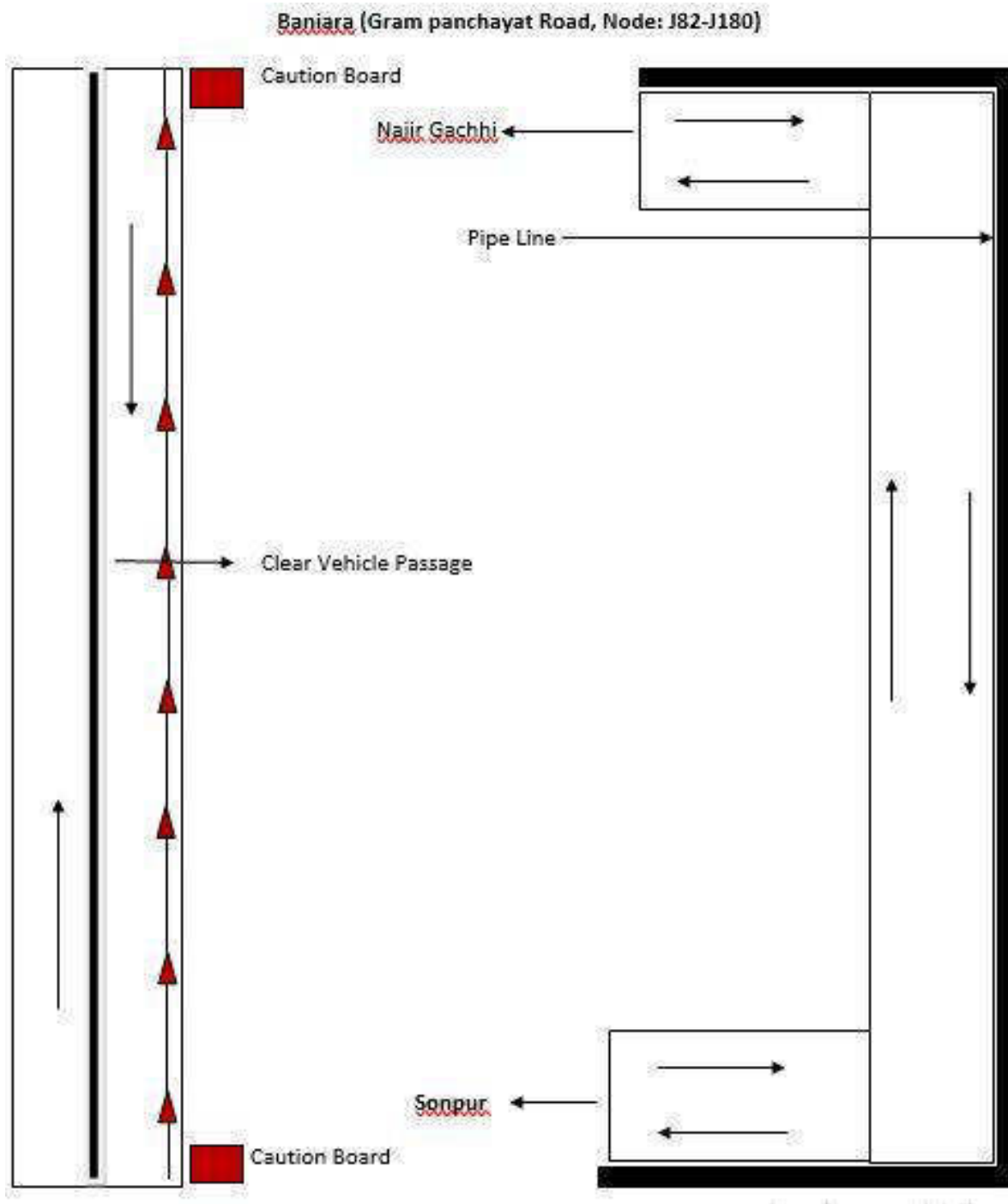
5.8 Working Area

- The working area has been restricted from unauthorized entry.
- The working space has been defined.

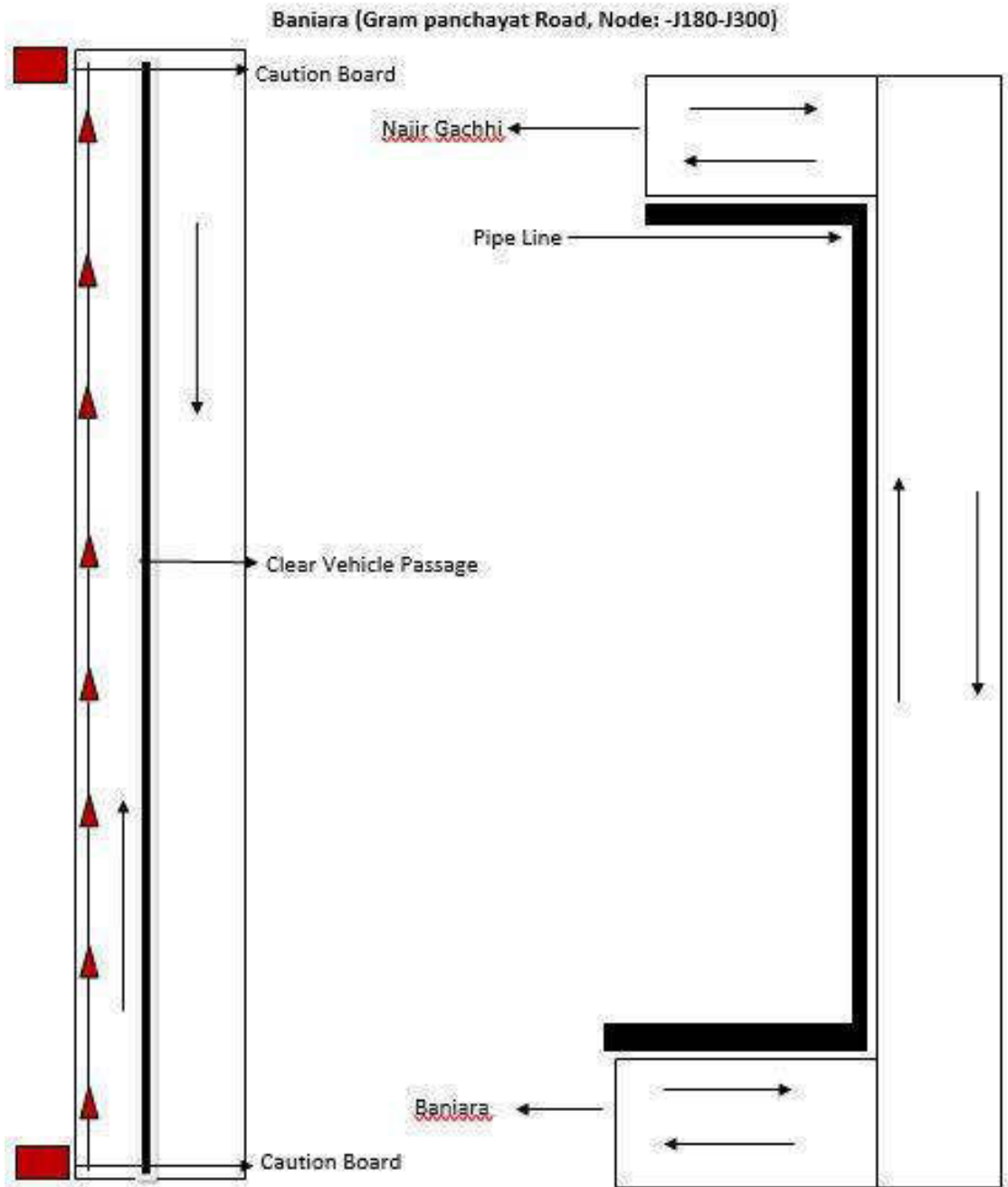
Particular attention has been taken in working area:

- 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.

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 63 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	



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 64 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

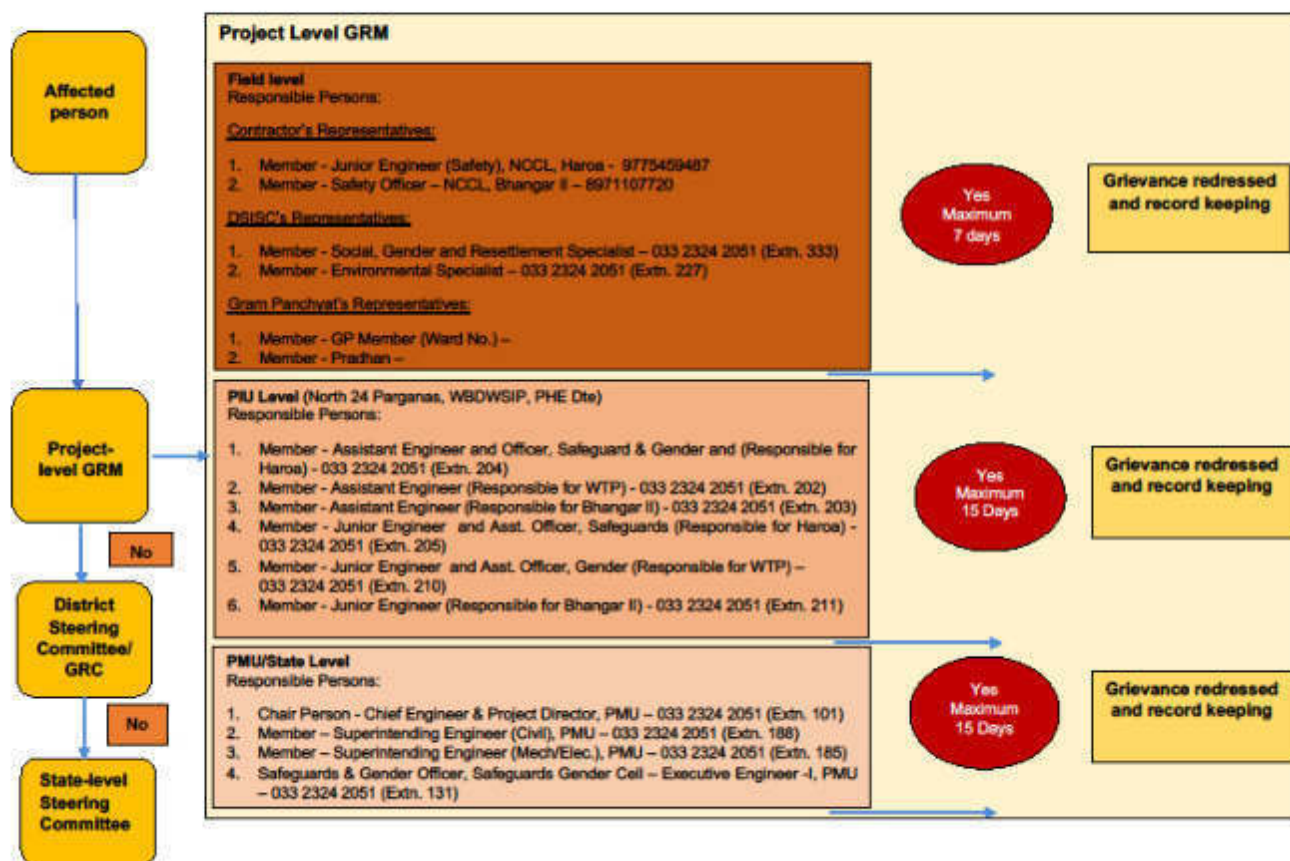


NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 65 of 79 Original Issue Date :

Attachment P 9 : 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



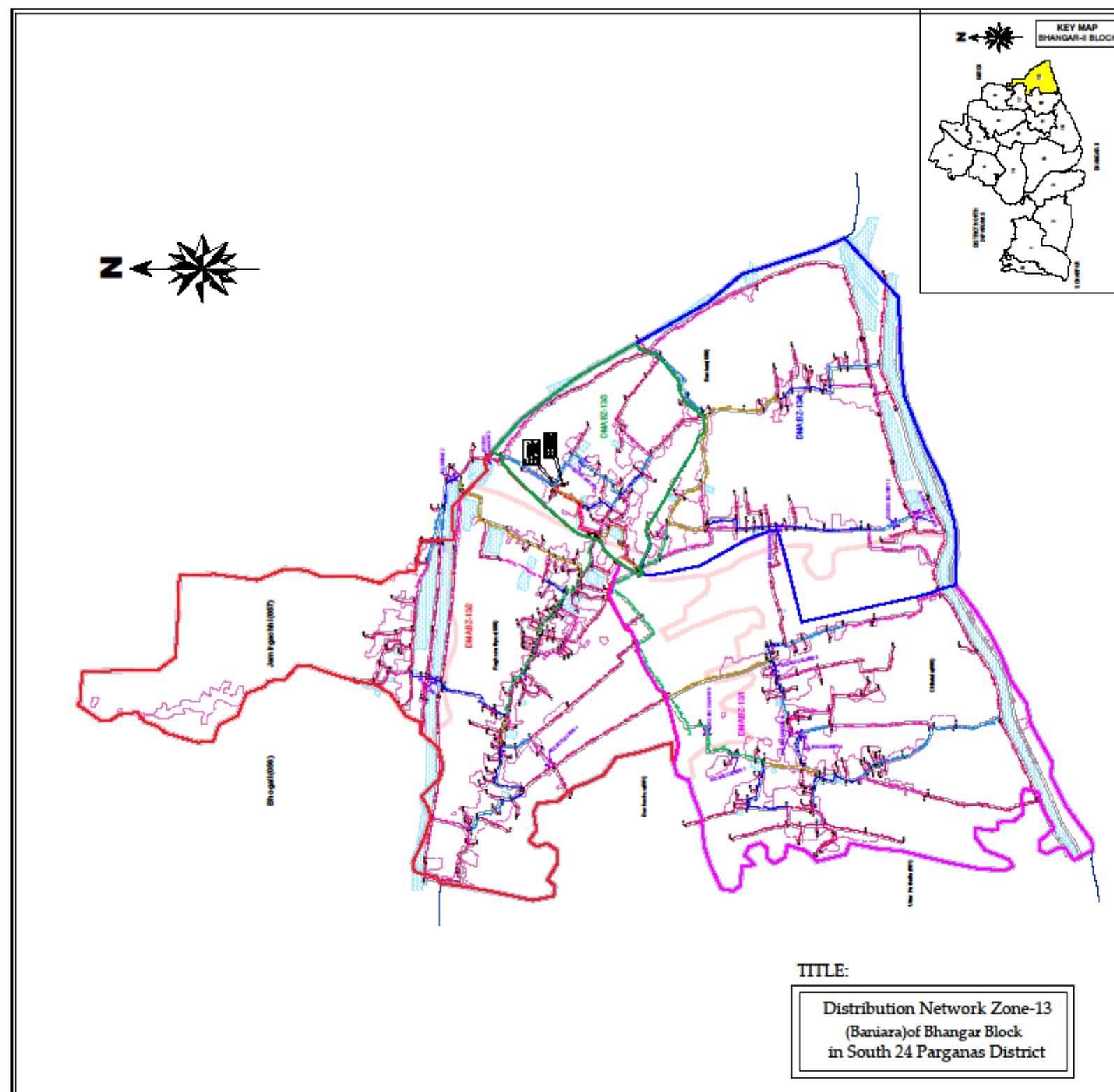
All grievances are recorded in site grievance register and resolved at the earliest. The sample grievance registration form is included in Appendix O3.

Attachment P 10: 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 66 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 67 of 79 Original Issue Date :

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 : ec.piun24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The Executive Engineer,
WBRDA,
South 24 Parganas Unit.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-13) Baniara.


Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October'2018 in Bhangar-II 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 19.07.2019 in **Bhogali-I & Bhogali-II 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.

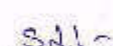
Yours faithfully,


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P.

Copy forwarded for information to :-

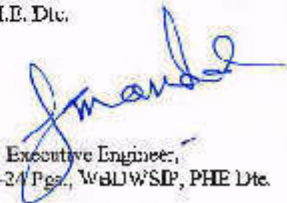
- 1) The Sahharipati, South 24 Parganas Ziila Parishad.
- 2) The District Magistrate, South 24 Parganas.
- 3) The District Engineer, South 24 Parganas Ziila Parishad.

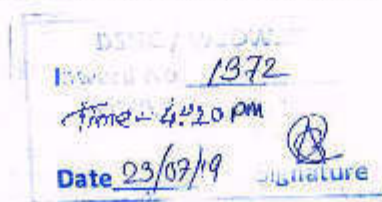

Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.
Dated, New Town, the, 17/07/2019

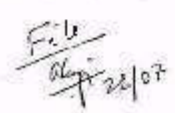
Memo No. 173 (3-3)/EE(C)PIUN24P.

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Assistant Engineer-I, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSISO-North 24 Parganas, WBDWSIP.


Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.





File 1372
Time 4:20 PM
Date 23/07/19



**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.adb@wbphed.gov.in**

Memo No. _____/EE(C)PIUN24P,

Dated, New Town, the, _____

To
The District Engineer,
South 24 Parganas Zilla Parishad,
Alipur, South 24 Parganas.

**Sub. : Design and construction of overhead reservoir including water supply distribution
network & metering works in Bhangar-II Block (Zone-13) Baniara.**

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II 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 19.07.2019 in **Bhogal-I & Bhogal-II 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 Sabhadapari, South 24 Parganas Zilla Parishad.
- 2) The District Magistrate, South 24 Parganas.

Sd/-
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 177 (2-3) /EE(C)PIUN24P,

Dated, New Town, the, 17/07/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Assistant Engineer-II, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) The Team Leader, DSISC - North 24 Parganas, WBDWSIP.

J. Mandal
Executive Engineer,
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

*File
17/07/2019*

DSISC / WBDWSIP
Invo. No. 1373
RECEIVED
Date 23/07/19
Time 4:20 PM



**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.piu24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P,

Dated, New Town, the, _____

To

- 1) The Station Manager,
WBSEDCL, Bhangar, South 24 Parganas.
- 2) The Sub Divisional Engineer,
BSNL, Canning Sub Division, Canning Telephone Exchange,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhangar-II Block (Zone-13) Baulura.

Dear Sir,

This is to inform you that, PHE Dte. has undertaken a water supply project in the month of October 2018 in Bhangar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution network from 19.07.2019 in **Bhogali-I & Bhogali-II 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.

Yours faithfully,

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, _____

Memo No. _____/EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Sarapati, Bhangar-II Panchayet Samity.
- 2) The Executive Officer, Bhangar-II Panchayet Samity.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Dated, New Town, the, 18/07/2019

Memo No. 184-185 (2-4) /EE(C)PIUN24P,

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.U., North 24 Parganas, WBDWSIP, P.H.E. Dte.
- 2) The Executive Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debadhikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

*File
Kling
26/07*


Inward No 1374

RECORDED

Date 23/07/19

Time 4:20 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 70 of 79 Original Issue Date :


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 : ee.piu24p.adb@wbphed.gov.in

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

To
The B.D.O. & Executive Officer,
Bhargar-II Development Block & Bhargar-II Panchayet Samiti,
South 24 Parganas.

Sub. : Design and construction of overhead reservoir including water supply distribution network & metering works in Bhargar-II Block (Zone-13) Banisara.

Dear Sir,

You are well aware that the water supply project under reference is being going on within Bhargar-II block with financial assistance of ADB. Now the entrusted agency will start laying distribution pipe network from 19.07.2019 in Bhogali-I & Bhogali-II 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.

Yours faithfully,

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. _____/EE(C)PIUN24P, Dated, New Town, the, _____

Copy forwarded for information to :-

- 1) The Savapati, Bhargar-II Panchayet Samiti.
- 2) The Pradhan, Bhogali-I / Bhogali-II, Gram Panchayet.
- 3) The Officer in Charge, Kashipur Police Station.

Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

Memo No. 186 (3-1) /EE(C)PIUN24P, Dated, New Town, the, 18/07/2019

Copy forwarded for information to :-

- 1) The Superintending Engineer, P.I.U., North 24 Parganas, WBDWSIP, PHE Dte.
- 2) The Executive Engineer, P.I.U., N-24 Pgs., WBDWSIP, PHE Dte.
- 3) Sri Shyamalendu Debadhikari, Junior Engineer, PIU, N-24 Pgs., WBDWSIP, PHE Dte.
- 4) The Team Leader, DSISC-North 24 Parganas, WBDWSIP.



Sd/-
Assistant Engineer-II
PIU, N-24 Pgs., WBDWSIP, PHE Dte.

DSISC / WBDWSIP
Invoice No. 1375
RECEIVED
Date 22/07/19 Sig [Signature]
Time - 4:20 PM

F.I.U.
22/07/19
Date 22/07/19

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
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 71 of 79 Original Issue Date :

Appendix P.B: Labour License

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
 South 24 Parganas, Nandarani Complex (1st & 2 nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibaniipith, Baruiপুর, Kolkata-700144

FORM VI
 [See Rule 25(1)]

License No. : BRP04/CLL/000191 **Date : 27th Dec, 2018**

Lic Fees	1000
S.Deposit	30000

LICENSE

License is hereby granted to **NCC LIMITED** at **Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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:-26th Dec, 2019

sd/-
 Signature & Seal
Licensing Officer

RENEWAL

[Rule 29]

Renewal vide AIN No.	RENEWAL-LIC-009474-008133-26939-2019
1.Date of Renewal	21st Nov, 2019
2.Fees paid for Renewal	₹ 1250 (One Thousand Two Hundred Fifty rupees only)
3.Date of Expiry	26th Dec, 2020

SHREEJITA SAHA
 Digitally signed by SHREEJITA SAHA
 Date: 2019.11.21 00:57:48 +05'30'
 Signature & Seal
Licensing Officer

NCC LIMITED	Design and Construction of Overhead Reservoir Including Water Supply Distribution Network and Metering Work in Bhagar-II Block	Doc. No. NCC/ SEMP /01 Last Revision No. 00 Last Revision Date : 00 Page 72 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

*Kabano dican
DWS Bhagar-II
Expire on 26/12/19*




GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
South 24 Parganas, Nandarami Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
Ward No - 5, Shibanipith, Baruiপুর, Kolkata-700144

FORM VI
[See Rule 25(1)]

Licence No. : **BRP04/CLL/000191** Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at Eco Space Business Park, Block 4A, 5th Floor, Action Area- II, Newtown -700156, Patharghata, Block- Rajarhat , Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156 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: **26th Dec, 2019.**

**Tapas
Kumar
Sinha Roy**
Digitally signed by
Tapas Kumar Sinha
Roy
Date: 2018.12.27
15:32:23 +05'30'

Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas
(BRP04/CLN/000092)

Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Ddn. (BRP04/CLN/000092)
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IA, New Town, Kolkata,
Bhagar-II, Block - Bhagar - II , Baruiপুর - 700135, PS - Kashipur, South 24 Parganas

Work site exact location:
Vill. Kantadanga, P.O. Shonepur
Bhagar-II, Block - Bhagar - II , Baruiপুর
PS - Bhagar , District - South 24 Parganas, Pin Code - 700135

1 of 2

Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indira Plaza, Connaught Place, New Delhi 110028, India. Branch Office: 10th Floor, Tower - 3, Indira Plaza, Connaught Place, New Delhi 110028, India. Tel: +91 11 2611 1111. Fax: +91 11 2611 1112. Email: info@futuregenerali.in. Website: www.futuregenerali.in. FICDA Regn No. 132, CIN - U66030IN2006PLC161287.

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 74 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

Appendix P.D: PUC Certificates

14-Sep-2019 13-Mar-2020

Pollution Level:

CO (%)	1.745
HC (ppm)	00542
SO (HSU)	00542

PUC Certificate issued by: 

License No. and Seal:  36/NAD/2011

Signature: 

WB-01: **D 3044009**

TEST REPORT

AUTHORISED BY: TRANSPORT DEPT. GOVT OF W.B.
CHOWRASTA, NH-34, CHAKDAHAN, NADIA

Vehicle Registration No.: WB-52H-7637
Year of Registration: 01-02-2010
Speedometer Reading(kms): *
Engine Number: 33374
Chassis Number: 02501
Vehicle Color: RED
I.D. Number: WBPP003628
Time: 04:03:26 Driver: SELF
Date: 14-Sep-2019 Owner: NAGARJUNA CONSTRUCTION LTD

Test Fee: 80.00
Fuel: PETROL
Type Of Vehicle: 2W
Type Of engine: 4S
Vehicle Make: HERO HONDA
Vehicle Model: CDDAWN

Test Result: IDLING

Regulation(%)	Actual Reading	
	Final	
CO	01.359	%Vol
HC	00542	PPM
CO2	10.32	%Vol
O2	02.57	%Vol
NOx	---	%Vol
Lambda	4.1900	
Oil	141	°C
RPM	60000	
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 

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

Vehicle Registr. No. **WB02BL7373** WB-01-**D** 5679142

Date of Issue: **16-08-2019** Valid upto: **15-02-2020**

Pollution Level

CO (%)	5.83
HC (ppm)	5.83

PUC Certificate No. **32/D**

Signature **32/D**

WB-01-**D** 5679142

COMPUTERISED EMISSION TEST CERTIFICATE
CMVR AUTHORISED BY : Govt. of WB
AKBAR AUTO EMISSION TESTING CENTRE
BASANTI HIGHWAY, GHATAKPUKUR, PO/PS-BHAGAR, 24 PGS (S), W.B-743502

ID Number: **WB32D3647572** Licence No: **32/D**
Year Of Registration: **2011** Date: **16-08-2019**
Vehicle registration no = **WB02BL7373** TIME: **02:47:14**
Speedometer Reading(kms) = **21522** Owner: **N C C CO**
Engine Number=**9218** Driver: **SELF**
Chassis Number=**G2011** Test Fee : **Rs.100/-**
Vehicle Colour = **YELLOW** Fuel : **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: **32/D**

Test Result : Free Acceleration

	ideal Rpm	max Rpm	K Value	Hsu val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	8.9	68
3	852	2700	0.12	8.9	66
Avg	860	2930	1.9	55.83	

Validity 6 Months

Seal Of Testing Center

Certified that this vehicle's K-Mean and Hsu% value conforms to the standards prescribed under rule 115(2) of CMB rules 1989, Operator: MD RAMIZ RANA

POLLUTION UNDER CONTROL CERTIFICATE
(Under the West Bengal Motor Vehicles Rules, 1986)

Vehicle Registr. No. **WB15B2529** **WB-01-D 5678745**

Date of issue: **23-07-2019** Valid upto: **22-01-2020**

Pollution Level
CO (%) **55.83**
HC (ppm) **55.83**
SD (HSU) **55.83**

PUC Certificate issued by: **AKBAR AUTO EMISSION TESTING CENTRE**

Signature: **[Signature]**

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**
Speedometer Reading[kms] = **2541** Owner: **NABA KUMAR GHOSH /851304**
Engine Number=**28746** Driver: **SELF**
chasis Number=**B5954** Test Fee : **Rs.100/-**
Vehicle Colour = **OTHERS** Fuel : **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 : **[Blank]**

Test Result : Free Acceleration Validity: **6 Months**

	Ideal Rpm	max Rpm	K Value	Hsu_val	Oil Temp
1	860	2900	5.37	90.06	81
2	860	2900	0.17	8.9	68
3	860	2700	0.12	6.9	66
Avg	860	2900	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 115(2) of CMB rules-1989. Operator: **MD RAMIZ RAHA**

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 77 of 79 Original Issue Date :
	Site Specific Environmental Management Plan	

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 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:
--------------	----------	----------------	--------------	------------

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 :
	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?					

2. 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 Bhangar-II Block	Doc. No. NCC/ SEMP /01
	Site Specific Environmental Management Plan	Last Revision No. 00 Last Revision Date : 00 Page 79 of 79 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 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 (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 টেলিফোন-
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-

APPENDIX 15: OHS RECORDS/ REGISTERS

A. INDUCTION/TOOL BOX TRAINING REGISTER



NCC INDUCTION/TOOL BOX TALK FORMAT ✓			
Name of the Project: Design and Construction of Overhead Reservoir including Water Supply Distribution Network and Metering Works in Bhangan-8 Block.			
Location : ZONE- 04 OHR			
Date & Time : 16/9/19			
Trainer : NITIN			
Topics Discussed: Pipe Laying/Rod cutting and Bending/Shuttering/Concreting/Excavation/Grinding and Welding/Housekeeping/Electrical Hazards/ICB and Hydra/piling.			
Sl. No.	Name	Position	Signature
1	Chandran Bhargava	Supervisor	[Signature]
2	Tahin Samanta	Helper	Tahin
3	Anand Bera	Fitter	[Signature]
4	Ranjit Adak	Helper	[Signature]
5	Hari Prasad Samanta	Helper	[Signature]
6	Gaurav Samanta	Helper	[Signature]
7	Prabir Paul	Helper	[Signature]
8	Ravi	Fitter	[Signature]
9	Vijay	Fitter	[Signature]
10	Gopinath Maiti	Helper	[Signature]
<div style="display: flex; justify-content: space-between;"> <div> Name and Signature of Safety Officer: Signature of Trainer: [Signature] </div> <div> Name and Signature of Site Supervisor/Site Incharge </div> </div>			

B. FIRST AID REGISTER

					ZONE-10 Pipeline				1
SL NO	DATE OF INCIDENT	NAME OF PERSON	AGE	DETAILS OF INCIDENT	F.A. ITEMS USED	CALCULATED F.A. ITEMS	Signature of Site Engg / Safety Officer	Signature of In-charge Person	Remarks
01	23/8/19	R.D. Patel	28	A worker while doing trench excavation hit with a small brickbat piece and cut below the stomach.	Washed with water. Antiseptic lotion (Gavison) applied. Then applied Mercurochrome lotion with cotton.	All the necessary items kept in the F.A. Box and within easy reach.			Necessary First Aid items kept in the F.A. Box and * COTTONS * NEEDLES * GAVISON * MERCURIOCHROME * CLOTHS * BANDAGE * GLOVES * GAUGE * SCISSOR * MED. DRESSING
02	13/9/19	Kuttu. Shambh	35	unintentionally A worker touched the hot & painted portion of two pipes and got burnt in his left hand & foot.	Immediately BURIED with butter in his left hand & foot.	All the necessary items are available in the box.			* COTTONS * NEEDLES * GAVISON * MERCURIOCHROME * CLOTHS * BANDAGE * GLOVES * GAUGE * SCISSOR * MED. DRESSING
03	23/9/19	Vittan. Shambh	23	A worker while doing (pipe) trench excavation, forest on construction in his eye due to dust.	Eye was flushed with water. Then, cotton eye drop, 1 drop twice, 3 hourly times in the eye.	First aid necessary items available in the box.			* COTTONS * NEEDLES * GAVISON * MERCURIOCHROME * CLOTHS * BANDAGE * GLOVES * GAUGE * SCISSOR * MED. DRESSING
04	28/9/19	Tahib. Shambh	27	While going to pipe during pipe laying in the trench, it caused a worker wrist and a foot pain.	Washed the right leg with water. Then, Mercurochrome applied locally in the wound.	Necessary F.A. items are available and within easy reach.			* COTTONS * NEEDLES * GAVISON * MERCURIOCHROME * CLOTHS * BANDAGE * GLOVES * GAUGE * SCISSOR * MED. DRESSING
05	03/10/19	R.P. Shambh	32	During backfilling of the trench a worker got a small cut when he kept leg on the trench.	Washed the leg with water. Then, Mercurochrome applied locally in the wound.	One more necessary item kept in the box.			* COTTONS * NEEDLES * GAVISON * MERCURIOCHROME * CLOTHS * BANDAGE * GLOVES * GAUGE * SCISSOR * MED. DRESSING

APPENDIX 16: LABOUR LICENSE

Labour Licence
DWS Bhangan-II
Expire on 26/12/19

GOVERNMENT OF WEST BENGAL
OFFICE OF THE DEPUTY LABOUR COMMISSIONER, BARUIPUR
 South 24 Parganas, Nandaram Complex (1st & 2nd Floor) (Opp. 218 Bus Stand) Holding No - 474, Kulpi Road,
 Ward No - 5, Shibanipith, Baruiপুর, Kolkata-700144

FORM VI
 [See Rule 25(1)]

Licence No. : **BRP04/CLL/000191**
Date : **27th Dec, 2018**

Lic Fees	1000
S. Deposit	30000

LICENCE

Licence is hereby granted to **NCC LIMITED** at **Eco Space Business Park, Block 4A, 5th Floor, Action Area-II, Newtown - 700156, Patharghata, Block- Rajarhat, Barasat, PS - New Town, District - North 24 Parganas, Pin Code - 700156** 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: **26th Dec, 2019.**


Establishment Information:
Office of the Executive Engineer North 24 Parganas Water Supply Division II PHE Dte. (BRP04/CLL/000092)
W Site - Utility Building, Tank No.-3, 2nd Floor, Action Area-IIA, New Town, Kolkata,
Bhogati-II, Block - Bhangan-II, Baruiপুর - 700133, PS - Kashipur, South 24 Parganas
Work site exact location:
VIII, Kantadanga, P.O. Shonepur
Bhogati-II, Block- Bhangan - II, Baruiপুর
PS - Bhangan, District - South 24 Parganas, Pin Code - 700135

Tapas Kumar Sinha Roy
Digitally signed by Tapas Kumar Sinha Roy
 Date: 2018.12.27 15:32:23 +05'30'
Licensing Officer
Under the Contract Labour(R&A) Act, 1970
&
Assistant Labour Commissioner
Baruiপুর, South 24 Parganas

1 of 2

APPENDIX 17: WORKMAN COMPENSATION POLICY



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 : 042-66038600		
Policy No :	2019-1.0129169-FWC	Period of Insurance :	From 01/02/2019 To Midnight of 01/02/2020
Insured :	NCC Limited	Intermediary Name/Code :	INDIA INSURE RISK MANAGEMENT AND INSURANCE BROKING SERVICES 50091523
Address :	BHANDAR II BLOCK, South Twenty Four Parganas, West Bengal, 743502	Telephone(Mob, Off, Home) :	4627822990/09892590738/4627822990
		Pax No & Email Id :	02256791416 / PADMAJA.SURYAKAJAN@INDIAINSURE.COM
GSTIN Number :	19AAACN7335C1ZM	PGI GSTIN Number :	36AARCF0191K1ZA
In consideration of the Policy holder issued 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 exposure to the extent and in the manner hereby 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	158,479.80
Risk Details			
Nature of Business :	Design and Construction of overhead overvoltage including water supply distribution and metering works in Bhandar II Block		
Location :	Design and Construction of overhead overvoltage including water supply distribution and metering works in Bhandar II 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	6,542,000.00	
50	Skilled workers	6,048,000.00	
50	Semi Skilled Workers	5,490,000.00	
50	Unskilled Workers	4,386,000.00	
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 (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/her failure to comply with the requirements laid down under WC Act 1923 ii. Occupational disease of any kind.			
Additional Clauses, Conditions, Warranties & Exclusions			
Termination is excluded from coverage. No cover for Medical Expenses, Unless specifically followed in the policy. No Cover for Medical Expenses. No Cover for occupational Diseases Jurisdiction/ Territory : India Excluding War Risk, Rioting, Tussling and Handling of Explosives Excluding loss arising out of installation and erection of live wiring. Warranted that safety precautions are followed by the workers/employees. Construction and sub construction employees are covered.			
Important:- i. 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 :	Z9045378	 (Authorized Signatory)	
Date of Issue :	07/02/2019		
Place of Issuance :	Mumbai*		
*Address 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 62.15 paid by Letter Of Authorisation No. CSD/118/2018/179/18, dated 16/08/2018 Madras - 2017/C.B. 97/55-1, dated 09/01/2018.

Product UIN : 1B DAN132P0012V01200768



Future Generali India Insurance Company Limited, Corporate & Registered Office: 6th Floor, Tower - 3, Indira Park, Sector 16, Gurgaon, Haryana - 122002. Mumbai - 400015, Maharashtra. Call Line: 1800-220-233, 1800-500-3333, 022-67817600. Email: fg@futuregenerali.in. Website: www.futuregenerali.in/IDA Page No. 137, COB - U66010H010069PLC45287.

APPENDIX 18: ACCIDENT/ FIRST AID REGISTER – FILLED SAMPLE

Form No-06 RECORD OF ACCIDENT/FIRST AID													
Package		: WRDWSIP/DWW/NCIL/N24/028/2017-18(PIPE LINE)											
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		NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
2													
3													
4													
5	05.09.2019	Rajesh Das	m	32	8	Filter	Ncc	Sub agency	Left Hand Thumb	Minor	Zone-4	Pipe jointin time	First Aid
6													
7													
8													
9	09.09.2019	Balram Mandal	m	38	0	Helper	Ncc	Sub agency	Eye Wash	Minor	Zone-4	Backfilling Time	First Aid
10													
11													
12	12.09.2019	Kuttu Shakh	m	35	0	Filter	Ncc	Sub agency	Left Hand	Minor	Zone-10	Pipe jointin time	First Aid
13	13.09.2019	Ashok Sarda	m	19	0	Helper	Ncc	Sub agency	Wkness	Minor	Zone-4	Drinking Water	First Aid
14													
15													
16													
17													
18													
19													
20													
21													
22													
23	23.09.2019	Uttam Sk	m	28	0	Helper	Ncc	Sub agency	Eye Wash	Minor	Zone-10	Excavation time	First Aid
24	24.09.2019	Himal Sk	m	29	0	Helper	Ncc	Sub agency	Thumb injury	Minor	Zone-1	Backfilling Time	First Aid
25													
26	26.09.2019	Totib Shakh	m	27	0	Helper	Ncc	Sub agency	Body Pain	Minor	Zone-10		First Aid
27													
28													
29													
30													
31													

Name & Sign of Safety Officer of Contractor

Verification by DSISC sample basis

Rohan Kumar

APPENDIX 19: ENVIRONMENTAL SITE INSPECTION REPORT FILLED

ENVIRONMENTAL SITE INSPECTION REPORT		
Project Name: WBDWSIP		
Contract Number: WBDWSIP/DWW/NCB/N24P02B/2017-18		
Block: <u>Bhangar - II</u>	DATE: <u>24/09/19</u>	
Zone: <u>-10 (pipe line work)</u>		
WEATHER: <u>Rainy</u>		
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 (Not Applicable)
3	Traffic Management Plan Prepared	Yes ()
4	Dust is under control	Yes
5	Excavated soil properly placed within minimum space	Yes
6	Construction area is confined, no traffic/pedestrian entry observed	Yes
7	Surplus soil/debris/waste is disposed without delay	NR
8	Construction material (sand/gravel/aggregate) brought to site as and when required only	PI
9	Tarpaulins 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 (Dusting)
11	No AC pipes disturbed/removed during excavation	NR
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)	Yes
16	Pipe trenches are not kept open unduly	PI
17	Road is not completely closed, work is conducted on edge, at least one line is kept open	Yes
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	PI
20	Spaces left in between trenches for access	Yes
21	Wooden planks/metal sheets provided across trench for pedestrian	PI
22	No public/authorized entry observed in work site	PI
23	Children safety measures (barricades, security) in place at works in residential areas	PI (Not Applicable)
24	Prior public information provided about the work, schedule and disturbances	PI
25	Caution/warning board provided on site	PI (Caution tape)
26	Guards with red flag provided during work at busy roads	PI (Safety flag)
27	Workers using appropriate PPE (boots, gloves, helmets, ear muffs etc.)	PI (Safety shoes)
28	Workers conducting or near heavy noise work is provided with ear muffs	NR
29	Contractor is following standard and safe construction practices	NR
30	Deep excavation is conducted with land slip/protection measures	NR
31	First aid facilities are available on site and workers informed	Yes
32	Drinking water provided at the site	PI (Not Applicable)
33	Toilet facility provided at the site	PI (Camp Toilet)
34	Separate toilet facility is provided for women workers	NR

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)

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/m3	SO2 µg/m3	NO2 µg/m3

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)		
			PM10 µg/m3	SO2 µg/m3	NO2 µg/m3

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)					
----------	------------------	---------------	---------------------------------	--	--	--	--	--

			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 20: 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**

SAFEGUARDS INFORMATION REPORT FOR SAGWT PROJECTS								
Project:	India: West Bengal Drinking Water Sector Improvement Project (WBDWSIP) – Subproject: Water Supply Distribution System Bhangar II Block (South 24 Parganas)							
Loan No.:	49107 – 006 IND	Package No.: WBDWSIP/DWW/N24P/02B						
Components:	Water Supply Distribution System							
	Project Component	Details						
	Construction of OHRs	Construction of 18 nos Overhead Storage Reservoirs (OHR) for Bhangar-II block. Capacity ranging from 250 to 1000 KL.						
	Distribution Network	Approximately 910 km in Bhangar-II 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 estimated that approximately 60,000 households will be connected in Bhangar-II block.						
Contract Type:	Item Rate Contract Detailed design will be completed by contractor.							
Date of IEE:	Zone wise Updated IEE : February 2020							
<table><tr><td>Draft IEE</td><td>Updated/Revised IEE</td><td>Others/Remarks</td></tr><tr><td>(due to detailed engineering design)</td><td><p>This IEE has been updated based on completion of design of zones upto 31st January 2020 for which SEMP’s 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’s by PIU and PMU.</p><p>The IEE has been updated for OHR construction zones:</p><ul style="list-style-type: none">• B-4/ Sastyangachhi;• B-10/ Shanpukuria;• B-12/ Bankochua; and• B-13/ Baniara.<p>Pipe laying at following zones :</p><ul style="list-style-type: none">• B- 1/ Dharmatala Pacharia• B-4/ Sastyangachhi;• B-7/ Jaynagar• B-9/ Naglapapur;• B-10/ Shanpukuria;• B-11/ Dheyati• B-12/ Bankochua;• B-13/ Baniara;</td><td>Further, after 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</td></tr></table>			Draft IEE	Updated/Revised IEE	Others/Remarks	(due to detailed engineering design)	<p>This IEE has been updated based on completion of design of zones upto 31st January 2020 for which SEMP’s 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’s by PIU and PMU.</p> <p>The IEE has been updated for OHR construction zones:</p> <ul style="list-style-type: none">• B-4/ Sastyangachhi;• B-10/ Shanpukuria;• B-12/ Bankochua; and• B-13/ Baniara. <p>Pipe laying at following zones :</p> <ul style="list-style-type: none">• B- 1/ Dharmatala Pacharia• B-4/ Sastyangachhi;• B-7/ Jaynagar• B-9/ Naglapapur;• B-10/ Shanpukuria;• B-11/ Dheyati• B-12/ Bankochua;• B-13/ Baniara;	Further, after 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
Draft IEE	Updated/Revised IEE	Others/Remarks						
(due to detailed engineering design)	<p>This IEE has been updated based on completion of design of zones upto 31st January 2020 for which SEMP’s 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’s by PIU and PMU.</p> <p>The IEE has been updated for OHR construction zones:</p> <ul style="list-style-type: none">• B-4/ Sastyangachhi;• B-10/ Shanpukuria;• B-12/ Bankochua; and• B-13/ Baniara. <p>Pipe laying at following zones :</p> <ul style="list-style-type: none">• B- 1/ Dharmatala Pacharia• B-4/ Sastyangachhi;• B-7/ Jaynagar• B-9/ Naglapapur;• B-10/ Shanpukuria;• B-11/ Dheyati• B-12/ Bankochua;• B-13/ Baniara;	Further, after 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"> • B-14/ Pithapukuria; • B-15/ Kachua and • B-16/ Jawpur. 	
--	--	--

	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. ⁹	X		<p>The updated IEE covers the impacts of construction during implementation of water supply distribution system in Bhangar-II block of 24 Parganas South. The environmental assessment is based on best available information and design (completed till 31st January 2020) 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 handed over to the PIU. The detailed engineering designs are being completed by the contractor.</p> <p>Till 31st January 2020, eight (8) OHR sites in Bhangar II has been handed over to Contractor. and work started in four sites</p> <p>Laying of Distribution network also commenced at 11 zones after finalization of design.</p> <p>Further action/s: The environmental assessment for the remaining zones will be conducted when detailed engineering design for these</p>

⁹ 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
				sites are completed.
3.	Statutory Requirements ¹⁰		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 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 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)	Water supply distribution pipe laying route will pass through EKW areas (zone 1, zone 2 and zone 18) under the jurisdiction of EKW Management Authority. The EKWMA has given NOC for pipe laying works in these three EKW zones on 8 th January 2020. Further, land for overhead reservoirs in these three zones have been identified outside the EKW area while the distribution will be done through control valve in zone 1.
		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). urther action/s: The

¹⁰ If applicable, Include date accomplished or obtained.

200

	Activity	Status		Detailed Comments and Further Actions Required
				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.
		X	Others	Pollution Under Control (PUC) certificates are available for all the vehicles and construction equipment. Till 31 st January 2020, implementation of the subproject has not necessitated felling of trees. 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 preliminary design. Further action/s: All conditions in the permit/NOC will be incorporated in the further 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 mitigation measures	Impacts and risks:	Mitigation Measures:	Activity wise site-specific EMP (SEMP) has been prepared by contractor after finalization of the detailed engineering design for a
			Yes	

Activity		Status			Detailed Comments and Further Actions Required
					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 SEMP and Spoil Management Plan (SMP) will be recorded and reported to ADB.
		Biodiversity conservation	X		The Zone 1, 2 and 18 of Bhangar-II block are within the jurisdiction of East Kolkata Wetland Management Authority (a Ramsar site). Accordingly, these habitats/areas (specifically pipe laying areas) should be managed for biodiversity conservation (as defined in ADB SPS).
		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.
		Physical cultural resources	X		Not applicable
		Cumulative impacts	X		Not applicable. There are no other on-going or planned

237

	Activity	Status				Detailed Comments and Further Actions Required
						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 ¹¹	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 preliminary design stage.
				X		
9.	EMP budget included	Yes		No		<p>The indicative cost of EMP for the Package is INR 2,142,500.</p> <p>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's and other requirements related to environmental safeguards once all the other sites are handed over and detailed designs are completed for all.</p>
		X				
10.	EMP implementation integrated in PAM and bid documents	Yes		No		<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</p>
		X				

¹¹ 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.

230

	Activity	Status		Detailed Comments and Further Actions Required
				<p>IEE.</p> <p>(iii) The draft IEE (cleared by ADB) is included in the contract documents and has been provided to the contractor. 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 update 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	Yes	No	<p>Meaningful consultations were done with Government officials, women and residents during Q3-Q4/2019 and Q1 of 2020</p> <p>Further action/s: 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.</p>
		X		
12.	Grievance Redress Mechanism	Yes	No	<p>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 the Appendix of updated IEE.</p>
		X		
		Description of GRM		

	Activity	Status		Detailed Comments and Further Actions Required
				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 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 reports during implementation.
14.	Mobilized PMU Environment Specialist	Yes	No	PMU Environmental Specialist Mr. Tanay Banerjee, Executive Engineer
		X		
15.	Mobilized PIU Environment Specialist	Yes	No	PIU Environmental Specialist Mr. Sourav Bose Assistant Engineer, N24 Pgs PIU
		X		
16.	Mobilized Environment	Yes	No	The Environmental specialist

	Activity	Status		Detailed Comments and Further Actions Required
	Specialist at PMU level	X		of PMU is supported by Environmental expert of Project Management Consultant (PMC) to supervise, monitor and oversee the implementation of safeguard issues. Dr. Ardhendu Mitra PMC Environmental Specialist
17.	Mobilized Environment Specialist at PIU level	Yes	No	Apart from Environmental Specialist of PIU, The PIU is assisted by DSISC team which includes 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
		X		
18.	Awareness training on compliance to safeguard requirements	Yes	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.
		X		
19.	Others/Remarks	The following information are based on completed design and included in the updated IEE: 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. Except the EKW (three influence zones),there are no protected areas, mangroves, or estuaries in or near the project locations. 3. No significant involuntary resettlement impacts are anticipated due to implementation of the proposed sub-projects components based on the present design and information received from PHED. Under the proposed subproject, (i) Construction of 18 Overhead storage		

	Activity	Status	Detailed Comments and Further Actions Required
			<p>reservoirs including associated Distribution Network (910 km) for Bhangar-II block (ii) provision of 60,000 household water connections with water meters in the block. All 18 proposed OHRs in this project are being/will be constructed on private land parcels and that have been/will be procured through negotiated purchase.</p> <ol style="list-style-type: none"> 4. Some of land parcels are low-lying lands 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, if required, in a ratio of 1:5. Proposed pipelines will be laid along ROW of roads in the project area. Overall, there are no notable sensitive environmental features in the project sites. 5. Construction activities for OHRs have been 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. 6. 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 Bhangar II. 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. 7. Therefore, as per ADB SPS, the project is classified as environmental category B and does not require further environmental impact assessment. 8. 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 are initiated only after approval of Site Specific EMPs for the selected sites/zones by PIU/ PMU. <p>Recommendations:</p> <ol style="list-style-type: none"> 1. The updated IEE for Package N 24pgs/ 02B 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

	Activity	Status	Detailed Comments and Further Actions Required
			<p>language/form they understand.</p> <ol style="list-style-type: none"> 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 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. Ardendu Mitra, Environment Specialist of 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