

**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**

September - 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**.

Intercept raw sewage flowing into the river Ganga and divert the raw sewage to the Varanasi STP;

Treatment of the raw sewage at the Varanasi STP;

Implement viable technologies and international best practices for development, operation and maintenance of the Varanasi STP and other facilities and

Demonstrate large scale private sector participation and mobilisation of private sector investment to further the national aim of rejuvenation of the river Ganga.

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-DL 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

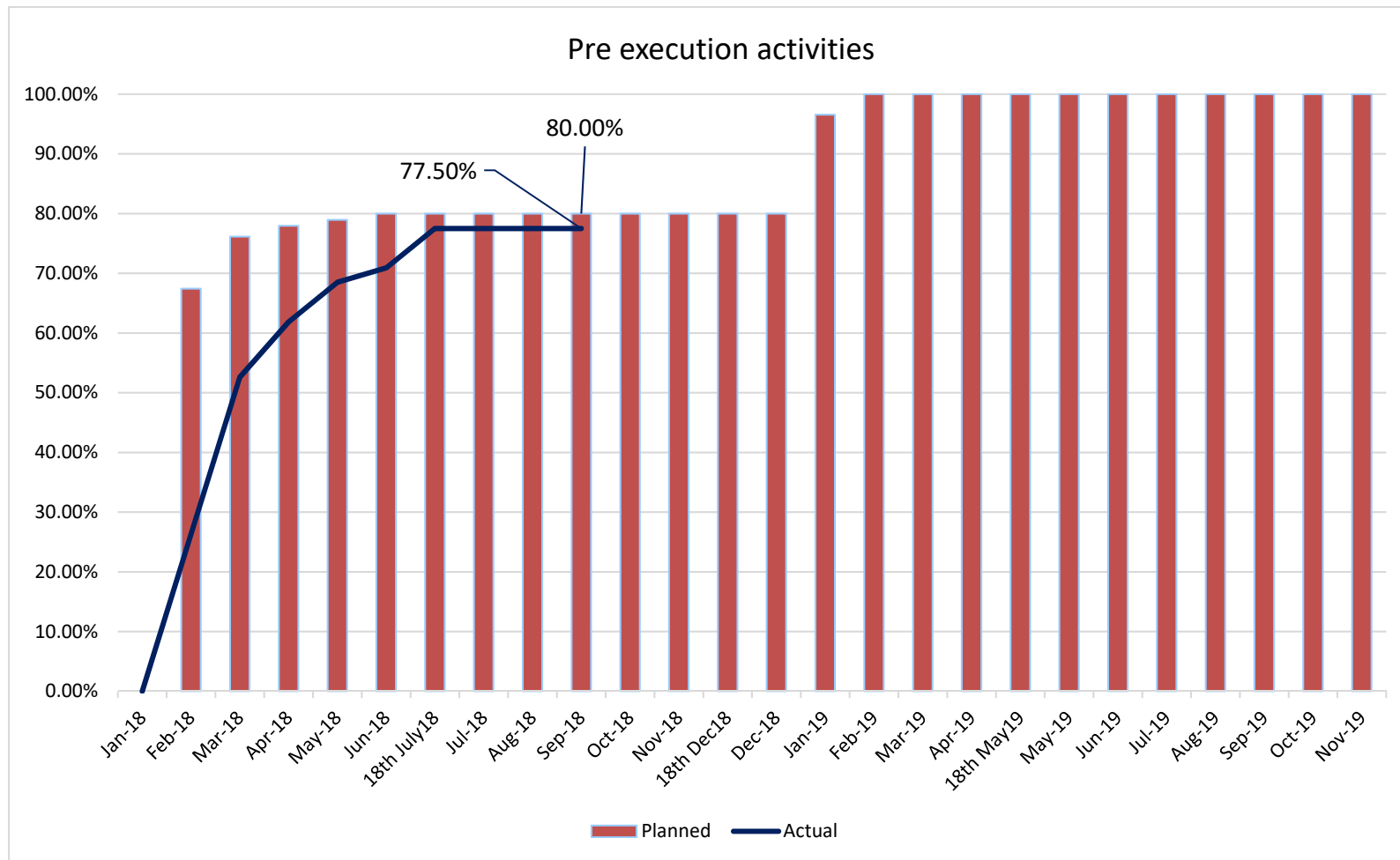
2.1. Physical status

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%	77.50%		77.50%
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%	50%		50%

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	98%	67%	8%	75%
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%	76.2%	8.3%	84.5%
Plant layout / site layout	11-May-18	23-May-18	100%	80%	5%	85%
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	80%	5%	85%
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%	70%	30%	100%
SBR basins & SBR outlet chamber	05-Mar-18	29-Mar-18	100%	100%		100%

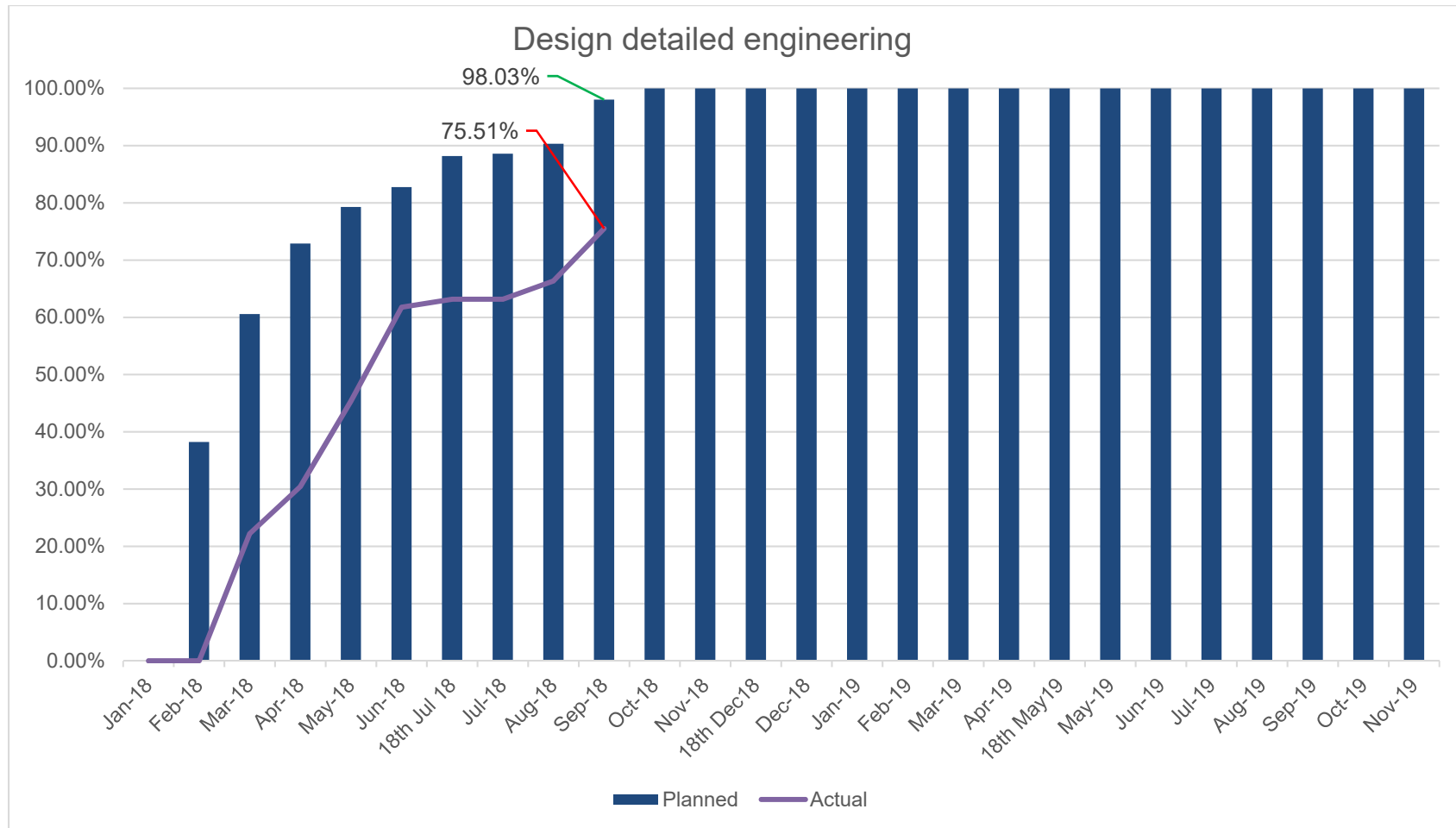
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Chlorine contact tank & treated water collection tank	25-Mar-18	25-Apr-18	100%	100%		100%
Treated water overhead tank	04-Apr-18	28-May-18	100%	50%	10%	60%
Sludge treatment building / BFP	10-Sep-18	25-Sep-18	100%		60%	60%
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%		60%	60%
Final outfall chamber	01-Jul-18	18-Jul-18	100%		40%	40%
Raw water receiving chamber	01-Jul-18	18-Jul-18	100%	50%	10%	60%
Electrical control room	01-Jul-18	18-Jul-18	100%			
Structural drawings submissions & approvals	02-Feb-18	30-Sep-18	100.00%	64.90%	7.10%	72%
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	80%		80%
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%	70%	30%	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%
Treated water overhead tank	04-Apr-18	28-May-18	100%		40%	40%
Sludge treatment building / BFP	10-Sep-18	30-Sep-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 %
Weir across Assi Nalla	05-Mar-18	14-Mar-18	100%			
Final outfall chamber	01-Jul-18	18-Jul-18	100%			
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%			
Electrical control room	06-Sep-18	15-Sep-18	100%			
Design, drawings and documentation for mechanical GAD	13-Feb-18	15-Sep-18	92.63%	48.60%	17.90%	66.50%
Inlet chamber with fine screens, grit removal and Parshall flume	23-Feb-18	19-Mar-18	100%	80%	20%	100%
SBR basins & SBR outlet Chamber	13-Feb-18	04-Mar-18	100%	80%	20%	100%
Chlorine contact tank & treated water collection tank	05-Mar-18	24-Mar-18	100%	80%	20%	100%
Treated water overhead tank	15-Mar-18	03-Apr-18	100%		30%	30%
Sludge treatment building / BFP	28-Jul-18	16-Aug-18	100%		50%	50%
Air blower & MCC room	05-Sep-18	15-Sep-18	100%	80%	20%	100%
Weir across Assi nalla	13-Feb-18	04-Mar-18	100%	30%		30%
Final outfall chamber	01-Jul-18	18-Jul-18	100%			
Overall piping drawings	30-May-18	05-Sep-18	94%			
Design, drawings and documentation for electrical & instrumentation works	10-Mar-18	08-Oct-18	90%	29%	14%	43%
Transformer	10-Mar-18	08-Apr-18	100%	80%		80%
DG set	10-Mar-18	08-Apr-18	100%	40%	40%	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 %
Electrical load list	10-Mar-18	08-Apr-18	100%	75%	5%	80%
PCC MCC panels	10-Mar-18	18-Jul-18	100%			
Cables / earthing/ lightning - layout plan, sizing, schedule	15-Sep-18	05-Oct-18	75%		50%	50%
Cable trays	01-May-18	18-Jul-18	100%			
Flow meters	15-Sep-18	05-Oct-18	75%			
Analysers	15-Sep-18	05-Oct-18	75%			
SLD	19-Mar-18	18-Jun-18	100%		80%	80%
Design calculation	10-Mar-18	18-Jul-18	100%		30%	30%
Electrical & instrumentation control philosophy	25-Sep-18	08-Oct-18	38%			
Plant lighting layout plan	25-Sep-18	05-Oct-18	50%			
Gauges	25-Sep-18	05-Oct-18	50%			
Instrumentation document submissions & approvals	01-Jun-18	30-Oct-18	75.0%		12.5%	12.5%
Instrument index / alarm list	01-Jun-18	18-Jul-18	100%		50%	50%
Instrument hook - up diagram	01-Jun-18	18-Jul-18	100%			
PLC - I/O list, loop wiring diagram, design of SCADA	05-Oct-18	30-Oct-18				
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			6%	1%	3%	4%
Fine Screen / Coarse Screen / Belt Conveyors	24-May-18	18-Dec-18	9.6%	1.1%	12.1%	13.2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	50%	50%	100%
Manufacturing of Equipment	17-Sep-18	10-Dec-18	15%		23%	23%
Inspection / Logistics	08-Dec-18	10-Dec-18				
Receipt of equipment at site	11-Dec-18	18-Dec-18				
Grit Removal Mechanism	24-May-18	10-Mar-19	10.8%	1.1%	3.0%	4.1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	24-May-18	18-Jul-18	100%	50%	50%	100%
Manufacturing of Equipment	01-Sep-18	10-Feb-19	18%		4%	4%
Inspection / Logistics	12-Feb-19	27-Feb-19				
Receipt of equipment at site	28-Feb-19	10-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 %
SBR System (Decanters)	19-May-18	16-May-19	8.8%	1.8%	6.2%	8.0%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	19-May-18	18-Jul-18	100%	80%	20%	100%
Manufacturing of Equipment	01-Sep-18	31-Mar-19	14%		12%	12%
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	15.0%	0.9%	14.2%	15.1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	18-Jul-18	100%	40%	60%	100%
Manufacturing of Equipment	03-Sep-18	13-Dec-18	27%		27%	27%
Inspection / Logistics	01-Dec-18	10-Dec-18				
Receipt of equipment at site	14-Dec-18	18-Dec-18				
Horizontal centrifugal pumps (Treated water pumps)	31-May-18	18-Dec-18	12.2%	1.1%	0.7%	1.8%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	25-Jul-18	100%	50%	30%	80%
Manufacturing of Equipment	10-Sep-18	15-Dec-18	21%			

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-Dec-18	10-Dec-18				
Receipt of equipment at site	16-Dec-18	18-Dec-18				
Air Blowers	01-May-18	18-May-19	8.8%	1.1%	6.8%	8.0%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%	50%	50%	100%
Manufacturing of Equipment	01-Sep-18	30-Mar-19	14%		12%	12%
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	2.2%	1.1%	5.4%	6.5%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Sep-18	29-Sep-18	100%	50%	50%	100%
Manufacturing of Equipment	01-Oct-18	30-Mar-19			9%	9%
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	5%	1%	0%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	05-Mar-18	18-Jul-18	100%	30%	20%	50%

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	25-Sep-18	12-Dec-18	6%			
Inspection / Logistics	01-Dec-18	10-Dec-18				
Receipt of equipment at site	13-Dec-18	18-Dec-18				
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 including release of purchase order	01-Jan-19	17-Jan-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				
Motorized Gates at Inlet of SBR	01-May-18	18-May-19	2%	1%	1%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	30-Aug-18	100%	25%	25%	50%

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	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	11%	1%	7%	8%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	12-May-18	14-Jul-18	100%	40%	60%	100%
Manufacturing of Equipment	01-Sep-18	15-Feb-19	17%		12%	12%
Inspection / Logistics	16-Feb-19	02-Apr-19				
Receipt of equipment at site	03-Apr-19	23-Apr-19				
Volute press	15-Oct-18	13-Jul-19		1%	1%	2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18		40%	40%	80%
Manufacturing of Equipment	29-Dec-18	30-Jun-19				
Inspection / Logistics	30-May-19	28-Jun-19				
Receipt of equipment at site	01-Jul-19	13-Jul-19				
Air Compressors	01-May-18	18-Aug-19	1%		2%	2%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	04-Jul-19	35%		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 %
Manufacturing of Equipment	05-Jul-19	14-Aug-19				
Inspection / Logistics	15-Aug-19	16-Aug-19				
Receipt of equipment at site	17-Aug-19	18-Aug-19				
PE Dosing Tanks	15-Oct-18	13-Jul-19				
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	15-Oct-18	29-Nov-18				
Manufacturing of Equipment	29-Dec-18	30-Jun-19				
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	7%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	01-May-18	18-Jul-18	100%			
Manufacturing of Equipment	01-Sep-18	08-Jun-19	10%			
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	2.2%	0.7%		0.7%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	02-Jul-18	18-Jul-18	100%	30%		30%

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	19-Dec-18	15-Jun-19				
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	0.1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	29-Sep-18	09-Nov-18	2%			
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				
MCC panel	23-Jun-18	16-Aug-19	2%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	23-Jun-18	27-Jul-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				
HT Panel	07-Sep-18	16-Aug-19	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			

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				
PLC Panel	07-Sep-18	16-Aug-19	1%		1%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%		30%	30%
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	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			
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	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			

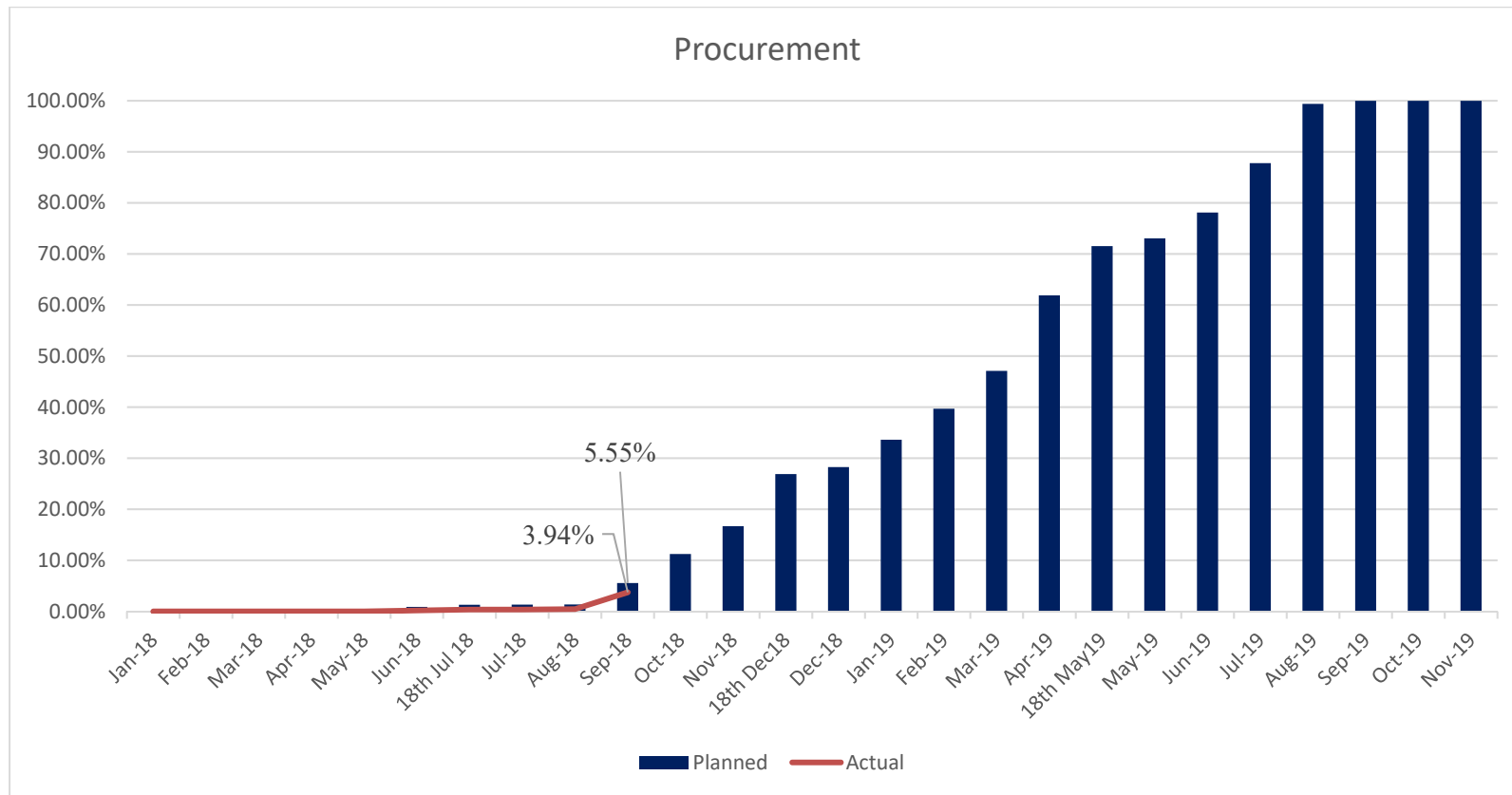
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
Manufacturing of Equipment	01-Jan-19	30-Jun-19				
Inspection / Logistics	01-Jul-19	31-Jul-19				
Receipt of equipment at site	01-Aug-19	16-Aug-19				
Push Button Stations/Plant lighting / Buildings lighting	07-Sep-18	16-Aug-19	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			
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	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			
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	1%			
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%			

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				
DG Set	07-Sep-18	16-Aug-19	1%	1%	0%	1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%	30%	20%	50%
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	1%	1%		1%
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	07-Sep-18	09-Nov-18	37%	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				
Instruments (Flow meter / Analyser)	20-Nov-18	16-Aug-19				
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18				

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	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				
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	20-Nov-18	15-Dec-18				
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	6-Apr-18	15-Aug-19	52.53%	29%	6%	36%
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	55.8%	51%		51%
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	77%	43%		43%
Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height	1-Oct-18	29-Nov-18				
Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height	7-Nov-18	18-Dec-18				
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	51.6%	17.0%	8.4%	25.4%
Excavation	3-Jun-18	12-Jun-18	100%	85%	10%	95%

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 %
PCC & RCC of Footing	13-Jun-18	18-Jul-18	100%		22%	22%
Inlet Chamber Slab with Column, Wall	20-Sep-18	15-Dec-18	12%			
Grit Chamber Slab with Column	1-Dec-18	28-Feb-19				
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	62%	31.5%	9.6%	41.1%
Excavation	9-Apr-18	7-Jun-18	100%	99%	1%	100%
PCC & Raft RCC at 72.00 level	10-Apr-18	29-Jul-18	100%	65%	20%	85%
Wall 1st Lift	5-Jun-18	30-Aug-18	100%	17%	14%	31%
Wall 2nd Lift	7-Jun-18	5-Sep-18	100%	15%		15%
Wall 3rd Lift	24-Sep-18	15-Jan-19	5%		14%	14%
Wall Final Lift	7-Feb-19	6-Apr-19			5%	5%
Walkways and Channels	6-Apr-19	11-May-19				
Hydrotesting	20-May-19	15-Jul-19				
Construction of CCT including Chlorination room & Treated water pump House	26-Apr-18	24-Aug-19	52.8%	22.2%	2.6%	24.8%
Excavation	26-Apr-18	4-Jul-18	100%	100%		100%
PCC & Raft RCC	15-May-18	25-Jul-18	100%	56%%		56%

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	91%		14%	14%
50% RCC of Structure	20-Jan-19	18-May-19				
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	30.0%		10%	10%
Excavation	1-Jun-18	5-Jun-18	100%		100%	100%
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%			
50% RCC of Structure	9-Oct-18	18-Dec-18				
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				
Excavation	15-Oct-18	30-Oct-18				

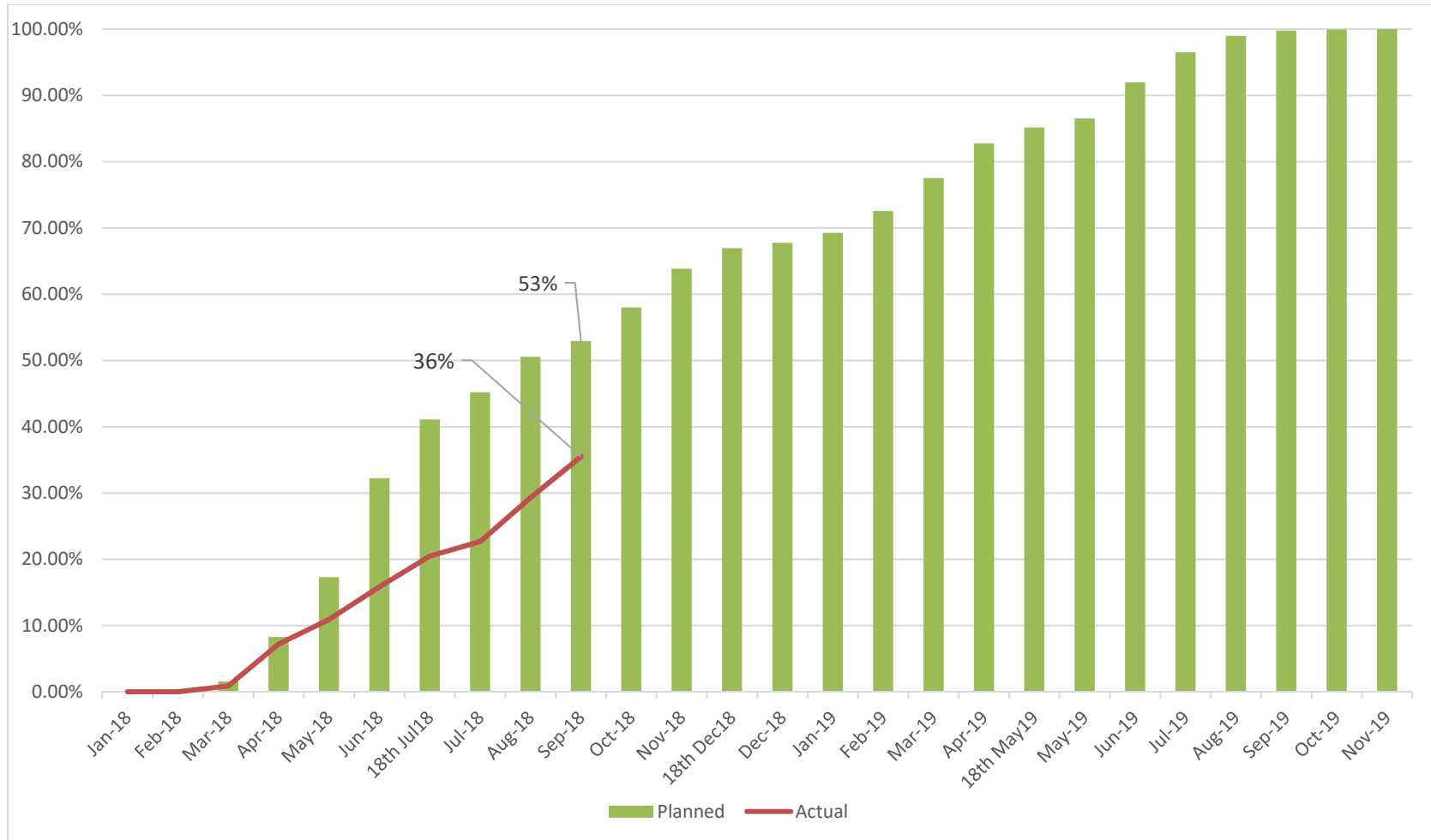
Item of work	As per schedule		Physical status			
	Proposed Date	Completed Date	Scheduled completion in %	Previous month completion in %	Completion during this month in %	Total completion in %
PCC & Raft RCC	1-Nov-18	18-Dec-18				
50% RCC of Structure	18-Jan-19	18-Mar-19				
50% RCC of Structure	19-Mar-19	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	46.8%	26.2%	3.8%	30.0%
Excavation	8-Jun-18	17-Jun-18	100%	100%		100%
PCC & Raft RCC	18-Jun-18	18-Jul-18	100%	81%	19%	100%
50% RCC of Structure	16-Oct-18	18-Dec-18				
50% RCC of Structure	3-Feb-18	7-Apr-19	56%			
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%			
Excavation	8-Jun-18	17-Jun-18	100%			
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%			
50% RCC of Structure	20-May-19	9-Jul-19				
50% RCC of Structure	9-Jul-19	28-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 %
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	35.8%	6.0%	12.8%	18.8%
Excavation	3-Jun-18	2-Jul-18	100%	60%	40%	100%
PCC & RCC of Footing	3-Jul-18	18-Jul-18	100%		44%	44%
RCC up to Plinth	15-Sep-18	11-Oct-18	58%			
RCC up to Lintel Beams	15-Oct-18	15-Nov-18				
RCC Roof Slab	16-Nov-18	18-Dec-18				
Brick Work	1-Jan-19	21-Mar-19				
Plastering	22-Mar-19	15-May-19				
Painting & Finishing	15-Jun-19	29-Aug-19				
Mechanical Installation	1-Aug-19	30-Aug-19				
Erection of Mechanical Equipment	1-Aug-19	30-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 %
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 - Physical progress graph

Construction activities – Physical progress



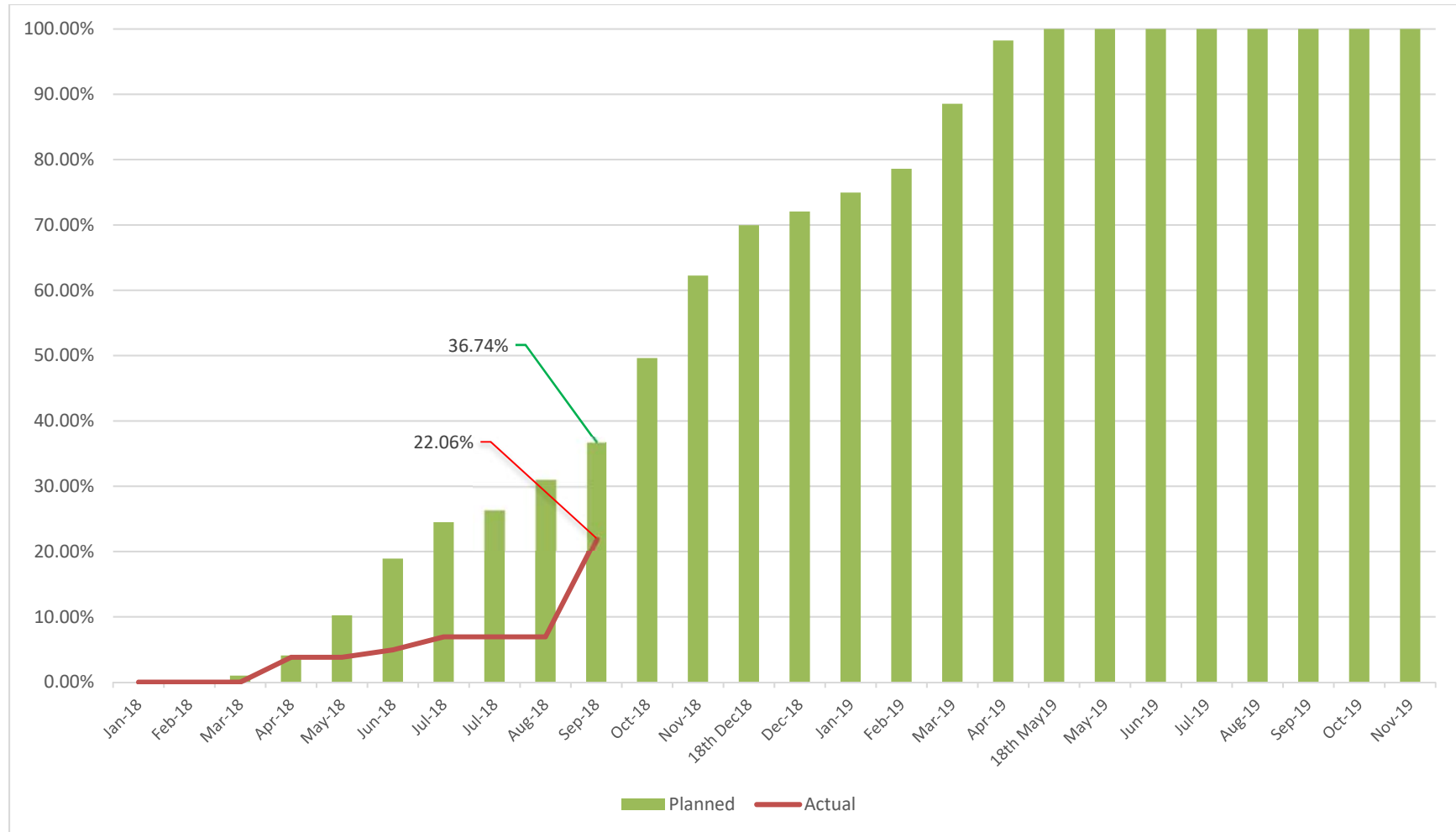
2.1.9. Associated works

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	36.74%	6.95%	15.11%	22.06%
MPS Pumping Station	15-May-18	30-Apr-19	29.71%	7.30%	23.20%	30.50%
Rehabilitation of MPS	15-May-18	30-Apr-19	39%		46%	46%
Construction of Weir across Assi Nalla & Control room	13-Oct-18	30-Jan-19				
Desilting of the MPS	15-May-18	28-Aug-18	100%	73%	2%	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	24.87%		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				
Shifting & laying of Pipe near Samne Ghat bridge	13-Jul-18	15-Jan-19	42%		20%	20%
Hydrotesting of the PSC	15-Feb-19	25-Mar-19				
Treated Effluent disposal line	20-Mar-18	18-May-19	39.22%	7.95%	15.52	23.47%

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 %
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	69%	18%	10%	28%
Pipe laying - 20% including excavation and backfilling	9-May-18	18-Jul-18	100%	15%	85%	100%
Pipe laying - 20% including excavation and backfilling	25-Sep-18	5-Nov-18	12%		16%	16%
Pipe laying - 20% including excavation and backfilling	6-Nov-18	18-Dec-18				
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	32%			

2.1.10. Associated works - Physical progress graph

Associated infrastructure – Physical progress



2.1.11. Overall physical progress : 22.55%

2.2. Financial status

- Contract amount : Rs. 153.15 crores (Rs. 102 crores for construction + Rs. 51.15 crores for O&M)
- Expenditure
 - Mob. Adv : Rs. 10.20 crores
 - Work done - First milestone : Rs. 0.00 crores
 - Total : Rs. 10.20 crores**

2.3. Important issues

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. In spite of concessionaire agreed to deploy additional resources in order 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 mile stone progress as on 15th October 2018. By doing this there will be back log of three months work progress related to second mile stone. Concessionaire to take necessary resource mobilization to full fill the targeted second mil stone progress on or before 18th December 2018
2. Recovery plan submitted by the concessionaire on 8th September 2018 is not accompanying the resource plan (material, man power & machineries). Concessionaire agreed to submit the same on or before 1st October 2018.
3. Extent of progress of construction activities performed by the Concessionaire for the Facilities which are not started at site but should have been started as per construction plan
4. Extent of progress of the rehabilitation and/or upgradation activities performed by the Concessionaire for the Associated Infrastructure;
5. Status of rectification of defects and/or deficiencies discovered by the Project Engineer or the Jal Nigam;

6. Monthly environmental Monitoring Reports to the Jal Nigam providing overview of compliance with EHS Plan.
7. Quality control plan, failures and success statistics for all the components along with mitigation measures
8. Due to lack of planning the site activities are being hampered
9. Action to be taken to start the trenchless pipe line work near samne ghat as the concerned authority already provided their acceptance orally and necessary approval will be issued shortly
10. 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.

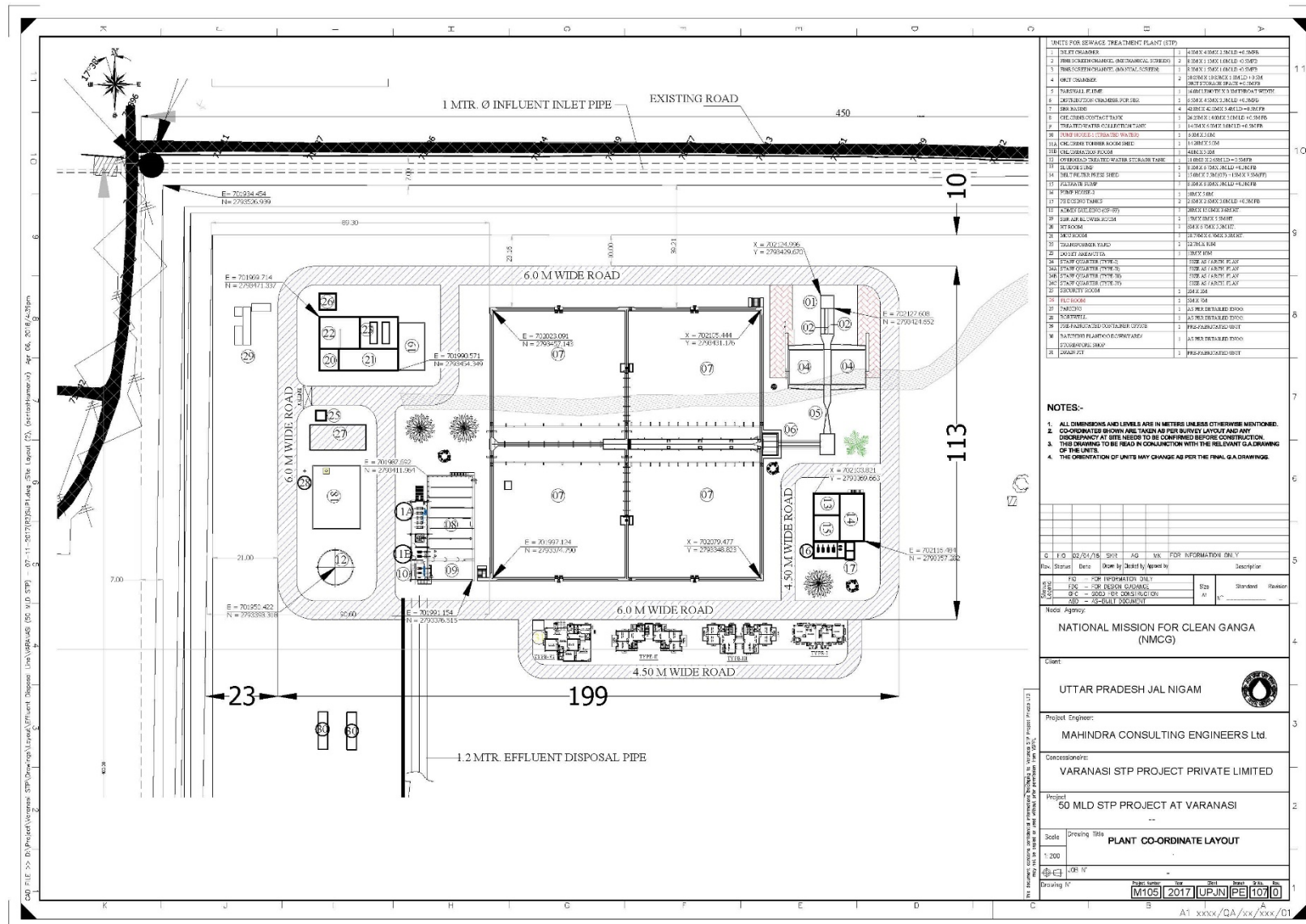


Figure 2: Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi

3.0. PROJECT ENGINEER ACTIVITIES

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
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			

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
		4.1 (iv)	Review of the submissions of the Concessionaire such as <ol style="list-style-type: none"> a. Work schedule b. Detailed survey report c. Basic engineering d. Detailed design and drawings for <ol style="list-style-type: none"> i) Civil works <ol style="list-style-type: none"> 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii) Mechanical and Electrical Works iii) Automation and Instrumentation works iv) Any other allied works e. QA/QC plans f. Safety plan 	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
				<ul style="list-style-type: none"> • Observations on data sheet and QAP of Treated water pumps. • Observation on GA drawing of sludge building. • Observations on data sheet and QAP of MPS pumps. • Earthing design calculation for STO approval. • Recommended for approval with comments for data sheet, GA drawings, synchronization panel drawing & QAP of 625 KVA DG set for MPS and data sheet, GA drawings, synchronization panel drawing and QAP of 750 KVA DG for STP Rev.2.

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
			<ul style="list-style-type: none"> • Approval of M/s. COMT Constructions Pvt Ltd as Civil contractor for MPS & STP plant. • Recommended for approval for data sheet and QAP for Grit removal system • Recommended to approve with comments for chlorinator data sheet and drawings. • Requesting the concessionaire to submit the cause for delay in performance of activities along with recovery plan. • Requesting to resubmit the long pending drawings / documents. • Observations on data sheet and QAP of treated water pumps. 	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
			<ul style="list-style-type: none"> • Observations on data sheet and QAP of MPS pumps. • Recommended for approval for GA drawing and compliance sheet of JASH for coarse screens. • Recommendations for approval with comments on lightning protection calculation for STP. • Recommendations for approval with comments on PLC Panels (data sheet/GA/QAP), Rev.1 of SBR package for STP. • Recommended for approval of electrical load list – Rev. 2 for MPS and STP. • Request for resubmission of Fault level calculation for STP vide document no. 	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
			M105/2017/HPJN/EE/662 Rev. 0 • Rejection of electrical SLD for MPS and STP • Website information • Recommended for approval with comments on Data sheet, G.A Drawings & P & ID of volute press. • Recommended for approval for data sheet and QAP of Treated water pumps.	
4.1 (v)	Review of the drawings and documents	Yes	As mentioned above	As mentioned above
4.1 (vi)	Identification of milestones & verifications		Review of financial milestones	Regular review and monitoring
4.1 (vii)	To Assist NMCG for getting statutory permissions		NA	NA
4.1 (viii)	Ensure compliance with statutory provisions under various applicable laws		Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
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 guidance on consequent termination notices and payment as detailed in clauses	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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
4.1	The Project Engineer shall aid and advise	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
(xvii)	the Employer on any proposal for variation under Article 20 of the Concession Agreement			
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	operate and maintain the Facilities and the 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	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	the Associated Infrastructure;			
4.3(v)	Is in compliance with the technology 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	Yes	NA	NA
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 &	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
			maintenance of the Facilities and the Associated Infrastructure and shall work closely with the Uttar Pradesh Jal Nigam 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	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: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 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:	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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; 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such drawings or documents.			
5.5	The project engineer shall review the detailed design, construction methodology, quality assurance 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.	Yes	Yes	Yes
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	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	reference from the NMCG/Uttar Pradesh Jal Nigam.			
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
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date			
6.4	The Project Engineer shall review, in particular, the submissions by the Concessionaire as per Schedule 1 of the Concession Agreement, and assist Uttar Pradesh Jal Nigam in assessing the effectiveness them	Yes	Yes	Yes
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 not submitted progress report for the month of September 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 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			

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 without waiting for the monthly progress submissions as mentioned in the previous paragraph	Yes	Yes	Yes
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	Concessionaire for ensuring that the tests are conducted in a fair and efficient manner, and shall monitor and review the results thereof			
6.9	The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/rejection of their results shall be 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	Yes	Yes	Yes
6.10	In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or	NA	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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			
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,	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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.			
6.12	If at any time during the construction period, the Project Engineer determines that the Concessionaire has not made 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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam.	NA	NA	
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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same			
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 Nigam to the Concessionaire	NA	NA	
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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	rates, for the reduction of Scope of work if any as per Article 20.			
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'	NA	NA	
6.19	The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 7, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with	NA	NA	
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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	changes as per clause 7.13(v) of the Concession Agreement			
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	
7.2	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. The O&M Manual shall cover:	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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; 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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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			
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 quality re influent standards and monitor and record the same on regular basis	NA	NA	
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)	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	to (G) of the Concession Agreement			
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 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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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	
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	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.			
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 required by the NMCG/ Uttar Pradesh Jal Nigam, under and in accordance with the provisions of this agreement	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
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 period, or any extension thereof, that is required to be determined by it under the Concession Agreement	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
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, Change in Law, Force Majure, Minor or total Casualties, Variation and unforeseen	NA	NA	

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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 Documents received by it, including 'as-	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	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: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	/NMCG and the Project Engineer shall, on 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period: August 2018 to October 2018		
		Undertaken till previous month - August 2018	Undertaken during this month - September 2018	Expected for next month October 2018
	key communications. This may take the 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: September 2018	Period: October 2018
			Description	Expected for next month
1	Site inspection	1. Mr. J.A. Ansari, TA SMCG, Lucknow. 2. Mr. Satyendra Pandey Social Management Specialist, SMCG. 3. Mr. Gyanendra Chaudhari, PM, Ganga unit, UPJN. 4. Mr. S.K. Burman, PM, Ganga Unit, UPJN.	18 th September 2018	Project review meeting and site inspection
2	Site inspection and progress review meeting	➤ Mr. Rajat Gupta, NMCG. ➤ Mr. Rachit Andley, NMCG. ➤ Mr. SK Rai GM, UPJN, ➤ Mr. SK Barman PM, UPJN ➤ Senior Engineers MACE	27 th September 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	07/05/2018	
2	Project Manager	G. Sathiskumar	19/02/2018	21/05/2018
3	Civil Engineer	M. Sivapriyan	15/02/2018	
4	Civil Engineer	T. Sathyamoorthy	20/04/2018	07/05/2018
5	Senior Engineer (Electrical & Instrumentation)	R. Satish	20/04/2018	28/05/2018
6	Civil Engineer	P. Ramasubramanian	20/04/2018	
7	Civil Engineer	Imran Khadhar Mohideen	20/04/2018	
8	Structural Engineer	S. Varun Athithiya	20/04/2018	
9	Liaison Officer	O. B. Shivakumar	20/04/2018	08/07/2018
10	QA QC Expert /Safety	L. Selva Kumar	29/05/2018	
11	Structural Engineer	M. Vishnukumar	24/09/2018	

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	16.57%	5.98%	22.55%	Physical progress observed to be very slow and needs to be accelerated by Concessionaire.

ANNEX - 2

FINANCIAL STATEMENTS

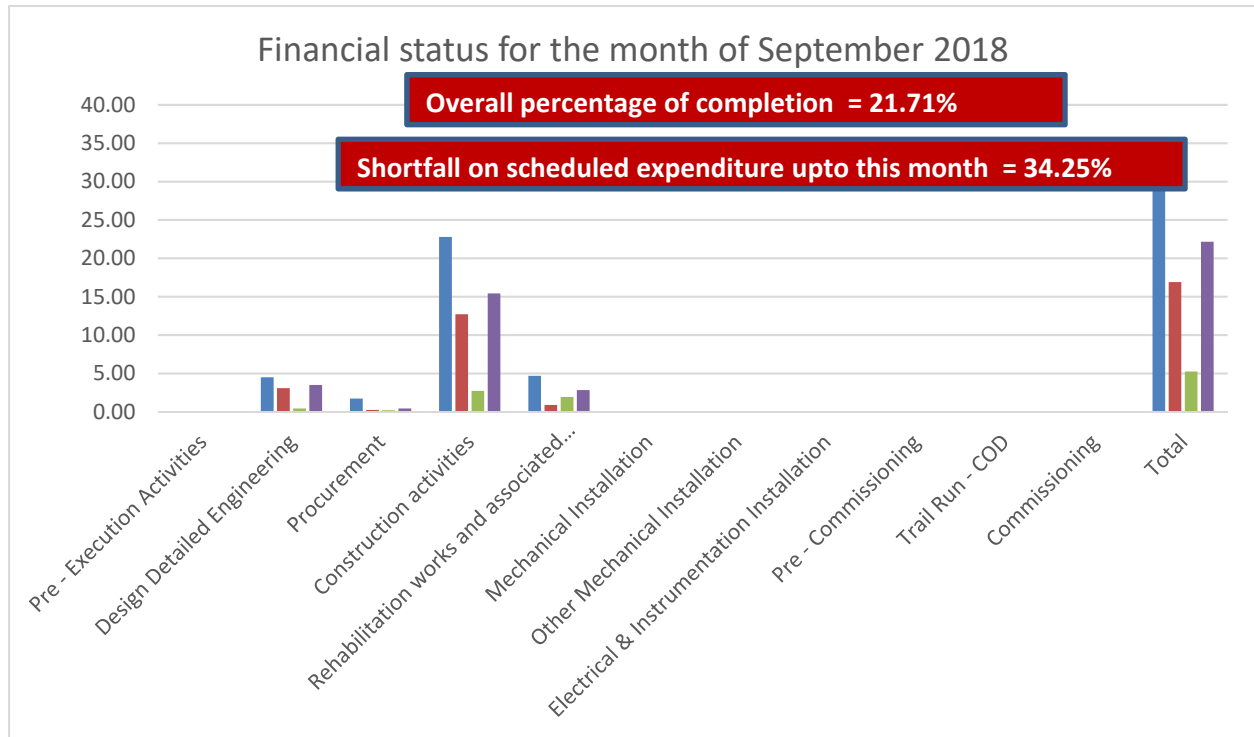
ANNEX 2 - FINANCIAL STATEMENTS

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)	7,650,000	7,650,000	-	7,650,000
Phase - II D&E (Civil, Mechanical, Electrical, Inst. drawings)	51,00,000	38,86,200	4,23,300	43,09,500
Topographical / Soil Investigation	5,100,000	5,100,000	-	5,100,000
Structural drawings submissions & approvals	1,27,50,000	82,74,750	9,05,250	91,80,000
Mechanical & piping drawings submissions & approvals	1,02,00,000	49,57,200	21,01,200	70,58,400
Electrical drawings submissions & approvals	22,83,231	7,45,875	3,86,325	11,32,200
Instrumentation document submissions & approvals	19,12,500	-	3,82,500	3,82,500
Associated				
MPS pumping station	30,30,857	7,44,600	23,66,400	31,11,000
Rising Main	38,04,435	-	10,71,000	10,71,000
Treated Effluent disposal line	4,00,09,244	81,13,228	1,58,28,564	2,39,41,792
Equipment procurement, logistics and receipt of equipment at Site				
Fine Screen / Coarse Screen / Belt Conveyors	9,80,873	1,13,333	1,13,333	2,26,667
Grit Removal Mechanism	10,99,053	1,13,333	1,13,333	2,26,667
SBR System (Decanters)	44,82,306	9,06,667	2,26,667	11,33,333
SAS / RAS pumps/booster pumps / treated water pumps / drain pumps	15,29,439	90,667	1,36,000	2,26,667

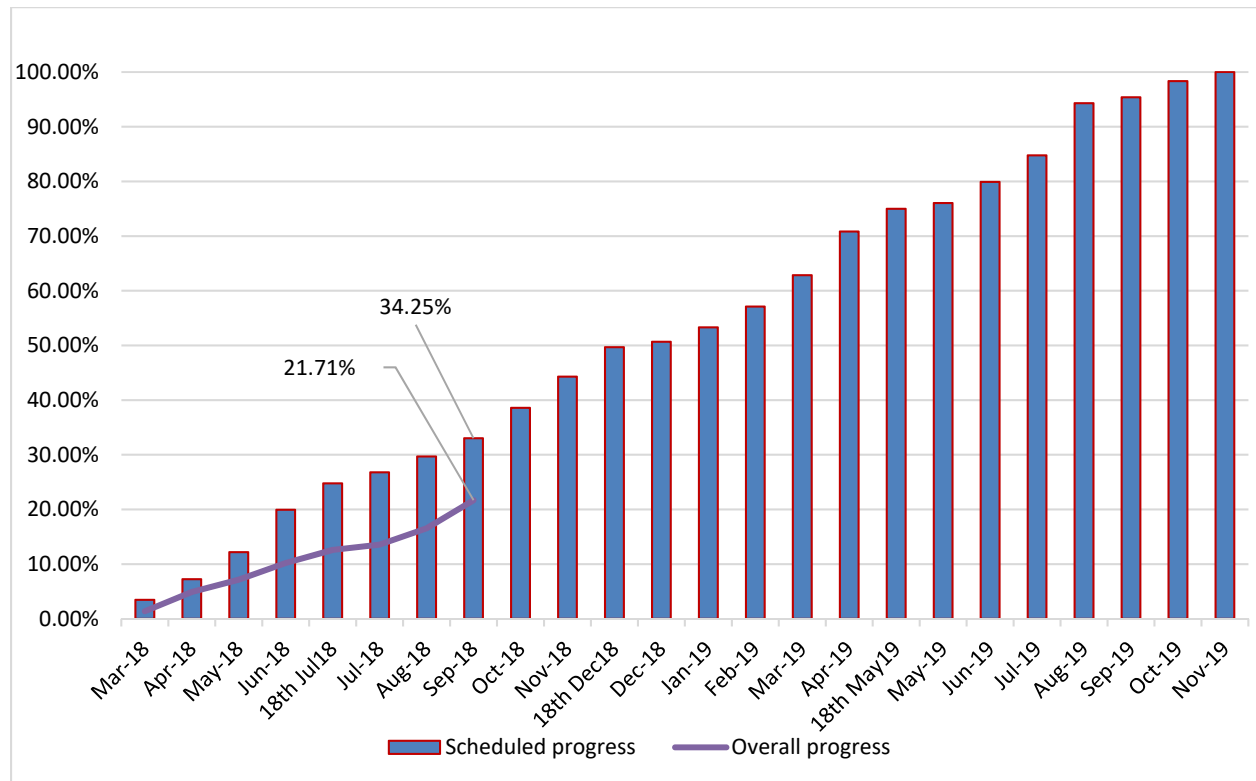
Item of work	Scheduled expenditure in Rs	Completed amount till previous month in Rs	Completed amount during this month in Rs	Total completed amount in Rs
Horizontal centrifugal pumps (Treated water pumps)	24,83,889	2,26,667	1,36,000	3,62,667
Air blowers	35,98,603	4,53,333	4,53,333	9,06,667
Chlorination system	2,26,667	1,13,333	1,13,333	2,26,667
Sluice Gates	2,69,530	34,000	22,667	56,667
Motorized Gates at Inlet Of SBR	2,26,667	56,667	56,667	1,13,333
Diffusers	10,72,934	90,667	1,36,000	2,26,667
Volute press	-	90,667	90,667	1,81,333
Air Compressors	80,311	-	1,81,333	1,81,333
Agitators	5,48,554	-	-	-
Transformers	113,333	-	34,000	34,000
HT cables	1,382			
MCC panel	113,333	-	-	-
HT Panel	41,376			
PLC Panel	1,24,127			
SCADA System	82,751			
MLDB, LDB,& SLDBS	41,376			
Push Button Stations/Plant lighting / Buildings lighting	20,688			
Power, Control & lighting Cables	41,376			
Cable trays/Lighting JB	20,688			
DG Set	41,376	34,000	22,667	56,667
Plant Earthing	20,688	34,000		34,000
Civil Executions				
Bund Wall / Earthen Embankment	4,54,98,611	4,16,42,775		4,16,42,775
Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume,	1,31,45,349	43,35,000	21,47,993	64,82,993

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
Distribution Chamber for SBR				
SBR Basins & SBR outlet Chamber	13,90,53,982	7,07,74,740	2,15,59,740	9,23,34,480
Construction of CCT including Chlorination room & Treated water pump House	1,61,46,964	67,77,900	7,96,824	75,74,724
Overhead Treated Water Tank	7,65,000	-	2,53,725	2,53,725
Administrative Building including lab and workshop	30,60,000	26,75,256	3,88,518	30,63,774
Staff Quarters	4,590,000	-	-	-
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	54,72,692	9,15,399	19,56,625	28,72,024
Total	33,68,34,185	16,89,84,257	5,24,71,964	22,14,56,220
	Percentage completion of overall project			21.71%

Financial status for the month of September 2018



Progress status scheduled vs Actual - September 2018



ANNEX - 3

QUALITY ASSURANCE / QUALITY CONTROL

ANNEX 3 - QUALITY ASSURANCE / QUALITY CONTROL

5. Bund wall

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	10	10	5	0	0	0	0	0	** 5 Samples collected from all bund wall (north/ south/ east/ west) excluding previous month (total 10 samples) before compaction and from the site stock plie for the soil classification and MDD /OMC-Test in progress / awaiting for the report
2	Soil compaction test at Site - OMC & Degree of compaction	2720 Part II	316	316	271	45	63	63	57	6	*Rectification suggested for the rejects and re test is recommended

6. Sequential Batch Reactor (SBR)

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	28	45	31	*14	10	10	10	0	Found acceptable, report attached, witnessed by PJN/MACE
2	Concrete ingredients coarse aggregate 10mm down	IS 383-2001	20	24	19	*5	4	4	4	0	Remain same qty of previous month at batching plant, which was passed already.
3	Concrete ingredients fine aggregate 4.75 mm down	IS 383-2001	12	18	15	*3	2	2	2	0	Remain same qty of previous month at batching plant, dumped massive qty which was covered test and found ok.
4	Combined Grading as per approved IIT Mix design	IS 383-2001	**whenever required	4	4	1	**whenever required	0	0	0	As per Approved mix 20mm with 60%, 10mm with 40%, due to 20 mm aggregate failed material removed from the yard and replaced another resource -status accepted with UPJN 19.07.18, currently running mix, no issues
5	Harden concrete Compressive	IS 516 & IS 456	every 50 M3 or part thereof	116	92	6	every 50 M3 or part thereof	60	60	0	18 cubes sent to IIT Varanasi for the 7 & 28 days test, cube report

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	
	strength										received from IIT attached copy and Site CTM Recalibration done,(report attached) since 04.08.18 all concrete cubes tested site lab only, report attached
6	OPC Cement 43 Grade	IS 8112-2013	Every consignment or whenever required	1	1	0	Every consignment or whenever required	1			ULTRA TECH SOURCE /MTC Available. Random OPC 43 grade cement collected from godown, awaiting for result.
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	18			TATA STEEL/MTC Available at site for all consignment as of date, 18 samples each diameter (8/10/12/16/20/25) collected for physical and chemical test, sent to IIT BHU, sample witnessed by UPJN/MACE on 24.08.18, awaiting for result.
8	Admixers	IS 9103-1979	Every new consignment once reach site	1	1	0	Every new consignment once reach site				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/ sampled at site

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	
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 given 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)
11	Field control test: Slump /Concrete temperature/ unit weight	IS 456, SP 23 & IS 516	Every alternative truck of concrete mixer	173	165	8	Every alternative truck of concrete mixer	60	55	5	Witnessed MACE/UPJN

7. Treated Effluent disposal line

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	138 Nos	138 Nos	138 Nos		112 Nos	112 Nos	112 Nos		PSC pipe inspection along with UPJN engineer.
2	Soil test - SBC of soil	IS 6403	4 Nos	4 Nos	4 Nos						
3	EPDM Gasket	IS 5389-1979	292 Nos	292 Nos	292 Nos						MTC report available

8. Raising main

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	158.8 Mtr	158.8Mtr	158.8Mtr	0	0	0	0	0	Bamrah Pipes inspection done along with UPJN Engineer.

9. Construction Running Materials / Equipment's

S. No.	Description	IS Code	Up to Previous Month				During this month (September 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	6	6	0	Yearly once	0	0	0	Verification done for all instruments, CTM Site lab recalibration certificates attached & found ok
2	Cube testing Machine	IS 516-2001	Yearly once	1	1	1	Yearly once	0	0	0	
3	Laboratory weighing machine	IS 460-1980	Yearly once	4	4	0	Yearly once	0	0	0	
4	Ready Mix Concrete plant	IS 4926-2013	Whenever required	2	2	0	Whenever required	0	0	0	

ANNEX - 4 PHOTOGRAPHS

SBR basin



RCC Footing Concrete



Wall side view



Inside view

Inlet chamber, Fine screens, Grit Basin & Parshall Flume



Footing PCC work

Bund wall



Compaction Test



Soil Filling



Soil Filling



Soil filling and Compaction

Administrative Building



Basement leveling

CCT



Side wall Concreting work



Shuttering for wall

Over Head Tank



Excavation work

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



Footing reinforcement

ANNEX - 5
OUTWARD CORRESPONDENCE LIST
OF SEPTEMBER 2018

ANNEX 5 - OUTWARD CORRESPONDENCE LIST OF SEPTEMBER 2018

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
1	MACE: P968:8487	01.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval of revised construction plan Rev 7 submitted by the concessionaire.
2	MACE: P968:8489	01.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for HT SLD (Part 1: HT SLD) for MPS and STP.
3	MACE: P968:8488	01.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments – on Data sheet, GA Drawings and P&ID of volute press.
4	MACE: P968:8490	04.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on G A drawing for weir across Assi nalla.
5	MACE: P968:8492	04.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Data sheet, drawings and QAP document of SBR basins – Recommended for approval – Recommended for approval with comments – Approval pending for want of documents.
6	MACE: P968:8493	05.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on data sheet and QAP of Treated water pumps.
7	MACE: P968:8495	06.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on GA drawing of sludge building.

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
8	MACE: P968:8500	08.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on data sheet and QAP of MPS pumps.
9	MACE: P968:8501	08.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Earthing design calculation for STO approval.
10	MACE: P968:8503	10.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments for data sheet, GA drawings, synchronization panel drawing & QAP of 625 KVA DG set for MPS and data sheet, GA drawings, synchronization panel drawing and QAP of 750 KVA DG for STP Rev.2.
11	MACE: P968:8504	12.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on recovery plan for 1 st milestone submitted by concessionaire.
12	MACE: P968:8505	12.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval and approval with comments for data sheet and QAP for coarse screens.
13	MACE: P968:8506	12.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Flood level warning
14	MACE: P968:8507	12.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on GA drawing of overhead tank.
15	MACE: P968:8508	14.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Site inspection report for performance of Kishore pumps.

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
16	MACE: P968:8509	14.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Site inspection report for performance of Gardner Denver, Volute press.
17	MACE: P968:8510	14.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observation on GA drawing of sludge building.
18	MACE: P968:8511	15.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Transformer sizing calculation & HT Key SLD for MPS and STP for approval.
19	MACE: P968:8512	15.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Approval of M/s. COMT Constructions Pvt Ltd as Civil contractor for MPS & STP plant.
20	MACE: P968:8513	18.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for data sheet and QAP for Grit removal system
21	MACE: P968:8514	18.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended to approve with comments for chlorinator data sheet and drawings.
22	MACE: P968:8515	19.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Requesting the concessionaire to submit the cause for delay in performance of activities along with recovery plan.
23	MACE: P968:8516	19.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Requesting to resubmit the long pending drawings / documents.
24	MACE: P968:8517	19.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on data sheet and

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
						QAP of treated water pumps.
25	MACE: P968:8518	19.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Observations on data sheet and QAP of MPS pumps.
26	MACE: P968:8519	21.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for GA drawing and compliance sheet of JASH for coarse screens.
27	MACE: P968:8521	22.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommendations for approval with comments on lightning protection calculation for STP
28	MACE: P968:8522	22.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommendations for approval with comments on PLC Panels (data sheet/GA/QAP), Rev.1 of SBR package for STP.
29	MACE: P968:8523	24.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval of electrical load list – Rev. 2 for MPS and STP.
30	MACE: P968:8524	24.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Request for resubmission of Fault level calculation for STP vide document no. M105/2017/HPJN/EE/662 Rev. 0
31	MACE: P968:8525	26.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Rejection of electrical SLD for MPS and STP
32	MACE: P968:8530	26.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Website information

S. No.	Document No.	Date	To (Organization)	Copies To	Subject File No.	Subject
33	MACE: P968:8536	28.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval with comments on Data sheet, G.A Drawings & P & ID of volute press.
34	MACE: P968:8537	28.09.2018	GM, UPJN	NMCG, PM, UPJN	NA	Recommended for approval for data sheet and QAP of Treated water pumps.

ANNEX - 6
INWARD CORRESPONDENCE LIST OF
SEPTEMBER 2018

ANNEX 6 - INWARD CORRESPONDENCE LIST OF SEPTEMBER 2018

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
1.	EIL/VSPPL/2018-19/200	03.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Request for Vendor approval of M/s COMT Constructions Pvt. Ltd as Civil contractor for our MPS & STP plant.
2.	EIL/VSPPL/2018-19/201	30.08.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Compliance sheet for the comments from MACE (Data sheet/ GA/ QAP) for SBR System, Rev. 1
3.	EIL/VSPPL/2018-19/202	03.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Civil GA Drawing of Sludge Building, Rev. 0.
4.	EIL/VSPPL/2018-19/203	05.09.2018	VSPPL / UPJN	Amit B Ghorpade	N		Submission of Data Sheet, GA Drawings, Synchronization Panel Drawing & QAP of 625 KVA DG Set for MPS and Data Sheet, GA Drawings, Synchronization Panel Drawing & QAP of 750 KVA DG Set for STP, Rev. 2
5.	EIL/VSPPL/2018-19/204	05.09.2018	VSPPL / UPJN	Amit B Ghorpade	N		Submission of Earthing Design Calculation for STP, Rev. 2
6.	EIL/VSPPL/2018-19/205	05.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Monthly Progress Report for the month of August 2018
7.	EIL/VSPPL/2018-19/207	07.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of Mechanical / Manual Coarse Screen (Datasheet / GA / QAP Document), Rev. 1 along with comment sheet.
8.	EIL/VSPPL/2018-19/208	07.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Electrical Load List for MPS and STP, Rev. 2 along with comment response sheet
9.	EIL/VSPPL/2018-19/209	08.09.2018	VSPPL /	Amit B	N		Request for Civil Design and Drawings of

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
			UPJN	Ghorpade			Existing MPS for Raising of the Unit up to HFL
10.	EIL/VSPPL/2018-19/210	08.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Recovery Construction plan for 1st milestone.
11.	EIL/VSPPL/2018-19/211	10.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Mechanical G.A. Drawing of 250 m ³ Overhead tank
12.	EIL/VSPPL/2018-19/212	10.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of Transformer sizing calculation, SLD of STP & MPS
13.	EIL/VSPPL/2018-19/213	11.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Grit Removal system (Data sheet/GA/QAP Document)
14.	EIL/VSPPL/2018-19/214	11.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Mech. G.A. Drawing for Sludge Treatment Building
15.	EIL/VSPPL/2018-19/215	11.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Treated water pump Data sheet/G.A./Performance curve/QAP
16.	EIL/VSPPL/2018-19/216	12.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Instrument Index of MPS & STP
17.	EIL/VSPPL/2018-19/217	12.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of Key SLD for MPS & STP (Part 2; LT SLD)
18.	EIL/VSPPL/2018-19/220	13.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Submission of Key SLD for MPS & STP (Part 1; HT SLD), Transformer sizing Calculation for MPS & STP
19.	EIL/VSPPL/2018-19/221	17.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Lightning Protection Calculation for STP, Rev. 0
20.	EIL/VSPPL/2018-19/222	18.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of revised Data sheet, QAP & Compliance sheet of MPS, Rev. 3.
21.	EIL/VSPPL/2018-19/223	19.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	7	Submission of Civil & structural design & drawing for OHT Rev. 0

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
22.	EIL/VSPPL/2018-19/223	19.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of revised GA drawing for data sheet of coarse screen.
23.	EIL/VSPPL/2018-19/225	19.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Submission of data sheet / GA / P & ID & QAP for Volute press, Rev.2.
24.	EIL/VSPPL/2018-19/226	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of PLC Panels (Data Sheet/GA/QAP), Rev. 1 of SBR Package
25.	EIL/VSPPL/2018-19/226	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of compliance on observation for Submersible Pumps.
26.	EIL/VSPPL/2018-19/228	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of MPS Pumps data sheet
27.	EIL/VSPPL/2018-19/229	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	5	Re-summarised data sheet of Treated Water Pumps along with head calculation.
28.	EIL/VSPPL/2018-19/230	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Varanasi STP- Submission of comment resolution sheet for Air Blower.
29.	EIL/VSPPL/2018-19/231	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Varanasi STP- Submission of Fault Level Calculation, Rev. 0.
30.	EIL/VSPPL/2018-19/232	21.09.2018	VSPPL / UPJN	Amit B Ghorpade	N		Shifting of LT power line I the Alignment of East side of Bund wall.
31.	EIL/VSPPL/2018-19/233	24.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of bund wall detailed layout.
32.	EIL/VSPPL/2018-19/234	24.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Piping layout for MPS pumping Station Rev. 0
33.	EIL/VSPPL/2018-19/235 Mail 1 of 2	25.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Data Sheet, GA Drawings, Synchronization Panel Drawing & QAP of 625 KVA DG Set for MPS and Data Sheet, GA Drawings, Synchronization Panel Drawing &

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
							QAP of 750 KVA DG Set for STP, Rev. 3.
34.	EIL/VSPPL/2018-19/235 Mail 2 of 2	25.09.2018	VSPPL / UPJN	Amit B Ghorpade	N		Submission of Data Sheet, GA Drawings, Synchronization Panel Drawing & QAP of 625 KVA DG Set for MPS and Data Sheet, GA Drawings, Synchronization Panel Drawing & QAP of 750 KVA DG Set for STP, Rev. 3.
35.	EIL/VSPPL/2018-19/236	25.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Effluent Disposal Line Layout, L-Section, Valve Chamber, Final Outfall Chamber & Pipe Bedding Detail.
36.	EIL/VSPPL/2018-19/236	25.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	13	Submission of Data Sheet, GA and Compliance sheet of Sluice Gate, Rev. 1.
37.	EIL/VSPPL/2018-19/238	26.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	4	Submission of Data Sheet & GA of 11kV / 0.433 kV - 1600 KVA Transformer with OLTC for STP, HT & LT Cable sizing for STP & MPS, Rev. 0
38.	EIL/VSPPL/2018-19/239	26.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Submission of Control Philosophy for Volute Press.
39.	EIL/VSPPL/2018-19/240	27.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	2	Submission of Data Sheet & GA of 11kV / 0.433 kV - 1250 KVA Transformer with OLTC for MPS, Rev. 0.
40.	EIL/VSPPL/2018-19/241	28.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	6	Submission of Lightning Protection Calculation for STP, Key LT SLD for MPS and STP and Fault Level Calculation for STP.
41.	EIL/VSPPL/2018-19/242	28.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	8	Regarding status of Manufacturing Clearance issued to Vendors.
42.	EIL/VSPPL/2018-19/243	29.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	1	Request for Vendor approval of M/s New Glorious Infra Build Tech Pvt. Ltd. as Sub-

Sl. No.	Document No	Letter Date	From		Attachments		Subject
			Organization	Writer	Y/N	No.	
							contractor for our Piping work related to STP plant & associate infrastructure.
43.	EIL/VSPPL/2018-19/244	29.09.2018	VSPPL / UPJN	Amit B Ghorpade	Y	3	Request for Vendor approval of M/s Bahadur & Company.

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
Pre - Execution Activities	12-Oct-17	30-Sep-19	Soil investigation for MPS is pending. Main reason for the delay is lack of planning	Concessionaire to carry out the field investigation and submit the soil investigation before 15 th October 2018.
			Concessionaire submitted M/s. PIPL as EPC contractor on 25 th April 2018. As per concession agreement "contract entered into by the Concessionaire to subcontract any part of its scope of work in relation to the Project under this Agreement". Hence requested the concessionaire to revise the scope	Concessionaire to submit the details as per concession agreement. However there is no delay or progress hampering on subsequent activities due to this.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			and submit for approval. The revised subcontractor details to be submitted by concessionaire	
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 excavation work of OHT.
			Structural drawings of the following components are pending due to lack of planning. <ul style="list-style-type: none"> • Sludge treatment building • Weir across assi nalla • Final outfall chamber • Raw water receiving chamber • Electrical control room (including GA drawings) 	Concessionaire to plan the submission and approval on or before 15 th October 2018
			Mechanical GA drawings of Treated water over head tank, Final outfall chamber	Concessionaire to expedite the same on or before 15 th October 2018

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			and overall piping drawings due to lack of planning	
			<p>Electrical and instrumentation drawings and documents partly submitted by the concessionaire and delayed due to the lack of finalization of equipment</p> <ul style="list-style-type: none"> • PCC MCC panels • Cable trays • Instrument hook up diagram • Cause and effect diagram 	Concessionaire to speed up the equipment finalization and arrive at the exact load list on or before 10 th October 2018.
Associated infrastructure works	20-Mar-18	18-May-19	<p>Delay in receipt for existing structure as built drawings. and delay in site investigation are the main reason</p>	<p>UPJN to provide the remaining existing structure as built drawings on or before 5th October 2018 and if it is not available concessionaire to carryout NDT test to find out the strength and proceed further on or before 15th October 2018.</p> <p>Concessionaire to submit the condition assessment report along with drawings on or before 15th October 2018</p>
			Concessionaire yet	Concessionaire to

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
			to finalise the vendor for CCTV inspection of existing rising main	expedite to start the same by 15 th October 2018
			Work not yet started for carrying out the trenchless cutting method near Samneghat bridge	Concessionaire to expedite the completion of the same by 15 th November 2018
			Manufacturing delay of PSC pipes for treated effluent disposal line. Only 1900 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. Transportation of inspected pipe from manufacturer to site is delayed	UPJN to sort out the issue of local villagers. 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, equipments.	Concessionaire to ensure the hydrotesting of already laid pipes on or before 15 th October 2018. Concessionaire to plan to complete the hydrotesting within

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Delay analysis	Recovery / Mitigation plan
				10 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"> • Agitators • Transformers • MCC panel • HT panel • PLC panel • SCADA system • MLDB, LDB & SLDBS • Push button stations / plant lighting / building lightings • Power, control & lighting cables • Cable trays / lighting JB 	Concessionaire to expedite the Submission of the same by 15 th October 2018
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 Channel of Grit Chamber & Parshall Flume (I) & Distribution Chamber of	03-June-18	30-Jun-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting approval from IIT	Concessionaire started the excavation and PCC laying works. 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
SBR Basin				
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.
Chlorine Contact Tank & Treated Water Collection Tank, Treated water Pumps	26-Apr-18	24-Aug-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting approval from IIT	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 approval from IIT	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	Concessionaire started the excavation work. Full utilization of the available equipment shall increase the output and mitigate the delay occurred.
Administrative building including lab and workshop	3-Feb-18	11-Jul-19	Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for	Concessionaire started the excavation, PCC & RCC laying works. 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	Delay analysis	Recovery / Mitigation plan
			getting from approval from IIT	output and mitigate the delay occurred.
Staff quarters	8-Jun-18	16-Nov-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</p>	Full utilization of the available equipment shall increase the output and mitigate the delay occurred.

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	Belt filter press/ sludge sump / filtrate sump	Work yet to start	
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	Drawing yet to be submitted	
10	Staff quarters	Work yet to start	

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 30 th September 2018		Actual work done up to 30 th September 2018		Shortfall as on 30 th September 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Excavation	6133	Cum	6133	Cum	6103	Cum	30	Cum
2	PCC & RCC	7818	Cum	7818	Cum	5380	Cum	2438	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	Transit mixer	6	No	7	Cum
2	Tipper	4	Nos	5.5	Cum
3	Tractor	4	Nos	2.8	Cum
4	Batching Plant	1	No	20	Cum/Hr
5	Concrete Pump	2	No	40	Cum/Hr

2.2. Bund Wall / Earthen Embankment

S. No.	Description	Estimate		As per construction plan up to 30 th September 2018		Actual work done up to 30 th September 2018		Shortfall as on 30 th September 2018	
		Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
1	Borrow Earth	22140	Cum	17047.8	Cum	9520	Cum	7528	Cum
2	Soil Filling	22140	Cum	17047.8	Cum	9520	Cum	7527.6	Cum
3	Soil Compaction	22140	Cum	17047.8	Cum	9520	Cum	7527.6	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	Tipper	1	No	8.5	Cum
2	Tipper	1	No	14	Cum
3	Tractor	7	Nos	2.8	Cum
4	Water tanker	2	Nos	5000	Litters
5	Grader	1	No	17	Tonne
6	Roller	1	No	11	Tonne

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 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
Pre - Execution Activities	12-Oct-17	30-Sep-19	80.00%	77.50%		
Submission & Approval of Sub Contracts from UPJN	1-Feb-18	30-Jun-18	100%	50%	Concessionaire submitted the credentials of pipe line laying contractor and bund wall contractor recently for approval	Approval to be provided. There is no delay or progress hampering due to this
Design Detailed Engineering	11-Oct-17	30-Oct-18	98%	76%		
Plant Layout / Site layout	11-May-18	23-May-18	100%	85%		There is no delay or progress hampering due to this
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	85%	Concessionaire delayed the resubmission of drawings after incorporating the observation for more than 120 days indicates the lack of planning and tracking	Concessionaire started the excavation, Pipe laying works.
Treated water overhead tank	04-Apr-18	28-May-18	100%	60%	Concessionaire yet to submit the revised drawing after incorporating the observations	However, Concessionaire started the excavation work
Weir Across Assi	05-Mar-18	14-Mar-18	100%	60%	Concessionaire yet to	Concessionaire to submit

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
Nalla					submit the revised drawing after incorporating the observations	the structural drawing on or before 15 th October 2018
Final outfall chamber	01-Jul-18	18-Jul-18	100%	40%	Concessionaire recently submitted the GA drawing	Concessionaire to submit the structural drawing on or before 15 th October 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 October 2018 after carrying out the NDT test to find out the strength of existing structure
Electrical control room	01-Jul-18	18-Jul-18	100%	0%	Concessionaire is yet to submit the drawing.	Concessionaire to submit the drawing on or before 15 th October 2018
Structural Drawings Submissions & Approvals	02-Feb-18	30-Sep-18	100%	72.0%		
Disposal pipe layout plan	02-Feb-18	20-Mar-18	100%	80%	Concessionaire delayed the resubmission of drawings after incorporating the observation for more than 120 days indicates the lack of planning and tracking	Concessionaire started the excavation, Pipe laying works.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
Treated water overhead tank	04-Apr-18	28-May-18	100%	40%	Concessionaire is recently submitting the Structural drawing.	However, Concessionaire started the excavation work
Weir Across Assi Nalla	05-Mar-18	14-Mar-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 15 th October 2018
Final outfall chamber	01-Jul-18	18-Jul-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 15 th October 2018
Raw water receiving chamber	06-Sep-18	15-Sep-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 15 th October 2018
Electrical control room	06-Sep-18	15-Sep-18	100%		Concessionaire is yet to submit Structural drawing.	Concessionaire to submit the structural drawing on or before 15 th October 2018
Design, Drawings & Documentation for Mechanical GAD	13-Feb-18	15-Sep-18	100%	69.20%		
Treated water overhead tank	15-Mar-18	03-Apr-18	100%	40%	Concessionaire is submitting the partly drawing recently	Concessionaire to submit the remaining design drawing on or before 15 th October 2018
Sludge treatment building / BFP	28-Jul-18	16-Aug-18	100%	60%	Concessionaire is yet to submit design & drawing.	Concessionaire to submit the design drawing on or before 15 th October 2018
Final outfall chamber	01-Jul-18	18-Jul-18	100%		Concessionaire is	Concessionaire to submit

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
					submitting the partly drawing recently	the remaining design drawing on or before 15 th October 2018
Overall Piping Drawings	30-May-18	05-Sep-18	100%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 15 th October 2018.
Design, Drawings and Documentation for Electrical & Instrumentation works	10-Mar-18	08-Oct-18	90.00%	44%		
PCC MCC panels	10-Mar-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 drawings on or before 15 th October 2018.
Cable trays	01-May-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 drawings on or before 15 th October 2018.
Flow meter	15-Sep-18	05-Oct-18	75%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of	Concessionaire to submit the drawings on or before 5 th October 2018.

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
					engineering team strength	
Analyzer	15-Sep-18	05-Oct-18	75%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5 th October 2018.
Electrical & Instrumentation control philosophy	25-Sep-18	08-Oct-18	38%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 8 th October 2018.
Plant Lighting Layout Plan	25-Sep-18	05-Oct-18	50%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5 th October 2018.
Gauges	25-Sep-18	05-Oct-18	50%		Concessionaire yet to submit the drawings indicates the lack of planning and lack of engineering team strength	Concessionaire to submit the drawings on or before 5 th October 2018.
Instrumentation Document submissions & Approvals	01-Jun-18	30-Oct-18	75%	15%		

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
Instrument Hook - Up Diagram	01-Jun-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 drawings on or before 15 th October 2018.
Cause & Effect Diagram	01-Jun-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 drawings on or before 15 th October 2018.
Associated infrastructure works	20-Mar-18	18-May-19	36.74%	22.06%		
MPS Pumping Station	15-May-18	10-Apr-19	29.71%	30.50%		
Rehabilitation of MPS	15-May-18	30-Apr-19	39%	46%	Delay in receipt for existing structure as built drawings. and delay in site investigation are the main reason	UPJN to provide the remaining existing structure as built drawings on or before 15 th October 2018. Concessionaire to submit the condition assessment report along with drawings on or before 15 th September 2018
Desilting of the MPS	15-May-18	28-Aug-18	100%	75%	Desilting is held up	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 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
					due to non start of CCTV inspection and non finalization of drawings	expedite the same on or before 15 th October 2018
Rising Main	15-Jun-18	25-Mar-19	24.87%	7%		
Desilting & CCTV inspection	15-Jun-18	18-Jul-18	100%		Concessionaire yet to finalize the vendor and carry out the investigation	Concessionaire to speed up the progress and complete the same by 15 th of November 2018.
Treated Effluent disposal line	20-Mar-18	18-May-19	39.22%	23.47%		
Procurement - supply of pipes including inspection, transportation and delivery at site	20-Mar-18	26-Dec-18	69%	27%	Only 1900 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
Hydrotesting & finishing works	14-Jun-18	18-May-19	32%		Hydro testing of pipes already laid is delayed unduly due to lack of planning, manpower, equipments.	Concessionaire to ensure the hydrotesting of already laid pipes on or before 15 th October 2018. Concessionaire to plan to complete 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 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
						hydrotesting within 10 days from the date of laying.
Equipment Procurement, Logistics and receipt of equipment at Site			6 %	4 %		
Grit Removal Mechanism	24-May-18	10-Mar-19	10.8%	4.1%		
Manufacturing of Equipment	01-Sep-18	10-Feb-19	18%	4%	Manufacturing clearance issued on 27 th September 2018	Concessionaire to expedite the manufacturing process within the scheduled time
SBR System (Decanters)	19-May-18	16-May-19	8.8%	8.0%		
Manufacturing of Equipment	01-Sep-18	31-Mar-19	14%	12.0%	Manufacturing clearance issued on 17 th September 2018	Concessionaire to expedite the manufacturing process within the scheduled time
Horizontal centrifugal pumps (Treated water pumps)	31-May-18	18-Dec-18	12.2%	1.8%		
Submission & Approval of Drgs / Docs & data sheets including release of purchase order	31-May-18	25-Jul-18	100%	80%	Concessionaire to resubmit the data sheet after incorporating the observations	
Manufacturing of Equipment	10-Sep-18	15-Dec-18	21%		Manufacturing clearance is delayed	Concessionaire to expedite 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 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
					due to delay in approval of data sheet	manufacturing process within the scheduled time
Air Blowers	01-May-18	18-May-19	8.8%	8.0%		
Manufacturing of Equipment	01-Sep-18	30-Mar-18	14%	12.0%	Manufacturing clearance issued on 17 th September 2018	Concessionaire to expedite the manufacturing process within the scheduled time
Sluice Gates	05-Mar-18	18-Dec-18	5%	1%		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	05-Mar-18	18-Jul-18	100%	50%	Concessionaire to resubmit the data sheet after incorporating the observations	
Manufacturing of Equipment	25-Sep-18	12-Dec-18	6%		Manufacturing clearance is delayed due to delay in approval of data sheet	Concessionaire to expedite the manufacturing process within the scheduled time
Motorized Gates at Inlet Of SBR	01-May-18	18-May-19	2%	1%		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	01-May-18	30-Aug-18	100%	50%	Concessionaire to resubmit the data sheet after incorporating the observations	
Diffusers	12-May-18	23-Apr-19	11%	8%		
Manufacturing of Equipment	01-Sep-18	15-Feb-19	17%	12%	Manufacturing clearance issued on 17 th September 2018	Concessionaire to expedite the manufacturing process

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
						within the scheduled time
Agitators	01-May-18	23-Jul-19	7%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	01-May-18	18-Jul-18	100%		Concessionaire yet to submit the same and delay is due to lack of planning.	Concessionaire to expedite the Submission of the same by 15th October 2018
Manufacturing of Equipment	01-Sep-18	08-Jun-19	10%		Manufacturing clearance is delayed due to delay in approval of data sheet	
Transformers	02-Jul-18	21-Jul-19	2.2%	0.7%		
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	02-Jul-18	18-Jul-18	100%	30%	Concessionaire to resubmit the data sheet after incorporating the observations	
MCC panel	23-Jun-18	16-Aug-19	2%			
Submission & Approval of Drawings / Documents & data sheets including release of purchase order	23-Jun-18	27-Jul-18	100%		Concessionaire yet to submit the same and delay is due to lack of planning.	
Civil Executions	6-Apr-18	15- Aug-19	53%	35%		
Bund Wall / Earthen Embankment	19-Feb-18	30-Aug-19	55.8%	51.0%		
Filling & Compaction	09-Jul-18	25-Oct-18	77%	43%	Lack of planning and	Full utilization of 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 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
of Bund Wall from 1.0 to 2.0 Mtr Height					efficient utilisation of available manpower and equipment	available equipment shall increase the 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	51.6%	25.4%	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.
Excavation	03-Jun-18	12-Jun-18	100%	95%		
PCC & RCC of Footing	13-Jun-18	18-Jul-18	100%	22%		
Inlet Chamber Slab With Column, Wall	20-Sep-18	15-Dec-18	12%			
SBR Basins & SBR outlet Chamber	09-Apr-18	15-Jul-19	62%	41.1%	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.
PCC & Raft RCC at 72.00 level	10-Apr-18	29-Jul-18	100%	85%		
Wall 1st Lift	05-Jun-18	30-Aug-18	100%	31%		
Wall 2nd Lift	07-Jun-18	05-Sep-18	100%	15%		
Construction of CCT including Chlorination room & Treated water pump House	26-Apr-18	24-Aug-19	52.8%	24.8%	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.
PCC & Raft RCC	15-May-18	25-Jul-18	100%	56%		

Item of work	Scheduled start date as per approved construction plan	Scheduled completion date as per approved construction plan	Scheduled completion in % as on 30 th September 2018	Total completion in % as on 30 th September 2018	Delay analysis	Recovery / Mitigation plan
50% RCC of Structure	20-Jun-18	10-Oct-18	91%	14%		
Overhead Treated water Tank	01-Jun-18	01-Aug-19	30%	10%	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.
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%			
Staff Quarters	08-Jun-18	16-Nov-19	30%		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.
Excavation	08-Jun-18	17-Jun-18	100%			
PCC & Raft RCC	11-Jun-18	18-Jul-18	100%			
Construction of Blower room, HT, MCC, Transformer Yard, DG set Area	03-Jun-18	29-Aug-19	35.8%	18.8%	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.
PCC & RCC of Footing	03-Jul-18	18-Jul-18	100%	44%		
RCC up to Plinth	15-Sep-18	11-Oct-18	58%			

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 September 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 September 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 September 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 September 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	NA
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	Submitted	Submitted

Sl. No.	Description	Till previous month	During the month of September 2018
	<ul style="list-style-type: none"> Monthly minor accident, serious incident details Average manpower details, man-hours works 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	<p>HSE Bulletin board indicating</p> <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	NA
	Drinking water facility within a distance of 200 m from the	Provided at 04	Provided at 04 locations

Sl. No.	Description	Till previous month	During the month of September 2018
	place of work for all workers	locations	
	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	