

**National Mission for Clean Ganga (NMCG)
Ministry of Water Resources, River
Development & Ganga Rejuvenation,
Govt. of India**

**The development of sewage treatment
plant and associated infrastructure
under Hybrid Annuity based PPP mode
at Varanasi in the State of Uttar Pradesh**

(LoA File Number: Rd-63014/1/2017/PPP/NMCG)

**Monthly Progress Report
of
Project Engineer**

December - 2018



Executing Agency

**Uttar Pradesh Jal
Nigam,
Varanasi - 221 005**



Funding Agency

**National Mission for
Clean Ganga
MoWR, River
Development & Ganga
Rejuvenation,
New Delhi - 110002**



Project Engineer

**Mahindra Consulting
Engineers Limited
Mahindra Towers, No.
17/18, Pattullous Road,
Chennai - 600 002,
Tamil Nadu, India**



Concessionaire

**Varanasi STP Project
Private Limited
6th Floor, Plot No. 19,
Film City, Sector 16 A,
Gautam Buddha Nagar,
Noida,
Uttar Pradesh - 201 301**

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MONTHLY PROGRESS REPORT

1.0. INTRODUCTION

The Gol, recognizing that long-term rejuvenation of the river Ganga will have significant social and economic benefits on the lives of the 500 million people living along its basin, has identified cleaning of the river Ganga as one of its priorities. For this purpose, in May 2015, the Gol approved the flagship Namami Gange programme for cleaning, rejuvenation, and protection of the river Ganga. In January 2016, the Gol approved a hybrid annuity model to implement STP projects under the Namami Gange programme on a PPP basis.

Subsequently, the MoWR issued the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (Ganga 2016 Order) to constitute various authorities to assist the Gol in achieving its aim of effective abatement of pollution in the river Ganga. The Ganga 2016 Order applies to all states in the catchment of the river Ganga basin, including Uttar Pradesh. The Ganga 2016 Order revised the legal status of NMCG (which was initially constituted as a registered society under the Societies Registration Act, 1860) to an authority constituted under the Environment (Protection) Act, 1986 and designated NMCG as the nodal agency for the implementation of the Ganga 2016 Order.

Rapidly increasing population, rising standards of living and exponential growth of industrialisation and urbanisation have exposed water resources, in general, and rivers, in particular, to various forms of degradation. The mighty Ganga is no exception. The deterioration in the water quality impacts the people immediately. Ganga, in some stretches, particularly during lean seasons has become unfit even for bathing. The threat of global climate change, the effect of glacial melt on Ganga flow and the impacts of infrastructural projects in the upper reaches of the river, raise issues that need a comprehensive response.

In the Ganga basin approximately 12,000 million litres per day (MLD) sewage is generated, for which presently there is a treatment capacity of only around 4,000 MLD. Approximately 3000 MLD of sewage is discharged into the mainstream of the river Ganga from the Class I & II towns located along the banks, against which treatment capacity of about 1000 MLD has been created till date.

The Uttar Pradesh Jal Nigam (Jal Nigam) is a statutory body constituted under the Uttar Pradesh Water Supply and Sewerage Act, 1975, and has the power to develop, maintain and regulate water supply and sewerage works in Uttar Pradesh. With a view to implement the Namami Gange programme and the Ganga 2016 Order, the Jal Nigam, in association with the NMCG, has decided to undertake the development of an STP with a proposed capacity of 50 MLD along with other Facilities and Associated Infrastructure at Varanasi on a PPP basis, through a hybrid annuity model. While the Jal Nigam will be the principal executing agency and bidding authority for the Project, NMCG will be responsible for making payments to the Concessionaire.

The objectives that NMCG and the UP Jal Nigam wish to achieve through the Project is mentioned in **Figure 1**.

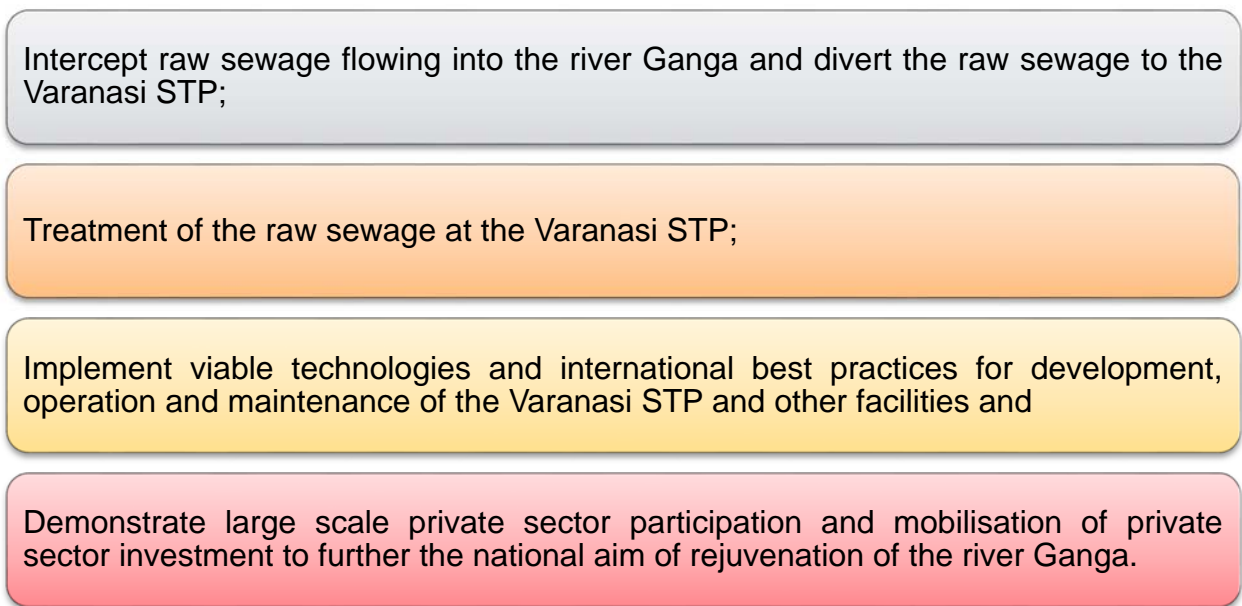


Figure 1: Objectives of NMCG and UP JAL NIGAM

Government of India, has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga, various interventions are planned such as Interception & Diversion works and development & operation of Sewage Treatment Plants (STPs). Considering various development models in practice for the construction, operation and maintenance

of Sewage Treatment Plants, Government of India has approved the Hybrid Annuity based Public Private Partnership (PPP) mode as one of the options for the development & operation of STPs. Under this model, private investor/developer will design, build, finance, operate and transfer the asset (STP) to the Project Executing Agency/Jal Nigam/Jal Sansthan / Urban Local body at the end of the Concession Period (say 15 years). 40% of the Capital cost will be paid to the developer during construction of the STP. Balance 60% along with Operation & Maintenance (O&M) cost will be paid over the Concession Period on achievement of key performance indicators as per the contract. Entire cost of development and operation of the STPs will be 100% funded by the Government of India as central sector scheme. It is also envisaged to explore the possibility of recycle/ reuse of the treated waste water for non-potable purpose.

NMCG & UPJN appointed M/s. Mahindra Consulting Engineers Limited, Chennai as Project Engineer for this project through tendering process. Letter of Award is issued dated 5th January 2018 and agreement signed between the parties on 16th February 2018.

1.1. Project components

1.1.1. New construction units

- Inlet structure
- Grit chambers & Parshall flume
- SBR tanks
- Chlorine contact tank
- Overhead treated water tank
- Air blower room
- Belt filter press building
- Chlorination building
- Electrical building and control room
- Admin building, laboratory room
- Transformer yard, internal roads & drainage
- Treated water pump house
- Treated effluent disposal line
- Bund wall
- Staff quarters
- Approach road

1.1.2. Rehabilitation works

- Rehabilitation of Main Pumping Station (MPS)
- Construction of Weir
- Strengthening & Pipe protection of Rising main
- Construction of Control room
- Rerouting the raising main near Samne Ghat

1.2. Executing agency

- Uttar Pradesh Jal Nigam (UPJN)

1.3. Implementation agency

- Uttar Pradesh Jal Nigam (UPJN)

1.4. Consulting services

- **Project Engineer**
 - Mahindra Consulting Engineers Ltd, Chennai

1.5. Concessionaire

- Varanasi STP Project Private Limited

2.0. STATUS OF PROJECT

STATUS	:	CONSTRUCTION STAGE
Concessionaire Contract Agreement No.	:	SUBIN-DL80840374672746341531P
Name of the Concessionaire	:	Varanasi STP Project Pvt. Ltd.
Commencement date	:	19 th February 2018
Completion date (as per contract):	:	18 th November 2019

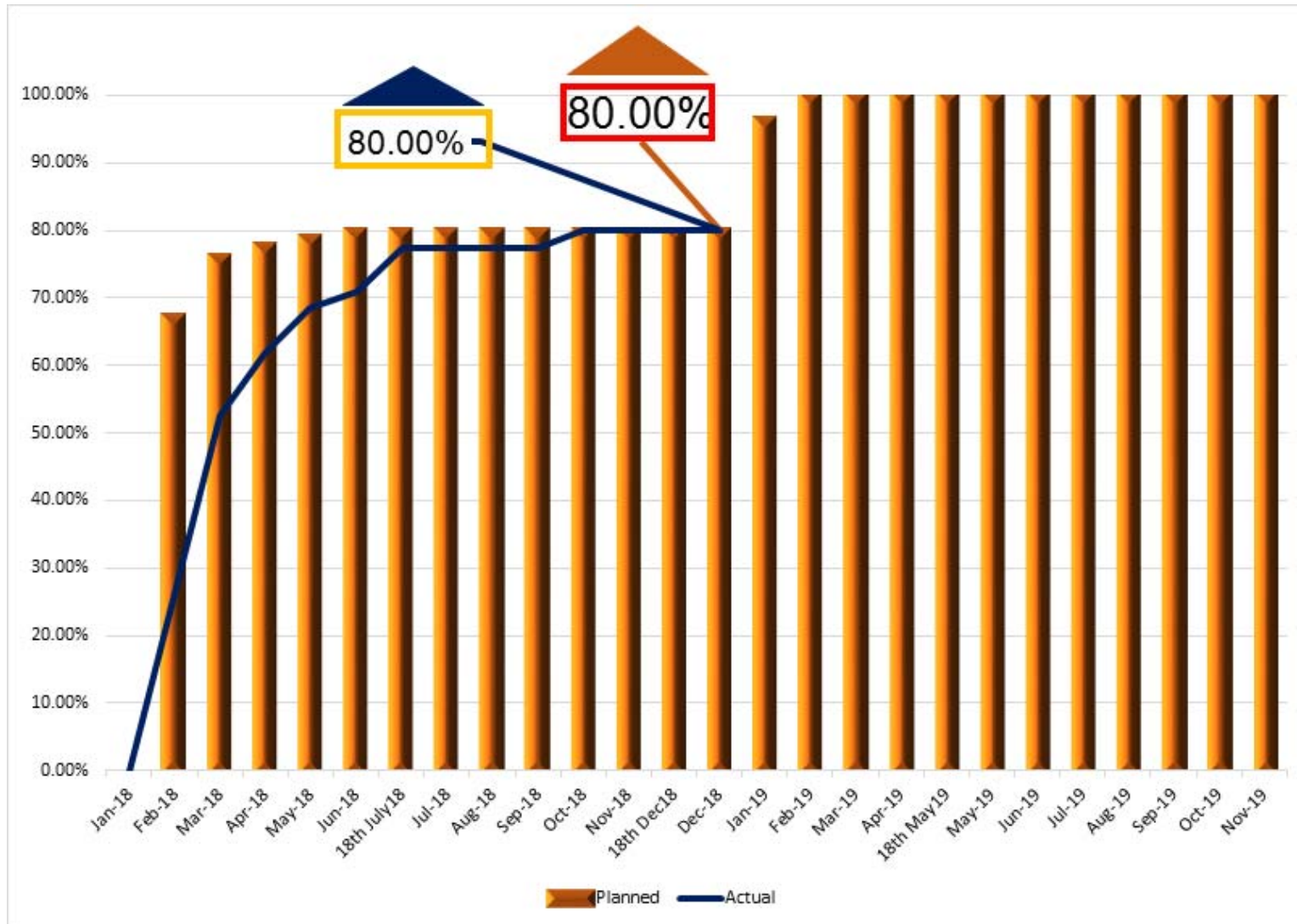
2.1. Physical status

2.1.1. Pre-execution activities

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Pre - Execution Activities	12-Oct-17	04-Feb-19	80.00%	80.00%		80.00%
Temporary Power Connection (During Construction Period)	12-Oct-17	30-Apr-18	100%	100%		100%
Permanent Power Connection	06-Jan-18	04-Feb-19				
Submission of Resource Plan including Mobilization plan	12-Oct-17	19-Feb-18	100%	100%		100%
Setting up of temporary site office	11-Nov-17	18-Feb-18	100%	100%		100%
Removal of debris & Shrubs	11-Nov-17	19-Feb-18	100%	100%		100%
Bore well construction	11-Nov-17	19-Feb-18	100%	100%		100%
Other temporary execution	20-Feb-18	11-Mar-18	100%	100%		100%
Topographical / Soil Investigation	11-Nov-17	20-Dec-17	100%	100%		100%
Condition Precedent required to be satisfied by Concessionaire	12-Oct-17	19-Feb-18	100%	100%		100%
Condition Precedent required to be satisfied by Jal Nigam	12-Oct-17	19-Feb-18	100%	100%		100%
Condition Precedent required to be satisfied by NMCG	12-Oct-17	19-Feb-18	100%	100%		100%
Appointment of Design Consultant	12-Oct-17	09-Jan-18	100%	100%		100%
Submission & Approval of Sub Contracts from UPJN	01-Feb-18	30-Jun-18	100%	100%		100%

2.1.2. Pre-execution activities - Physical progress graph

Pre-execution activities



2.1.3. Design detailed engineering

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Design Detailed Engineering	11-Oct-17	30-Oct-18	100%	87%	1%	88%
PHASE-1 Design, drawings and documentation for basic engineering package	11-Oct-17	07-Feb-18	100.00%	100.00%		100.00%
Basic engineering package	11-Oct-17	08-Jan-18	100%	100%		100%
Approval (BEP)	09-Jan-18	07-Feb-18	100%	100%		100%
Topographical / soil investigation	11-Nov-17	20-Dec-17	100%	100%		100%
Phase-II D&E (civil, mechanical, electrical, inst. drawings)	10-Jan-18	25-Sep-18	100.000%	97.000%		97.000%
Plant layout / site layout	11-May-18	23-May-18	100%	90%		90%
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	100%		100%
Bund Wall	10-Jan-18	18-Feb-18	100%	100%		100%
Inlet chamber with fine screens, grit removal and Parshall flume	20-Mar-18	08-Apr-18	100%	100%		100%
Administrative & security building	09-Apr-18	13-May-18	100%	100%		100%
Air blower & MCC room	15-Mar-18	02-Jun-18	100%	100%		100%
Staff quarters	09-Apr-18	23-May-18	100%	100%		100%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
SBR basins & SBR outlet chamber	05-Mar-18	29-Mar-18	100%	100%		100%
Chlorine contact tank & treated water collection tank	25-Mar-18	25-Apr-18	100%	100%		100%
Treated water overhead tank	04-Apr-18	28-May-18	100%	100%		100%
Sludge treatment building / BFP	10-Sep-18	25-Sep-18	100%	100%		100%
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%	60%		60%
Final outfall chamber	01-Jul-18	18-Jul-18	100%	80%		80%
Raw water receiving chamber	01-Jul-18	18-Jul-18	100%	60%		60%
Electrical control room	01-Jul-18	18-Jul-18	100%	60%		60%
Structural drawings submissions & approvals	02-Feb-18	30-Sep-18	100.00%	94.40%		94.40%
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	100%		100%
Inlet chamber with fine screens, grit removal and Parshall flume	20-Mar-18	08-Apr-18	100%	100%		100%
Administrative & security building	09-Apr-18	13-May-18	100%	100%		100%
Air blower & MCC room	15-Mar-18	02-Jun-18	100%	100%		100%
Staff quarters	09-Apr-18	23-May-18	100%	100%		100%
SBR basins & SBR outlet chamber	05-Mar-18	29-Mar-18	100%	100%		100%
Chlorine contact tank & treated water collection tank	25-Mar-18	25-Apr-18	100%	100%		100%

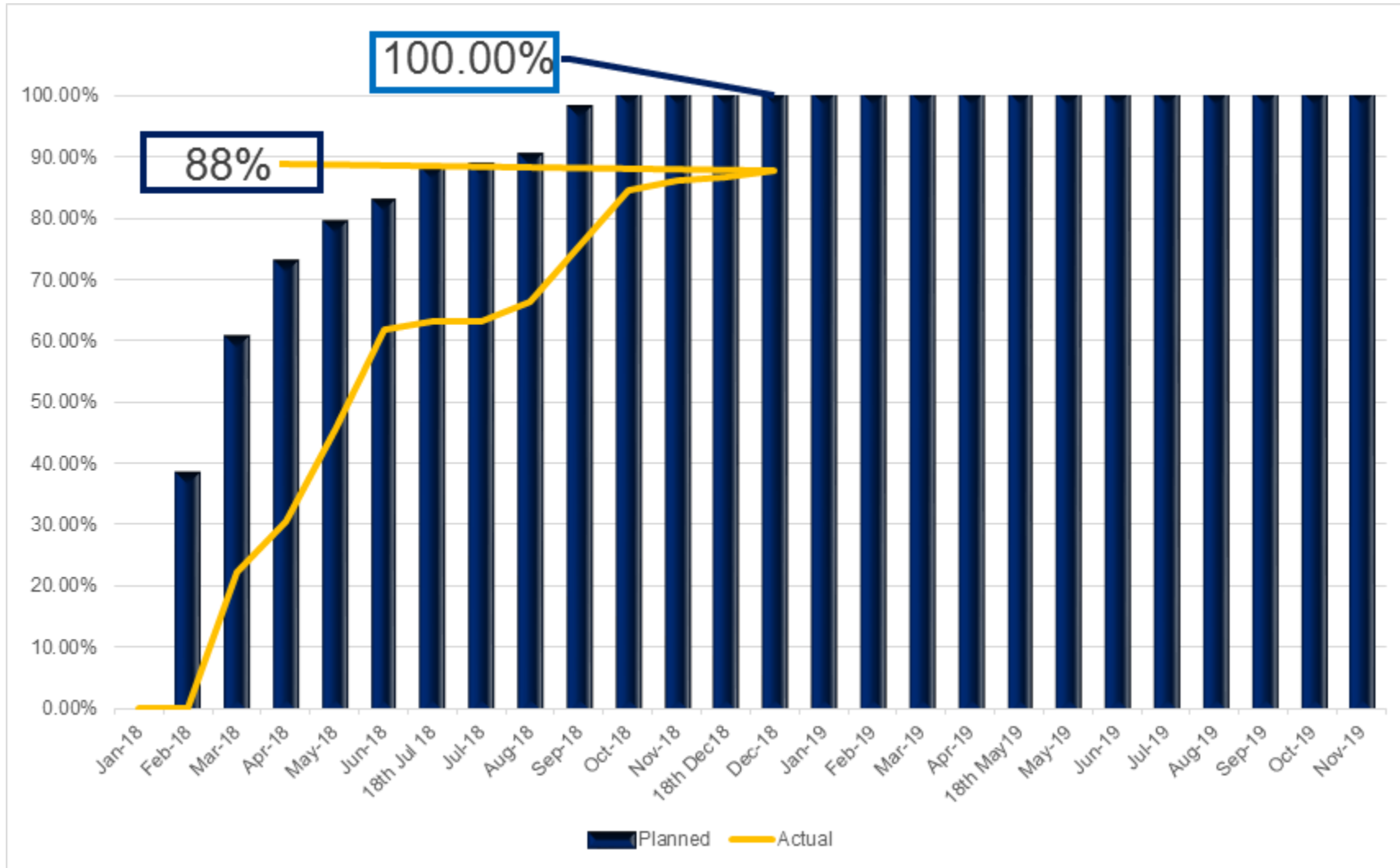
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Treated water overhead tank	04-Apr-18	28-May-18	100%	100%		100%
Sludge treatment building / BFP	10-Sep-18	30-Sep-18	100%	100%		100%
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%			
Final outfall chamber	01-Jul-18	18-Jul-18	100%	60%		60%
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%			
Electrical control room	06-Sep-18	15-Sep-18	100%	60%		60%
Design, drawings and documentation for mechanical GAD	13-Feb-18	15-Sep-18	100.00%	73.20%	2.40%	75.60%
Inlet chamber with fine screens, grit removal and Parshall flume	23-Feb-18	19-Mar-18	100%	100%		100%
SBR basins & SBR outlet Chamber	13-Feb-18	04-Mar-18	100%	100%		100%
Chlorine contact tank & treated water collection tank	05-Mar-18	24-Mar-18	100%	100%		100%
Treated water overhead tank	15-Mar-18	03-Apr-18	100%	80%		80%
Sludge treatment building / BFP	28-Jul-18	16-Aug-18	100%	60%		60%
Air blower & MCC room	05-Sep-18	15-Sep-18	100%	100%		100%
Weir across Assi nalla	13-Feb-18	04-Mar-18	100%	40%		40%
Final outfall chamber	01-Jul-18	18-Jul-18	100%			
Overall piping drawings	30-May-18	05-Sep-18	100%		40%	40%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Design, drawings and documentation for electrical & instrumentation works	10-Mar-18	08-Oct-18	100%	65%	6%	71%
Transformer	10-Mar-18	08-Apr-18	100%	100%		100%
DG set	10-Mar-18	08-Apr-18	100%	100%		100%
Electrical load list	10-Mar-18	08-Apr-18	100%	100%		100%
PCC MCC panels	10-Mar-18	18-Jul-18	100%		40%	40%
Cables / earthing/ lightning - layout plan, sizing, schedule	15-Sep-18	05-Oct-18	100%	60%		60%
Cable trays	01-May-18	18-Jul-18	100%	60%		60%
Flow meters	15-Sep-18	05-Oct-18	100%	40%		40%
Analysers	15-Sep-18	05-Oct-18	100%	40%		40%
SLD	19-Mar-18	18-Jun-18	100%	80%		80%
Design calculation	10-Mar-18	18-Jul-18	100%	40%		40%
Electrical & instrumentation control philosophy	25-Sep-18	08-Oct-18	100%	40%		40%
Plant lighting layout plan	25-Sep-18	05-Oct-18	100%		40%	40%
Gauges	25-Sep-18	05-Oct-18	100%		40%	40%
Instrumentation document submissions & approvals	01-Jun-18	30-Oct-18	100.0%	45.0%		45.0%
Instrument index / alarm list	01-Jun-18	18-Jul-18	100%	80%		80%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Instrument hook - up diagram	01-Jun-18	18-Jul-18	100%	60%		60%
PLC - I/O list, loop wiring diagram, design of SCADA	05-Oct-18	30-Oct-18	100%	40%		40%
Cause & effect diagram	01-Jun-18	18-Jul-18	100%			

2.1.4. Design detailed engineering - Physical progress graph

Design detailed engineering - Physical progress



2.1.5. Equipment procurement, logistics and receipt of equipment at site

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Equipment Procurement, Logistics and receipt of equipment at Site			28%	10%	0%	10%
Fine Screen / Coarse Screen / Belt Conveyors	24-May-18	18-Dec-18	100.0%	30.4%		30.4%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	17-Sep-18	10-Dec-18	100%	59%		59%
Inspection / Logistics	08-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	11-Dec-18	18-Dec-18	100%			
Grit Removal Mechanism	24-May-18	10-Mar-19	37.9%	18.0%		18.0%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	10-Feb-19	75%	33%		33%
Inspection / Logistics	12-Feb-19	27-Feb-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Receipt of equipment at site	28-Feb-19	10-Mar-19				
SBR System (Decaners)	19-May-18	16-May-19	29.6%	18.5%		18.5%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	19-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	31-Mar-19	57%	34%		34%
Inspection / Logistics	01-Apr-19	16-Apr-19				
Receipt of equipment at site	17-Apr-19	16-May-19				
Submersible (SAS / RAS/ Filtrate / BFP feed)	31-May-18	18-Dec-18	100.0%	29.5%		29.5%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	03-Sep-18	13-Dec-18	100%	57%		57%
Inspection / Logistics	01-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	14-Dec-18	18-Dec-18	100%			
Horizontal centrifugal pumps (Treated water pumps)	31-May-18	18-Dec-18	100.0%	1.8%	0.4%	100.0%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	25-Jul-18	100%	80%	20%	100%
Manufacturing of Equipment	10-Sep-18	15-Dec-18	100%			100%
Inspection / Logistics	01-Dec-18	10-Dec-18	100%			100%
Receipt of equipment at site	16-Dec-18	18-Dec-18	100%			100%
Air Blowers	01-May-18	18-May-19	29.8%	18.5%		18.5%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	30-Mar-19	58%	34%		34%
Inspection / Logistics	31-Mar-19	29-Apr-19				
Receipt of equipment at site	30-Apr-19	18-May-19				
Chlorination System	05-Sep-18	18-May-19	26.4%	15.1%		15.1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Sep-18	29-Sep-18	100%	100%		100%
Manufacturing of Equipment	01-Oct-18	30-Mar-19	51%	27%		27%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Inspection / Logistics	01-Apr-19	11-May-19				
Receipt of equipment at site	12-May-19	18-May-19				
Sluice Gates	05-Mar-18	18-Dec-18	100%	1%	1%	2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Mar-18	18-Jul-18	100%	60%	40%	100%
Manufacturing of Equipment	25-Sep-18	12-Dec-18	100%			
Inspection / Logistics	01-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	13-Dec-18	18-Dec-18	100%			
MS/CS/SS/GI/CI/DI Piping	01-Jan-19	12-Aug-19				
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-Jan-19	15-Feb-19				
Manufacturing of Equipment	01-Mar-19	30-Jul-19				
Inspection / Logistics	31-Jul-19	10-Aug-19				
Receipt of equipment at site	11-Aug-19	12-Aug-19				
Valves	01-Jan-19	12-Aug-19				
Submission & Approval of Drgs / Docs & data sheets	01-Jan-19	17-Jan-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
including release of purchase order						
Manufacturing of Equipment	01-Mar-19	30-Jul-19				
Inspection / Logistics	31-Jul-19	10-Aug-19				
Receipt of equipment at site	11-Aug-19	12-Aug-19				
Motorized Gates at Inlet of SBR	01-May-18	18-May-19	2%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	30-Aug-18	100%	50%		50%
Manufacturing of Equipment	11-Jan-19	05-Apr-19				
Inspection / Logistics	07-Apr-19	07-May-19				
Receipt of equipment at site	08-May-19	18-May-19				
Diffusers	12-May-18	23-Apr-19	37%	11%		11%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	12-May-18	14-Jul-18	100%	100%		100%
Manufacturing of Equipment	01-Sep-18	15-Feb-19	72%	18%		18%
Inspection / Logistics	16-Feb-19	02-Apr-19				
Receipt of equipment at site	03-Apr-19	23-Apr-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Volute press	15-Oct-18	13-Jul-19	3%	11%		11%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18	100%	100%		100%
Manufacturing of Equipment	29-Dec-18	30-Jun-19	1%	18%		18%
Inspection / Logistics	30-May-19	28-Jun-19				
Receipt of equipment at site	01-Jul-19	13-Jul-19				
PE Dosing Tanks	15-Oct-18	13-Jul-19	3%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18	100%			
Manufacturing of Equipment	29-Dec-18	30-Jun-19	1%			
Inspection / Logistics	30-May-19	28-Jun-19				
Receipt of equipment at site	01-Jul-19	13-Jul-19				
Agitators	01-May-18	23-Jul-19	23%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%			

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Manufacturing of Equipment	01-Sep-18	08-Jun-19	43%			
Inspection / Logistics	09-Jun-19	08-Jul-19				
Receipt of equipment at site	09-Jul-19	23-Jul-19				
Transformers	02-Jul-18	21-Jul-19	5.4%	2.2%		2.2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	02-Jul-18	18-Jul-18	100%	100%		100%
Manufacturing of Equipment	19-Dec-18	15-Jun-19	7%			
Inspection / Logistics	25-Jun-19	30-Jun-19				
Receipt of equipment at site	01-Jul-19	21-Jul-19				
HT cables	29-Sep-18	26-Jul-19	2.2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	29-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Mar-19	30-Jun-19				
Inspection / Logistics	05-Jul-19	15-Jul-19				
Receipt of equipment at site	16-Jul-19	26-Jul-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
MCC panel	23-Jun-18	16-Aug-19	2%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	23-Jun-18	27-Jul-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
HT Panel	07-Sep-18	16-Aug-19	2%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
PLC Panel	07-Sep-18	16-Aug-19	2%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
SCADA System	07-Sep-18	16-Aug-19	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
MLDB, LDB & SLDBS	07-Sep-18	16-Aug-19	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				

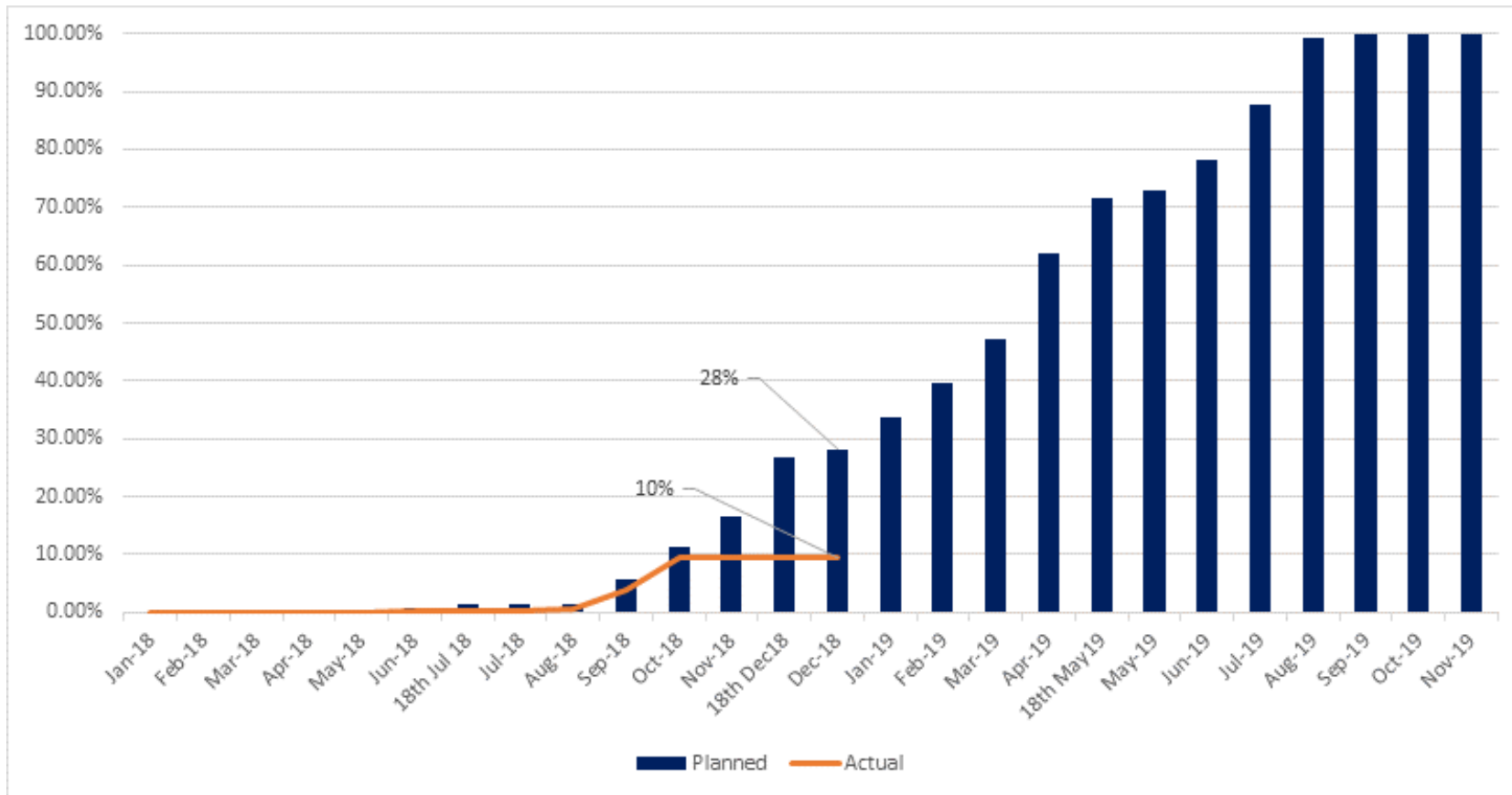
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Push Button Stations / Plant lighting / Buildings lighting	07-Sep-18	16-Aug-19	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Power, Control & lighting Cables	07-Sep-18	16-Aug-19	2%		1%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%		40%	40%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Cable trays/Lighting JB	07-Sep-18	16-Aug-19	2%		0%	0%
Submission & Approval of Drgs / Docs & data sheets	07-Sep-18	09-Nov-18	100%		20%	20%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
including release of purchase order						
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
DG Set	07-Sep-18	16-Aug-19	2%	2%		2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	100%		100%
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Plant Earthing	07-Sep-18	16-Aug-19	2%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%	60%		60%
Manufacturing of Equipment	01-Jan-19	20-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Instruments (Flow meter / Analyser)	20-Nov-18	16-Aug-19	2%	1%	0%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18	100%	40%	20%	60%
Manufacturing of Equipment	18-Mar-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches)	20-Nov-18	05-Sep-19	2%	1%	0%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18	100%	40%	20%	60%
Manufacturing of Equipment	18-Mar-19	30-Jul-19				
Inspection / Logistics	01-Aug-19	30-Aug-19				
Receipt of equipment at site	31-Aug-19	05-Sep-19				

2.1.6. Equipment procurement, logistics and receipt of equipment at site - Physical progress graph

Procurement - Physical progress



2.1.7. New construction units

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Civil Executions	19-Feb-18	16-Nov-19	67%	58%	4%	62%
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	87.5%	67.8%	2.8%	70.6%
Excavation	19-Feb-18	8-May-18	100%	100%		100%
Filling & Compaction of Bund Wall up to 1.0 Mtr Height	10-Apr-18	8-Jul-18	100%	100%		100%
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	9-Jul-18	25-Oct-18	100%	71%	1%	72%
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	1-Oct-18	29-Nov-18	100%	55%	11%	65%
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	7-Nov-18	18-Dec-18	100%	34%	8%	42%
Stone Pitching work, Side Drain Work & Fencing work	20-May-19	30-Aug-19				
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	3-Jun-18	30-Jun-19	67.8%	51.9%	2.5%	54.4%
Excavation	3-Jun-18	12-Jun-18	100%	100%		100%
PCC & RCC of Footing	13-Jun-18	18-Jul-18	100%	100%		100%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Inlet Chamber Slab with Column, Wall	20-Sep-18	15-Dec-18	100%	15%	19%	34%
Grit Chamber Slab with Column	1-Dec-18	28-Feb-19	34%			
Parshall flume slab with Column	1-Mar-19	30-Mar-19				
Hydrotesting including finishing works	1-Jun-19	30-Jun-19				
SBR Basins & SBR outlet Chamber	9-Apr-18	15-Jul-19	71.2%	64.6%	5.7%	70.3%
Excavation	9-Apr-18	7-Jun-18	100%	100%		100%
PCC & Raft RCC at 72.00 level	10-Apr-18	29-Jul-18	100%	100%		100%
Wall 1st Lift	5-Jun-18	30-Aug-18	100%	71%	4%	75%
Wall 2nd Lift	7-Jun-18	5-Sep-18	100%	51%	15%	66%
Wall 3rd Lift	24-Sep-18	15-Jan-19	87%	42%	16%	58%
Wall Final Lift	7-Feb-19	6-Apr-19		45%	7%	52%
Walkways and Channels	6-Apr-19	11-May-19		25%	10%	35%
Hydrotesting	20-May-19	15-Jul-19				
Construction of CCT including Chlorination room & Treated water pump House	26-Apr-18	24-Aug-19	55.0%	54.3%	6.3%	60.5%
Excavation	26-Apr-18	4-Jul-18	100%	100%		100%
PCC & Raft RCC	15-May-18	25-Jul-18	100%	100%		100%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
50% RCC of Structure	20-Jun-18	10-Oct-18	100%	97%	3%	100%
50% RCC of Structure	20-Jan-19	18-May-19			22%	22%
Completion of Brick work and Plaster	6-Apr-19	30-Jul-19				
Hydrotest including finishing works	9-Aug-19	24-Aug-19				
Final Outfall Chamber	19-May-19	3-Aug-19				
Excavation, Dressing, Filling G & PCC	19-May-19	23-May-19				
Foundation and Raft	29-May-19	17-Jun-19				
Wall & Super Structure	18-Jun-19	18-Jul-19				
Hydrotesting & finishing works	19-Jul-19	3-Aug-19				
Overhead Treated Water Tank	1-Jun-18	1-Aug-19	60.0%	32.1%		32.1%
Excavation	1-Jun-18	5-Jun-18	100%	100%		100%
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%	100%		100%
50% RCC of Structure	9-Oct-18	18-Dec-18	100%	7%		7%
50% RCC of Structure	25-Feb-19	6-May-19				
Finishing Works	19-Jun-19	1-Aug-19				
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	15-Oct-18	13-Jul-19	30.0%	30.0%	0.3%	30.3%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Excavation	15-Oct-18	30-Oct-18	100%	100%		100%
PCC & Raft RCC	1-Nov-18	18-Dec-18	100%	100%		100%
50% RCC of Structure	18-Jan-19	18-Mar-19			1%	1%
50% RCC of Structure	19-Mar-19	17-May-19				
Completion of Brick work and Plaster	19-Apr-19	18-May-19				
Finishing Works	20-May-19	13-Jul-19				
Administrative Building including lab and workshop	3-Feb-18	11-Jul-19	60.0%	54.3%	3.9%	58.2%
Excavation	8-Jun-18	17-Jun-18	100%	100%		100%
PCC & Raft RCC	18-Jun-18	18-Jul-18	100%	100%		100%
50% RCC of Structure	16-Oct-18	18-Dec-18	100%	81%	13%	94%
50% RCC of Structure	3-Feb-19	7-Apr-19		0%		0%
Completion of Brick work and Plaster	8-Apr-19	17-May-19				
Finishing Works	28-May-19	11-Jul-19				
Staff Quarters	8-Jun-18	16-Nov-19	30.0%	36.0%	0.8%	36.8%
Excavation	8-Jun-18	17-Jun-18	100%	100%		100%
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%	100%		100%
50% RCC of Structure	20-May-19	9-Jul-19		30%	4%	34%

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
50% RCC of Structure	9-Jul-19	28-Aug-19				
Completion of Brick work and Plaster	28-Aug-19	27-Sep-19				
Finishing Works	27-Sep-19	16-Nov-19				
Roads, Drainage & Fire Fighting system	3-Jun-19	31-Aug-19				
Roads work & Fire fighting	3-Jun-19	1-Aug-19				
Drainage Works	18-Jun-19	22-Aug-19				
Landscaping & Finishing	18-Jun-19	31-Aug-19				
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	3-Jun-18	29-Aug-19	70.0%	36.4%	5.9%	42.3%
Excavation	3-Jun-18	2-Jul-18	100%	100%		100%
PCC & RCC of Footing	3-Jul-18	18-Jul-18	100%	100%		100%
RCC up to Plinth	15-Sep-18	11-Oct-18	100%	64%	36%	100%
RCC up to Lintel Beams	15-Oct-18	15-Nov-18	100%		23%	23%
RCC Roof Slab	16-Nov-18	18-Dec-18	100%			
Brick Work	1-Jan-19	21-Mar-19				
Plastering	22-Mar-19	15-May-19				
Painting & Finishing	15-Jun-19	29-Aug-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Mechanical Installation	1-Aug-19	30-Aug-19				
Erection of Mechanical Equipment	1-Aug-19	30-Aug-19				
Electrical & Instrumentation Installation	1-Aug-19	31-Aug-19				
Pre - Commissioning	1-Sep-19	30-Sep-19				
Trail Run - COD	1-Oct-19	21-Oct-19				
Commissioning	21-Oct-19	18-Nov-19				

2.1.8. New construction units - progress in terms of Physical Quantity

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Civil Executions						
Bund Wall / Earthen Embankment						
Excavation	14182	Cum	14182		14182	100%
Filling & Compaction of Bund Wall up to 1.0 Mtr Height	24061	Cum	24061		24061	100%

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	22140	Cum	15099	792	15891	72%
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	19056	Cum	7185	5223	12408	65%
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	16154	Cum	2136	4708	6844	42%
Stone Pitching work, Side Drain Work & Fencing work	6720	Sqm				
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR						
Excavation	600	Cum	600		600	100%
PCC	72	Cum	72		72	100%
RCC for footing	173	Cum	146	27	173	100%
Inlet Chamber Slab with Column, Wall	159	Cum		54	54	34%
Grit Chamber Slab with Column	159	Cum				
Parshall flume slab with Column	79	Cum				
SBR Basins & SBR outlet Chamber						
Excavation	2210	Cum	2210		2210	100%
PCC	1424	Cum	1412		1424	100%

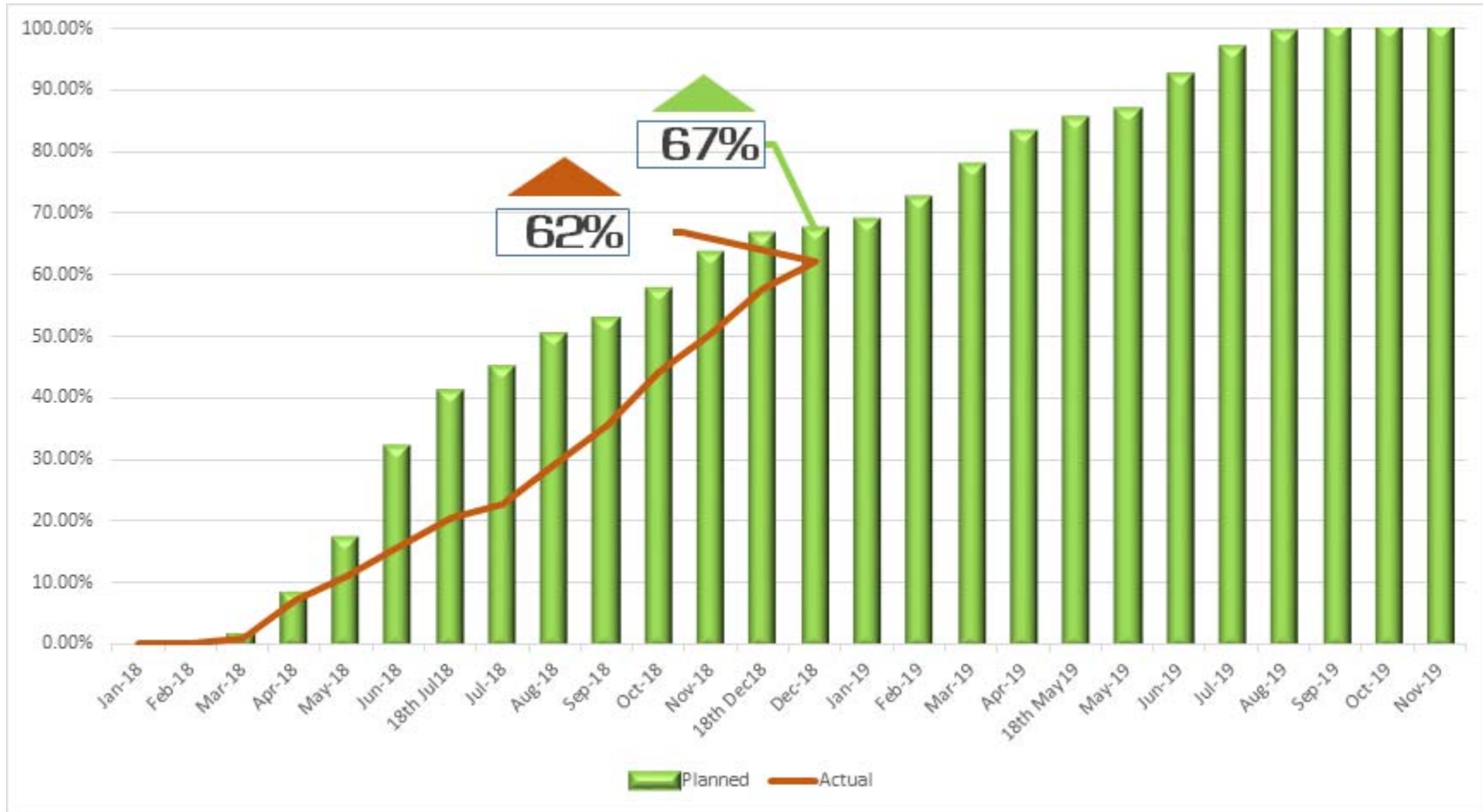
Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Raft RCC	4169	Cum	4169		4169	100%
Wall 1st Lift	560	Cum	298.70	124	422.70	75%
Wall 2nd Lift	390	Cum	125	131	256	66%
Wall 3rd Lift	291	Cum	64.5	103.50	168	58%
Wall Final Lift	462	Cum	119	98	217	52%
Walkways and Channels	306	Cum	9.8	18.70	28.50	35%
Construction of CCT including Chlorination room & Treated water pump House						
Excavation	1023	Cum	1023		1023	100%
PCC	140	Cum	140		140	100%
Raft RCC	266	Cum	266		266	100%
50% RCC of Structure	146.50	Cum	84.16	62.34	146.50	100%
50% RCC of Structure	146.50	Cum		32.50	32.50	22%
Brick work	71	Cum				
Plastering works	1342	Sqm				
Overhead Treated Water Tank						
Excavation	549	Cum	549		549	100%
PCC	18	Cum	18		18	100%
Raft RCC	61	Cum	61		61	100%
50% RCC of Structure	79	Cum		6.20	6.20	7%

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
50% RCC of Structure	79	Cum				
Finishing Works						
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank						
Excavation	720	Cum	720		720	100%
PCC	39	Cum	39		39	100%
Raft RCC	167	Cum		167	167	100%
50% RCC of Structure	194	Cum		2.10	2.10	1%
50% RCC of Structure	194	Cum				
Brick work	35	Cum				
Plastering work	290	Sqm				
Administrative Building including lab and workshop						
Excavation	656	Cum	656		656	100%
PCC	27	Cum	27		27	100%
Raft RCC	101	Cum	101		101	100%
50% RCC of Structure	107	Cum	17.8	82.90	100.70	94%
50% RCC of Structure	107	Cum				
Brick work						
Plastering work						

Item of work	Estimate		Physical status			
	Quantity	Unit	Previous month completion	Completion during this month	Total completion	Total completion in %
Finishing Works						
Staff Quarters						
Excavation	1502	Cum	1502		1502	100%
PCC	70	Cum	70		70	100%
Raft RCC	260	Cum	228.50	31.50	260	100%
50% RCC of Structure	215	Cum	43	29.90	72.90	34%
50% RCC of Structure	215	Cum				
Brick work						
Plastering work						
Finishing Works						
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area						
Excavation	587	Cum	587		587	100%
PCC	39	Cum	39		39	100%
RCC of Footing	160	Cum	160		160	100%
RCC up to Plinth	35	Cum		35	35	100%
RCC up to Lintel Beams	35	Cum		8	8	23%
RCC Roof Slab	136	Cum				
Brick Work	165	Cum				
Plastering	2000	Sqm				
Finishing works						

2.1.9. New construction units - Physical progress graph

Construction activities – Physical progress



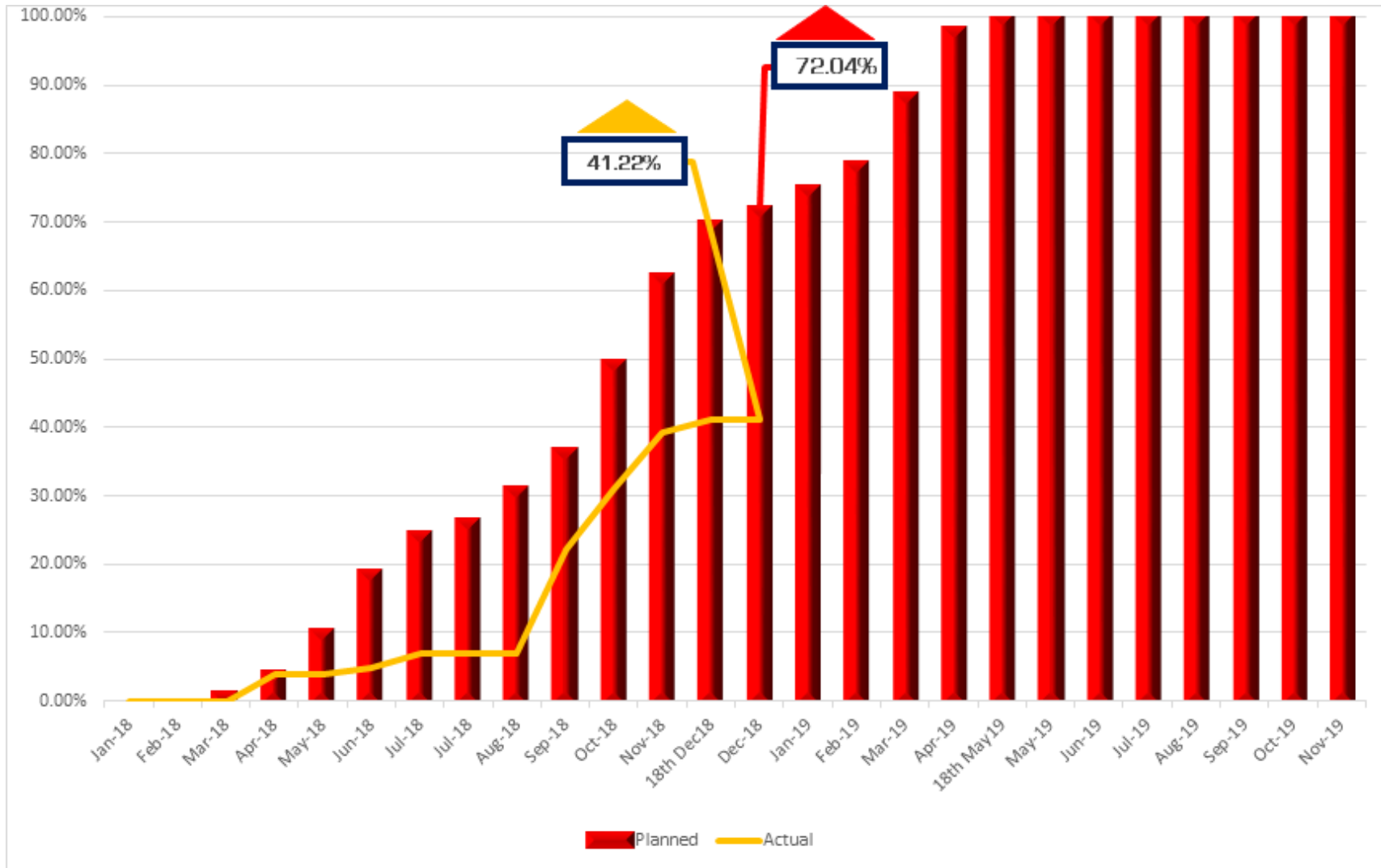
2.1.10. Associated works

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Associated	20-Mar-18	18-May-19	72.04%	41.22%		41.22%
MPS Pumping Station	15-May-18	30-Apr-19	53.73%	33.50%		33.50%
Rehabilitation of MPS	15-May-18	30-Apr-19	66%	52%		52%
Construction of Weir across Assi Nalla & Control room	13-Oct-18	30-Jan-19	72%			
Desilting of the MPS	15-May-18	28-Aug-18	100%	75%		75%
Repair of Equipment	1-Jan-19	30-Mar-19				
Raising of height of Nalla tapping structure upto HFL	1-Apr-19	30-Apr-19				
Rising Main	15-Jun-18	25-Mar-19	71.46%	7.00%		7.00%
Desilting & CCTV inspection	15-Jun-18	18-Jul-18	100%			
Strengthening and Pipe protection of Rising main Extension of existing Rising main to the Inlet point at the STP site	10-Oct-18	30-Jan-19	73%			
Shifting & laying of Pipe near Samne Ghat bridge	13-Jul-18	15-Jan-19	92%	20%		20%
Hydrotesting of the PSC	15-Feb-19	25-Mar-19				

Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Treated Effluent disposal line	20-Mar-18	18-May-19	73.96%	47.13%		47.13%
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	100%	55%		55%
Pipe laying - 20% including excavation and backfilling	9-May-18	18-Jul-18	100%	100%		100%
Pipe laying - 20% including excavation and backfilling	25-Sep-18	5-Nov-18	100%	100%		100%
Pipe laying - 20% including excavation and backfilling	6-Nov-18	18-Dec-18	100%	33%		33%
Pipe laying - 20% including excavation and backfilling	20-Feb-19	29-Mar-19				
Pipe laying - 20% including excavation and backfilling	30-Mar-19	6-May-19				
Hydrotesting & finishing works	14-Jun-18	18-May-19	59%	5%		5%

2.1.11. Associated works - Physical progress graph

Associated infrastructure – Physical progress



2.1.12. Overall physical progress : 38.53%

Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
50.69%	33.18%	5.35%	38.53%

2.2. Financial status for construction work

- Contract amount : Rs. 153.15 crores (Rs. 102 crores for construction + Rs. 51.15 crores for O&M)

Financial progress in % as on 31.12.2018

Scheduled / Planned completion as on December 2018 in %	Up to previous month (November 2018) completion in %	Completion during this month (December 2018) in %	Total completion up to December 2018 in %
50.69%	30.70%	5.35%	36.05%

Status of financial expenditure as on 31.12.2018

Sl. No	Description	Total expenditure incurred (NMCG & VSPPL) Rupees in crore	Expenditure incurred by VSPPL in Rupees in crore	Expenditure incurred by NMCG in Rupees in crore	Expenditure incurred as per site progress Rupees in crore
1	Mobilization advance (10% of Rs.102 Cr)	10.20		10.20	31.32
2	First mile stone payment (25% of Rs.102 Cr)	25.50	15.30	10.20	
3	Deduction of mobilization advance for first milestone (25% of mobilization of advance)	-2.55		-2.55	
	Total	33.15	15.30	17.85	

2.3. The issues, the action taken, and status are provided after obtaining the views from UPJN

S. No.	Issues identified	Action Taken	Status
1)	As per the concession agreement the first milestone (At least 25% of both physical and financial progress) should have been achieved on or before 18th July 2018. Despite concessionaire agreed to deploy additional resources to achieve the second mile stone within the targeted date including the delay occurred, same is not reflected in the field. However, concessionaire targeting to achieve the first milestone progress as on 15 th October 2018. By doing this there will be backlog of three months' work progress related to second mile stone. Concessionaire to take necessary resource mobilization to full till the targeted second mile stone progress on or before 18 December 2018.	No. of laborers are increased post Dussehra Fest and concessionaire confirmed to complete the 2 nd Mile Stone by end of January 2019 and all the back log will be recovered by 3 rd Milestone.	To be monitored on a regular basis
2)	Recovery plan submitted by the concessionaire on 8 th September 2018 is not accompanying the resource plan (material, man power & machineries). Concessionaire agreed to submit the same on or before 1 st October 2018.	Submitted on 24 th October'18 and commented back by MACE on 31 st Oct	The same will be submitted by the concessionaire shortly.
3)	Extent of progress of the rehabilitation and/or upgradation activities performed by the concessionaire for the associated infrastructure.	Partially submitted for approval	Under review
4)	Monthly Environmental Monitoring Reports to the Jal Nigam providing overview of compliance with EHS Plan.	In progress.	Due, till date
5)	Action to be taken to start the trenchless	Permission from	Trenchless work

S. No.	Issues identified	Action Taken	Status
	pipe line work near Samne Ghat as the Concerned authority already provided their acceptance orally and necessary approval will be issued shortly	Traffic Dept. is still awaited.	will be started after NRI meeting i.e. after 23 rd of January 2019.
6)	Action to be taken for carrying out the desilting and CCTV inspection of existing rising main as the activity should have been completed as per construction plan.	Concessionaire is confirmed to start the desilting after 15 th Nov'18.	VSPPL informed that the desilting and CCTV inspection work will start latest by 10 th January 2019.
7)	Insurance policy is submitted in the name of Essel infra projects. As per concession agreement this should be in the name of VSPPL.	Concessionaire to resubmit the insurance policy in the name of VSPPL	The concessionaire has applied for the same.

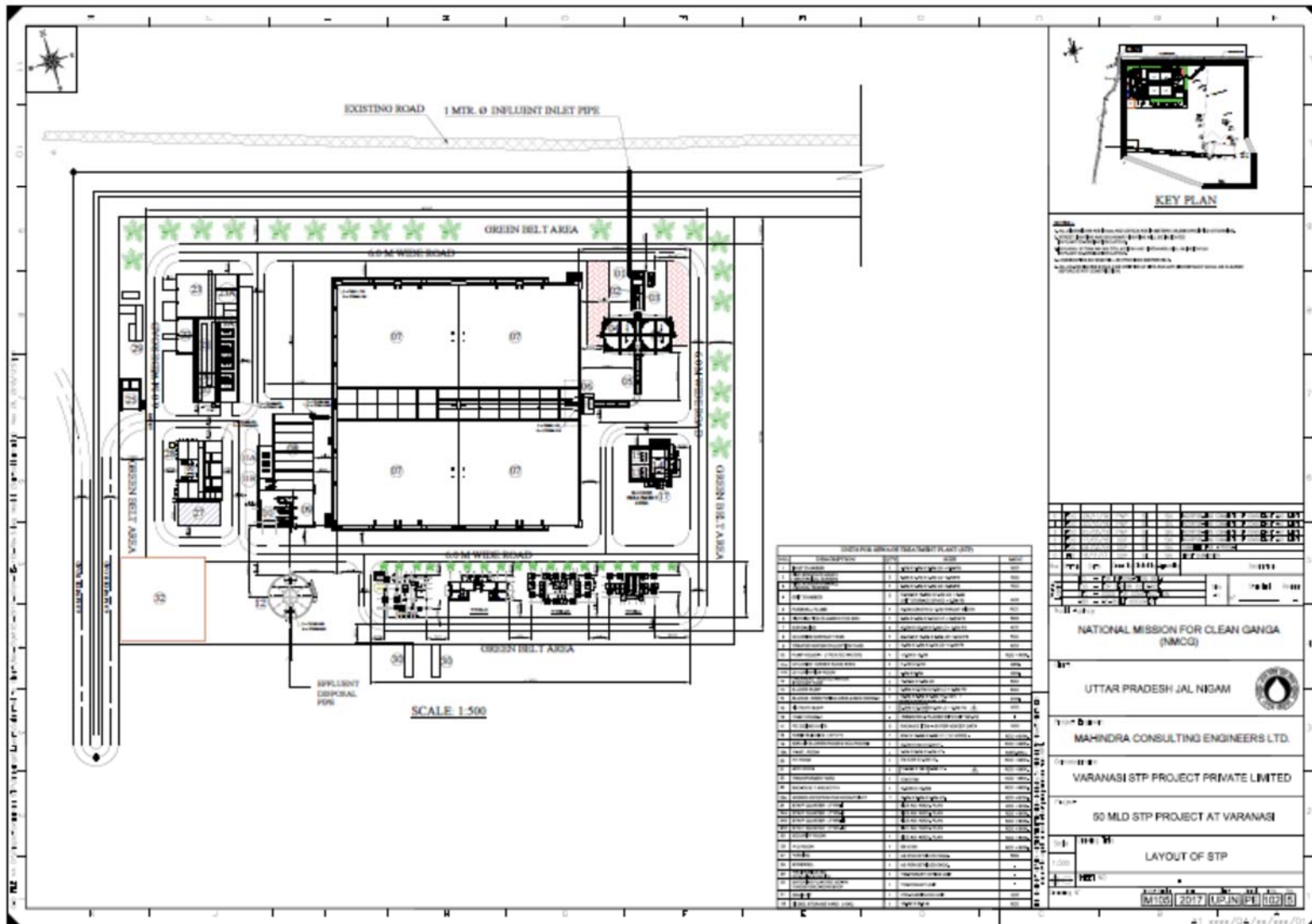


Figure 2: Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi

3.0. PROJECT ENGINEER ACTIVITIES

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of construction material testing
4.1 (ii)	Review, analysis and qualifying assessment of design memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	Yes	Review of construction drawings
4.1 (iii)	Conduct kick off meetings			
4.1 (iv)	Review of the submissions of the Concessionaire such as a. Work schedule	Yes	<ul style="list-style-type: none"> • Recommended for approval layout of STP • Observation on civil 	<ul style="list-style-type: none"> • Delay analysis • Remaining GA & structural

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	b. Detailed survey report c. Basic engineering d. Detailed design and drawings for <ul style="list-style-type: none"> i) Civil works <ul style="list-style-type: none"> 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii) Mechanical & Electrical Works iii) Automation & Instrumentation works iv) Any other allied works e. QA/QC plans f. Safety plan		GA drawing of raw water receiving chamber. <ul style="list-style-type: none"> • Observation on the design for thickness calculation of MS pipe ((Efficient disposal pipe) • Recommended for approval for Air blower updated CRS • Observation on mechanical GA drawing of over tank. • Observation on GA drawing of Rising main Long & cross section • Resubmission of electrical Document draw for MPS & STP (Capacitor sizing 	drawings of civil structures <ul style="list-style-type: none"> • QAP & data sheet for remaining mechanical, electrical & instrumentation items. • PSC pipe inspection

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
			calculation) • STP Comments On GA & SLD drawing of 415v PMC APFCR panel and activate DB for MPS • Comments on lighting cal. Layout technology set interior & Exterior • Observation on civil GA and structural drawing electrical control room. • Recommended for approval for Air blower QAP – R2 • Observations on road design calculation. • Comments on GA & SLD drawing of 415c PMCL, APFCR panel	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
			and activator DB for STP • Observation on detailed submitted for GST Claim • Recommended for approval with comments for PLC input & output list & PLC control duct G.A & Writing drawing for MPS & STP • Recommended for approval with comments for electrical design philosophy for STP & MPS • Recommended for approval with comments for	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
			analyzer • Observation on Civil G.A & RCC details of electrical control room R2 • Observation on MPS pipe thickness calculation (Effluent disposal pipe) • Recommended for dispensing the need for bus coupler in HT 11KV at STP • Recommended for approval with comments for capacity size calculation MPS & STP • Observation on develop of STP & associated infra. at	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
			mounted digital indicator, temp scanner and totalizer • Approval with comments for data sheets, QAP and GA Drawings • Recommended for approval on Arch. Drawings of staff quarters • Recommended for approval on vendor at Shyam steel limited • Inform to delay of drawings / documents	
4.1 (v)	Review of the drawings and documents	Yes	As mentioned above	As mentioned above
4.1 (vi)	Identification of milestones & verifications		Regular review and monitoring	Regular review and monitoring
4.1 (vii)	To Assist NMCG for getting statutory		NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	permissions			
4.1 (viii)	Ensure compliance with statutory provisions under various applicable laws		Yes	Yes
4.1 (ix)	Review, inspection, supervision and monitoring of construction works conducting tests on completion of construction and issuing completion / provisional certificate	Yes	Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts	Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts
4.1 (x)	Review, inspection and monitoring of O&M	NA	NA	NA
4.1 (xi)	Determining, as required under the Concession Agreement, the costs of any works or services and/or their reasonableness	NA	NA	NA
4.1 (xii)	Determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation	NA	NA	NA
4.1 (xiii)	Determining the events of default and	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	guidance on consequent termination notices and payment as detailed in clauses 16.1 to 16.5 of the Concession Agreement			
4.1 (xiv)	Determine deficiencies in the commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam	NA	NA	NA
4.1 (xv)	Any other matter which is not specified in ((vi), (vii), or (viii) above and which creates an obligation or liability on the Employer / NMCG beyond the provisions of the Concession Agreement	NA	NA	NA
4.1 (xvi)	The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and NMCG, in respect of its duties and functions under the Concession Agreement	Monthly progress report	Monthly progress report	Preparation and review of monthly progress report

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
4.1 (xvii)	The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement	NA	NA	NA
4.1 (xviii)	Assisting the Parties in resolution of Disputes	NA	NA	NA
4.1 (xix)	Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 19.3 of the Concession Agreement		NA	NA
4.1 (xx)	Undertaking all other duties and functions in accordance with this agreement	As mentioned above	As mentioned above	As mentioned above
4.2	The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice	Yes	Yes	Yes
4.3(i)	The Project Engineer must function in a manner to assist & equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities and the	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Associated Infrastructure in a manner that: Is in compliance with the Technical Specifications, Applicable Laws, Applicable Permits and Good Industry Practice; Results in the Facilities and the Associated Infrastructure achieving the KPIs as detailed in schedule 10 of the Concession Agreement & certify within 7 days the KPI adherence Report as per clause 8.12 of the Concession Agreement;			
4.3(ii)	Ensures that the Varanasi STP are capable of treating Sewage up to the Design Capacity on a daily basis;	Yes	Yes	Yes
4.3(iii)	Ensures efficient treatment of Sewage and handling and disposal of STP By- Products and the Treated Effluent	NA	NA	NA
4.3(iv)	STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure;	NA	NA	NA
4.3(v)	Is in compliance with the technology	Yes	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure			
4.3(vi)	Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable Laws and Applicable Permits.	Yes	Yes	Yes
4.3(vii)	Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits.	Yes	Yes	Yes
4.4	Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation & maintenance of the Facilities and the Associated Infrastructure and shall work closely with the Uttar Pradesh Jal Nigam	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	and NMCG to monitor compliance with the KPIs.			
5.1	During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and send its comments / observations to the NMCG / Name of the Employer (i.e. State Institution) and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and	Yes	Review of construction drawings submitted by concessionaire	Review of construction drawings submitted by concessionaire

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Specifications and Standards			
5.2	The Project Engineer shall review and assist the (Name of the Employer) in approval of the submissions by the concessionaire relating to the “ design and Construction Plan ” so as to confirm to the scope as per Schedule 1 of the Concession Agreement.	Yes	Yes	Yes
5.3	The basic engineering drawings in the above case shall mean the designs and documents to be submitted by the Concessionaire & approved by the Uttar Pradesh Jal Nigam as a Condition Precedent & shall include but not limited to: a) Conduct kick off meeting, scrutiny of contractors submittals b) Process description, process calculations and hydraulic calculations; c) List of design codes and standards; d) Master drawing schedule;	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	e) Drainage design; f) STP Facilities layout; g) Process flow diagram; h) Hydraulic flow diagram; i) Mass balance diagram; j) Process and instrumentation diagram; k) Single line diagram; l) Electrical load list; and m) General arrangement diagrams of all units of facilities and associated infrastructure			
5.4	The project engineer shall review any modified Drawings or supporting documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such drawings or documents.	Yes	Yes	Yes
5.5	The project engineer shall review the detailed design, construction methodology, quality assurance	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receipt thereof.			
5.6	Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam.	NA	NA	NA
6.1	In respect of the designs drawing & documents received by the project engineer for its review and comments during the construction period, the provisions of paragraph 4 shall also apply, mutatis mutandis	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 7.3 of the Concession Agreement including Phase 1 and Phase II drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 7.4 of the Concession Agreement	Yes	Yes	Yes
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments on effectiveness or otherwise of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date	Yes	Yes	Yes
6.4	The Project Engineer shall review, in particular, the submissions by the Concessionaire as per Schedule 1 of the	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Concession Agreement, and assist Uttar Pradesh Jal Nigam in assessing the effectiveness them			
6.5	The Project Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report	Yes	Concessionaire submitted progress report on 3 rd Jan 2019 for the month of December 2018. However, the report was prepared by Project Engineer	Yes
6.6	The Project Engineer shall inspect the Construction Works and the Project as and when necessary and submit a report of such inspection (the "Inspection Report"), preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case. The report shall	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	contain, an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Project Engineer shall send a copy of its Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 3 (three) days of the inspection			
6.7	However serious lapses, defects and/or deficiencies shall be reported to the Uttar Pradesh Jal Nigam/NMCG immediately	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	without waiting for the monthly progress submissions as mentioned in the previous paragraph			
6.8	For determining that the Construction Works conform to Specifications and Standards, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Project Engineer in accordance with approved norms/Good Industry Practice for quality assurance. The Project Engineer shall issue necessary directions to the Concessionaire for ensuring that the tests are conducted in a fair and efficient manner, and shall monitor and review the results thereof	Yes	Yes	Yes
6.9	The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/rejection of their results shall be	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	determined by the Project Engineer in accordance with the norms /rules and Good Industry Practice. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice			
6.10	In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests to determine that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
6.11	In the event that the Concessionaire fails to achieve any of the Project Milestones, the Project Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Project Engineer identifies that completion of the Project is not feasible within the time specified in the Concession Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire forthwith.	Yes	Yes	Yes
6.12	If at any time during the construction period, the Project Engineer determines that the Concessionaire has not made	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	adequate arrangements for the safety of workers and common public in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof.			
6.13	In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and common public, it may, by notice in writing, require the Project Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Project Engineer shall inspect the suspended works and make a report to the NMCG/ Uttar Pradesh	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam.			
6.14	If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same	NA	NA	
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Nigam to the Concessionaire			
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual	NA	NA	
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 20.	NA	NA	
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'	Yes	NA	
6.19	The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 7, of the Concession	Yes	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Agreement including those for liquidated damages and Bonus, are being complied with			
6.20	On completion of construction and at behest of Employer, the Project Engineer may review the work done as per 'as built' drawings and identify defects and suggest changes as per clause 7.13(v) of the Concession Agreement	NA	NA	
6.21	Similarly, the Project Engineer may inspect the trial process and may point out the defects and cause changes or retrial of the process as per clause 7.14(d) of the Concession Agreement	NA	NA	
7.1	In respect of the Designs, Drawings, and Documents received by the Project Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
7.2	<p>The Project Engineer shall review the O&M Manual (Clause 8.2) and the Scheduled Maintenance Programme submitted by the concessionaire and provide its recommendations on the same, including suggestions for change, if any.</p> <p>The O&M Manual shall cover:</p> <ul style="list-style-type: none"> a) O&M Procedures; b) O&M Plan; c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; i) Human Resources Plans; 	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	j) EHS Plans; k) Emergency procedures; l) Management of Assets Plans. And m) Annual Scheduled Maintenance programme.			
7.3	The Project Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of the Maintenance Program	NA	NA	
7.4	The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam	NA	NA	
7.5	The Project Engineer shall verify the daily reports submitted by the concessionaire regarding the volume of sewage and its	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	quality re influent standards and monitor and record the same on regular basis			
7.6	The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 8.8(b)(iii) (A) to (G) of the Concession Agreement	NA	NA	
7.7	The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet Point or at any other point at the Varanasi STP for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.	NA	NA	
7.8	The Project Engineer shall review the	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	monthly status report furnished by the Concessionaire (as required under clause 812(c)) of the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report			
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Project Engineer shall describe in reasonable detail the	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	lapses, defects or deficiencies observed by it in O&M of the Project. The Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection			
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	NA	NA	
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
7.12	The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.	NA	NA	
7.13	The Project Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire.	NA	NA	
7.14	In the event that the Concessionaire notifies the Project Engineer of any modifications that it proposes to make to the project, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 15 (fifteen) days of receiving the proposal.	NA	NA	
7.15	The Project Engineer shall undertake sewage flow sampling, as and when	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	required by the NMCG/ Uttar Pradesh Jal Nigam, under and in accordance with the provisions of this agreement			
7.16	The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual), including monthly Environmental Monitoring Reports as detailed in Schedule 11(Part G) of the Concession Agreement.	NA	NA	
7.17	The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire	NA	NA	
9.1	The Project Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Concession Agreement	NA	NA	
9.2	The Project Engineer shall determine the	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	period, or any extension thereof, that is required to be determined by it under the Concession Agreement			
10.1	When called upon by either Party in the event of any Dispute, the Project Engineer shall mediate and assist the Parties in arriving at an amicable settlement	NA	NA	
10.2	In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Concession Agreement, the Project Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature	NA	NA	
11.0	As and when requested by NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall provide its opinion and assessment on the events related to Emergency,	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Change in Law, Force Majure, Minor or total Casualties, Variation and unforeseen Site conditions etc			
12.1	The Project Engineer shall notify its programme of inspection to the NMCG/ Uttar Pradesh Jal Nigam and to the Concessionaire, who may, in their discretion, depute their respective representatives to be present during the inspection.	Yes	Yes	Yes
12.2	A copy of all communications, comments, instructions, Drawings or Documents sent by the Project Engineer to the Concessionaire pursuant to this TOR, and a copy of all the test results with comments of the Project Engineer thereon shall be furnished to the NMCG/ Uttar Pradesh Jal Nigam forthwith.	Yes	Yes	Yes
12.3	The Project Engineer shall retain at least one copy each of all Drawings and	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.			
12.4	Upon completion of its assignment hereunder, the Project Engineer shall duly classify and list all Drawings, Documents, results of tests and other relevant records, and hand them over to the NMCG/ Uttar Pradesh Jal Nigam or such other person as the NMCG/ Uttar Pradesh Jal Nigam may specify, and obtain written receipt thereof. Two copies of the said documents shall also be furnished in their editable digital format or in such other medium or manner as may be acceptable to the NMCG/Uttar Pradesh Jal Nigam	Yes	Yes	Yes
12.5	Wherever no period has been specified for delivery of services by the Project Engineer, the Project Engineer shall act with the efficiency and urgency necessary	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	for discharging its functions in accordance with Good Industry Practice.			
12.6	Project Engineers shall be expected to fully comply with all the provisions of the “Terms of Reference”, and shall be fully responsible for supervising the Design, Construction and maintenance and operation of the Facility in accordance with the provisions of the Concession Agreement and other schedules. Any failure of the Project Engineer in notifying to the Employer and the Concessionaire on non-compliance of the provisions of the Concession Agreement and other schedules by the Concessionaire, non-adherence to the provision of this ToR and non-adherence to the time schedule prescribed under this ToR shall amount to non-performance.	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
12.7	The project Engineer shall develop & maintain a project website and with the approval of NMCG/UPJN post from time to time, information (textual and Audio-Visual) on project progress on a continuous basis. On completion of services as per this RFP document, the website with all necessary technical information shall be handed over to UPJN.	Yes	Yes	Yes
14.1	Uttar Pradesh Jal Nigam may review with the Project Engineer, any or all of the documents and advice forming part of the Consultancy, in meetings and conferences which will be held at the office of the Uttar Pradesh Jal Nigam / NMCG. Uttar Pradesh Jal Nigam / NMCG may, in its discretion, require the Project Engineer to participate in extended meetings and/ or work from the offices of Uttar Pradesh Jal Nigam /NMCG and the Project Engineer shall, on	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	a best endeavour basis and without unreasonable delay, provide such services at the offices of the Uttar Pradesh Jal Nigam/NMCG.			
15.1	The Project Engineer may prepare Issue Papers highlighting issues that could become critical for the timely completion of the Project and that require attention from Uttar Pradesh Jal Nigam/NMCG. The Project Engineer shall report to UPJN for routine activities and deliverables. All major and critical issues shall be reported to NMCG and UPJN simultaneously.	Yes	Yes	Yes
15.2	The Project Engineer will make a presentation on the inception report for discussion with the Uttar Pradesh Jal Nigam / NMCG at a meeting. This will be a working document. Regular communication with Uttar Pradesh Jal Nigam / NMCG is required in addition to all key communications. This may take the	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: November 2018 to January 2019		
		Undertaken till previous month - November 2018	Undertaken during this month - December 2018	Expected for next month January 2019
	form of telephone/ teleconferencing, emails, and occasional meetings.			
15.3	The Deliverables will be submitted as per schedule provided in this RFP	Yes	Yes	Yes

4.0. MEETINGS

Project Engineer undertaken and planned services.

Sl. No.	Services	Undertaken by	Period: December 2018	Period: January 2019
			Description	Expected for next month
1	Site visit	1) Mr. Rajat Gupta, NMCG 2) Mr. S. K. Barman, PM, GPP Unit, Varanasi 3) Mr. B. R. Gupta, Deputy Team Leader, NJS Consultants (PMC for JICA assisted Ganga Action Plan). 4) Mr. Ashok Kumar, Senior Engineer, NJS Consultants	6 th December 2018	Project review meeting and site inspection
2	Site visit & Review of progress	1) N. Srinivasa Rao, Tata Consulting Engineers (NMCG 3 rd party)	17 th December 2018	
3	Monthly progress review & Site visit	1) Mr. A. Srinivasan, General Manager, MACE	21 st – 22 nd December 2018	

5.0. STAFF DEPLOYMENT

The work had commenced on 15.02.2018 the same has been communicated to NMCG vide letter number P968:8230 dated 05.03.2018.

The Project Engineer office shifted on 20/06/2018 at the following address in Varanasi:

Mahindra Consulting Engineers Limited

"K Lion Enclave",
"A "Block,
Flat No: 118, 1st Floor,
Opposite to Vishal Mega Mart,
Nevada, Sundarpur,
Varanasi – 221005,
Uttar Pradesh.

The position of staff deployment since beginning of the project till end of May 2019 is given in the following table:

Staff deployed on site at Ramana, Varanasi			Date of deployment	
Sl. No.	Designation	Name of staff	From	To
1	Team Leader	Jiut Bundhan Rai (Additional deployment)	07/05/2018	
2	Project Manager	G. Sathiskumar (As per agreement)	19/02/2018	21/05/2018
3	Civil Engineer	M. Sivapriyan (Additional deployment)	15/02/2018	
4	Civil Engineer	T. Sathyamoorthy (As per agreement)	20/04/2018	07/05/2018
5	Senior Engineer (Electrical & Instrumentation)	R. Satish (As per agreement)	20/04/2018	28/05/2018
6	Civil Engineer	P. Ramasubramanian (Additional deployment)	20/04/2018	27/11/2018
7	Civil Engineer	Imran Khadhar Mohideen (Additional deployment)	20/04/2018	

Staff deployed on site at Ramana, Varanasi			Date of deployment	
Sl. No.	Designation	Name of staff	From	To
8	Structural Engineer	S. Varun Athithiya (Additional deployment)	20/04/2018	
9	Liaison Officer	O. B. Shivakumar (Additional deployment)	20/04/2018	08/07/2018
10	QA QC Expert /Safety	L. Selva Kumar (Additional deployment)	29/05/2018	
11	Structural Engineer	M. Vishnukumar (As per agreement)	24/09/2018	
12	Electrical Engineer	K.Ganesh (As per agreement)	11/10/2018	13/10/2018

ANNEX - 1

PROJECT PROGRESS (PHYSICAL)

ANNEX 1 - PROJECT PROGRESS (PHYSICAL)

Sl. No.	Component / Package	Physical Progress in Percentage			Remarks
		Up to Previous month	During month	Total	
1	2	3	4	5	6
1	Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi	33.18%	5.35%	38.53%	Physical progress observed to be very slow and needs to be accelerated by Concessionaire.

ANNEX - 2

FINANCIAL STATEMENTS

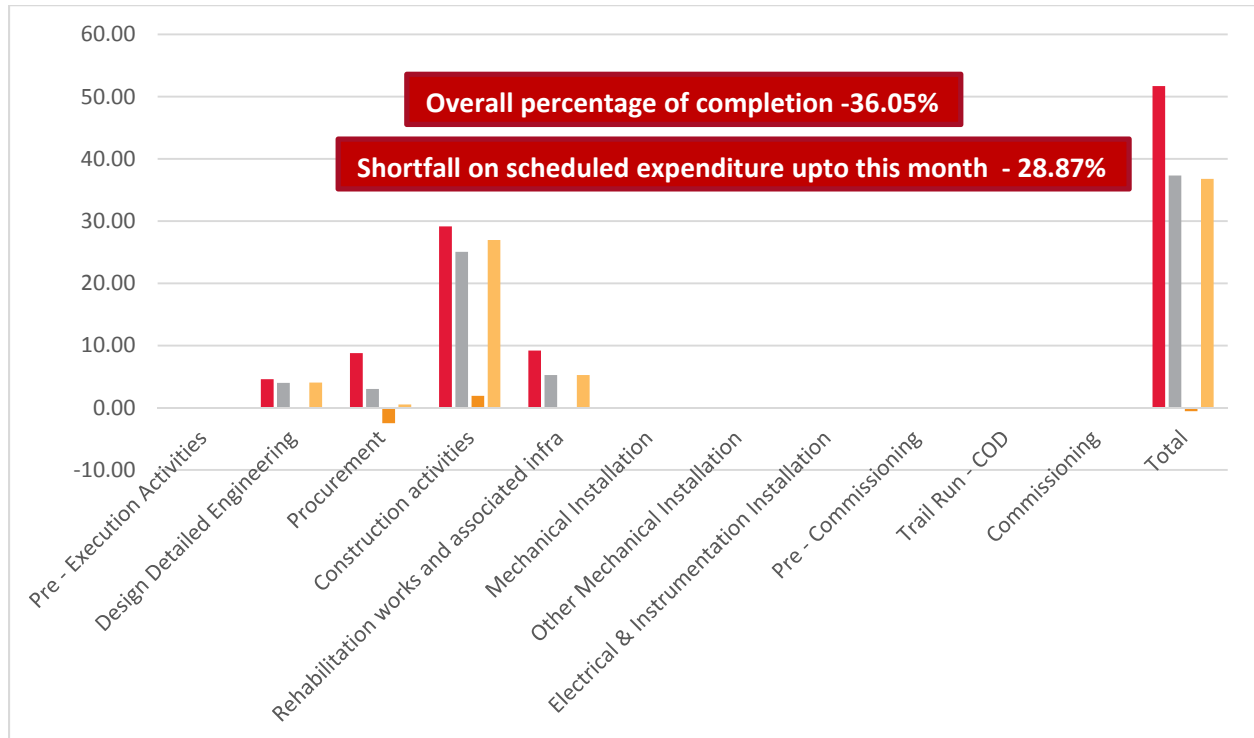
ANNEX 2 - FINANCIAL STATEMENTS

Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Design detailed engineering				
Phase - I D&E (BEP)	76,50,000	76,50,000	-	76,50,000
Phase - II D&E (Civil, Mechanical, Electrical, Inst. drawings)	51,00,000	49,47,000	-	49,47,000
Topographical / Soil Investigation	51,00,000	51,00,000	-	51,00,000
Structural drawings submissions & approvals	1,27,50,000	1,20,36,000	-	1,20,36,000
Mechanical & piping drawings submissions & approvals	1,02,00,000	74,66,400	2,44,800	77,11,200
Electrical drawings submissions & approvals	25,50,000	16,57,500	1,63,200	18,20,700
Instrumentation document submissions & approvals	25,50,000	11,47,500	-	11,47,500
Associated				
MPS pumping station	54,80,328	34,17,000	-	34,17,000
Rising Main	1,09,33,859	10,71,000	-	10,71,000
Treated Effluent disposal line	7,54,37,751	4,80,73,666	-	4,80,73,666
Equipment procurement, logistics and receipt of equipment at Site				
Fine Screen / Coarse Screen / Belt Conveyors	1,02,00,000	2,26,667		2,26,667
Grit Removal Mechanism	38,66,626	2,26,667		2,26,667
SBR System (Decanters)	1,51,06,635	11,33,333		11,33,333
SAS / RAS pumps/booster pumps / treated water pumps / drain pumps	1,02,00,000	2,26,667		2,26,667
Horizontal centrifugal pumps (Treated water pumps)	2,04,00,000	3,62,667	90,667	4,53,333
Air blowers	1,21,38,540	9,06,667		9,06,667
Chlorination system	26,90,407	2,26,667		2,26,667

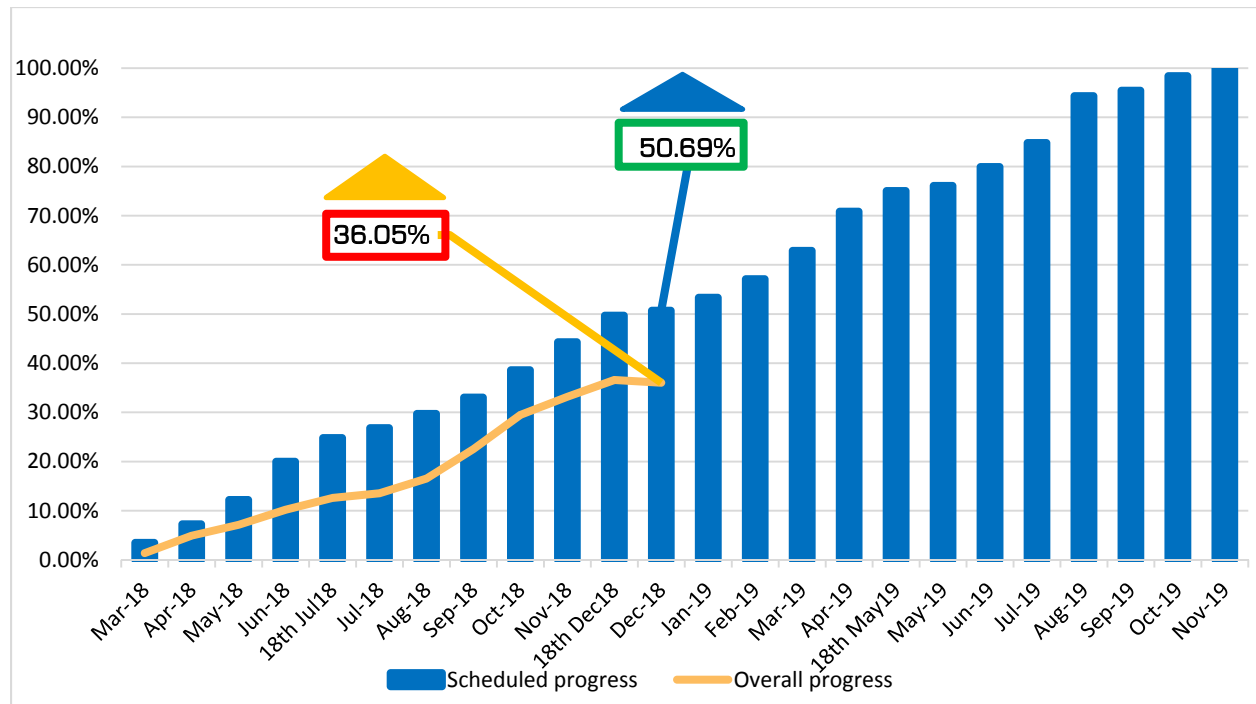
Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Sluice Gates	51,00,000	68,000	45,333	1,13,333
Motorized Gates at Inlet Of SBR	2,26,667	1,13,333	-	1,13,333
Diffusers	37,57,645	2,26,667		2,26,667
Volute press	2,79,927	2,26,667		2,26,667
PE Dosing Tanks	69,982	-	-	-
Agitators	17,49,482	-	-	-
Transformers	2,77,603	1,13,333	-	1,13,333
HT cables	56,667	-	-	-
MCC panel	1,13,333	68,000	-	68,000
HT Panel	1,13,333	68,000	-	68,000
PLC Panel	3,40,000	2,04,000	-	2,04,000
SCADA System	2,26,667	-	-	-
MLDB, LDB,& SLDBS	1,13,333	-	-	-
Push Button Stations/Plant lighting / Buildings lighting	56,667	-	-	-
Power, Control & lighting Cables	1,13,333	-	45,333	45,333
Cable trays/Lighting JB	56,667	-	11,333	11,333
DG Set	1,13,333	1,13,333	-	1,13,333
Plant Earthing	56,667	34,000	-	34,000
Instruments (Flow meter / Analyzer)	1,70,000	68,000	34,000	1,02,000
Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches)	1,70,000	68,000	34,000	1,02,000
Civil Executions				
Bund Wall / Earthen Embankment	7,14,00,000	5,52,89,100	22,82,250	5,75,71,350
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	1,72,96,067	1,32,28,763	6,46,000	1,38,74,763

Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
SBR Basins & SBR outlet Chamber	15,98,15,044	14,49,83,310	1,27,50,000	15,77,33,310
Construction of CCT including Chlorination room & Treated water pump House	1,68,30,000	1,66,01,724	19,12,500	1,85,14,224
Overhead Treated Water Tank	15,30,000	8,17,275	-	8,17,275
Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	30,60,000	30,64,590	25,500	30,90,090
Administrative Building including lab and workshop	61,20,000	55,42,374	3,97,800	59,40,174
Staff Quarters	45,90,000	55,06,317	1,22,400	56,28,717
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	1,07,10,000	55,75,687	9,02,700	64,78,387
Total	51,69,95,483	313,150,089	5,46,40,267	36,77,90,356
		Percentage completion of overall project	36,77,90,356	36.05%

Financial status for the month of December 2018



Progress status scheduled vs Actual - November 2018



ANNEX - 3

QUALITY ASSURANCE / QUALITY CONTROL

ANNEX 3 - QUALITY ASSURANCE / QUALITY CONTROL

1. Bund wall

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test	No. of Test conducted	No. of Acceptance	No. of Rejects	As per IS No of test	No. of Test conducted	No. of Acceptance	No. of Rejects	
1	Soil compaction test at source (Barrow pit) - MDD, OMC & Soil characteristics	2720 Part VIII	12	12	12	0	0	0	0	0	As per used Borrow pit quantity all test has been covered up as on date.
2	Soil compaction test at Site - OMC & Degree of compaction	2720 Part II	596	596	525	71	272	272	246	26	<p>71* samples rejected up to previous month recompacted and retested finally result found acceptable.</p> <p>26* Rectification suggested for re compaction and retesting as per relevant code.</p>

2. Sequential Batch Reactor (SBR)

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
1	Concrete ingredients coarse aggregate 20mm down	IS 383-2001	44	74	60	14*	04	12	09	03*	Found acceptable, , witnessed by UPJN/MACE Complete aggregates of 14*& 03* rejected samples removed from site being over sized
2	Concrete ingredients coarse aggregate 10mm down	IS 383-2001	31	38	33	*5	04	11	11	0	Found acceptable, , witnessed by UPJN/MACE Complete aggregates of 5* rejected samples removed from site being under sized
3	Concrete ingredients fine aggregate 4.75 mm down	IS 383-2001	24	35	32	03*	05	12	10	02*	Found acceptable, , witnessed by UPJN/MACE Complete aggregates of 3* /02* rejected samples removed from site being under sized
4	Combined Grading as per approved IIT Mix design	IS 383-2001	**whenever required	4	4	0	**whenever required	0	0	0	As per Approved mix 20mm with 60%, 10mm with 40%, currently running mix, no issues
5	Harden concrete	IS 516 & IS 456	every 50 M3 or part	545	545	0	every 50 M3	219	219	0	All concrete cubes tested at site lab only which

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
	Compressive strength		thereof				or part thereof				calibrated by approved 3 rd party..
6	OPC Cement 43 Grade	IS 8112-2013	Every consignment or whenever required	1	1	0	Every consignment or whenever required	0	0	0	ULTRA TECH SOURCE /MTC Available.
7	Reinforcement TMT Bars	IS 456-2001, IS 1786-1987 & IS 800-2007	50 Metric tonne/one sample for each diameter	18	18	0	50 Metric tonne/one sample for each diameter	0	0	0	TATA STEEL/MTC Available at site for all consignment as of date,
8	Admixed	IS 9103-1979	Every new consignment once reach site	1	1	0	Every new consignment once reach site	0	0	0	FOSROC conplast /MTC Available at site for all consignment as of date
9	Water	IS 456 - 2001	6 months once	2	2	0	6 months once	0	0	0	IIT report available, found acceptable
10	Concrete Mix design	IS 10262-2000	**whenever changed source of ingredients	Grade of M10, M15, M20, M25 & M30 (including all physical test)	Approved given by IIT VARANA SI AND ACCEPTED BY CLIENT	0	**whenever changed source of ingredients	Grade of M10, M15, M20, M25 & M30 (including all physical test)	Approved by IIT VARANA SI AND ACCEPTED BY CLIENT	0	Running mix at 50 MLD STP, Ramana site (60% of 20 mm,40 % of 10mm combined grading)

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No. of Test conducted	No. of Acceptance	No. of Rejects	
11	Field control test: Slump /Concrete temperature/ unit weight	IS 456, SP 23 & IS 516	Every alternative truck of concrete mixer	318	305	13	Every alternative truck of concrete mixer	60	60	0	13* under/over slump concrete has been realtered as per norms and again retested, found within specified range. All tests Witnessed by MACE/UPJN at spot inspection
12	Bricks for frame structure	IS1077&IS5454	Every new consignment once reach site. 20 bricks to be selected from the lot 2000-10000	0	0	0	Every new consignment once reach site. 20 bricks to be selected from the lot 2000-10000	20	20	0	20 Nos tested at site laboratory, found ok and 20 bricks sent to third party testing Laboratory waiting for the report. Brick work started from December second week onwards at Staff Quarters.

3. Treated Effluent disposal line

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	PSC Pipes 1200mm dia - characteristics Test (Dimension, Straightness, Thickness, Hydrostatic & Permeability)	IS 784 & IS 3597	594	594	577	17	0	0	0	0	17 nos pipe were rejected due to main body seepage during the hydro pressure test, Witnessed by Concrete udyog & Project engineer.
2	Soil test - SBC of soil	IS 6403	4	4	4						
3	EPDM Gasket	IS 5389-1979	492	492	492	0	40	40	40	0	MTC report available from concrete udyog pipes

4. Raising main

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	MS Pipes 1000mm dia - characteristics Test (Dimension, Thickness, Hydro testing, Epoxy coating, Anti corrosive coating & Marking)	IS 3589:2001	246.72 Mtr (48 nos)	246.72 Mtr (48 nos)	246.72 Mtr (48 nos)	0	0	0	0	0	Bamrah Pipes -nodia factory- inspection done along with UPJN Engineer.

5. Construction Running Materials / Equipment's

S. No.	Description	IS Code	Up to Previous Month				During this month (December 2018)				Remarks
			As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	As per IS No of test required	No of Test conducted	No of Acceptance	No of Rejects	
1	Auto level (SBR / Pipe lines / bund wall)	BIS 1492	Yearly once	3	3	0	Yearly once	0	0	0	Verification done for all instruments / tools & CTM Site lab recalibration certificates found ok, Recalibration done for RMC plant on 27.12.18
2	Cube testing Machine	IS 516-2001	Yearly once	2	2	0	Yearly once	0	0	0	
3	Laboratory weighing machine	IS 460-1980	Yearly once	2	2	0	Yearly once	0	0	0	
4	Ready Mix Concrete plant	IS 4926-2013	Whenever required	2	2	0	Whenever required	1	1	0	

ANNEX - 4 PHOTOGRAPHS

SBR basin



Side View



Side View



Walkway



Inside view



Inside view



Inside view

Inlet chamber, Fine screens, Grit Basin & Parshall
Flume



Side & Top view

Bund wall



Side & Top view



Side & Top view



Top view



Side view

Administrative Building



Roof level

CCT



CCT inlet



Side & Top view

Over Head Tank



Plinth level

SBR air blower room, HT room, MCC room,
Transformer Yard & DG set area



Plinth level

Staff Quarters



Roof level



Type – 1 (Plinth level)



Type – 2 (Column concrete)



Type – 3 (Lintel level)



Type – 4 (Roof stage)

Treated Effluent disposal line



PSC Pipe laying



PSC Pipe laying

Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank



Basement level

ANNEX - 5
OUTWARD CORRESPONDENCE LIST
OF DECEMBER 2018

ANNEX 5 - OUTWARD CORRESPONDENCE LIST OF DECEMBER 2018

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
1	MACE:P968:8673	03.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval layout of STP
2	MACE:P968:8675	04.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on civil GA drawing of raw water receiving chamber.
3	MACE:P968:8676	04.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on the design for thickness calculation of MS pipe ((Efficient disposal pipe)
4	MACE:P968:8679	04.12.2018	NMCG, PM, UPJN	GM, UPJN	NA	Submission of monthly progress report for the month of November 2018.
5	MACE:P968:8683	05.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for Air blower updated CRS
6	MACE:P968:8687	07.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on mechanical GA drawing of over tank.
7	MACE:P968:8688	07.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	MIR December 2018 Submission.
8	MACE:P968:8691	10.12.2018	NMCG, PM, UPJN	GM, UPJN	NA	Inspection call letter from concession for De center mechanism in CHINA
9	MACE:P968:8692	10.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on GA drawing of Rising main Long & cross section
10	MACE:P968:8693	11.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Resubmission of electrical Document draw for MPS & STP (Capacitor sizing calculation)
11	MACE:P968:8697	11.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	STP Comments On GA & SLD drawing of 415v PMC APFCR panel and activate DB for MPS

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
12	MACE:P968:8698	12.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Comments on lighting cal. Layout technology set interior & Exterior
13	MACE:P968:8699	12.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on civil GA and structural drawing electrical control room.
14	MACE:P968: 8702	14.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for Air blower QAP – R2
15	MACE:P968:8703	14.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on road design calculation.
16	MACE:P968:8704	14.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Comments on GA & SLD drawing of 415c PMCL, APFCR panel and activator DB for STP
17	MACE:P968:8721	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on detailed submitted for GST Claim
18	MACE:P968:8722	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for PLC input & output list & PLC control duct G.A & Writing drawing for MPS & STP
19	MACE:P968:8723	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for electrical design philosophy for STP & MPS
20	MACE:P968:8724	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for instrumentation design philosophy for STP & MPS
21	MACE:P968:8725	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on puddle pipe draw.
22	MACE:P968:8726	21.12.2018	GM, UPJN	NMCG, PM,	NA	Recommended for approval for System

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
				UPJN		configuration for STP & MPS
23	MACE:P968:8728	21.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for changing motor manufacturing of treated water pump from CGL to Siemens
24	MACE:P968:8729	22.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for key SLD for STP & MPS
25	MACE:P968:8730	22.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for data for analyzer
26	MACE:P968:8732	24.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on Civil G.A & RCC details of electrical control room R2
27	MACE:P968:8735	26.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on MPS pipe thickness calculation (Effluent disposal pipe)
28	MACE:P968:8736	26.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for dispensing the need for bus coupler in HT 11KV at STP
29	MACE:P968:8737	26.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for capacity size calculation MPS & STP
30	MACE:P968:8738	26.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on develop of STP & associated infra. at Varanasi
31	MACE:P968:8739	27.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Fault level detailed at 11KV feeding substation from electrical
32	MACE:P968:8740	27.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for lighting protection calculation for STP R3
33	MACE:P968:8741	27.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Approval for submission of GA, SLD & control schematic draw. of 11KV metal
34	MACE:P968:8747	28.12.2018	GM, UPJN	NMCG, PM,	NA	Request for showing location of waste

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
				UPJN		disposal at site to dispose off the STP
35	MACE:P968:8748	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Request for permission of road side cutting for laying of PSC pipe line
36	MACE:P968:8749	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Request for inspection for decanter mechanism and air blowers
37	MACE:P968:8750	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for flow instrument for MPS & STP – R1
38	MACE:P968:8751	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval of DS of instrumentation panel mounted digital indicator, temp scanner and totalizer
39	MACE:P968:8753	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Approval with comments for data sheets, QAP and GA Drawings
40	MACE:P968:8754	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval on Arch. Drawings of staff quarters
41	MACE:P968:8755	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval on vendor at Shyam steel limited
42	MACE:P968:8756	28.12.2018	GM, UPJN	NMCG, PM, UPJN	NA	Inform to delay of drawings / documents

ANNEX - 6
INWARD CORRESPONDENCE LIST OF
DECEMBER 2018

ANNEX 6 - INWARD CORRESPONDENCE LIST OF DECEMBER 2018

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
1.	EIL/VSPPL/2018-19/282	01-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Request for Vendor approval of M/s Shyam Steel Industries Ltd for Supply of Reinforcement steel our MPS, STP plant and associate infrastructure.
2.	EIL/VSPPL/2018-19/313	03-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Electrical Documents/Drawings for MPS & STP: Lighting Layout, GA & SLD Drawing of 415 V PMCC, MCC, APFC Panel & Actuator DB, Technical specification of Lighting Fixture / Fitting for Internal & External Lighting and Lighting Calculations, Rev. 0.
3.	EIL/VSPPL/2018-19/314	03-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Electrical Documents/Drawings for MPS & STP: Capacitor Sizing Calculation, Rev. 0.
4.	EIL/VSPPL/2018-19/315	03-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Instrumentation Documents - Flow Measuring Instruments for MPS & STP, Rev. 0.

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
5.	EIL/VSPPL/2018-19/316	03-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Comment Response Sheet for Air Blower.
6.	EIL/VSPPL/2018-19/317	04-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Mechanical GA drawing of Overhead Tank (OHT) along with Comment Response sheet, Rev. 2.
7.	EIL/VSPPL/2018-19/318	05-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	11	Submission of Civil GA Drawing of Electrical Control Room - MPS Area, Rev. 1.
8.	EIL/VSPPL/2018-19/319	05-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Appointment of Mr. I. Thiraviam – Business Head – STP & Desalination.
9.	EIL/VSPPL/2018-19/322	06-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of Puddle Pipe Drawing (Inlet Chamber, CCT, Treated Effluent Sump, SBR, Over Head Portable, OHT, BFP Feed Tank, Filtrate Sump, PE Dosing Tank and Decanter Connecting Piece in C Tech Basins - Rev. 0.
10.	EIL/VSPPL/2018-19/323	07-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Regarding status of Manufacturing Clearance issued to Vendors.
11.	EIL/VSPPL/2018-19/324	07-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of Instrumentation Data Sheet - Analyzers, Rev. 2,

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
							Vibration Instruments, Rev. 1 and Temp. Measuring Instrument for STP, Rev. 2.
12.	EIL/VSPPL/2018-19/325	10-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Architectural drawing of Air blower & MCC room
13.	EIL/VSPPL/2018-19/326	10-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of road design calculation.
14.	EIL/VSPPL/2018-19/327	10-12-2018	VSPPL/ UPJN	Amit B Ghorpade	Y	3	Submission of revised data sheet & GA drawing of Mechanical fine screen.
15.	EIL/VSPPL/2018-19/328	11-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of revised QAP of air blower & compliance sheet for comments by MACE.
16.	EIL/VSPPL/2018-19/329	11-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Submission of electrical IO list and PLC control desk GA & wiring diagram for MPS & STP.
17.	EIL/VSPPL/2018-19/330	12-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of approved data sheet & drawing of MPS pumps.
18.	EIL/VSPPL/2018-19/331	12-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of supporting document for GST claim & vendor list.
19.	EIL/VSPPL/2018-19/332	13-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Capacitor sizing calculations for MPS & STP.

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
20.	EIL/VSPPL/2018-19/333	13-12-2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Request for inspection of decanter Mechanism in China and air blower in USA
21.	EIL/VSPPL/2018-19/334	13-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Request for change in Motor manufacturer of Treated water pump for CGL to Siemens.
22.	EIL/VSPPL/2018-19/335	14-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	7	Submission of Architectural drawing of staff quarters Rev.3 & compliance sheet for MACE comments.
23.	EIL/VSPPL/2018-19/336	14-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	8	Submission of revised civil & RCC drawing of electrical control room of MPS are & typical details of lintel beam.
24.	EIL/VSPPL/2018-19/337	14-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of revised key SLD of MPS & STP Rev. 2
25.	EIL/VSPPL/2018-19/338	17-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of MS Pipe thickness calculation for effluent disposal line Rev. 1
26.	EIL/VSPPL/2018-19/339	17-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Submission of comment response sheet for rehabilitation of rising main.
27.	EIL/VSPPL/2018-19/340	18-12-2018	VSPPL / UPJN	Amit B Ghorpade	N	0	Regarding non-requirement of Bus coupler in the 11KV HT System.

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
28.	EIL/VSPPL/2018-19/341	19-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Request for permission of Road Side Cutting for Laying of PSC Pipe Line.
29.	EIL/VSPPL/2018-19/342	20-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of revised QAP of PLC Panel of SBR (Part of SBR PLC Document No. M 105 / 2017 / UPJN / ME / 505- A).
30.	EIL/VSPPL/2018-19/343	22-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Data Sheet of Instrumentation - Panel Mounted Digital Indicator, Temperature Scanner & Totalizer, Rev. 0
31.	EIL/VSPPL/2018-19/344	22-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Plant Piping Layout Plan, Rev. 0
32.	EIL/VSPPL/2018-19/345	22-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Offer for Inspection of Submersible Pumps - Kishore Pumps
33.	EIL/VSPPL/2018-19/346	23-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Regarding status of Manufacturing Clearance issued to Vendor.
34.	EIL/VSPPL/2018-19/347	27-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of MS Pipe thickness calculation 1000 mm Dia (rising main from MPS) Rev.2
35.	EIL/VSPPL/2018-19/348	27-12-	VSPPL /	Amit B	Y	3	Replacement of Revised Data

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
		2018	UPJN	Ghorpade			Sheet and GA Drawing of Mechanical Fine Screen, Rev. 2.
36.	EIL/VSPPL/2018-19/349	28-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Revised for Inspection Call for Decanter Mechanism in China.
37.	EIL/VSPPL/2018-19/350	31-12-2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Revised M.S. Pipe Thickness Calculation (Effluent Disposal Pipe), Rev. 2

ANNEX - 7

DELAY ANALYSIS & RECOVERY PLAN

ANNEX 7 – DELAY ANALYSIS & RECOVERY PLAN

Delay analysis and recovery plan:

The following activities are delayed as per the approved construction plan beyond 15 days from the targeted the completion date. The reason for the delay is analyzed in all aspects and the possible recovery plan also arrived to complete the pending activities within 30 days. It is to be noted that the recovery plan is provided only for the delayed activities and hence the concessionaire should plan and provide the additional manpower, Machinery and equipment in addition to the resources available at site for regular activities as per construction plan.

1. Summary of delay analysis

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
Design Detailed Engineering	11-Oct-17	30-Oct-18	Drawing submitted by the concessionaire after the due date, indicates the lack of planning. Approval from IIT is pending for some of the items.	However, concessionaire started the works
			Structural drawings of the following components are pending due to lack of planning. <ul style="list-style-type: none"> • Weir across assinalla • Raw water receiving chamber 	Concessionaire to plan the submission and approval on or before 15 th January 2019
			Mechanical GA drawings of Final outfall chamber drawings due to lack of planning	Concessionaire to expedite the same on or before 15 th January 2019

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
Associated infrastructure works	20-Mar-18	18-May-19	Delay in receipt for existing structure as built drawings. and delay in site investigation are the main reason	UPJN not provided existing structure as built drawings Concessionaire to submit the condition assessment report along with drawings on or before 15 th January 2019
			Concessionaire yet to finalise the vendor for CCTV inspection of existing rising main	Concessionaire to expedite to start the same by 15 th January 2019
			Work not yet started for carrying out the trenchless cutting method near Samneghat bridge	Concessionaire to expedite the delivery as per schedule
			Manufacturing delay of PSC pipes for treated effluent disposal line. Only 2885 m of pipe inspection completed.	Concessionaire to instruct the manufacturers to speed up the progress or else need to identify one more supplier and place the work order to expedite the delivery as per schedule
			Problem with local villagers to be sorted out by	UPJN to sort out the issue of local villagers.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			UPJN. Transportation of inspected pipe from manufacturer to site is delayed	Concessionaire to expedite the transportation of PSC pipes within 10 days from the date of inspection
			Hydro testing of pipes already laid is delayed unduly due to lack of planning, manpower, equipment.	Concessionaire to plan to complete the hydro testing within 30 days from the date of laying.
Equipment Procurement, Logistics and receipt of equipment at Site	24-May-18	5-Sep-19	Data sheet and GA drawings for the following items are pending due to lack of planning <ul style="list-style-type: none"> • PE dosing tanks • SCADA • MLDB, LDB & SLDBS • Push button stations / plant lighting / building lightings • lighting JB 	Concessionaire to expedite the Submission of the same by 15 th January 2019
Civil Executions				
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	Lack of sufficient equipment, manpower	
Inlet Chamber Manual & Mechanical Screen Chamber, Grit Chamber & Outlet	03-June-18	30-Jun-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning and lack of sufficient	Concessionaire started the excavation and PCC laying works. Full utilization of

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
Channel of Grit Chamber & Parshall Flume (I) & Distribution Chamber of SBR Basin			equipment, manpower Delay occurred for getting from approval from IIT	the available equipment shall increase the output and mitigate the delay occurred.
SBR Basins & SBR outlet Chamber	9-Apr-18	15-Jul-19	Lack of sufficient equipment, manpower	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
SBR air blower room, HT room, MCC room, Transformer Yard & DG set area	3-Jun-18	29-Aug-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT and lack of sufficient equipment, manpower	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Overhead treated water tank	1-Jun-18	1-Aug-19	Concessionaire recently submitted structural drawing i.e after the target date. This is mainly due to lack of planning or engineering team and lack of sufficient equipment, manpower	Concessionaire started the excavation work. Full utilization of the available equipment shall increase the output and mitigate the delay occurred.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
Administrative building including lab and workshop	3-Feb-18	11-Jul-19	<p>Drawing submitted by the concessionaire after the due date indicates the lack of planning.</p> <p>Delay occurred for getting from approval from IIT and lack of sufficient equipment, manpower</p>	<p>Concessionaire started the excavation, PCC & RCC laying works.</p> <p>Full utilization of the available equipment shall increase the output and mitigate the delay occurred.</p>

2. Recovery plan - Additional equipment, manpower and material required to meet the target within 30 days

S. No.	Description	Status	Remarks
1	Bund wall / earthen embankment	Work is in progress	
2	Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	Work is in progress	
3	SBR basins & SBR outlet Chamber	Work is in progress	
4	Chlorination building & Chlorine contact tank & Treated water collection tank, treated water pumps	Work is in progress	
5	Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank	Work is in progress	
6	Administrative Building	Work is in progress	
7	Overhead tank for effluent disposal	Work is in progress	
8	SBR air blower room, HT room, MCC room, Transformer yard & DG set area	Work is in progress	
9	MPS, inlet structure, weir, control room and rising main	Drawings partially submitted	
10	Staff quarters	Work is in progress	

2.1. Inlet structure, SBR, CCT, Administrative building, Blower room, HT, MCC, Transformer Yard & DG set area, OHT and Staff quarters

S. No.	Description	Estimate		As per construction plan up to 31 st December 2018		Actual work done up to 31 st December 2018		Shortfall as on 31 st December 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	PCC & RCC	11311	Cum	9251	Cum	8527	Cum	724	Cum

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay

Sl. No.	Description	Quantity	Unit	Capacity	Unit
1	JCB – Excavator	1	No		
2	Transit mixer	2	Nos	7	Cum
3	Tipper	2	Nos	5.5	Cum
4	Tractor	2	Nos	2.8	Cum
5	Batching Plant	1	No	20	Cum/Hr
6	Concrete Pump	3	No	40	Cum/Hr
7	Water tanker	1	No	5000	Litre
8	DG	2	Nos	62 & 125	KVA
9	Bar bending Machine	1	No		
10	Bar cutting Machine	1	No		
11	Welding Machine	6	Nos		
12	Curing Pump	2	Nos		
13	Vibrator	6	Nos		
14	Dewatering pump	3	Nos		
15	Labour (Skilled & Un skilled)	218	Nos		

2.2. Bund Wall / Earthen Embankment

S. No.	Description	Estimate		As per construction plan up to 31 st December 2018		Actual work done up to 31 st December 2018		Shortfall as on 31 st December 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Earth filling & Compaction of Bund Wall	81411	Cum	81411	Cum	59204	Cum	22207	Cum

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay.

S. No.	Description	Quantity	Unit	Capacity	Unit
1	JCB - Excavator	2	Nos		
2	Tipper	44	No	3.5	Cum
3	Tractor	20	Nos	2.8	Cum
4	Water tanker	2	Nos	5000	Litters
5	Grader	1	No	17	Tonne
6	Roller	1	No	11	Tonne
7	Labour (Skilled & Un skilled)	20	Nos		

2.3. Treated Effluent disposal line

S. No.	Description	Estimate		As per construction plan up to on 31 st December 2018		Actual work done up to on 31 st December 2018		Shortfall as on on 31 st December 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Procurement of PSC Pipe	4800	Mtr	4800	Mtr	2660	Mtr	2140	Mtr

S. No.	Description	Estimate		As per construction plan up to on 31 st December 2018		Actual work done up to on 31 st December 2018		Shortfall as on on 31 st December 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
2	PSC pipe laying	4800	Mtr	2880	Mtr	2237	Mtr	643	Mtr

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay.

S. No.	Description	Quantity	Unit	Capacity	Unit
1	JCB	1	No		
2	Hydra	1	No		
3	Poclain	1	No		
4	Water tanker	1	No		
5	Labour (Skilled & Un skilled)	17	Nos		

1. Item wise Detailed analysis

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
Design Detailed Engineering	11-Oct-17	30-Oct-18	100%	97%		
Plant Layout / Site layout	11-May-18	23-May-18	100%	90%		
Weir Across Assi Nalla	05-Mar-18	14-Mar-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the on or before 5 th December 2018
Raw water receiving chamber	01-Jul-18	18-Jul-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the structural drawing on or before 15 th January 2019
Electrical control room	01-Jul-18	18-Jul-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Structural Drawings Submissions & Approvals	02-Feb-18	30-Sep-18	100%	94.40%		
Weir Across Assi Nalla	05-Mar-18	14-Mar-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the drawing on or before 15 th January 2019

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the drawing on or before 15 th January 2019
Electrical control room	06-Sep-18	15-Sep-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Design, Drawings & Documentation for Mechanical GAD	13-Feb-18	15-Sep-18	100%	75.60%		
Final outfall chamber	01-Jul-18	18-Jul-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawing on or before 15 th January 2019
Overall Piping Drawings	30-May-18	05-Sep-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Design, Drawings and Documentation for Electrical & Instrumentation	10-Mar-18	08-Oct-18	100.00%	71%		

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
works						
PCC MCC panels	10-Mar-18	18-Jul-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Plant Lighting Layout Plan	25-Sep-18	05-Oct-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Gauges	25-Sep-18	05-Oct-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Instrumentation Document submissions & Approvals	01-Jun-18	30-Oct-18	100%	45%		
PLC - I/O List, Loop Wiring Diagram, Design of scada	05-Oct-18	30-Oct-18	100%	40%	Concessionaire yet to submit the revised drawing after incorporating the observations	Concessionaire to submit the drawing on or before 15 th January 2019
Cause & Effect Diagram	01-Jun-18	18-Jul-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of	Concessionaire to submit the drawing on or before 15 th January 2019

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
					engineering team strength	
Associated infrastructure works	20-Mar-18	18-May-19	72.04%	41.22%		
MPS Pumping Station	15-May-18	10-Apr-19	53.73%	33.50%		
Construction Of weir across assi nalla & control room	13-Oct-18	30-Jan-19	72%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawing on or before 25 th January 2019.
Desilting of the MPS	15-May-18	28-Aug-18	100%	75%	Desilting is held up due to non-start of CCTV inspection and non-finalization of drawings	Concessionaire to submit the drawing on or before 25 th January 2019
Rising Main	15-Jun-18	25-Mar-19	54.56%	7%		
Desilting & CCTV inspection	15-Jun-18	18-Jul-18	100%		Concessionaire yet to finalize the vendor and carry out the investigation	Concessionaire to submit the drawing on or before 25 th January 2019
Strengthening and Pipe protection of Rising main Extension of existing Rising	10-Oct-18	30-Jan-19	73%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
main to the Inlet point at the STP site						
Shifting & laying of pipe near samne ghat	13-Jul-18	15-Jan-19	93%	20%		
Treated Effluent disposal line	20-Mar-18	18-May-19	65.12%	44.74%		
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	100%	55%	Only 2885 m of pipe inspection completed. Delay in procurement of pipes by the concessionaire.	Concessionaire to instruct the manufacturers to speed up the progress or else need to identify one more supplier and place the work order to expedite the delivery as per schedule
Pipe laying - 20% including excavation and backfilling (3 rd 20%)	06-Nov-18	18-Dec-18	100%	33%		
Hydrotesting & finishing works	14-Jun-18	18-May-19	59%	5%	Hydro testing of pipes already laid is delayed unduly due to lack of planning,	Concessionaire to ensure the hydrotesting of already laid pipes on

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
					manpower, equipment.	or before 15 th January 2019. Concessionaire to plan to complete the hydrotesting within 20 days from the date of laying.
Equipment Procurement, Logistics and receipt of equipment at Site			28 %	10 %		
Fine Screen/Coarse Screen/Belt Conveyors	24-May-18	18-Dec-18	100.0%	30.40%		
Manufacturing of Equipment	17-Sep-18	10-Dec-18	100%			
Inspection / Logistics	08-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	11-Dec-18	18-Dec-18	100%			
Horizontal centrifugal pumps (Treated water pumps)	31-May-18	18-Dec-18	100%	2.2%		
Manufacturing of	10-Sep-18	15-Dec-18	100%		Manufacturing	Concessionaire to

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
Equipment					clearance is delayed due to delay in approval of data sheet	expedite the manufacturing process within the scheduled time
Inspection / Logistics	01-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	16-Dec-18	18-Dec-18	100%			
Sluice Gates	05-Mar-18	18-Dec-18	100%	2%		
Manufacturing of Equipment	25-Sep-18	12-Dec-18	100%		Manufacturing clearance is delayed due to delay in approval of data sheet	Concessionaire to expedite the manufacturing process within the scheduled time
Inspection / Logistics	01-Dec-18	10-Dec-18	100%			
Receipt of equipment at site	13-Dec-18	18-Dec-18	100%			
PE Dosing Tanks	15-Oct-18	13-Jul-19	3%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18	100%			
Manufacturing of Equipment	29-Dec-18	30-Jun-19	1%			
Agitators	01-May-18	23-Jul-19	23%			
Submission &	01-May-18	18-Jul-18	100%		Concessionaire yet to	Concessionaire to

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
Approval of Drawings / Documents & data sheets including release of purchase order					submit the same and delay is due to lack of planning.	expedite the Submission of the same by 5th December 2018
Manufacturing of Equipment	01-Sep-18	08-Jun-19	43%		Manufacturing clearance is delayed due to delay in approval of data sheet	
SCADA System	07-Sep-18	16-Aug-19	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
MLDB, LDB & SLDBS	07-Sep-18	16-Aug-19	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Push Button	07-Sep-18	16-Aug-19	2%			

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
Stations/Plant lighting / Buildings lighting						
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	07-Sep-18	09-Nov-18	100%			
Civil Executions	6-Apr-18	15- Aug-19	67%	62%		
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	87.50%	70.60%		
Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height	09-Jul-18	25-Oct-18	100%	72%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	01-Oct-18	29-Nov-18	100%	65%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Filling & Compaction of Bund Wall from	07-Nov-18	18-Dec-18	100%	42%	Lack of planning and efficient utilisation of available manpower	Full utilization of the available equipment shall increase the

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
3.0 to 4.5 Mtr Height					and equipment	output and mitigate the delay occurred.
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR	03-Jun-18	30-Jun-19	67.80%	54.40%	Lack of planning and efficient utilisation of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Inlet Chamber Slab with Column, Wall	20-Sep-18	15-Dec-18	100%	34%		
Grit Chamber Slab with Column	01-Dec-18	28-Feb-19	34%			
SBR Basins & SBR outlet Chamber	09-Apr-18	15-Jul-19	71.20%	70.30%	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Wall 1st Lift	05-Jun-18	30-Aug-18	100%	75%		
Wall 2nd Lift	07-Jun-18	05-Sep-18	100%	66%		
Wall 3 rd Lift	24-Sep-18	15-Jan-19	87%	58%		
Overhead Treated Water Tank	01-Jun-18	01-Aug-19	60%	32.10%	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 31 st December 2018	Total completion in % as on 31 st December 2018	Delay analysis	Recovery / Mitigation plan
50% RCC of Structure	09-Oct-18	18-Dec-18	100%	7%		
Administrative Building including lab and workshop	08-Jun-18	11-Jul-19	60%	58.20%	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
50% RCC of Structure	16-Oct-18	18-Dec-18	100%	94%		
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	03-Jun-18	29-Aug-19	70%	42.30%	Lack of planning and efficient utilization of available manpower and equipment	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
RCC up to lintel	15-Oct-18	15-Nov-18	100%	23%		
RCC Roof slab	16-Nov-18	18-Dec-18	100%			

ANNEX - 8

ESHS TARGET & ACHIEVEMENT

1. ESHS target and achievement

Health & Safety Targets and Goals

Sl. No.	Goals	Till previous month	During the month of December 2018
1	Zero total recordable injuries	Achieved	Achieved
2	All personnel Health and Safety inducted	Inducted	Inducted
3	100% incident reporting and investigation	No incident occurred	No incident occurred
4	100% adherence of usage of appropriate PPE's at work	Ensured	Ensured
5	Executing construction work with least disturbance to the environment, adjoining road users and traffic	Achieved	Achieved

HSE Training and competence adherence

Sl. No.	Description	Till previous month	During the month of December 2018
1	Issue of a photo identity card duly signed by the authorized representative of the company / subcontractor before they are engaged for any work	Issued	In progress
2	HSE induction training at the first day of their joining explaining the nature of the work for all the personnel working at site on the following topics <ul style="list-style-type: none"> • Hazard identification procedure - Hazards on site <ul style="list-style-type: none"> • Falls • Slip trip • Electricity • Working at height • Excavation • Drop objects • Machinery • Material handling (Manual and mechanical) • Transportation 	Inducted	Inducted

Sl. No.	Description	Till previous month	During the month of December 2018
	<ul style="list-style-type: none"> • Site housekeeping • Fire • Personnel protective equipment <ul style="list-style-type: none"> • What is available • How to obtain it? • Correct use and care • Health <ul style="list-style-type: none"> • Site welfare facilities • Potential health hazards • First Aid / CPR • Duties of contractor <ul style="list-style-type: none"> • Brief outline of the responsibilities of the contractor by law • Details of accident prevention policy • Building and other constructions welfare law • Employer's duties <ul style="list-style-type: none"> • Brief outline of responsibilities of employee • Site safety rules 		
3	Tool box meetings Key issues discussed at Daily Tool Box meetings includes <ul style="list-style-type: none"> • The job to be done • Awareness of hazards, risks & control measures associated with specific activity, review safe work practices • Active involvement of crew and open discussion on any concerns and commitment to work safely 	Conducted	Conducted
4	Behavior modification and disciplinary action	None	None
5	Post-accident or near miss meeting	No accident occurred	No accident occurred

HSE Inspections and submission of reports

Sl. No.	Description	Till previous month	During the month of November 2018
1	Planned General inspection	Conducted	Conducted
2	Routine inspection		
2.1	Daily inspection of plant and equipment by operator	Conducted	Conducted
2.2	Weekly inspection of scaffold by scaffolding supervisor	NA	Conducted
2.3	Monthly inspection of electrical hand tools by competent electrical supervisor	Conducted	Conducted
2.4	Quarterly inspection of temporary electrical systems by competent electrical supervisor	Conducted	Conducted
2.5	Yearly inspection of lifting machinery, lifting appliances, equipment and gears by Government approved competent person	NA	NA
2.6	Half yearly inspection of pressure vessels by Govt approved competent person	NA	NA
3	Specific inspection		
	Inspection performed before a heavy lifting operation	Conducted on regular basis before starting the jobs	Conducted on regular basis before starting the jobs
	Inspection performed before and after the entry of person into a confined space	01 No. Conducted on 27 th May 2018 (MPS desilting)	Work stopped
	Inspection performed before and after welding and gas cutting operation	NA	NA
	Inspection of formwork before concreting by formwork erector	Conducted	Conducted
4	Other inspection		
	Inspections by labour department of government	Nil	Nil
	Client site HSE management team	Nil	Nil
5	Monthly HSE Report submission covering <ul style="list-style-type: none"> • Monthly minor accident, serious incident details • Average manpower details, man-hours works 	Submitted	Submitted

Sl. No.	Description	Till previous month	During the month of November 2018
	<ul style="list-style-type: none"> Lost time (no of working days) Number of training / tool box talk Number of people trained HSE committee minutes of meeting HSE inspection, etc 		
6	HSE Bulletin board indicating <ul style="list-style-type: none"> Safety promotions / awards Safety meeting dates and times Emergency phone numbers QHSE policies Safety alerts 	Available	Available except safety award
7	Risk assessment prior to start of any new work – Report	Conducted by HSE manager	Conducted by HSE manager
8	Availability of method statement for operational control of significant occupational health & safety risk levels	Available at site office	Available at site office except method statement
9	Statement of confirming the medical examination of all employees and workmen	Conducted	Conducted
10	Availability of first aid box with each crew (mention the number of first aid box availability)	Available	Available
11	Statement of confirming the welfare measures for workers		
	One latrine for every 20 workers upto 100 workers and thereafter one for every additional 50 workers	03 number of latrines provided	03 number of latrines provided
	In addition one urinal accommodation provided for every 100 workers	03 number of urinals provided	03 number of urinals provided
	Separate latrine and urinals accommodation similar to above for ladies	NA	01 number of urinals Provided
	Drinking water facility within a distance of 200 m from the place of work for all workers	Provided at 04 locations	Provided at 04 locations

Sl. No.	Description	Till previous month	During the month of November 2018
	Provision of labour accommodation	Provided for 120 labours	Provided for 120 labours
	Provision of creche (if female workers are more than 50)	NA	NA
	Measures to prevent mosquito breeding	Taken	Taken
	Permit to work system (if applicable)	Provided	Provided
12	PPE adherence		
	Head protection for VSPPL employees, All sub-contractors, Electricians, Safety professionals, All workmen and Visitors Safety helmet color code (every helmet having the logo)	Provided	Provided
	Hearing protection	Provided	Provided
	Eye protection	Provided	Provided
	Foot protection	Provided	Provided
	Fall arresting system	Provided	Provided
	Hand protection	Provided	Provided
	Respiratory protection	Provided	Provided
	Other PPE – 10% spares availability	Provided	Provided
13	Qualification of operator of lifting appliances and of signaler etc Above 21 years of age and possesses a valid heavy transport driving license as per motor vehicle act and rules Competent and reliable Possesses the knowledge of inherent risks involved in the operation of lifting appliances Periodical medical examination conducted	Adhered	Adhered
14	Sufficient lighting especially during night work	Provided	Provided
15	Fire prevention and fighting system availability	Available	Available
16	Adherence of environment management system – Air quality, Water quality, Wastewater handling, waste handling, hazardous waste handling and energy management	Adhered as per the applicable law	Adhered as per the applicable law

HSE communication and awareness campaign conducted

Sl. No.	Description	Status	Planned
1	4 th March 2018 – National safety day	Conducted	
2	7 th April 2018 – World health day		
3	14 th April 2018 – First safety day		
4	5 th June 2018 – World environmental day	Conducted	
5	15 th August 2018 – Independence Day celebration and Planting of saplings	Conducted	