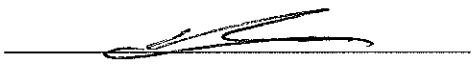
Drainage Services Department

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Monthly EM&A Report
August 2020

(Version 1)

Certified By 

(Environmental Team Leader:
Mr. KS Lee)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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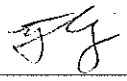
Checked by	Mr. Eric Yan		14 September 2020

Ref.: DSDSWHS1EM00_0_0071E.20

11 September 2020

By E-mail and Fax (3922 9797)

AECOM Asia Company Limited
8/F., Grand Central Plaza, Tower 2,
138 Shatin Rural Committee Road
Sha Tin, New Territories, Hong Kong

Attention: Mr CHANG Ping Wah

Dear Mr CHANG,

Re: Contract No. SPW 08/2019
Independent Environmental Checker for
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Monthly EM&A Report for August 2020

Reference is made to the Environmental Team's submission of Monthly EM&A Report for August 2020 (Version 1) certified by the ET Leader and provided to us via e-mail on 11 September 2020.

Please be informed that we have no adverse comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 of FEP-02/474/2013.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

Yours sincerely,
For and on behalf of
Ramboll Hong Kong Limited

Manson Yeung
Independent Environmental Checker

c.c.

DSD	Attn.: Ms Konica Cheung	(By Fax: 3104 6420)
Cinotech	Attn.: Mr K. S. Lee	(By Fax: 3107 1388)

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EXECUTIVE SUMMARY

Introduction

1. This is the 8th EM&A Report prepared by the Environmental Team, Cinotech Consultants Ltd., for Agreement No. SPW 07/2019 "Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1". This report summarized the monitoring results and audits findings of the EM&A programme under the issued further EP No. FEP-02/474/2013 and in accordance with the Updated EM&A Manual during the reporting month of August 2020.

Summary of Main Works Undertaken and Key Measures Implemented

2. The main works undertaken during the reporting period are as follows:

Table I Summary Table for Major Site Activities in the Reporting Month

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	• Piling installation • Sheet piling installation • Pile loading test • ELS works - excavation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	• Sheet piling installation • ELS installation • Road and drainage works • Demolition work of existing sedimentation tank • Pre-drilling & foundation work • Construction of manhole
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	• Civil work for site office in WA1-B
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	• Construction of contractor's site office foundation and site installation of the contractor's site office accommodations (MiC)

3. Implementation of the key mitigation measures during the reporting period are as follows:

Air Quality
- Stockpiles were covered by impervious sheets.
- Water spraying on haul road was done to minimize dust generation.

Water Quality
- Stagnant water was removed, pumped and collected in the sedimentation tank.

Summary of Exceedances, Investigation and Follow-up

4. Exceedance of Action/Limit levels during the reporting month (August 2020) and the investigation results and/or follow-up actions:

Air Quality Monitoring
- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Construction Noise Monitoring
- No Action/Limit Level exceedance for day time construction noise monitoring was recorded in the reporting month.

Ecological Monitoring
- No Action Level and no Limit Level exceedance was triggered.

Complaint Handling, Prosecution and Public Engagement

Table II Summary of Complaint/Summons/Prosecution in the Reporting Month

Event	Event Details		Follow-up/ Remedial Actions	Status/ Remarks
	Number	Brief Description		
Complaints Received	0	-	-	-
Notification of Summons and Prosecutions Received	0	-	-	-
Public Engagement Activities	0	-	-	-

Reporting Changes

5. There were no reporting changes during the reporting month.

Future Key Issues

6. The key works or activities will be anticipated in the next reporting period are as follows:

Table III Summary Table for Site Activities in the Next Reporting Period

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	• Piling installation • Sheet piling installation • Pile loading test • ELS works - excavation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	• ELS installation • Sheet piling installation • Drainage diversion work • Piling installation • Cable diversion • Pipe laying
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	• Civil work for site office in WA1-B • Erection of site office in WA1-B • Paving work in WA3 • E&M work for site office in WA1-B • Ground investigation in sidestream treatment facilities
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	• Construction of contractor's site office foundation and site installation of the contractor's site office accommodations (MiC) • Construction of temporary filtrate equalisation tank. • Installation of temporary primary sludge thickener and its accessories. • Dismantle & removal of E&M equipment of the existing primary sedimentation tank no. 4 and no. 6

1 INTRODUCTION

Background

1.1 The Further Expansion of Shek Wu Hui Effluent Polishing Plant (SWHEPP) is a designated Project (DP) under F.1 and F.2 of Part 1, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). The "North East New Territories New Development Areas" Environmental Impact Assessment (NENT NDAs EIA) Report (Registered No.: AEIAR-175/2013) covered the assessment for the Further Expansion of SWHSTW Phase 1A, 1B and 2, and the associated Environmental Monitoring and Audit (EM&A) Manual was approved on 18 October 2013.

1.2 The existing Shek Wu Hui Sewage Treatment Works (SWHSTW) is operated and maintained by the Drainage Services Department (DSD). It provides secondary level treatment to sewage collected from Sheung Shui, Fanling and adjacent areas, SWHSTW was completed in two stages and expanded progressively in the past year. In 2009, the expansion of SWHSTW was completed and its design capacity was 93,000m^2/day at average dry weather flow (ADWF). After the Resource Allocation Exercise 2017, the existing SWHSTW is proposed to be upgraded from secondary to tertiary treatment level as the new SWHEPP at 3 stages: Main Works Stage 1, Stage 2 and Stage 3.

1.3 A Further Environmental Permit (EP) (Permit No. FEP-02/474/2013) was issued on 15 February 2018 to DSD as the Permit Holder to assume the responsibility for construction and operating the SWHEPP Project up to a capacity of 190,000m^3/day. The updated Environmental Monitoring and Audit (EM&A) Manual was prepared in accordance with Condition 2.3 of the Further EP. The site layout plan for the Project is shown in **Figure 1.1**.

1.4 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for "Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1" (hereinafter called the "Project").

Purpose of the Report

1.5 This is the 8th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in August 2020.

Project Organizations

1.6 Different Parties with different levels of involvement in the project organization include:

- Permit Holder – Drainage Services Department (DSD)
- Supervisor Representative – AECOM Asia Company Limited (AECOM)
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
- Independent Environmental Checker (IEC) – Ramboll Hong Kong Limited (Ramboll)
- Contractors
    - Contract No.: DC/2018/06 - Kwan Lee - Chun Wo Joint Venture (KLCWJV)
    - Contract No.: DC/2018/07 - Kwan Lee - Chun Wo Joint Venture (KLCWJV)
    - Contract No.: DE/2018/03 - Jardine Engineering Corporation Limited (JEC)
    - Contract No.: DE/2018/04 - Bestwise Envirotech Limited (Bestwise)

1.7 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

Party	Role	Contact Person	Phone No.
DSD	Permit Holder	Ms. Konica Cheung	2594 7463
AECOM	Supervisor Representative	Mr. Henry Tai	3792 0580
Cinotech	Environmental Team	Mr. KS Lee (ETL)	2151 2091
		Ms. Betty Choi	2151 2072
Ramboll	Independent Environmental Checker	Mr. Manson Yeung	3465 2888
KLCWJV	Contractor (DC/2018/06)	Ms. Ruby Hui	6218 6408
KLCWJV	Contractor (DC/2018/07)	Mr. Jimmy Cheng	9606 5916
JEC	Contractor (DE/2018/03)	Mr. Brendan Chan	2807 4264
Bestwise	Contractor (DE/2018/04)	Mr. Albus Cheung	9731 0831

1.8 The Organizational Structure for Environmental Management is shown in **Figure 1.2**.

Construction Activities undertaken during the Reporting Month

1.9 The major site activities undertaken in the reporting month included:

Table 1.2 Summary Table for Major Site Activities in the Reporting Month

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	• Piling installation • Sheet piling installation • Pile loading test • ELS works - excavation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	• Sheet piling installation • ELS installation • Road and drainage works • Demolition work of existing sedimentation tank • Pre-drilling & foundation work • Construction of manhole
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	• Civil work for site office in WA1-B
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	• Construction of contractor's site office foundation and site installation of the contractor's site office accommodations (MiC)

Summary of EM&A Requirements

1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, water quality monitoring, ecological monitoring and environmental site audit, etc. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA Report.

1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 8 of this report.

1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in August 2020.

Statues of Environmental Licensing and Permitting

1.13 All permits/licenses obtained for the Project are summarized in **Table 1.3**.

Table 1.3 Summary of Environmental License and Permit

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
All	FEP-02/474/2013	15 Feb 2018	N/A	Valid
Notification of Construction Works under Air Pollution Control Ordinance (APCO)				
DC/2018/06	449210 (Portion A & C)	23 Sep 2019	11 Mar 2024	Valid
DC/2018/06	449211 (WM1)	23 Sep 2019	11 Mar 2024	Valid
DC/2018/07	449210	23 Sep 2019	11 Mar 2024	Valid
DE/2018/03	455843 (WA3)	6 May 2020	30 Sep 2020	Valid
DE/2018/03	457212 (WA1-B)	15 Jun 2020	30 Aug 2020	Valid
Billing Account for Construction Waste Disposal				
DC/2018/06	7035390	11 Oct 2019	N/A	Valid
DC/2018/07	7035985	9 Dec 2019	N/A	Valid
DE/2018/03	7035700	6 Nov 2019	N/A	Valid
DE/2018/04	703621912	2 Jan 2020	N/A	Valid
Registration of Chemical Waste Producer				
DC/2018/06	5213-624-K3371-01	14 Nov 2019	N/A	Valid
DC/2018/07	5213-624-K3371-02	6 Jan 2020	N/A	Valid
DE/2018/03	5213-624-T3861-01	14 Apr 2020	N/A	Valid
DE/2018/04	5213-624-B2592-01	7 Jul 2020	N/A	Valid
Effluent Discharge License				
DC/2018/06	WT00035431-2019 (Portion C)	27 Jul 2020	31 Jan 2025	Valid

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
DC/2018/06	WT00035718-2020 (Portion A)	2 Apr 2020	30 Apr 2025	Valid
DC/2018/07	WT00035727-2020	1 Apr 2020	30 Apr 2025	Valid
Construction Noise Permit (Water Pump and Concrete Work at Portion C)				
DC/2018/06	GW-RN0301-20	10 May 2020	9 Aug 2020	Cancelled on 9 Aug 2020
Construction Noise Permit (Handtools at Portion A)				
DC/2018/06	GW-RN0380-20	16 Jun 2020	15 Aug 2020	Cancelled on 9 Aug 2020
Construction Noise Permit (Water Pump at Portion B)				
DC/2018/07	GW-RN0497-20	20 Jul 2020	19 Jan 2021	Cancelled on 9 Aug 2020
Construction Noise Permit (Routine Night Works at Portion B)				
DC/2018/07	GW-RN0377-20	16 Jun 2020	15 Aug 2020	Cancelled on 9 Aug 2020
Construction Noise Permit (Routine Night Works - Concreting, Excavation, Bar Bending & Cutting at Portion A, B and C)				
DC/2018/06 and DC/2018/07	GW-RN0564-20	9 Aug 2020	8 Oct 2020	Valid
Admission Ticket for Disposal of Special Waste				
DC/2018/07	15805	6 Aug 2020	5 Nov 2020	Valid

2 AIR QUALITY

Monitoring Requirement

2.1 According to the Updated EM&A Manual of SWHEPP, 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.2 Four designated monitoring stations were selected for air quality monitoring programme. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

Table 2.1 Air Quality Monitoring Locations

Monitoring Stations	Location	Location of Measurement
AM1(1)	Wai Loi Tsuen	Ground Level
AM2(1)	Fu Tei Au	Ground Level
AM1a(2)	Site Boundary of the Shek Wu Hui STW (East)	Ground Level
AM2a(2)	Site Boundary of the Shek Wu Hui STW (North)	Ground Level

Remarks: (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

Monitoring Parameters and Frequency

2.3 **Table 2.2** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring. The monitoring schedule is shown in **Appendix B**.

Table 2.2 Frequency and Parameters of Air Quality Monitoring

Monitoring Stations	Parameter	Period	Frequency
AM1 & AM2	1-hour TSP	0700 – 1900	3 times/day, once every 6 days
AM1a & AM2a	24-hour TSP	24 hours	Once every 6 days

Monitoring Equipment

2.4 High Volume Samplers (HVS) in compliance with the specification stipulated in the EM&A Manual, Section 2.2.2, were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined by HVS to check the validity and accuracy of the results measured by direct reading method.

2.5 Wind data monitoring equipment was set on rooftop (about 4/F) of the SWHSTW control room building for logging wind speed and wind direction such that the wind sensors were clear of obstructions or turbulence caused by building. The wind data monitoring equipment was re-calibrated at least once every six months and the wind directions were divided into 16 sectors of 22.5 degrees each.

2.6 **Table 2.3** summarizes the equipment to be used for air quality monitoring. Copies of calibration certificates are attached in **Appendix C**.

Table 2.3 Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
1-hour TSP Dust Meter	Sibata Model No.: LD-5R	3
HVS Sampler	GMW Model: GS 2310	1
	TISCH Model: TE 5170	1
Calibrator	TISCH Model: TE-5025A	1
Wind Anemometer	Global Water Instrumentation WE800	1

Monitoring Methodology

1-hour TSP Monitoring

Measuring Procedures

2.7 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Sibata Model No.: LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

2.8 The following maintenance/calibration is required for the 1-hour dust meter:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

2.9 High volume samplers (HVS) (TISCH Model: TE-5170) complete with appropriate sampling inlets was employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Section 2.2 of the Annex II Specification.

2.10 The positioning of the HVS samplers are as follows:

- A horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
- No two samplers shall be placed less than 2 meter apart;
- The distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- A minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
- A minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
- No furnace or incinerator flue is nearby;
- Airflow around the sampler is unrestricted;
- The sampler is more than 20 metres from the dripline;
- Any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
- Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- A secured supply of electricity is needed to operate the samplers.

Operating/analytical procedures for the operation of HVS

2.11 Operating/analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3μm diameter were used.
- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the HOKLAS laboratory (Wellab Ltd.) for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.12 The following maintenance/calibration is required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

Results and Observations

2.13 Impact air quality monitoring was conducted at four monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**.

2.14 No Action/Limit Level exceedance was recorded for all 1-hour TSP monitoring in the reporting month.

2.15 No Action/Limit Level exceedance was recorded for all 24-hour TSP monitoring in the reporting month.

2.16 The air temperature, precipitation and the relative humidity data was obtained from daily extract of Ta Kwu Ling Station in Hong Kong Observatory Climate Information Service, where the wind speed and wind direction were recorded by the installed Wind Anemometer at rooftop (about 4/F) of the SWHSTW control room building. This weather information for the reporting month is summarized in **Appendix D**.

2.17 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.

2.18 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

Table 2.4 Major Dust Source during Air Quality Monitoring

Monitoring Stations	Major Dust Source
AM1 - Wai Loi Tsuen	Road Traffic at Sheung Shui Tung Hing Road
AM2 - Fu Tei Au	N/A
AM1a - Site Boundary of the Shek Wu Hui STW (East)	Vehicle Movement within SWHSTW
AM2a - Site Boundary of the Shek Wu Hui STW (North)	N/A

Comparison of EM&A Result with EIA Prediction

2.19 The air monitoring data was compared with the predictions in the EIA Report (as approved in 2013) as summarised in **Tables 2.5** and **Table 2.6**.

Table 2.5 Comparison of 1-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	ASR ID	Predicted 1-hr TSP Concentration in EIA Report (as Approved in 2013), dB(A), µg/m^3	Reporting Month (August 2020), µg/m^3
AM1 - Wai Loi Tsuen	N/A	N/A(1)	14.0 - 116.0
AM2 - Fu Tei Au	FLN-E28	255	12.0 - 98.0

Remarks:
(1) No 1-hr TSP concentration was predicted in EIA Report (As Approved in 2013).

Table 2.6 Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	Predicted 24-hr TSP Concentration in EIA Report (as approved in 2013), dB(A), µg/m^3	Reporting Month (August 2020), µg/m^3
AM1a - Site Boundary of the Shek Wu Hui STW (East)	N/A(1)	18.3 - 118.9
AM2a - Site Boundary of the Shek Wu Hui STW (North)	N/A(1)	28.3 - 78.2

Remarks:
(1) No 24-hr TSP concentration was predicted in EIA Report (as approved in 2013).

2.20 The 1-hour TSP concentration at AM2 in the reporting month was lower than the prediction in the EIA Report (As Approved in 2013). The 1-hour TSP concentrations at AM1 as well as 24-hour TSP concentrations at AM1a and AM2a were not predicted in the EIA Report (As Approved in 2013).

3 NOISE

Monitoring Requirements

3.1 According to the Updated EM&A Manual, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at three designated monitoring stations in the reporting period. **Table 3.1** and **Figure 3** show the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Stations	Location	Location of Measurement
NM1	Wai Loi Tsuen	Ground Level
NM2	Fu Tei Au	Ground Level
NM3	Man Kok Village	Ground Level

Monitoring Parameters, Frequency and Duration

3.3 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Table 3.2 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Time Period	Duration	Frequency	Parameter	Measurement
NM1	0700-1900 hrs on normal weekdays	30 minutes	Once per week	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(30 min.) dB(A)	Free Field
NM2					Free Field
NM3					Free Field

Monitoring Equipment

3.4 Integrating Sound Level Meter was used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.3** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix G**.

Table 3.3 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	BSWA 308	2
	SVAN 957	1
Calibrator	ST-120	1

Monitoring Methodology and QA/QC Procedure

3.5 The monitoring procedures are as follows:

- The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting: A
  - Time weighting: Fast
  - Time measurement: 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise monitoring would be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring would be provided to ensure sufficient data would be obtained.

Maintenance and Calibration

3.6 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

3.7 The sound level meter and calibrator were checked and calibrated at yearly intervals.

3.8 Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

3.9 No Action/Limit Level exceedance was recorded for all construction noise monitoring in the reporting month.

3.10 Noise monitoring results and graphical presentations are shown in **Appendix H**.

3.11 The major noise sources identified at the noise monitoring stations are shown in **Table 3.4**.

Table 3.4 Other Noise Source Identified during Noise Monitoring

Monitoring Stations	Major Noise Source
NM1	Railway Noise and Road Traffic at Sheung Shui Tung Hing Road
NM2	N/A
NM3	Road Traffic at Po Wan Road

3.12 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.

Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Monitoring Stations	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
NM1	63.4	75
NM2	58.0	
NM3	63.4	

Comparison of EM&A Result with EIA Prediction

3.13 The noise monitoring data was compared with the predictions in EIA Report (as approved in 2013) as summarised in **Table 3.6**.

Table 3.6 Comparison of Noise Monitoring Data with Predictions in EIA Report (As Approved in 2013)

Monitoring Stations	NSR ID	Predicted Mitigated Construction Noise Levels in EIA Report (as Approved in 2013), dB(A)	Reporting Month (August 2020), Leq (30min) dB(A)
NM1 - Wai Loi Tsuen	N/A	N/A(1)	55.0 – 62.1
NM2 - Fu Tei Au	N/A	N/A(1)	55.2 – 68.5
NM3 – Man Kok Village	FN-18	66-75	50.1 – 58.0

Remarks:
(1) No construction noise level was predicted in EIA Report (As Approved in 2013).

3.14 The results at NM3 were lower than the range of the predicted mitigated construction noise levels in the EIA Report (As Approved in 2013). Construction noise levels at NM1 and NM2 were not predicted in the EIA Report (As Approved in 2013).

4 ECOLOGY

Monitoring Requirements

4.1 According to the Updated EM&A Manual, waterbird species which use rivers near the Project Site were identified and recorded. The monitoring requirement in the EM&A Manual is shown in **Table 4.1**. **Appendix A** shows the established Action/Limit Levels for ecological monitoring works.

Table 4.1 Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

Phase	Methodology
Construction	Weekly transect at both high and low tides to identify and enumerate all bird species utilising the river channels and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period.

4.2 The monitoring should be conducted by the ET and supervised by a qualified ecologist who will be a member of the ET.

Monitoring Locations

4.3 Transect and point count surveys were proposed within the 500m boundary of Ng Tung River, Sheung Yue River and Shek Sheung River of the assessment area. Three transects and seven-point count locations during high and low tides were applied. These locations are shown in **Figure 4** and summarized in **Table 4.2**. The photo of each transect is provided in **Appendix J**.

Table 4.2 Ecological Monitoring Stations

Monitoring Stations	Descriptions	Influenced by Tidal Action
Transect T1	Along Ng Tung River	No
Point Count Location P1		
Point Count Location P2		
Transect T2		Yes
Point Count Location P3		
Point Count Location P4		
Point Count Location P5	At Shek Sheung River (Low-flow Channel)	No
Transect T3	Along Shek Sheung River & Sheung Yue River	Yes
Point Count Location P6	At Shek Sheung River	Yes
Point Count Location P7	At Intersection between Sheung Yue River and Shek Sheung River	Yes

Monitoring Parameters, Frequency and Duration

4.4 Monitoring surveys were conducted on a weekly basis at both high and low tides (it is considered high tide when tidal levels are above 1.5m and low tide when tidal level are below 1.5m at Tsim Bei Tsui Station). The magnitude of how much above or below 1.5m was subject to tidal conditions of that week as it varied throughout different times of the year. Nonetheless, the high and low tide relative to that week's tidal condition were taken into consideration. The ecological monitoring schedule is shown in **Appendix B**.

Monitoring Methodology

4.5 Transect survey was undertaken along the concerned rivers (Ng Tung River, Sheung Yue River and Shek Sheung River) adjacent to proposed construction activities. As the sensitive receivers (large waterbirds) are easily visible and the surveyor has used auxiliary equipment such as camera(s) and binoculars (magnification 7-10x). The transect route only follows one bank of these rivers.

4.6 At point count locations, surveyors identified and recorded bird species which were seen or heard along the river channel. For each point count, surveyors quantitatively recorded all species seen and heard for the duration of five minutes up to the distance where birds were still detectable. All avifauna along the walk transect were recorded. Noticeable behaviours (e.g. breeding behaviours such as nesting and presence of recently fledged juveniles, roosting and feeding activities, etc.) were recorded as well.

4.7 Ornithological nomenclature used in report should follow *The Avifauna of Hong Kong* (Carey et al. (2001)), *The Birds of Hong Kong and South China* (Viney et al. (2005)) and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

4.8 Weather conditions, tidal information at the time of the survey and other noticeable activities occurring within or in the vicinity of the survey areas (e.g. ongoing routine drainage channel maintenance works and other human activities that could create disturbances to birds) were recorded.

Analytical Methodology

4.9 The number and species of waterbirds utilizing the rivers fluctuate every day naturally. Therefore, the survey data were collectively analysed on a monthly basis to increase the sample size and to reduce random error on one survey day. Since occurrence of waterbirds has distinctive seasonal pattern, the construction phase data for all waterbirds and representative waterbirds were compared with the baseline data for the respective month and season. The representatives of waterbirds are listed in **Table 4.3**.

Table 4.3 Representative Waterbirds

Species Name	Common Name	Chinese Name
Egretta garzetta	Little Egret	小白鷺
Ardea cinerea	Grey Heron	蒼鷺
Ardeola bacchus	Chinese Pond Heron	池鷺
Phalacrocorax carbo	Great Cormorant	普通鸕鷀
Ardea alba	Great Egret	大白鷺
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺

4.10 When a decline in abundance of all or representative waterbird is identified, one-tailed Student t-test was adopted to statistically analyse whether the drop is significant. If the collected data for the reporting month fails to show no significant difference from that in the baseline phase at 95% confidence level, the action level will be triggered. Likewise, the limit level is set at 99% confidence level.

4.11 In addition, if important behaviours such as breeding, brooding, nesting and presence of recently fledged juveniles of species of conservation importance are observed, the Resident Engineer, Contractor and IEC should be notified immediately after the survey. The Contractor should review current construction programme and minimize disturbance due to construction activities.

Results

4.12 For this reporting month, the numbers of species and individuals recorded were provided in **Table 4.4**. The photo record of waterbirds can be found in **Appendix J**.

Table 4.4 Total Bird Species and Abundance in the Reporting Month

	Number of Species	Abundance
All Avifauna	28	276
Waterbirds	10	140

4.13 **Table 4.5** presents the abundance of representative species.

Table 4.5 Abundance of Representative Waterbirds in the Reporting Month

Species Name	Common Name	Chinese Name	Abundance
Egretta garzetta	Little Egret	小白鷺	60
Ardea cinerea	Grey Heron	蒼鷺	6
Ardeola bacchus	Chinese Pond Heron	池鷺	45
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	0
Ardea alba	Great Egret	大白鷺	16
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	9

Analysis

4.14 The result of student t-tests for all waterbirds and representative waterbirds are compiled in **Table 4.6** and **4.7** respectively. Further details are provided in **Appendix I**.

Table 4.6 T-test Result for All Waterbirds in the Reporting Month

T-values of Data in Reporting Month			Confidence Level (Critical Value)	
			95% (-2.353)	99% (-4.541)
Abundance	Monthly	-0.469	✔	✔
	Seasonal	-2.154	✔	✔

Remarks
✔ = T-value falls within the confidence level, the impact monitoring data shows no significant difference to the baseline data.
✖ = T-value falls outside the confidence level, the impact monitoring data shows significant difference to the baseline data.

Table 4.7 T-test Result for Representative Waterbirds in the Reporting Month

Common Name of Representative Waterbird	T-value	Confidence Level (Critical Value)		T-value	Confidence Level (Critical Value)		Overall
	Monthly	95% (-2.353)	99% (-4.541)	Seasonal	95% (-2.353)	99% (-4.541)	
Little Egret	-0.991	✓	✓	-1.651	✓	✓	✓
Grey Heron	N/A*						
Chinese Pond Heron	-2.089	✓	✓	-3.147	✕	✓	✓
Great Cormorant	N/A*						
Great Egret	2.828	✓	✓	2.067	✓	✓	✓
Eastern Cattle Egret	2.049	✔	✔	-1.149	✔	✔	✔

Remarks
* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during Summer.
✔ = T-value falls within the confidence level, the impact monitoring data shows no significant difference to the baseline data.
✖ = T-value falls outside the confidence level, the impact monitoring data shows significant difference to the baseline data.

4.15 No Action and Limit Level was triggered for ecological monitoring in the reporting month.

Observations

4.16 Waterbird behaviour observed during ecological monitoring are listed below:

- Flying
- Foraging
- Soaring
- Resting

4.17 The anthropogenic activities observed during ecological monitoring are listed in **Table 4.8**.

Table 4.8 Observations during Ecological Monitoring in the Reporting Month

Location	Observations	
	Project Related	**Non-project Related**
T1 (PC1, PC2)	Breaking works, excavation, vibration hammering	Remote boating, mowing
T2 (PC3, PC4)	Breaking works, excavation, vibration hammering	N/A
PC5	N/A	Breaking works
T3 (PC6, PC7)	N/A	N/A

5 WATER QUALITY

Monitoring Requirement

5.1 According to the Updated EM&A Manual, no water monitoring is required before the commencement of outfall construction at Ng Tung River.

5.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of water quality mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix K**.

6 WASTE MANAGEMENT

Monitoring Requirement

6.1 According to the Updated EM&A Manual, waste management would be the contractor's responsibility to ensure that all wastes produced during the construction works for the Project are handled, stored and disposed of in accordance with good waste management practices, EPD's regulations and requirements. No monitoring for waste management is required for the Project. An environmental management plan (EMP) should be prepared and submitted to the Supervisor for approval. The monitoring and auditing requirements of the EMP should be followed with regard to the management of C&D material.

Waste Management Status

6.2 Site audits were carried out on a weekly basis to monitor and audit to ensure that proper storage, transportation and disposal practices of waste materials generated during construction activities, such as construction and demolition (C&D) materials and general refuse are being implemented. The summaries of site audits are attached in **Appendix K**.

6.3 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix L**.

7 LANDSCAPE AND VISUAL

Audit Requirement

7.1 According to the Updated EM&A Manual, site audits would be undertaken during the construction phase of the Project to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. Particularly audits would be carried out during site clearance when proposed tree felling and transplantation may occur. Site inspections would be undertaken at least once every two weeks during the construction period.

7.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix K**.

8 ENVIRONMENTAL AUDIT

Site Audits

8.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix K**.

8.2 Site audits were conducted on 4, 13, 18 & 25 August 2020 in the reporting month. Joint site inspection with the representative of IEC was conducted on 25 August 2020. No non-compliance was observed during the site audit.

Implementation Status of Environmental Mitigation Measures

8.3 According to Environmental Permits, the approved EIA Report (Register No.: AEIAR-175/2013), and the Updated EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix N**.

8.4 The ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Tables 8.1 and 8.2**. Refer to **Appendix K** for the site inspection summary reports in the reporting month.

Table 8.1 Observations and Recommendations of Site Audit of Contract No. DC/2018/06

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	N/A	There was no observation in the reporting period.	N/A
Air Quality	N/A	There was no observation in the reporting period.	N/A
Noise	N/A	There was no observation in the reporting period.	N/A
Waste / Chemical Management	N/A	There was no observation in the reporting period.	N/A
Ecology and Fisheries	N/A	There was no observation in the reporting period.	N/A
Visual and Landscape	N/A	There was no observation in the reporting period.	N/A
Permits /Licences	N/A	There was no observation in the reporting period.	N/A

Table 8.2 Observations and Recommendations of Site Audit of Contract No. DC/2018/07

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	N/A	There was no observation in the reporting period.	N/A
Air Quality	N/A	There was no observation in the reporting period.	N/A
Noise	N/A	There was no observation in the reporting period.	N/A
Waste / Chemical Management	N/A	There was no observation in the reporting period.	N/A
Ecology and Fisheries	N/A	There was no observation in the reporting period.	N/A
Visual and Landscape	N/A	There was no observation in the reporting period.	N/A
Permits /Licences	N/A	There was no observation in the reporting period.	N/A

Implementation Status of Event and Action Plans

8.5 The Event and Action Plans for air quality, construction noise, ecological monitoring and landscape and visual are presented in **Appendix M**.

Air Quality Monitoring

- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Construction Noise Monitoring

- No documented complaint on construction noise was received; no Action Level exceedance for day time construction noise monitoring was recorded.
- No Limit Level exceedance for day time construction noise monitoring was recorded in the reporting month.

Ecological Monitoring

- No Action Level and no Limit Level was triggered.

Landscape and Visual Monitoring

- No non-conformity for landscape and visual was recorded.

9 ENVIRONMENTAL NON-CONFORMANCE

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

9.1 No environmental complaints, warning, notifications of summons and successful prosecutions were received in the reporting month. The summary of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix O**.

Summary of Exceedance

9.2 The summary of exceedance record in reporting month is shown in **Appendix P**.

10 FUTURE KEY ISSUES

10.1 Tentative construction programmes for the next three months are provided in **Appendix Q**.

10.2 Major site activities undertaken for the coming months are summarized in **Table 10.1**.

Table 10.1 Summary Table for Site Activities in the Next Reporting Period

Contract No.	Contract Title	Site Activities
DC/2018/06	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sludge Treatment Facilities and 132kV Primary Substation	• Piling installation • Sheet piling installation • Pile loading test • ELS works - excavation
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	• ELS installation • Sheet piling installation • Drainage diversion work • Piling installation • Cable diversion • Pipe laying
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	• Civil work for site office in WA1-B • Erection of site office in WA1-B • Paving work in WA3 • E&M work for site office in WA1-B • Ground investigation in sidestream treatment facilities
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	• Construction of contractor's site office foundation and site installation of the contractor's site office accommodations (MiC) • Construction of temporary filtrate equalisation tank. • Installation of temporary primary sludge thickener and its accessories. • Dismantle & removal of E&M equipment of the existing primary sedimentation tank no. 4 and no. 6

10.3 Key environmental issues in the coming months include:

- Stockpile accumulation on-site;
- Water spraying for dust generating activities and on haul road;
- Wastewater and runoff discharge from site;
- No disposition of slurry at the existing Shek Wu Hui Sewage Treatment Works;
- Coverage of open manholes to avoid dirty runoff to drainage system;
- Appropriate design of drainage system in order to facilitate storm flow;
- Control of sediment runoff after rainstorms;
- Minimization of soil excavation works during rainstorms to prevent dirty runoff flowing into surrounding waters;
- Noise from operation of the equipment, especially for excavation works and machinery onsite;
- Accumulation of general refuse and construction waste on-site;
- Proper storage of construction materials on-site; and
- Storage of chemicals/fuel and chemical waste/waste oil on-site.

Monitoring Schedule

10.4 The tentative environmental monitoring schedule for the next month is shown in **Appendix B**.

11 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

11.1 This is the 8th Monthly EM&A Report which presents the EM&A works undertaken during the reporting month in accordance with the Updated EM&A Manual and the requirement under EP.

Air Quality Monitoring

11.2 No Action/Limit Level exceedance was recorded for all 1-hour and 24-hour TSP monitoring in the reporting month.

Construction Noise Monitoring

11.3 No Action/Limit Level exceedance was recorded for all noise monitoring in the reporting month.

Ecology

11.4 No Action and Limit Level exceedance was triggered for all ecological monitoring in the reporting month.

Site Audit

11.5 4 ET joint weekly environmental site inspections were conducted in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

11.6 No environmental complaints, notifications of summons and successful prosecutions were received in the reporting month.

Recommendations

11.7 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality

- Regular water spraying on haul road and dry surfaces should be applied to minimize dust generation.
- Stockpiles should be covered by impervious materials.

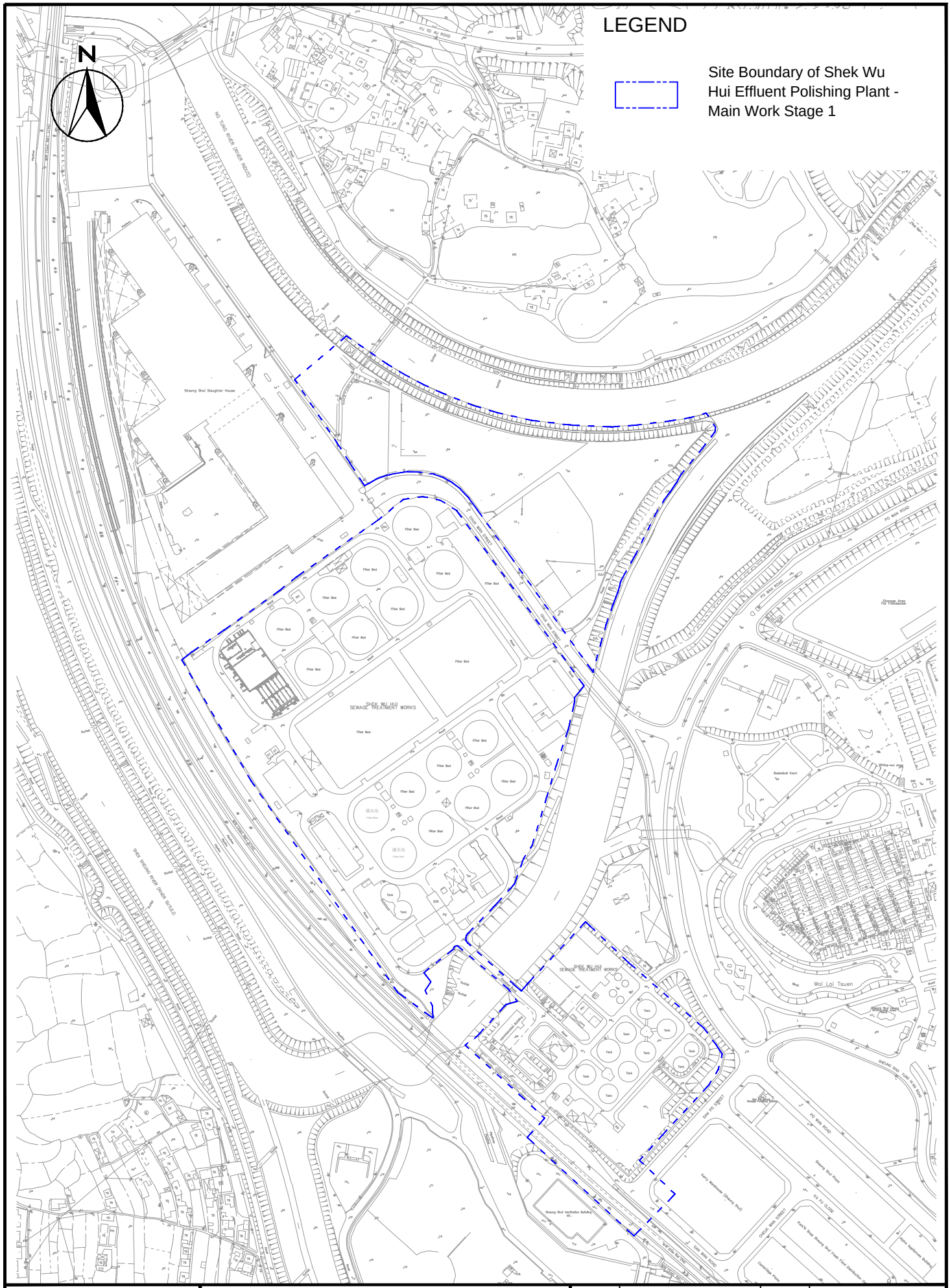
Water Quality

- Stagnant water should be removed and pumped through the sedimentation tank.
- Muddy water should not be discharged into the surrounding rivers.
- No slurry should be disposed of at the existing Shek Wu Hui Sewage Treatment Works.

Waste Management

- General refuse and construction waste accumulation should be avoided.

FIGURES



Cinotech Consultants Limited	Agreement No. SPW07/2019 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Site Layout	SCALE: 1:4000@A4	DATE: OCT 2019
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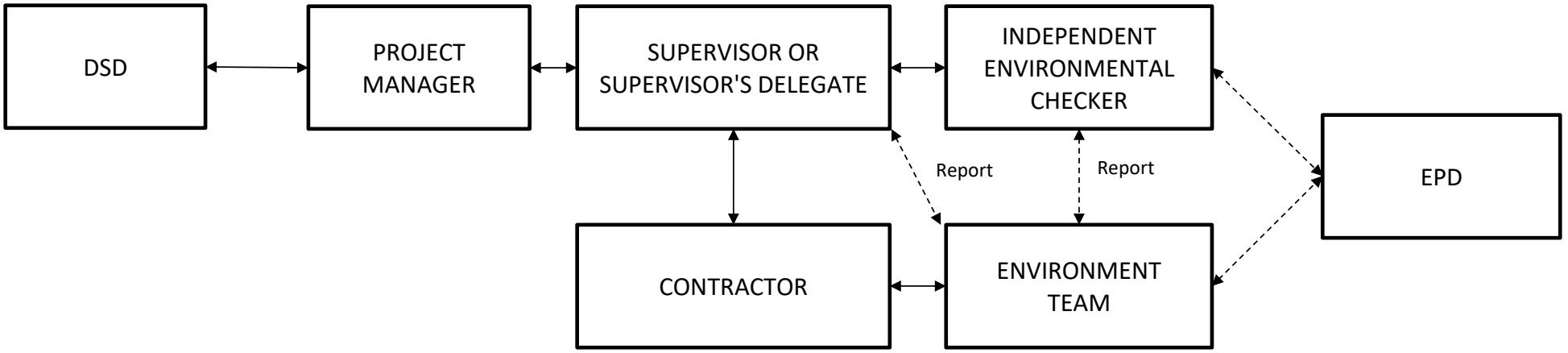
		JOB No.: MA19019	FIGURE NO.: 1.1
			REV: -

F:/Project_drawings



CINOTECH

Agreement No. SPW07/2019
Shek Wu Hui Effluent Polishing Plant- Main Works Stage 1

Project Organisation For Environmental Monitoring and Audit

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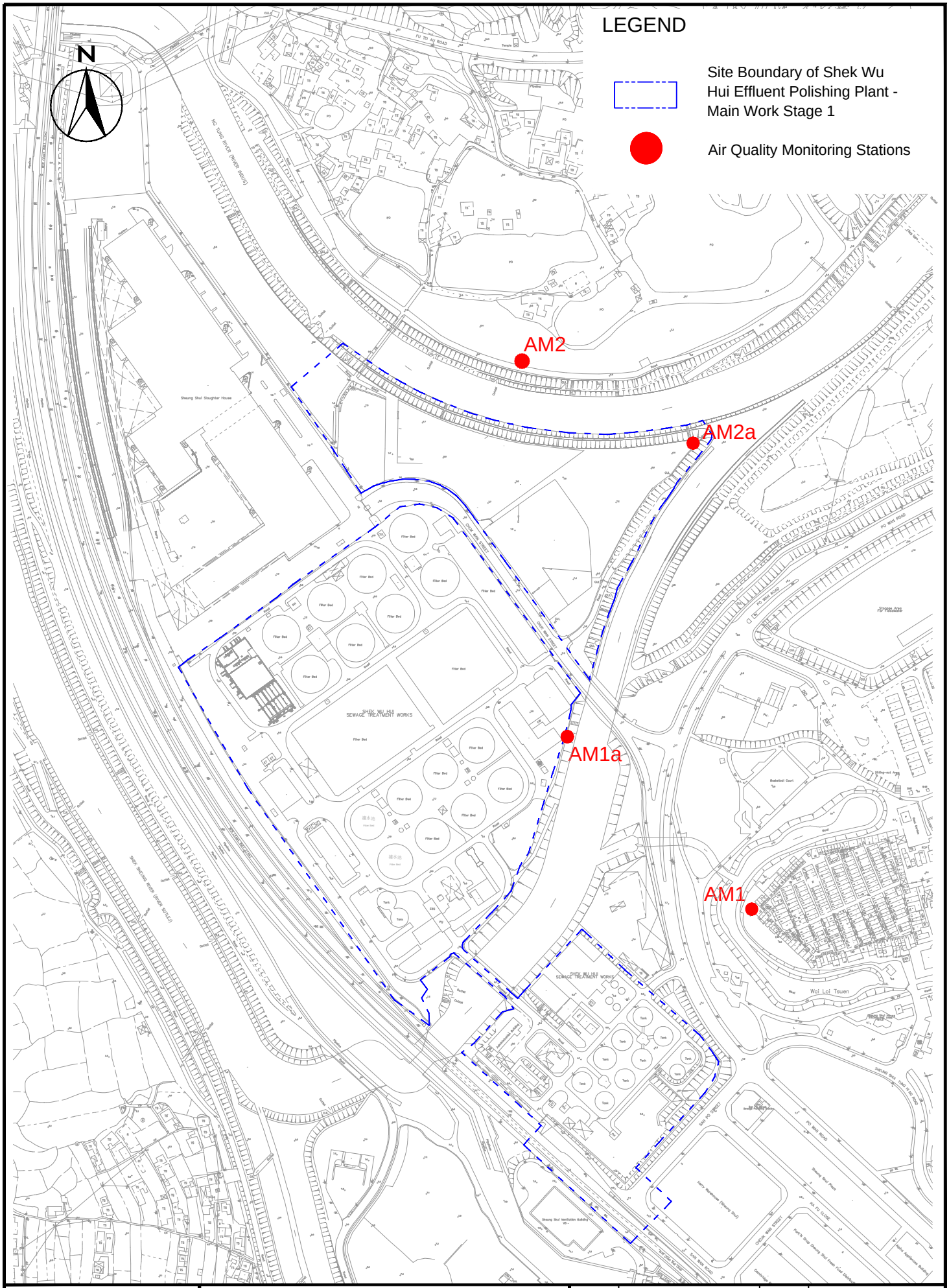
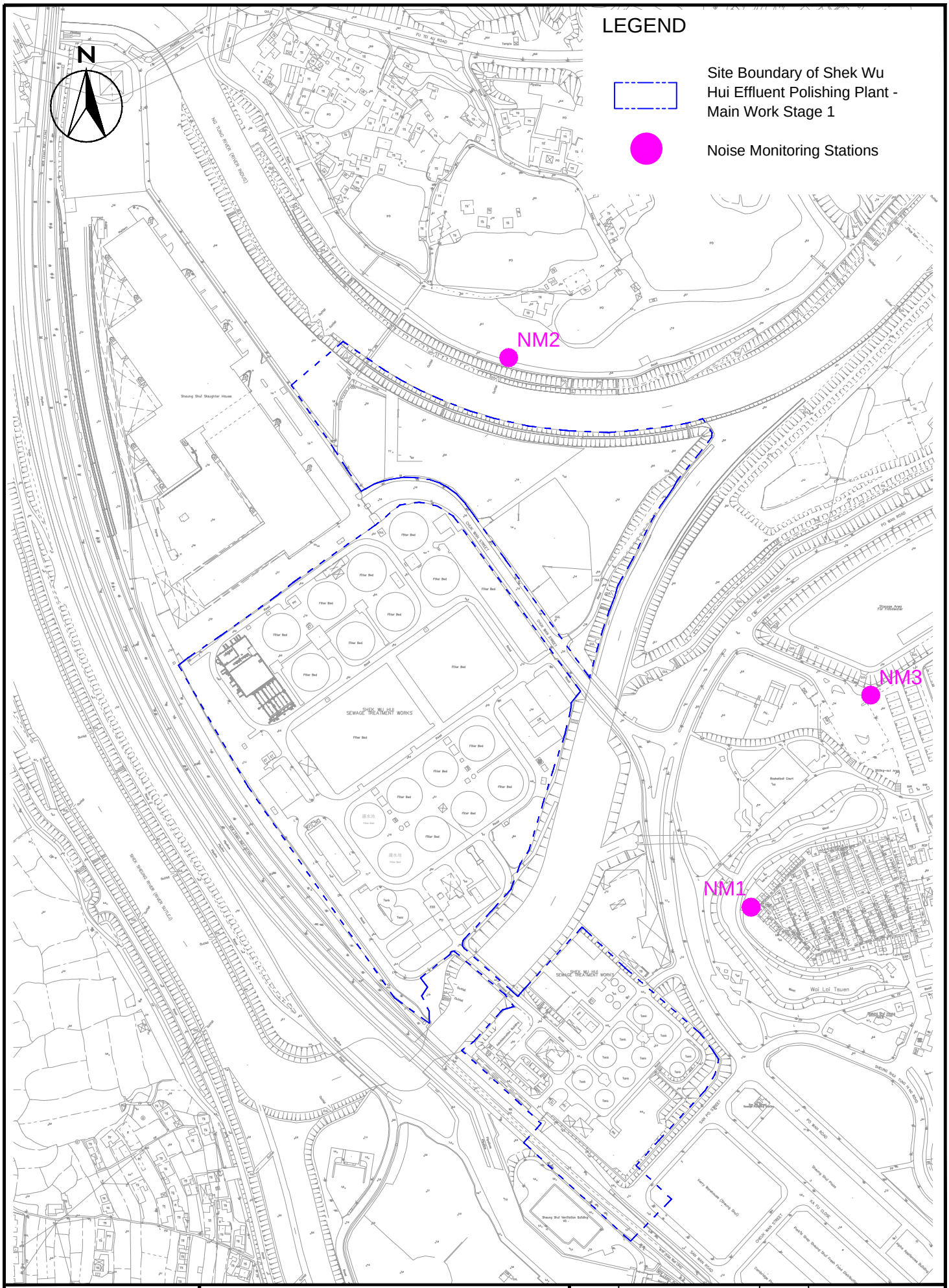
CHECK	JM	**DRAWN**	SY
JOB NO.	MA19019	**FIGURE NO.**	1.2



CINOTECH Cinotech Consultants Limited	Agreement No. SPW07/2019 Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Location of Air Quality Monitoring Stations	SCALE: 1:4000@A4	DATE: OCT 2019
		CHECK: JM	DRAWN: SY
		JOB No.: MA19019	FIGURE NO.: 2 / REV: -

F:/Project_drawings



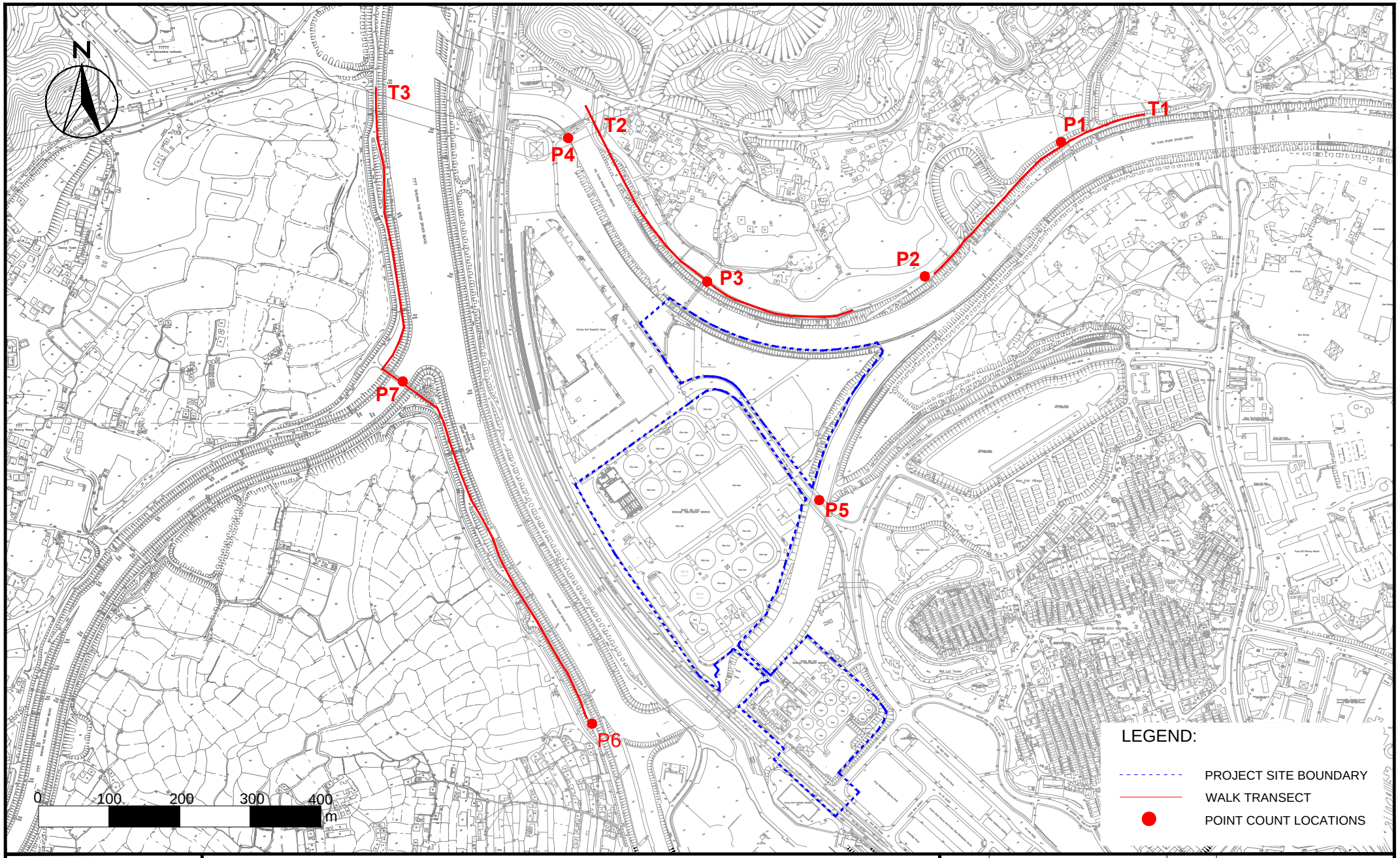
CINOTECH
Cinotech Consultants Limited

Agreement No. SPW07/2019
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Location of Noise Monitoring Stations

SCALE	1:4000@A4	DATE	OCT 2019
CHECK	JM	DRAWN	SY
JOB No.	MA19019	FIGURE NO. 3	REV -

F:/Project_drawings



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Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Survey Location for Impact Ecological Monitoring

SCALE	1:7000 @ A4	DATE	Jan 2020
CHECK	BC	DRAWN	JM
JOB No.	MA19019	FIGURE NO. 4	REV -

APPENDIX A
ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

Table A-1 Action and Limit Levels for 1-hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	320	500
AM2	322	

Table A-2 Action and Limit Levels for 24-hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1a	189	260
AM2a	187	

Table A-3 Action and Limit Levels for Noise during Construction Period

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)*

*Remarks:

- If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) used by the Noise Control Authority have to be followed.
- Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Table A-4 Action and Limit Levels of Disturbance to Waterbirds using Ng Tung, Sheung Yue and Shek Sheung Rivers during Construction Phase

Action Level	Limit Level
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Decline in numbers of all waterbird species relative to numbers during baseline monitoring such that the limit level response is triggered.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.

Note: Whether numbers are significant depend on species and season after collection and evaluation of baseline survey data.

APPENDIX B
ENVIRONMENTAL MONITORING SCHEDULES

Agreement No. SPW07/2019
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Impact Air, Noise and Ecology Monitoring Schedule (August 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
						24 hrs TSP
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
	1 hr TSP x 3 Noise			24 hrs TSP Ecology	1 hr TSP x 3	
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
			24 hrs TSP	1 hr TSP x 3 Noise	Ecology	
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
		24 hrs TSP	1 hr TSP x 3 Noise	Ecology		
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
	24 hrs TSP Ecology	1 hr TSP x 3 Noise				24 hrs TSP
30-Aug	31-Aug					
	1 hr TSP x 3 Noise					

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station
1-hr TSP
AM1 - Wai Loi Tsuen
AM2 - Fu Tei Au

24-hr TSP
AM1a - Site Boundary of the Shek Wu Hui STW (East)
AM2a - Site Boundary of the Shek Wu Hui STW (North)

Noise Monitoring Station

NM1 - Wai Loi Tsuen
NM2 - Fu Tei Au
NM3 - Man kok Village

Agreement No. SPW07/2019
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Tentative Impact Air, Noise and Ecology Monitoring Schedule (September 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Sep	2-Sep	3-Sep	4-Sep	5-Sep
				24 hrs TSP Ecology	1 hr TSP x 3	
6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep
		Ecology	24 hrs TSP	1 hr TSP x 3 Noise		
13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
		24 hrs TSP Ecology	1 hr TSP x 3 Noise			
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
	24 hrs TSP	1 hr TSP x 3 Noise Ecology				24 hrs TSP
27-Sep	28-Sep	29-Sep	30-Sep			
	1 hr TSP x 3 Noise Ecology		24 hrs TSP			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station

1-hr TSP
AM1 - Wai Loi Tsuen
AM2 - Fu Tei Au

24-hr TSP
AM1a - Site Boundary of the Shek Wu Hui STW (East)
AM2a - Site Boundary of the Shek Wu Hui STW (North)

Noise Monitoring Station

NM1 - Wai Loi Tsuen
NM2 - Fu Tei Au
NM3 - Man kok Village

APPENDIX C
COPIES OF CALIBRATION CERTIFICATES FOR AIR QUALITY MONITORING

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator

Date of Calibration 5-Jun-20

Manufacturer: Sibata Scientific Technology LTD.

Validity of Calibration Record 5-Aug-20

Model No.: LD-5R

Serial No.: 972778

Equipment No.: SA-01-07

Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-01A

Before Sensitivity Adjustment 735 CPM

Tisch Calibration Orifice No.: 3607

After Sensitivity Adjustment 735 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	47.0	100.5
2	37.0	96.5
3	26.0	91.0
Average	**36.7**	**96.0**

By Linear Regression of Y on X

Slope , mw = **0.4532** **Intercept, bw =** **79.3837**

Correlation coefficient* = **0.9980**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	96.0
Particaulate Concentration by Dust Meter (µg/m^3)	36.7
Measureing time, (min)	60.0
Set Correlation Factor , SCF	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]	**2.6**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: _____

Wong Shing Kwai

Approved by: _____

Henry Leung

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration: 5-Aug-20

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record: 5-Oct-20

Model No.: LD-5R

Serial No.: 972778

Equipment No.: SA-01-07 — Sensitivity: 0.001 mg/m3

High Volume Sampler No.: A-01-01A — Before Sensitivity Adjustment: 735 CPM

Tisch Calibration Orifice No.: 3607 — After Sensitivity Adjustment: 735 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	41.0	65.8
2	31.0	62.7
3	21.0	59.0
Average	**31.0**	**62.5**

By Linear Regression of Y on X

Slope , mw = **0.3400** **Intercept, bw =** **51.9600**

Correlation coefficient* = **0.9987**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	62.5
Particaulate Concentration by Dust Meter (µg/m^3)	31.0
Measureing time, (min)	60.0
Set Correlation Factor , SCF **SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]**	**2.0**

In-house method in according to the instruction manual:
The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: Wong Shing Kwai

Approved by: Henry Leung

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator
Date of Calibration 5-Jun-20
Manufacturer: Sibata Scientific Technology LTD.
Validity of Calibration Record 5-Aug-20
Model No.: LD-5R
Serial No.: 972779
Equipment No.: SA-01-08
Sensitivity 0.001 mg/m3
High Volume Sampler No.: A-01-01A
Before Sensitivity Adjustment 744 CPM
Tisch Calibration Orifice No.: 3607
After Sensitivity Adjustment 744 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor** Mass Concentration (µg/m3) **X-axis**	**HVS** Mass concentration (µg/m^3) **Y-axis**
1	46.0	100.5
2	33.0	96.5
3	19.0	91.0
Average	**32.7**	**96.0**

By Linear Regression of Y on X

Slope , mw = **0.3524** **Intercept, bw =** **84.4890**

Correlation coefficient* = **0.9976**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	96.0
Particaulate Concentration by Dust Meter (µg/m^3)	32.7
Measureing time, (min)	60.0

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] **2.9**

In-house method in according to the instruction manual:
The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: Wong Shing Kwai

Approved by: Henry Leung

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator
Date of Calibration 5-Aug-20
Manufacturer: Sibata Scientific Technology LTD.
Validity of Calibration Record 5-Oct-20
Model No.: LD-5R
Serial No.: 972779
Equipment No.: SA-01-08
Sensitivity 0.001 mg/m3
High Volume Sampler No.: A-01-01A
Before Sensitivity Adjustment 744 CPM
Tisch Calibration Orifice No.: 3607
After Sensitivity Adjustment 744 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	41.0	65.8
2	32.0	62.7
3	23.0	59.0
Average	**32.0**	**62.5**

By Linear Regression of Y on X

Slope , mw = **0.3778** **Intercept, bw =** **50.4111**

Correlation coefficient* = **0.9987**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	62.5
Particaulate Concentration by Dust Meter (µg/m^3)	32.0
Measureing time, (min)	60.0
Set Correlation Factor , SCF **SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]**	**2.0**

In-house method in according to the instruction manual:
The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: Wong Shing Kwai

Approved by: Henry Leung

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator

Date of Calibration 5-Jun-20

Manufacturer: Sibata Scientific Technology LTD.

Validity of Calibration Record 5-Aug-20

Model No.: LD-5R

Serial No.: 972781

Equipment No.: SA-01-10

Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-01A

Before Sensitivity Adjustment 734 CPM

Tisch Calibration Orifice No.: 3607

After Sensitivity Adjustment 734 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	46.0	100.5
2	40.0	96.5
3	31.0	91.0
Average	**39.0**	**96.0**

By Linear Regression of Y on X

Slope , mw = **0.6316** **Intercept, bw =** **71.3684**

Correlation coefficient* = **0.9997**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	96.0
Particaulate Concentration by Dust Meter (µg/m^3)	39.0
Measureing time, (min)	60.0
Set Correlation Factor , SCF	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]	**2.5**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: Wong Shing Kwai

Approved by: Henry Leung

Cerificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator
Date of Calibration 5-Aug-20
Manufacturer: Sibata Scientific Technology LTD.
Validity of Calibration Record 5-Oct-20
Model No.: LD-5R
Serial No.: 972781
Equipment No.: SA-01-10
Sensitivity 0.001 mg/m3
High Volume Sampler No.: A-01-01A
Before Sensitivity Adjustment 734 CPM
Tisch Calibration Orifice No.: 3607
After Sensitivity Adjustment 734 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	42.0	65.8
2	34.0	62.7
3	26.0	59.0
Average	**34.0**	**62.5**

By Linear Regression of Y on X

Slope , mw = **0.4250** **Intercept, bw =** **48.0500**

Correlation coefficient* = **0.9987**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	62.5
Particaulate Concentration by Dust Meter (µg/m^3)	34.0
Measureing time, (min)	60.0
Set Correlation Factor , SCF **SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]**	**1.8**

In-house method in according to the instruction manual:
The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (Wellab Litimed)

Calibrated by: Wong Shing Kwai

Approved by: Henry Leung

TISCH Environmental

RECALIBRATION DUE DATE:
January 17, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	January 17, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 744.2	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3746**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0180	6.4	4.00
3	5	6	1	0.9080	7.9	5.00
4	7	8	1	0.8700	8.7	5.50
5	9	10	1	0.7150	12.6	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9849	0.6868	1.4066	0.9957	0.6944	0.8904
0.9807	0.9633	1.9892	0.9914	0.9739	1.2592
0.9787	1.0779	2.2240	0.9894	1.0896	1.4078
0.9776	1.1237	2.3325	0.9883	1.1360	1.4765
0.9724	1.3601	2.8131	0.9831	1.3749	1.7808
QSTD	**m=**	**2.09221**	**QA**	**m=**	**1.31010**
	b=	**-0.02779**		**b=**	**-0.01759**
	r=	**0.99994**		**r=**	**0.99994**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA19019/17/0005

Project No. AM1a - Site boundary of the Shek Wu Hui STW (East)

Date: 6-Jul-20 Next Due Date: 6-Sep-20 Operator: SK

Equipment No.: A-01-17 Model No.: GS2310 Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	755.4

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.02740
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	16.0	3.95	67.27	12.0	3.42
2	12.1	3.44	58.56	8.8	2.93
3	9.3	3.02	51.39	6.8	2.58
4	6.8	2.58	44.01	4.4	2.07
5	3.2	1.77	30.34	2.2	1.47

By Linear Regression of Y on X

Slope , mw = 0.0536 **Intercept, bw = -0.2040**

Correlation coefficient* = 0.9979

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.52**

Remarks:

Conducted by: SK Wong Signature: Date: 06 July 2020

Checked by: Henry Leung Signature: Date: 06 July 2020

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA19019/24/0005

Project No. AM2a - Site Boundary of the Shek Wu Hui STW (North)

Date: 6-Jul-20 Next Due Date: 6-Sep-20 Operator: SK

Equipment No.: A-01-24 Model No.: TE 5170 Serial No. 1659

Ambient Condition			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	755.4

Orifice Transfer Standard Information					
Serial No.	3746	Slope, mc	0.0592	Intercept, bc	-0.02740
Last Calibration Date:	17-Jan-20	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	17-Jan-21	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	16.2	3.98	67.68	10.2	3.16
2	12.6	3.51	59.75	7.9	2.78
3	9.4	3.03	51.67	6.2	2.46
4	6.4	2.50	42.71	4.4	2.07
5	3.4	1.82	31.26	2.9	1.68

By Linear Regression of Y on X

Slope , mw = 0.0405 **Intercept, bw =** 0.3829

Correlation coefficient* = 0.9983

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.61**

Remarks:

Conducted by: SK Wong Signature: Date: 06 July 2020

Checked by: Henry Leung Signature: Date: 06 July 2020

Cerificate of Calibration - Wind Monitoring Station

Description:	BM3 - Control Room at SWHSTW
Manufacturer:	Global Water Instrumentation
Model No.:	WE800 Weather Station
Serial No.:	1517001963
Equipment No.:	SA-03-01
Date of Calibration	29-Apr-2020
Next Due Date	29-Oct-2020

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V1)	D = V1 – V2
0.0	0.0	0.0
1.2	1.2	0.0
2.0	2.1	-0.1
3.8	3.8	0.0

2. Performance check of Wind Direction

Wind Direction (^{o})		Difference D (^{o})
Wind Direction Reading (V1)	Marine Compass Value (V1)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer

2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by: _____ Wong Shing Kwai

Approved by: _____ Henry Leung

APPENDIX D
WEATHER INFORMATION

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

I. General Information from Hong Kong Observatory

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1-Aug-20	27.7	87	28.3
2-Aug-20	27.5	89	25.6
3-Aug-20	26.5	93	46.9
4-Aug-20	27.5	87	4.7
5-Aug-20	27.8	88	53.3
6-Aug-20	29.1	85	1.7
7-Aug-20	30.1	80	0.2
8-Aug-20	30.5	76	0.0
9-Aug-20	29.9	76	0.0
10-Aug-20	30.0	76	0.0
11-Aug-20	30.3	78	0.6
12-Aug-20	27.8	88	29.4
13-Aug-20	28.1	86	16.5
14-Aug-20	29.3	80	9.3
15-Aug-20	29.8	76	0.0
16-Aug-20	30.1	76	Trace
17-Aug-20	28.2	84	16.6
18-Aug-20	27.3	85	52.7
19-Aug-20	26.6	91	119.5
20-Aug-20	29.0	83	Trace
21-Aug-20	29.8	77	0.0
22-Aug-20	29.7	77	0.0
23-Aug-20	29.8	77	0.0
24-Aug-20	30.2	76	0.0
25-Aug-20	30.6	77	1.1
26-Aug-20	29.7	81	12.3
27-Aug-20	28.5	83	3.1
28-Aug-20	28.9	82	22.6
29-Aug-20	29.9	77	3.2
30-Aug-20	29.6	80	0.6
31-Aug-20	29.8	76	0.2

* The above information was extracted from the daily extract of Ta Kwu Ling Station in Hong Kong Observatory Climate Information Service.

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
1-Aug-20	0:00	105.6	0.2
1-Aug-20	1:00	80.6	0.1
1-Aug-20	2:00	93.9	1.6
1-Aug-20	3:00	87.5	0.1
1-Aug-20	4:00	97.1	0.2
1-Aug-20	5:00	69.9	0.1
1-Aug-20	6:00	56.3	0.4
1-Aug-20	7:00	136.6	0.5
1-Aug-20	8:00	103.2	1.3
1-Aug-20	9:00	143.0	0.5
1-Aug-20	10:00	100.4	0.1
1-Aug-20	11:00	117.3	0.1
1-Aug-20	12:00	120.4	0.2
1-Aug-20	13:00	180.1	0.2
1-Aug-20	14:00	78.2	0.2
1-Aug-20	15:00	82.4	0.1
1-Aug-20	16:00	129.6	0.2
1-Aug-20	17:00	43.7	0.1
1-Aug-20	18:00	116.0	0.1
1-Aug-20	19:00	98.3	0.1
1-Aug-20	20:00	73.2	0.2
1-Aug-20	21:00	69.3	0.1
1-Aug-20	22:00	80.7	0.2
8-Aug-20	23:00	104.9	0.1
2-Aug-20	0:00	73.5	0.1
2-Aug-20	1:00	181.6	0.1
2-Aug-20	2:00	74.9	0.1
2-Aug-20	3:00	98.9	0.1
2-Aug-20	4:00	100.2	0.1
2-Aug-20	7:00	75.3	0.1
2-Aug-20	8:00	51.7	0.1
2-Aug-20	9:00	168.3	0.1
2-Aug-20	10:00	78.8	0.1
2-Aug-20	11:00	85.2	0.1
2-Aug-20	12:00	81.7	0.1
2-Aug-20	13:00	60.4	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
2-Aug-20	14:00	75.4	0.1
2-Aug-20	15:00	70.6	0.1
2-Aug-20	16:00	69.7	0.1
2-Aug-20	17:00	77.7	0.1
2-Aug-20	18:00	69.9	0.5
2-Aug-20	19:00	91.6	0.1
2-Aug-20	20:00	93.4	0.1
2-Aug-20	21:00	79.9	0.1
2-Aug-20	22:00	67.3	0.1
2-Aug-20	23:00	52.2	0.1
3-Aug-20	0:00	70.6	0.1
3-Aug-20	1:00	93.0	0.1
3-Aug-20	2:00	78.2	0.1
3-Aug-20	3:00	74.9	0.1
3-Aug-20	4:00	36.9	0.1
3-Aug-20	5:00	144.2	0.1
3-Aug-20	6:00	50.6	0.1
3-Aug-20	7:00	61.1	0.1
3-Aug-20	8:00	58.2	0.1
3-Aug-20	9:00	84.1	0.1
3-Aug-20	10:00	77.0	0.1
3-Aug-20	11:00	34.8	0.1
3-Aug-20	12:00	74.8	0.1
3-Aug-20	13:00	80.1	0.1
3-Aug-20	14:00	85.5	0.1
3-Aug-20	15:00	72.9	0.1
3-Aug-20	16:00	101.1	0.1
3-Aug-20	17:00	131.1	0.1
3-Aug-20	18:00	66.9	0.1
3-Aug-20	19:00	124.3	0.1
3-Aug-20	20:00	81.9	0.1
3-Aug-20	21:00	56.3	0.1
3-Aug-20	22:00	41.5	0.1
3-Aug-20	23:00	64.2	0.1
4-Aug-20	0:00	57.9	0.1
4-Aug-20	1:00	74.7	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
4-Aug-20	2:00	74.5	0.1
4-Aug-20	3:00	261.9	0.1
4-Aug-20	4:00	174.0	0.1
4-Aug-20	5:00	89.0	0.1
4-Aug-20	6:00	83.9	0.1
4-Aug-20	7:00	71.5	0.1
4-Aug-20	8:00	119.0	0.1
4-Aug-20	9:00	55.1	0.1
4-Aug-20	10:00	104.7	0.1
4-Aug-20	11:00	135.4	0.1
4-Aug-20	12:00	149.4	0.1
4-Aug-20	13:00	154.8	0.7
4-Aug-20	14:00	106.1	0.5
4-Aug-20	15:00	58.8	0.2
4-Aug-20	16:00	126.8	0.1
4-Aug-20	17:00	115.1	0.1
4-Aug-20	18:00	101.8	0.1
4-Aug-20	19:00	78.9	0.3
4-Aug-20	20:00	93.3	0.1
4-Aug-20	21:00	63.8	0.1
4-Aug-20	22:00	60.3	0.1
4-Aug-20	23:00	68.3	0.1
5-Aug-20	0:00	60.4	0.1
5-Aug-20	1:00	91.2	0.1
5-Aug-20	2:00	79.8	0.1
5-Aug-20	3:00	71.5	0.1
5-Aug-20	4:00	101.3	0.1
5-Aug-20	5:00	88.0	0.1
5-Aug-20	6:00	107.8	0.1
5-Aug-20	7:00	97.3	0.1
5-Aug-20	8:00	73.1	0.1
5-Aug-20	9:00	77.9	0.1
5-Aug-20	10:00	113.4	0.1
5-Aug-20	11:00	126.9	0.1
5-Aug-20	12:00	174.5	0.1
5-Aug-20	13:00	190.5	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
5-Aug-20	14:00	156.1	0.1
5-Aug-20	15:00	134.4	0.1
5-Aug-20	16:00	145.5	0.1
5-Aug-20	17:00	242.3	0.1
5-Aug-20	18:00	286.8	0.9
5-Aug-20	19:00	47.7	0.1
5-Aug-20	20:00	95.2	0.1
5-Aug-20	21:00	87.0	0.1
5-Aug-20	22:00	69.7	0.1
5-Aug-20	23:00	79.2	0.1
6-Aug-20	0:00	79.4	0.1
6-Aug-20	1:00	56.6	0.1
6-Aug-20	2:00	82.9	0.1
6-Aug-20	3:00	74.6	0.1
6-Aug-20	4:00	68.3	0.1
6-Aug-20	5:00	77.9	0.1
6-Aug-20	6:00	67.2	0.1
6-Aug-20	7:00	203.9	0.1
6-Aug-20	8:00	31.3	0.1
6-Aug-20	9:00	102.6	0.1
6-Aug-20	10:00	79.9	0.1
6-Aug-20	11:00	67.2	0.2
6-Aug-20	12:00	72.3	0.8
6-Aug-20	13:00	103.4	0.1
6-Aug-20	14:00	157.1	0.1
6-Aug-20	15:00	105.1	0.1
6-Aug-20	16:00	120.7	0.1
6-Aug-20	17:00	78.1	0.2
6-Aug-20	18:00	99.1	0.1
6-Aug-20	19:00	162.4	0.1
6-Aug-20	20:00	135.5	0.1
6-Aug-20	21:00	80.8	0.1
6-Aug-20	22:00	122.2	0.1
6-Aug-20	23:00	79.9	0.1
7-Aug-20	0:00	60.6	0.1
7-Aug-20	1:00	72.3	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
7-Aug-20	2:00	83.8	0.1
7-Aug-20	3:00	63.3	0.1
7-Aug-20	4:00	84.9	0.1
7-Aug-20	5:00	108.6	0.1
7-Aug-20	6:00	96.0	0.1
7-Aug-20	7:00	88.8	0.1
7-Aug-20	8:00	81.5	0.1
7-Aug-20	9:00	85.4	0.1
7-Aug-20	10:00	139.3	0.1
7-Aug-20	11:00	155.1	0.1
7-Aug-20	12:00	146.3	0.1
7-Aug-20	13:00	77.0	0.1
7-Aug-20	14:00	127.6	0.4
7-Aug-20	15:00	115.6	0.1
7-Aug-20	16:00	127.8	0.1
7-Aug-20	17:00	101.3	0.3
7-Aug-20	18:00	81.7	0.1
7-Aug-20	19:00	78.5	0.4
7-Aug-20	20:00	72.5	0.1
7-Aug-20	21:00	66.2	0.1
7-Aug-20	22:00	76.4	0.1
7-Aug-20	23:00	80.3	0.1
8-Aug-20	0:00	78.4	0.1
8-Aug-20	1:00	61.8	0.1
8-Aug-20	2:00	73.7	0.1
8-Aug-20	3:00	67.0	0.1
8-Aug-20	4:00	36.6	0.1
8-Aug-20	5:00	3.4	0.1
8-Aug-20	6:00	50.6	0.1
8-Aug-20	7:00	166.7	0.1
8-Aug-20	8:00	82.3	0.1
8-Aug-20	9:00	89.6	0.1
8-Aug-20	10:00	67.2	0.1
8-Aug-20	11:00	113.7	0.2
8-Aug-20	12:00	79.7	0.3
8-Aug-20	13:00	78.5	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
8-Aug-20	14:00	138.8	0.1
8-Aug-20	15:00	135.3	0.1
8-Aug-20	16:00	75.2	1.4
8-Aug-20	17:00	82.0	0.1
8-Aug-20	18:00	106.6	0.1
8-Aug-20	19:00	74.5	0.1
8-Aug-20	20:00	61.3	0.1
8-Aug-20	21:00	61.6	0.1
8-Aug-20	22:00	65.5	0.1
8-Aug-20	23:00	78.4	0.1
9-Aug-20	0:00	66.6	0.1
9-Aug-20	1:00	167.3	0.1
9-Aug-20	2:00	270.2	0.1
9-Aug-20	3:00	239.6	0.1
9-Aug-20	4:00	248.5	0.1
9-Aug-20	5:00	263.7	0.1
9-Aug-20	6:00	126.5	0.1
9-Aug-20	7:00	234.1	0.1
9-Aug-20	8:00	51.1	0.1
9-Aug-20	9:00	310.7	0.1
9-Aug-20	10:00	209.2	0.1
9-Aug-20	11:00	47.3	0.1
9-Aug-20	12:00	317.5	0.1
9-Aug-20	13:00	43.3	0.1
9-Aug-20	14:00	188.8	0.1
9-Aug-20	15:00	225.9	0.1
9-Aug-20	16:00	170.1	0.2
9-Aug-20	17:00	213.5	0.1
9-Aug-20	18:00	229.1	1.0
9-Aug-20	19:00	193.8	0.1
9-Aug-20	20:00	222.1	0.3
9-Aug-20	21:00	161.3	0.1
9-Aug-20	22:00	149.5	0.1
9-Aug-20	23:00	248.2	0.1
10-Aug-20	0:00	146.5	0.1
10-Aug-20	1:00	259.3	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
10-Aug-20	2:00	145.6	0.1
10-Aug-20	3:00	56.9	0.1
10-Aug-20	4:00	236.5	0.1
10-Aug-20	5:00	136.8	0.1
10-Aug-20	6:00	129.2	0.1
10-Aug-20	7:00	92.9	0.1
10-Aug-20	8:00	71.8	0.1
10-Aug-20	9:00	270.0	0.1
10-Aug-20	10:00	251.3	0.1
10-Aug-20	11:00	298.5	0.1
10-Aug-20	12:00	246.2	0.2
10-Aug-20	13:00	232.5	0.7
10-Aug-20	14:00	248.7	0.3
10-Aug-20	15:00	227.3	0.1
10-Aug-20	16:00	204.9	0.1
10-Aug-20	17:00	143.0	0.1
10-Aug-20	18:00	101.4	0.1
10-Aug-20	19:00	150.7	0.2
10-Aug-20	20:00	115.0	0.1
10-Aug-20	21:00	269.0	0.1
10-Aug-20	22:00	180.9	0.1
10-Aug-20	23:00	126.6	0.1
18-Aug-20	0:00	268.3	0.1
18-Aug-20	1:00	48.7	0.1
18-Aug-20	2:00	135.0	0.1
18-Aug-20	3:00	304.8	0.1
18-Aug-20	4:00	269.5	0.1
18-Aug-20	5:00	136.9	0.1
18-Aug-20	6:00	80.9	0.1
18-Aug-20	7:00	39.4	0.1
18-Aug-20	8:00	208.6	0.1
18-Aug-20	9:00	220.2	0.3
18-Aug-20	10:00	270.2	0.9
18-Aug-20	11:00	217.6	0.5
18-Aug-20	12:00	289.3	0.7
18-Aug-20	13:00	248.4	1.4

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
18-Aug-20	14:00	216.3	1.8
18-Aug-20	15:00	198.4	0.7
18-Aug-20	16:00	217.8	0.9
18-Aug-20	17:00	207.1	0.4
18-Aug-20	18:00	76.3	0.5
18-Aug-20	19:00	118.3	0.1
18-Aug-20	20:00	129.6	0.1
18-Aug-20	21:00	135.8	0.1
18-Aug-20	22:00	110.3	0.5
18-Aug-20	23:00	36.9	0.1
12-Aug-20	0:00	116.1	0.1
12-Aug-20	1:00	47.5	0.1
12-Aug-20	2:00	142.5	0.1
12-Aug-20	3:00	148.1	0.1
12-Aug-20	4:00	61.6	0.1
12-Aug-20	5:00	64.0	0.1
12-Aug-20	6:00	121.5	0.6
12-Aug-20	7:00	55.1	0.1
12-Aug-20	8:00	206.4	0.1
12-Aug-20	9:00	71.5	0.1
12-Aug-20	10:00	80.6	0.1
12-Aug-20	11:00	153.7	0.1
12-Aug-20	12:00	72.2	0.1
12-Aug-20	13:00	211.8	0.1
12-Aug-20	14:00	59.7	0.1
12-Aug-20	15:00	86.1	0.1
12-Aug-20	16:00	77.5	0.1
12-Aug-20	17:00	62.5	0.1
12-Aug-20	18:00	116.5	0.1
12-Aug-20	19:00	91.5	0.1
12-Aug-20	20:00	82.2	0.1
12-Aug-20	21:00	97.5	0.1
12-Aug-20	22:00	70.3	0.1
12-Aug-20	23:00	66.5	0.1
13-Aug-20	0:00	71.5	0.1
13-Aug-20	1:00	55.0	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
13-Aug-20	2:00	62.5	0.1
13-Aug-20	3:00	59.1	0.1
13-Aug-20	4:00	145.9	0.1
13-Aug-20	5:00	51.7	0.1
13-Aug-20	6:00	28.1	0.1
13-Aug-20	7:00	201.2	0.1
13-Aug-20	8:00	60.5	0.1
13-Aug-20	9:00	84.9	0.1
13-Aug-20	10:00	78.2	0.1
13-Aug-20	11:00	111.7	0.1
13-Aug-20	12:00	94.3	0.1
13-Aug-20	13:00	61.4	0.1
13-Aug-20	14:00	39.1	0.1
13-Aug-20	15:00	221.5	0.6
13-Aug-20	16:00	96.7	0.1
13-Aug-20	17:00	163.4	0.1
13-Aug-20	18:00	98.8	0.1
13-Aug-20	19:00	81.9	0.1
13-Aug-20	20:00	80.9	0.1
13-Aug-20	21:00	99.8	0.1
13-Aug-20	22:00	80.2	0.1
13-Aug-20	23:00	84.8	0.1
14-Aug-20	0:00	82.8	0.1
14-Aug-20	1:00	63.5	0.1
14-Aug-20	2:00	79.4	0.1
14-Aug-20	3:00	58.9	0.1
14-Aug-20	4:00	141.2	0.1
14-Aug-20	5:00	43.1	0.1
14-Aug-20	6:00	162.7	0.1
14-Aug-20	7:00	148.0	0.1
14-Aug-20	8:00	171.9	0.1
14-Aug-20	9:00	67.2	0.1
14-Aug-20	10:00	68.2	0.1
14-Aug-20	11:00	223.2	0.1
14-Aug-20	12:00	116.7	0.1
14-Aug-20	13:00	150.6	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
14-Aug-20	14:00	157.3	0.1
14-Aug-20	15:00	231.9	0.3
14-Aug-20	16:00	219.3	3.0
14-Aug-20	17:00	247.8	0.9
14-Aug-20	18:00	220.6	0.6
14-Aug-20	19:00	225.6	0.1
14-Aug-20	20:00	210.5	0.1
14-Aug-20	21:00	221.5	0.1
14-Aug-20	22:00	206.0	0.1
14-Aug-20	23:00	179.0	0.1
15-Aug-20	0:00	66.9	0.1
15-Aug-20	1:00	73.4	0.1
15-Aug-20	2:00	315.4	0.1
15-Aug-20	3:00	172.5	0.1
15-Aug-20	4:00	235.4	0.1
15-Aug-20	5:00	158.2	0.1
15-Aug-20	6:00	239.3	0.1
15-Aug-20	7:00	292.2	0.1
15-Aug-20	8:00	72.2	0.1
15-Aug-20	9:00	125.7	0.1
15-Aug-20	10:00	111.9	0.1
15-Aug-20	11:00	233.3	0.2
15-Aug-20	12:00	246.4	0.2
15-Aug-20	13:00	229.0	0.1
15-Aug-20	14:00	80.5	0.1
15-Aug-20	15:00	73.9	0.1
15-Aug-20	16:00	184.5	0.5
15-Aug-20	17:00	101.7	0.1
15-Aug-20	18:00	137.6	0.1
15-Aug-20	19:00	122.9	0.1
15-Aug-20	20:00	245.4	0.1
15-Aug-20	21:00	62.7	0.1
15-Aug-20	22:00	35.0	0.1
15-Aug-20	23:00	85.7	0.1
16-Aug-20	0:00	48.1	0.1
16-Aug-20	1:00	45.1	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
16-Aug-20	2:00	29.0	0.1
16-Aug-20	3:00	25.4	0.1
16-Aug-20	4:00	123.1	0.1
16-Aug-20	5:00	244.7	0.1
16-Aug-20	6:00	196.9	0.1
16-Aug-20	7:00	52.3	0.1
16-Aug-20	8:00	63.9	0.1
16-Aug-20	9:00	67.7	0.1
16-Aug-20	10:00	56.1	0.1
16-Aug-20	11:00	105.2	0.1
16-Aug-20	12:00	125.6	0.1
16-Aug-20	13:00	106.5	0.2
16-Aug-20	14:00	99.2	0.1
16-Aug-20	15:00	112.9	0.1
16-Aug-20	16:00	121.2	0.1
16-Aug-20	17:00	123.6	0.1
16-Aug-20	18:00	92.5	0.1
16-Aug-20	19:00	114.6	0.1
16-Aug-20	20:00	81.5	0.1
16-Aug-20	21:00	60.3	0.1
16-Aug-20	22:00	72.8	0.1
16-Aug-20	23:00	113.0	0.1
17-Aug-20	0:00	80.1	0.1
17-Aug-20	1:00	62.2	0.1
17-Aug-20	2:00	79.4	0.1
17-Aug-20	3:00	68.7	0.1
17-Aug-20	4:00	80.4	0.1
17-Aug-20	5:00	82.9	0.1
17-Aug-20	6:00	89.1	0.1
17-Aug-20	7:00	136.5	0.2
17-Aug-20	8:00	69.3	0.1
17-Aug-20	9:00	126.9	0.3
17-Aug-20	10:00	94.9	0.1
17-Aug-20	11:00	69.4	0.1
17-Aug-20	12:00	69.6	0.1
17-Aug-20	13:00	92.8	0.2

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
17-Aug-20	14:00	149.2	0.3
17-Aug-20	15:00	64.5	0.1
17-Aug-20	16:00	71.7	0.1
17-Aug-20	17:00	103.0	0.1
17-Aug-20	18:00	73.9	0.1
17-Aug-20	19:00	77.5	0.1
17-Aug-20	20:00	63.8	0.1
17-Aug-20	21:00	79.0	0.1
17-Aug-20	22:00	80.7	0.1
17-Aug-20	23:00	36.0	0.1
18-Aug-20	0:00	49.2	0.1
18-Aug-20	1:00	11.6	0.1
18-Aug-20	2:00	162.5	0.1
18-Aug-20	3:00	54.2	0.1
18-Aug-20	4:00	155.3	0.1
18-Aug-20	5:00	80.3	0.1
18-Aug-20	6:00	122.6	0.1
18-Aug-20	7:00	126.8	0.1
18-Aug-20	8:00	117.3	0.1
18-Aug-20	9:00	74.5	0.1
18-Aug-20	10:00	50.0	0.1
18-Aug-20	11:00	53.3	0.1
18-Aug-20	12:00	83.1	0.1
18-Aug-20	13:00	83.2	0.1
18-Aug-20	14:00	134.6	0.1
18-Aug-20	15:00	82.3	0.1
18-Aug-20	16:00	156.3	0.1
18-Aug-20	17:00	105.6	0.1
18-Aug-20	18:00	71.4	0.1
18-Aug-20	19:00	86.1	1.2
18-Aug-20	20:00	66.7	0.5
18-Aug-20	21:00	73.3	0.1
18-Aug-20	22:00	92.3	0.1
18-Aug-20	23:00	74.8	0.1
19-Aug-20	0:00	80.5	0.2
19-Aug-20	1:00	84.3	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
19-Aug-20	2:00	100.2	1.3
19-Aug-20	3:00	116.7	0.4
19-Aug-20	4:00	80.0	0.1
19-Aug-20	5:00	125.2	0.1
19-Aug-20	6:00	97.8	0.3
19-Aug-20	7:00	174.0	0.2
19-Aug-20	8:00	70.7	0.1
19-Aug-20	9:00	156.3	0.1
19-Aug-20	10:00	112.9	0.1
19-Aug-20	11:00	138.3	0.1
19-Aug-20	12:00	124.4	0.1
19-Aug-20	13:00	96.8	0.1
19-Aug-20	14:00	111.7	0.4
19-Aug-20	15:00	178.4	0.1
19-Aug-20	16:00	213.3	0.3
19-Aug-20	17:00	82.7	0.1
19-Aug-20	18:00	91.8	0.1
19-Aug-20	19:00	114.0	0.1
19-Aug-20	20:00	89.4	0.1
19-Aug-20	21:00	222.5	0.1
19-Aug-20	22:00	52.6	0.1
19-Aug-20	23:00	78.1	0.1
20-Aug-20	0:00	93.4	0.1
20-Aug-20	1:00	61.1	0.1
20-Aug-20	2:00	85.4	0.1
20-Aug-20	3:00	55.2	0.1
20-Aug-20	4:00	214.1	0.1
20-Aug-20	5:00	43.3	0.1
20-Aug-20	6:00	67.4	0.1
20-Aug-20	7:00	65.2	0.1
20-Aug-20	8:00	69.2	0.1
20-Aug-20	9:00	72.0	0.1
20-Aug-20	10:00	81.3	0.2
20-Aug-20	11:00	123.3	0.1
20-Aug-20	12:00	155.7	0.1
20-Aug-20	13:00	87.7	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
20-Aug-20	14:00	87.5	0.3
20-Aug-20	15:00	86.2	0.1
20-Aug-20	16:00	114.2	0.1
20-Aug-20	17:00	89.7	0.5
20-Aug-20	18:00	117.7	0.1
20-Aug-20	19:00	67.7	0.1
20-Aug-20	20:00	84.4	0.1
20-Aug-20	21:00	61.4	0.1
20-Aug-20	22:00	77.1	0.1
20-Aug-20	23:00	65.7	0.1
28-Aug-20	0:00	174.1	0.1
28-Aug-20	1:00	48.4	0.1
28-Aug-20	2:00	41.6	0.1
28-Aug-20	3:00	199.2	0.1
28-Aug-20	4:00	73.4	0.1
28-Aug-20	5:00	58.8	0.1
28-Aug-20	6:00	28.8	0.1
28-Aug-20	7:00	64.6	0.1
28-Aug-20	8:00	53.3	0.1
28-Aug-20	9:00	162.0	0.1
28-Aug-20	10:00	55.1	0.1
28-Aug-20	11:00	205.0	0.1
28-Aug-20	12:00	15.9	0.1
28-Aug-20	13:00	106.1	0.1
28-Aug-20	14:00	227.3	0.1
28-Aug-20	15:00	250.5	0.3
28-Aug-20	16:00	194.1	0.1
28-Aug-20	17:00	304.4	0.1
28-Aug-20	18:00	16.7	0.1
28-Aug-20	19:00	111.0	0.1
28-Aug-20	20:00	85.7	0.1
28-Aug-20	21:00	70.4	0.1
28-Aug-20	22:00	93.0	0.1
28-Aug-20	23:00	70.0	0.1
22-Aug-20	0:00	45.2	0.1
22-Aug-20	1:00	44.5	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
22-Aug-20	2:00	60.8	0.1
22-Aug-20	3:00	152.5	0.1
22-Aug-20	4:00	263.4	0.1
22-Aug-20	5:00	223.7	0.1
22-Aug-20	6:00	158.8	0.1
22-Aug-20	7:00	106.4	0.1
22-Aug-20	8:00	202.3	0.1
22-Aug-20	9:00	135.4	0.1
22-Aug-20	10:00	71.7	0.1
22-Aug-20	11:00	222.6	0.1
22-Aug-20	12:00	126.4	0.1
22-Aug-20	13:00	199.1	0.1
22-Aug-20	14:00	266.1	1.5
22-Aug-20	15:00	138.6	0.4
22-Aug-20	16:00	110.8	0.1
22-Aug-20	17:00	56.2	0.1
22-Aug-20	18:00	46.1	0.1
22-Aug-20	19:00	78.8	0.1
22-Aug-20	20:00	126.9	0.1
22-Aug-20	21:00	277.7	0.1
22-Aug-20	22:00	147.3	0.1
22-Aug-20	23:00	312.0	0.1
23-Aug-20	0:00	66.9	0.1
23-Aug-20	1:00	219.6	0.1
23-Aug-20	2:00	210.1	0.1
23-Aug-20	3:00	172.1	0.1
23-Aug-20	4:00	239.3	0.1
23-Aug-20	5:00	161.6	0.1
23-Aug-20	6:00	121.8	0.1
23-Aug-20	7:00	129.0	0.1
23-Aug-20	8:00	63.1	0.1
23-Aug-20	9:00	64.5	0.1
23-Aug-20	10:00	235.1	0.1
23-Aug-20	11:00	140.6	0.1
23-Aug-20	12:00	194.2	0.1
23-Aug-20	13:00	136.0	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
23-Aug-20	14:00	101.2	0.1
23-Aug-20	15:00	121.5	0.1
23-Aug-20	16:00	170.6	0.1
23-Aug-20	17:00	202.5	0.1
23-Aug-20	18:00	181.0	0.1
23-Aug-20	19:00	195.2	0.1
23-Aug-20	20:00	232.1	0.1
23-Aug-20	21:00	166.1	0.1
23-Aug-20	22:00	211.4	0.1
23-Aug-20	23:00	258.7	0.1
24-Aug-20	0:00	240.6	0.1
24-Aug-20	1:00	273.2	0.1
24-Aug-20	2:00	244.3	0.1
24-Aug-20	3:00	249.1	0.1
24-Aug-20	4:00	229.7	0.1
24-Aug-20	5:00	154.3	0.1
24-Aug-20	6:00	167.8	0.1
24-Aug-20	7:00	234.7	0.1
24-Aug-20	8:00	275.5	0.1
24-Aug-20	9:00	212.4	0.1
24-Aug-20	10:00	246.4	0.4
24-Aug-20	11:00	236.0	0.3
24-Aug-20	12:00	249.4	0.2
24-Aug-20	13:00	269.2	1.0
24-Aug-20	14:00	250.7	0.7
24-Aug-20	15:00	257.6	0.3
24-Aug-20	16:00	268.3	0.1
24-Aug-20	17:00	241.1	0.2
24-Aug-20	18:00	227.0	0.8
24-Aug-20	19:00	218.7	0.3
24-Aug-20	20:00	244.5	0.1
24-Aug-20	21:00	248.7	0.5
24-Aug-20	22:00	229.8	0.1
24-Aug-20	23:00	243.0	0.1
25-Aug-20	0:00	245.5	0.2
25-Aug-20	1:00	242.9	0.2

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
25-Aug-20	2:00	244.2	0.2
25-Aug-20	3:00	212.7	0.1
25-Aug-20	4:00	222.3	0.1
25-Aug-20	5:00	199.1	0.1
25-Aug-20	6:00	238.5	0.2
25-Aug-20	7:00	217.2	0.1
25-Aug-20	8:00	248.0	0.4
25-Aug-20	9:00	283.5	0.2
25-Aug-20	10:00	246.5	0.6
25-Aug-20	11:00	234.9	0.3
25-Aug-20	12:00	267.1	0.5
25-Aug-20	13:00	274.0	1.1
25-Aug-20	14:00	246.9	1.3
25-Aug-20	15:00	282.1	1.1
25-Aug-20	16:00	233.2	0.5
25-Aug-20	17:00	239.1	1.0
25-Aug-20	18:00	239.6	1.3
25-Aug-20	19:00	211.6	0.2
25-Aug-20	20:00	242.8	0.1
25-Aug-20	21:00	247.8	0.3
25-Aug-20	22:00	188.6	0.1
25-Aug-20	23:00	221.5	0.1
26-Aug-20	0:00	206.4	0.1
26-Aug-20	1:00	227.0	0.1
26-Aug-20	2:00	234.8	0.1
26-Aug-20	3:00	218.4	0.2
26-Aug-20	4:00	183.0	0.1
26-Aug-20	5:00	107.9	0.1
26-Aug-20	6:00	115.5	0.1
26-Aug-20	7:00	159.2	0.1
26-Aug-20	8:00	219.1	0.1
26-Aug-20	9:00	254.4	0.1
26-Aug-20	10:00	276.9	0.5
26-Aug-20	11:00	321.4	0.2
26-Aug-20	12:00	214.6	0.7
26-Aug-20	13:00	298.6	1.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
26-Aug-20	14:00	243.9	0.3
26-Aug-20	15:00	242.6	1.1
26-Aug-20	16:00	221.5	0.3
26-Aug-20	17:00	230.4	0.2
26-Aug-20	18:00	208.5	0.1
26-Aug-20	19:00	205.3	0.2
26-Aug-20	20:00	225.3	0.6
26-Aug-20	21:00	219.6	0.1
26-Aug-20	22:00	71.4	0.1
26-Aug-20	23:00	156.6	0.1
27-Aug-20	0:00	200.7	0.1
27-Aug-20	1:00	47.7	0.1
27-Aug-20	2:00	113.6	0.1
27-Aug-20	3:00	70.0	0.1
27-Aug-20	4:00	128.8	0.1
27-Aug-20	5:00	213.1	0.1
27-Aug-20	6:00	72.7	0.1
27-Aug-20	7:00	53.0	0.1
27-Aug-20	8:00	241.1	0.1
27-Aug-20	9:00	82.0	0.1
27-Aug-20	10:00	169.3	0.1
27-Aug-20	11:00	263.9	0.1
27-Aug-20	12:00	193.5	0.1
27-Aug-20	13:00	216.3	0.1
27-Aug-20	14:00	221.8	0.1
27-Aug-20	15:00	235.3	0.1
27-Aug-20	16:00	251.0	0.6
27-Aug-20	17:00	191.5	0.1
27-Aug-20	18:00	184.2	0.1
27-Aug-20	19:00	220.5	0.1
27-Aug-20	20:00	228.2	0.1
27-Aug-20	21:00	256.2	0.1
27-Aug-20	22:00	91.3	0.1
27-Aug-20	23:00	72.9	0.1
28-Aug-20	0:00	150.4	0.1
28-Aug-20	1:00	179.9	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
28-Aug-20	2:00	138.3	0.1
28-Aug-20	3:00	92.0	0.1
28-Aug-20	4:00	70.5	0.1
28-Aug-20	5:00	73.4	0.1
28-Aug-20	6:00	163.7	0.1
28-Aug-20	7:00	155.1	0.1
28-Aug-20	8:00	26.7	0.1
28-Aug-20	9:00	61.3	0.1
28-Aug-20	10:00	104.0	0.1
28-Aug-20	11:00	223.0	0.1
28-Aug-20	12:00	201.8	0.1
28-Aug-20	13:00	54.5	0.1
28-Aug-20	14:00	130.6	0.1
28-Aug-20	15:00	109.5	0.1
28-Aug-20	16:00	71.3	0.1
28-Aug-20	17:00	122.9	0.1
28-Aug-20	18:00	185.1	0.1
28-Aug-20	19:00	147.3	0.1
28-Aug-20	20:00	41.5	0.1
28-Aug-20	21:00	36.9	0.1
28-Aug-20	22:00	234.7	0.1
28-Aug-20	23:00	238.8	0.1
29-Aug-20	0:00	195.2	0.1
29-Aug-20	1:00	245.3	0.1
29-Aug-20	2:00	224.0	0.1
29-Aug-20	3:00	300.7	0.1
29-Aug-20	4:00	261.9	0.1
29-Aug-20	5:00	293.1	0.1
29-Aug-20	6:00	259.8	0.1
29-Aug-20	7:00	204.9	0.1
29-Aug-20	8:00	238.9	0.1
29-Aug-20	9:00	75.6	0.1
29-Aug-20	10:00	116.8	0.1
29-Aug-20	11:00	147.4	0.1
29-Aug-20	12:00	211.5	0.1
29-Aug-20	13:00	305.0	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
29-Aug-20	14:00	196.1	0.1
29-Aug-20	15:00	131.4	0.1
29-Aug-20	16:00	173.6	0.1
29-Aug-20	17:00	164.7	0.1
29-Aug-20	18:00	187.4	0.1
29-Aug-20	19:00	240.5	0.1
29-Aug-20	20:00	222.0	0.1
29-Aug-20	21:00	180.8	0.1
29-Aug-20	22:00	42.7	0.1
29-Aug-20	23:00	263.4	0.1
30-Aug-20	0:00	252.3	0.1
30-Aug-20	1:00	254.4	0.1
30-Aug-20	2:00	136.9	0.1
30-Aug-20	3:00	229.6	0.1
30-Aug-20	4:00	44.7	0.1
30-Aug-20	5:00	-0.7	0.1
30-Aug-20	6:00	131.4	0.1
30-Aug-20	7:00	350.5	0.1
30-Aug-20	8:00	215.5	0.1
30-Aug-20	9:00	55.5	0.1
30-Aug-20	10:00	72.7	0.1
30-Aug-20	11:00	60.9	0.1
30-Aug-20	12:00	242.6	0.1
30-Aug-20	13:00	223.9	0.2
30-Aug-20	14:00	213.1	0.1
30-Aug-20	15:00	108.0	0.1
30-Aug-20	16:00	224.9	0.1
30-Aug-20	17:00	341.3	0.1
30-Aug-20	18:00	69.8	0.1
30-Aug-20	19:00	96.9	0.1
30-Aug-20	20:00	116.2	0.1
30-Aug-20	21:00	68.2	0.1
30-Aug-20	22:00	63.8	0.1
30-Aug-20	23:00	46.8	0.1
31-Aug-20	0:00	71.3	0.1
31-Aug-20	1:00	41.2	0.1

APPENDIX D –
WEATHER CONDITIONS DURING THE MONITORING PERIOD

II. Mean Wind Speed and Wind Direction

Date	Time	Wind Direction (°)	Wind Speed (m/s)
31-Aug-20	2:00	34.7	0.1
31-Aug-20	3:00	74.3	0.1
31-Aug-20	4:00	58.3	0.1
31-Aug-20	5:00	170.9	0.1
31-Aug-20	6:00	143.4	0.1
31-Aug-20	7:00	127.7	0.1
31-Aug-20	8:00	106.9	0.1
31-Aug-20	9:00	74.3	0.1
31-Aug-20	10:00	70.0	0.1
31-Aug-20	11:00	62.8	0.1
31-Aug-20	12:00	38.3	0.1
31-Aug-20	13:00	161.1	0.1
31-Aug-20	14:00	242.2	0.1
31-Aug-20	15:00	314.4	0.1
31-Aug-20	16:00	177.0	0.1
31-Aug-20	17:00	205.4	0.7
31-Aug-20	18:00	187.8	0.1
31-Aug-20	19:00	183.3	0.1
31-Aug-20	20:00	68.9	0.1
31-Aug-20	21:00	73.9	0.1
31-Aug-20	22:00	196.7	0.1
31-Aug-20	23:00	70.8	0.1

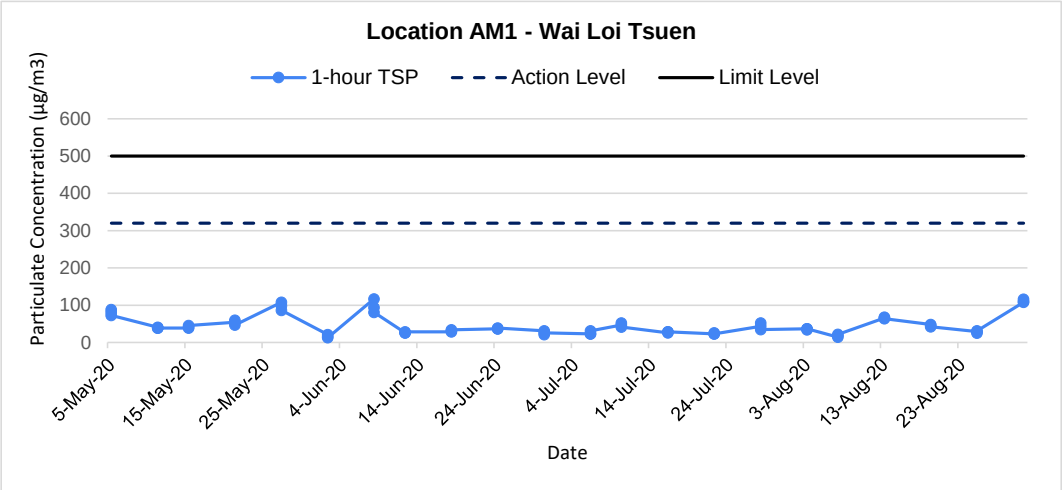
APPENDIX E
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

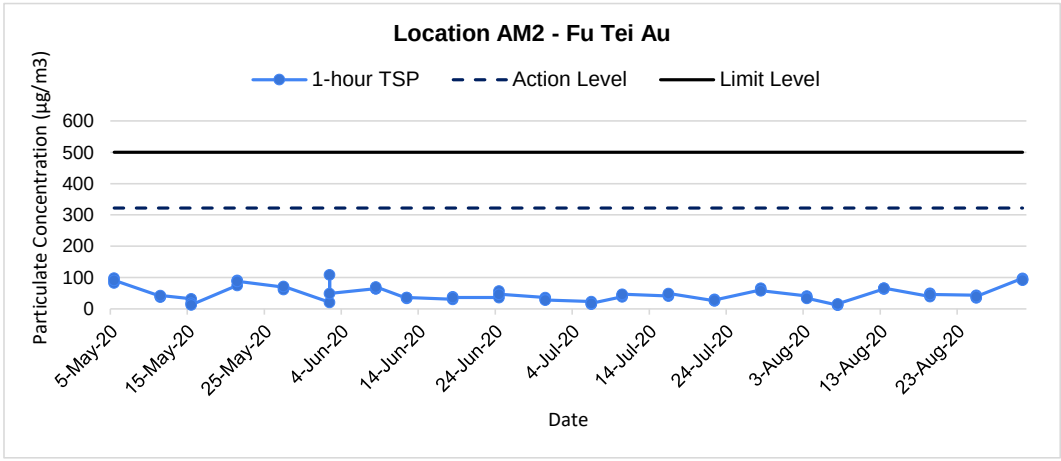
Appendix E - 1-hour TSP Monitoring Results

Location AM1 - Wai Loi Tsuen			
Date	Time	Weather	Particulate Concentration (μg/m^3)
3-Aug-20	9:00	Rainy	36.4
3-Aug-20	10:00	Rainy	33.8
3-Aug-20	11:00	Rainy	36.4
7-Aug-20	10:30	Sunny	14.0
7-Aug-20	11:30	Sunny	18.0
7-Aug-20	12:30	Sunny	22.0
13-Aug-20	9:15	Sunny	66.0
13-Aug-20	10:15	Sunny	68.0
13-Aug-20	11:15	Sunny	64.0
19-Aug-20	13:00	Cloudy	48.0
19-Aug-20	14:00	Cloudy	46.0
19-Aug-20	15:00	Cloudy	42.0
25-Aug-20	9:00	Sunny	29.4
25-Aug-20	10:00	Sunny	25.2
25-Aug-20	11:00	Sunny	31.5
31-Aug-20	9:20	Fine	108.0
31-Aug-20	10:20	Fine	116.0
31-Aug-20	11:20	Fine	110.0
		Average	50.8
		Maximum	116.0
		Minimum	14.0

Location AM2 - Fu Tei Au			
Date	Time	Weather	Particulate Concentration (μg/m^3)
3-Aug-20	13:10	Rainy	41.6
3-Aug-20	14:10	Rainy	36.4
3-Aug-20	15:10	Rainy	33.8
7-Aug-20	10:50	Sunny	12.0
7-Aug-20	11:50	Sunny	14.0
7-Aug-20	12:50	Sunny	16.0
13-Aug-20	13:30	Sunny	64.0
13-Aug-20	14:30	Sunny	66.0
13-Aug-20	15:30	Sunny	66.0
19-Aug-20	16:00	Cloudy	40.0
19-Aug-20	17:00	Cloudy	50.0
19-Aug-20	18:00	Cloudy	46.0
25-Aug-20	13:50	Sunny	44.1
25-Aug-20	14:50	Sunny	35.7
25-Aug-20	15:50	Sunny	39.9
31-Aug-20	13:05	Fine	98.0
31-Aug-20	14:05	Fine	94.0
31-Aug-20	15:05	Fine	92.0
		Average	49.4
		Maximum	98.0
		Minimum	12.0

1-hr TSP Concentration Levels





Title: Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1	Date: Aug 2020	Project No.: MA19019	CINOTECH
Graphical Presentation of 1-hour TSP Monitoring Results		Appendix: E	

APPENDIX F
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - 24-hour TSP Monitoring Results

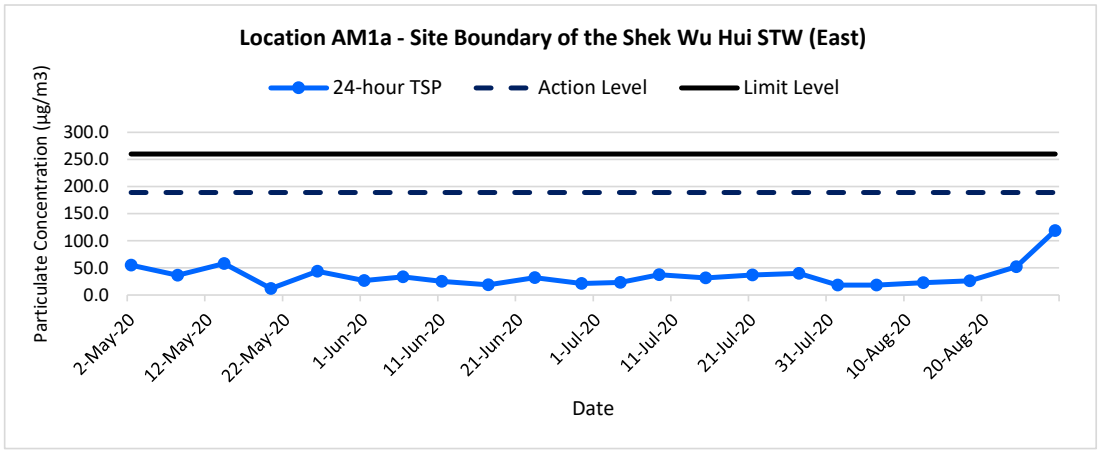
Location AM1a - Site Boundary of the Shek Wu Hui STW (East)

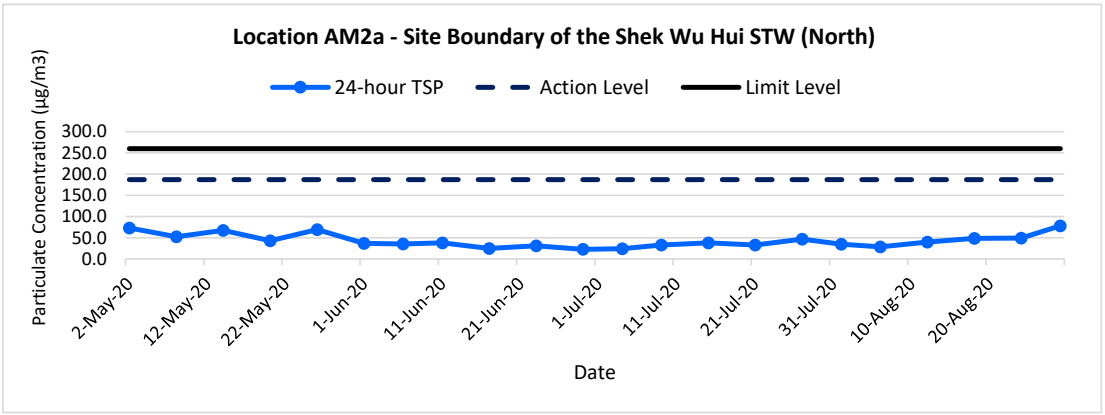
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (µg/m^3)
				Initial	Final		Initial	Final		Initial	Final			
1-Aug-20	Rainy	300.6	754.1	3.4454	3.4778	0.0324	8994.6	9018.6	24.0	1.22	1.22	1.22	1758.3	18.4
6-Aug-20	Sunny	302.6	757.7	3.4660	3.4982	0.0322	9018.6	9042.6	24.0	1.22	1.22	1.22	1756.7	18.3
12-Aug-20	Rainy	301.0	759.0	3.4816	3.5216	0.0400	9042.6	9066.6	24.0	1.22	1.22	1.22	1762.5	22.7
18-Aug-20	Cloudy	300.0	755.6	3.4597	3.5054	0.0457	9066.6	9090.6	24.0	1.22	1.22	1.22	1761.6	25.9
24-Aug-20	Sunny	303.4	754.3	3.4630	3.5545	0.0915	9090.6	9114.6	24.0	1.22	1.22	1.22	1751.8	52.2
29-Aug-20	Fine	302.8	754.7	3.4822	3.6906	0.2084	9114.6	9138.6	24.0	1.22	1.22	1.22	1753.2	118.9
													Min	18.3
													Max	118.9
													Average	42.7

Location AM2a - Site Boundary of the Shek Wu Hui STW (North)

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (hrs.)	Flow Rate (m^3/min.)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (µg/m^3)
				Initial	Final		Initial	Final		Initial	Final			
1-Aug-20	Rainy	300.6	754.1	3.4709	3.5317	0.0608	19188.9	19212.9	24.0	1.22	1.22	1.22	1757.4	34.6
6-Aug-20	Sunny	302.6	757.7	3.4895	3.5392	0.0497	19212.9	19236.9	24.0	1.22	1.22	1.22	1755.4	28.3
12-Aug-20	Rainy	301.0	759.0	3.5081	3.5784	0.0703	19236.9	19260.9	24.0	1.22	1.22	1.22	1763.2	39.9
18-Aug-20	Cloudy	300.0	755.6	3.4816	3.5668	0.0852	19260.9	19284.9	24.0	1.22	1.22	1.22	1761.8	48.4
24-Aug-20	Sunny	303.4	754.3	3.4748	3.5603	0.0855	19284.9	19308.9	24.0	1.21	1.21	1.21	1747.8	48.9
29-Aug-20	Fine	302.8	754.7	3.4936	3.6305	0.1369	19308.9	19332.9	24.0	1.21	1.22	1.22	1750.6	78.2
													Min	28.3
													Max	78.2
													Average	46.4

24-hr TSP Concentration Levels





Title	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1	Date	Project No.	CINOTECH
		Aug 2020	MA19019	
	Graphical Presentation of 24-hour TSP Monitoring Results		Appendix	
			F	

APPENDIX G
COPIES OF CALIBRATION CERTIFICATES FOR NOISE MONITORING

Equipment no.: N-12-01

Calibration Certificate

0022524

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : BSWA 308 SLM Serial No. /Ref. No. : 570183 / 550233 Object 2 : Serial No. /Ref. No. : Manufacturer : BSWAtech
Date of calibration: 23/09/2019 Date of the recommended re-calibration: 23/09/2020	Certificate No.: 0022524 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 1.5dB	1
114.0dB	114.0dB	0.0dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) **within** **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Equipment no.: N-12-02

Calibration Certificate

0022522

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : BSWA 308 SLM Serial No. /Ref. No. : 570187 / 550841 Object 2 : Serial No. /Ref. No. : Manufacturer : BSWAtech
Date of calibration: 23/09/2019 Date of the recommended re-calibration: 23/09/2020	Certificate No.: 0022522 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 1.5dB	1
114.0dB	113.9dB	-0.1dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Calibration Certificate

0022999

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : SVAN957 SLM Serial No. /Ref. No. : 23851 / N-08-12 Object 2 : Microphone Serial No. /Ref. No. : 43676 Manufacturer : Svantek
Date of calibration: 19/12/2019 Date of the recommended re-calibration: 19/12/2020	Certificate No.: 0022999 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 1.5dB	1
114.0dB	114.0dB	0.0dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393

Calibration Certificate

0022675

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong Customer Code : SVEC09005	Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001637 Object 2 : Serial No. /Ref. No. : Manufacturer : Soundtek
Date of calibration: 24/10/2019 Date of the recommended re-calibration: 24/10/2020	Certificate No.: 0022675 Handle by: E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 0.3dB	1
114.0dB	114.0dB	0.0dB	+/- 0.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
5.The calibrations certificate may not be reproduced.

Measured value(s) within **the allowable deviation.**

Performed by

Calibration Technician

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR Tel: +852 2370 4437 Fax: +852 2114 0393

APPENDIX H
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix H - Noise Monitoring Results

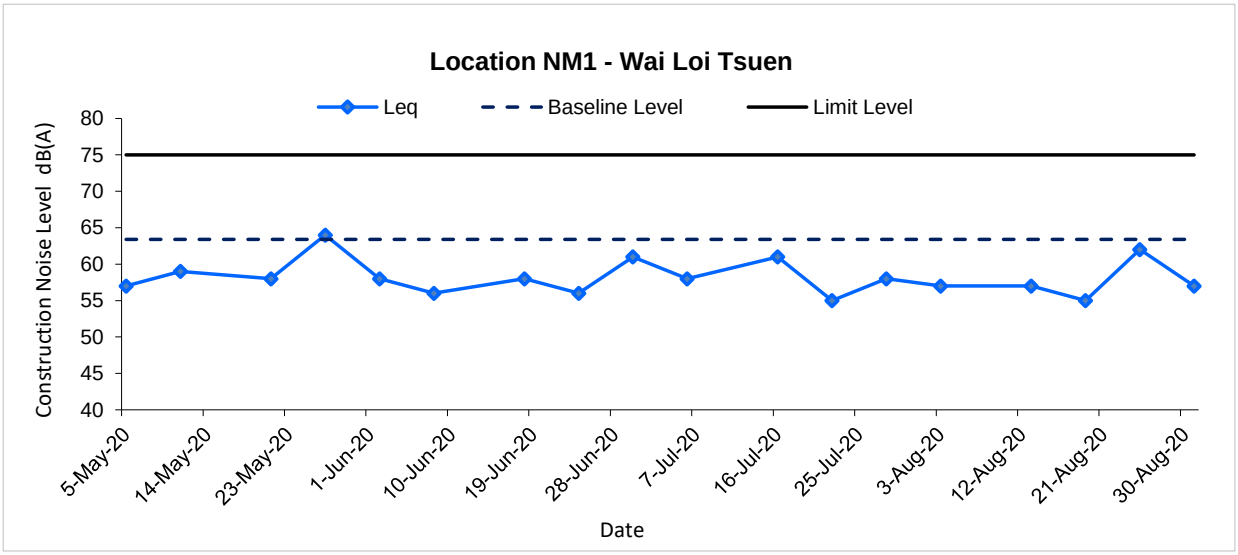
(0700-1900 hrs on Normal Weekdays)

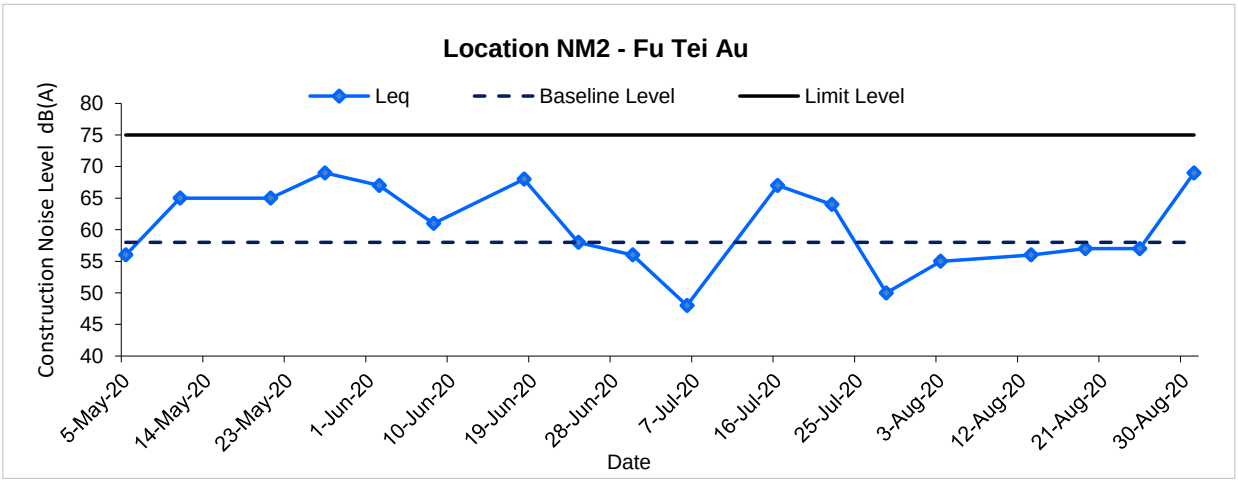
Location NM1 - Wai Loi Tsuen							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
3-Aug-20	13:30	Rainy	56.6	57.9	54.6	63.4	56.6 Measured ≦ Baseline
13-Aug-20	9:00	Sunny	57.0	58.3	54.8	63.4	57 Measured ≦ Baseline
19-Aug-20	14:30	Cloudy	55.0	56.3	53.9	63.4	55 Measured ≦ Baseline
25-Aug-20	9:00	Sunny	62.1	65.3	57.9	63.4	62.1 Measured ≦ Baseline
31-Aug-20	13:30	Fine	56.5	57.5	51.7	63.4	56.5 Measured ≦ Baseline

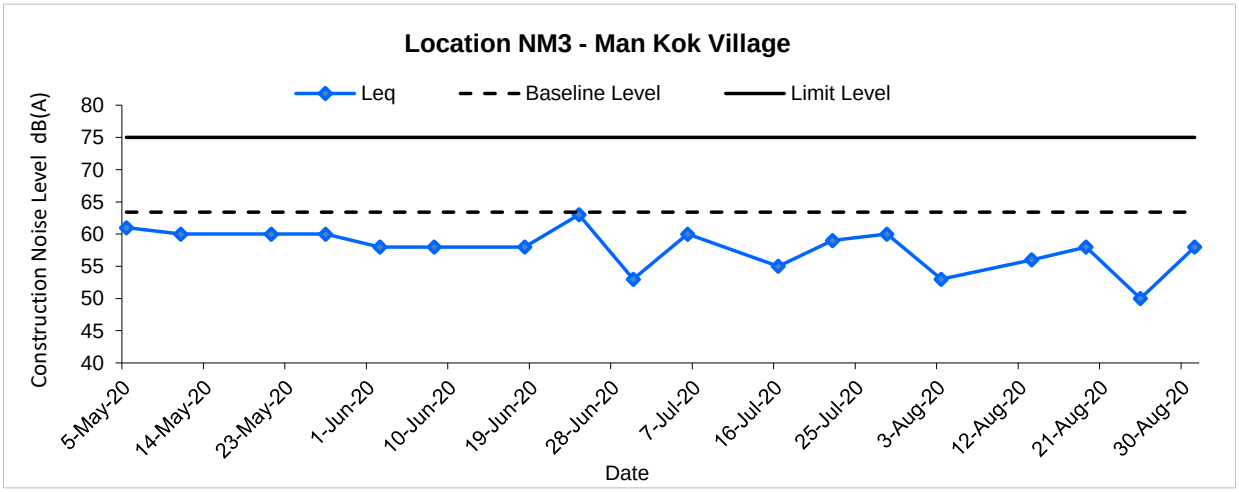
Location NM2 - Fu Tei Au							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
3-Aug-20	16:15	Rainy	55.2	57.4	52.4	58.0	55.2 Measured ≦ Baseline
13-Aug-20	13:00	Sunny	60.0	63.3	56.8	58.0	55.7
19-Aug-20	16:15	Cloudy	60.7	64.5	52.4	58.0	57.4
25-Aug-20	13:40	Sunny	57.3	64.2	54.7	58.0	57.3 Measured ≦ Baseline
31-Aug-20	15:30	Fine	68.9	71.9	60.5	58.0	68.5

Location NM3 - Man Kok Village							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
3-Aug-20	14:30	Rainy	53.2	55.2	49.9	63.4	53.2 Measured ≦ Baseline
13-Aug-20	14:05	Sunny	56.2	58.1	52.1	63.4	56.2 Measured ≦ Baseline
19-Aug-20	15:10	Cloudy	57.7	58.3	56.6	63.4	57.7 Measured ≦ Baseline
25-Aug-20	10:00	Sunny	63.6	66.9	58.3	63.4	50.1
31-Aug-20	14:15	Fine	64.5	67.8	56.3	63.4	58.0

Noise Levels







Title	Date	Project
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Graphical Presentation of Construction Noise Monitoring Results	Aug 2020	No. MA19019 Appendix H

CINOTECH

APPENDIX I
ECOLOGICAL MONITORING RESULTS AND ANALYSIS

MA19019 - Ecological Monitoring Result and Analysis

Table I: Recorded Bird Species and their Abundance in the Reporting Month					
Scientific Name	**Common Name**	**Chinese Name**	**Waterbird**	**Point Count Abundance**	**Transect Abundance**
Acridotheres cristatellus	Crested Myna	八哥		53	+++++
Actitis hypoleucos	Common Sandpiper	磯鷸	*	2	
Amaurornis phoenicurus	White-breasted Waterhen	白胸苦惡鳥	*	1	
Anthus hodgsoni	Olive Backed Pipit	樹鷚		7	++
Ardea alba	Great Egret	大白鷺	*	16	+
Ardea cinerea	Grey Heron	蒼鷺	*	6	+
Ardeola bacchus	Chinese Pond Heron	池鷺	*	45	+++
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	*	9	+
Buteo japonicus	Eastern Buzzard	普通鵟	*	0	+
Copsychus saularis	Magpie Robin	鵲鴝		0	+
Corvus macrorhynchus	Jungle Crow	大嘴烏鴉		3	+
Corvus torquatus	Collared Crow	白頸鴉	*	0	+
Egretta garzetta	Little Egret	小白鷺	*	60	+
Eudynamys scolopacea	Common Koel	噪鵑		0	+
Garrulax perspicillatus	Masked Laughing Thrush	黑臉噪鶥		6	++++
Himantopus himantopus	Black-winged Stilt	黑翅長腳鷸	*	1	
Hirundo rustica	Barn Swallow	家燕		10	+++
Motacilla alba	White Wagtail	白鶺鴒		10	+
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		3	+
Passer montanus	Eurasian Tree Sparrow	樹麻雀		6	+
Phylloscopus fuscatus	Dusky Warbler	褐柳鶯		1	+
Pica pica	Magpie	喜鵲		0	+
Psittacula eupatria	Alexandrine Parakeet	亞歷山大鸚鵡		0	+
Pycnonotus jocosus	Crested bulbul	紅耳鵯		0	+
Pycnonotus sinensis	Chinese Bulbul	白頭鵯		7	+
Streptopelia chinensis	Spotted Dove	珠頸斑鳩		17	++
Sturnus nigricollis	Black-necked Starling	黑領椋鳥		11	+++
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		2	+
			Total Point Count Abundance	276	
			Total Waterbirds	140	

*For waterbird

For transect abundance, +: <10, ++: 11-20, +++: 21-30, ++++: 31-40, +++++: >40

Remarks: (1) According to S4.7 of the approved Baseline Monitoring Report (Ecology), "waterbirds" was defined as "waterbirds and wetland-dependent species", which was referenced to Monthly Waterbird Monitoring Biannual Reports prepared by the Hong Kong Bird Watching Society (Anon, 2018). Also, S.13.11.3.2 of NENT NDA EIA Study requires "Monitoring of Measures to Mitigate for Impacts of the Project on Wetland-dependent Fauna using the Ng Tung, Sheung Yue and Shek Sheung Rivers". Therefore, "wetland-dependent birds" should be considered as "waterbirds". As raptors and Collared Crow are "wetland-dependent species", they should be taken into consideration in data analysis and impact assessment on waterbirds.

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Aug
Season Summer

Table II : Total Bird Abundance from Point Count						
Survey Information				Total Bird Abundance from Point Count		
No.	Date	Time	Tide Level	Individuals Recorded	Total	Species Recorded
#1	6 Aug 2020	11:00	High	22	**63**	10
		16:00	Low	41		11
#2	14 Aug 2020	8:00	High	43	**97**	11
		12:00	Low	54		9
#3	20 Aug 2020	10:00	High	18	**41**	5
		16:00	Low	23		8
#4	24 Aug 2020	12:00	High	32	**75**	11
		8:00	Low	43		9
				Overall Total	**276**	

Table III: Total Waterbird Abundance from Point Count					
Survey Information				Numbers of Waterbirds	
No.	Date	Time	Tide Level	Individuals Recorded	Total
#1	6 Aug 2020	11:00	High	15	**47**
		16:00	Low	32	
#2	14 Aug 2020	8:00	High	12	**27**
		12:00	Low	15	
#3	20 Aug 2020	10:00	High	16	**34**
		16:00	Low	18	
#4	24 Aug 2020	12:00	High	9	**32**
		8:00	Low	23	
				Overall Total	**140**
				Average	**35**

Table IV: T-Test Analysis for All Waterbirds

Baseline Data
Monthly Average Abundance (Aug) 37.00
Seasonal Average Abundance (Summer) 44.18

T-test
The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H_0 The data collected in the reporting month falls within the normal distrubution when compared to the baseline monitoring data.

H_1 The data collected does not falls within the normal distrubution when compared to the baseline monitoring data.

If t-test value is smaller than the critical value, then rejects H_0.

For the data in the reporting month, the critical values are:
Crit. Value = -2.353 (95% Confidence Level)
Crit. Value = -4.541 (99% Confidence Level)

			Confidence Level	
T-values of Data in Reporting Month			95%	99%
Abundance	Monthly	-0.469	✓	✓
	Season	-2.154	✓	✓
		Overall:	✓	✓

Remarks:
✓ = T-value falls within the confidence level, the impact monitoring data shows no significant difference to the baseline data.
✕ = T-value falls outside the confidence level, the impact monitoring data shows significant difference to the baseline data.

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Aug
Season Summer

Table V: Abundance of Representative Waterbirds from Point Count

Representative Species			Recorded Abundance							Baseline Data	
Species Name	**Common Name**	**Chinese Name**	**6 Aug 2020**	**14 Aug 2020**	**20 Aug 2020**	**24 Aug 2020**		**Total**	**Average**	**Avg (Aug)**	**Avg (Summer)**
Egretta garzetta	Little Egret	小白鷺	22	9	18	11		60	15	18	20
Ardea cinerea	Grey Heron	蒼鷺	3	0	2	1		6	2	0	1
Ardeola bacchus	Chinese Pond Heron	池鷺	12	9	9	15		45	11	14	16
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	0	0	0	0		0	0	0	0
Ardea alba	Great Egret	大白鷺	5	5	2	4		16	4	2	3
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	3	4	2	0		9	2	1	3

Table VI: T-test Analysis for Representative Waterbirds from Point Count

The following hypothesis was made and a one-tail t-test will be used to test the data collected from the monitoring:

H_0 The data collected in the reporting month falls within the normal distrubution when compare to the baseline monitoring data.

H_1 The data collected does not falls within the normal distrubution when compare to the baseline monitoring data.

If t-test value for a specific representative is smaller than the critical value, then rejects H_0.

For the data in the reporting month, the critical values are:

Crit. Value = -2.353 (95% Confidence Level)
Crit. Value = -4.541 (99% Confidence Level)

Representative Species			T-value	Confidence Level		T-value	Confidence Level		Overall
Species Name	Common Name	Chinese Name	Monthly	95%	99%	Seasonal	95%	99%	
Egretta garzetta	Little Egret	小白鷺	-0.991	✓	✓	-1.651	✓	✓	✓
*Ardea cinerea**	Grey Heron*	蒼鷺*				N/A*			
Ardeola bacchus	Chinese Pond Heron	池鷺	-2.089	✓	✓	-3.147	✕	✓	✓
*Phalacrocorax carbo**	Great Cormorant*	普通鸕鷀*				N/A*			
Ardea alba	Great Egret	大白鷺	2.828	✓	✓	2.067	✓	✓	✓
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	2.049	✓	✓	-1.149	✓	✓	✓

Remarks

* Great Cormorant (*Phalacrocorax carbo*) and Grey Heron (*Ardea cinerea*) were not recognised as representative waterbird species during Summer.

✓ = T-value falls within the confidence level, the impact monitoring data shows no significant difference to the baseline data.

✕ = T-value falls outside the confidence level, the impact monitoring data shows significant difference to the baseline data.

APPENDIX J
PHOTO RECORDS OF ECOLOGICAL MONITORING

Appendix J - Photo Records of Ecological Monitoring

Part A - Conditions of Rivers

Sheung Yue River (Taken on 14 Aug 20)

Ng Tung River (Taken on 20 Aug 20)

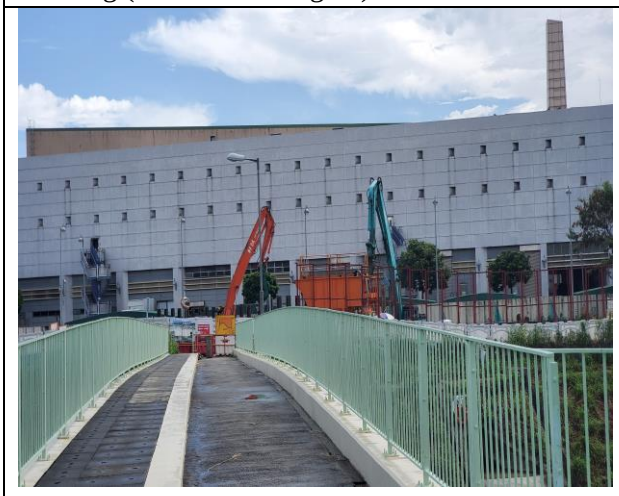
Shek Sheung River (Taken on 6 Aug 20)

Part B – Waterbird Species

Actitis hypoleucos (Taken on 20 Aug 20)	*Amaurornis phoenicurus* (Taken on 6 Aug 20)
Ardea alba (Taken on 6 Aug 20)	*Ardea cinerea* (Taken on 6 Aug 20)
Ardeola bacchus (Taken on 14 Aug 20)	*Himantopus himantopus* (Taken on 20 Aug 20)

Bubulcus coromandus (Taken on 20 Aug 20)	*Egretta garzetta* (Taken on 24 Aug 20)

Part C – Human Activities & Site Conditions

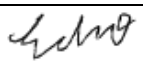
Mowing (Taken on 6 Aug 20)	Remote Boating (Taken on 20 Aug 20)
	
Excavation (Taken on 6 Aug 20)	

APPENDIX K
SITE AUDIT SUMMARY

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200804
Date	4 August 2020 (Tuesday)
Time	14:15 – 16:30

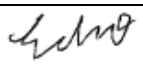
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200728).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		4 August 2020
Checked by	Mr. Eric Yan		5 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200813
Date	13 August 2020 (Thursday)
Time	9:30 – 10:45

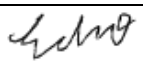
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200804).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		13 August 2020
Checked by	Mr. Eric Yan		13 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200818
Date	18 August 2020 (Tuesday)
Time	14:00 – 15:30

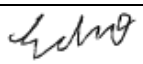
Ref. No.	**Non-Compliance**	**Related Item No.**
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200813).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		18 August 2020
Checked by	Mr. Eric Yan		19 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200825
Date	25 August 2020 (Tuesday)
Time	14:00 – 16:00

Ref. No.	**Non-Compliance**	**Related Item No.**
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200818).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		25 August 2020
Checked by	Mr. Eric Yan		26 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200804
Date	4 August 2020 (Tuesday)
Time	14:15 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200728).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		4 August 2020
Checked by	Mr. Eric Yan		5 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200813
Date	13 August 2020 (Thursday)
Time	9:30 – 10:45

Ref. No.	**Non-Compliance**	**Related Item No.**
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200804).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		13 August 2020
Checked by	Mr. Eric Yan		13 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200818
Date	18 August 2020 (Tuesday)
Time	14:00 – 15:30

Ref. No.	**Non-Compliance**	**Related Item No.**
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200813).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		18 August 2020
Checked by	Mr. Eric Yan		19 August 2020

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	200825
Date	25 August 2020 (Tuesday)
Time	14:00 – 16:00

Ref. No.	**Non-Compliance**	**Related Item No.**
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	C. Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	D. Noise	
	• No environmental deficiency was identified during the site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	F. Ecology and Fisheries	
	• No environmental deficiency was identified during the site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	H. Permits /Licences	
	• No environmental deficiency was identified during the site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200818).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung		25 August 2020
Checked by	Mr. Eric Yan		26 August 2020

APPENDIX L
WASTE FLOW TABLE

Name of Department: DSD

Contract No. DC/2018/06

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
Jan	0.376	0.000	0.000	0.000	0.376	0.000	0.000	0.000	0.000	0.000	0.083
Feb	1.168	0.000	0.000	0.332	0.836	0.000	0.000	0.000	0.000	0.000	0.052
Mar	2.436	0.000	0.000	0.497	1.939	0.000	0.000	0.000	0.000	0.000	0.134
Apr	2.660	0.000	0.000	0.126	2.534	0.000	0.000	0.000	0.000	0.000	0.018
May	2.260	0.000	0.000	0.161	2.100	0.000	0.000	0.000	0.000	0.060	0.138
Jun	2.271	0.000	0.000	0.000	2.271	0.000	0.000	0.000	0.000	0.000	0.018
Sub-total	11.171	0.000	0.000	1.115	10.056	0.000	0.000	0.000	0.000	0.060	0.443
Jul	1.227	0.000	0.000	0.076	1.151	0.000	0.000	0.000	0.000	0.000	0.070
Aug	2.551	0.000	0.000	0.104	2.408	0.000	0.000	0.000	0.016	0.000	0.022
Sep											
Oct											
Nov											
Dec											
Total	14.949	0.000	0.000	1.295	13.616	0.000	0.000	0.000	0.016	0.060	0.535

Notes:

1. Assume the density of soil fill is 2 ton/m3.
2. Assume the density of rock and broken concrete is 2.5 ton/m3
3. Assume each truck of C&D wastes is 5m3
4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38
5. The slurry and bentonite are disposed at Tseung Kwun O 137
6. The non-inert C&D wastes are disposed at NENT.
7. Assume the density of metal is 7.850 kg/m3
8. Assume the density of plastic is 941 kg/m3
9. Assume the density of general refuse is 0.9 kg/l
10. Density of waste oil is assued to be 0.001 m3/l & 0.8 kg/l. Chemical waste includes waste oil.

Forecast of Total Quantities of C&D Materials to be Generated from the Contract										
Total Quantity Generated	**Hard Rock and Large Broken Concrete**	**Reused in the Contract**	**Reused in other Projects**	**Diposal as Public Fill**	**Imported Fill**	**Metals**	**Paper/card board packaging**	**Plastics (see Note 2)**	**Chemical Waste**	**Others, e.g. general refuse**
(in '000m^3)	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000kg)**	**(in '000kg)**	**(in '000kg)**	**(in '000m^3)**	**(in '000m^3)**
26.2	0.0	6.3	0.0	20.0	1.5	50.0	50.0	20.0	0.1	0.4

Notes:

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(3) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works if equal to or exceed 50,000 m^3.

(4) The density of soil fill is 2.24 ton/m^3.

Name of Department: DSD

Contract No. DC/2018/07

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.006
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.005
Mar	0.143	0.000	0.000	0.000	0.143	0.000	0.00	0.000	0.000	0.000	0.000
Apr	0.121	0.000	0.000	0.000	0.121	0.000	31.23	0.000	0.000	0.000	0.003
May	0.372	0.000	0.000	0.000	0.372	0.000	19.71	0.000	0.000	0.000	0.005
Jun	0.227	0.000	0.000	0.000	0.227	0.000	151.78	0.000	0.000	0.000	0.009
Sub-total	0.862	0.000	0.000	0.000	0.862	0.000	202.72	0.000	0.000	0.000	0.028
Jul	0.180	0.000	0.000	0.056	0.124	0.076	92.86	0.000	0.000	9.600	0.006
Aug	0.847	0.000	0.000	0.000	0.847	0.104	115.29	0.000	0.016	0.000	0.008
Sep											
Oct											
Nov											
Dec											
Total	1.889	0.000	0.000	0.056	1.833	0.180	410.87	0.000	0.016	9.600	0.043

Notes:

1. Assume the density of soil fill is 2 ton/m3.
2. Assume the density of rock and broken concrete is 2.5 ton/m3
3. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38
4. The slurry and bentonite are disposed at Tseung Kwun O 137
5. The non-inert C&D wastes are disposed at NENT
6. Assume the density of general refuse is 0.9 ton/m3
7. Density of waste oil is assued to be 0.8 kg/l. Chemical waste includes waste oil.

Forecast of Total Quantities of C&D Materials to be Generated from the Contract										
Total Quantity Generated	**Hard Rock and Large Broken Concrete**	**Reused in the Contract**	**Reused in other Projects**	**Diposal as Public Fill**	**Imported Fill**	**Metals**	**Paper/card board packaging**	**Plastics (see Note 2)**	**Chemical Waste**	**Others, e.g. general refuse**
(in '000m^3)	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000m^3)**	**(in '000kg)**	**(in '000kg)**	**(in '000kg)**	**(in '000m^3)**	**(in '000m^3)**
26.2	0.0	6.3	0.0	20.0	1.5	50.0	50.0	20.0	0.1	0.4

Notes:

(1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(3) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works if equal to or exceed 50,000 m^3.

(4) The density of soil fill is 2.24 ton/m^3.

Environmental Aspect Evaluation Form

Name of Department: ~~ArchSD/CEDD~~/DSD/~~EMSD/HyD/WSD~~ Contract No.: _DE/2018/03_

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	12.46 T
June	0	0	0	0	0	0	0	0	0	0	51.46 T
Sub-total	0	0	0	0	0	0	0	0	0	0	63.92 T
July	0	0	0	0	0	0	0	0	0	0	0
Aug	92.45 T	0	0	0	92.45 T	0	0	0	0	0	0
Sept											
Oct											
Nov											
Dec											
Total	92.45 T	0	0	0	92.45 T	0	0	0	0	0	63.92 T

Environmental Aspect Evaluation Form

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

Notes:
(1) The performance targets are given in PS Clause 6A.27.8(14).
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
(4) The *Contractor* shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3. (PS Clause 6.21.7(4)(b) refers)

Name of Department: DSD Contract No.: DE/2018/04

Monthly Summary Waste Flow Table for 2020 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0	0	0	0

APPENDIX M
EVENT AND ACTION PLANS

Appendix M - Event Action Plans

Table M-1 Event/Action Plan for Air Quality

Event	Action			
	ET	IEC	ER	Contractor
Action level being exceeded by one sampling	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues,	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Appendix M - Event Action Plans

Event	Action			
	ET	IEC	ER	Contractor
	arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.			
Limit level being exceeded by one sampling	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification;

Appendix M - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
	4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix M - Event Action Plans

Table M-2 Event/Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level	1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem;	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals;

Appendix M - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
	Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	3. Supervise the implementation of remedial measures.	4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix M - Event Action Plans

Table M-3 Event/Action Plan for Ecology

Action Level	Response	Limit Level	Response
Construction Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to the Project instigate remedial action.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to the Project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to the Project instigate remedial action.

Appendix M - Event Action Plans

Table M-4 Event/Action Plan for Landscape and Visual

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	1. Inform the Contractor, IEC and ER; 2. Discuss remedial actions with IEC, ER and Contractor 3. Monitor remedial actions until rectification has been completed.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures.	1. Confirm receipt of notification of non-conformity in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures.	1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement.

Appendix M - Event Action Plans

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Repeated Non-conformity	1. Identify source; 2. Inform the Contractor, IEC and ER; 3. Discuss inspection frequency; 4. Discuss remedial actions with IEC, ER and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity stops, cease additional monitoring.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures.	1. Notify the Contractor; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise implementation of remedial measures.	1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

APPENDIX N
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Air Quality Impact							
S2.3.1.3	Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:	To minimize the dust impact	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Air Pollution Control Ordinance (APCO) and Air Pollution Control (Construction Dust) Regulation	^
	Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;						^
	Any dusty material remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;						^
	A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;						^
	The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;						^
	Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;						^
	When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period.						^
	The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S2.3.1.3	Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;	To minimize the dust impact	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Air Pollution Control Ordinance (APCO) and Air Pollution Control (Construction Dust) Regulation	^
	Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;						^
	Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;						^
	Any skip hoist for material transport should be totally enclosed by impervious sheeting;						N/A
	Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;						N/A
	Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;						N/A
	Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and						N/A
	Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Noise Impact							
S3.2.1.1	Use of movable barrier, enclosure, acoustic mat and quiet plant. Use of wooden frames barrier with a small-cantilevered upper portion of superficial density not less than 14kg/m² on a skid footing with 25mm thick internal sound absorptive lining.	To minimize construction noise impact arising from the Project at the affected noise sensitive receivers (NSRs)	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, Noise Control Ordinance (NCO)	^
S3.2.1.2	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, NCO	^
	Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.						^
	Mobile plant, if any, should be sited as far away from NSRs as possible.						^
	Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.						^
	Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.						^
	Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Ecological Impact							
S4.2.1.1	Solid dull green noise/visual barriers of at least 2m high shall be erected and maintained between active works area and all areas of ecological importance.	Minimize noise and human disturbances during construction phase.	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.2	Avoid unnecessary lighting.	Minimize mortality impacts on birds.	Design / Contractor/ Plant Operator	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.3	Good construction site practice to minimise dust generation should be followed on all construction sites. Measures to avoid, minimise and mitigate impacts on air quality are detailed in this schedule	Minimize dust generation from construction sites.	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
S4.2.1.4	Temporary sewerage and drainage to be designed and installed to collect wastewater and prevent it from entering water bodies;	Avoid, minimise and mitigate impact on water quality	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
	Proper locations well away from nearby water bodies should be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpiles of construction debris and spoil, and these should be identified before commencement of works;						^
	To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies should be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures should also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work sites;						^
	Construction debris and spoil should be covered and/or properly disposed of as soon as possible to avoid these being washed into nearby water bodies;						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S4.2.1.4	Proper locations for discharge outlets of temporary wastewater treatment facilities well away from sensitive receivers should be identified;	Avoid, minimise and mitigate impact on water quality	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM	^
	Adequate lateral support should be erected where necessary in order to prevent soil/mud from slipping into water bodies;						^
	Site boundaries should be clearly marked and any works beyond the boundary strictly prohibited;						^
	Regular water monitoring and site audit should be carried out at adequate points along any watercourses where construction works are underway upstream within their catchments and also on the Ng Tung, Sheung Yue and Shek Sheung Rivers. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works should be considered;						^
	Excavation profiles should be properly designed and executed with attention to the relevant requirements for environment, health and safety;						^
	Where soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means;						N/A
	Stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of contaminated soil to minimize contaminated runoff and construction materials should be properly covered and located away from nearby water bodies; and						^
	Supply of suitable clean backfill material after excavation, if required.						N/A
	Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent discharge during transport or during wet season;						^
	Speed control for the trucks carrying contaminated materials should be enforced;						^
	Vehicle wheel washing facilities at construction sites' exit points should be established and used, where necessary						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Water Quality Impact							
S5.2.2.1	Construction Site Runoff Practices and measures provided in the Practice Note for Professional Persons on Construction Site Drainage, (PROPECC PN1/94) should be followed where applicable.	Control construction runoff	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^
S5.2.2.2 – S5.2.2.3	Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	Handling of site sewage	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	^
	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Waste Management							
S6.2.2.1	Nomination of an approved person, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;	Minimize waste generation during construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal Ordinance (WDO)	^
	Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;						^
	Provision of sufficient waste disposal points and regular collection for disposal;						^
	Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;						^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;						^
	An Environmental Management Plan (EMP) should be prepared by the contractor and submitted to the Supervisor for approval.						^
S6.2.3.1	Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal;	Reduce waste generation	Contractor	Work Sites	Prior to the commencement of construction of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	Proper storage and site practices to minimize the potential for damage and contamination of construction materials;						^
	Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste;						^
	Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); and						^
	Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
6.2.4.1	Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and						^
	Different locations should be designated to stockpile each material to enhance reuse.						^
S6.2.4.2	Remove waste in timely manner;	Minimize waste impacts arising from waste storage	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	WDO	^
	Employ the trucks with cover or enclosed containers for waste transportation						^
	Obtain relevant waste disposal permits from the appropriate authorities						^
	Disposal of waste should be done at licensed waste disposal facilities.						^
S6.2.5.2	Maintain temporary stockpiles and reuse excavated fill material for backfilling;	Minimize waste impacts from excavated and C&D materials	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	^
	Carry out on-site sorting;						^
	Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;						^
	Adopt “selective demolition” technique to demolish the existing structure and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; and						N/A
	Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified.						^
S6.2.5.3	The Contractor should recycle as much as possible of the C&DM on-site. Public fill and C&DM waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. For example, concrete and masonry can be crushed and used as fill, and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	Minimize waste impacts from building demolition and new building construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S6.2.5.3	The use of wooden hoardings shall not be allowed. An alternative material, such as metal, aluminium or alloy etc, could be used.	Minimize waste impacts from building demolition and new building construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	^
	Government has developed a charging policy for the disposal of waste to landfill at present. It will provide additional incentive to reduce the volume of generated waste and ensure proper segregation to allow reuse of the inert material on site when implemented.						^
	In order to minimize the impacts of the demolition works, the generated wastes must be cleared as quickly as possible after demolition. Therefore, the demolition and clearance works should be undertaken simultaneously. To facilitate proper segregation of inert and non-inert C&D material arising from demolition works, selective demolition method should be adopted.						^
S6.2.5.4	If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers.	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal (Chemical Waste General) Regulation, Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	^
	Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.						^
S6.2.5.5	General refuse should be stored in enclosed bins separately from construction and chemical wastes.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal (Chemical Waste General) Regulation	^
	Recycling bins should also be placed to encourage recycling.						^
	Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.						^
	A reputable waste collector should be employed to remove general refuse on a daily basis.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Landscape and Visual							
S7.3.1.1	For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.	Minimize the impact to the landscape and visual	Contractor	Work Sites	Prior to construction and construction phase		N/A
	With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.						N/A
S7.3.2.1	MM4 – Tree Protection & Preservation Existing trees to be retained within the Project Site should be carefully protected during construction. In particular Old and Valuable Trees (OVTs) will be preserved according to ETWB TC (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.	Protect and Preserve Trees	Designer / Contractor	Work Sites	Prior to construction and construction phase	ETWB TCW No. 29/2004 and DEVB TC(W) No.7/2015	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S7.3.2.1	MM5 - Tree Transplantation Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC No. 2/2004 and DEVB TC(W) No. 7/2015 and final locations of transplanted trees should be agreed prior to commencement of the work. For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.	Transplant Trees where suitable for transplantation	Designer / Contractor	Work Sites where possible. Otherwise consider offsite locations	Prior to construction, construction phase and operation phase	DEVB TC(W) No. 7/2015 and ETWB TCW No.2/2004 HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit	N/A
S7.3.2.1	MM6 - Slope Landscaping Site formation should be reduced as far as possible. Hydroseeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape recourses and charter. Woodland tree seedings and/or shrubs should be planted where slope gradient and site conditions allow.	To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure man-made slopes are as visually amenable as possible.	Designer / Contractor	Work Sites	Prior to construction, construction phase and operation phase	GEO Publication (1999) - Use of Vegetation as Surface Protection on Slope; GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes	N/A
	In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GWO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S7.3.2.1	MM7 - Compensatory Planting Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under DEVB TC(W) No. 7/2015.	Compensate for trees and shrubs lost due to the Project	Designer / Contractor	Work Sites where possible. Otherwise consider offsite locations	Prior to construction, construction phase and operation phase	DEVB TC(W) No. 7/2015 and ETWB TCW No. 2/2004	N/A
	Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.						N/A
	Compensatory planting for shrubs should be considered in suitable locations. Native species such as *Melastoma malabathricum, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma dodecandrum, Atalantia buxifolia, Rhodomyrtus tomentosa, Rhaphiolepis indica,* and *Rhododendron simsii* are suggested.						N/A
S7.3.2.1	MM9 - Vertical Greening Planting of climbers to grow up vertical surfaces were appropriate.	Soften hard surfaces and facilities	Designer / Contractor	On appropriate structures	Prior to construction, construction phase and operation phase	ETWB TCW No.11/2004 – Cyber Manual for Greening	N/A
S7.3.2.1	MM10 - Green Roof Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to visually sensitive receivers (VSRs) at high levels. Provide greening.	Designer / Contractor	On appropriate buildings	Prior to construction, construction phase and operation phase	CIBSE HK Branch, Technical Guidelines for Green Roof Systems in Hong Kong (2011); ArchSD/Urbis Study on Green Roof Application in HK (2007)	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S7.3.2.1	MM11 - Screen Planting Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Designer / Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the structures.	Prior to construction, construction phase and operation phase	ETWB TCW No. 10/2013 and 3/2006	N/A
S7.3.2.1	MM16 - Screen Hoarding Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence.	To screen undesirable views of the works site.	Designer	Work Sites	Construction phase		^
S7.3.2.1	MM17 - Light Control Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs.	Designer / Contractor	Work Sites and/or the Plant	Construction phase and operation phase		^

Remarks: EM&A Programme under FEP-02/474/2013	
^	Compliance of mitigation measure;
N/A N/A(1)	Not applicable at this stage; Not observed;
*	Recommendation was made during site audit but improved/retified by the contractor;
#	Recommendation was made during site audit but not yet improved/retified by the contractor;
X	Non-compliance of mitigation measure;
●	Non-compliance but rectified by the contractor.

APPENDIX O
SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Agreement No. SPW 07/2019

Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Appendix O – Summary of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: August 2020

Log Ref.	Location	Received Date	Details of Complaint/Warning/Summon and Prosecution	Investigation/Mitigation Action	Status
1	Expansion Site of SWHSTP (Portion C)	18 March 2020	Muddy water was suspected to be discharged from the expansion site of SWHSTP to Shek Sheung River, manholes and foul drains nearby	• Employed suction truck and dump truck to clear the silt and mud at Shek Sheung River • Arranged to repair the wastewater treatment system • Installed additional sedimentation tanks and wastewater treatment system to increase the on-site treatment capacity • Clean the slurry sediment released from the outlet regularly by suction trucks • Avoid damage of underground drains and pipes caused by existing construction works • Avoid illegal discharge from the Site into foul drains and manholes	Complaint Investigation Report was submitted in April 2020

Remarks: No environmental complaint/warning/summon and prosecution was received in the reporting period.

APPENDIX P
SUMMARY OF EXCEEDANCE

Agreement No. SPW 07/2019
Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1

Appendix P – Summary of Exceedance

Reporting Month: August 2020

(A) Exceedance Report for Air Quality
(NIL in the reporting month)

(B) Exceedance Report for Construction Noise
(NIL in the reporting month)

(C) Exceedance Report for Ecology
(NIL in the reporting month)

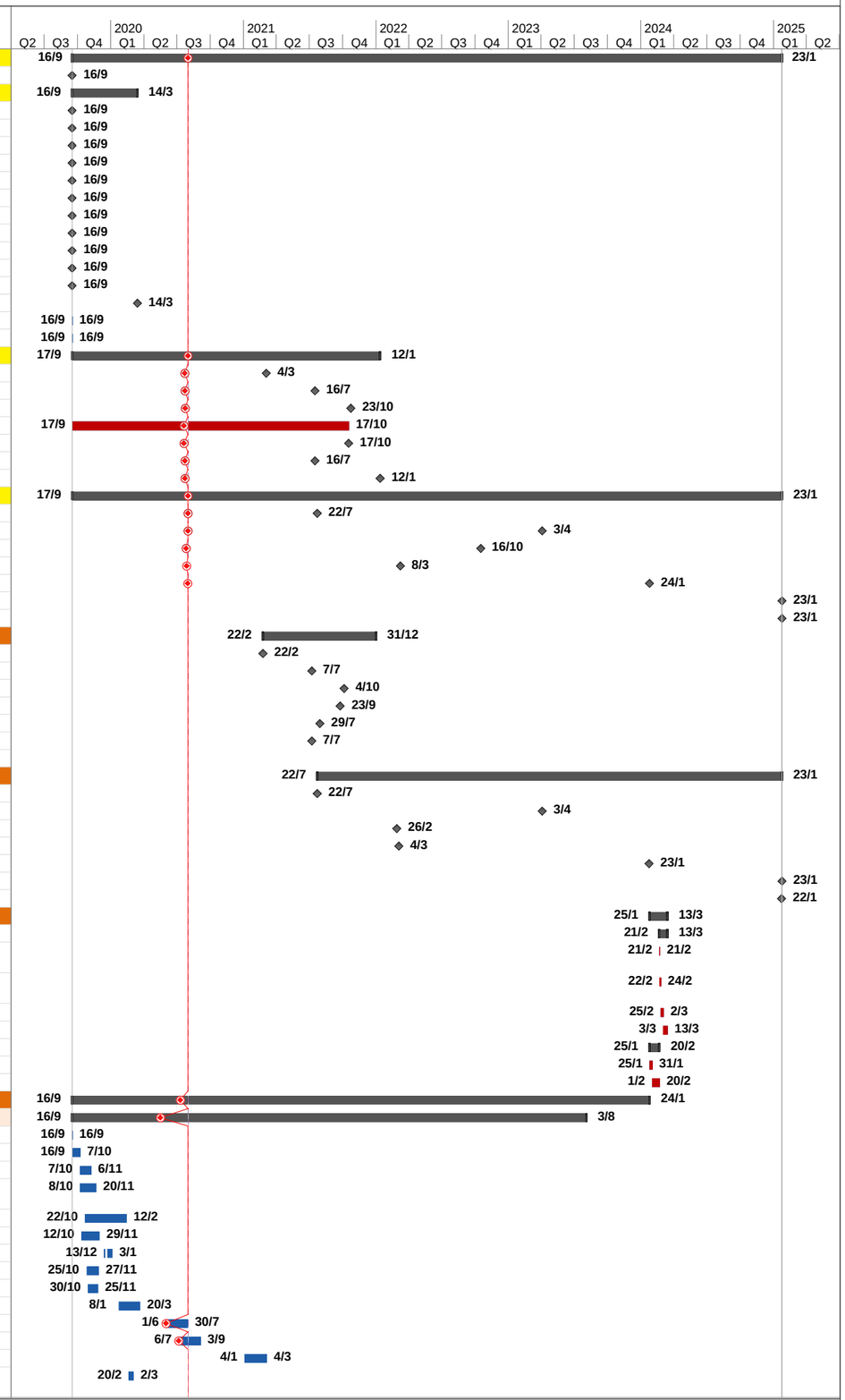
APPENDIX Q
TENTATIVE CONSTRUCTION PROGRAMME

Contract No.: DC/2018/06
Contract Title: Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
- Civil Works for Sludge Treatment Facilities and 132kV Primary Substation

Updated Programme (Status Date: 31/07/2020)

群利－俊和聯營體
KL－CW JV

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
1		**Contract Dates**	**1957 day**	**Mon 16/9/19**	**Thu 23/1/25**	**Mon 16/9/19**	**NA**	**0 days**			**35%**	
2		Starting Date	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days		4,5FS+181 days,6,7,8,9,11,12,10	100%	
3		**Access Date (cal. day)**	**180 days**	**Mon 16/9/19**	**Sat 14/3/20**	**Mon 16/9/19**	**Sat 14/3/20**	**0 days**			**100%**	
4		Portion A-1	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
5		Portion A-2	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2FS+181 days		100%	
6		Portion C-1A	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
7		Portion C-1B	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
8		Portion C-2A	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
9		Portion C-2B	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
10		Portion C-2C	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
11		Portion C-2D	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
12		Portion C-3	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
13		Portion C-4	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
14		Portion C-5	0 days	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
15		Portion C-6	0 days	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	0 days	2FS+181 days	376,351	100%	
16		Works Area WA1	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
17		Works Area WA2-A	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2		100%	
18		**Key Date (cal. day)**	**848.2 da**	**Tue 17/9/19**	**Wed 12/1/22**	**Tue 17/9/19**	**NA**	**0 days**			**44%**	
19		KD1A (525 days after starting date)	525 days	Tue 17/9/19	Thu 4/3/21	Tue 17/9/19	NA	0 days	2FS+1 day		59%	
20		KD2A (660 days after starting date)	660 days	Tue 17/9/19	Fri 16/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		47%	
21		KD3A (760 days after starting date)	760 days	Tue 17/9/19	Sat 23/10/21	Tue 17/9/19	NA	0 days	2FS+1 day		41%	
22		KD3B (750 days after starting date)	750 days	Tue 17/9/19	Sun 17/10/21	Tue 17/9/19	NA	0 days	2FS+1 day		41%	
23		KD3C (750 days after starting date)	750 days	Tue 17/9/19	Sun 17/10/21	Tue 17/9/19	NA	0 days	2FS+1 day		41%	
24		KD3D (660 days after starting date)	660 days	Tue 17/9/19	Fri 16/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		47%	
25		KD3E (840 days after starting date)	840 days	Tue 17/9/19	Wed 12/1/22	Tue 17/9/19	NA	0 days	2FS+1 day		37%	
26		**Completion Date (cal. day)**	**1956 day**	**Tue 17/9/19**	**Thu 23/1/25**	**Tue 17/9/19**	**NA**	**0 days**			**29%**	
27		Section 1 of Works (675 days after starting date)	675 days	Tue 17/9/19	Thu 22/7/21	Tue 17/9/19	NA	0 days	2FS+1 day		82%	
28		Section 2 of Works (1,295 days after starting date)	1295 day	Tue 17/9/19	Mon 3/4/23	Tue 17/9/19	NA	0 days	2FS+1 day		25%	
29		Section 3 of Works (1,120 days after starting date)	1120 day	Tue 17/9/19	Sun 16/10/22	Tue 17/9/19	NA	0 days	2FS+1 day		28%	
30		Section 4 of Works (900 days after starting date)	900 days	Tue 17/9/19	Tue 8/3/22	Tue 17/9/19	NA	0 days	2FS+1 day		35%	
31		Section 5 of Works (1,590 days after starting date)	1590 day	Tue 17/9/19	Wed 24/1/24	Tue 17/9/19	NA	0 days	2FS+1 day	32,33,57	20%	
32		Defect Liability Period	365 days	Thu 25/1/24	Thu 23/1/25	NA	NA	0 days	31,48FF		0%	
33		Soft Landscape Establishment Works	365 days	Thu 25/1/24	Thu 23/1/25	NA	NA	0 days	31,49FF		0%	
34	*	**Planned Completion - Key Date (cal. day)**	**312 days**	**Mon 22/2/21**	**Fri 31/12/21**	**NA**	**NA**	**0 days**			**0%**	
35	KD1A	KD1A (525 days after starting date)	0 days	Mon 22/2/21	Mon 22/2/21	NA	NA	0 days	184FF,182FF,403,404,154		0%	
36	KD2A	KD2A (660 days after starting date)	0 days	Wed 7/7/21	Wed 7/7/21	NA	NA	-98 days	448FF,449FF,446FF,444FF,44		0%	
37	KD3A	KD3A (760 days after starting date)	0 days	Mon 4/10/21	Mon 4/10/21	NA	NA	11 days	207FF,208FF		0%	
38	KD3B	KD3B (750 days after starting date)	0 days	Thu 23/9/21	Thu 23/9/21	NA	NA	12 days	227FF,228FF		0%	
39	KD3C	KD3C (750 days after starting date)	0 days	Thu 29/7/21	Thu 29/7/21	NA	NA	68 days	240FF,241FF		0%	
40	KD3D	KD3D (660 days after starting date)	0 days	Wed 7/7/21	Wed 7/7/21	NA	NA	0 days	268FF,269FF		0%	
41	KD3E	KD3E (840 days after starting date)	0 days	Fri 31/12/21	Fri 31/12/21	NA	NA	0 days	288FF,282FF,326FF,331FF,34		0%	
42	*	**Planned Completion - Section of the Works (cal. day)**	**1281 day**	**Thu 22/7/21**	**Thu 23/1/25**	**NA**	**NA**	**0 days**			**0%**	
43	SW1	Section 1 of Works (675 days after starting date)	0 days	Thu 22/7/21	Thu 22/7/21	NA	NA	-56 days	186FF,372FF,185FF		0%	
44	SW2	Section 2 of Works (1,295 days after starting date)	0 days	Mon 3/4/23	Mon 3/4/23	NA	NA	0 days	451FF,465FF,452FF,454FF,46		0%	
45	SW3	Section 3 of Works (1,120 days after starting date)	0 days	Sat 26/2/22	Sat 26/2/22	NA	NA	226 days	242FF,243FF,270FF,271FF,21	419	0%	
46	SW4	Section 4 of Works (900 days after starting date)	0 days	Fri 4/3/22	Fri 4/3/22	NA	NA	0 days	307FF,312FF,409FF,406FF,40	419	0%	
47	SW5	Section 5 of Works (1,590 days after starting date)	0 days	Tue 23/1/24	Tue 23/1/24	NA	NA	-1 day	414FF,412FF,413FF,415FF,41	48FS+1 day	0%	
48		Defect Liability Period	365 days	Thu 25/1/24	Thu 23/1/25	NA	NA	-1 day	47FS+1 day	32FF	0%	
49		Soft Landscape Establishment Works	365 days	Wed 24/1/24	Wed 22/1/25	NA	NA	1 day	420FF	33FF	0%	
50		**Effects from Inclement Weather and Other Time Affected Events**	**39 days**	**Thu 25/1/24**	**Wed 13/3/24**	**NA**	**NA**	**0 days**			**0%**	
51		**Inclement Weather**	**19 days**	**Wed 21/2/24**	**Wed 13/3/24**	**NA**	**NA**	**0 days**			**0%**	
52		Delay and Disruption of Works for the month of February and March 2020 (NCE no. 0018A)	1 day	Wed 21/2/24	Wed 21/2/24	NA	NA	0 days	58	53	0%	
53		Delay and Disruption of Works for the month of April 2020 (NCE no. 0025)	3 days	Thu 22/2/24	Sat 24/2/24	NA	NA	0 days	52	54	0%	
54		Delay and Disruption of Works for the month of May 2020 (NCE no. 0027)	7 days	Sun 25/2/24	Sat 2/3/24	NA	NA	0 days	53	55	0%	
55		Delay and Disruption of Works for the month of June 2020 (NCE no. 0032)	11 days	Sun 3/3/24	Wed 13/3/24	NA	NA	0 days	54		0%	
56		**Other Time Affected Events**	**20 days**	**Thu 25/1/24**	**Tue 20/2/24**	**NA**	**NA**	**0 days**			**0%**	
57		Unforeseen Social Activities in Hong Kong in November 2019 (NCE no. 0002)	6 days	Thu 25/1/24	Wed 31/1/24	NA	NA	0 days	31	58	0%	
58		Disruption from Coronaviarus Outbreak in February 2020 (NCE no. 0022)	14 days	Thu 1/2/24	Tue 20/2/24	NA	NA	0 days	57	52	0%	
59		**Submissions (cal. day)**	**1592 day**	**Mon 16/9/19**	**Wed 24/1/24**	**Mon 16/9/19**	**NA**	**-1 day**			**69%**	
60		**Subletting Package**	**1418 day**	**Mon 16/9/19**	**Thu 3/8/23**	**Mon 16/9/19**	**NA**	**173 days**			**67%**	
61		Prepare & Submit Subletting Procedures	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2	62	100%	
62		PM Review & Accept Subletting Procedures	21 days	Mon 16/9/19	Mon 7/10/19	Mon 16/9/19	Mon 7/10/19	0 days	61	64,66,63,65,73,79,74,69,78,77	100%	
63		Subletting for Preliminary Works (Instrumentation Monitoring etc.)	30 days	Mon 7/10/19	Wed 6/11/19	Mon 7/10/19	Wed 6/11/19	0 days	62		100%	
64		Subletting for Drainage Diversion Works for UV System no.1& Effluent Pumping Station No.1	44 days	Tue 8/10/19	Wed 20/11/19	Tue 8/10/19	Wed 20/11/19	0 days	62	369	100%	
65		Subletting for the Temporary Site accommodation	114 days	Tue 22/10/19	Wed 12/2/20	Tue 22/10/19	Wed 12/2/20	0 days	62	154	100%	
66		Subletting for Pre-drilling Works	49 days	Sat 12/10/19	Fri 29/11/19	Sat 12/10/19	Fri 29/11/19	0 days	62	67SS+15 days,68SS+15 days,21	100%	
67		Subletting for Pre-bored Socketed Steel H-Pile	13.98 day	Fri 13/12/19	Fri 3/1/20	Fri 13/12/19	Fri 3/1/20	0 days	66SS+15 days	431,196,220,237,250,262,279,16	100%	
68		Subletting for Contractor's Designer for Temporary Works	32 days	Fri 25/10/19	Wed 27/11/19	Fri 25/10/19	Wed 27/11/19	0 days	66SS+15 days	71,70,84,76	100%	
69		Subletting for Independent Checking Engineer	27 days	Wed 30/10/19	Mon 25/11/19	Wed 30/10/19	Mon 25/11/19	0 days	62	171,199,206,222,239,253,264,43	100%	
70		Subletting for Sheetpile and ELS Works	58 days	Wed 8/1/20	Fri 20/3/20	Wed 8/1/20	Fri 20/3/20	0 days	68	171,199,206,222,239,253,264,28	100%	
71		Subletting for R.C Works	60 days	Mon 1/6/20	Thu 30/7/20	NA	NA	7 days	68	172,223,240,254,437,311,287,29	0%	
72		Subletting for Waterproofing	60 days	Mon 6/7/20	Thu 3/9/20	NA	NA	42 days	2	175,178,181,200,255,294	0%	
73		Subletting for ABWF & BS Works	60 days	Mon 4/1/21	Thu 4/3/21	NA	NA	27 days	62	186,211,230,243,255,271,289,29	0%	
74		Subletting for External Works including pipeworks and road works for UV System no.1 (Diversion)	12 days	Thu 20/2/20	Mon 2/3/20	Thu 20/2/20	Mon 2/3/20	0 days	62	369,75,402	100%	



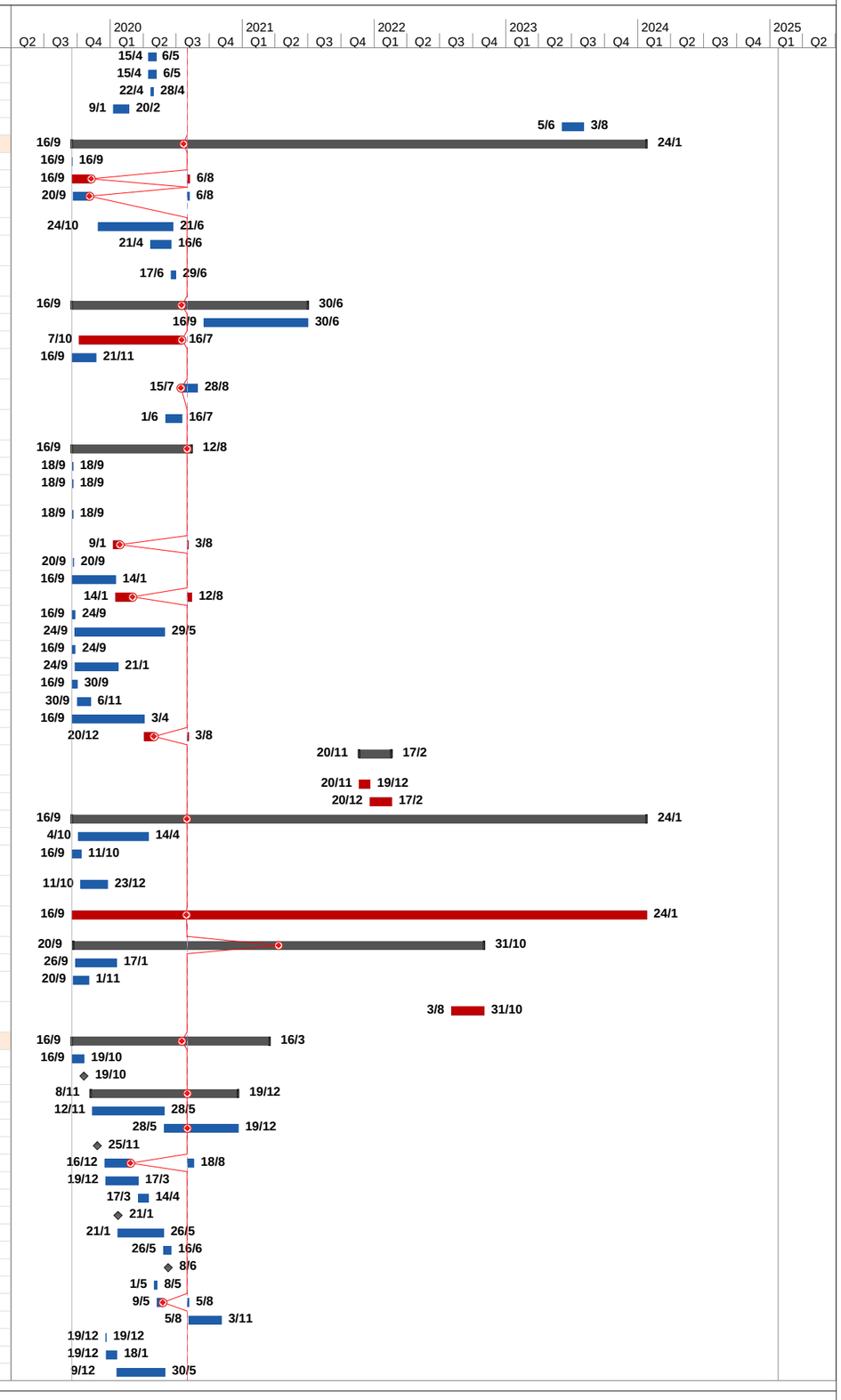
Task Milestone Summary Critical

Contract No.: DC/2018/06
Contract Title: Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
- Civil Works for Sludge Treatment Facilities and 132kV Primary Substation

Updated Programme (Status Date: 31/07/2020)

群利－俊和聯營體
KL－CW JV

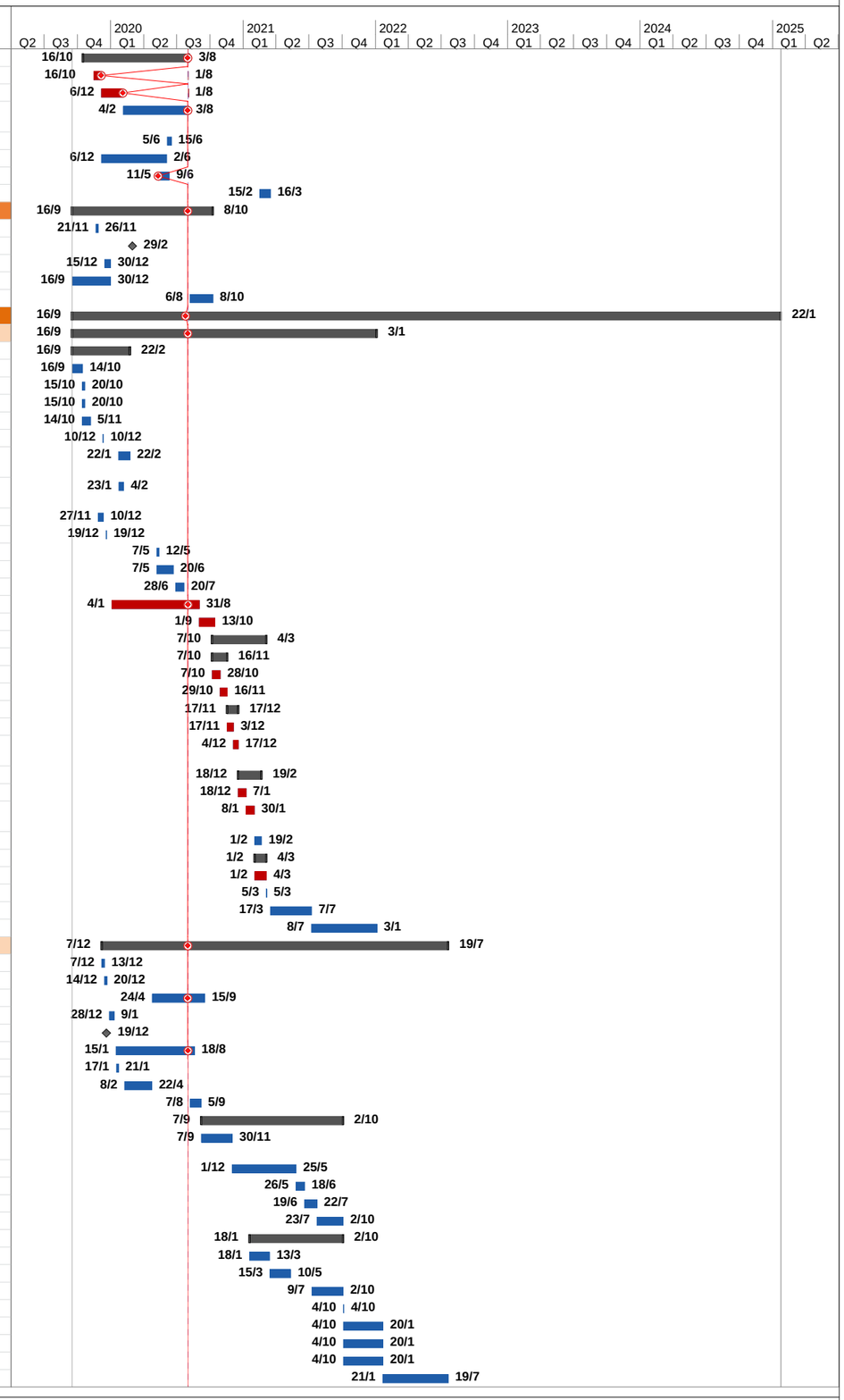
ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
75		Subletting for Drainage and Pipe works at UV System no.1	22 days	Wed 15/4/20	Wed 6/5/20	Wed 15/4/20	Wed 6/5/20	0 days	74	372	100%	
76		Subletting for Pipeworks, Utilities, and Roadworks	22 days	Wed 15/4/20	Wed 6/5/20	Wed 15/4/20	Wed 6/5/20	0 days	68	409,406,407,408,405	100%	
77		Subletting for trenchless construction	7 days	Wed 22/4/20	Tue 28/4/20	Wed 22/4/20	Tue 28/4/20	0 days	62	376	100%	
78		Subletting for Traffic Management Consultant	43 days	Thu 9/1/20	Thu 20/2/20	Thu 9/1/20	Thu 20/2/20	0 days	62	91,92	100%	
79		Subletting for Hard Landscape and Soft Landscape	60 days	Mon 5/6/23	Thu 3/8/23	NA	NA	173 days	62	420	0%	
80		**Statutory Submission, Submission & Approval**	**1592 day**	**Mon 16/9/19**	**Wed 24/1/24**	**Mon 16/9/19**	**NA**	**-2 days**			**62%**	
81		Prepare and Submit Subcontractor Management Plan (SMP)	1 day	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days	2	192	100%	
82		Prepare and Submit Interface Management Plan	60 days	Mon 16/9/19	Thu 6/8/20	Mon 16/9/19	NA	0 days	2	192	90%	
83		Prepare, submit & approve the layout plan of the Temporary Site accommodation	51 days	Fri 20/9/19	Thu 6/8/20	Fri 20/9/19	NA	132.9 days	2	154	90%	
84		Prepare, submit & accept the ELS design for deep excavation	207 days	Thu 24/10/19	Sun 21/6/20	Thu 24/10/19	Sun 21/6/20	0 days	68	171,199,206,222,239,253,264,28	100%	
85		Prepare, submit & accept the Method Statement for Drainage Diversion Works	57 days	Tue 21/4/20	Tue 16/6/20	Tue 21/4/20	Tue 16/6/20	0 days	2	86,369	100%	
86		PM approve the Method Statement for Drainage Diversion Works	13 days	Wed 17/6/20	Mon 29/6/20	Wed 17/6/20	Mon 29/6/20	0 days	85	369	100%	
87		TTA Management	654 days	Mon 16/9/19	Wed 30/6/21	Mon 16/9/19	NA	151 days		459	86%	
88		Excavation Permit Application for San Wan Road (Portion A)	288 days	Wed 16/9/20	Wed 30/6/21	Wed 16/9/20	NA	151 days		455	99%	
89		Excavation Permit Application for Chuk Wan Street (Portion C)	284 days	Mon 7/10/19	Thu 16/7/20	Mon 7/10/19	NA	0 days	2FS+21 days	92FS-45 days	80%	
90		Prepare TTA Plan, submit & approve for footpath for Stage 1 - Drainage Diversion	67 days	Mon 16/9/19	Thu 21/11/19	Mon 16/9/19	Thu 21/11/19	0 days	2	369	100%	
91		Prepare TTA Plan, submit & approve for carriageway at San Wan Road for CLP 13kV substation	45 days	Wed 15/7/20	Fri 28/8/20	Wed 15/7/20	NA	457 days	78	457	0%	
92		Prepare TTA Plan, submit & approve for carriageway at Chuk Wan Street for trenchless works	45 days	Mon 1/6/20	Thu 16/7/20	Mon 1/6/20	Thu 16/7/20	0 days	89FS-45 days,78	375	100%	
93		**Environmental Aspect Submissions**	**332 days**	**Mon 16/9/19**	**Wed 12/8/20**	**Mon 16/9/19**	**NA**	**0 days**	**2**		**98%**	
94		Notification to EPD for Works Commencement	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	192	100%	
95		Apply & approve for Registration as a Chemical Waste Producer	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	192	100%	
96		Apply & approve for a Billing Account for Disposal of Construction Waste	1 day	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	Wed 18/9/19	0 days	2	192	100%	
97		Apply & approve for Effluent Discharge Licence	21 days	Thu 9/1/20	Mon 3/8/20	Thu 9/1/20	NA	0 days	2	192	90%	
98		Prepare & submit of Project Layout Plan & O-Chart for EP	1 day	Fri 20/9/19	Fri 20/9/19	Fri 20/9/19	Fri 20/9/19	0 days	2	192	100%	
99		Prepare & submit Construction Noise Permits	121 days	Mon 16/9/19	Tue 14/1/20	Mon 16/9/19	Tue 14/1/20	0 days	2	100	100%	
100		Approval of Construction Noise Permits	60 days	Tue 14/1/20	Wed 12/8/20	Tue 14/1/20	NA	0 days	99	192	80%	
101		Prepare, submit Site Management Plan for Trip Ticket System	9 days	Mon 16/9/19	Tue 24/9/19	Mon 16/9/19	Tue 24/9/19	0 days	2		100%	
102		Approval of Site Management Plan for Trip Ticket System	249 days	Tue 24/9/19	Fri 29/5/20	Tue 24/9/19	Fri 29/5/20	0 days		192	100%	
103		Prepare & submit approve Waste Management Plan	9 days	Mon 16/9/19	Tue 24/9/19	Mon 16/9/19	Tue 24/9/19	0 days	2	104	100%	
104		Approval of Waste Management Plan	119 days	Tue 24/9/19	Tue 21/1/20	Tue 24/9/19	Tue 21/1/20	0 days	103	192	100%	
105		Prepare & submit Environmental Management Plan	15 days	Mon 16/9/19	Mon 30/9/19	Mon 16/9/19	Mon 30/9/19	0 days	2	106	100%	
106		Approval of Environmental Management Plan	37 days	Mon 30/9/19	Wed 6/11/19	Mon 30/9/19	Wed 6/11/19	0 days	105	192	100%	
107		Prepare& submit for Temporary Drainage and Management Plan	201 days	Mon 16/9/19	Fri 3/4/20	Mon 16/9/19	Fri 3/4/20	0 days	2	108	100%	
108		Approval of Temporary Drainage and Management Plan	30 days	Fri 20/12/19	Mon 3/8/20	Fri 20/12/19	NA	0 days	107	369	90%	
109		**Prepare, submit & approve for the FSD submissions for CLP 132kV Substation**	**90 days**	**Sat 20/11/21**	**Thu 17/2/22**	**NA**	**NA**	**0 days**			**0%**	
110		Prepare and submit arrangement and schedule to FSD	30 days	Sat 20/11/21	Sun 19/12/21	NA	NA	0 days		111	0%	
111		FSD approve the arrangement and schedule	60 days	Mon 20/12/21	Thu 17/2/22	NA	NA	0 days	110		0%	
112		**Trees Related Submissions**	**1592 day**	**Mon 16/9/19**	**Wed 24/1/24**	**Mon 16/9/19**	**NA**	**-2 days**			**36%**	
113		Initial Tree survey and report submission	194 days	Fri 4/10/19	Tue 14/4/20	Fri 4/10/19	Tue 14/4/20	0 days	2	151	100%	
114		Prepare and submit and approve the Method Statement of Erection of the protective fencing	26 days	Mon 16/9/19	Fri 11/10/19	Mon 16/9/19	Fri 11/10/19	0 days	2	151	100%	
115		Prepare and submit and approve the Method Statement of Tree felling, Preservation, Prunning works & Transplanting	74 days	Fri 11/10/19	Mon 23/12/19	Fri 11/10/19	Mon 23/12/19	0 days	2	151,191	100%	
116		Submit Yearly Tree Risk Assessment and Inspection Report	1590 days	Mon 16/9/19	Wed 24/1/24	Mon 16/9/19	NA	-2 days	2	47FF	20%	
117		**Others**	**1138 day**	**Fri 20/9/19**	**Mon 31/10/22**	**Fri 20/9/19**	**NA**	**0 days**			**64%**	
118		Approval for Lighting Removal at Portion C-1A of the Site from Hyd	114 days	Thu 26/9/19	Fri 17/1/20	Thu 26/9/19	Fri 17/1/20	0 days	2	164	100%	
119		Prepare, submit & approve for commencement of Works near MTRCL protection zone at Sun Wan Road from MTRCL	43 days	Fri 20/9/19	Fri 1/11/19	Fri 20/9/19	Fri 1/11/19	0 days	2	428	100%	
120		Prepare, submit & approve for commencement Works along the riverbank by DSD	90 days	Wed 3/8/22	Mon 31/10/22	NA	NA	0 days		415,416,418,417FS+124 days	0%	
121		**Procurement**	**548 days**	**Mon 16/9/19**	**Tue 16/3/21**	**Mon 16/9/19**	**NA**	**15 days**			**89%**	
122		Prepare and submit the Procurement Procedure	34 days	Mon 16/9/19	Sat 19/10/19	Mon 16/9/19	Sat 19/10/19	0 days	2	123	100%	
123		PM Review & Accept Procurement Procedure	0 days	Sat 19/10/19	Sat 19/10/19	Sat 19/10/19	Sat 19/10/19	0 days	122	124,141,145,146,147,148,152	100%	
124		**Pipe works material**	**408 days**	**Fri 8/11/19**	**Sat 19/12/20**	**Fri 8/11/19**	**NA**	**9 days**	**123**		**89%**	
125		Prepare & submit concrete pipe material particular	199 days	Tue 12/11/19	Thu 28/5/20	Tue 12/11/19	Thu 28/5/20	0 days	2	126	100%	
126		Approval of concrete pipe material	205 days	Thu 28/5/20	Sat 19/12/20	Thu 28/5/20	Sat 19/12/20	0 days	125	127	100%	
127		Procurement, deliver & testing of concrete pipe material (1st batch)	0 days	Fri 8/11/19	Mon 25/11/19	Fri 8/11/19	Mon 25/11/19	0 days	126	368,369	100%	
128		Procurement, deliver & testing of concrete pipe material (remaining)	90 days	Mon 16/12/19	Tue 18/8/20	Mon 16/12/19	NA	131 days		406	80%	
129		Prepare & submit ductile iron pipe material particular	90 days	Thu 19/12/19	Tue 17/3/20	Thu 19/12/19	Tue 17/3/20	0 days	2	130	100%	
130		Approval of ductile iron pipe material	28 days	Tue 17/3/20	Tue 14/4/20	Tue 17/3/20	Tue 14/4/20	0 days	129	131	100%	
131		Procurement, deliver & testing of ductile iorn pipe material	0 days	Wed 18/12/19	Tue 21/1/20	Wed 18/12/19	Tue 21/1/20	0 days	130	408	100%	
132		Prepare & submit HDPE pipe material particular	127 days	Tue 21/1/20	Tue 26/5/20	Tue 21/1/20	Tue 26/5/20	0 days	2FS+120 days	133	100%	
133		Approval of HDPE pipe material	21 days	Tue 26/5/20	Tue 16/6/20	Tue 26/5/20	Tue 16/6/20	0 days	132	134	100%	
134		Procurement, deliver & testing of HDPE pipe material	0 days	Fri 8/5/20	Mon 8/6/20	Fri 8/5/20	Mon 8/6/20	0 days	133	407,408	100%	
135		Prepare & submit stainless steel pipe material particular	8 days	Fri 1/5/20	Fri 8/5/20	Fri 1/5/20	Fri 8/5/20	0 days	2	136	100%	
136		Approval of stainless steel pipe material	21 days	Sat 9/5/20	Wed 5/8/20	Sat 9/5/20	NA	55.8 days	135	137	80%	
137		Procurement, deliver & testing of stainless steel pipe material	90 days	Wed 5/8/20	Tue 3/11/20	NA	NA	55.8 days	136	405	0%	
138		Prepare & submit mild steel steel pipe material particular	1 day	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	0 days	2	139	100%	
139		Approval of mild steel pipe material	30 days	Thu 19/12/19	Sat 18/1/20	Thu 19/12/19	Sat 18/1/20	0 days	138	140	100%	
140		Procurement, deliver & testing of mild steel pipe material	133 days	Mon 9/12/19	Sat 30/5/20	Mon 9/12/19	Sat 30/5/20	0 days	139	405	100%	



Task ▬ Milestone ◆ Summary ▬ Critical ▬

Updated Programme (Status Date: 31/07/2020)

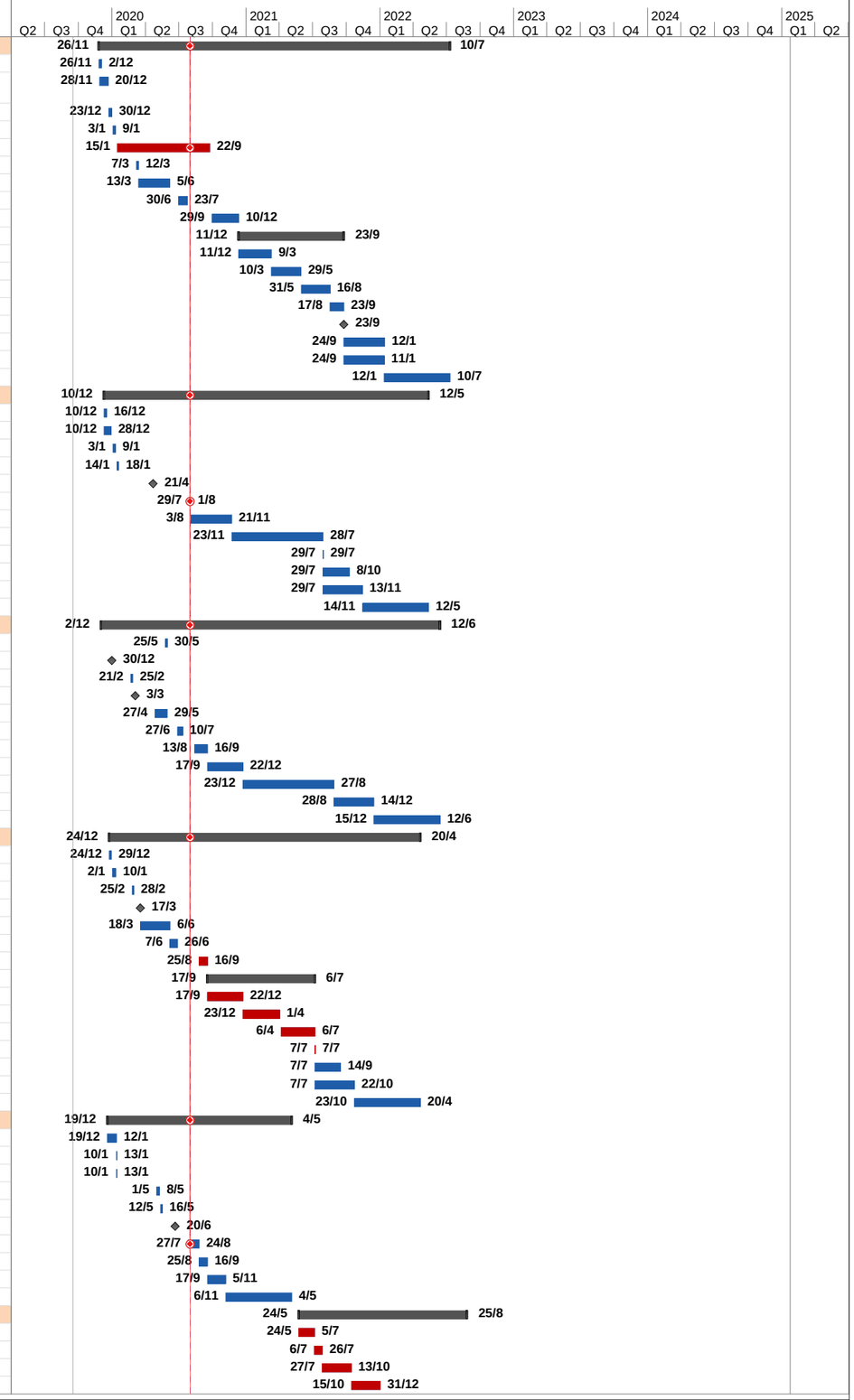
ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
141		**Prefabricated steel reinforcement**	**292.61 da**	**Wed 16/10/19**	**Mon 3/8/20**	**Wed 16/10/19**	**NA**	**3.39 days**	**123**		**99%**	
142		Prepare & submit steel reinforcement material particular	21 days	Wed 16/10/19	Sat 1/8/20	Wed 16/10/19	NA	0 days	2FS+60 days	143	99%	
143		Approval of prefabricated steel reinforcement material supplier	60 days	Fri 6/12/19	Sat 1/8/20	Fri 6/12/19	NA	0 days	142	144	99%	
144		Procurement, deliver & testing of prefabricated steel reinforcement material	180 days	Tue 4/2/20	Mon 3/8/20	Tue 4/2/20	NA	3.39 days	143	437,352,316,311,306,300,294,28	99%	
145		Prepare, submit and approve the water proofing material	11 days	Fri 5/6/20	Mon 15/6/20	Fri 5/6/20	Mon 15/6/20	0 days	123	172,223,240,254,437,438	100%	
146		Prepare, submit and approve the concrete mix	180 days	Fri 6/12/19	Tue 2/6/20	Fri 6/12/19	Tue 2/6/20	0 days	123	172,223,240,254,437,438	100%	
147		Prepare, submit and approve the metal works material	30 days	Mon 11/5/20	Tue 9/6/20	NA	NA	58 days	123	148,172,223,240,254,437,438	0%	
148		Prepare, submit and approve the ABWF works material	30 days	Mon 15/2/21	Tue 16/3/21	NA	NA	15 days	147,123	186,211,230,243,255,271,289,29	0%	
149		**Site Preliminary Works**	**315.1 day**	**Mon 16/9/19**	**Thu 8/10/20**	**Mon 16/9/19**	**NA**	**110.9 days**			**66%**	
150		Mobilization for Hoarding	5 days	Thu 21/11/19	Tue 26/11/19	Thu 21/11/19	Tue 26/11/19	0 days	2	151	100%	
151		Hoarding Erection at Portion C	0 days	Wed 27/11/19	Sat 29/2/20	Wed 27/11/19	Sat 29/2/20	0 days	150,113,114,115,152,69		100%	
152		Project Signboard Erection	11 days	Sun 15/12/19	Mon 30/12/19	Sun 15/12/19	Mon 30/12/19	0 days	123	151	100%	
153		Utility applications and Connection	87 days	Mon 16/9/19	Mon 30/12/19	Mon 16/9/19	Mon 30/12/19	0 days	2	154FF	100%	
154		Construction of Site Accommodation in Works Area	52 days	Thu 6/8/20	Thu 8/10/20	NA	NA	110.9 days	83,153FF,65	35	0%	
155	*	**Construction Works of Portion C of the Site**	**1582 day**	**Mon 16/9/19**	**Wed 22/1/25**	**Mon 16/9/19**	**NA**	**1 day**			**8%**	
156	*	**UV System No. 1 & Effluent Pumping Station No. 1**	**683 days**	**Mon 16/9/19**	**Mon 3/1/22**	**Mon 16/9/19**	**NA**	**608 days**			**42%**	
157		**Preliminary Works**	**130 days**	**Mon 16/9/19**	**Sat 22/2/20**	**Mon 16/9/19**	**Sat 22/2/20**	**0 days**			**100%**	
158		Site Clearance & Site Set Up (NCE no. 0005, 0006)	23 days	Mon 16/9/19	Mon 14/10/19	Mon 16/9/19	Mon 14/10/19	0 days	2	159	100%	
159		Tree Felling Works	6 days	Tue 15/10/19	Sun 20/10/19	Tue 15/10/19	Sun 20/10/19	0 days	158	160	100%	
160		Trial Pit Excavation & UU Detection Works	5 days	Tue 15/10/19	Sun 20/10/19	Tue 15/10/19	Sun 20/10/19	0 days	159	161	100%	
161		Temporary Footpath Diversion	20 days	Mon 14/10/19	Tue 5/11/19	Mon 14/10/19	Tue 5/11/19	0 days	160	162,165	100%	
162		Temporary diverted foorpath open to public	1 day	Tue 10/12/19	Tue 10/12/19	Tue 10/12/19	Tue 10/12/19	0 days	161	164,163	100%	
163		Additional Liaison and diversion of HyD Street Light Cables (NCE no. 0007)	25 days	Wed 22/1/20	Sat 22/2/20	Wed 22/1/20	Sat 22/2/20	0 days	162	164	100%	
164		Removal of Existing Street light and Provision of Temporary Street light	8 days	Thu 23/1/20	Tue 4/2/20	Thu 23/1/20	Tue 4/2/20	0 days	118,162,163	368	100%	
165		Predrilling Works (8no, 1rig, 3days/drillhole/rig) (NCE no. 10)	12 days	Wed 27/11/19	Tue 10/12/19	Wed 27/11/19	Tue 10/12/19	0 days	161	166	100%	
166		Installation of Monitoring Points	1 day	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	0 days	165	167,170	100%	
167		Setting up plant for pre-bored socked H-pile Installation	5 days	Thu 7/5/20	Tue 12/5/20	Thu 7/5/20	Tue 12/5/20	0 days	166,168SS-5 days		100%	
168		Pre-bored Socketed H-Pile Installation (34 Nos, 1 Rig, 3days/rig/pile)	39 days	Thu 7/5/20	Sat 20/6/20	Thu 7/5/20	Sat 20/6/20	0 days	67,370,371	169,261,167SS-5 days	100%	6
169		Pile Loading Test	18 days	Sun 28/6/20	Mon 20/7/20	Sun 28/6/20	Mon 20/7/20	0 days	168,251FS+5 days	280FS+5 days	100%	
170		Sheetpile Installation (FSP IV, 2200sq.m, 1 Rig) (NCE no. 10)	195 days	Sat 4/1/20	Mon 31/8/20	Sat 4/1/20	NA	-10 days	166	172,171	90%	
171		ELS Works (incl. Strut (4-layers) Installation & Excavation (3,700 cu.m)	35 days	Tue 1/9/20	Tue 13/10/20	NA	NA	-10 days	84,70,170,69	174FS-6 days	0%	
172		**R.C. Structure (370sq.m)**	**121 days**	**Wed 7/10/20**	**Thu 4/3/21**	**NA**	**NA**	**-10 days**	**145,146,147,71,144,170**		**0%**	
173		**Below Ground Level Stage no.1 @ -1.10mPD**	**34 days**	**Wed 7/10/20**	**Mon 16/11/20**	**NA**	**NA**	**-10 days**			**0%**	**5**
174		Base slab Construction (162 sq.m)	18 days	Wed 7/10/20	Wed 28/10/20	NA	NA	-10 days	171FS-6 days	175	0%	
175		Walls and Slabs Construction @-1.10mPD to +2.50mPD	16 days	Thu 29/10/20	Mon 16/11/20	NA	NA	-10 days	174,72	177	0%	
176		**Below Ground Level Stage no.2 @ +1.50mPD**	**27 days**	**Tue 17/11/20**	**Thu 17/12/20**	**NA**	**NA**	**-10 days**			**0%**	**5**
177		Base slab Construction (170sq.m)	15 days	Tue 17/11/20	Thu 3/12/20	NA	NA	-10 days	175	178	0%	
178		Walls and Slabs Construction @+1.5mPD to +4.9mPD & waterproofing works	12 days	Fri 4/12/20	Thu 17/12/20	NA	NA	-10 days	177,72	180	0%	
179		**Below Ground Level Stage no.3 @ +3.80mPD**	**49 days**	**Fri 18/12/20**	**Fri 19/2/21**	**NA**	**NA**	**-10 days**			**0%**	**5**
180		Base slab Construction (15 sq.m + 40 sq.m)	15 days	Fri 18/12/20	Thu 7/1/21	NA	NA	-10 days	178	181	0%	
181		Walls and Slabs Construction @+3.80mPD to +7.4mPD & waterproofing works	20 days	Fri 8/1/21	Sat 30/1/21	NA	NA	-10 days	180,72	182,184	0%	
182		Extraction of Sheetpiles	14 days	Mon 1/2/21	Fri 19/2/21	NA	NA	2 days	181	35FF	0%	
183		**Above Ground Level @ +7.4mPD**	**25 days**	**Mon 1/2/21**	**Thu 4/3/21**	**NA**	**NA**	**-10 days**			**0%**	**4**
184	KD1A	Walls, Slabs and staircase Construction @+7.4mPD to 16.4mPD	25 days	Mon 1/2/21	Thu 4/3/21	NA	NA	-10 days	181	35FF,185,186,324	0%	
185		**Allow access to Contarctor DE/2018/03 for E&M Installation**	**1 day**	**Fri 5/3/21**	**Fri 5/3/21**	**NA**	**NA**	**112 days**	**184**	**43FF**	**0%**	
186	SW1	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Wed 17/3/21	Wed 7/7/21	NA	NA	13 days	148,73,184	43FF,187	0%	
187	SW5	Surrounding Site formation works and road works	180 days	Thu 8/7/21	Mon 3/1/22	NA	NA	749 days	186	47FF	0%	
188	*	**Sludge Digesters and Distribution Chamber**	**772 days**	**Sat 7/12/19**	**Tue 19/7/22**	**Sat 7/12/19**	**NA**	**450 days**			**25%**	
189		Site Clearance & Site Set Up	6 days	Sat 7/12/19	Fri 13/12/19	Sat 7/12/19	Fri 13/12/19	0 days	190SF		100%	
190		Trial Pit Excavation & UU Detection Works	6 days	Sat 14/12/19	Fri 20/12/19	Sat 14/12/19	Fri 20/12/19	0 days	192SF	189SF	100%	
191		Tree Transplanting Works (TC080)	120 days	Fri 24/4/20	Tue 15/9/20	Fri 24/4/20	NA	9 days	115	199FS-8 days	70%	
192		Predrilling Works (50no., 4rig, 3 days/drillhole/rig)(NCE no. 10)	10 days	Sat 28/12/19	Thu 9/1/20	Sat 28/12/19	Thu 9/1/20	0 days	66,81,82,94,95,96,98,97,100,10	193,190SF,194	100%	
193		Installation of Monitoring Points	0 days	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	0 days	192	196	100%	
194		Sheetpile Installation (NCE no. 10, 24)	175 days	Wed 15/1/20	Tue 18/8/20	Wed 15/1/20	NA	103 days	192	196SS+20 days,205,252FS-5 day	95%	
195		Setting up plant for pre-bored socked H-pile Installation	4 days	Fri 17/1/20	Tue 21/1/20	Fri 17/1/20	Tue 21/1/20	0 days		196	100%	
196		Pre-bored Sockedted H-Pile Installation (127nos, 3rig, 3days/rig/pile)	60 days	Sat 8/2/20	Wed 22/4/20	Sat 8/2/20	Wed 22/4/20	0 days	67,193,194SS+20 days,195	197,351	100%	6
197		Pile Loading Test	26 days	Fri 7/8/20	Sat 5/9/20	NA	NA	9 days	196,280SS+10 days	199	0%	
198		Construction of Digestors	318 days	Mon 7/9/20	Sat 2/10/21	NA	NA	9 days			0%	
199		ELS Works (incl. Strut (4-layers) Installation & Excavation (17,600 cu.m))	70 days	Mon 7/9/20	Mon 30/11/20	NA	NA	9 days	84,70,197,69,191FS-8 days	200,206	0%	6
200		Construction of Digesters & waterproofing works	140 days	Tue 1/12/20	Tue 25/5/21	NA	NA	9 days	199,144,72	201,207	0%	10
201		Water Test	20 days	Wed 26/5/21	Fri 18/6/21	NA	NA	9 days	200	202	0%	
202		Apply Internal Anti-corrosion Protective Lining	28 days	Sat 19/6/21	Thu 22/7/21	NA	NA	9 days	201	203	0%	
203		Construction of Roof Slab	60 days	Fri 23/7/21	Sat 2/10/21	NA	NA	9 days	202	207FF	0%	
204		Construction of Distribution Chamber	210 days	Mon 18/1/21	Sat 2/10/21	NA	NA	9 days			0%	
205	SP	Sheet Pile Installation	45 days	Mon 18/1/21	Sat 13/3/21	NA	NA	39 days	194	206	0%	
206		ELS Works (incl. Strut (3-layers) Installation & Excavation)	45 days	Mon 15/3/21	Mon 10/5/21	NA	NA	39 days	84,70,205,69,199	207,315	0%	10
207	KD3A	Construction of Distribution Chamber	72 days	Fri 9/7/21	Sat 2/10/21	NA	NA	9 days	206,200,203FF	211,208,37FF,210,209	0%	10
208	KD3A	**Allow access to Contarctor DE/2018/03 for E&M Installation**	**1 day**	**Mon 4/10/21**	**Mon 4/10/21**	**NA**	**NA**	**9 days**	**207**	**37FF**	**0%**	
209		Drainage System (within Bldg/ Structure) Installation	90 days	Mon 4/10/21	Thu 20/1/22	NA	NA	211 days	207	45FF	0%	
210		FRP Walkway & Miscellanous Installation	90 days	Mon 4/10/21	Thu 20/1/22	NA	NA	211 days	207	45FF	0%	
211	SW3	ABWF Works & BS Works, incl. External Linning	90 days	Mon 4/10/21	Thu 20/1/22	NA	NA	210 days	207,148,73	45FF,212	0%	
212	SW5	Surrounding Site formation works and road works	180 days	Fri 21/1/22	Tue 19/7/22	NA	NA	552 days	211	47FF	0%	



Task | Milestone | Summary | Critical

Updated Programme (Status Date: 31/07/2020)

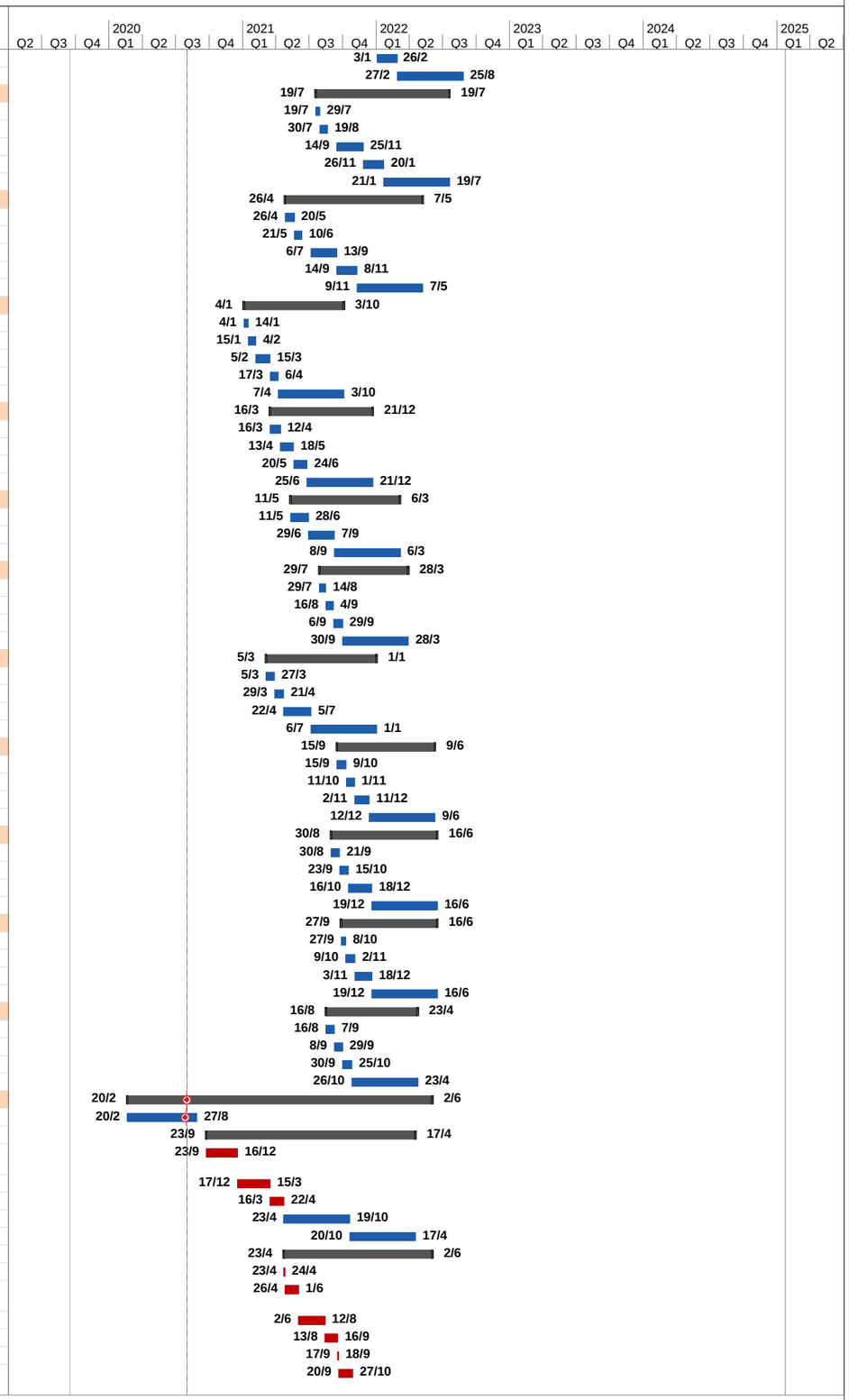
ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
213	*	**Sludge Dewatering Building**	**774 days**	**Tue 26/11/19**	**Sun 10/7/22**	**Tue 26/11/19**	**NA**	**458 days**			**30%**	
214		Site Clearance & Site Set Up	6 days	Tue 26/11/19	Mon 2/12/19	Tue 26/11/19	Mon 2/12/19	0 days	2	215	100%	
215		Predrilling Works (39no.4rig, 3days/drillhole/rig)(additional length NCE no.10)	20 days	Thu 28/11/19	Fri 20/12/19	Thu 28/11/19	Fri 20/12/19	0 days	66,214	217	100%	
216		Additional Predrilling Works (11no.)	8 days	Mon 23/12/19	Mon 30/12/19	Mon 23/12/19	Mon 30/12/19	0 days			100%	
217		Installation of Monitoring Points	6 days	Fri 3/1/20	Thu 9/1/20	Fri 3/1/20	Thu 9/1/20	0 days	215	218	100%	
218		Sheet Pile Installation (NCE no. 10, 14, 24)	205 days	Wed 15/1/20	Tue 22/9/20	Wed 15/1/20	NA	0 days	217	351,219SS+15 days,222FS+5 da	80%	
219		Setting up plant for pre-bored socked H-pile Installation	5 days	Sat 7/3/20	Thu 12/3/20	Sat 7/3/20	Thu 12/3/20	0 days	218SS+15 days	220,349SS-14 days	100%	
220		Pre-bored Socketed H-Pile Installation (202 Nos, 4 Rig, 3days/rig/pile)	67 days	Fri 13/3/20	Fri 5/6/20	Fri 13/3/20	Fri 5/6/20	0 days	67,219	249,221	100%	6
221		Pile Loading Test	20 days	Tue 30/6/20	Thu 23/7/20	Tue 30/6/20	Thu 23/7/20	0 days	220	222,238FS+5 days	100%	
222		ELS Works (incl. Strut (3-layers) Installation & Excavation (25,000 cu.m))	60 days	Tue 29/9/20	Thu 10/12/20	NA	NA	9 days	84,70,221,69,218FS+5 days	223,224,405,406,407,409,408	0%	10
223		R.C. Structure	232 days	Fri 11/12/20	Thu 23/9/21	NA	NA	9 days	145,146,147,71,222,144	230,229	0%	10
224		Basement Consturction & waterproofing works	70 days	Fri 11/12/20	Tue 9/3/21	NA	NA	9 days	222	225	0%	
225		Ground Floor Construction @ +7.55mpD	65 days	Wed 10/3/21	Sat 29/5/21	NA	NA	9 days	224	226	0%	
226		1/F Construction @ +15.3m mPD	65 days	Mon 31/5/21	Mon 16/8/21	NA	NA	9 days	225	227	0%	
227	KD3B	Roof Construction @ +25.65mPD	32 days	Tue 17/8/21	Thu 23/9/21	NA	NA	9 days	226	38FF,329FS-7 days,228	0%	
228	**KD3B**	**Allow access to Contarctor DE/2018/03 for E&M Installation**	**0 days**	**Thu 23/9/21**	**Thu 23/9/21**	**NA**	**NA**	**9 days**	**227**	**38FF**	**0%**	
229		Allow access to Contarctor DE/2018/03 for E&M Installation	90 days	Fri 24/9/21	Wed 12/1/22	NA	NA	218 days	223	45FF	0%	
230	SW5	ABWF Works & BS Works	89 days	Fri 24/9/21	Tue 11/1/22	NA	NA	218 days	223,148,73	45FF,231	0%	
231	SW5	Surrounding Site formation works and road works	180 days	Wed 12/1/22	Sun 10/7/22	NA	NA	561 days	230	47FF	0%	
232	*	**Combined Heat Power Building**	**714 days**	**Tue 10/12/19**	**Thu 12/5/22**	**Tue 10/12/19**	**NA**	**506 days**			**5%**	
233		Site Clearance & Site Set Up	6 days	Tue 10/12/19	Mon 16/12/19	Tue 10/12/19	Mon 16/12/19	0 days	2,234SF		100%	
234		Predrilling Works (15no. 2rig, 3days/drillhole/rig) (NCE no. 10)	15 days	Tue 10/12/19	Sat 28/12/19	Tue 10/12/19	Sat 28/12/19	0 days	66FS+28 days	235,233SF	100%	
235		Installation of Monitoring Points	6 days	Fri 3/1/20	Thu 9/1/20	Fri 3/1/20	Thu 9/1/20	0 days	234	237	100%	
236		Setting up plant for pre-bored socked H-pile Installation (NCE no. 10)	5 days	Tue 14/1/20	Sat 18/1/20	Tue 14/1/20	Sat 18/1/20	0 days		237	100%	
237		Pre-bored Socketed H-Pile Installation (50 Nos, 2 Rig 3days/rig/pile)	0 days	Wed 15/1/20	Tue 21/4/20	Wed 15/1/20	Tue 21/4/20	0 days	67,235,236,431	238	100%	6
238		Pile Loading Test	4 days	Wed 29/7/20	Sat 1/8/20	Wed 29/7/20	Sat 1/8/20	0 days	237,221FS+5 days	239	100%	
239		Excavation for Pile Cap (2,060 cu.m)	93 days	Mon 3/8/20	Sat 21/11/20	NA	NA	56 days	84,70,238,69	240	0%	10
240	KD3C	R.C. Structure	200 days	Mon 23/11/20	Wed 28/7/21	NA	NA	56 days	145,146,147,71,239,144	39FF,242,243,241,319	0%	10
241	**KD3C**	**Allow access to Contarctor DE/2018/03 for E&M Installation**	**1 day**	**Thu 29/7/21**	**Thu 29/7/21**	**NA**	**NA**	**56 days**	**240**	**39FF**	**0%**	
242		Drainage System (within Bldg/ Structure) Installation	60 days	Thu 29/7/21	Fri 8/10/21	NA	NA	296 days	240	45FF	0%	
243	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Thu 29/7/21	Sat 13/11/21	NA	NA	265 days	240,148,73	45FF,244	0%	
244	SW5	Surrounding Site formation works and road works	180 days	Sun 14/11/21	Thu 12/5/22	NA	NA	620 days	243	47FF	0%	
245	*	**Sewage Pumping Station**	**746 days**	**Mon 2/12/19**	**Sun 12/6/22**	**Mon 2/12/19**	**NA**	**481 days**			**8%**	
246		Site Clearance & Site Set Up	6 days	Mon 25/5/20	Sat 30/5/20	Mon 25/5/20	Sat 30/5/20	0 days	2	247	100%	
247		Predrilling Works (4no.1rig, 3days/drillhole/rig)	0 days	Mon 2/12/19	Mon 30/12/19	Mon 2/12/19	Mon 30/12/19	0 days	66FS+14 days,246	248	100%	
248		Installation of Monitoring Points	4 days	Fri 21/2/20	Tue 25/2/20	Fri 21/2/20	Tue 25/2/20	0 days	247		100%	
249		Setting up plant for pre-bored socked H-pile Installation	0 days	Thu 27/2/20	Tue 3/3/20	Thu 27/2/20	Tue 3/3/20	0 days	220	250	100%	
250		Pre-bored Socketed H-Pile Installation (22 Nos, 1 Rig, 3days/rig/pile)	27 days	Mon 27/4/20	Fri 29/5/20	Mon 27/4/20	Fri 29/5/20	0 days	67,249	251	100%	6
251		Pile Loading Test	11 days	Sat 27/6/20	Fri 10/7/20	Sat 27/6/20	Fri 10/7/20	0 days	250,263FS+5 days	253,169FS+5 days,252	100%	
252		Sheet Pile Installation	30 days	Thu 13/8/20	Wed 16/9/20	NA	NA	103 days	251,194FS-5 days	253	0%	
253		ELS Works (incl. Strut (3-layers) Installation & Excavation (1,440 cu.m))	80 days	Thu 17/9/20	Tue 22/12/20	NA	NA	103 days	84,70,251,69,252	254	0%	10
254	KD3E	R.C. Structure & waterproofing works	200 days	Wed 23/12/20	Fri 27/8/21	NA	NA	103 days	145,146,147,71,282,253,144	41FF,255	0%	10
255	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Sat 28/8/21	Tue 14/12/21	NA	NA	239 days	148,73,254,72	45FF,256	0%	
256	SW5	Surrounding Site formation works and road works	180 days	Wed 15/12/21	Sun 12/6/22	NA	NA	589 days	255	47FF	0%	
257	*	**Workshop No. 2**	**685 days**	**Tue 24/12/19**	**Wed 20/4/22**	**Tue 24/12/19**	**NA**	**523 days**			**14%**	
258		Site Clearance & Site Set Up	3 days	Tue 24/12/19	Sun 29/12/19	Tue 24/12/19	Sun 29/12/19	0 days	2	259	100%	
259		Predrilling Works (10no.1rig, 3days/drillhole/rig) (NCE no. 10)	8 days	Thu 2/1/20	Fri 10/1/20	Thu 2/1/20	Fri 10/1/20	0 days	66,258	260	100%	
260		Installation of Monitoring Points	4 days	Tue 25/2/20	Fri 28/2/20	Tue 25/2/20	Fri 28/2/20	0 days	259	262,261	100%	
261		Setting up plant for pre-bored socked H-pile Installation	0 days	Tue 10/3/20	Tue 17/3/20	Tue 10/3/20	Tue 17/3/20	0 days	260,168	262	100%	
262		Pre-bored Socketed H-Pile Installation (36 Nos, 2 Rig, 3days/rig/pile)	64 days	Wed 18/3/20	Sat 6/6/20	Wed 18/3/20	Sat 6/6/20	0 days	67,260,261	263,279	100%	6
263		Pile Loading Test	16 days	Sun 7/6/20	Fri 26/6/20	Sun 7/6/20	Fri 26/6/20	0 days	262,432FS+5 days	264,251FS+5 days	100%	
264		Excavation for Pile Cap (1,800 cu.m)	20 days	Tue 25/8/20	Wed 16/9/20	NA	NA	0 days	84,70,263,69	266,405,406,407,409,408	0%	
265		**R.C. Structure**	**235 days**	**Thu 17/9/20**	**Tue 6/7/21**	**NA**	**NA**	**0 days**			**0%**	**10**
266		Ground Floor Construction @ +6.30mpD	80 days	Thu 17/9/20	Tue 22/12/20	NA	NA	0 days	264,144	267	0%	
267		First Floor Construction @ +13.50mpD	80 days	Wed 23/12/20	Thu 1/4/21	NA	NA	0 days	266	268	0%	
268	KD3D	Roof Construction @+19.00mPD	75 days	Tue 6/4/21	Tue 6/7/21	NA	NA	0 days	267	270,271,40FF,269,285FS-36 day	0%	
269	**KD3D**	**Allow access to Contarctor DE/2018/03 for E&M Installation**	**1 day**	**Wed 7/7/21**	**Wed 7/7/21**	**NA**	**NA**	**0 days**	**268**	**40FF**	**0%**	
270		Drainage System (within Bldg/ Structure) Installation	60 days	Wed 7/7/21	Tue 14/9/21	NA	NA	315 days	268	45FF	0%	
271	SW3	ABWF Works & BS Works & Apply Internal Anti-corrosion Protective Lining	90 days	Wed 7/7/21	Fri 22/10/21	NA	NA	284 days	148,73,268	45FF,272	0%	
272	SW5	Surrounding Site formation works and road works	180 days	Sat 23/10/21	Wed 20/4/22	NA	NA	642 days	271	47FF	0%	
273	*	**Thermal Hydrolysis Pretreatment**	**404 days**	**Thu 19/12/19**	**Tue 4/5/21**	**Thu 19/12/19**	**NA**	**808 days**			**12%**	
274		Site Clearance & Site Set Up	18 days	Thu 19/12/19	Sun 12/1/20	Thu 19/12/19	Sun 12/1/20	0 days	2	275,276	100%	
275		Predrilling Works (3no.1rig, 3days/drillhole/rig) (NCE no. 10)	1 day	Fri 10/1/20	Mon 13/1/20	Fri 10/1/20	Mon 13/1/20	0 days	66FS+24 days,274	277	100%	
276		Additional Predrilling Works (4no.) (NCE no. 12)	1 day	Fri 10/1/20	Mon 13/1/20	Fri 10/1/20	Mon 13/1/20	0 days	274	277	100%	
277		Installation of Monitoring Points	6 days	Fri 1/5/20	Fri 8/5/20	Fri 1/5/20	Fri 8/5/20	0 days	275,276	279	100%	
278		Setting up plant for pre-bored socked H-pile Installation	5 days	Tue 12/5/20	Sat 16/5/20	Tue 12/5/20	Sat 16/5/20	0 days		279	100%	
279		Pre-bored Socketed H-Pile Installation (15 Nos, 1 Rig, 3days/rig/pile)	0 days	Mon 18/5/20	Sat 20/6/20	Mon 18/5/20	Sat 20/6/20	0 days	67,277,278,262	280	100%	6
280		Pile Loading Test	25 days	Mon 27/7/20	Mon 24/8/20	Mon 27/7/20	NA	143 days	279,169FS+5 days	281,197SS+10 days	20%	
281		Excavation for Pile Cap (160 cu.m)	20 days	Tue 25/8/20	Wed 16/9/20	NA	NA	143 days	84,70,280	282	0%	
282	KD3E	R.C. Plinth	40 days	Thu 17/9/20	Thu 5/11/20	NA	NA	143 days	281	41FF,254,283	0%	
283	SW5	Surrounding Site formation works and road works	180 days	Fri 6/11/20	Tue 4/5/21	NA	NA	993 days	282	47FF	0%	
284	*	**Ferric Chloride Dosing Facilities**	**375 days**	**Mon 24/5/21**	**Thu 25/8/22**	**NA**	**NA**	**0 days**			**0%**	
285		Excavation for Raft Footing (105 cu.m)	35 days	Mon 24/5/21	Mon 5/7/21	NA	NA	0 days	2,268FS-36 days	286	0%	
286		Plate Load Test	18 days	Tue 6/7/21	Mon 26/7/21	NA	NA	0 days	285	287	0%	
287		R.C. Structure	66 days	Tue 27/7/21	Wed 13/10/21	NA	NA	0 days	286,71,144	288	0%	5
288	KD3E	Steel Roof Structure (On-site Fabrication)	65 days	Fri 15/10/21	Fri 31/12/21	NA	NA	0 days	287	41FF,289	0%	



Task ▬ Milestone ◆ Summary ▬ Critical ▬

Updated Programme (Status Date: 31/07/2020)

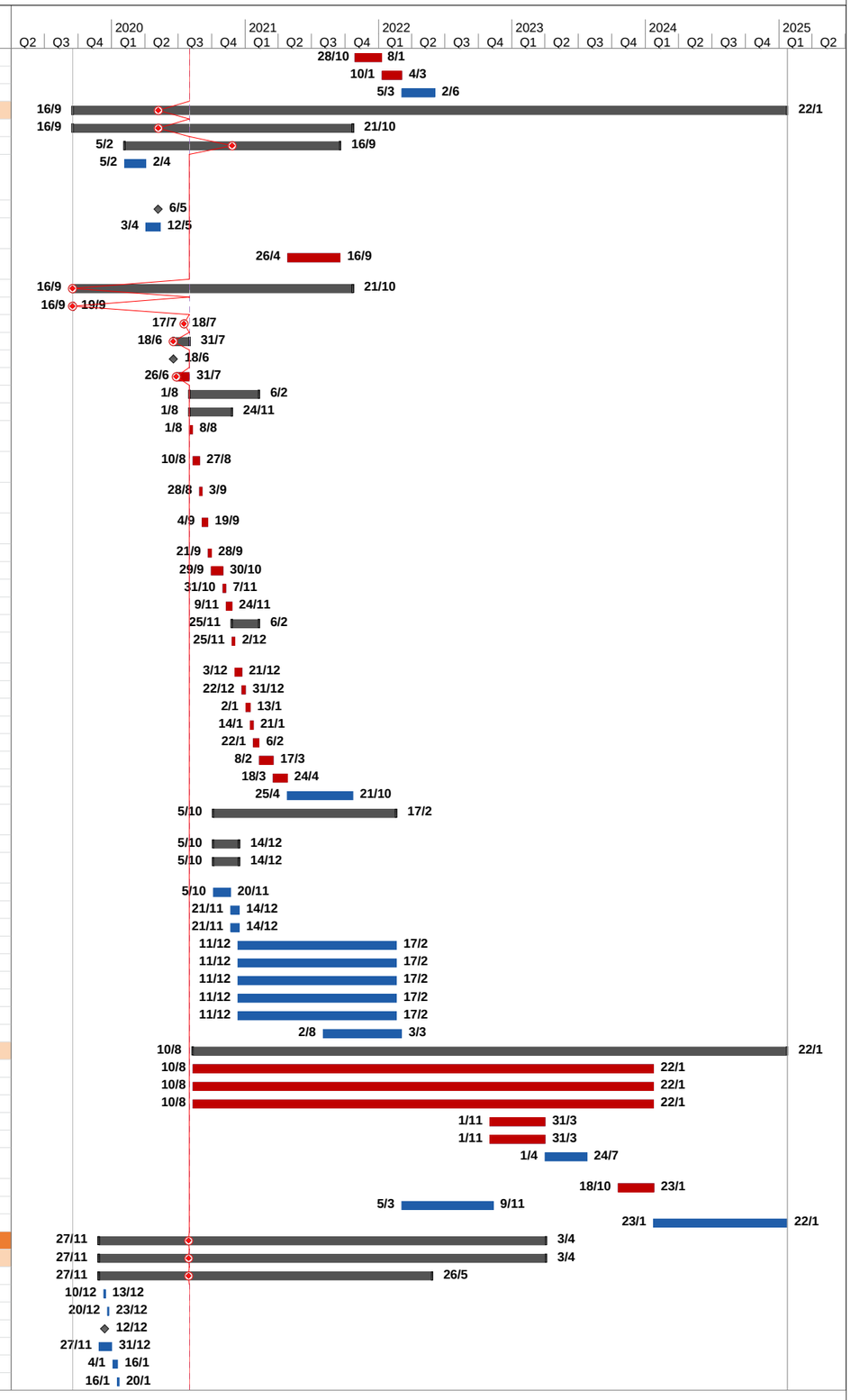
ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
289	SW3	ABWF Works & BS Works	45 days	Mon 3/1/22	Sat 26/2/22	NA	NA	181 days	288,148,73	45FF,290	0%	
290	SW5	Surrounding Site formation works and road works	180 days	Sun 27/2/22	Thu 25/8/22	NA	NA	515 days	289	47FF	0%	
291	*	**Fire Hydrant and Booster Pump Room**	**297 days**	**Mon 19/7/21**	**Tue 19/7/22**	**NA**	**NA**	**50 days**			**0%**	
292		Excavation for Raft Footing (160 cu.m)	10 days	Mon 19/7/21	Thu 29/7/21	NA	NA	50 days	2,298	293,339	0%	
293		Plate Load Test	18 days	Fri 30/7/21	Thu 19/8/21	NA	NA	50 days	292	294	0%	
294	KD3E	R.C. Structure & waterproofing works	60 days	Tue 14/9/21	Thu 25/11/21	NA	NA	29 days	293,71,300,144,72	295,41FF	0%	5
295	SW3	ABWF Works & BS Works	45 days	Fri 26/11/21	Thu 20/1/22	NA	NA	210 days	294,148,73	45FF,296	0%	
296	SW5	Surrounding Site formation works and road works	180 days	Fri 21/1/22	Tue 19/7/22	NA	NA	552 days	295	47FF	0%	
297	*	**Transformer and Switchroom**	**306 days**	**Mon 26/4/21**	**Sat 7/5/22**	**NA**	**NA**	**48 days**			**0%**	
298		Excavation for Raft Footing (310 cu.m)	20 days	Mon 26/4/21	Thu 20/5/21	NA	NA	48 days	2,324	299,292	0%	
299		Plate Load Test	18 days	Fri 21/5/21	Thu 10/6/21	NA	NA	48 days	298	300	0%	
300	KD3E	R.C. Structure	60 days	Tue 6/7/21	Mon 13/9/21	NA	NA	29 days	299,71,326,144	301,41FF,294	0%	5
301	SW3	ABWF Works & BS Works	45 days	Tue 14/9/21	Mon 8/11/21	NA	NA	270 days	300,148,73	45FF,302	0%	
302	SW5	Surrounding Site formation works and road works	180 days	Tue 9/11/21	Sat 7/5/22	NA	NA	625 days	301	47FF	0%	
303	*	**Water Meter Cabinet**	**222 days**	**Mon 4/1/21**	**Sun 3/10/21**	**NA**	**NA**	**206 days**			**0%**	
304		Excavation for Raft Footing (6 cu.m)	10 days	Mon 4/1/21	Thu 14/1/21	NA	NA	206 days	2	305	0%	
305		Plate Load Test	18 days	Fri 15/1/21	Thu 4/2/21	NA	NA	206 days	304	306	0%	
306		R.C. Structure	30 days	Fri 5/2/21	Mon 15/3/21	NA	NA	206 days	305,71,144	307,310	0%	3
307	SW4	ABWF Works & BS Works	15 days	Wed 17/3/21	Tue 6/4/21	NA	NA	271 days	306,148,73	46FF,308	0%	
308	SW5	Surrounding Site formation works and road works	180 days	Wed 7/4/21	Sun 3/10/21	NA	NA	841 days	307	47FF	0%	
309	*	**Guard House**	**231 days**	**Tue 16/3/21**	**Tue 21/12/21**	**NA**	**NA**	**206 days**			**0%**	
310		Excavation to Formation	21 days	Tue 16/3/21	Mon 12/4/21	NA	NA	206 days	2,306	311	0%	
311		R.C. Structure	30 days	Tue 13/4/21	Tue 18/5/21	NA	NA	206 days	71,310,144	312	0%	3
312	SW4	ABWF Works & BS Works	30 days	Thu 20/5/21	Thu 24/6/21	NA	NA	206 days	311,148,73	46FF,313	0%	
313	SW5	Surrounding Site formation works and road works	180 days	Fri 25/6/21	Tue 21/12/21	NA	NA	762 days	312	47FF	0%	
314	*	**Coolers Pumping Station**	**245 days**	**Tue 11/5/21**	**Sun 6/3/22**	**NA**	**NA**	**39 days**			**0%**	
315		Excavation for Raft Footing (185 cu.m)	40 days	Tue 11/5/21	Mon 28/6/21	NA	NA	39 days	2,206	316,334	0%	
316	SW4	R.C. Structure	60 days	Tue 29/6/21	Tue 7/9/21	NA	NA	39 days	315,71,144	41FF,336,317	0%	5
317	SW5	Surrounding Site formation works and road works	180 days	Wed 8/9/21	Sun 6/3/22	NA	NA	687 days	316	47FF	0%	
318	*	**Waste Gas Buner**	**199 days**	**Thu 29/7/21**	**Mon 28/3/22**	**NA**	**NA**	**56 days**			**0%**	
319		Excavation for Raft Rooting (75cu.m)	15 days	Thu 29/7/21	Sat 14/8/21	NA	NA	56 days	2,240	320,344	0%	
320		Plate Load Test	18 days	Mon 16/8/21	Sat 4/9/21	NA	NA	56 days	319	321	0%	
321	KD3E	R.C. Plinth	20 days	Mon 6/9/21	Wed 29/9/21	NA	NA	56 days	320,71	41FF,346,322	0%	
322	SW5	Surrounding Site formation works and road works	180 days	Thu 30/9/21	Mon 28/3/22	NA	NA	665 days	321	47FF	0%	
323	*	**Plant Services Water System**	**247 days**	**Fri 5/3/21**	**Sat 1/1/22**	**NA**	**NA**	**29 days**			**0%**	
324		Excavation for Raft Footing (800 cu.m)	20 days	Fri 5/3/21	Sat 27/3/21	NA	NA	29 days	2,184	325,298	0%	
325		Plate Load Test	18 days	Mon 29/3/21	Wed 21/4/21	NA	NA	29 days	324	326	0%	
326	KD3E	Basement Construction @+1.20mPD	60 days	Thu 22/4/21	Mon 5/7/21	NA	NA	29 days	325,71	41FF,300,327	0%	
327	SW5	Surrounding Site formation works and road works	180 days	Tue 6/7/21	Sat 1/1/22	NA	NA	751 days	326	47FF	0%	
328	*	**Deodorization System No. 11**	**214 days**	**Wed 15/9/21**	**Thu 9/6/22**	**NA**	**NA**	**15 days**			**0%**	
329		Excavation for Raft Footing (1,280 cu.m)	20 days	Wed 15/9/21	Sat 9/10/21	NA	NA	15 days	2,227FS-7 days	330	0%	
330		Plate Load Test	18 days	Mon 11/10/21	Mon 1/11/21	NA	NA	15 days	329	331	0%	
331	KD3E	R.C. Plinth	35 days	Tue 2/11/21	Sat 11/12/21	NA	NA	15 days	330,71	41FF,332	0%	
332	SW5	Surrounding Site formation works and road works	180 days	Sun 12/12/21	Thu 9/6/22	NA	NA	592 days	331	47FF	0%	
333	*	**Biogas Holder**	**234 days**	**Mon 30/8/21**	**Thu 16/6/22**	**NA**	**NA**	**9 days**			**0%**	
334		Excavation for Raft Footing (1,120 cu.m)	20 days	Mon 30/8/21	Tue 21/9/21	NA	NA	9 days	2,315	335	0%	
335		Plate Load Test	18 days	Thu 23/9/21	Fri 15/10/21	NA	NA	9 days	334	336	0%	
336	KD3E	R.C. Plinth	55 days	Sat 16/10/21	Sat 18/12/21	NA	NA	9 days	335,71,316	41FF,337	0%	
337	SW5	Surrounding Site formation works and road works	180 days	Sun 19/12/21	Thu 16/6/22	NA	NA	585 days	336	47FF	0%	
338	*	**H2S Removal System**	**211 days**	**Mon 27/9/21**	**Thu 16/6/22**	**NA**	**NA**	**9 days**			**0%**	
339		Excavation for Raft Footing (396 cu.m)	10 days	Mon 27/9/21	Fri 8/10/21	NA	NA	9 days	2,292	340	0%	
340		Plate Load Test	20 days	Sat 9/10/21	Tue 2/11/21	NA	NA	9 days	339	341	0%	
341	KD3E	R.C. Plinth	40 days	Wed 3/11/21	Sat 18/12/21	NA	NA	9 days	340	41FF,342	0%	
342	SW5	Surrounding Site formation works and road works	180 days	Sun 19/12/21	Thu 16/6/22	NA	NA	585 days	341	47FF	0%	
343	*	**Deodorization System No. 12**	**203 days**	**Mon 16/8/21**	**Sat 23/4/22**	**NA**	**NA**	**56 days**			**0%**	
344		Excavation to Formation	20 days	Mon 16/8/21	Tue 7/9/21	NA	NA	56 days	2,319	345	0%	
345		Plate Load Test	18 days	Wed 8/9/21	Wed 29/9/21	NA	NA	56 days	344	346	0%	
346	KD3E	R.C. Plinth	20 days	Thu 30/9/21	Mon 25/10/21	NA	NA	56 days	345,71,321	41FF,347	0%	
347	SW5	Surrounding Site formation works and road works	180 days	Tue 26/10/21	Sat 23/4/22	NA	NA	639 days	346	47FF	0%	
348	*	**Underpass & Pump House**	**676 days**	**Thu 20/2/20**	**Thu 2/6/22**	**Thu 20/2/20**	**NA**	**488 days**			**12%**	
349		Temporary Storage for H pile works and access for DSD	150 days	Thu 20/2/20	Thu 27/8/20	Thu 20/2/20	NA	22.5 days	219SS-14 days	351	85%	
350		**Stage 1 (Bay A1 - B2)**	**462 days**	**Wed 23/9/20**	**Sun 17/4/22**	**NA**	**NA**	**0 days**			**0%**	
351		Sheet Pile Installation + ELS Works (incl. Strut (2-layers) Installation & Excavation	70 days	Wed 23/9/20	Wed 16/12/20	NA	NA	0 days	15,218,196,349	352	0%	
352		R.C. Structure	70 days	Thu 17/12/20	Mon 15/3/21	NA	NA	0 days	351,71,144	353	0%	10
353	SW4	Backfilling and Road works reinstatement	30 days	Tue 16/3/21	Thu 22/4/21	NA	NA	0 days	352	357,46FF,354	0%	
354		Surrounding Site formation works and road works	180 days	Fri 23/4/21	Tue 19/10/21	NA	NA	645 days	353	355	0%	
355	SW5	ABWF & BS Works	180 days	Wed 20/10/21	Sun 17/4/22	NA	NA	645 days	354	47FF	0%	
356		**Stage 2 (Bay B3)**	**329 days**	**Fri 23/4/21**	**Thu 2/6/22**	**NA**	**NA**	**0 days**			**0%**	
357		TTA implementation at Chuk Wan Street southeast bound	2 days	Fri 23/4/21	Sat 24/4/21	NA	NA	0 days	353	358	0%	
358		Sheet Pile Installation + ELS Works (incl. Strut (2-layers) Installation & Excavation (300 cu.m))	30 days	Mon 26/4/21	Tue 1/6/21	NA	NA	0 days	357	359	0%	
359		R.C. Structure	60 days	Wed 2/6/21	Thu 12/8/21	NA	NA	0 days	358	360	0%	
360		Backfilling and Reinstatement Works	30 days	Fri 13/8/21	Thu 16/9/21	NA	NA	0 days	359	361	0%	
361		TTA Implementation at Chuk Wan Street northwest bound	2 days	Fri 17/9/21	Sat 18/9/21	NA	NA	0 days	360	362	0%	
362		Sheet Pile Installation + ELS Works (incl. Strut (2-layers) Installation & Excavation	30 days	Mon 20/9/21	Wed 27/10/21	NA	NA	0 days	361	363	0%	



Task — Milestone ◆ — Summary — Critical

Updated Programme (Status Date: 31/07/2020)

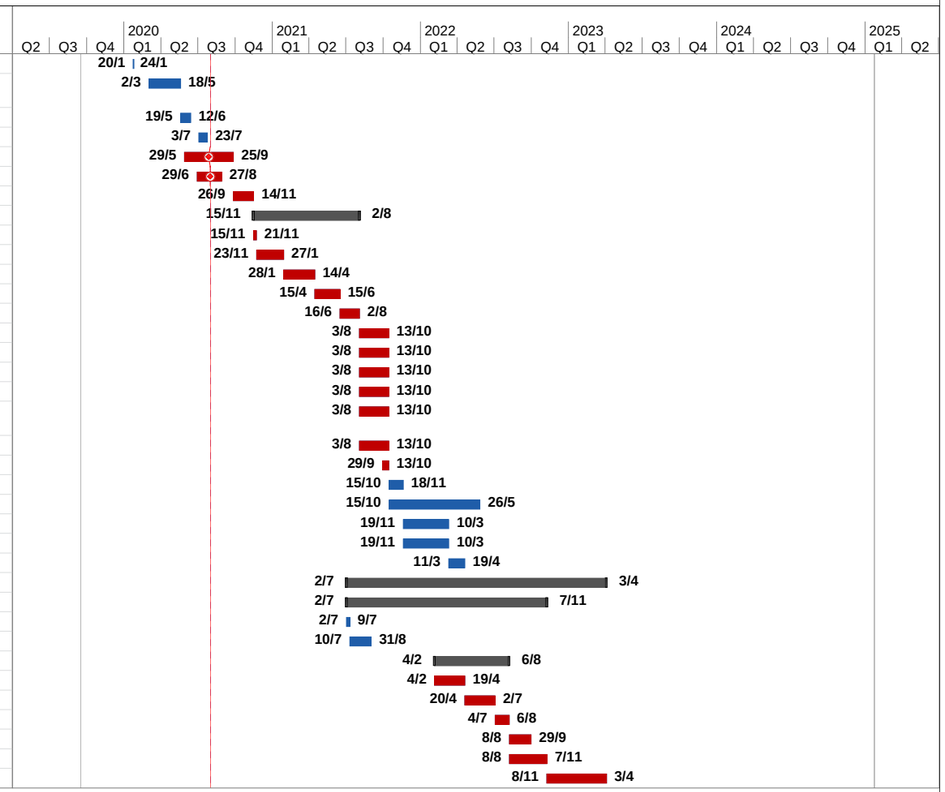
ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	Time Risk Allowance
363		R.C. Structure	60 days	Thu 28/10/21	Sat 8/1/22	NA	NA	0 days	362	364	0%	
364	SW4	Backfilling and Road works reinstatement	44 days	Mon 10/1/22	Fri 4/3/22	NA	NA	0 days	363	46FF,365	0%	
365	SW5	ABWF & BS Works	90 days	Sat 5/3/22	Thu 2/6/22	NA	NA	599 days	364	47FF	0%	
366	*	**Pipe Works and Utility Installation**	**1582 day**	**Mon 16/9/19**	**Wed 22/1/25**	**Mon 16/9/19**	**NA**	**1 day**			**1%**	
367		**Pipe Works At Chuk Wan Street**	**623 days**	**Mon 16/9/19**	**Thu 21/10/21**	**Mon 16/9/19**	**NA**	**668 days**			**12%**	
368		**Drainage Diversion (Existing Drainage Culvert)**	**482 days**	**Wed 5/2/20**	**Thu 16/9/21**	**Wed 5/2/20**	**NA**	**-48 days**	**164,127**		**39%**	
369		Stage 1 - Drainage Diversion of Drainage btw Reconstructed Storm Water Manhole SMH1003177A and Reconstructed Storm Water Manhole MHD33	50 days	Wed 5/2/20	Thu 2/4/20	Wed 5/2/20	Thu 2/4/20	0 days	64,85,90,86,74,108,127	370	100%	
370		Stage 1 - Backfilling Works for Drainage Diversion	0 days	Tue 28/4/20	Wed 6/5/20	Tue 28/4/20	Wed 6/5/20	0 days	369	168,371	100%	
371		Stage 1 - Additional concrete surround at MH18, MH16 and additional manhole (Type 1) (NCE no. 8, 17))	28 days	Fri 3/4/20	Tue 12/5/20	Fri 3/4/20	Tue 12/5/20	0 days	370	168	100%	
372	KD1A	Stage 2 - Drainage Diversion of Drainage b/w MHD26 and SMHH1003177A, to Abandon of Exisitng Drainage Culvert (1 Cell,	120 days	Mon 26/4/21	Thu 16/9/21	NA	NA	-48 days	397,75	43FF	0%	
373	SW4	**Trenchless Work for Pipe Installation**	**623 days**	**Mon 16/9/19**	**Thu 21/10/21**	**Mon 16/9/19**	**NA**	**668 days**			**0%**	
374		Installation of Monitoring Points	4 days	Mon 16/9/19	Thu 19/9/19	NA	NA	0 days		377	0%	
375		Implementation of TTA	2 days	Fri 17/7/20	Sat 18/7/20	NA	NA	0 days	92	377	0%	
376		**Construction of Temporary Jacking Pit**	**36 days**	**Thu 18/6/20**	**Fri 31/7/20**	**Thu 18/6/20**	**NA**	**0 days**	**15,77**		**0%**	
377		Trial Pit Excavation & UU Detection Works	0 days	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	0 days	2,374,375	378	100%	
378		Pit Construction (11m x 9m)	30 days	Fri 26/6/20	Fri 31/7/20	Fri 26/6/20	NA	-47 days	377	381	0%	
379		**Pipe Jacking Operation**	**157 days**	**Sat 1/8/20**	**Sat 6/2/21**	**NA**	**NA**	**-48 days**			**0%**	
380		**Twin DN900 DI pipe (CHAT & CHAU)**	**96 days**	**Sat 1/8/20**	**Tue 24/11/20**	**NA**	**NA**	**-48 days**			**0%**	
381		Setting Up of Entrance Ring & Gantry, and Trenchless Equipment	7 days	Sat 1/8/20	Sat 8/8/20	NA	NA	-47 days	378	382	0%	
382		Pipe Jacking Operation for CHAT DN900 DI pipe (30m, 3m/day)	16 days	Mon 10/8/20	Thu 27/8/20	NA	NA	-47 days	381	385,384,383	0%	6
383		Setting Up of Entrance Ring & Gantry, and Trenchless Equipment	7 days	Fri 28/8/20	Thu 3/9/20	NA	NA	-55 days	382	384	0%	
384		Pipe Jacking Operation for CHAU DN900 DI pipe (30m, 3m/day)	16 days	Fri 4/9/20	Sat 19/9/20	NA	NA	-55 days	382,383	385	0%	
385		Installation of grouting pipe and rail	7 days	Mon 21/9/20	Mon 28/9/20	NA	NA	-48 days	382,384	386	0%	
386		Pipe Laying Works	25 days	Tue 29/9/20	Fri 30/10/20	NA	NA	-48 days	385	387	0%	
387		Formwork Erection and grouting works	7 days	Sat 31/10/20	Sat 7/11/20	NA	NA	-48 days	386	388	0%	
388		Backfilling works	14 days	Mon 9/11/20	Tue 24/11/20	NA	NA	-48 days	387	390	0%	
389		**Pipe Jacking Operation for DN2200 MS pipe (CHAV)**	**61 days**	**Wed 25/11/20**	**Sat 6/2/21**	**NA**	**NA**	**-48 days**			**0%**	
390		Setting Up of Entrance Ring & Gantry, and Trenchless Equipment	7 days	Wed 25/11/20	Wed 2/12/20	NA	NA	-48 days	388	391	0%	
391		Pipe Jacking Operation for twin DN900 DI pipe (30m, 3m/day)	16 days	Thu 3/12/20	Mon 21/12/20	NA	NA	-48 days	390	392	0%	6
392		Installation of grouting pipe and rail	7 days	Tue 22/12/20	Thu 31/12/20	NA	NA	-48 days	391	393	0%	
393		Pipe Laying Works	10 days	Sat 2/1/21	Wed 13/1/21	NA	NA	-48 days	392	394	0%	
394		Formwork Erection and grouting works	7 days	Thu 14/1/21	Thu 21/1/21	NA	NA	-48 days	393	396,395	0%	
395		Backfilling works	14 days	Fri 22/1/21	Sat 6/2/21	NA	NA	-48 days	394	396	0%	
396		Reinstatement of Temporary Launching Pit	30 days	Mon 8/2/21	Wed 17/3/21	NA	NA	-48 days	394,395	397	0%	
397		Reinstatement of Temporary Receiving Pit	30 days	Thu 18/3/21	Sat 24/4/21	NA	NA	-48 days	396	372,398	0%	
398	SW5	Surrounding Site formation works and road works	180 days	Sun 25/4/21	Thu 21/10/21	NA	NA	823 days	397	47FF	0%	
399		**Process Pipeworks, All Sewerage, Utilities & Roadworks in Portion C of the Site**	**407 days**	**Mon 5/10/20**	**Thu 17/2/22**	**NA**	**NA**	**13 days**			**0%**	
400		**Process Pipeworks**	**60 days**	**Mon 5/10/20**	**Mon 14/12/20**	**NA**	**NA**	**53 days**			**0%**	
401	KD1A	**Connection pipe at UV System no.1 & Effluent Pumping Stataion no.1**	**60 days**	**Mon 5/10/20**	**Mon 14/12/20**	**NA**	**NA**	**53 days**			**0%**	
402		Effluent Pipe (aprox. 70m, dia 300 - 1600)	40 days	Mon 5/10/20	Fri 20/11/20	NA	NA	53 days	74	404,403	0%	
403		Effluent Pipe Flowmeter Chamber (3.8mx3.95mx3.42m(D))	20 days	Sat 21/11/20	Mon 14/12/20	NA	NA	53 days	402	35	0%	
404		Plant Services Water Pipe (approx. 15m, dia 150-350)	20 days	Sat 21/11/20	Mon 14/12/20	NA	NA	54 days	402	35	0%	
405	SW4	Remaining Effluent Pipes & testing works	350 days	Fri 11/12/20	Thu 17/2/22	NA	NA	13 days	76,222,264,137,140	46FF	0%	
406	SW4	Stormdrain Pipeworks & testing works	350 days	Fri 11/12/20	Thu 17/2/22	NA	NA	12 days	76,222,264,128	46FF	0%	
407	SW4	Sewerage Pipeworks, manhole, protective lining & testing works	350 days	Fri 11/12/20	Thu 17/2/22	NA	NA	12 days	76,222,264,134	46FF	0%	
408	SW4	Watermain Pipeworks & testing works	350 days	Fri 11/12/20	Thu 17/2/22	NA	NA	12 days	76,222,264,131,134	46FF	0%	
409	SW4	Cable & Other Underground Utility Pipeworks	350 days	Fri 11/12/20	Thu 17/2/22	NA	NA	12 days	76,222,264	46FF	0%	
410	SW4	Pipe Bridge No.1	175 days	Mon 2/8/21	Thu 3/3/22	NA	NA	1 day	2	46FF	0%	
411	*	**Remaining Works & Landscape Works**	**1316 day**	**Mon 10/8/20**	**Wed 22/1/25**	**NA**	**NA**	**0 days**			**0%**	
412	SW5	Irrigation System	1025 day	Mon 10/8/20	Mon 22/1/24	NA	NA	0 days	2FS+266 days	47FF	0%	
413	SW5	Hard Landscape Works	1025 day	Mon 10/8/20	Mon 22/1/24	NA	NA	0 days	2FS+266 days	47FF	0%	
414	SW5	Soft Landscape Works	1025 day	Mon 10/8/20	Mon 22/1/24	NA	NA	0 days	2FS+266 days	420,47FF	0%	
415		Outfall for Effluent Pipes	124 days	Tue 1/11/22	Fri 31/3/23	NA	NA	0 days	120	47FF	0%	
416		Slope Formation Works near Outfall	124 days	Tue 1/11/22	Fri 31/3/23	NA	NA	0 days	120	47FF	0%	
417		Removal of invasive trees along River Embankment (NCE no. 37)	90 days	Sat 1/4/23	Mon 24/7/23	NA	NA	71 days	120FS+124 days	418	0%	
418	SW5	Retaining Wall along River Embankment, street furniture & road works	80 days	Wed 18/10/23	Tue 23/1/24	NA	NA	0 days	120,417	47FF	0%	
419	SW5	Remaining Site formation works, road works and boundary fence wall	250 days	Sat 5/3/22	Wed 9/11/22	NA	NA	439 days	45,46	47FF	0%	
420		Establishment Works (365 Calendar Days)	291 days	Tue 23/1/24	Wed 22/1/25	NA	NA	1 day	414,79	49FF	0%	
421	*	**Construction of Portion A of the Site**	**993 days**	**Wed 27/11/19**	**Mon 3/4/23**	**Wed 27/11/19**	**NA**	**0 days**			**14%**	
422	*	**CLP 132kV Substation**	**993 days**	**Wed 27/11/19**	**Mon 3/4/23**	**Wed 27/11/19**	**NA**	**0 days**			**14%**	
423		**Internal Works**	**737 days**	**Wed 27/11/19**	**Thu 26/5/22**	**Wed 27/11/19**	**NA**	**256 days**			**18%**	
424		Site Clearance & Site Set Up	4 days	Tue 10/12/19	Fri 13/12/19	Tue 10/12/19	Fri 13/12/19	0 days		426	100%	
425		Additional Tree Felling Works (NCE no.29)	4 days	Fri 20/12/19	Mon 23/12/19	Fri 20/12/19	Mon 23/12/19	0 days			100%	
426		Trial Pit Excavation & UU Detection Works	0 days	Mon 2/12/19	Thu 12/12/19	Mon 2/12/19	Thu 12/12/19	0 days	424	428	100%	
427		Additional Demolition of existing warehouse structure (NCE no.002)	35 days	Wed 27/11/19	Tue 31/12/19	Wed 27/11/19	Tue 31/12/19	0 days			100%	
428		Predrilling Works (11no., 1rig, 3days/drillhole/rig) (NCE no. 10)	11 days	Sat 4/1/20	Thu 16/1/20	Sat 4/1/20	Thu 16/1/20	0 days	66,426,119	429	100%	
429		Installation of Monitoring Points	3 days	Thu 16/1/20	Mon 20/1/20	Thu 16/1/20	Mon 20/1/20	0 days	428	430	100%	



Task ▬ Milestone ◆ Summary ▬ Critical ▬

Updated Programme (Status Date: 31/07/2020)

ID	KD	Task Name	Duration	Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Complete	Time Risk Allowance
430		Setting up plant for pre-bored socked H-pile Installation	2 days	Mon 20/1/20	Fri 24/1/20	Mon 20/1/20	Fri 24/1/20	0 days	429	431	100%	
431		Pre-bored Socketed H-Pile Installation (41 Nos, 2 Rig, 3days/rig/pile) (NCE no. 19)	61 days	Mon 2/3/20	Mon 18/5/20	Mon 2/3/20	Mon 18/5/20	0 days	67,430	432,237,434	100%	6
432		Pile Load Test	22 days	Tue 19/5/20	Fri 12/6/20	Tue 19/5/20	Fri 12/6/20	0 days	431	433,263FS+5 days,435	100%	
433		Sheetpile Installation (NCE no. 10, 23, 36)	18 days	Fri 3/7/20	Thu 23/7/20	Fri 3/7/20	Thu 23/7/20	0 days	432,69	438,436FS+14 days	100%	6
434		CHP Cable Diversion Works (NCE no.23, 36)	120 days	Fri 29/5/20	Fri 25/9/20	Fri 29/5/20	NA	-100 days	431	436	50%	
435		Watermain diversion and relocation of water meter (NCE no. 15, 36)	60 days	Mon 29/6/20	Thu 27/8/20	Mon 29/6/20	NA	-71 days	432	436	55%	
436		Excavation Works (NCE no.16)	50 days	Sat 26/9/20	Sat 14/11/20	NA	NA	-100 days	433FS+14 days,434,435	437	0%	
437		R.C. Structure (880 sq.m)	210 days	Sun 15/11/20	Mon 2/8/21	NA	NA	-83 days	145,146,147,71,144,436		0%	10
438		Installation of earthmat	7 days	Sun 15/11/20	Sat 21/11/20	NA	NA	-100 days	145,146,147,71,144,433	439	0%	
439		Basement	54 days	Mon 23/11/20	Wed 27/1/21	NA	NA	-83 days	438	440	0%	
440		Ground Floor	60 days	Thu 28/1/21	Wed 14/4/21	NA	NA	-83 days	439	441	0%	
441		First Floor	50 days	Thu 15/4/21	Tue 15/6/21	NA	NA	-83 days	440	442	0%	
442		Roof Floor (461sq.m)	40 days	Wed 16/6/21	Mon 2/8/21	NA	NA	-83 days	441	443,448,444,449FS+48 days,446	0%	
443		ABWF Works	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-82 days	442,148,73	36FF	0%	
444		BS Works	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-82 days	442,73	36FF	0%	
445		Backfilling reinstatement & road works	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-82 days	442	36FF	0%	
446		Installation of telephone line/ direct link for FSD Inspection	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-82 days	442	36FF	0%	
447		Building Services Installation Works (incl. Fire Services, Plumbing, Drainage, etc.) & FSD Inspection	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-82 days	442	36FF	0%	
448	KD2A	Architectual Works	60 days	Tue 3/8/21	Wed 13/10/21	NA	NA	-83 days	442	450,36FF,451	0%	
449		Prehandover to CLP	12 days	Wed 29/9/21	Wed 13/10/21	NA	NA	-82 days	442FS+48 days	36FF	0%	
450		**Handover to CLP for Electrical System Installation**	30 days	Fri 15/10/21	Thu 18/11/21	NA	NA	166 days	448	453,452	0%	
451		**E&M Installation, Testing & Commissioning by CLP**	180 days	Fri 15/10/21	Thu 26/5/22	NA	NA	256 days	448	44FF	0%	
452		Testing & Commissioning of the E&M Works	90 days	Fri 19/11/21	Thu 10/3/22	NA	NA	316 days	450	44FF	0%	
453		ABWF Works - External Finishing	90 days	Fri 19/11/21	Thu 10/3/22	NA	NA	166 days	450,148,73	454	0%	
454	SW2	Inspection and Handover to CLP	30 days	Fri 11/3/22	Tue 19/4/22	NA	NA	166 days	453	44FF,465	0%	
455		**External Works**	**523 days**	**Fri 2/7/21**	**Mon 3/4/23**	**NA**	**NA**	**0 days**	**88**		**0%**	
456		**Road Widening Works (NCE no. 20)**	403 days	Fri 2/7/21	Mon 7/11/22	NA	NA	0 days			0%	
457		Trial Pit Excavation & UU Detection Works	7 days	Fri 2/7/21	Fri 9/7/21	NA	NA	125 days	91	458	0%	
458		Diversion of existing UU (i.e. 3no. Street light)	45 days	Sat 10/7/21	Tue 31/8/21	NA	NA	125 days	457	460	0%	
459		**Drainage Works**	**150 days**	**Fri 4/2/22**	**Sat 6/8/22**	**NA**	**NA**	**0 days**	**87**		**0%**	
460		Trench Excavation and ELS works	60 days	Fri 4/2/22	Tue 19/4/22	NA	NA	0 days	458	461	0%	
461		Pipe Laying Works	60 days	Wed 20/4/22	Sat 2/7/22	NA	NA	0 days	460	462	0%	
462		Backfilling and Reinstatement Works	30 days	Mon 4/7/22	Sat 6/8/22	NA	NA	0 days	461	464,463	0%	
463		Cable & Other Underground Utility Pipeworks	45 days	Mon 8/8/22	Thu 29/9/22	NA	NA	0 days	462		0%	
464		Road Works	76 days	Mon 8/8/22	Mon 7/11/22	NA	NA	0 days	462	44FF,465	0%	
465	SW2	Construction of New Boundary Wall	120 days	Tue 8/11/22	Mon 3/4/23	NA	NA	0 days	454,464	44FF	0%	

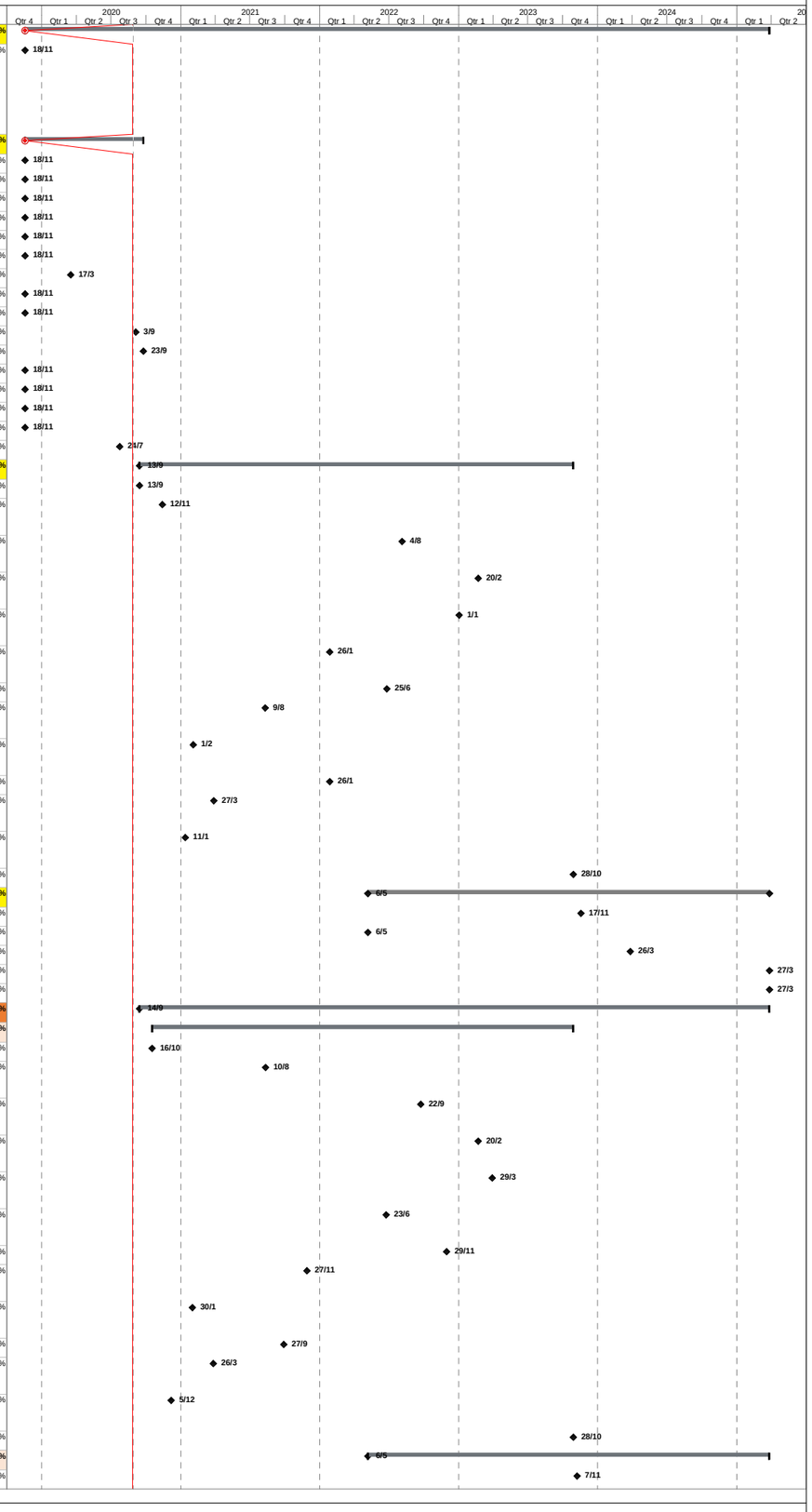


Task Milestone Summary Critical

Contract No. DC/2018/07
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Revised Works Programme (Status Date: 26/8/2020) (Rev. 01)
[Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]

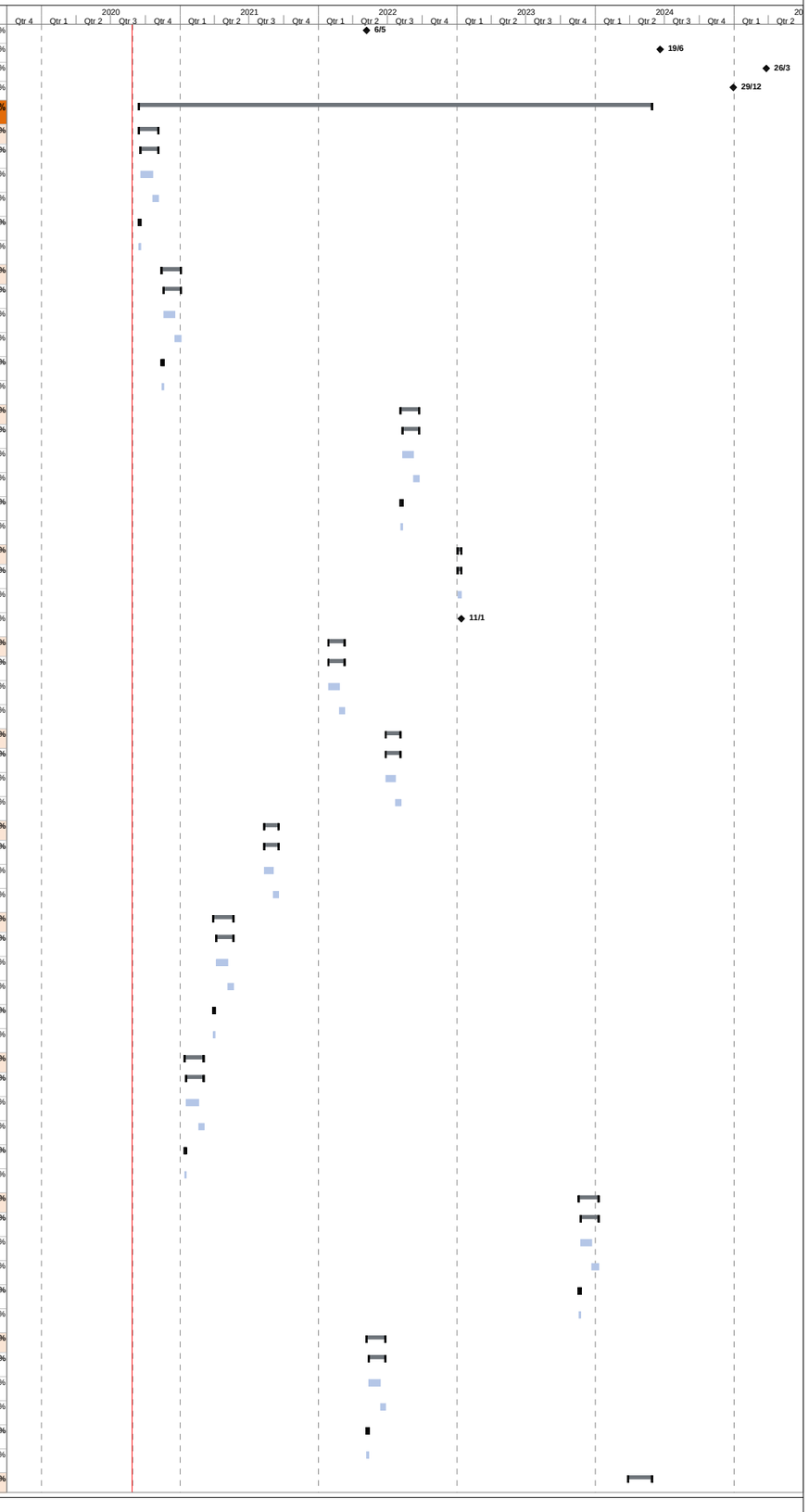
ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
1	**CD-1000**		**Contract Dates**	**1585 days**	**Mon 18/11/19**	**Thu 27/3/25**	**1585 days**	**Mon 18/11/19**	**Thu 27/3/25**	**Mon 18/11/19**	**NA**			**0 days**		**0%**
2	CD-1010		Starting Date	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19		35FS+1461 days,36FS+901 days,37FS+1591 days,8,9,13FS+291 days,14FS+311 days,4,6,10,11,12,16,128,156,157,1 days,176,154,155,5,7,160,161,172, days,153,162,21FS+301 days,22FS+361 days,23FS+991 days,2...	0 days		100%
3	**CAD-1000**		**Access Dates (cal. day)**	**311 days**	**Mon 18/11/19**	**Wed 23/9/20**	**311 days**	**Mon 18/11/19**	**Wed 23/9/20**	**Mon 18/11/19**	**NA**			**1200 days**		**0%**
4	CAD-1010		Portion B-1 (Access Road AR3)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	194	0 days		100%
5	CAD-1020		Portion B-1A (Area for the works for Sidestream Treatment Facilities by Others)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
6	CAD-1030		Portion B-2 (Inlet Works No.1)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	243,251	0 days		100%
7	CAD-1040		Portion B-2A (Area for the pipe-jacking works by others)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
8	CAD-1050		Portion B-3 (Primary Sedimentation Tanks No. 1-4)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	275	0 days		100%
9	CAD-1060		Portion B-4 (Bioreactor No. 2A & 2B)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	288	0 days		100%
10	CAD-1070		Portion B-5 (Membrane Facilities Building No.2)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Tue 17/3/20	Tue 17/3/20	Tue 17/3/20	Tue 17/3/20	2	306	0 days		100%
11	CAD-1080		Portion B-6 (SAS Pumping Station)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	334	0 days		100%
12	CAD-1090		Portion B-7 (Ancillary structures)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	352	0 days		100%
13	CAD-1100		Portion B-7A (Alternation works for existing Power House)	0 days	Thu 3/9/20	Thu 3/9/20	0 days	Thu 3/9/20	Thu 3/9/20	NA	NA	2FS+291 days	399FS-1 day,29FS+151 days	-1 day		0%
14	CAD-1110		Portion B-8 (Alternation for existing Membrane Facilities Building No.1)	0 days	Wed 23/9/20	Wed 23/9/20	0 days	Wed 23/9/20	Wed 23/9/20	NA	NA	2FS+311 days	400FS-1 day	1200 days		0%
15	CAD-1020		Portion B-8A (Alternation of air supply main for existing Air Blower House No.2)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	398	0 days		100%
16	CAD-1130		Portion B-9 (remainder works in Zone B)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2	401,409	0 days		100%
17	CAD-1140		Portion B-9A (Area for the pipe-jacking works by others)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
18	CAD-1150		Portion B-9B (Area for underground pipework modification and connection works by others)	0 days	Mon 18/11/19	Mon 18/11/19	0 days	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	Mon 18/11/19	2		0 days		100%
19	CAD-1160		Portion B-9C (Area for the works for pipeworks)	0 days	Thu 16/4/20	Thu 16/4/20	0 days	Fri 24/7/20	Fri 24/7/20	Fri 24/7/20	Fri 24/7/20	2FS+151 days		0 days		100%
20	**CKD-1000**		**Key Dates (cal. day)**	**1440 days**	**Tue 19/11/19**	**Sat 28/10/23**	**1140 days**	**Sun 13/9/20**	**Sat 28/10/23**	**NA**	**NA**			**60 days**		**0%**
21	CKD-1010		KD1A completion of AR3 in Portion B-1 (300days after starting date)	300 days	Tue 19/11/19	Sun 13/9/20	0 days	Sun 13/9/20	Sun 13/9/20	NA	NA	2FS+301 days	67	1608 days		0%
22	CKD-1020		KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2 (360days after starting date)	360 days	Tue 19/11/19	Thu 12/11/20	0 days	Thu 12/11/20	Thu 12/11/20	NA	NA	2FS+361 days	73	0 days		0%
23	CKD-1030		KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2 (990days after starting date)	990 days	Tue 19/11/19	Thu 4/8/22	0 days	Thu 4/8/22	Thu 4/8/22	NA	NA	2FS+991 days	79	0 days		0%
24	CKD-1040		KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3 (1190days after starting date)	1190 days	Tue 19/11/19	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	2FS+1191 days		0 days		0%
25	CKD-1050		KD1E completion of civil and structural works of Bioreactor in Portion B-4 (1,140days after starting date)	1140 days	Tue 19/11/19	Sun 1/1/23	0 days	Sun 1/1/23	Sun 1/1/23	NA	NA	2FS+1141 days	82	0 days		0%
26	CKD-1060		KD1F completion of civil and structural works of MFB from B2 floor to 1st floor level in Portion B-5 (800days after starting date)	800 days	Tue 19/11/19	Wed 26/1/22	0 days	Wed 26/1/22	Wed 26/1/22	NA	NA	2FS+801 days	86	0 days		0%
27	CKD-1070		KD1G completion of civil and structural works of MFB in Portion B-5 (950days after starting date)	950 days	Tue 19/11/19	Sat 25/6/22	0 days	Sat 25/6/22	Sat 25/6/22	NA	NA	2FS+951 days	90	0 days		0%
28	CKD-1080		KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6 (630days after starting date)	630 days	Tue 19/11/19	Mon 9/8/21	0 days	Mon 9/8/21	Mon 9/8/21	NA	NA	2FS+631 days	94	0 days		0%
29	CKD-1090		KD1I completion alternation works for existing Power House in Portion B-7A (150days after access date of B-7A)	150 days	Fri 4/9/20	Sun 31/1/21	0 days	Mon 1/2/21	Mon 1/2/21	NA	NA	13FS+151 days		-1 day		0%
30	CKD-1100		KD1J completion of auxiliary facilites in Portion B-7 (800days after starting date)	800 days	Tue 19/11/19	Wed 26/1/22	0 days	Wed 26/1/22	Wed 26/1/22	NA	NA	2FS+801 days		0 days		0%
31	CKD-1110		KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9 (495days after starting date)	495 days	Tue 19/11/19	Sat 27/3/21	0 days	Sat 27/3/21	Sat 27/3/21	NA	NA	2FS+496 days	101	0 days		0%
32	CKD-1120		KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A (420days after starting date)	420 days	Tue 19/11/19	Mon 11/1/21	0 days	Mon 11/1/21	Mon 11/1/21	NA	NA	2FS+421 days	107	0 days		0%
33	CKD-1130		KD3A completion of all utilities and road works (1440days after starting date)	1440 days	Tue 19/11/19	Sat 28/10/23	0 days	Sat 28/10/23	Sat 28/10/23	NA	NA	2FS+1441 days		0 days		0%
34	**CCD-1000**		**Completion Date (cal. Day)**	**1956 days**	**Tue 19/11/19**	**Thu 27/3/25**	**1056 days**	**Fri 6/5/22**	**Thu 27/3/25**	**NA**	**NA**			**0 days**		**0%**
35	CCD-1010		Section 1 of the Works (1,460 after starting date)	1460 days	Tue 19/11/19	Fri 17/11/23	0 days	Fri 17/11/23	Fri 17/11/23	NA	NA	2FS+1461 days	113	0 days		0%
36	CCD-1020		Section 2 of the Works (900 after starting date)	900 days	Tue 19/11/19	Fri 6/5/22	0 days	Fri 6/5/22	Fri 6/5/22	NA	NA	2FS+901 days	119	0 days		0%
37	CCD-1030		Section 3 of the Works (1,590 after starting date)	1590 days	Tue 19/11/19	Tue 26/3/24	0 days	Tue 26/3/24	Tue 26/3/24	NA	NA	2FS+1591 days	39FS+366 days,125,38FS+366 day	0 days		0%
38	CCD-1040		Defects Liability Period	365 days	Wed 27/3/24	Thu 27/3/25	0 days	Thu 27/3/25	Thu 27/3/25	NA	NA	37FS+366 days		0 days		0%
39	CCD-1050		Landscape Establishment Works	365 days	Wed 27/3/24	Thu 27/3/25	0 days	Thu 27/3/25	Thu 27/3/25	NA	NA	37FS+366 days		0 days		0%
40	**PD-1000**	*	**Planned Completion**	**1656 days**	**Sat 12/9/20**	**Wed 26/3/25**	**1655 days**	**Mon 14/9/20**	**Wed 26/3/25**	**NA**	**NA**			**-1 day**		**0%**
41	**PCD-1000**	*	**Planned Completion - Key Dates (cal. day)**	**1141 days**	**Sat 12/9/20**	**Sat 28/10/23**	**1107 days**	**Fri 16/10/20**	**Sat 28/10/23**	**NA**	**NA**			**-34 days**		**0%**
42	PKD-1010	KD1A	KD1A completion of AR3 in Portion B-1 (300days after starting date)	0 days	Sat 12/9/20	Sat 12/9/20	0 days	Fri 16/10/20	Fri 16/10/20	NA	NA	197FF		-34 days		0%
43	PCD-1020	KD1B	KD1B completion of utilities diversion for commencement of Inlet Works No.1 in Portion B-2 (360days after starting date)	0 days	Thu 12/11/20	Thu 12/11/20	0 days	Tue 10/8/21	Tue 10/8/21	NA	NA	199FF,242FF,238FF,240FF,235FF,		-271 days		0%
44	PCD-1030	KD1C	KD1C completion of civil and structural works of Inlet Works No.1 in Portion B-2 (990days after starting date)	0 days	Thu 4/8/22	Thu 4/8/22	0 days	Thu 22/9/22	Thu 22/9/22	NA	NA	272FF,271FF,263FF,267FF		-49 days		0%
45	PCD-1040	KD1D	KD1D completion of civil and structural works of Primary Sedimentation Tanks in Portion B-3 (1190days after starting date)	0 days	Mon 20/2/23	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA	NA	284FF,283FF		0 days		0%
46	PCD-1050	KD1E	KD1E completion of civil and structural works of Bioreactor in Portion B-4 (1,140days after starting date)	0 days	Sat 31/12/22	Sat 31/12/22	0 days	Wed 29/3/23	Wed 29/3/23	NA	NA	299FF,300FF		-88 days		0%
47	PCD-1060	KD1F	KD1F completion of civil and structural works of MFB from B2 floor to 1st floor level in Portion B-5 (800days after starting date)	0 days	Tue 11/1/22	Tue 11/1/22	0 days	Thu 23/6/22	Thu 23/6/22	NA	NA	326FF,330FF,327FF		-149 days		0%
48	PCD-1070	KD1G	KD1G completion of civil and structural works of MFB in Portion B-5 (950days after starting date)	0 days	Sat 25/6/22	Sat 25/6/22	0 days	Tue 29/11/22	Tue 29/11/22	NA	NA	328FF,331FF,329FF		-157 days		0%
49	PCD-1080	KD1H	KD1H completion of civil and structural works of SAS Pumping Station in Portion B-6 (630days after starting date)	0 days	Mon 9/8/21	Mon 9/8/21	0 days	Sat 27/11/21	Sat 27/11/21	NA	NA	350FF,349FF		-110 days		0%
50	PCD-1090	KD1I	KD1I completion alternation works for existing Power House in Portion B-7A (150days after access date of B-7A)	0 days	Sat 30/1/21	Sat 30/1/21	0 days	Sat 30/1/21	Sat 30/1/21	NA	NA	399FF		0 days		0%
51	PCD-1100	KD1J	KD1J completion of auxiliary facilites in Portion B-7 (800days after starting date)	0 days	Mon 27/9/21	Mon 27/9/21	0 days	Mon 27/9/21	Mon 27/9/21	NA	NA	396FF,395FF,389FF,388FF,383FF,		121 days		0%
52	PCD-1110	KD2A	KD2A completion of effluent pipes to UV system and connection to its downstream in Portion B-9 (495days after starting date)	0 days	Sat 27/3/21	Sat 27/3/21	0 days	Fri 26/3/21	Fri 26/3/21	NA	NA	402FF		1.2 days		0%
53	PCD-1120	KD2B	KD2B completion of air supply main alternation to existing air blower house No.2 in Portion B-8A (420days after starting date)	0 days	Mon 11/1/21	Mon 11/1/21	0 days	Sat 5/12/20	Sat 5/12/20	NA	NA	398FF		37 days		0%
54	PCD-1130	KD3A	KD3A completion of all utilities and road works (1440days after starting date)	0 days	Sat 28/10/23	Sat 28/10/23	0 days	Sat 28/10/23	Sat 28/10/23	NA	NA	408FF		0 days		0%
55	**PCD-1000**	*	**Planned Completion Date (cal. Day)**	**1055 days**	**Fri 6/5/22**	**Wed 26/3/25**	**1055 days**	**Fri 6/5/22**	**Wed 26/3/25**	**NA**	**NA**			**1 day**		**0%**
56	PCD-1010	SW1	Section 1 of the Works (1,460 after starting date)	0 days	Fri 15/9/23	Fri 15/9/23	0 days	Tue 7/11/23	Tue 7/11/23	NA	NA	390FF,384FF,378FF,372FF,365FF,		506 days		0%



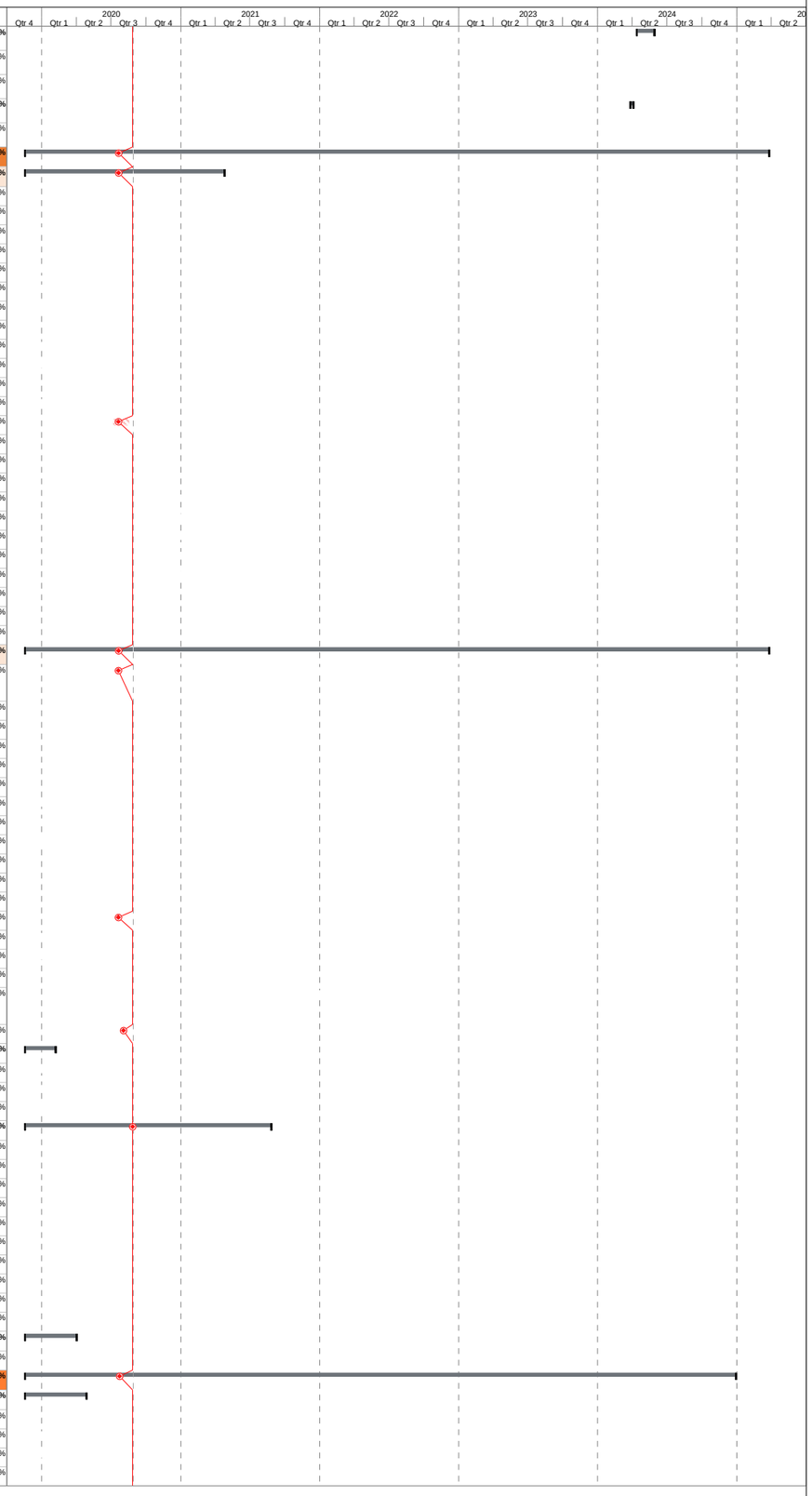
File: DC201807_First Programme_202 | Critical Split | Task | Milestone | Summary | Critical

Revised Works Programme (Status Date: 26/8/2020) (Rev. 01)
[Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]

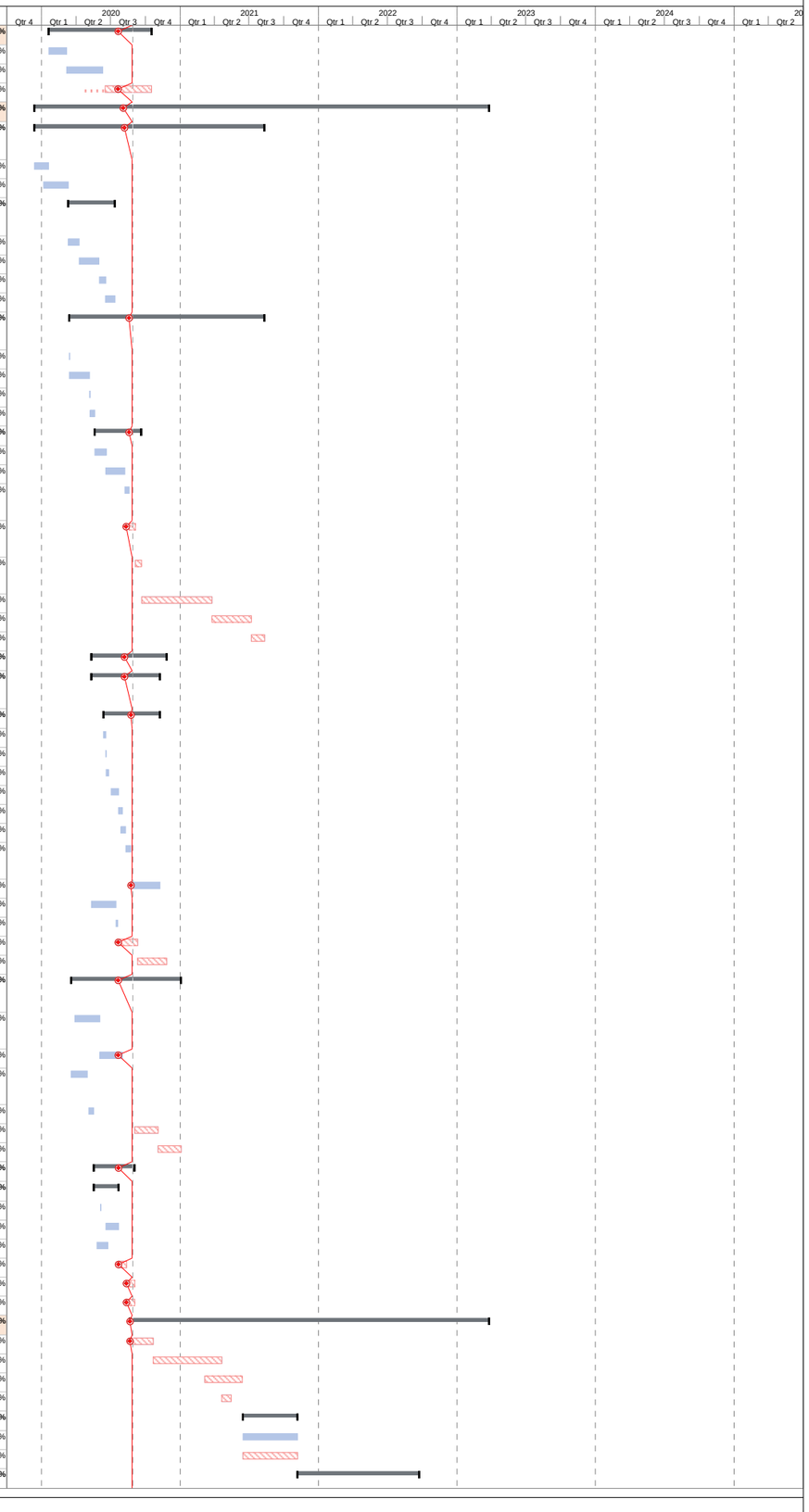
ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
57	PCD-1020	SW2	Section 2 of the Works (900 after starting date)	0 days	Fri 6/5/22	Fri 6/5/22	0 days	Fri 6/5/22	Fri 6/5/22	NA	NA	403FF,406FF,407FF,405FF,404FF,		1056 days		0%
58	PCD-1030	SW3	Section 3 of the Works (1,590 after starting date)	0 days	Sat 30/12/23	Sat 30/12/23	0 days	Wed 19/6/24	Wed 19/6/24	NA	NA	400FF,410FF,411FF,412FF,305FF,		281 days		0%
59	PCD-1040	DLP	Defects Liability Period	0 days	Wed 26/3/25	Wed 26/3/25	0 days	Wed 26/3/25	Wed 26/3/25	NA	NA	413FF,153FF		1 day		0%
60	PCD-1050		Landscape Establishment Works	0 days	Sun 29/12/24	Sun 29/12/24	0 days	Sun 29/12/24	Sun 29/12/24	NA	NA	413FF		88 days		0%
61	**ET-1000**		**Effects from Inclement Weather and Other Time Affected Events**	**0 days**	**NA**	**NA**	**1088 days**	**Mon 14/9/20**	**Tue 28/5/24**	**NA**	**NA**			**253 days**		**0%**
62	**ET1A-1000**		**Effects to KD1A**	**0 days**	**NA**	**NA**	**41 days**	**Mon 14/9/20**	**Tue 3/11/20**	**NA**	**NA**			**1300 days**		**0%**
63	**ET1A-1100**		**Inclement Weather to KD1A**	**0 days**	**NA**	**NA**	**37 days**	**Fri 18/9/20**	**Tue 3/11/20**	**NA**	**NA**			**1300 days**		**0%**
64	ET1A-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Fri 18/9/20	Mon 19/10/20	NA	NA	67	65	1300 days		0%
65	ET1A-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Tue 20/10/20	Tue 3/11/20	NA	NA	64		1300 days		0%
66	**ET1A-1200**		**Other Time Affected Events to KD1A**	**0 days**	**NA**	**NA**	**4 days**	**Mon 14/9/20**	**Thu 17/9/20**	**NA**	**NA**			**1300 days**		**0%**
67	ET1A-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Mon 14/9/20	Thu 17/9/20	NA	NA	21	64	1300 days		0%
68	**ET1B-1000**		**Effects to KD1B**	**0 days**	**NA**	**NA**	**41 days**	**Fri 13/11/20**	**Sat 2/1/21**	**NA**	**NA**			**1251 days**		**0%**
69	**ET1B-1100**		**Inclement Weather to KD1B**	**0 days**	**NA**	**NA**	**37 days**	**Wed 18/11/20**	**Sat 2/1/21**	**NA**	**NA**			**1251 days**		**0%**
70	ET1B-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Wed 18/11/20	Wed 16/12/20	NA	NA	73	71	1251 days		0%
71	ET1B-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Thu 17/12/20	Sat 2/1/21	NA	NA	70		1251 days		0%
72	**ET1B-1200**		**Other Time Affected Events to KD1B**	**0 days**	**NA**	**NA**	**4 days**	**Fri 13/11/20**	**Tue 17/11/20**	**NA**	**NA**			**1251 days**		**0%**
73	ET1B-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Fri 13/11/20	Tue 17/11/20	NA	NA	22	70	1251 days		0%
74	**ET1C-1000**		**Effects to KD1C**	**0 days**	**NA**	**NA**	**41 days**	**Fri 5/8/22**	**Thu 22/9/22**	**NA**	**NA**			**741 days**		**0%**
75	**ET1C-1100**		**Inclement Weather to KD1C**	**0 days**	**NA**	**NA**	**37 days**	**Wed 10/8/22**	**Thu 22/9/22**	**NA**	**NA**			**741 days**		**0%**
76	ET1C-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Wed 10/8/22	Wed 7/9/22	NA	NA	79	77	741 days		0%
77	ET1C-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Thu 8/9/22	Thu 22/9/22	NA	NA	76		741 days		0%
78	**ET1C-1200**		**Other Time Affected Events to KD1C**	**0 days**	**NA**	**NA**	**4 days**	**Fri 5/8/22**	**Tue 9/8/22**	**NA**	**NA**			**741 days**		**0%**
79	ET1C-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Fri 5/8/22	Tue 9/8/22	NA	NA	23	76	741 days		0%
80	**ET1E-1000**		**Effects to KD1E**	**0 days**	**NA**	**NA**	**8 days**	**Tue 3/1/23**	**Wed 11/1/23**	**NA**	**NA**			**651 days**		**0%**
81	**ET1E-1100**		**Inclement Weather to KD1E**	**0 days**	**NA**	**NA**	**8 days**	**Tue 3/1/23**	**Wed 11/1/23**	**NA**	**NA**			**651 days**		**0%**
82	ET1E-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	8 days	Tue 3/1/23	Wed 11/1/23	NA	NA	25	83	651 days		0%
83	ET1E-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	0 days	Wed 11/1/23	Wed 11/1/23	NA	NA	82		651 days		0%
84	**ET1F-1000**		**Effects to KD1F**	**0 days**	**NA**	**NA**	**33 days**	**Thu 27/1/22**	**Wed 9/3/22**	**NA**	**NA**			**901 days**		**0%**
85	**ET1F-1100**		**Inclement Weather to KD1F**	**0 days**	**NA**	**NA**	**33 days**	**Thu 27/1/22**	**Wed 9/3/22**	**NA**	**NA**			**901 days**		**0%**
86	ET1F-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	21 days	Thu 27/1/22	Wed 23/2/22	NA	NA	26	87	901 days		0%
87	ET1F-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Thu 24/2/22	Wed 9/3/22	NA	NA	86		901 days		0%
88	**ET1G-1000**		**Effects to KD1G**	**0 days**	**NA**	**NA**	**33 days**	**Mon 27/6/22**	**Thu 4/8/22**	**NA**	**NA**			**782 days**		**0%**
89	**ET1G-1100**		**Inclement Weather to KD1G**	**0 days**	**NA**	**NA**	**33 days**	**Mon 27/6/22**	**Thu 4/8/22**	**NA**	**NA**			**782 days**		**0%**
90	ET1G-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	21 days	Mon 27/6/22	Thu 21/7/22	NA	NA	27	91	782 days		0%
91	ET1G-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Fri 22/7/22	Thu 4/8/22	NA	NA	90		782 days		0%
92	**ET1H-1000**		**Effects to KD1H**	**0 days**	**NA**	**NA**	**33 days**	**Tue 10/8/21**	**Thu 16/9/21**	**NA**	**NA**			**1041 days**		**0%**
93	**ET1H-1100**		**Inclement Weather to KD1H**	**0 days**	**NA**	**NA**	**33 days**	**Tue 10/8/21**	**Thu 16/9/21**	**NA**	**NA**			**1041 days**		**0%**
94	ET1H-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	21 days	Tue 10/8/21	Thu 2/9/21	NA	NA	28	95	1041 days		0%
95	ET1H-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Fri 3/9/21	Thu 16/9/21	NA	NA	94		1041 days		0%
96	**ET2A-1000**		**Effects to KD2A**	**0 days**	**NA**	**NA**	**41 days**	**Mon 29/3/21**	**Thu 20/5/21**	**NA**	**NA**			**1141 days**		**0%**
97	**ET2A-1100**		**Inclement Weather to KD2A**	**0 days**	**NA**	**NA**	**37 days**	**Tue 6/4/21**	**Thu 20/5/21**	**NA**	**NA**			**1141 days**		**0%**
98	ET2A-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Tue 6/4/21	Wed 5/5/21	NA	NA	101	99	1141 days		0%
99	ET2A-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Thu 6/5/21	Thu 20/5/21	NA	NA	98		1141 days		0%
100	**ET2A-1200**		**Other Time Affected Events to KD2A**	**0 days**	**NA**	**NA**	**4 days**	**Mon 29/3/21**	**Thu 1/4/21**	**NA**	**NA**			**1141 days**		**0%**
101	ET2A-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Mon 29/3/21	Thu 1/4/21	NA	NA	31	98	1141 days		0%
102	**ET3A-1000**		**Effects to KD3A**	**0 days**	**NA**	**NA**	**41 days**	**Tue 12/1/21**	**Wed 3/3/21**	**NA**	**NA**			**1203 days**		**0%**
103	**ET3A-1100**		**Inclement Weather to KD3A**	**0 days**	**NA**	**NA**	**37 days**	**Sat 16/1/21**	**Wed 3/3/21**	**NA**	**NA**			**1203 days**		**0%**
104	ET3A-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Sat 16/1/21	Wed 17/2/21	NA	NA	107	105	1203 days		0%
105	ET3A-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Thu 18/2/21	Wed 3/3/21	NA	NA	104		1203 days		0%
106	**ET3A-1200**		**Other Time Affected Events to KD3A**	**0 days**	**NA**	**NA**	**4 days**	**Tue 12/1/21**	**Fri 15/1/21**	**NA**	**NA**			**1203 days**		**0%**
107	ET3A-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Tue 12/1/21	Fri 15/1/21	NA	NA	32	104	1203 days		0%
108	**ETS1-1000**		**Effects to Section 1 of the Works**	**0 days**	**NA**	**NA**	**41 days**	**Sat 18/11/23**	**Mon 8/1/24**	**NA**	**NA**			**358 days**		**0%**
109	**ETS1-1100**		**Inclement Weather to Section 1 of the Works**	**0 days**	**NA**	**NA**	**37 days**	**Thu 23/11/23**	**Mon 8/1/24**	**NA**	**NA**			**358 days**		**0%**
110	ETS1-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Thu 23/11/23	Thu 21/12/23	NA	NA	113	111	358 days		0%
111	ETS1-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Fri 22/12/23	Mon 8/1/24	NA	NA	110		358 days		0%
112	**ETS1-1200**		**Other Time Affected Events to Section 1 of the Works**	**0 days**	**NA**	**NA**	**4 days**	**Sat 18/11/23**	**Wed 22/11/23**	**NA**	**NA**			**358 days**		**0%**
113	ETS1-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Sat 18/11/23	Wed 22/11/23	NA	NA	35	110	358 days		0%
114	**ETS2-1000**		**Effects to Section 2 of the Works**	**0 days**	**NA**	**NA**	**41 days**	**Sat 7/5/22**	**Sat 25/6/22**	**NA**	**NA**			**815 days**		**0%**
115	**ETS2-1100**		**Inclement Weather to Section 2 of the Works**	**0 days**	**NA**	**NA**	**37 days**	**Fri 13/5/22**	**Sat 25/6/22**	**NA**	**NA**			**815 days**		**0%**
116	ETS2-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Fri 13/5/22	Sat 11/6/22	NA	NA	119	117	815 days		0%
117	ETS2-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Mon 13/6/22	Sat 25/6/22	NA	NA	116		815 days		0%
118	**ETS2-1200**		**Other Time Affected Events to KD2A**	**0 days**	**NA**	**NA**	**4 days**	**Sat 7/5/22**	**Thu 12/5/22**	**NA**	**NA**			**815 days**		**0%**
119	ETS2-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Sat 7/5/22	Thu 12/5/22	NA	NA	36	116	815 days		0%
120	**ETS3-1000**		**Effects to Section 3 of the Works**	**0 days**	**NA**	**NA**	**41 days**	**Wed 27/3/24**	**Tue 28/5/24**	**NA**	**NA**			**253 days**		**0%**



ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
121	**ETS3-1100**		**Inclement Weather to Section 3 of the Works**	**0 days**	**NA**	**NA**	**37 days**	**Sat 13/4/24**	**Tue 28/5/24**	**NA**	**NA**			**253 days**		**0%**
122	ETS3-1110		Delay and Disruption of Works before July 2020	0 days	NA	NA	25 days	Sat 13/4/24	Mon 13/5/24	NA	NA	125	123	253 days		0%
123	ETS3-1120		Delay and Disruption of Works for the month of July 2020	0 days	NA	NA	12 days	Tue 14/5/24	Tue 28/5/24	NA	NA	122		253 days		0%
124	**ETS3-1200**		**Other Time Affected Events to KD2A**	**0 days**	**NA**	**NA**	**4 days**	**Wed 27/3/24**	**Wed 3/4/24**	**NA**	**NA**			**253 days**		**0%**
125	ETS3-1210		Special working arrangement due to COVID-19 in January 2020	0 days	NA	NA	4 days	Wed 27/3/24	Wed 3/4/24	NA	NA	37	122	253 days		0%
126	**SUB-1000**		**Submissions (cal.day)**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**Mon 18/11/19**	**NA**			**1 day**		**48%**
127	**SUBS-1000**		**Subletting Package**	**354 days**	**Mon 18/11/19**	**Thu 5/11/20**	**525 days**	**Mon 18/11/19**	**Sun 25/4/21**	**Mon 18/11/19**	**NA**			**611 days**		**49%**
128	SUBS-1010		Prepare & submit subletting procedure	12 days	Mon 18/11/19	Fri 29/11/19	12 days	Mon 18/11/19	Fri 29/11/19	Mon 18/11/19	Fri 29/11/19	2	129	0 days		100%
129	SUBS-1020		PM review and accept subletting procedure	15 days	Sat 30/11/19	Sat 14/12/19	12 days	Sat 30/11/19	Wed 11/12/19	Sat 30/11/19	Wed 11/12/19	128	150,130,133,132,131	0 days		100%
130	SUBS-1030		Subletting for demolition works	22 days	Sun 15/12/19	Sun 5/1/20	93 days	Tue 17/12/19	Wed 18/3/20	Tue 17/12/19	Wed 18/3/20	129,154	277,293,353,243,307,399	0 days		100%
131	SUBS-1040		Subletting for UU diversion for Inlet Works No.1	24 days	Sun 15/12/19	Tue 7/1/20	78 days	Fri 10/1/20	Fri 27/3/20	Fri 10/1/20	Fri 27/3/20	129	199	0 days		100%
132	SUBS-1050		Subletting for Inspection pit excavation	24 days	Sun 15/12/19	Tue 7/1/20	56 days	Thu 19/12/19	Wed 12/2/20	Thu 19/12/19	Wed 12/2/20	129,154	201,134	0 days		100%
133	SUBS-1060		Subletting for Preliminary Works (topographic surveying)	45 days	Sun 15/12/19	Tue 28/1/20	54 days	Fri 20/12/19	Tue 11/2/20	Fri 20/12/19	Tue 11/2/20	129,154	159,191,137,138,139,135	0 days		100%
134	SUBS-1070		Subletting for AR3 access road	30 days	Wed 8/1/20	Thu 6/2/20	0 days	Fri 13/12/19	Tue 11/2/20	Fri 13/12/19	Tue 11/2/20	132	135,197	0 days		100%
135	SUBS-1080		Subletting for pre-drilling works	24 days	Fri 7/2/20	Sun 1/3/20	38 days	Thu 6/2/20	Fri 20/3/20	Thu 6/2/20	Fri 20/3/20	133,134	344,252,278,294,318,136	0 days		100%
136	SUBS-1090		Subletting for Contractor designer for temporary works and ICE	30 days	Mon 2/3/20	Tue 31/3/20	71 days	Mon 16/12/19	Mon 24/2/20	Mon 16/12/19	Mon 24/2/20	135	282,298,348,355,361,368,374,380,	0 days		100%
137	SUBS-1100		Subletting for independent BIM consultant	30 days	Wed 29/1/20	Thu 27/2/20	0 days	Wed 11/12/19	Thu 23/1/20	Wed 11/12/19	Thu 23/1/20	133	187	0 days		100%
138	SUBS-1110		Subletting for independent BIM services	30 days	Wed 29/1/20	Thu 27/2/20	15 days	Tue 14/1/20	Wed 26/2/20	Tue 14/1/20	Wed 26/2/20	133	187	0 days		100%
139	SUBS-1120		Subletting for Design, Supply & Install of Temporary Activated Carbon Deodorization Units (E&M Works)	45 days	Wed 29/1/20	Fri 13/3/20	0 days	Fri 13/12/19	Tue 11/2/20	Fri 13/12/19	Tue 11/2/20	133	140,141	0 days		100%
140	SUBS-1130		Subletting for pre-bored H pile works	45 days	Sat 14/3/20	Mon 27/4/20	45 days	Sun 5/7/20	Tue 18/8/20	Sun 5/7/20	NA	139	253,279,295,319,345	-85 days		36%
141	SUBS-1140		Subletting for Sheetpile installation works	45 days	Sat 14/3/20	Mon 27/4/20	45 days	Tue 1/9/20	Thu 15/10/20	NA	NA	139	254,280,296,347,142,143	35 days		0%
142	SUBS-1150		Subletting for ELS works for Inlet Works No.1	48 days	Tue 28/4/20	Sun 14/6/20	48 days	Fri 16/10/20	Wed 2/12/20	NA	NA	141	256	142 days		0%
143	SUBS-1160		Subletting for ELS works for Membrance Facilities Building and other buildings	48 days	Tue 28/4/20	Sun 14/6/20	48 days	Fri 16/10/20	Wed 2/12/20	NA	NA	141	282,298,348,144,145,146,147,148,	35 days		0%
144	SUBS-1170		Subletting for structural works for Inlet Works Building	48 days	Mon 15/6/20	Sat 1/8/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	143	259	239 days		0%
145	SUBS-1180		Subletting for structural works for Primary Sedimentation Tanks	48 days	Mon 15/6/20	Sat 1/8/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	143	283	633 days		0%
146	SUBS-1190		Subletting for structural works for Bioreactors	48 days	Mon 15/6/20	Sat 1/8/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	143	299	462 days		0%
147	SUBS-1200		Subletting for structural works for Membrance Facilities Building	48 days	Mon 15/6/20	Sat 1/8/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	143	326	210 days		0%
148	SUBS-1210		Subletting for structural works for SAS pumping house and ancillary structures	48 days	Mon 15/6/20	Sat 1/8/20	48 days	Thu 3/12/20	Tue 19/1/21	NA	NA	143	349,149	61 days		0%
149	SUBS-1220		Subletting for ABWF works	48 days	Sun 2/8/20	Fri 18/9/20	48 days	Wed 20/1/21	Mon 8/3/21	NA	NA	148	273,285,304,332,351,359,365,372,	611 days		0%
150	SUBS-1230		Subletting for Process Pipeworks, Utilities and Roadworks	48 days	Sun 15/3/20	Fri 1/5/20	48 days	Fri 22/5/20	Wed 8/7/20	Fri 22/5/20	Wed 8/7/20	129	398,402,403,404,405,406,407	0 days		100%
151	SUBS-1240		Subletting for Landscape Hardworks and Softworks	48 days	Sat 19/9/20	Thu 5/11/20	48 days	Tue 9/3/21	Sun 25/4/21	NA	NA	149	411,412,413	611 days		0%
152	**SUBA-1000**		**Statutory Submission, Submission and Approval**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**1956 days**	**Mon 18/11/19**	**Wed 26/3/25**	**Mon 18/11/19**	**NA**			**1 day**		**47%**
153	SUBA-1010		Liaison with operator of SWHSTW and obtain their consent of associated method statement of major activities	1584 days	Mon 18/11/19	Wed 26/3/25	1584 days	Mon 18/11/19	Wed 26/3/25	Mon 18/11/19	NA	2	59FF	1 day		12%
154	SUBA-1020		Prepare and submit Subcontractor Management Plan (SMP)	24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19	2	130,133,132	0 days		100%
155	SUBA-1030		Prepare and submit Interface Management Plan	36 days	Mon 18/11/19	Mon 23/12/19	36 days	Mon 18/11/19	Mon 23/12/19	Mon 18/11/19	Mon 23/12/19	2		0 days		100%
156	SUBA-1040		Prepare and submit the TTA plans inside Treatment Plant for UU diversion and buildings construction	24 days	Mon 18/11/19	Wed 11/12/19	24 days	Mon 18/11/19	Wed 11/12/19	Mon 18/11/19	Wed 11/12/19	2	194	0 days		100%
157	SUBA-1050		Prepare and submit method statement for UU diversion for Inlet Works No.1	12 days	Mon 18/11/19	Fri 29/11/19	12 days	Mon 18/11/19	Fri 29/11/19	Mon 18/11/19	Fri 29/11/19	2	158	0 days		100%
158	SUBA-1060		PM review and accept the method statement	12 days	Sat 30/11/19	Wed 11/12/19	0 days	Sat 30/11/19	Wed 11/12/19	Sat 30/11/19	Wed 11/12/19	157	200,201	0 days		100%
159	SUBA-1070		Prepare and submit combine underground services drawing for PM's review the alignment	24 days	Wed 29/1/20	Fri 21/2/20	23 days	Thu 26/12/19	Sat 18/1/20	Thu 26/12/19	Sat 18/1/20	133		0 days		100%
160	SUBA-1080		Prepare and submit method statement for demolition existing structures	24 days	Mon 18/11/19	Wed 11/12/19	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2	307,277,293,353,243,399	0 days		100%
161	SUBA-1090		Prepare and submit method statement for structural works for buildings	24 days	Mon 18/11/19	Wed 11/12/19	197 days	Mon 18/11/19	Mon 1/6/20	Mon 18/11/19	Mon 1/6/20	2		0 days		100%
162	SUBA-1100		Prepare and submit method statements to MTRC regarding the works within railing protection boundary	56 days	Sat 1/2/20	Tue 7/4/20	92 days	Sat 1/2/20	Mon 25/5/20	Sat 1/2/20	Mon 25/5/20	2	277,293,353,399,243	0 days		100%
163	SUBA-1110		Prepare and submit & approve Safety Management Plan	24 days	Mon 18/11/19	Wed 11/12/19	3 days	Mon 18/11/19	Wed 20/11/19	Mon 18/11/19	Wed 20/11/19	2		0 days		100%
164	SUBA-1120		Prepare and submit Excavation and lateral support (ELS) proposal	24 days	Mon 10/2/20	Wed 4/3/20	128 days	Mon 10/2/20	Tue 16/6/20	Mon 10/2/20	Tue 16/6/20	2		0 days		100%
165	SUBA-1130		Prepare and submit Dewatering proposal for basement construction	24 days	Mon 10/2/20	Wed 4/3/20	165 days	Mon 10/2/20	Thu 23/7/20	Mon 10/2/20	NA	2		1708 days		98%
166	SUBA-1140		Prepare and submit Pre-construction condition survey of existing structures/ services	24 days	Sat 15/2/20	Mon 9/3/20	0 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	191		0 days		100%
167	SUBA-1150		Prepare and submit Settlement and movement monitoring proposal of existing structures/ services	24 days	Sat 15/2/20	Mon 9/3/20	110 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	191		0 days		100%
168	SUBA-1160		Prepare and submit design of structure elements of the temporary activated carbon deodourization unit	60 days	Fri 17/1/20	Mon 16/3/20	60 days	Mon 18/11/19	Mon 16/3/20	Mon 18/11/19	Mon 16/3/20	2FS+60 days		0 days		100%
169	SUBA-1170		Prepare of RSE and structural design for alternation and additional (A&A) works at Membrane Facilities Building No.1	180 days	Mon 18/10/21	Fri 15/4/22	180 days	Mon 18/10/21	Fri 15/4/22	NA	NA		400	630 days		0%
170	SUBA-1180		Prepare of RSE and structural design for alternation and additional (A&A) works at Main Power House	60 days	Mon 3/8/20	Thu 1/10/20	60 days	Mon 3/8/20	Thu 1/10/20	NA	NA		399	1 day		0%
171	**SUBE-1000**		**Environmental Aspect Submissions**	**45 days**	**Mon 18/11/19**	**Wed 1/1/20**	**81 days**	**Mon 18/11/19**	**Thu 6/2/20**	**Mon 18/11/19**	**Thu 6/2/20**			**0 days**		**100%**
172	SUBE-1010		Prepare, submit & approve Site Management Plan for Trip Tricket System	45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2		0 days		100%
173	SUBE-1020		Prepare, submit & approve Waste Management Plan	45 days	Mon 18/11/19	Wed 1/1/20	81 days	Mon 18/11/19	Thu 6/2/20	Mon 18/11/19	Thu 6/2/20	2		0 days		100%
174	SUBE-1030		Prepare, submit & approve Environmental Management Plan	45 days	Mon 18/11/19	Wed 1/1/20	66 days	Mon 18/11/19	Wed 22/1/20	Mon 18/11/19	Wed 22/1/20	2		0 days		100%
175	**SUBP-1000**		**Procurement**	**731 days**	**Mon 18/11/19**	**Wed 17/11/21**	**648 days**	**Mon 18/11/19**	**Thu 26/8/21**	**Mon 18/11/19**	**NA**			**1058 days**		**56%**
176	SUBP-1010		Prepare and submit the Procurement Procedure	12 days	Mon 18/11/19	Fri 29/11/19	2 days	Mon 18/11/19	Tue 19/11/19	Mon 18/11/19	Tue 19/11/19	2	177	0 days		100%
177	SUBP-1020		PM Review & Accept Procurement Procedure	12 days	Sat 30/11/19	Wed 11/12/19	21 days	Tue 19/11/19	Tue 10/12/19	Tue 19/11/19	Tue 10/12/19	176	178,179,180,181,182,183,184,185	0 days		100%
178	SUBP-1030		Prepare, submit and approve the pipe works material	25 days	Thu 12/12/19	Sun 5/1/20	34 days	Thu 6/2/20	Tue 10/3/20	Thu 6/2/20	Tue 10/3/20	177	199,398,404,405,407,406,403,402,	0 days		100%
179	SUBP-1040		Prepare, submit and approve the water proofing material	25 days	Thu 12/12/19	Sun 5/1/20	25 days	Mon 2/8/21	Thu 26/8/21	NA	NA	177	266,270	144 days		0%
180	SUBP-1050		Prepare, submit and approve the concrete mix material	90 days	Sat 1/8/20	Thu 29/10/20	90 days	Mon 3/2/20	Sat 2/5/20	Mon 3/2/20	Sat 2/5/20	177	259,299,326,349	0 days		100%
181	SUBP-1060		Prepare, submit and approve the rebar material	48 days	Thu 1/10/20	Tue 17/11/20	49 days	Sat 23/5/20	Fri 10/7/20	Sat 23/5/20	Fri 10/7/20	177	259,299,326,349	0 days		100%
182	SUBP-1070		Prepare, submit and approve the metal works material	48 days	Tue 1/9/20	Sun 18/10/20	48 days	Tue 1/9/20	Sun 18/10/20	NA	NA	177	259,299,326,349	154 days		0%
183	SUBP-1080		Prepare, submit and approve the ABWF works material	48 days	Mon 1/3/21	Sat 17/4/21	48 days	Mon 1/3/21	Sat 17/4/21	NA	NA	177	273,285,304,332,351,359,365,372,	1189 days		0%
184	SUBP-1090		Prepare, submit and approve the protective lining to concrete	48 days	Tue 1/9/20	Sun 18/10/20	48 days	Tue 1/9/20	Sun 18/10/20	NA	NA	177	259,299,326,349	154 days		0%
185	SUBP-1100		Prepare, submit and approve the multi-part covers	48 days	Fri 1/10/21	Wed 17/11/21	21 days	Tue 5/5/20	Mon 25/5/20	Tue 5/5/20	Mon 25/5/20	177	408	0 days		100%
186	**SUBB-1000**		**BIM**	**37 days**	**Fri 28/2/20**	**Wed 15/4/20**	**111 days**	**Mon 18/11/19**	**Wed 1/4/20**	**Mon 18/11/19**	**Wed 1/4/20**			**0 days**		**100%**
187	SUBB-1010		Prepare, submit and approve the proposal of details of Common data environment (CDE)	48 days	Fri 28/2/20	Wed 15/4/20	37 days	Mon 18/11/19	Wed 1/4/20	Mon 18/11/19	Wed 1/4/20	137,138		0 days		100%
188	**C-1000**	*	**Construction Works**	**1869 days**	**Mon 18/11/19**	**Sun 29/12/24**	**1869 days**	**Mon 18/11/19**	**Sun 29/12/24**	**Mon 18/11/19**	**NA**			**88 days**		**12%**
189	**CPW-1000**		**Preliminary Works**	**136 days**	**Mon 18/11/19**	**Wed 1/4/20**	**162 days**	**Mon 18/11/19**	**Mon 27/4/20**	**Mon 18/11/19**	**Mon 27/4/20**			**0 days**		**100%**
190	CPW-1000		Initial Survey	24 days	Mon 18/11/19	Sat 14/12/19	10 days	Mon 18/11/19	Thu 28/11/19	Mon 18/11/19	Thu 28/11/19	2	191	0 days		100%
191	CPW-2000		Condition Survey	15 days	Wed 29/1/20	Fri 14/2/20	89 days	Mon 18/11/19	Fri 6/3/20	Mon 18/11/19	Fri 6/3/20	133,190	192,166,167,193	0 days		100%
192	CPW-3000		Installation of Monitoring Markers	18 days	Sat 15/2/20	Fri 6/3/20	78 days	Fri 29/11/19	Thu 5/3/20	Fri 29/11/19	Thu 5/3/20	191		0 days		100%
193	CPW-4000		Tree Felling Works	40 days	Sat 15/2/20	Wed 1/4/20	40 days	Sat 7/3/20	Mon 27/4/20	Sat 7/3/20	Mon 27/4/20	191		0 days		100%

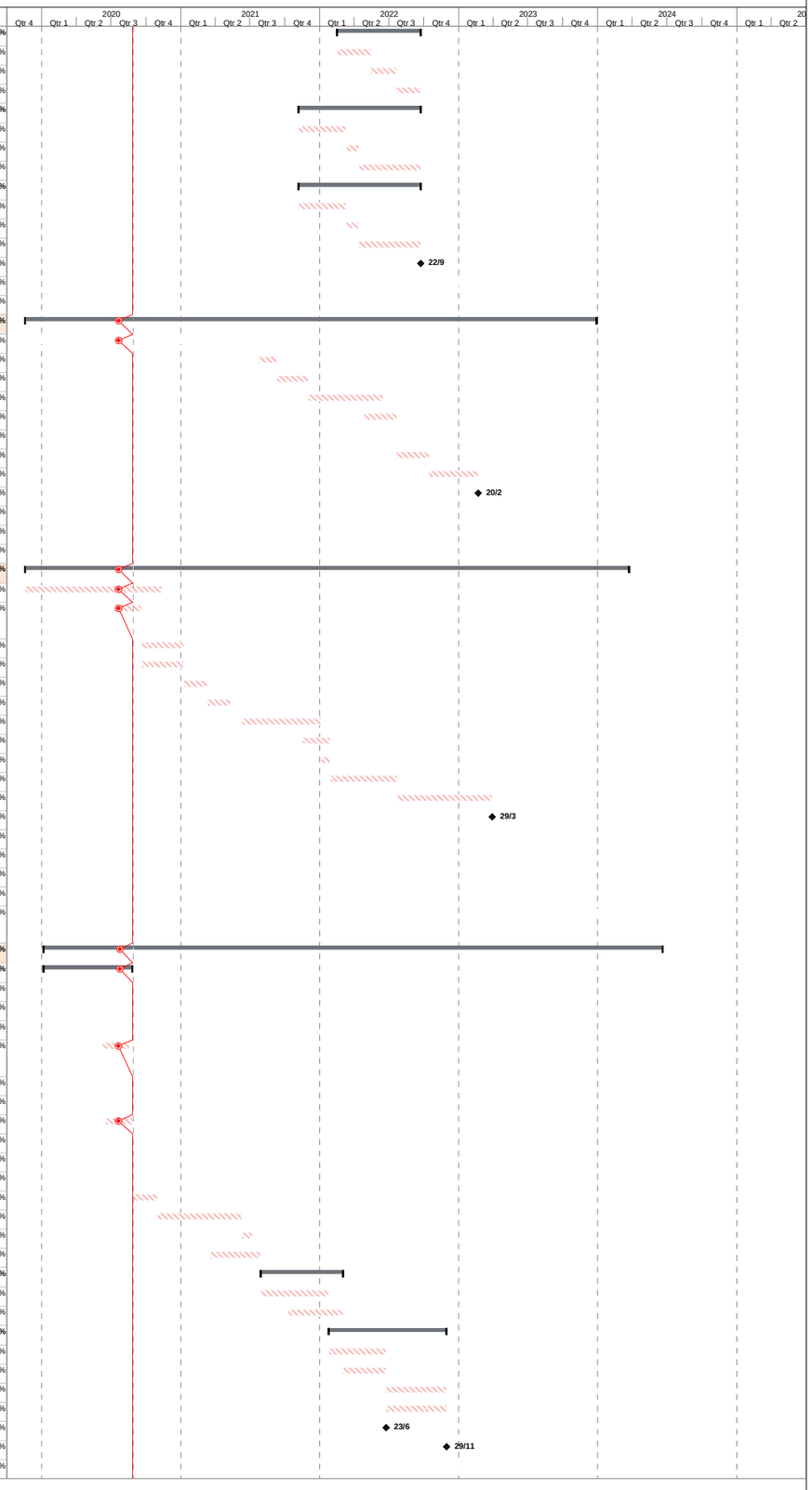


ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
194	**CAR-0000**	*	**Access Road (AR3), B-1**	**223 days**	**Thu 12/12/19**	**Sat 12/9/20**	**220 days**	**Mon 20/1/20**	**Fri 16/10/20**	**Mon 20/1/20**	**NA**	**4,156**		**0 days**		**71%**
195	CAR-1000		Site setup and clearance wroks	28 days	Thu 12/12/19	Thu 16/1/20	38 days	Mon 20/1/20	Fri 6/3/20	Mon 20/1/20	Fri 6/3/20		196	0 days		100%
196	CAR-2000		Drainage and Utilities Works	75 days	Fri 17/1/20	Tue 21/4/20	75 days	Sat 7/3/20	Tue 9/6/20	Sat 7/3/20	Tue 9/6/20	195	197	0 days		100%
197	CAR-3000	KD1A	Roadworks (NCEs)	120 days	Wed 22/4/20	Sat 12/9/20	145 days	Fri 24/4/20	Fri 16/10/20	Fri 24/4/20	NA	196,134	42FF	-27 days		49%
198	**CIW-0000**	*	**Inlet Works No.1, B-2**	**897 days**	**Wed 29/1/20**	**Mon 6/2/23**	**972 days**	**Fri 13/12/19**	**Sat 25/3/23**	**Fri 13/12/19**	**NA**			**591 days**		**20%**
199	**CIW-1000**		**Diversion Works (1. Inlet Trunk Sewer, Leachate Rising Mains, Sludge Pipes, Tank Drains and Pipelines near Primary Sludge Thinkeners)**	**237 days**	**Wed 29/1/20**	**Thu 12/11/20**	**490 days**	**Fri 13/12/19**	**Tue 10/8/21**	**Fri 13/12/19**	**NA**	**178,131**	**43FF**	**-219 days**		**46%**
200	CIW-1100		Utilities scanning to idenify existing UU arrangement	12 days	Wed 29/1/20	Tue 11/2/20	0 days	Fri 13/12/19	Sat 18/1/20	Fri 13/12/19	Sat 18/1/20	158	201SS,203	0 days		100%
201	CIW-1200		Trial pits to locate the collection points	24 days	Wed 29/1/20	Tue 25/2/20	0 days	Mon 6/1/20	Tue 10/3/20	Mon 6/1/20	Tue 10/3/20	158,200SS,132	212,237FS+13 days,222	0 days		100%
202	**CIW-1300**		**Installation and Commissioning of Temporary Activated Carbon Deodorization Unit for the Existing Inlet Works**	**84 days**	**Mon 17/2/20**	**Sat 30/5/20**	**98 days**	**Wed 11/3/20**	**Sat 11/7/20**	**Wed 11/3/20**	**Sat 11/7/20**			**0 days**		**100%**
203	CIW-1310		Construction of concrete plinth	24 days	Mon 17/2/20	Sat 14/3/20	24 days	Wed 11/3/20	Wed 8/4/20	Wed 11/3/20	Wed 8/4/20	200	204	0 days		100%
204	CIW-1320		Installation of Deodorizer	26 days	Mon 16/3/20	Sat 18/4/20	40 days	Thu 9/4/20	Sat 30/5/20	Thu 9/4/20	Sat 30/5/20	203	205	0 days		100%
205	CIW-1330		Testing & commissioning	15 days	Mon 20/4/20	Fri 8/5/20	15 days	Mon 1/6/20	Wed 17/6/20	Mon 1/6/20	Wed 17/6/20	204	206FS-1 day	0 days		100%
206	CIW-1340		Demolishment of the existing carbon deodorization unit	20 days	Fri 8/5/20	Sat 30/5/20	20 days	Wed 17/6/20	Sat 11/7/20	Wed 17/6/20	Sat 11/7/20	205	FS-1 day	0 days		100%
207	**CIW-1400**		**Diversion of Inlet Trunk Sewer (approx. 40m 1800mm dia concrete pipe, 4 deep manholes and Inlet Reception Chamber)**	**213 days**	**Wed 26/2/20**	**Thu 12/11/20**	**417 days**	**Sat 14/3/20**	**Tue 10/8/21**	**Sat 14/3/20**	**NA**			**-219 days**		**31%**
208	CIW-1410		Remedial Works for uncharted sludge Pipe leakage (CE030)	0 days	NA	NA	1 day	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20	Sat 14/3/20		209	0 days		100%
209	CIW-1420		Diversion of uncharted DN250 sludge pipe (CE 030)	0 days	NA	NA	39 days	Sat 14/3/20	Tue 5/5/20	Sat 14/3/20	Tue 5/5/20	208	210	0 days		100%
210	CIW-1430		Removal of concrete surround and uncharted sludge pipe (CE 030)	0 days	NA	NA	2 days	Wed 6/5/20	Thu 7/5/20	Wed 6/5/20	Thu 7/5/20	209	211	0 days		100%
211	CIW-1440		Remedial works for uncharted pipe and unforeseen water seepage (NCE 0021)	0 days	NA	NA	10 days	Fri 8/5/20	Tue 19/5/20	Fri 8/5/20	Tue 19/5/20	210	212,213	0 days		100%
212	**CIW-1450**		**Trench Excavation for 1800mm dia pipeline and manholes**	**68 days**	**Wed 26/2/20**	**Thu 21/5/20**	**104 days**	**Wed 20/5/20**	**Sat 19/9/20**	**Wed 20/5/20**	**NA**	**201,211**		**-14 days**		**73%**
213	CIW-1451		Sheetpile installation (on hold due to identification of uncharted obstruction) (EWN 0045)	0 days	NA	NA	26 days	Wed 20/5/20	Thu 18/6/20	Wed 20/5/20	Thu 18/6/20	211	214	0 days		100%
214	CIW-1452		Identification of uncharted concrete surround and pipes near MHA01 (EWN 0045)	0 days	NA	NA	41 days	Thu 18/6/20	Thu 6/8/20	Thu 18/6/20	Thu 6/8/20	213	215	0 days		100%
215	CIW-1453		Removal of uncharted concrete surround and pipes near MHA01 (EWN 0045) and Sheetpile installation	0 days	NA	NA	10 days	Fri 7/8/20	Tue 18/8/20	Fri 7/8/20	Tue 18/8/20	214	216	0 days		100%
216	CIW-1454		Removal of top 500mm soil and replace with rockfill at MHA01, MHA02, IRC, trench MHA01 to MHA02 (NCE 0073 & 78)	0 days	NA	NA	14 days	Tue 11/8/20	Thu 3/9/20	Tue 11/8/20	NA	215	217	-219 days		0%
217	CIW-1455		Removal of existing DSD drawpits near IRC & exposure of CLP calbes with installation of additional temporary support (EWN 0051)	0 days	NA	NA	14 days	Fri 4/9/20	Sat 19/9/20	NA	NA	216	218	-219 days		0%
218	CIW-1460		Construct M/H MHA01, MHA02, MHA03, MHA04 and Inlet Reception Chamber (NCE 0022)	88 days	Fri 22/5/20	Wed 3/6/20	150 days	Mon 21/9/20	Wed 24/3/21	NA	NA	217	219	-219 days		0%
219	CIW-1470		Lay 1800mm dia concretre pipe (NCE 0022)	45 days	Fri 4/9/20	Thu 29/10/20	82 days	Thu 25/3/21	Tue 6/7/21	NA	NA	218	220	-219 days		0%
220	CIW-1480	KD1B	Collection to existing Inlet Chamber -->10/8/21	12 days	Fri 30/10/20	Thu 12/11/20	30 days	Wed 7/7/21	Tue 10/8/21	NA	NA	219	43FF	-219 days		0%
221	**CIW-1500**		**Diversion of Leachate Rising Main, Sludge Pipes and Tank Drain**	120 days	Wed 1/4/20	Thu 27/8/20	**166 days**	**Mon 11/5/20**	**Wed 25/11/20**	**Mon 11/5/20**	**NA**			**-11 days**		**41%**
222	**CIW-1510**		**Diversion of Tank Drain MHD9.5 to MHA04 (approx. 70m 675mm dia conrete pipe, 24m DN250 DI leachate rising main, 90m CHES1&S2 DN250 CI)**	63 days	Fri 28/8/20	Thu 12/11/20	**151 days**	**Mon 11/5/20**	**Sat 7/11/20**	**Mon 11/5/20**	**NA**	**201**		**4 days**		**53%**
223	**CIW-1511**		**Tank Drain Diversion near MTRCL track**	**0 days**	**NA**	**NA**	**123 days**	**Fri 12/6/20**	**Sat 7/11/20**	**Fri 12/6/20**	**NA**			**4 days**		**49%**
224	CIW-1511a		Excavation of trial pit near MHD9.5 (EWN 044)	0 days	NA	NA	5 days	Fri 12/6/20	Wed 17/6/20	Fri 12/6/20	Wed 17/6/20		225	0 days		100%
225	CIW-1511c		Uncharted cables found near MTRC track and identification(EWN 044)	0 days	NA	NA	1 day	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	Thu 18/6/20	224	226	0 days		100%
226	CIW-1511d		Excavation of trial pit near MHD8.5	0 days	NA	NA	5 days	Fri 19/6/20	Wed 24/6/20	Fri 19/6/20	Wed 24/6/20	225	227	0 days		100%
227	CIW-1511e		Lower the ground surface, opening and additional trial pit (TP38) (EWN 046)	0 days	NA	NA	17 days	Thu 2/7/20	Tue 21/7/20	Thu 2/7/20	Tue 21/7/20	226	228	0 days		100%
228	CIW-1511f		Trial excavation near MTRCL track (NCE0044)	0 days	NA	NA	9 days	Wed 22/7/20	Fri 31/7/20	Wed 22/7/20	Fri 31/7/20	227	229	0 days		100%
229	CIW-1511g		Excavation of additional trial pit (TP45 & 47) (NCE0044)	0 days	NA	NA	11 days	Tue 28/7/20	Sat 8/8/20	Tue 28/7/20	Sat 8/8/20	228	230	0 days		100%
230	CIW-1511h		Awaiting for AECOM instruction for alignment confirmation for sludge pipe, tank drain & drainage works (NCE0044)	0 days	NA	NA	12 days	Mon 10/8/20	Sat 22/8/20	Mon 10/8/20	Sat 22/8/20	229	231	0 days		100%
231	CIW-1511i	KD1B	Utilities diversion works	63 days	Fri 28/8/20	Thu 12/11/20	63 days	Mon 24/8/20	Sat 7/11/20	NA	NA	230	43FF	4 days		0%
232	CIW-1512		Excavation of trial pit and identification of connection point (NCE 0064)	0 days	NA	NA	54 days	Mon 11/5/20	Tue 14/7/20	Mon 11/5/20	Tue 14/7/20		233	0 days		100%
233	CIW-1513		Trench excavation for twin DN250 sludge pipe and stopped by AECOM (NCE 0064)	0 days	NA	NA	4 days	Wed 15/7/20	Sat 18/7/20	Wed 15/7/20	Sat 18/7/20	232	234	0 days		100%
234	CIW-1514		Additional hole drilling works and identification of connetion point (NCE 0064)	0 days	NA	NA	45 days	Mon 20/7/20	Wed 9/9/20	Mon 20/7/20	NA	233	235	-11 days		2%
235	CIW-1520	KD1B	Diversion of Tank Drain MHD8.5 (approx. 70m CHES1 & CHES2)	63 days	Fri 28/8/20	Thu 12/11/20	63 days	Thu 10/9/20	Wed 25/11/20	NA	NA	234	43FF	-11 days		0%
236	**CIW-1600**	*	**Diversion of pipelines near Primary Sludge Thickeners (approx. 180m long 150mm to 375mm concrete pipes)**	**200 days**	**Thu 12/3/20**	**Thu 12/11/20**	**235 days**	**Thu 19/3/20**	**Sat 2/1/21**	**Thu 19/3/20**	**NA**			**-41 days**		**55%**
237	CIW-1610		Trench Excavation from M/H MHD1E to MHD5 (approx. 90m long with M/Hs MHD1A, 1B, 1C, 1D & 1E)	50 days	Thu 12/3/20	Fri 15/5/20	50 days	Sat 28/3/20	Mon 1/6/20	Sat 28/3/20	Mon 1/6/20	201FS+13 days	238,239	0 days		100%
238	CIW-1620		Manholes construction and Pipe laying	50 days	Sat 16/5/20	Wed 15/7/20	50 days	Tue 2/6/20	Fri 31/7/20	Tue 2/6/20	NA	237	43FF,240	86 days		80%
239	CIW-1630		Trench Excavation from M/H MHD1E to MHD5 (approx. 90m long with M/Hs M1A to M3B) (NCE 0012)	50 days	Sat 16/5/20	Wed 15/7/20	32 days	Thu 19/3/20	Wed 29/4/20	Thu 19/3/20	Wed 29/4/20	237	240,241	0 days		100%
240	CIW-1640		Manholes construction and Pipe laying (NCE 0012)	50 days	Thu 16/7/20	Fri 11/9/20	12 days	Mon 4/5/20	Sat 16/5/20	Mon 4/5/20	Sat 16/5/20	239,238	43FF,242	0 days		100%
241	CIW-1650		Trench Excavation from MHD5 to MHD9.5 (approx. 90m long with M/Hs MHD5A & 5B)	50 days	Thu 16/7/20	Fri 11/9/20	50 days	Wed 2/9/20	Mon 2/11/20	NA	NA	239,244,248,249,250	242,274SS	-41 days		0%
242	CIW-1660	KD1B	Manholes construction and Pipe laying	50 days	Sat 12/9/20	Thu 12/11/20	50 days	Tue 3/11/20	Sat 2/1/21	NA	NA	241,240	43FF	-41 days		0%
243	**CIW-2000**		**Decommission and Demolition of Existing Faciliates and Structures**	**78 days**	**Wed 8/4/20**	**Wed 15/7/20**	**90 days**	**Mon 18/5/20**	**Tue 1/9/20**	**Mon 18/5/20**	**NA**	**6,130,160,162**		**-36 days**		**49%**
244	**CIW-2100**		**Primary Sludge Thickening Tank No.1 and No.2**	**42 days**	**Wed 8/4/20**	**Mon 1/6/20**	**54 days**	**Mon 18/5/20**	**Tue 21/7/20**	**Mon 18/5/20**	**Tue 21/7/20**		**241**	**0 days**		**100%**
245	CIW-2110		Removal of E&M equipment of primary sludge thickening tank (NCE 0020)	0 days	NA	NA	1 day	Thu 4/6/20	Thu 4/6/20	Thu 4/6/20	Thu 4/6/20		246	0 days		100%
246	CIW-2120		Decommission and Demolition the tank (NCE 0052)	0 days	NA	NA	27 days	Thu 18/6/20	Tue 21/7/20	Thu 18/6/20	Tue 21/7/20	245	248	0 days		100%
247	CIW-2130		Demolition of structure no.2	0 days	NA	NA	24 days	Mon 18/5/20	Mon 22/6/20	Mon 18/5/20	Mon 22/6/20			0 days		100%
248	CIW-2200		Primary Sludge Pump Pit	18 days	Tue 2/6/20	Mon 22/6/20	18 days	Wed 22/7/20	Tue 11/8/20	NA	NA	246	249,250,241	-41 days		0%
249	CIW-2300		Septic Tank	18 days	Tue 23/6/20	Wed 15/7/20	18 days	Wed 12/8/20	Tue 1/9/20	NA	NA	248	241	-41 days		0%
250	CIW-2400		Diesel Tank	18 days	Tue 23/6/20	Wed 15/7/20	18 days	Wed 12/8/20	Tue 1/9/20	NA	NA	248	241,252FS-10 days	-41 days		0%
251	**CIW-3000**	*	**Inlet Works No.1 Building**	**770 days**	**Sat 4/7/20**	**Mon 6/2/23**	**770 days**	**Fri 21/8/20**	**Sat 25/3/23**	**NA**	**NA**	**6**		**-41 days**		**0%**
252	CIW-3100		Predrilling (59nrs, 3rigs, 2.5days/drillhole/rig)	50 days	Sat 4/7/20	Mon 31/8/20	50 days	Fri 21/8/20	Tue 20/10/20	NA	NA	135,250FS-10 days	253	-41 days	1	0%
253	CIW-3200		Pre-bored H piles (186nos, 4rigs, 3days/rig/pile)	145 days	Tue 1/9/20	Fri 26/2/21	145 days	Wed 21/10/20	Mon 19/4/21	NA	NA	140,252	254SS+110 days,256,255	-41 days	5	0%
254	CIW-3300		Sheetpile Installation (3,840sq.m, 1rigs, 50sqm/rig/day)	80 days	Thu 14/1/21	Fri 23/4/21	80 days	Sat 6/3/21	Sat 12/6/21	NA	NA	253SS+110 days,141	256	-41 days		0%
255	CIW-3400		Pile Load Test	21 days	Sat 27/2/21	Tue 23/3/21	21 days	Tue 20/4/21	Fri 14/5/21	NA	NA	253	256,257,258	-17 days		0%
256	CIW-3500		**ELS works (strutting 4 layers, excavate soil 7445cu.m)**	**120 days**	**Sat 24/4/21**	**Wed 15/9/21**	**120 days**	**Tue 15/6/21**	**Fri 5/11/21**	**NA**	**NA**	**254,253,142,255**		**-41 days**	**5**	**0%**
257	CIW-3510		Phrase C (Grid G3 to L7) - Excavation to -3.3mPD and blinding	120 days	Sat 24/4/21	Wed 15/9/21	120 days	Tue 15/6/21	Fri 5/11/21	NA	NA	255		1001 days		0%
258	CIW-3520		Phrase B (Grid A1 to G3) - Excavation to -7.5mPD and blinding	120 days	Sat 24/4/21	Wed 15/9/21	120 days	Tue 15/6/21	Fri 5/11/21	NA	NA	255	265,269	-41 days		0%
259	CIW-3600		**R.C. Structure works**	**260 days**	**Thu 16/9/21**	**Thu 4/8/22**	**260 days**	**Sat 6/11/21**	**Thu 22/9/22**	**NA**	**NA**	**144,180,181,184,182**		**-41 days**	**5**	**0%**



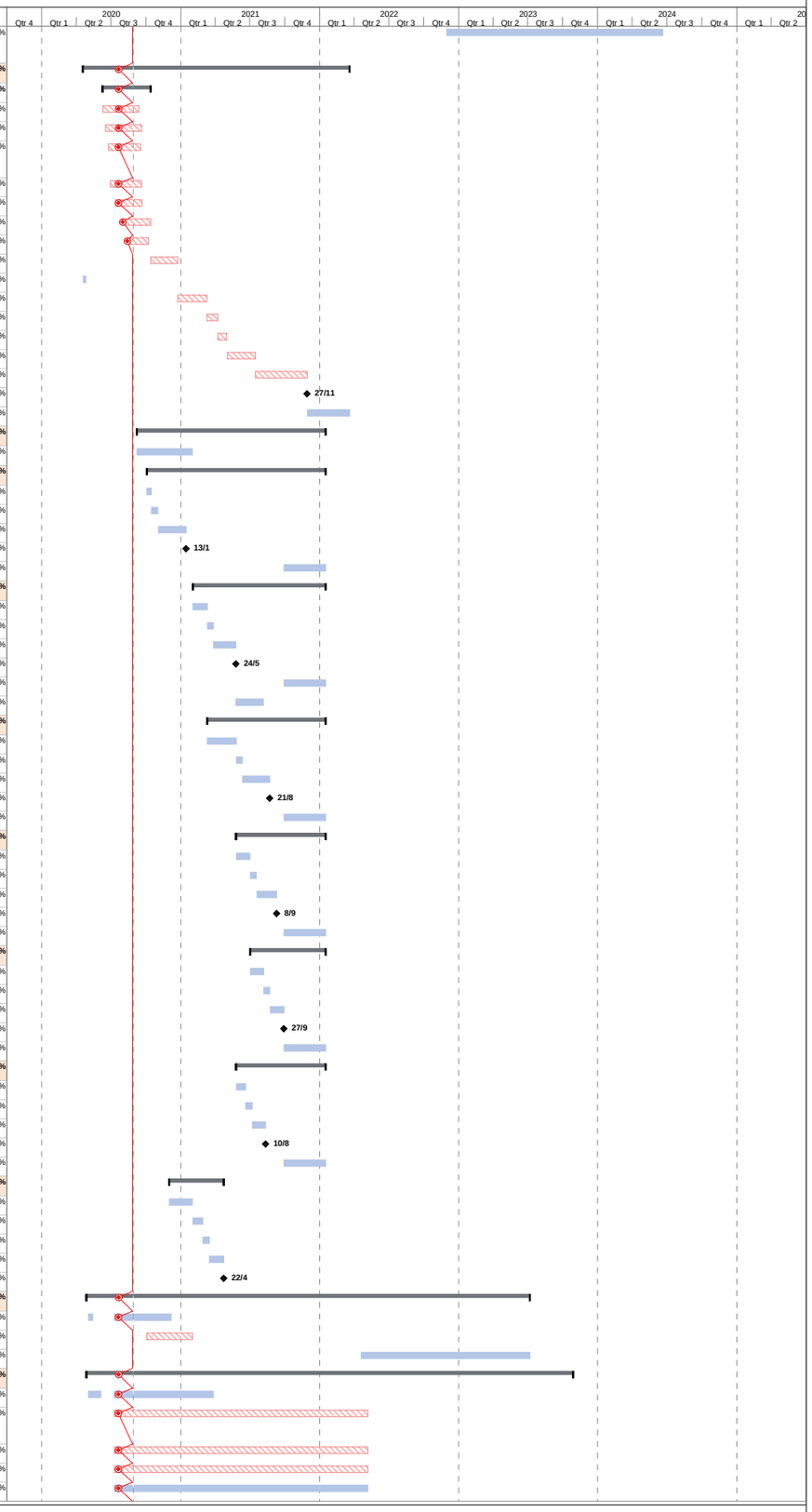
Revised Works Programme (Status Date: 26/8/2020) (Rev. 01)
[Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]

ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
260	CIW-3610		**Phase A (Grid G1 to L3)**	**180 days**	**Wed 22/12/21**	**Thu 4/8/22**	**180 days**	**Tue 15/2/22**	**Thu 22/9/22**	**NA**	**NA**	**NA**		**-41 days**		**0%**
261	CIW-3611		Rebar fix and formwork and concreting for the pile cap (G/F)	70 days	Wed 22/12/21	Sat 19/3/22	70 days	Tue 15/2/22	Fri 13/5/22	NA		NA 264SS+80 days	262	-41 days		0%
262	CIW-3612		Rebar fix and formwork and concreting upto +13.45mPD (1/F)	55 days	Mon 21/3/22	Mon 30/5/22	55 days	Sat 14/5/22	Tue 19/7/22	NA		NA 261	263	-41 days		0%
263	CIW-3613		Rebar fix and formwork and concreting upto +25.80mPD (R/F)	55 days	Tue 31/5/22	Thu 4/8/22	55 days	Wed 20/7/22	Thu 22/9/22	NA		NA 262	44FF	-41 days		0%
264	CIW-3620		**Phase B (621 sqm) and**	**260 days**	**Thu 16/9/21**	**Thu 4/8/22**	**260 days**	**Sat 6/11/21**	**Thu 22/9/22**	**NA**		**NA**	**261SS+80 days**	**-41 days**		**0%**
265	CIW-3621		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level	100 days	Thu 16/9/21	Mon 17/1/22	100 days	Sat 6/11/21	Wed 9/3/22	NA		NA 258	266	-41 days		0%
266	CIW-3622		Apply waterproofing membrance and backfilling	28 days	Tue 18/1/22	Tue 22/2/22	28 days	Thu 10/3/22	Tue 12/4/22	NA		NA 265,179	267	-41 days		0%
267	CIW-3623		Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level	132 days	Wed 23/2/22	Thu 4/8/22	132 days	Wed 13/4/22	Thu 22/9/22	NA		NA 266	272,273,44FF	-41 days		0%
268	CIW-3630		**Phase C (662 sqm)**	**260 days**	**Thu 16/9/21**	**Thu 4/8/22**	**260 days**	**Sat 6/11/21**	**Thu 22/9/22**	**NA**		**NA**		**-41 days**		**0%**
269	CIW-3631		Rebar fix and formwork and concreting for the Inlet Works structure upto Ground Level	100 days	Thu 16/9/21	Mon 17/1/22	100 days	Sat 6/11/21	Wed 9/3/22	NA		NA 258	270	-41 days		0%
270	CIW-3632		Apply waterproofing membrance and backfilling	28 days	Tue 18/1/22	Tue 22/2/22	28 days	Thu 10/3/22	Tue 12/4/22	NA		NA 269,179	271	-41 days		0%
271	CIW-3633	KD1C	Rebar fix and formwork and concreting for the Inlet Works structure upto Roof Level	132 days	Wed 23/2/22	Thu 4/8/22	132 days	Wed 13/4/22	Thu 22/9/22	NA		NA 270	273,44FF,272	-41 days		0%
272	CIW-3700	KD1C	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 4/8/22	Thu 4/8/22	0 days	Thu 22/9/22	Thu 22/9/22	NA		NA 271,267	44FF	-41 days		0%
273	CIW-3800	SW1	ABWF works + BS works	150 days	Fri 5/8/22	Mon 6/2/23	150 days	Fri 23/9/22	Sat 25/3/23	NA		NA 271,183,149,267	56FF	591 days		0%
274	CIW-3900	SW2	Process Pipe CHE chainage 0-20 & CHF chainage 0-20	180 days	Thu 16/7/20	Sat 20/2/21	180 days	Wed 2/9/20	Tue 13/4/21	NA		NA 241SS	57FF	1171 days		0%
275	**CPS-0000**	*	**Primary Sedimentation Tanks, B-3**	**1220 days**	**Mon 18/11/19**	**Fri 29/12/23**	**1220 days**	**Mon 18/11/19**	**Fri 29/12/23**	**Mon 18/11/19**		**NA 8**		**365 days**		**15%**
276	CPS-1000		Operation of the Existing Primary sedimentation Tanks	615 days	Mon 18/11/19	Sat 24/7/21	615 days	Mon 18/11/19	Sat 24/7/21	Mon 18/11/19		NA 2	277	1 day		40%
277	CPS-2000		Demolition of existing primary sedimentation tanks no. 1 & 2	40 days	Mon 26/7/21	Thu 9/9/21	40 days	Mon 26/7/21	Thu 9/9/21	NA		NA 130,160,162,276	278	0 days		0%
278	CPS-3000		Predrilling (68nrs, 3rigs, 3days/drillhole/rig)	68 days	Fri 10/9/21	Wed 1/12/21	68 days	Fri 10/9/21	Wed 1/12/21	NA		NA 277,135,344	279	0 days	1	0%
279	CPS-4000		Pre-bored H piles (205nos, 4rigs, 3days/pile/rig)	155 days	Thu 2/12/21	Wed 15/6/22	155 days	Thu 2/12/21	Wed 15/6/22	NA		NA 278,140,345	280FS-40 days,282,281	0 days	5	0%
280	CPS-5000		Sheetpile Installation (FSP-II, 3360sq.m, 1rigs, 50sqm/rig/day)	70 days	Wed 27/4/22	Thu 21/7/22	70 days	Wed 27/4/22	Thu 21/7/22	NA		NA 279FS-40 days,141	282	0 days		0%
281	CPS-6000		Pile Load Test	21 days	Thu 16/6/22	Mon 11/7/22	21 days	Thu 16/6/22	Mon 11/7/22	NA		NA 279	282	9 days		0%
282	CPS-7000		ELS works (20000cu.m soil with 2 layers wailing / strutting)	70 days	Fri 22/7/22	Fri 14/10/22	70 days	Fri 22/7/22	Fri 14/10/22	NA		NA 279,143,281,280,136	283	0 days	3	0%
283	CPS-8000	KD1D	R.C. Structure works	104 days	Sat 15/10/22	Mon 20/2/23	104 days	Sat 15/10/22	Mon 20/2/23	NA		NA 282,145	284,285,45FF,286,287	0 days	3	0%
284	CPS-9000	KD1D	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 20/2/23	Mon 20/2/23	0 days	Mon 20/2/23	Mon 20/2/23	NA		NA 283	45FF	0 days		0%
285	CPS-10000	SW1	ABWF works + BS works	170 days	Tue 21/2/23	Fri 15/9/23	170 days	Tue 21/2/23	Fri 15/9/23	NA		NA 283,183,149	56FF	450 days		0%
286	CPS-11000	SW1	Flowmeter Chamber no.1	60 days	Tue 21/2/23	Sat 6/5/23	60 days	Tue 21/2/23	Sat 6/5/23	NA		NA 283	56FF	560 days		0%
287	CPS-12000	SW3	Process Pipe CHG chainage 0-50, CHH chainage 0-80, CHI chainage 0-95 & CHJ chianage 0-40	255 days	Tue 21/2/23	Fri 29/12/23	255 days	Tue 21/2/23	Fri 29/12/23	NA		NA 283	58FF	365 days		0%
288	**CBR-0000**	*	**Bioreactors No.2A & 2B, B-4**	**1218 days**	**Mon 18/11/19**	**Wed 27/12/23**	**1289 days**	**Mon 18/11/19**	**Sat 23/3/24**	**Mon 18/11/19**		**NA 9**		**296 days**		**11%**
289	CBR-1000		Operation of 2no. Existing 800mm air mains over bioreactor no.2	360 days	Mon 18/11/19	Wed 11/11/20	360 days	Mon 18/11/19	Wed 11/11/20	Mon 18/11/19		NA 2	292FF	0 days		68%
290	CBR-2000		Trial dewatering works and installation of additional stop logs at BR2 connon channel due to malfucntioned of existing penstock at FST no. 5 and 7 (EWN 055)	0 days	NA	NA	60 days	Fri 10/7/20	Thu 17/9/20	Fri 10/7/20		NA	291	-46 days		15%
291	CBR-3000		Temporary Diversion of drainage, sewage, airmains before termination	90 days	Mon 27/7/20	Wed 11/11/20	90 days	Fri 18/9/20	Thu 7/1/21	NA		NA 290	293,292SS	-46 days		0%
292	CBR-4000		Diversion of rising main, drainage pipes, and foam collection & surplus activated sludge pipes	90 days	Mon 27/7/20	Wed 11/11/20	90 days	Fri 18/9/20	Thu 7/1/21	NA		NA 289FF,291SS	293	-46 days		0%
293	CBR-5000		Demolition of existing bioreactor no.2	50 days	Thu 12/11/20	Tue 12/1/21	50 days	Fri 8/1/21	Wed 10/3/21	NA		NA 130,160,162,292,291	294	-46 days		0%
294	CBR-6000		Predrilling (76nrs, 4rigs, 2.5days/drillhole/rig)	48 days	Wed 13/1/21	Fri 12/3/21	48 days	Thu 11/3/21	Mon 10/5/21	NA		NA 293,135	295	-46 days	1	0%
295	CBR-7000		Pre-bored H piles (157nos, 3rigs, 3days/pile/rig)	170 days	Sat 13/3/21	Thu 7/10/21	170 days	Thu 10/6/21	Mon 3/1/22	NA		NA 294,140,319	296FS-39 days,298,297	-71 days	5	0%
296	CBR-8000		Sheetpile Installation (3000sq.m, 1rigs, 50sqm/rig/day)	60 days	Sat 21/8/21	Tue 2/11/21	60 days	Tue 16/11/21	Thu 27/1/22	NA		NA 295FS-39 days,141	298	-71 days		0%
297	CBR-9000		Pile Load Test	21 days	Fri 8/10/21	Tue 2/11/21	21 days	Tue 4/1/22	Thu 27/1/22	NA		NA 295	298	-71 days		0%
298	CBR-10000		ELS works (18100cu.m soil with 4 layers wailing / strutting)	140 days	Wed 3/11/21	Tue 26/4/22	140 days	Fri 28/1/22	Fri 22/7/22	NA		NA 295,296,143,297,136	299	-71 days	3	0%
299	CBR-11000	KD1E	R.C. Structure works	205 days	Wed 27/4/22	Sat 31/12/22	205 days	Sat 23/7/22	Wed 29/3/23	NA		NA 146,180,181,298,184,182	300,304,46FF,301,302,303,305	-71 days	5	0%
300	CBR-12000	KD1E	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Sat 31/12/22	Sat 31/12/22	0 days	Wed 29/3/23	Wed 29/3/23	NA		NA 299	46FF	-71 days		0%
301	CBR-13000	SW1	Flowmeter no. 2-4	180 days	Tue 3/1/23	Sat 12/8/23	180 days	Thu 30/3/23	Tue 7/11/23	NA		NA 299	56FF	408 days		0%
302	CBR-14000	SW1	Gate Valve Chamber no.1-3	180 days	Tue 3/1/23	Sat 12/8/23	180 days	Thu 30/3/23	Tue 7/11/23	NA		NA 299	56FF	408 days		0%
303	CBR-15000	SW1	Plug Valve Chamber no.1-2	180 days	Tue 3/1/23	Sat 12/8/23	180 days	Thu 30/3/23	Tue 7/11/23	NA		NA 299	56FF	408 days		0%
304	CBR-16000	SW1	ABWF works + BS works	180 days	Tue 3/1/23	Sat 12/8/23	180 days	Thu 30/3/23	Tue 7/11/23	NA		NA 299,183,149	56FF	408 days		0%
305	CBR-17000	SW3	Process Pipe CHQ chainage 65-170, CHP chainage 60-130, CHO chainage 65-140, CHL chainage 0-35 & CHK chianage 0-50	292 days	Tue 3/1/23	Wed 27/12/23	292 days	Thu 30/3/23	Sat 23/3/24	NA		NA 299	58FF	296 days		0%
306	**CMF-0000**	*	**Membrane Facilities Building, B-5**	**1181 days**	**Mon 6/1/20**	**Fri 29/12/23**	**1311 days**	**Mon 6/1/20**	**Wed 19/6/24**	**Mon 6/1/20**		**NA 10**		**235 days**		**16%**
307	**CMF-1000**		**Demolition of existing final sedimentation tanks no. 3 & 4**	**60 days**	**Mon 6/1/20**	**Wed 18/3/20**	**190 days**	**Mon 6/1/20**	**Wed 26/8/20**	**Mon 6/1/20**		**NA 160,130**		**0 days**		**85%**
308	CMF-1100		Confirmation of Decommission Schedule (CE 030)	0 days	NA	NA	58 days	Mon 6/1/20	Mon 16/3/20	Mon 6/1/20	Mon 16/3/20		309	0 days		100%
309	CMF-1200		Provision of new submersed pump (CE 026)	0 days	NA	NA	27 days	Wed 4/3/20	Fri 3/4/20	Wed 4/3/20	Fri 3/4/20	308	310	0 days		100%
310	CMF-1300		Additional dismantling works to retain specified electrical and mechanical equipment (NCE 013)	0 days	NA	NA	21 days	Tue 7/4/20	Wed 6/5/20	Tue 7/4/20	Wed 6/5/20	309	311	0 days		100%
311	CMF-1400		Additional pluging works for DN 1200 Conc. S&S pipe at wash water pumping station chamber (NCE 015)	0 days	NA	NA	60 days	Mon 8/6/20	Tue 18/8/20	Mon 8/6/20	NA	310	312,318	-123 days		58%
312	CMF-1500		Diversion of wash water main (EWN026)	0 days	NA	NA	21 days	Mon 15/6/20	Fri 10/7/20	Mon 15/6/20	Fri 10/7/20	311		0 days		100%
313	CMF-1600		Isolation wall for RAS Channel No.1 (NCE 003)	0 days	NA	NA	40 days	Mon 1/6/20	Sat 18/7/20	Mon 1/6/20	Sat 18/7/20			0 days		100%
314	CMF-1700		Removal of DN1400 Bioreactor No.2 Effluent Pipe (PMI 043)	0 days	NA	NA	60 days	Tue 16/6/20	Wed 26/8/20	Tue 16/6/20	NA		318	-130 days		47%
315	CMF-1800		Exposed and disconnet uncharted existing cable between FST3 and FST 4 (NCE 007)	0 days	NA	NA	20 days	Thu 2/7/20	Fri 24/7/20	Thu 2/7/20	Fri 24/7/20			0 days		100%
316	CMF-1900		Removal of Existing DN150 SAS Rising Main at RAS Channel No. 1 (EWN 032)	0 days	NA	NA	14 days	Wed 15/7/20	Thu 30/7/20	Wed 15/7/20	Thu 30/7/20			0 days		100%
317	CMF-1110		Demolition of structure no. 3 & 4	0 days	NA	NA	71 days	Wed 1/4/20	Tue 30/6/20	Wed 1/4/20	Tue 30/6/20			0 days		100%
318	CMF-2000		Predrilling (83nrs, 4rigs, 2.5days/drillhole/rig)	52 days	Thu 19/3/20	Mon 25/5/20	52 days	Thu 27/8/20	Thu 29/10/20	NA		NA 135,311,314	319	-130 days	1	0%
319	CMF-3000		Pre-bored H piles (224nos, 4rigs, 3days/pile/rig)	180 days	Tue 26/5/20	Tue 29/12/20	180 days	Fri 30/10/20	Wed 9/6/21	NA		NA 318,140	320,295,321FS-65 days	-130 days	5	0%
320	CMF-4000		Pile Load Test	21 days	Wed 30/12/20	Sat 23/1/21	21 days	Thu 10/6/21	Tue 6/7/21	NA		NA 319	323	-111 days		0%
321	CMF-5000		Installation of sheetpile (5200sq.m, 1rigs, 50sqm/rig/day)	105 days	Mon 12/10/20	Thu 18/2/21	105 days	Sat 20/3/21	Wed 28/7/21	NA		NA 319FS-65 days	323	-130 days		0%
322	CMF-6000		**ELS works**	**177 days**	**Fri 19/2/21**	**Tue 21/9/21**	**177 days**	**Thu 29/7/21**	**Wed 2/3/22**	**NA**		**NA**		**-130 days**	**5**	**0%**
323	CMF-6100		Pharse A (A1 to N6) - Excavation to -11mPD and blinding	147 days	Fri 19/2/21	Tue 17/8/21	147 days	Thu 29/7/21	Sat 22/1/22	NA		NA 321,143,320	324SS+60 days,326	-130 days		0%
324	CMF-6200		Pharse B (A6 to N10) - Excavation to -1.9mPD and blinding	117 days	Wed 5/5/21	Tue 21/9/21	117 days	Sat 9/10/21	Wed 2/3/22	NA		NA 323SS+60 days	327	-130 days		0%
325	CMF-7000		**RC Structure works**	**252 days**	**Wed 18/8/21**	**Sat 25/6/22**	**252 days**	**Mon 24/1/22**	**Tue 29/11/22**	**NA**		**NA**		**-130 days**	**5**	**0%**
326	CMF-7100	KD1F	Pharse A - from B2 - Level 1	120 days	Wed 18/8/21	Tue 11/1/22	120 days	Mon 24/1/22	Thu 23/6/22	NA		NA 147,180,181,184,182,323	47FF,328,327SS+30 days,330	-130 days		0%
327	CMF-7200	KD1F	Pharse B - from B1 - Level 1	90 days	Thu 23/9/21	Tue 11/1/22	90 days	Thu 3/3/22	Thu 23/6/22	NA		NA 326SS+30 days,324	330,47FF,329	-130 days		0%
328	CMF-7300	KD1G	Pharse A - from Level 1 to Roof	132 days	Wed 12/1/22	Sat 25/6/22	132 days	Fri 24/6/22	Tue 29/11/22	NA		NA 326	332,48FF,333,331	-130 days		0%
329	CMF-7400	KD1G	Pharse B - from Level 1 to Roof	132 days	Wed 12/1/22	Sat 25/6/22	132 days	Fri 24/6/22	Tue 29/11/22	NA		NA 327	48FF,331,332,333	-130 days		0%
330	CMF-8000	KD1F	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Tue 11/1/22	Tue 11/1/22	0 days	Thu 23/6/22	Thu 23/6/22	NA		NA 327,326	47FF,331	-118 days		0%
331	CMF-9000	KD1G	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Sat 25/6/22	Sat 25/6/22	0 days	Tue 29/11/22	Tue 29/11/22	NA		NA 330,329,328	48FF	-130 days		0%
332	CMF-10000	SW1	ABWF works + BS works	210 days	Mon 27/6/22	Thu 9/3/23	210 days	Wed 30/11/22	Thu 17/8/23	NA		NA 328,183,149,329	56FF	475 days		0%



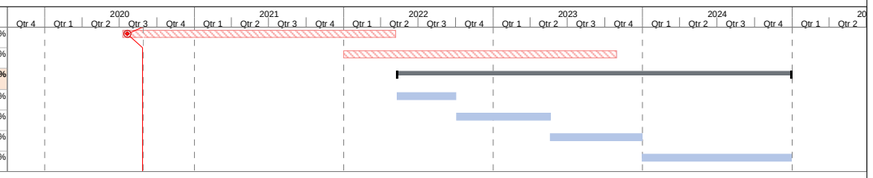
Revised Works Programme (Status Date: 26/8/2020) (Rev. 01)
[Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]

ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
333	CMF-11000	SW3	Process Pipe CHQ chainage 0-65, CHM chainage 0-120, CHN chainage 0-125, CHO chainage 0-65, CHP chainage 0-60 & CHV chaiange 0-50	450 days	Mon 27/6/22	Fri 29/12/23	450 days	Wed 30/11/22	Wed 19/6/24	NA	NA	328,329	58FF	235 days		0%
334	**CSA-0000**	*	**SAS Pumping Station, B-6**	**496 days**	**Wed 20/5/20**	**Sat 15/1/22**	**572 days**	**Sat 18/4/20**	**Sat 19/3/22**	**Sat 18/4/20**	**NA**	**11**		**892 days**		**13%**
335	**CSA-1000**		**Additional Preliminary Works**	**0 days**	**NA**	**NA**	**104 days**	**Tue 9/6/20**	**Mon 12/10/20**	**Tue 9/6/20**	**NA**			**0 days**		**23%**
336	CSA-1100		Diversion of Existing DN150 SAS Raising Main (PPMI 025)	0 days	NA	NA	80 days	Tue 9/6/20	Fri 11/9/20	Tue 9/6/20	NA		343	-68 days		43%
337	CSA-1200		Diversion of Power supply for existing Slaghter House pump station (PPMI 034)	0 days	NA	NA	80 days	Tue 16/6/20	Fri 18/9/20	Tue 16/6/20	NA		343	-74 days		35%
338	CSA-1300		Decommission of exisiting power and signal systems in leachate Pump station switch room (PPMI 039)	0 days	NA	NA	70 days	Wed 24/6/20	Tue 15/9/20	Wed 24/6/20	NA		343	-71 days		30%
339	CSA-1400		Diversion of Existing DN250 Leachate Raising Main (PPMI 025)	0 days	NA	NA	70 days	Mon 29/6/20	Fri 18/9/20	Mon 29/6/20	NA		343	-74 days		26%
340	CSA-1500		Construction of Cable trough for CLP 11kv Cable Diversion (PPMI 041)	0 days	NA	NA	60 days	Mon 13/7/20	Sat 19/9/20	Mon 13/7/20	NA		343	-75 days		12%
341	CSA-1600		Demolition of Existing Pillar box and its concrete plinth (CE 030)	0 days	NA	NA	60 days	Sat 1/8/20	Mon 12/10/20	Sat 1/8/20	NA		343	-92 days		0%
342	CSA-1700		Excavation to locate existing underground cable near SAS Pump Station (PPMI 038)	0 days	NA	NA	45 days	Thu 13/8/20	Tue 6/10/20	Thu 13/8/20	NA		343	-87 days		0%
343	CSA-2000		Tank Drain Diversion Near SAS Pumping Station	60 days	Tue 23/6/20	Wed 2/9/20	60 days	Tue 13/10/20	Tue 22/12/20	NA	NA	336,337,338,339,340,341,342	345	-92 days		0%
344	CSA-3000		Predrilling (4nrs, 1rig, 4days/drillhole/rig)	15 days	Wed 20/5/20	Fri 5/6/20	7 days	Sat 18/4/20	Sat 25/4/20	Sat 25/4/20	Sat 25/4/20	135	278,345	0 days		100%
345	CSA-4000		Pre-bored H piles (12nos, 1rigs, 5days/pile/rig)	60 days	Thu 3/9/20	Sat 14/11/20	60 days	Wed 23/12/20	Tue 9/3/21	NA	NA	140,343,344	279,346	-92 days	2	0%
346	CSA-5000		Pile Load Test	21 days	Mon 16/11/20	Wed 9/12/20	21 days	Wed 10/3/21	Tue 6/4/21	NA	NA	345	348,347	-92 days		0%
347	CSA-6000		Sheetpile Installation (FSP-II, 690sq.m, 40sqm/day)	21 days	Thu 10/12/20	Wed 6/1/21	21 days	Wed 7/4/21	Fri 30/4/21	NA	NA	141,346	348	-92 days		0%
348	CSA-7000		ELS works (1300cu.m soil with 2 layers wailing / strutting)	60 days	Thu 7/1/21	Sat 20/3/21	60 days	Mon 3/5/21	Wed 14/7/21	NA	NA	347,143,346,136	349	-92 days	2	0%
349	CSA-8000	KD1H	R.C. Structure works	114 days	Mon 22/3/21	Mon 9/8/21	114 days	Thu 15/7/21	Sat 27/11/21	NA	NA	148,180,181,348,184,182	350,351,49FF	-92 days	5	0%
350	CSA-9000	KD1H	Allow access to Contractor DE/2018/03 for E&M installation and T&C works	0 days	Mon 9/8/21	Mon 9/8/21	0 days	Sat 27/11/21	Sat 27/11/21	NA	NA	349	49FF	-92 days		0%
351	CSA-10000	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Mon 29/11/21	Sat 19/3/22	NA	NA	349,183,149,384SS	56FF	892 days		0%
352	**CAS-0000**	*	**Ancillary Structures, B-7**	**404 days**	**Mon 7/9/20**	**Sat 15/1/22**	**404 days**	**Mon 7/9/20**	**Sat 15/1/22**	**NA**	**NA**	**12**		**99 days**		**0%**
353	**CAS-1000**		Demolition of Existing Faciliates and Structures (leachate pump pit & pumping station)	120 days	Mon 7/9/20	Sat 30/1/21	120 days	Mon 7/9/20	Sat 30/1/21	NA	NA	130,160,162	360,367,373,379,385	99 days		0%
354	**CCS-1000**	*	**Chemical System No.1**	**383 days**	**Sat 3/10/20**	**Sat 15/1/22**	**383 days**	**Sat 3/10/20**	**Sat 15/1/22**	**NA**	**NA**			**188 days**		**0%**
355	CCS-1100		Excavation for Raft Footing (20cu.m)	10 days	Sat 3/10/20	Wed 14/10/20	10 days	Sat 3/10/20	Wed 14/10/20	NA	NA	136	356,361	188 days		0%
356	CCS-1200		Plate load test	14 days	Thu 15/10/20	Sat 31/10/20	14 days	Thu 15/10/20	Sat 31/10/20	NA	NA	355	357	308 days		0%
357	CCS-1300	KD1J	R.C. structure works	60 days	Mon 2/11/20	Wed 13/1/21	60 days	Mon 2/11/20	Wed 13/1/21	NA	NA	356	358,51FF,359	308 days	2	0%
358	CCS-1400	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Wed 13/1/21	Wed 13/1/21	0 days	Wed 13/1/21	Wed 13/1/21	NA	NA	357	51FF	308 days		0%
359	CCS-1500	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	183,149,357,384SS	56FF	943 days		0%
360	**CCS-2000**	*	**Chemical System No.2**	**284 days**	**Mon 1/2/21**	**Sat 15/1/22**	**284 days**	**Mon 1/2/21**	**Sat 15/1/22**	**NA**	**NA**	**353**		**99 days**		**0%**
361	CCS-2100		Excavation for Raft Footing (100cu.m)	30 days	Mon 1/2/21	Wed 10/3/21	30 days	Mon 1/2/21	Wed 10/3/21	NA	NA	136,355	362,368	99 days		0%
362	CCS-2200		Plate load test	14 days	Thu 11/3/21	Fri 26/3/21	14 days	Thu 11/3/21	Fri 26/3/21	NA	NA	361	363	204 days		0%
363	CCS-2300	KD1J	R.C. structure works	45 days	Sat 27/3/21	Mon 24/5/21	45 days	Sat 27/3/21	Mon 24/5/21	NA	NA	362	364,51FF,365,366	204 days	2	0%
364	CCS-2400	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 24/5/21	Mon 24/5/21	0 days	Mon 24/5/21	Mon 24/5/21	NA	NA	363	51FF	204 days		0%
365	CCS-2500	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	183,149,363,384SS	56FF	943 days		0%
366	CCS-2600	SW1	Demolition of existing chemical room	60 days	Tue 25/5/21	Wed 4/8/21	60 days	Tue 25/5/21	Wed 4/8/21	NA	NA	363	56FF	1078 days		0%
367	**CFS-1000**	*	**Fire Services Sprinkler Pumping Room**	**254 days**	**Thu 11/3/21**	**Sat 15/1/22**	**254 days**	**Thu 11/3/21**	**Sat 15/1/22**	**NA**	**NA**	**353**		**99 days**		**0%**
368	CFS-2000		Excavation for Raft Footing (800cu.m)	60 days	Thu 11/3/21	Tue 25/5/21	60 days	Thu 11/3/21	Tue 25/5/21	NA	NA	136,361	369,374,386	99 days		0%
369	CFS-3000		Plate load test	14 days	Wed 26/5/21	Thu 10/6/21	14 days	Wed 26/5/21	Thu 10/6/21	NA	NA	368	370	129 days		0%
370	CFS-4000	KD1J	R.C. structure works	60 days	Fri 11/6/21	Sat 21/8/21	60 days	Fri 11/6/21	Sat 21/8/21	NA	NA	369	372,371,51FF	129 days	2	0%
371	CFS-5000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Sat 21/8/21	Sat 21/8/21	0 days	Sat 21/8/21	Sat 21/8/21	NA	NA	370	51FF	129 days		0%
372	CFS-6000	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	183,149,370,384SS	56FF	943 days		0%
373	**CTC-0000**	*	**Temporary Chemical Dosing System**	**194 days**	**Wed 26/5/21**	**Sat 15/1/22**	**194 days**	**Wed 26/5/21**	**Sat 15/1/22**	**NA**	**NA**	**353**		**99 days**		**0%**
374	CTC-1000		Excavation for Raft Footing (300cu.m)	30 days	Wed 26/5/21	Wed 30/6/21	30 days	Wed 26/5/21	Wed 30/6/21	NA	NA	136,368	375,380	99 days		0%
375	CTC-2000		Plate load test	14 days	Fri 2/7/21	Sat 17/7/21	14 days	Fri 2/7/21	Sat 17/7/21	NA	NA	374	376	114 days		0%
376	CTC-3000	KD1J	R.C. structure works	45 days	Mon 19/7/21	Wed 8/9/21	45 days	Mon 19/7/21	Wed 8/9/21	NA	NA	375	377,51FF,378	114 days	1	0%
377	CTC-4000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Wed 8/9/21	Wed 8/9/21	0 days	Wed 8/9/21	Wed 8/9/21	NA	NA	376	51FF	114 days		0%
378	CTC-5000	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	183,149,376,384SS	56FF	943 days		0%
379	**CFB-0000**	*	**Fire Hydrant and Booster Pump Room**	**164 days**	**Fri 2/7/21**	**Sat 15/1/22**	**164 days**	**Fri 2/7/21**	**Sat 15/1/22**	**NA**	**NA**	**353**		**99 days**		**0%**
380	CFB-1000		Excavation for Raft Footing (200cu.m)	30 days	Fri 2/7/21	Thu 5/8/21	30 days	Fri 2/7/21	Thu 5/8/21	NA	NA	136,374	381	99 days		0%
381	CFB-2000		Plate load test	14 days	Fri 6/8/21	Sat 21/8/21	14 days	Fri 6/8/21	Sat 21/8/21	NA	NA	380	382	99 days		0%
382	CFB-3000	KD1J	R.C. structure works	30 days	Mon 23/8/21	Mon 27/9/21	30 days	Mon 23/8/21	Mon 27/9/21	NA	NA	381	383,384,51FF	99 days	1	0%
383	CFB-4000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 27/9/21	Mon 27/9/21	0 days	Mon 27/9/21	Mon 27/9/21	NA	NA	382	51FF	99 days		0%
384	CFB-5000	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	382,183,149	56FF,390SS,378SS,372SS,365SS,	943 days		0%
385	**CEG-0000**	*	**Emergency Generator House**	**194 days**	**Wed 26/5/21**	**Sat 15/1/22**	**194 days**	**Wed 26/5/21**	**Sat 15/1/22**	**NA**	**NA**	**353**		**139 days**		**0%**
386	CEG-1000		Excavation for Raft Footing (100cu.m)	20 days	Wed 26/5/21	Fri 18/6/21	20 days	Wed 26/5/21	Fri 18/6/21	NA	NA	136,368	387	139 days		0%
387	CEG-2000		Plate load test	14 days	Sat 19/6/21	Tue 6/7/21	14 days	Sat 19/6/21	Tue 6/7/21	NA	NA	386	388	139 days		0%
388	CEG-3000	KD1J	R.C. structure works	30 days	Wed 7/7/21	Tue 10/8/21	30 days	Wed 7/7/21	Tue 10/8/21	NA	NA	387	389,51FF,390	139 days	1	0%
389	CEG-4000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Tue 10/8/21	Tue 10/8/21	0 days	Tue 10/8/21	Tue 10/8/21	NA	NA	388	51FF	139 days		0%
390	CEG-5000	SW1	ABWF works + BS works	90 days	Tue 28/9/21	Sat 15/1/22	90 days	Tue 28/9/21	Sat 15/1/22	NA	NA	183,149,388,384SS	56FF	943 days		0%
391	**CDS-0000**	*	**Deodorization System No.1 and No.3A**	**114 days**	**Tue 1/12/20**	**Thu 22/4/21**	**114 days**	**Tue 1/12/20**	**Thu 22/4/21**	**NA**	**NA**			**229 days**		**0%**
392	CDS-1000		Demolition of Existing Leachate Pump Pit	50 days	Tue 1/12/20	Sat 30/1/21	50 days	Tue 1/12/20	Sat 30/1/21	NA	NA		393	229 days		0%
393	CDS-2000		Excavation for Raft Footing (400cu.m)	20 days	Mon 1/2/21	Fri 26/2/21	20 days	Mon 1/2/21	Fri 26/2/21	NA	NA	136,392,399	394	229 days		0%
394	CDS-3000		Plate load test	14 days	Sat 27/2/21	Mon 15/3/21	14 days	Sat 27/2/21	Mon 15/3/21	NA	NA	393	395	229 days		0%
395	CDS-4000	KD1J	Footing works	30 days	Tue 16/3/21	Thu 22/4/21	30 days	Tue 16/3/21	Thu 22/4/21	NA	NA	394	396,51FF	229 days		0%
396	CDS-5000	KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 22/4/21	Thu 22/4/21	0 days	Thu 22/4/21	Thu 22/4/21	NA	NA	395	51FF	229 days		0%
397	**CAA-0000**	*	**Additional and Alternation Works for Existing Facilities (B-7A, B-8, B-8A)**	**918 days**	**Mon 1/6/20**	**Thu 6/7/23**	**946 days**	**Mon 27/4/20**	**Thu 6/7/23**	**Mon 27/4/20**	**NA**			**511 days**		**11%**
398	CAA-1000	KD2B	B-8A Alternation works for existing Air Blower House No.2 (Pipeline CHTA, approx. 133m DN800 D.I.)	185 days	Mon 1/6/20	Mon 11/1/21	185 days	Mon 27/4/20	Sat 5/12/20	Mon 27/4/20	NA	15,150,178	53FF	28 days		37%
399	CAA-2000	KD1I	B7-A Alternation works for exisiting Power House	99 days	Sat 3/10/20	Sat 30/1/21	99 days	Sat 3/10/20	Sat 30/1/21	NA	NA	13FS-1 day,130,160,162,170	50FF,393	0 days		0%
400	CAA-3000	SW3	Alternation works for existing Membrane Facilities Building No.1	360 days	Tue 19/4/22	Thu 6/7/23	360 days	Tue 19/4/22	Thu 6/7/23	NA	NA	14FS-1 day,169	58FF	511 days		0%
401	**CUU-0000**	*	**External Underground Service, Utilities, Road/Drain**	**1038 days**	**Sat 2/5/20**	**Sat 28/10/23**	**1041 days**	**Mon 27/4/20**	**Sat 28/10/23**	**Mon 27/4/20**	**NA**	**16**		**0 days**		**2%**
402	CUU-1000	KD2A	Process Pipes CHR and CHS (approx. 100m twin DN900 D.I.)	272 days	Sat 2/5/20	Sat 27/3/21	242 days	Mon 27/4/20	Fri 26/3/21	Mon 27/4/20	NA	178,150	408,407SS+48 days,405SS+48 day	1.2 days		15%
403	CUU-2000	SW2	Process Pipes, including CHT, CHX, CHY, CHPS1&2, CHS S1&2, CHDO 1&2, CHPSW 1-8, CHTPS, CHPT1&2. CHTFT 1&2, CHTE, CHTD, Foam Collection & Surplus activated sludge rising main pipe	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Thu 9/7/20	Fri 6/5/22	Thu 9/7/20	NA	178,402SS+48 days,150	408FS-100 days,57FF	0 days		2%
404	CUU-3000	SW2	Drainage	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Thu 9/7/20	Fri 6/5/22	Thu 9/7/20	NA	178,402SS+48 days,150	408FS-100 days,57FF	0 days	5	2%
405	CUU-4000	SW2	Sewerage	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Thu 9/7/20	Fri 6/5/22	Thu 9/7/20	NA	402SS+48 days,178,150	408FS-100 days,57FF	0 days	5	2%
406	CUU-5000	SW2	Waterworks	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Thu 9/7/20	Fri 6/5/22	Thu 9/7/20	NA	402SS+48 days,178,150	410FS+2 days,57FF	71 days	5	2%

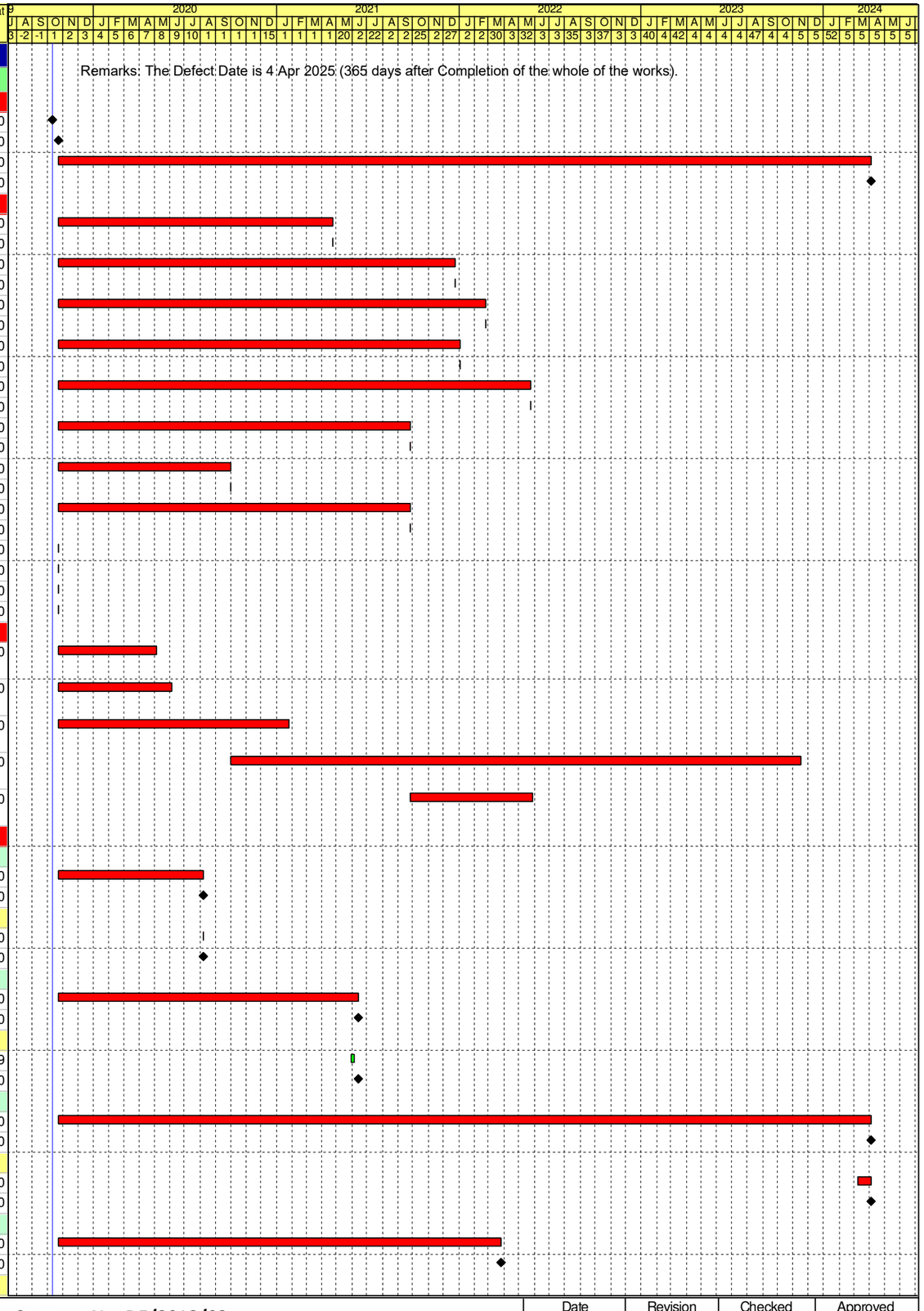


Revised Works Programme (Status Date: 26/8/2020) (Rev. 01)
[Delay of the works due to some, but not all of, NCE/CE/EWN are shown in this programme]

ID	Activity ID	Key Date	Task Name	Baseline Duration	Baseline Start	Baseline Finish	Duration	Start	Finish	Actual Start	Actual Finish	Predecessors	Successors	Total Slack	Risk Allowance	% Complete
407	CUU-6000	SW2	Cable Ducts	550 days	Mon 29/6/20	Fri 6/5/22	542 days	Thu 9/7/20	Fri 6/5/22	Thu 9/7/20	NA	402SS+48 days,178,150	408FS-100 days,57FF	0 days	5	2%
408	CUU-7000	KD3A	Roadworks	540 days	Fri 31/12/21	Sat 28/10/23	540 days	Fri 31/12/21	Sat 28/10/23	NA	NA	404FS-100 days,405FS-100 days,4	54FF	0 days	5	0%
409	**CLW-0000**	*	**Landscaping Works**	**778 days**	**Wed 11/5/22**	**Sun 29/12/24**	**778 days**	**Wed 11/5/22**	**Sun 29/12/24**	**NA**	**NA**	**16**		**71 days**		**0%**
410	CLW-1000	SW3	Irrigation System	120 days	Wed 11/5/22	Fri 30/9/22	120 days	Wed 11/5/22	Fri 30/9/22	NA	NA	406FS+2 days,178	411,58FF	71 days		0%
411	CLW-2000	SW3	Hard Landscaping Works	185 days	Mon 3/10/22	Fri 19/5/23	185 days	Mon 3/10/22	Fri 19/5/23	NA	NA	410,151	412,58FF	71 days	5	0%
412	CLW-3000	SW3	Soft Landscaping Works	185 days	Sat 20/5/23	Sat 30/12/23	185 days	Sat 20/5/23	Sat 30/12/23	NA	NA	411,151	413,58FF	71 days	5	0%
413	CLW-4000	DLP	Establishment Works (365 days)	365 days	Sun 31/12/23	Sun 29/12/24	365 days	Sun 31/12/23	Sun 29/12/24	NA	NA	412,151	59FF,60FF	88 days	5	0%



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
SWH - Main Works Stage 1 Sidestream Treatment Facilities & E&M Works for Sludge Treatment Facilities							
Contract Data							
Starting Date & Completion Date							
AS000010	Contract Date (LOA)	0	11-Oct-19		11-Oct-19		0
AS000020	Starting Date	0	23-Oct-19		23-Oct-19		0
AS000110	Whole Contract Period (1626 days from starting date)	1626	23-Oct-19	04-Apr-24	23-Oct-19	04-Apr-24	0
AS000220	Completion Date for the whole of the Works	0		04-Apr-24		04-Apr-24	0
Access Date							
AS001100	Portion C-1A (within 480 to 550 days from starting date)	550	23-Oct-19	24-Apr-21	23-Oct-19	24-Apr-21	0
AS001120	Planned Access Date for Portion C-1A	1	24-Apr-21	24-Apr-21	24-Apr-21	24-Apr-21	0
AS001200	Portion C-2A (within 705 to 795 days from starting date)	795	23-Oct-19	25-Dec-21	23-Oct-19	25-Dec-21	0
AS001220	Planned Access Date for Portion C-2A	1	25-Dec-21	25-Dec-21	25-Dec-21	25-Dec-21	0
AS001300	Portion C-2B (within 765 to 855 days from starting date)	855	23-Oct-19	23-Feb-22	23-Oct-19	23-Feb-22	0
AS001320	Planned Access Date for Portion C-2B	1	23-Feb-22	23-Feb-22	23-Feb-22	23-Feb-22	0
AS001400	Portion C-2C (within 715 to 805 days from starting date)	805	23-Oct-19	04-Jan-22	23-Oct-19	04-Jan-22	0
AS001420	Planned Access Date for Portion C2-C	1	04-Jan-22	04-Jan-22	04-Jan-22	04-Jan-22	0
AS001500	Portion C-2D (within 825 to 945 days from starting date)	945	23-Oct-19	24-May-22	23-Oct-19	24-May-22	0
AS001520	Planned Access Date for Portion C-2D	1	24-May-22	24-May-22	24-May-22	24-May-22	0
AS001600	Portion C-3 (within 615 to 705 days from starting date)	705	23-Oct-19	26-Sep-21	23-Oct-19	26-Sep-21	0
AS001620	Planned Access Date for Portion C-3	1	26-Sep-21	26-Sep-21	26-Sep-21	26-Sep-21	0
AS001700	Portion B-1 (within 285 to 345 days from starting date)	345	23-Oct-19	01-Oct-20	23-Oct-19	01-Oct-20	0
AS001720	Planned Access Date for Portion B-1	1	01-Oct-20	01-Oct-20	01-Oct-20	01-Oct-20	0
AS001800	Portion B-2 (within 615 to 705 days from starting date)	705	23-Oct-19	26-Sep-21	23-Oct-19	26-Sep-21	0
AS001820	Planned Access Date for Portion B-2	1	26-Sep-21	26-Sep-21	26-Sep-21	26-Sep-21	0
AS001900	Works Area WA1-B (starting date)	1	23-Oct-19	23-Oct-19	23-Oct-19	23-Oct-19	0
AS001910	Planned Access Date for Works Area WA1-B	1	23-Oct-19	23-Oct-19	23-Oct-19	23-Oct-19	0
AS001920	Works Area WA3 (starting date)	1	23-Oct-19	23-Oct-19	23-Oct-19	23-Oct-19	0
AS001930	Planned Access Date for Works Area WA3	1	23-Oct-19	23-Oct-19	23-Oct-19	23-Oct-19	0
Key Dates							
AS002010	KD1A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of UV System No.1 and Effluent Pumping Station No.1	196	23-Oct-19	05-May-20	23-Oct-19	05-May-20	0
AS002020	KD2A Submission of Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, Workshop No.2, etc.	226	23-Oct-19	04-Jun-20	23-Oct-19	04-Jun-20	0
AS002040	KD2B Submission of Remaining Civil Requirement Dwgs, Elec. Schematic Dwgs of SD Bldg, SD & DC, CHP Bldg, etc.	461	23-Oct-19	25-Jan-21	23-Oct-19	25-Jan-21	0
AS002050	KD3A Completion of Phase 1 Commissioning of Sidestream Treatment Facilities (1140d after Portion B-1 Access)	1141	01-Oct-20	15-Nov-23	01-Oct-20	15-Nov-23	0
AS002060	KD5A - Completion of the BS Fittings Installation at CLP Sub-Station at Workshop No. 2 (245d after Portion C-3 Access)	246	26-Sep-21	29-May-22	26-Sep-21	29-May-22	0
Completion Date							
Section 1 - Complete All Design at UV System No.1 & EP Station No. 1							
AS003100	Contract Duration of Section 1	291	23-Oct-19	08-Aug-20	23-Oct-19	08-Aug-20	0
AS003110	Completion date - Section 1 (290 days after starting date)	0		08-Aug-20		08-Aug-20	0
Time Risk Allowance and Planned Completion							
AS003105	Time Risk Allowance for Section 1	1	08-Aug-20	08-Aug-20	08-Aug-20	08-Aug-20	0
AS003130	Planned Completion for Section 1	0		08-Aug-20		08-Aug-20	0
Section 2 - Complete All Designs (exclude Sec. 1 & 3)							
AS003200	Contract Duration of Section 2	601	23-Oct-19	14-Jun-21	23-Oct-19	14-Jun-21	0
AS003210	Completion date - Section 2 (600 days after starting date)	0		14-Jun-21		14-Jun-21	0
Time Risk Allowance and Planned Completion							
AS003220	Time Risk Allowance for Section 2	7	30-May-21	05-Jun-21	08-Jun-21	14-Jun-21	9
AS003230	Planned Completion for Section 2	0		14-Jun-21		14-Jun-21	0
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities							
AS003300	Contract Duration of Section 3	1626	23-Oct-19	04-Apr-24	23-Oct-19	04-Apr-24	0
AS003310	Completion date - Section 3 (1625 days after starting date)	0		04-Apr-24		04-Apr-24	0
Time Risk Allowance and Planned Completion							
AS003320	Time Risk Allowance for Section 3	26	10-Mar-24	04-Apr-24	10-Mar-24	04-Apr-24	0
AS003330	Planned Completion for Section 3	0		04-Apr-24		04-Apr-24	0
Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1							
AS003400	Contract Duration of Section 4	886	23-Oct-19	26-Mar-22	23-Oct-19	26-Mar-22	0
AS003410	Completion date - Section 4 (885 days after starting date)	0		26-Mar-22		26-Mar-22	0
Time Risk Allowance and Planned Completion							



JEC

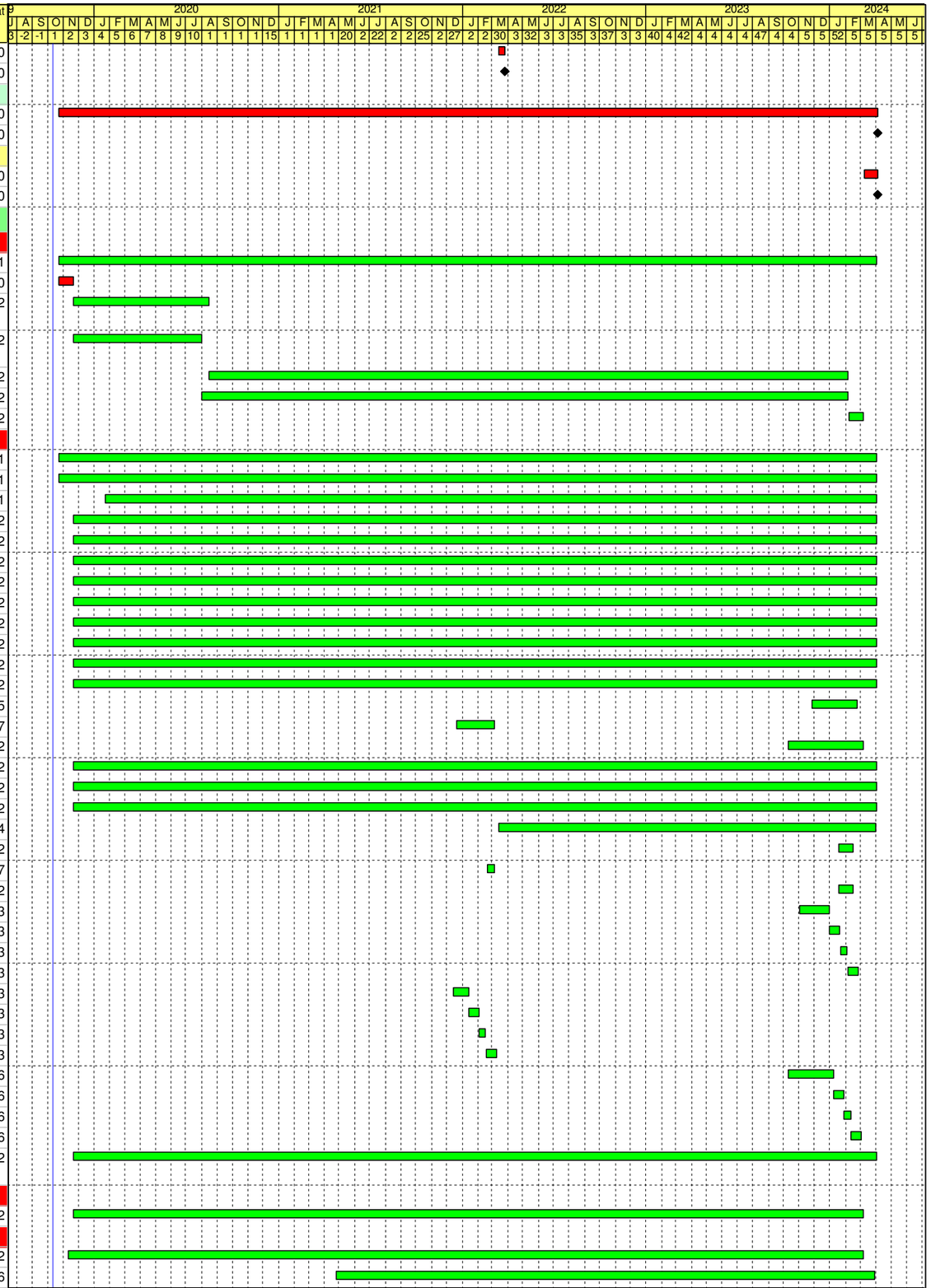
File Name: DE/2018/03 R3-1
Layout: DE1803 (R) - WBS
TASK filter: All Activities

Remaining Work
Critical Activity
Milestone

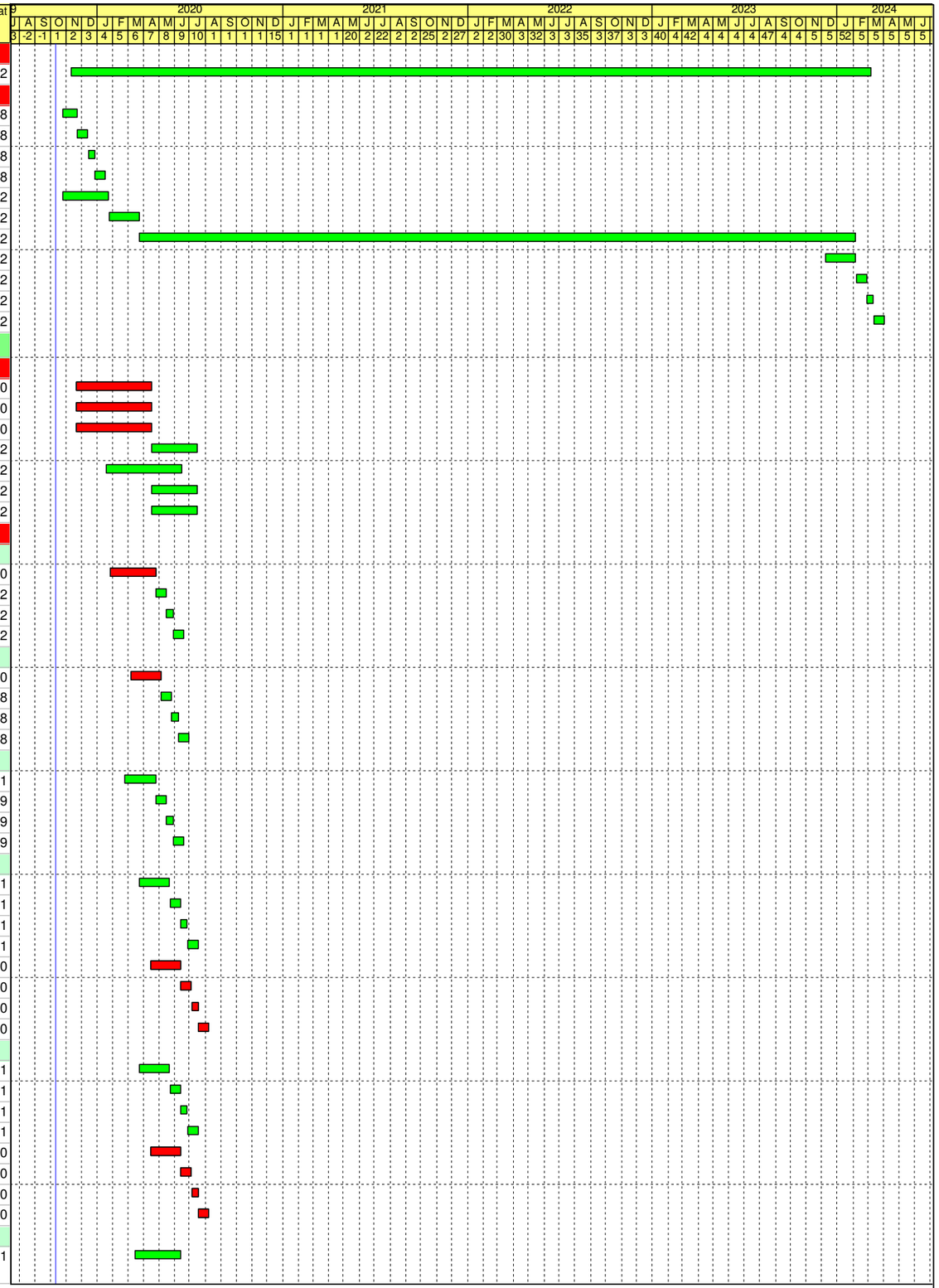
Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis
Master Programme

Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	AI	KM
10-Feb-20	Rev. 1	AI	KM
21-Apr-20	Rev. 2	AI	KM
09-Jun-20	Rev.3	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS003420	Time Risk Allowance for Section 4	14	13-Mar-22	26-Mar-22	13-Mar-22	26-Mar-22	0
AS003430	Planned Completion for Section 4	0		26-Mar-22		26-Mar-22	0
Section 5 - Complete all remaining Works (incl. T&C)							
AS003500	Contract Duration of Section 5	1626	23-Oct-19	04-Apr-24	23-Oct-19	04-Apr-24	0
AS003510	Completion date - Section 5 (1625 days after starting date)	0		04-Apr-24		04-Apr-24	0
Time Risk Allowance and Planned Completion							
AS003520	Time Risk Allowance for Section 5	26	10-Mar-24	04-Apr-24	10-Mar-24	04-Apr-24	0
AS003530	Planned Completion for Section 5	0		04-Apr-24		04-Apr-24	0
Preliminaries							
Mobilisation							
AS010100	Provison of Equipment / Facilities for the PM's Office	1625	23-Oct-19	03-Apr-24	24-Oct-19	04-Apr-24	1
AS010200	Mobilisation	28	23-Oct-19	19-Nov-19	23-Oct-19	19-Nov-19	0
AS010205a	Design, Procurement & PO & Construction of Contractor's Site Office (Works Area WA1 -B)	270	20-Nov-19	15-Aug-20	22-Nov-19	17-Aug-20	2
AS010210	Design, Procurement & PO & Construction of Contractor's Storage Area (Works Area WA3)	255	20-Nov-19	31-Jul-20	22-Nov-19	02-Aug-20	2
AS010220	Maintain Contractor's Site Office	1270	16-Aug-20	06-Feb-24	18-Aug-20	08-Feb-24	2
AS010230a	Maintain Contractor's Storage Area	1285	01-Aug-20	06-Feb-24	03-Aug-20	08-Feb-24	2
AS010240	Removal of Site Office, Storage & Relevant Facilities	30	07-Feb-24	07-Mar-24	09-Feb-24	09-Mar-24	2
Site Preliminaries							
AS010300	Provision of Insurance, Third Party Insurances & PII	1625	23-Oct-19	03-Apr-24	24-Oct-19	04-Apr-24	1
AS010400	Provision of 2 Contract Car for the Use of the PM & Supervisor	1625	23-Oct-19	03-Apr-24	24-Oct-19	04-Apr-24	1
AS010420a	Provision of 1 Electric Car for the Use of the PM & Supervisor	1534	22-Jan-20	03-Apr-24	23-Jan-20	04-Apr-24	1
AS010600	Provision of Photographs	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS010700	Provision of Environmental Mitigation Measures	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS010800	Provision of Air Pollution Abatment	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS010900	Provision of Noise Pollution Abatment	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011000	Provision of Wastewater Pollution Abatement	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011100	Provision of Wastement Management	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011200	Provision of Monitoring the Use of Ultra Low Sulphur Diesel	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011300	Provision of Environmental Management	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011400	Provision of Site Management Plan for Trip Ticket System	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011500	Provision of As-constructed Drawings for Section 3	90	26-Nov-23	23-Feb-24	11-Dec-23	09-Mar-24	15
AS011520a	Provision of As-constructed Drawings for Section 4	75	21-Dec-21	06-Mar-22	28-Dec-21	12-Mar-22	7
AS011540a	Provision of As-constructed Drawings for Section 5	150	10-Oct-23	08-Mar-24	12-Oct-23	09-Mar-24	2
AS011600	Provision of Systematic Risk Management	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011700	Provision of Site Liaison Group & Community Liaison Group	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS011800	Provision of 24-Hour Telephone Line	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
AS012000	Provision of Upkeeping and Protection of Completed Works	750	13-Mar-22	31-Mar-24	17-Mar-22	04-Apr-24	4
AS012100	Provision of Training for Employer's Staff for Section 3	30	18-Jan-24	16-Feb-24	09-Feb-24	09-Mar-24	22
AS012120a	Provision of Training for Employer's Staff for Section 4	15	19-Feb-22	06-Mar-22	26-Feb-22	12-Mar-22	7
AS012140a	Provision of Training for Employer's Staff for Section 5	30	18-Jan-24	16-Feb-24	09-Feb-24	09-Mar-24	22
AS012300	Prepare & Submit O&M Manual for Section 3	60	02-Nov-23	31-Dec-23	15-Nov-23	13-Jan-24	13
AS012302a	PM Reivew & Comment O&M Manual for Section 3	21	01-Jan-24	21-Jan-24	14-Jan-24	03-Feb-24	13
AS012304a	Revise & Re-submit O&M Manual for Section 3	14	22-Jan-24	04-Feb-24	04-Feb-24	17-Feb-24	13
AS012306a	PM Reivew & Approval of O&M Manual for Section 3	21	05-Feb-24	25-Feb-24	18-Feb-24	09-Mar-24	13
AS012320a	Prepare & Submit O&M Manual for Section 4	30	14-Dec-21	13-Jan-22	17-Dec-21	15-Jan-22	3
AS012322a	PM Reivew & Comment O&M Manual for Section 4	21	13-Jan-22	02-Feb-22	16-Jan-22	05-Feb-22	3
AS012324a	Revise & Re-submit O&M Manual for Section 4	14	03-Feb-22	16-Feb-22	06-Feb-22	19-Feb-22	3
AS012326a	PM Reivew & Approval of O&M Manual for Section 4	21	17-Feb-22	09-Mar-22	20-Feb-22	12-Mar-22	3
AS012340a	Prepare & Submit O&M Manual for Section 5	90	10-Oct-23	07-Jan-24	16-Oct-23	13-Jan-24	6
AS012342a	PM Reivew & Comment O&M Manual for Section 5	21	08-Jan-24	28-Jan-24	14-Jan-24	03-Feb-24	6
AS012344a	Revise & Re-submit O&M Manual for Section 5	14	29-Jan-24	11-Feb-24	04-Feb-24	17-Feb-24	6
AS012346a	PM Reivew & Approval of O&M Manual for Section 5	21	12-Feb-24	03-Mar-24	18-Feb-24	09-Mar-24	6
AS012400	Provision of ICE for Certification of the Design, Cal, Dwgs, Plans and all relevant Doc and Process Commissioning	1596	20-Nov-19	02-Apr-24	22-Nov-19	04-Apr-24	2
Site Upkeeping							
AS013100	General Site Upkeeping of the Site	1570	20-Nov-19	07-Mar-24	22-Nov-19	09-Mar-24	2
Safety and Environmental Management							
AS013200	Construction Health and Safety Plan	1580	10-Nov-19	07-Mar-24	12-Nov-19	09-Mar-24	2
AS013300	Site Traffic Safety Management Plan	1070	25-Apr-21	29-Mar-24	01-May-21	04-Apr-24	6

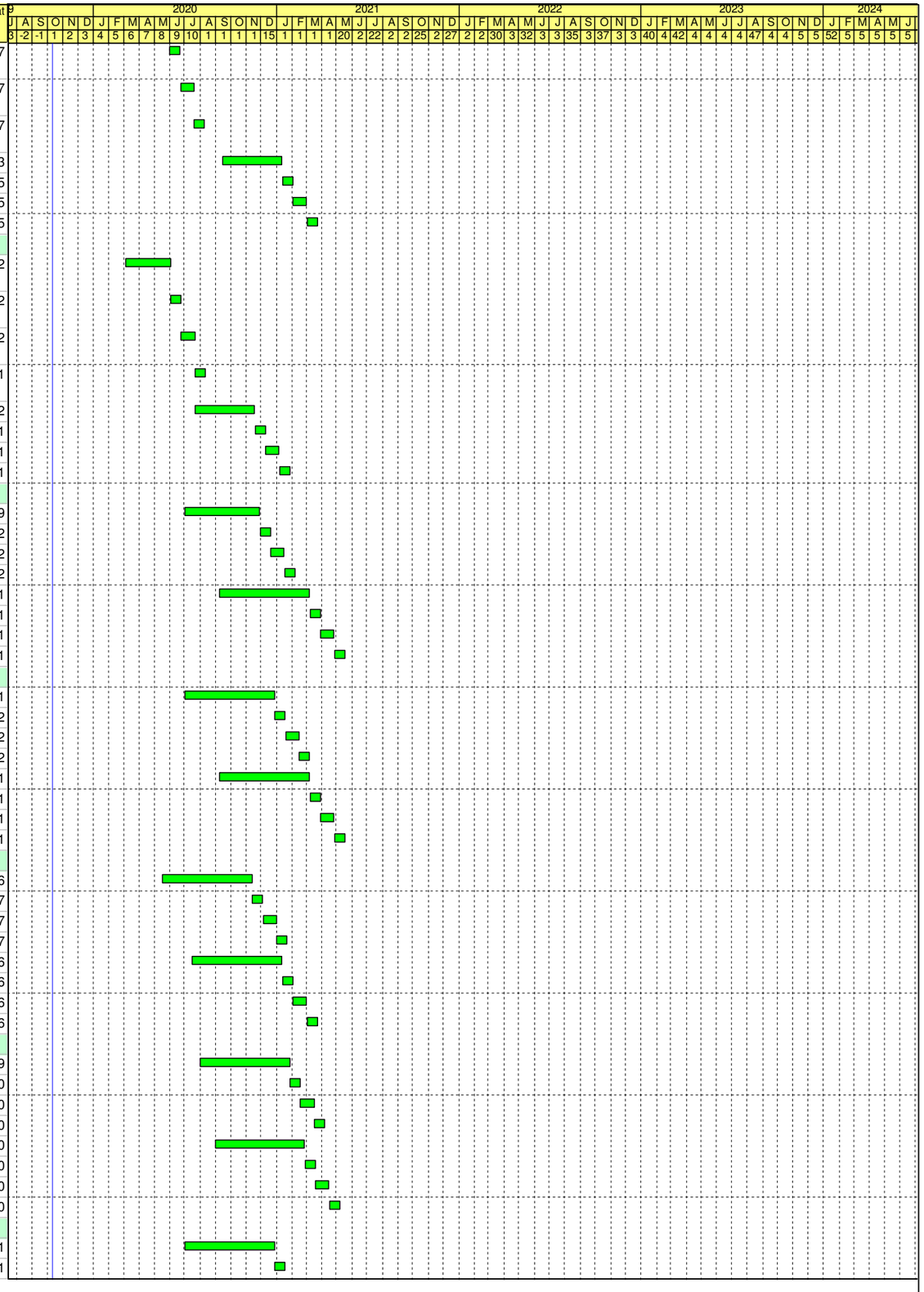


Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
Compliance with BEAM Requirements							
AS013400	BEAM Plus	1580	10-Nov-19	07-Mar-24	12-Nov-19	09-Mar-24	2
BIM							
AS011820a	Prepare & Submit Construction Stage BIM Execution Plan	30	24-Oct-19	22-Nov-19	01-Nov-19	30-Nov-19	8
AS011830a	PM Reivew & Comment Construction Stage BIM Execution Plan	21	23-Nov-19	13-Dec-19	01-Dec-19	21-Dec-19	8
AS011840a	Revise & Re-submit Construction Stage BIM Execution Plan	14	14-Dec-19	27-Dec-19	22-Dec-19	04-Jan-20	8
AS011850a	PM Reivew & Approval of Construction Stage BIM Execution Plan	21	28-Dec-19	17-Jan-20	05-Jan-20	25-Jan-20	8
AS011880b	Contractor Review & Study Design Stage BIM	92	24-Oct-19	23-Jan-20	26-Oct-19	25-Jan-20	2
AS011900	Contractor Develop 1st Construction Stage BIM	60	24-Jan-20	23-Mar-20	26-Jan-20	25-Mar-20	2
AS011920a	Review & Update BIM Execution Plan & BIM Model	1415	24-Mar-20	06-Feb-24	26-Mar-20	08-Feb-24	2
AS011960	Prepare & Submit the Fully Coordinated BIM	60	09-Dec-23	06-Feb-24	11-Dec-23	08-Feb-24	2
AS011961	PM Reivew & Comment Fully Coordinated BIM	21	07-Feb-24	27-Feb-24	09-Feb-24	29-Feb-24	2
AS011962	Revise & Re-submit Fully Coordinated BIM	14	28-Feb-24	12-Mar-24	01-Mar-24	14-Mar-24	2
AS011963	PM Reivew & Approval of Fully Coordinated BIM	21	13-Mar-24	02-Apr-24	15-Mar-24	04-Apr-24	2
Section 1 - Design for UV System No. 1 & Effluent Pumping Station No.1							
Major Plant & Materials Procurement							
AS103100	Procurement & PO for UV Disinfection System (S10)	150	20-Nov-19	17-Apr-20	20-Nov-19	17-Apr-20	0
AS103120	Procurement & PO for Lift-up Pumps (S11)	150	20-Nov-19	17-Apr-20	20-Nov-19	17-Apr-20	0
AS103140	Procurement & PO for Transfer Pumps (S13)	150	20-Nov-19	17-Apr-20	20-Nov-19	17-Apr-20	0
AS103160	Procurement & PO for FRP Cover (S11)	90	18-Apr-20	16-Jul-20	10-May-20	07-Aug-20	22
AS103180	Procurement & PO for EOT Cranes (2T & 5T) (S19)	150	19-Jan-20	16-Jun-20	11-Mar-20	07-Aug-20	52
AS103200	Procurement & PO for Stoplogs (S21)	90	18-Apr-20	16-Jul-20	10-May-20	07-Aug-20	22
AS103220	Procurement & PO for Penstocks (S21)	90	18-Apr-20	16-Jul-20	10-May-20	07-Aug-20	22
Design & Submission							
General Arrangement Drawings							
AS101100	Prepare & Submit General Arrangement Drawings	90	26-Jan-20	24-Apr-20	26-Jan-20	24-Apr-20	0
AS101110	Review & Comment on General Arrangement Drawings by PM	21	25-Apr-20	15-May-20	07-May-20	27-May-20	12
AS101120	Revise & Re-submit General Arrangement Drawings	14	16-May-20	29-May-20	28-May-20	10-Jun-20	12
AS101130	Review & Accept of General Arrangement Drawings by PM	21	30-May-20	19-Jun-20	11-Jun-20	01-Jul-20	12
Civil & Dimensional / Tolerance Requirement Drawings							
AS102100	Prepare & Submit Civil Requirement Drawings	60	07-Mar-20	05-May-20	07-Mar-20	05-May-20	0
AS102110	Review & Comment on Civil Requirement Drawings by PM	21	06-May-20	26-May-20	14-May-20	03-Jun-20	8
AS102120	Revise & Re-submit Civil Requirement Drawings	14	27-May-20	09-Jun-20	04-Jun-20	17-Jun-20	8
AS102130	Review & Accept of Civil Requirement Drawings by PM	21	10-Jun-20	30-Jun-20	18-Jun-20	08-Jul-20	8
Electrical Schematic Drawings							
AS102150	Prepare & Submit Elec. Schematic Drawings	60	25-Feb-20	24-Apr-20	26-Feb-20	25-Apr-20	1
AS102160	Review & Comment on Elec. Schematic Drawings by PM	21	25-Apr-20	15-May-20	13-Jun-20	03-Jul-20	49
AS102170	Revise & Re-submit Elec. Schematic Drawings	14	16-May-20	29-May-20	04-Jul-20	17-Jul-20	49
AS102180	Review & Accept of Elec. Schematic Drawings by PM	21	30-May-20	19-Jun-20	18-Jul-20	07-Aug-20	49
UV System No. 1							
AS102200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20	22-May-20	25-Mar-20	23-May-20	1
AS102210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	23-May-20	12-Jun-20	24-May-20	13-Jun-20	1
AS102220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	13-Jun-20	26-Jun-20	14-Jun-20	27-Jun-20	1
AS102230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	27-Jun-20	17-Jul-20	28-Jun-20	18-Jul-20	1
AS102300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20	13-Jun-20	15-Apr-20	13-Jun-20	0
AS102310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	14-Jun-20	04-Jul-20	14-Jun-20	04-Jul-20	0
AS102320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	05-Jul-20	18-Jul-20	05-Jul-20	18-Jul-20	0
AS102330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	19-Jul-20	08-Aug-20	19-Jul-20	08-Aug-20	0
Effluent Pumping Station No. 1							
AS112200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	60	24-Mar-20	22-May-20	25-Mar-20	23-May-20	1
AS112210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	23-May-20	12-Jun-20	24-May-20	13-Jun-20	1
AS112220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	14	13-Jun-20	26-Jun-20	14-Jun-20	27-Jun-20	1
AS112230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	27-Jun-20	17-Jul-20	28-Jun-20	18-Jul-20	1
AS112300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	60	15-Apr-20	13-Jun-20	15-Apr-20	13-Jun-20	0
AS112310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	14-Jun-20	04-Jul-20	14-Jun-20	04-Jul-20	0
AS112320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	14	05-Jul-20	18-Jul-20	05-Jul-20	18-Jul-20	0
AS112330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	19-Jul-20	08-Aug-20	19-Jul-20	08-Aug-20	0
Building Services							
AS113100	Prepare & Submit BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	90	15-Mar-20	12-Jun-20	16-Mar-20	13-Jun-20	1

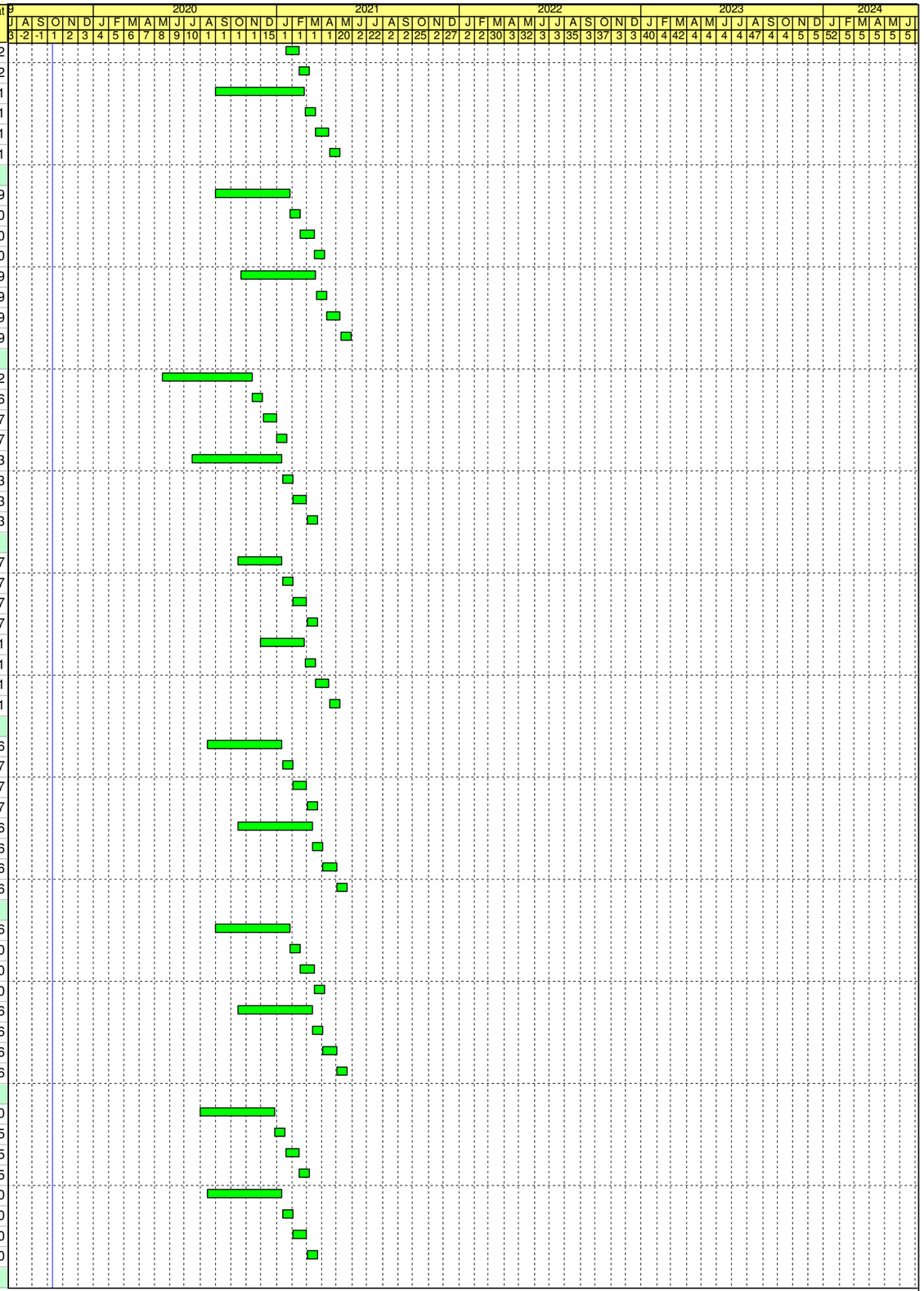


Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS113120c	Review & Comment on BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	21	13-Jun-20	03-Jul-20	14-Jun-20	04-Jul-20	1
AS113140c	Revise & Re-submit BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	14	04-Jul-20	17-Jul-20	05-Jul-20	18-Jul-20	1
AS113160c	Review & Accept of BS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	21	18-Jul-20	07-Aug-20	19-Jul-20	08-Aug-20	1
AS113200	Prepare & Submit FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	60	14-Apr-20	12-Jun-20	15-Apr-20	13-Jun-20	1
AS113220c	Review & Comment on FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	21	13-Jun-20	03-Jul-20	14-Jun-20	04-Jul-20	1
AS113240c	Revise & Re-submit FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	14	04-Jul-20	17-Jul-20	05-Jul-20	18-Jul-20	1
AS113260c	Review & Accept of FS Works Design & Dwgs UV System No.1 & Effluent Pumping Station No.1	21	18-Jul-20	07-Aug-20	19-Jul-20	08-Aug-20	1
Section 2 - Complete All Designs (exclude Sec. 1 & 3)							
Major Plant & Materials Procurement							
AS023100	Procurement & PO for Sludge Screening System (S2)	150	18-May-20	14-Oct-20	27-May-20	23-Oct-20	9
AS023120	Procurement & PO for Sludge Thickening System (S3)	180	20-Nov-19	17-May-20	14-Apr-20	10-Oct-20	146
AS023140	Procurement & PO for Sludge Digestion System (S5)	150	18-Feb-20	16-Jul-20	27-Feb-20	25-Jul-20	9
AS023160	Procurement & PO for Sludge Dewatering System (S6)	180	20-Nov-19	17-May-20	14-Apr-20	10-Oct-20	146
AS023180	Procurement & PO for THP System (S4)	180	20-Nov-19	17-May-20	29-Nov-19	26-May-20	9
AS023190a	Procurement & PO for Biogas Holding Tanks(S7)	180	20-Nov-19	17-May-20	13-Mar-20	08-Sep-20	114
AS023200	Procurement & PO for Biogas Booster and Transfer Pumps (S7)	150	17-Jul-20	13-Dec-20	10-Aug-20	06-Jan-21	24
AS023210	Procurement & PO for H2S Removal System (S7)	150	17-Jul-20	13-Dec-20	10-Aug-20	06-Jan-21	24
AS023220	Procurement & PO for CHP System (S8)	180	20-Nov-19	17-May-20	22-Nov-19	19-May-20	2
AS023240	Procurement & PO for Waste Gas Burning System (S9)	150	17-Jul-20	13-Dec-20	03-Aug-20	30-Dec-20	17
AS023260	Procurement & PO for Plant Service Water System (S12)	150	18-May-20	14-Oct-20	28-May-20	24-Oct-20	10
AS023270	Procurement & PO for Reclaimed Water Utilisation (S13)	150	18-May-20	14-Oct-20	18-Jun-20	14-Nov-20	31
AS023280	Procurement & PO for SAS Pumping System (S14)	150	18-May-20	14-Oct-20	28-May-20	24-Oct-20	10
AS023300	Procurement & PO for Transfomers (S17)	150	18-Feb-20	16-Jul-20	20-Feb-20	18-Jul-20	2
AS023320	Procurement & PO for 11 kV Switchboard (S17)	150	18-Feb-20	16-Jul-20	13-Aug-20	09-Jan-21	177
AS023340	Procurement & PO for 380V Switchboard (S17)	120	19-Nov-20	18-Mar-21	10-Jan-21	09-May-21	52
AS023380	Procurement & PO for Control & Monitoring System (S18)	150	17-Jul-20	13-Dec-20	19-Jul-20	15-Dec-20	2
AS023400	Procurement & PO for Lifting Appliances (S19)	150	18-May-20	14-Oct-20	26-Jun-20	22-Nov-20	39
AS023420	Procurement & PO for DO System (S21)	150	17-Jul-20	13-Dec-20	09-Jan-21	07-Jun-21	176
AS023440	Procurement & PO for Stoplog (S21)	90	18-Apr-20	16-Jul-20	10-Mar-21	07-Jun-21	326
AS023460	Procurement & PO for Penstock (S21)	90	18-Apr-20	16-Jul-20	10-Mar-21	07-Jun-21	326
AS023480	Procurement & PO for Sewage Pump (S21)	120	18-May-20	14-Sep-20	08-Feb-21	07-Jun-21	266
AS023500	Procurement & PO for Process Water Pump (S21)	120	18-May-20	14-Sep-20	09-Nov-20	08-Mar-21	175
AS023520	Procurement & PO for External Sludge Transfer Pump (S21)	120	18-May-20	14-Sep-20	08-Feb-21	07-Jun-21	266
AS023540	Procurement & PO for THP Cooling Pump (S21)	150	18-May-20	14-Oct-20	09-Jan-21	07-Jun-21	236
AS023560	Procurement & PO for Ferric Chloride Storage Tank (S21)	120	17-Jul-20	13-Nov-20	08-Feb-21	07-Jun-21	206
AS023580	Procurement & PO for Ferric Chloride Dosing Pump (S21)	120	18-May-20	14-Sep-20	08-Feb-21	07-Jun-21	266
AS023600	Procurement & PO for Temporary Primary Sludge Pump (S21)	150	18-May-20	14-Oct-20	09-Jan-21	07-Jun-21	236
AS023620b	Procurement & PO for Genset	150	22-Jul-20	18-Dec-20	14-Jun-21	10-Nov-21	327
Design & Submission							
General Arrangement Drawings							
AS020100	Prepare & Submit General Arrangement Drawings (from formation level up to +8mPD)	180	20-Nov-19	17-May-20	22-Nov-19	19-May-20	2
AS020110	Review & Comment on General Arrangement Drawings by PM (from formation level up to +8mPD)	21	18-May-20	07-Jun-20	02-Jun-20	22-Jun-20	15
AS020120	Revise & Re-submit General Arrangement Drawings (from formation level up to +8mPD)	28	08-Jun-20	05-Jul-20	23-Jun-20	20-Jul-20	15
AS020130	Review & Accept of General Arrangement Drawings by PM (from formation level up to +8mPD)	21	06-Jul-20	26-Jul-20	21-Jul-20	10-Aug-20	15
AS020140a	Prepare & Submit General Arrangement Drawings (remaining)	120	17-Jul-20	13-Nov-20	30-Jul-20	26-Nov-20	13
AS020150a	Review & Comment on General Arrangement Drawings by PM (remaining)	21	14-Nov-20	04-Dec-20	01-Dec-20	21-Dec-20	17
AS020160a	Revise & Re-submit General Arrangement Drawings (remaining)	28	05-Dec-20	01-Jan-21	22-Dec-20	18-Jan-21	17
AS020170a	Review & Accept of General Arrangement Drawings by PM (remaining)	21	02-Jan-21	22-Jan-21	19-Jan-21	08-Feb-21	17
Civil & Dimensional / Tolerance Requirement Drawings							
AS020200	Prepare & Submit Civil Requirement Drawings (from formation level up to +8mPD) -KD2A	90	04-Mar-20	01-Jun-20	07-Mar-20	04-Jun-20	3

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS020210	Review & Comment on Civil Requirement Drawings by PM (from formation level up to +8mPD)	21	02-Jun-20	22-Jun-20	09-Jun-20	29-Jun-20	7
AS020220	Revise & Re-submit Civil Requirement Drawings (from formation level up to +8mPD)	28	23-Jun-20	20-Jul-20	30-Jun-20	27-Jul-20	7
AS020230	Review & Accept of Civil Requirement Drawings by PM (from formation level up to +8mPD)	21	21-Jul-20	10-Aug-20	28-Jul-20	17-Aug-20	7
AS020300	Prepare & Submit Civil Requirement Drawings (remaining) -KD2B	120	15-Sep-20	12-Jan-21	28-Sep-20	25-Jan-21	13
AS020310	Review & Comment on Civil Requirement Drawings by PM (remaining)	21	13-Jan-21	02-Feb-21	28-Jan-21	17-Feb-21	15
AS020320	Revise & Re-submit Civil Requirement Drawings (remaining)	28	03-Feb-21	02-Mar-21	18-Feb-21	17-Mar-21	15
AS020330	Review & Accept of Civil Requirement Drawings by PM (remaining)	21	03-Mar-21	23-Mar-21	18-Mar-21	07-Apr-21	15
Electrical Schematic Drawings							
AS021200	Prepare & Elec. Schematic Drawings (from formation level up to +8mPD) -KD2A	90	05-Mar-20	02-Jun-20	07-Mar-20	04-Jun-20	2
AS021210	Review & Comment on Elec. Schematic Drawings by PM (from formation level up to +8mPD)	21	03-Jun-20	23-Jun-20	25-Jul-20	14-Aug-20	52
AS021220	Revise & Re-submit Elec. Schematic Drawings (from formation level up to +8mPD)	28	24-Jun-20	21-Jul-20	15-Aug-20	11-Sep-20	52
AS021230	Review & Accept of Elec. Schematic Drawings by PM (from formation level up to +8mPD)	21	22-Jul-20	11-Aug-20	21-Oct-20	10-Nov-20	91
AS021300	Prepare & Submit Elec. Schematic Drawings (remaining) -KD2B	120	22-Jul-20	18-Nov-20	12-Sep-20	09-Jan-21	52
AS021310	Review & Comment on Elec. Schematic Drawings by PM (remaining)	21	19-Nov-20	09-Dec-20	30-Mar-21	19-Apr-21	131
AS021320	Revise & Re-submit Elec. Schematic Drawings (remaining)	28	10-Dec-20	06-Jan-21	20-Apr-21	17-May-21	131
AS021330	Review & Accept of Elec. Schematic Drawings by PM (remaining)	21	07-Jan-21	27-Jan-21	18-May-21	07-Jun-21	131
Sludge Screening (SSc)							
AS022200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	150	02-Jul-20	28-Nov-20	11-Jul-20	07-Dec-20	9
AS022210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	29-Nov-20	19-Dec-20	30-Jan-21	19-Feb-21	62
AS022220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	20-Dec-20	16-Jan-21	20-Feb-21	19-Mar-21	62
AS022230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	17-Jan-21	06-Feb-21	20-Mar-21	09-Apr-21	62
AS022300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	10-Sep-20	08-Mar-21	01-Oct-20	29-Mar-21	21
AS022310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	09-Mar-21	29-Mar-21	30-Mar-21	19-Apr-21	21
AS022320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	30-Mar-21	26-Apr-21	20-Apr-21	17-May-21	21
AS022330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Apr-21	17-May-21	18-May-21	07-Jun-21	21
Sludge Thickening (STh)							
AS032200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	180	02-Jul-20	28-Dec-20	13-Jul-20	08-Jan-21	11
AS032210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	29-Dec-20	18-Jan-21	30-Jan-21	19-Feb-21	32
AS032220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	19-Jan-21	15-Feb-21	20-Feb-21	19-Mar-21	32
AS032230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	16-Feb-21	08-Mar-21	20-Mar-21	09-Apr-21	32
AS032300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	10-Sep-20	08-Mar-21	01-Oct-20	29-Mar-21	21
AS032310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	09-Mar-21	29-Mar-21	30-Mar-21	19-Apr-21	21
AS032320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	30-Mar-21	26-Apr-21	20-Apr-21	17-May-21	21
AS032330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Apr-21	17-May-21	18-May-21	07-Jun-21	21
Thermal Hydrolysis Process (THP)							
AS042200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	180	18-May-20	13-Nov-20	02-Aug-20	28-Jan-21	76
AS042210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	14-Nov-20	04-Dec-20	30-Jan-21	19-Feb-21	77
AS042220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	05-Dec-20	01-Jan-21	20-Feb-21	19-Mar-21	77
AS042230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	02-Jan-21	22-Jan-21	20-Mar-21	09-Apr-21	77
AS042300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	17-Jul-20	12-Jan-21	01-Oct-20	29-Mar-21	76
AS042310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	13-Jan-21	02-Feb-21	30-Mar-21	19-Apr-21	76
AS042320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	03-Feb-21	02-Mar-21	20-Apr-21	17-May-21	76
AS042330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	03-Mar-21	23-Mar-21	18-May-21	07-Jun-21	76
Sludge Digestion (SDi)							
AS052200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	180	01-Aug-20	27-Jan-21	10-Aug-20	05-Feb-21	9
AS052210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	28-Jan-21	17-Feb-21	17-Feb-21	09-Mar-21	20
AS052220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	18-Feb-21	17-Mar-21	30-Mar-21	26-Apr-21	40
AS052230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Mar-21	07-Apr-21	27-Apr-21	17-May-21	40
AS052300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	31-Aug-20	26-Feb-21	10-Sep-20	08-Mar-21	10
AS052310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Feb-21	19-Mar-21	09-Mar-21	29-Mar-21	10
AS052320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	20-Mar-21	16-Apr-21	30-Mar-21	26-Apr-21	10
AS052330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	17-Apr-21	07-May-21	27-Apr-21	17-May-21	10
Sludge Dewatering (SDe)							
AS062200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	180	02-Jul-20	28-Dec-20	13-Jul-20	08-Jan-21	11
AS062210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	29-Dec-20	18-Jan-21	09-Jan-21	29-Jan-21	11



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS062220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	19-Jan-21	15-Feb-21	20-Feb-21	19-Mar-21	32
AS062230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	16-Feb-21	08-Mar-21	20-Mar-21	09-Apr-21	32
AS062300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	31-Aug-20	26-Feb-21	01-Oct-20	29-Mar-21	31
AS062310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Feb-21	19-Mar-21	30-Mar-21	19-Apr-21	31
AS062320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	20-Mar-21	16-Apr-21	20-Apr-21	17-May-21	31
AS062330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	17-Apr-21	07-May-21	18-May-21	07-Jun-21	31
Biogas Storage & Pre-Treatment (BSPT)							
AS072200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	150	31-Aug-20	27-Jan-21	09-Sep-20	05-Feb-21	9
AS072210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	28-Jan-21	17-Feb-21	09-Mar-21	29-Mar-21	40
AS072220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	18-Feb-21	17-Mar-21	30-Mar-21	26-Apr-21	40
AS072230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Mar-21	07-Apr-21	27-Apr-21	17-May-21	40
AS072300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	150	22-Oct-20	20-Mar-21	31-Oct-20	29-Mar-21	9
AS072310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	21-Mar-21	10-Apr-21	30-Mar-21	19-Apr-21	9
AS072320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	11-Apr-21	08-May-21	20-Apr-21	17-May-21	9
AS072330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	09-May-21	29-May-21	18-May-21	07-Jun-21	9
Combined Heat & Power Generation (CHP)							
AS082200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	180	18-May-20	13-Nov-20	19-Jun-20	15-Dec-20	32
AS082210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	14-Nov-20	04-Dec-20	09-Jan-21	29-Jan-21	56
AS082220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	05-Dec-20	01-Jan-21	20-Feb-21	19-Mar-21	77
AS082230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	02-Jan-21	22-Jan-21	20-Mar-21	09-Apr-21	77
AS082300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	180	17-Jul-20	12-Jan-21	28-Sep-20	26-Mar-21	73
AS082310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	13-Jan-21	02-Feb-21	27-Mar-21	16-Apr-21	73
AS082320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	03-Feb-21	02-Mar-21	17-Apr-21	14-May-21	73
AS082330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	03-Mar-21	23-Mar-21	15-May-21	04-Jun-21	73
Waste Gas Burning System (WGB)							
AS092200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	90	15-Oct-20	12-Jan-21	01-Nov-20	29-Jan-21	17
AS092210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	13-Jan-21	02-Feb-21	30-Jan-21	19-Feb-21	17
AS092220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	03-Feb-21	02-Mar-21	20-Feb-21	19-Mar-21	17
AS092230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	03-Mar-21	23-Mar-21	20-Mar-21	09-Apr-21	17
AS092300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	90	29-Nov-20	26-Feb-21	30-Dec-20	29-Mar-21	31
AS092310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Feb-21	19-Mar-21	30-Mar-21	19-Apr-21	31
AS092320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	20-Mar-21	16-Apr-21	20-Apr-21	17-May-21	31
AS092330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	17-Apr-21	07-May-21	18-May-21	07-Jun-21	31
Plant Service Water System (PSW)							
AS122200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	150	16-Aug-20	12-Jan-21	01-Sep-20	28-Jan-21	16
AS122210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	13-Jan-21	02-Feb-21	30-Jan-21	19-Feb-21	17
AS122220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	03-Feb-21	02-Mar-21	20-Feb-21	19-Mar-21	17
AS122230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	03-Mar-21	23-Mar-21	20-Mar-21	09-Apr-21	17
AS122300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	150	15-Oct-20	13-Mar-21	31-Oct-20	29-Mar-21	16
AS122310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	14-Mar-21	03-Apr-21	30-Mar-21	19-Apr-21	16
AS122320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	04-Apr-21	01-May-21	20-Apr-21	17-May-21	16
AS122330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	02-May-21	22-May-21	18-May-21	07-Jun-21	16
Reclaimed Water Facility (RWF)							
AS132200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	150	31-Aug-20	27-Jan-21	16-Sep-20	12-Feb-21	16
AS132210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	28-Jan-21	17-Feb-21	09-Mar-21	29-Mar-21	40
AS132220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	18-Feb-21	17-Mar-21	30-Mar-21	26-Apr-21	40
AS132230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Mar-21	07-Apr-21	27-Apr-21	17-May-21	40
AS132300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	150	15-Oct-20	13-Mar-21	31-Oct-20	29-Mar-21	16
AS132310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	14-Mar-21	03-Apr-21	30-Mar-21	19-Apr-21	16
AS132320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	04-Apr-21	01-May-21	20-Apr-21	17-May-21	16
AS132330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	02-May-21	22-May-21	18-May-21	07-Jun-21	16
Surplus Activated Sludge Pumping Station (SAS)							
AS142200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	150	01-Aug-20	28-Dec-20	11-Aug-20	07-Jan-21	10
AS142210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	29-Dec-20	18-Jan-21	23-Jan-21	12-Feb-21	25
AS142220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	19-Jan-21	15-Feb-21	13-Feb-21	12-Mar-21	25
AS142230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	16-Feb-21	08-Mar-21	13-Mar-21	02-Apr-21	25
AS142300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	150	16-Aug-20	12-Jan-21	26-Aug-20	22-Jan-21	10
AS142310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	13-Jan-21	02-Feb-21	23-Jan-21	12-Feb-21	10
AS142320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	03-Feb-21	02-Mar-21	13-Feb-21	12-Mar-21	10
AS142330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	03-Mar-21	23-Mar-21	13-Mar-21	02-Apr-21	10
Control and Monitoring System							

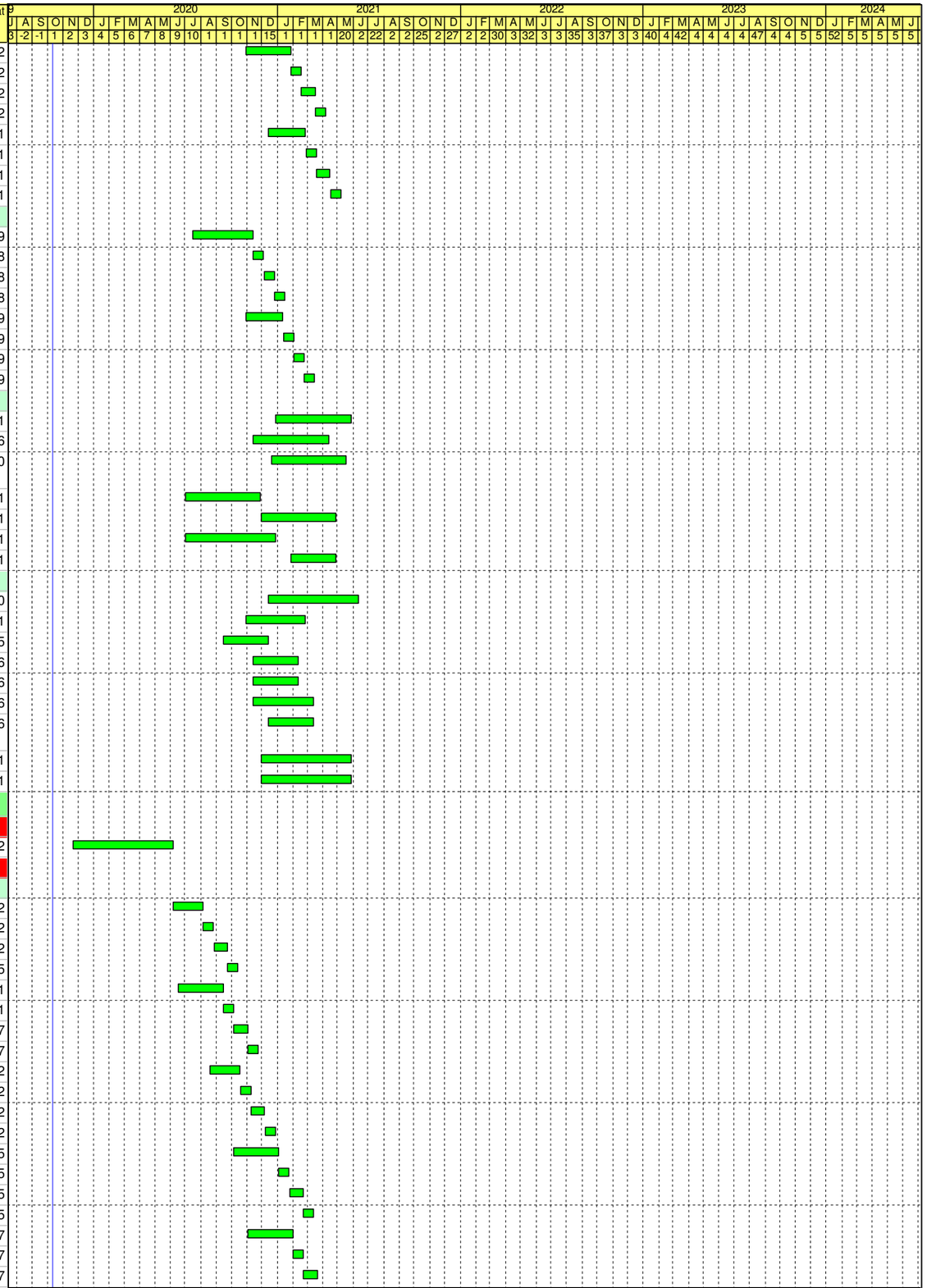


Remaining Work
Critical Activity
Milestone

Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis
Master Programme

Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	AI	KM
10-Feb-20	Rev. 1	AI	KM
21-Apr-20	Rev. 2	AI	KM
09-Jun-20	Rev.3	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS182200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	90	30-Oct-20	27-Jan-21	01-Nov-20	29-Jan-21	2
AS182210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	28-Jan-21	17-Feb-21	30-Jan-21	19-Feb-21	2
AS182220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	28	18-Feb-21	17-Mar-21	20-Feb-21	19-Mar-21	2
AS182230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	18-Mar-21	07-Apr-21	20-Mar-21	09-Apr-21	2
AS182300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	75	14-Dec-20	26-Feb-21	14-Jan-21	29-Mar-21	31
AS182310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	27-Feb-21	19-Mar-21	30-Mar-21	19-Apr-21	31
AS182320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	20-Mar-21	16-Apr-21	20-Apr-21	17-May-21	31
AS182330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	17-Apr-21	07-May-21	18-May-21	07-Jun-21	31
Lifting Appliances							
AS192200	Prepare & Submit Wiring Dwgs, Cable Schedule & Design Cal.	120	17-Jul-20	13-Nov-20	25-Aug-20	22-Dec-20	39
AS192210	Review & Comment on Wiring Dwgs, Cable Schedule & Design Cal.	21	14-Nov-20	04-Dec-20	31-Jan-21	20-Feb-21	78
AS192220	Revise & Re-submit Wiring Dwgs, Cable Schedule & Design Cal.	21	05-Dec-20	25-Dec-20	21-Feb-21	13-Mar-21	78
AS192230	Review & Accept of Wiring Dwgs, Cable Schedule & Design Cal.	21	26-Dec-20	15-Jan-21	14-Mar-21	03-Apr-21	78
AS192300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	75	30-Oct-20	12-Jan-21	08-Dec-20	20-Feb-21	39
AS192310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	13-Jan-21	02-Feb-21	21-Feb-21	13-Mar-21	39
AS192320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	21	03-Feb-21	23-Feb-21	14-Mar-21	03-Apr-21	39
AS192330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	24-Feb-21	16-Mar-21	04-Apr-21	24-Apr-21	39
Building Services							
AS201100	Submit & Accept BS Works Design & Dwgs for Sludge Dewatering Building	150	29-Dec-20	27-May-21	09-Jan-21	07-Jun-21	11
AS201200	Submit & Accept BS Works Design & Dwgs for CHP Building	150	14-Nov-20	12-Apr-21	09-Jan-21	07-Jun-21	56
AS201300	Submit & Accept BS Works Design & Dwgs for Sludge Digester & Distribution Chamber	150	20-Dec-20	18-May-21	09-Jan-21	07-Jun-21	20
AS201500	Submit & Accept BS Works Design & Dwgs for Workshop No. 2	150	02-Jul-20	28-Nov-20	12-Aug-20	08-Jan-21	41
AS201700	Submit & Accept BS Works Design & Dwgs for Other Facilities	150	29-Nov-20	27-Apr-21	09-Jan-21	07-Jun-21	41
AS201800	Submit & Accept BS Works Design & Dwgs for FS Installation	180	02-Jul-20	28-Dec-20	10-Dec-20	07-Jun-21	161
AS201900	Submit & Accept BS Works Design & Dwgs for Outdoor Lighting Installation	90	28-Jan-21	27-Apr-21	10-Mar-21	07-Jun-21	41
Miscellaneous							
AS211100	Submit & Accept Design & Dwgs for DO System	180	14-Dec-20	11-Jun-21	21-Aug-21	16-Feb-22	250
AS211200	Submit & Accept Design & Dwgs for Sewage Pumping Station	120	30-Oct-20	26-Feb-21	18-Jul-21	14-Nov-21	261
AS211300	Submit & Accept Design & Dwgs for Process Water Pumping System	90	15-Sep-20	13-Dec-20	09-Mar-21	06-Jun-21	175
AS211400	Submit & Accept Design & Dwgs for External Sludge Transfer Pumping System	90	14-Nov-20	11-Feb-21	15-Dec-21	14-Mar-22	396
AS211500	Submit & Accept Design & Dwgs for THP Cooling Water Pumping Station	90	14-Nov-20	11-Feb-21	15-Dec-21	14-Mar-22	396
AS211600	Submit & Accept Design & Dwgs for Ferric Chloride Dosing System	120	14-Nov-20	13-Mar-21	16-Sep-21	13-Jan-22	306
AS211700	Submit & Accept Design & Dwgs for Temporary Primary Sludge Pumping Facility	90	14-Dec-20	13-Mar-21	15-Dec-21	14-Mar-22	366
AS211800	Submit & Accept Design & Dwgs for Gas Detection System	180	29-Nov-20	27-May-21	10-Dec-20	07-Jun-21	11
AS211900	Submit & Accept Design & Dwgs for CCTV System	180	29-Nov-20	27-May-21	10-Dec-20	07-Jun-21	11
Section 3 - Complete Design, Construction & T&C for Sidestream Facilities							
Major Subcontractor / Supplier Procurement							
AS160020	Procurement & PO for Deammonification Sidestream Treatment Facilities	200	20-Nov-19	06-Jun-20	22-Nov-19	08-Jun-20	2
Design & Submission							
Civil Works Design							
AS160100	Prepare & Submit General Layout Plan	60	07-Jun-20	05-Aug-20	09-Jun-20	07-Aug-20	2
AS160110	Review & Comment on General Layout Plan by PM	21	06-Aug-20	26-Aug-20	08-Aug-20	28-Aug-20	2
AS160120	Revise & Re-submit General Layout Plan	28	27-Aug-20	23-Sep-20	29-Aug-20	25-Sep-20	2
AS160130	Review & Accept of General Layout Plan by PM	21	24-Sep-20	14-Oct-20	08-Nov-20	28-Nov-20	45
AS160200	Prepare & Submit Architectural Design / Drawings	90	17-Jun-20	14-Sep-20	28-Jun-20	25-Sep-20	11
AS160210	Review & Comment on Architectural Design / Drawings by PM	21	15-Sep-20	05-Oct-20	26-Sep-20	16-Oct-20	11
AS160220	Revise & Re-submit Architectural Design / Drawings	28	06-Oct-20	02-Nov-20	23-Oct-20	19-Nov-20	17
AS160230	Review & Accept of Architectural Design / Drawings by PM	21	03-Nov-20	23-Nov-20	20-Nov-20	10-Dec-20	17
AS160300	Prepare & Submit Foundation Design / Drawings	60	20-Aug-20	18-Oct-20	22-Aug-20	20-Oct-20	2
AS160310	Review & Comment on Foundation Design / Drawings by PM	21	19-Oct-20	08-Nov-20	21-Oct-20	10-Nov-20	2
AS160320	Revise & Re-submit Foundation Design / Drawings	28	09-Nov-20	06-Dec-20	11-Nov-20	08-Dec-20	2
AS160330	Review & Accept of Foundation Design / Drawings by PM	21	07-Dec-20	27-Dec-20	09-Dec-20	29-Dec-20	2
AS160400	Prepare & Submit Structural & Civil Design / Drawings	90	06-Oct-20	03-Jan-21	20-Nov-20	17-Feb-21	45
AS160410	Review & Comment on Structural & Civil Design / Drawingsby PM	21	04-Jan-21	24-Jan-21	18-Feb-21	10-Mar-21	45
AS160420	Revise & Re-submit Structural & Civil Design / Drawings	28	25-Jan-21	21-Feb-21	11-Mar-21	07-Apr-21	45
AS160430	Review & Accept of Structural & Civil Design / Drawings by PM	21	22-Feb-21	14-Mar-21	08-Apr-21	28-Apr-21	45
AS160500	Prepare & Submit Builder's Works Drawings	90	03-Nov-20	31-Jan-21	20-Nov-20	17-Feb-21	17
AS160510	Review & Comment on Builder's Works Drawings by PM	21	01-Feb-21	21-Feb-21	18-Feb-21	10-Mar-21	17
AS160520	Revise & Re-submit Builder's Works Drawings	28	22-Feb-21	21-Mar-21	11-Mar-21	07-Apr-21	17



Remaining Work
Critical Activity
Milestone

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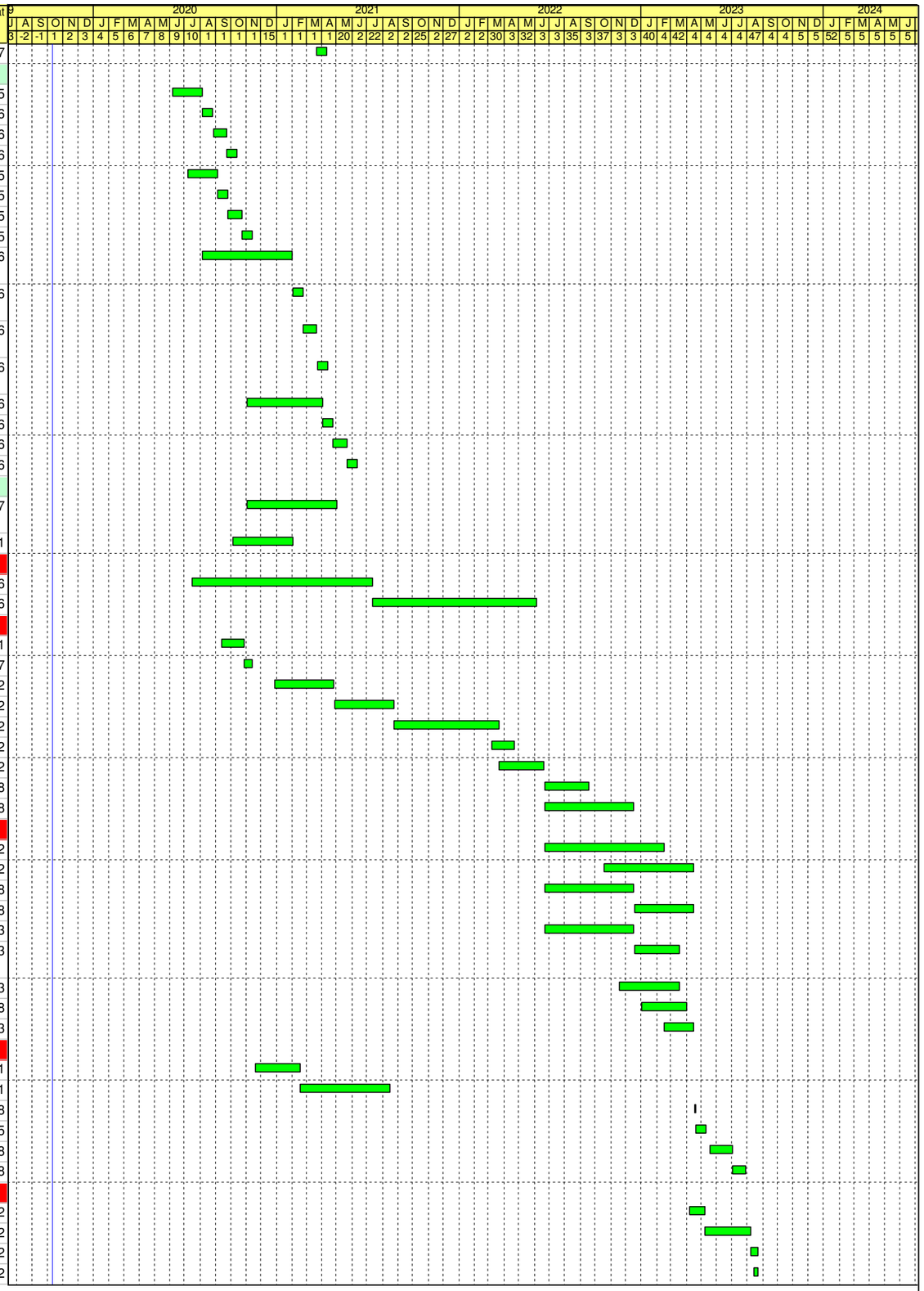
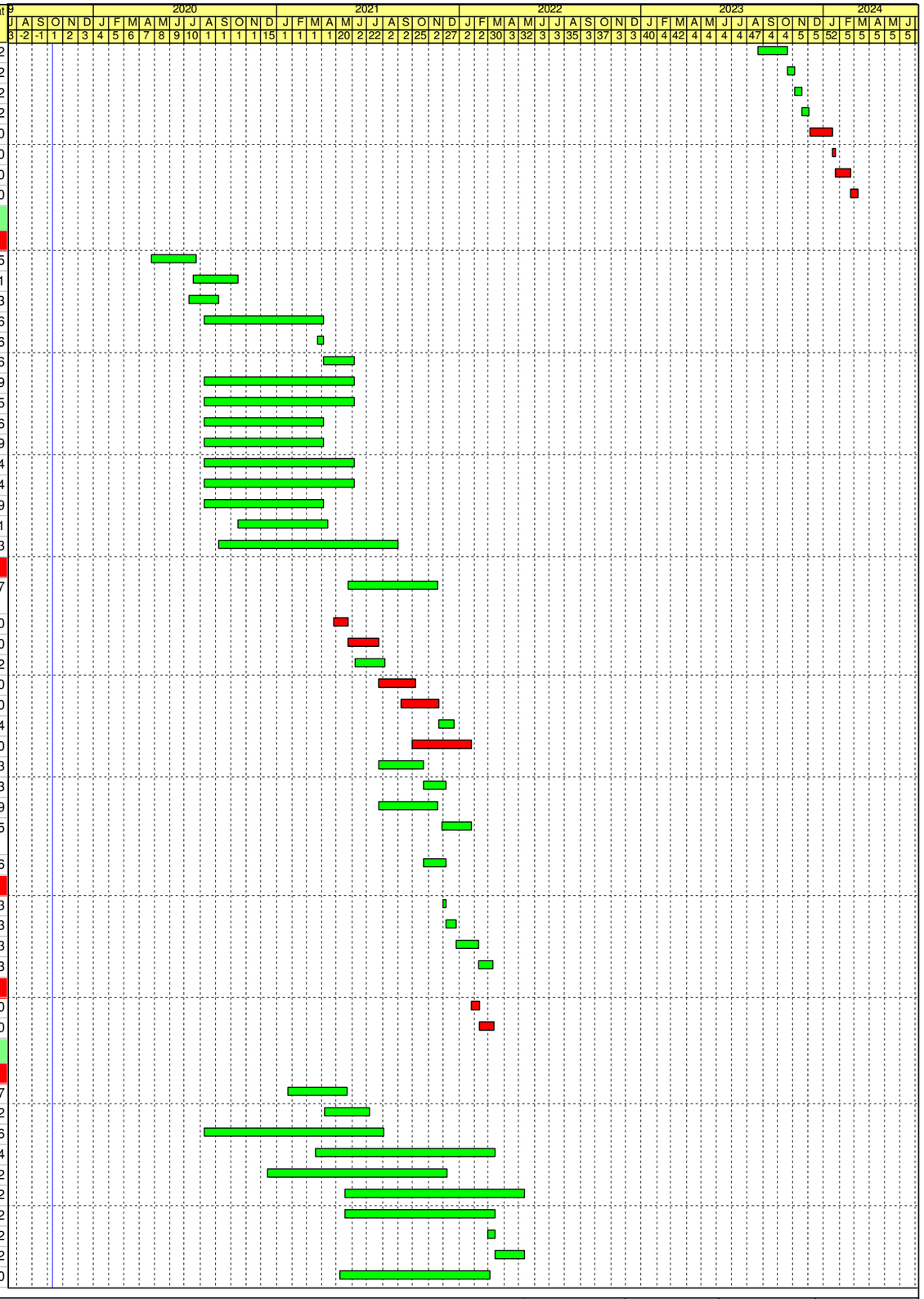
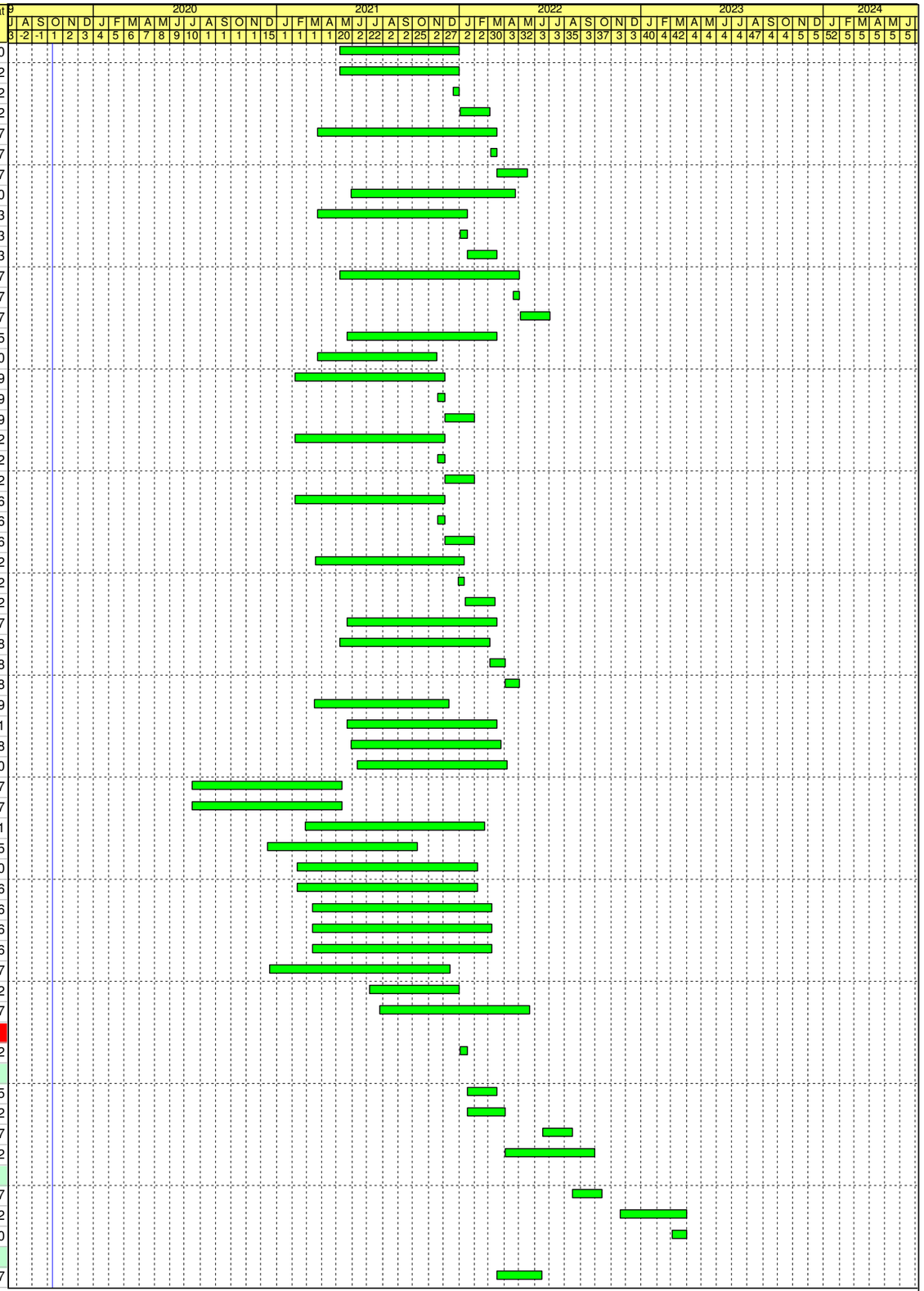
AS160530	Review & Accept of Builder's Works Drawings by PM	21	22-Mar-21	11-Apr-21	08-Apr-21	28-Apr-21	17
E&M Design							
AS151100	Prepare & Submit General Arrangement Drawings	60	07-Jun-20	05-Aug-20	02-Jul-20	30-Aug-20	25
AS151110	Review & Comment on General Arrangement Drawings by PM	21	06-Aug-20	26-Aug-20	11-Sep-20	01-Oct-20	36
AS151120	Revise & Re-submit General Arrangement Drawings	28	27-Aug-20	23-Sep-20	02-Oct-20	29-Oct-20	36
AS151130	Review & Accept of General Arrangement Drawings by PM	21	24-Sep-20	14-Oct-20	30-Oct-20	19-Nov-20	36
AS152100	Prepare & Submit Civil Requirement Drawings	60	07-Jul-20	04-Sep-20	01-Aug-20	29-Sep-20	25
AS152110	Review & Comment on Civil Requirement Drawings by PM	21	05-Sep-20	25-Sep-20	30-Sep-20	20-Oct-20	25
AS152120	Revise & Re-submit Civil Requirement Drawings	28	26-Sep-20	23-Oct-20	21-Oct-20	17-Nov-20	25
AS152130	Review & Accept of Civil Requirement Drawings by PM	21	24-Oct-20	13-Nov-20	18-Nov-20	08-Dec-20	25
AS152200	Prepare & Submit Ele. Schematic Dwgs, Wiring Dwgs, Cable Schedule & Design Cal.	180	06-Aug-20	01-Feb-21	21-Sep-20	19-Mar-21	46
AS152210	Review & Comment on Ele. Schematic Dwgs, Wiring Dwgs, Cable Schedule & Design Cal.	21	02-Feb-21	22-Feb-21	14-Apr-22	04-May-22	436
AS152220	Revise & Re-submit Ele. Schematic Dwgs, Wiring Dwgs, Cable Schedule & Design Cal.	28	23-Feb-21	22-Mar-21	05-May-22	01-Jun-22	436
AS152230	Review & Accept of Ele. Schematic Dwgs, Wiring Dwgs, Cable Schedule & Design Cal.	21	23-Mar-21	12-Apr-21	02-Jun-22	22-Jun-22	436
AS152300	Prepare & Submit the Schedule, Design Cal. & Fixing Details of Equipment	150	04-Nov-20	02-Apr-21	20-Dec-20	18-May-21	46
AS152310	Review & Comment on the Schedule, Design Cal. & Fixing Details of Equipment	21	03-Apr-21	23-Apr-21	19-May-21	08-Jun-21	46
AS152320	Revise & Re-submit the Schedule, Design Cal. & Fixing Details of Equipment	28	24-Apr-21	21-May-21	09-Jun-21	06-Jul-21	46
AS152330	Review & Accept of the Schedule, Design Cal. & Fixing Details of Equipment	21	22-May-21	11-Jun-21	07-Jul-21	27-Jul-21	46
Building Services							
AS201400	Prepare & Submit BS Works Design & Dwgs for Sidestream Treatment Facilities	180	03-Nov-20	01-May-21	28-Feb-21	26-Aug-21	117
AS201420	Prepare & Submit FS Works Design & Dwgs for Sidestream Treatment Facilities	120	06-Oct-20	02-Feb-21	17-Oct-20	13-Feb-21	11
Major Plant & Materials Procurement							
AS153100	Procurement & PO for Deammonification Sidestream Treatment Facilities	360	17-Jul-20	11-Jul-21	02-Aug-20	27-Jul-21	16
AS153120	Fabrication & Delivery of Deammonification Sidestream Treatment Facilities	330	12-Jul-21	06-Jun-22	28-Jul-21	22-Jun-22	16
Civil Works Construction							
AS161100	Ground Investigation	45	14-Sep-20	28-Oct-20	25-Oct-20	08-Dec-20	41
AS161120	Site Clearance	15	29-Oct-20	12-Nov-20	15-Dec-20	29-Dec-20	47
AS161140	Foundation / Pilings	120	28-Dec-20	26-Apr-21	30-Dec-20	28-Apr-21	2
AS161160	ELS / Substructure	120	27-Apr-21	24-Aug-21	29-Apr-21	26-Aug-21	2
AS161180	Superstructure	210	25-Aug-21	22-Mar-22	27-Aug-21	24-Mar-22	2
AS161200	Waterproofing	45	08-Mar-22	21-Apr-22	10-Mar-22	23-Apr-22	2
AS161220	External & Internal Finishes - 1st Fix	90	23-Mar-22	20-Jun-22	25-Mar-22	22-Jun-22	2
AS161240	External & Internal Finishes - 2nd Fix	90	21-Jun-22	18-Sep-22	11-Dec-23	09-Mar-24	538
AS161260	Landscaping & Establishment Works	180	21-Jun-22	17-Dec-22	12-Sep-23	09-Mar-24	448
E&M Installation							
AS154100	E&M Installation of Deammonification Sidestream Treatment Facilities	240	21-Jun-22	15-Feb-23	23-Jun-22	17-Feb-23	2
AS154120	Installation of Electrical Supply Systems	180	19-Oct-22	16-Apr-23	21-Oct-22	18-Apr-23	2
AS154160	FS Installation - Conduits, Trunking, & Pipeworks	180	21-Jun-22	17-Dec-22	09-Jul-22	04-Jan-23	18
AS154180	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	120	18-Dec-22	16-Apr-23	05-Jan-23	04-May-23	18
AS154200	BS Fitting Installation - Conduits, Trunking, & Ductworks	180	21-Jun-22	17-Dec-22	14-Jul-22	09-Jan-23	23
AS154220	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	90	18-Dec-22	17-Mar-23	10-Jan-23	09-Apr-23	23
AS154240	Installation of Control & Monitoring System	120	18-Nov-22	17-Mar-23	11-Dec-22	09-Apr-23	23
AS154260	Installation of CCTV System	90	02-Jan-23	01-Apr-23	09-Feb-23	09-May-23	38
AS154280	Installation of Gas Detection System	60	16-Feb-23	16-Apr-23	11-Mar-23	09-May-23	23
Statutory Submission / Inspection (FSD)							
AS201440	Prepare & Submit GBP for FSD approval	90	19-Nov-20	16-Feb-21	30-Nov-20	27-Feb-21	11
AS201460	FSD Review & Approval of GBP	180	17-Feb-21	15-Aug-21	28-Feb-21	26-Aug-21	11
AS201510a	Prepare & Submit FSI/314 & FSI/501	3	17-Apr-23	19-Apr-23	05-May-23	07-May-23	18
AS201520a	FSD Review & Approval of FSI/314 & FSI/501	21	20-Apr-23	10-May-23	15-May-23	04-Jun-23	25
AS201540a	F.S. Inspection, Defects Rectification & Re-inspection	45	18-May-23	01-Jul-23	05-Jun-23	19-Jul-23	18
AS201560a	Issuance of Acceptance Letter	28	02-Jul-23	29-Jul-23	20-Jul-23	16-Aug-23	18
Testing & Commissioning							
AS155100	SAT for Deammonification Sidestream Treatment Facilities	30	08-Apr-23	07-May-23	10-Apr-23	09-May-23	2
AS155120a	Process Start Up	92	08-May-23	07-Aug-23	10-May-23	09-Aug-23	2
AS155140a	Submission & Acceptance of Process Start Up Report	14	08-Aug-23	21-Aug-23	10-Aug-23	23-Aug-23	2
AS155160a	Notice for Commencement of Phase 1 Commissioning Tests	7	15-Aug-23	21-Aug-23	17-Aug-23	23-Aug-23	2



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS155200	Phase 1 Commissioning Tests	60	22-Aug-23	20-Oct-23	24-Aug-23	22-Oct-23	2
AS155220a	Submission & Acceptance of Phase 1 Commissioning Tests Report	14	21-Oct-23	03-Nov-23	23-Oct-23	05-Nov-23	2
AS155240a	Phase 1 Post Commissioning	14	04-Nov-23	17-Nov-23	06-Nov-23	19-Nov-23	2
AS155260a	Submission & Acceptance of Phase 1 Post Commissioning Report	14	18-Nov-23	01-Dec-23	20-Nov-23	03-Dec-23	2
AS155300	Phase 2 Commissioning Tests	45	04-Dec-23	17-Jan-24	04-Dec-23	17-Jan-24	0
AS155320a	Acceptance of Phase 2 Commissioning Tests Results	7	18-Jan-24	24-Jan-24	18-Jan-24	24-Jan-24	0
AS155340a	Phase 3 Commissioning Tests	30	25-Jan-24	23-Feb-24	25-Jan-24	23-Feb-24	0
AS155360a	Submission & Acceptance of Phase 3 Commissioning Report	15	24-Feb-24	09-Mar-24	24-Feb-24	09-Mar-24	0
Section 4 - Complete Construction & T&C for UV System No.1 & EP Station No. 1							
Major Plant & Materials Fabrication & Delivery							
AS103300	Procurement & PO for Pipeworks & Associated Valves	90	25-Apr-20	23-Jul-20	28-Aug-20	25-Nov-20	125
AS103320	Procurement & PO for Elec. Materials	90	18-Jul-20	15-Oct-20	28-Aug-20	25-Nov-20	41
AS103400	Procurement & PO for FS System (S20)	60	09-Jul-20	06-Sep-20	31-Aug-20	29-Oct-20	53
AS104100	Fabrication of UV Disinfection System (S10)	240	09-Aug-20	05-Apr-21	03-Dec-20	30-Jul-21	116
AS104105c	FAT for UV Disinfection System (S10)	14	23-Mar-21	05-Apr-21	17-Jul-21	30-Jul-21	116
AS104110c	Delivery of UV Disinfection System (S10)	60	06-Apr-21	04-Jun-21	31-Jul-21	28-Sep-21	116
AS104120	Fabrication & Delivery of Lift-up Pumps (S11)	300	09-Aug-20	04-Jun-21	27-Sep-20	23-Jul-21	49
AS104140	Fabrication & Delivery of Transfer Pumps (S13)	300	09-Aug-20	04-Jun-21	12-Nov-20	07-Sep-21	95
AS104160	Fabrication & Delivery of FRP Cover (S11)	240	09-Aug-20	05-Apr-21	01-Feb-21	28-Sep-21	176
AS104180	Fabrication & Delivery of EOT Cranes (2T & 5T) (S19)	240	09-Aug-20	05-Apr-21	27-Sep-20	24-May-21	49
AS104200	Fabrication & Delivery of Stoplogs (S21)	300	09-Aug-20	04-Jun-21	01-Mar-21	25-Dec-21	204
AS104220	Fabrication & Delivery of Penstocks (S21)	300	09-Aug-20	04-Jun-21	01-Mar-21	25-Dec-21	204
AS104300	Fabrication & Delivery of Pipeworks & Associated Valves	240	09-Aug-20	05-Apr-21	26-Nov-20	23-Jul-21	109
AS104320	Fabrication & Delivery of Elec. Materials	180	16-Oct-20	13-Apr-21	26-Nov-20	24-May-21	41
AS104400	Fabrication & Delivery of FS System (S20)	360	07-Sep-20	01-Sep-21	30-Oct-20	24-Oct-21	53
E&M Installation							
AS105100	Provision of Temporary Power for UV System No.1 & Effluent Transfer Pumping Station	180	25-May-21	20-Nov-21	31-Jul-21	26-Jan-22	67
AS106100	Mobilisation	30	25-Apr-21	24-May-21	25-Apr-21	24-May-21	0
AS106120	E&M Installation of EOT Cranes (5T)	60	25-May-21	23-Jul-21	25-May-21	23-Jul-21	0
AS106140	E&M Installation of EOT Cranes (2T)	60	08-Jun-21	06-Aug-21	10-Jul-21	07-Sep-21	32
AS106160	E&M Installation of Lift-up Pumps & Associated Pipeworks / Valves	75	24-Jul-21	06-Oct-21	24-Jul-21	06-Oct-21	0
AS106180	E&M Installation of Transfer Pumps & Associated Pipeworks / Valves	75	08-Sep-21	21-Nov-21	08-Sep-21	21-Nov-21	0
AS106200	E&M Installation of Penstocks & Stoplogs	30	22-Nov-21	21-Dec-21	26-Dec-21	24-Jan-22	34
AS106210	E&M Installation of UV System	120	29-Sep-21	26-Jan-22	29-Sep-21	26-Jan-22	0
AS106220	FS Installation - Conduits, Trunking, & Pipeworks	90	24-Jul-21	21-Oct-21	27-Jul-21	24-Oct-21	3
AS106240	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	45	22-Oct-21	05-Dec-21	25-Oct-21	08-Dec-21	3
AS106260	BS Fitting Installation - Conduits, Trunking, & Ductworks	120	24-Jul-21	20-Nov-21	21-Sep-21	18-Jan-22	59
AS106280	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	60	28-Nov-21	26-Jan-22	12-Jan-22	12-Mar-22	45
AS106320	Installation of CCTV System	45	23-Oct-21	06-Dec-21	28-Dec-21	10-Feb-22	66
Statutory Submission / Inspection (FSD)							
AS107100	Prepare & Submit FSI/314 & FSI/501	7	29-Nov-21	05-Dec-21	02-Dec-21	08-Dec-21	3
AS107110a	FSD Review & Approval of FSI/314 & FSI/501	21	06-Dec-21	26-Dec-21	09-Dec-21	29-Dec-21	3
AS107200	F.S. Inspection, Defects Rectification & Re-inspection	45	27-Dec-21	09-Feb-22	30-Dec-21	12-Feb-22	3
AS107300	Issuance of Acceptance Letter	28	10-Feb-22	09-Mar-22	13-Feb-22	12-Mar-22	3
Testing & Commissioning							
AS107400	SAT for UV System No. 1 & Effluent Transfer Pumping Station No. 1	15	27-Jan-22	10-Feb-22	27-Jan-22	10-Feb-22	0
AS107500	System Commissioning Tests	30	11-Feb-22	12-Mar-22	11-Feb-22	12-Mar-22	0
Section 5 - Complete all remaining Works (incl. T&C)							
Fabrication, FAT & Delivery of Major Plant & Materials							
AS023290	Procurement & PO for Pipeworks & Associated Valves	120	23-Jan-21	22-May-21	09-Feb-21	08-Jun-21	17
AS023620	Procurement & PO for Elec. Materials	90	08-Apr-21	06-Jul-21	10-Apr-21	08-Jul-21	2
AS104240	Fabrication & Delivery of Transfomers -UV (Tx 07 & 08) (S17)	360	09-Aug-20	03-Aug-21	08-Nov-21	02-Nov-22	456
AS104260	Fabrication & Delivery of LVSB -UV (S17)	360	19-Mar-21	13-Mar-22	07-Jan-22	01-Jan-23	294
AS104280	Fabrication & Delivery of Control & Monitoring System -UV (S18)	360	14-Dec-20	08-Dec-21	10-Apr-22	04-Apr-23	482
AS501100	Fabrication & Delivery of Sludge Screening System (S2)	360	18-May-21	12-May-22	26-Nov-21	20-Nov-22	192
AS501120	Fabrication of Sludge Thickening System (S3)	300	18-May-21	13-Mar-22	29-Jun-21	24-Apr-22	42
AS501125c	FAT for Sludge Thickening System (S3)	14	28-Feb-22	13-Mar-22	11-Apr-22	24-Apr-22	42
AS501130c	Delivery of Sludge Thickening System (S3)	60	14-Mar-22	12-May-22	25-Apr-22	23-Jun-22	42
AS501140	Fabrication & Delivery of Sludge Digestion System (S5)	300	08-May-21	03-Mar-22	17-Jul-21	12-May-22	70



Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS501150a	Fabrication & Delivery of FRP Walkway / Cover (S5)	240	08-May-21	02-Jan-22	18-May-21	12-Jan-22	10
AS501160	Fabrication of Sludge Dewatering System (S6)	240	08-May-21	02-Jan-22	09-Jun-21	03-Feb-22	32
AS501165c	FAT for Sludge Dewatering System (S6)	14	20-Dec-21	02-Jan-22	21-Jan-22	03-Feb-22	32
AS501170c	Delivery of Sludge Dewatering System (S6)	60	03-Jan-22	03-Mar-22	04-Feb-22	04-Apr-22	32
AS501180	Fabrication of THP System (S4)	360	24-Mar-21	18-Mar-22	28-Aug-21	22-Aug-22	157
AS501200	FAT for THP System (S4)	14	05-Mar-22	18-Mar-22	09-Aug-22	22-Aug-22	157
AS501220	Delivery of THP System (S4)	60	19-Mar-22	17-May-22	23-Aug-22	21-Oct-22	157
AS501240	Fabrication & Delivery of Biogas Storage & Pre-Treatment (S7)	330	30-May-21	24-Apr-22	29-Jun-21	24-May-22	30
AS501260	Fabrication of CHP System (S8)	300	24-Mar-21	17-Jan-22	05-Jun-21	31-Mar-22	73
AS501280	FAT for CHP Generators (S8)	14	04-Jan-22	17-Jan-22	18-Mar-22	31-Mar-22	73
AS501300	Delivery of CHP Generators (S8)	60	18-Jan-22	18-Mar-22	01-Apr-22	30-May-22	73
AS501320	Fabrication of Waste Gas Burning System (S9)	360	08-May-21	02-May-22	11-Nov-21	05-Nov-22	187
AS501340	FAT for Waste Gas Steam Generation Boiler (S9)	14	19-Apr-22	02-May-22	23-Oct-22	05-Nov-22	187
AS501360	Delivery of Waste Gas Burning System (S9)	60	03-May-22	01-Jul-22	06-Nov-22	04-Jan-23	187
AS501380	Fabrication & Delivery of Plant Service Water System (S12)	300	23-May-21	18-Mar-22	06-Aug-21	01-Jun-22	75
AS501400	Fabrication & Delivery of SAS Pumping System (S14)	240	24-Mar-21	18-Nov-21	03-Apr-21	28-Nov-21	10
AS501420	Fabrication of 11kV Transfomers (S17)	300	07-Feb-21	03-Dec-21	23-Dec-21	18-Oct-22	319
AS501440	FAT for 11kV Transfomers (S17)	14	20-Nov-21	03-Dec-21	05-Oct-22	18-Oct-22	319
AS501460	Delivery of 11kV Transfomers (S17)	60	04-Dec-21	01-Feb-22	19-Oct-22	17-Dec-22	319
AS501480	Fabrication of 380V Transfomers (S17)	300	07-Feb-21	03-Dec-21	06-Dec-21	01-Oct-22	302
AS501500	FAT for 380V Transfomers (S17)	14	20-Nov-21	03-Dec-21	18-Sep-22	01-Oct-22	302
AS501520	Delivery of 380V Transfomers (S17)	60	04-Dec-21	01-Feb-22	02-Oct-22	30-Nov-22	302
AS501540	Fabrication of 11 kV Switchboard (S17)	300	07-Feb-21	03-Dec-21	11-Oct-21	06-Aug-22	246
AS501560	FAT for 11 kV Switchboard (S17)	14	20-Nov-21	03-Dec-21	24-Jul-22	06-Aug-22	246
AS501580	Delivery of 11 kV Switchboard (S17)	60	04-Dec-21	01-Feb-22	07-Aug-22	05-Oct-22	246
AS501600	Fabrication of 380V Switchboard (S17)	300	19-Mar-21	12-Jan-22	09-Jul-21	04-May-22	112
AS501620	FAT for 380V Switchboard (S17)	14	30-Dec-21	12-Jan-22	21-Apr-22	04-May-22	112
AS501640	Delivery of 380V Switchboard (S17)	60	13-Jan-22	13-Mar-22	05-May-22	03-Jul-22	112
AS501660b	Fabrication & Delivery of Pipeworks & Associated Valves	300	23-May-21	18-Mar-22	09-Jun-21	04-Apr-22	17
AS501680	Fabrication of Control & Monitoring System (S18)	300	08-May-21	03-Mar-22	22-Dec-21	17-Oct-22	228
AS501700	FAT for SCADA System (S18)	30	04-Mar-22	02-Apr-22	18-Oct-22	16-Nov-22	228
AS501720	Delivery of SCADA System (S18)	30	03-Apr-22	02-May-22	17-Nov-22	16-Dec-22	228
AS501740	Fabrication & Delivery of Lifting Appliances (S19)	270	17-Mar-21	11-Dec-21	25-Apr-21	19-Jan-22	39
AS501760	Fabrication & Delivery of Reclaimed Water Utilisation (S13)	300	23-May-21	18-Mar-22	31-Oct-21	26-Aug-22	161
AS501780	Fabrication & Delivery of H2S Removal System (S7)	300	30-May-21	25-Mar-22	14-Dec-21	09-Oct-22	198
AS501800	Fabrication & Delivery of DO System (S21)	300	12-Jun-21	07-Apr-22	17-Feb-22	13-Dec-22	250
AS501820	Fabrication & Delivery of Stoplog (S21)	300	17-Jul-20	12-May-21	09-Jun-21	04-Apr-22	327
AS501840	Fabrication & Delivery of Penstock (S21)	300	17-Jul-20	12-May-21	09-Jun-21	04-Apr-22	327
AS501860	Fabrication & Delivery of Sewage Pump (S21)	360	27-Feb-21	21-Feb-22	15-Nov-21	09-Nov-22	261
AS501880	Fabrication & Delivery of Process Water Pump (S21)	300	14-Dec-20	09-Oct-21	07-Jun-21	02-Apr-22	175
AS501900	Fabrication & Delivery of External Sludge Transfer Pump (S21)	360	12-Feb-21	06-Feb-22	19-Mar-22	13-Mar-23	400
AS501920	Fabrication & Delivery of THP Cooling Pump (S21)	360	12-Feb-21	06-Feb-22	15-Mar-22	09-Mar-23	396
AS501940	Fabrication & Delivery of Ferric Chloride Storage Tank (S21)	360	14-Mar-21	08-Mar-22	14-Jan-22	08-Jan-23	306
AS501960	Fabrication & Delivery of Ferric Chloride Dosing Pump (S21)	360	14-Mar-21	08-Mar-22	13-Feb-22	07-Feb-23	336
AS501980	Fabrication & Delivery of Temporary Primary Sludge Pump (S21)	360	14-Mar-21	08-Mar-22	15-Mar-22	09-Mar-23	366
AS501990b	Fabrication & Delivery of Genset	360	19-Dec-20	13-Dec-21	11-Nov-21	05-Nov-22	327
AS510060	Fabrication & Delivery of Elec. Materials	180	07-Jul-21	02-Jan-22	09-Jul-21	04-Jan-22	2
AS510080	Fabrication & Delivery of Gas Detection System	300	27-Jul-21	22-May-22	10-Apr-22	03-Feb-23	257
Sludge Dewatering Building							
AS502100	Mobilisation	15	03-Jan-22	17-Jan-22	05-Jan-22	19-Jan-22	2
Sludge Dewatering (SDe)							
AS502120	E&M Installation of Process Water Pump (S21)	60	18-Jan-22	18-Mar-22	03-Apr-22	01-Jun-22	75
AS502140	E&M Installation of EOT Crane LA-01-02	75	18-Jan-22	02-Apr-22	20-Jan-22	04-Apr-22	2
AS502150	E&M Installation of Monorail LA-01-04	60	17-Jun-22	15-Aug-22	24-Jul-22	21-Sep-22	37
AS502160	E&M Installation of Sludge Dewatering System (S6)	180	03-Apr-22	29-Sep-22	05-Apr-22	01-Oct-22	2
Sludge Screening (SSc)							
AS502180	E&M Installation of Monorail LA-01-01	60	16-Aug-22	14-Oct-22	22-Sep-22	20-Nov-22	37
AS502200	E&M Installation of Sludge Screening System (S2)	135	19-Nov-22	02-Apr-23	21-Nov-22	04-Apr-23	2
AS502220	E&M Installation of External Sludge Transfer Pump (S21)	30	04-Mar-23	02-Apr-23	14-Mar-23	12-Apr-23	10
Sludge Thickening (STh)							
AS502260	E&M Installation of EOT Crane LA-01-03	90	19-Mar-22	16-Jun-22	26-Mar-22	23-Jun-22	7



Remaining Work
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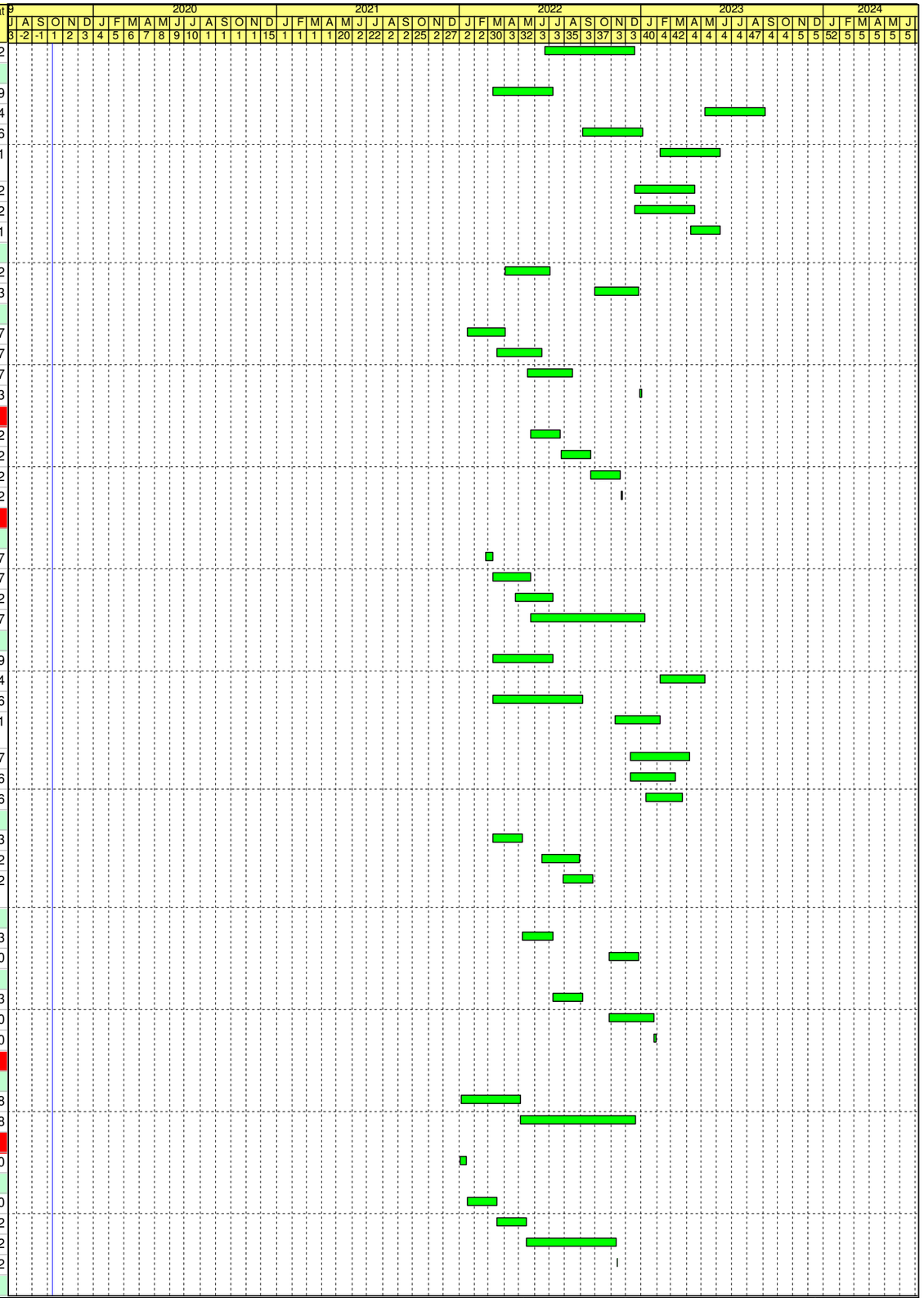
Contract No. DE/2018/03
Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1
Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis
Master Programme

Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	AI	KM
10-Feb-20	Rev. 1	AI	KM
21-Apr-20	Rev. 2	AI	KM
09-Jun-20	Rev.3	LT	KM

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS502280	E&M Installation of Sludge Thickening System (S3)	180	22-Jun-22	18-Dec-22	24-Jun-22	20-Dec-22	2
Building Services							
AS502300	FS Installation - Conduits, Trunking, & Pipeworks	120	10-Mar-22	07-Jul-22	02-Feb-23	01-Jun-23	329
AS502320	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	120	09-May-23	05-Sep-23	02-Jun-23	29-Sep-23	24
AS502340	BS Fitting Installation - Conduits, Trunking, & Ductworks	120	06-Sep-22	03-Jan-23	22-Oct-22	18-Feb-23	46
AS502360	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	120	08-Feb-23	07-Jun-23	19-Feb-23	18-Jun-23	11
AS502380	Installation of Control & Monitoring System	120	19-Dec-22	17-Apr-23	21-Dec-22	19-Apr-23	2
AS502400	Installation of CCTV System	120	19-Dec-22	17-Apr-23	21-Dec-22	19-Apr-23	2
AS502410	Installation of Gas Detection System	60	09-Apr-23	07-Jun-23	20-Apr-23	18-Jun-23	11
Tx Rm							
AS502420	BS Fitting Intallation	90	03-Apr-22	01-Jul-22	02-Sep-22	30-Nov-22	152
AS502440	E&M Installation of 380V Transformers (S17)	90	29-Sep-22	27-Dec-22	01-Dec-22	28-Feb-23	63
LV Switchroom							
AS502460	BS Fitting Intallation	75	18-Jan-22	02-Apr-22	05-May-22	18-Jul-22	107
AS502480	E&M Installation of LVSB at G/F (S17)	90	19-Mar-22	16-Jun-22	04-Jul-22	01-Oct-22	107
AS502500	E&M Installation of LVSB at 1/F (S17)	90	18-May-22	15-Aug-22	02-Sep-22	30-Nov-22	107
AS502520	Ready for Energisation	5	28-Dec-22	01-Jan-23	01-Mar-23	05-Mar-23	63
Tx Rm & LV Switchroom (for UV)							
AS105120	BS Fitting Intallation (at Tx Rm & LV Switchroom)	60	25-May-22	23-Jul-22	04-Sep-22	02-Nov-22	102
AS105140	E&M Installation of Transfomers in Tx Rm	60	24-Jul-22	21-Sep-22	03-Nov-22	01-Jan-23	102
AS105160	E&M Installation of LVSB	60	22-Sep-22	20-Nov-22	02-Jan-23	02-Mar-23	102
AS105180	Ready for Permanet Power Energisation	3	21-Nov-22	23-Nov-22	03-Mar-23	05-Mar-23	102
Combined Heat & Power Building							
Combined Heat & Power Generation (CHP)							
AS503100	Mobilisation	14	24-Feb-22	09-Mar-22	03-Mar-22	16-Mar-22	7
AS503120	E&M Installation of EOT Crane No. 1	75	10-Mar-22	23-May-22	17-Mar-22	30-May-22	7
AS503140	E&M Installation of EOT Crane No. 2	75	24-Apr-22	07-Jul-22	05-Jun-22	18-Aug-22	42
AS503160	E&M Installation of CHP System (S8)	230	24-May-22	08-Jan-23	31-May-22	15-Jan-23	7
Building Services							
AS503180	FS Installation - Conduits, Trunking, & Pipeworks	120	10-Mar-22	07-Jul-22	07-Jul-22	03-Nov-22	119
AS503200	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	90	08-Feb-23	08-May-23	04-Mar-23	01-Jun-23	24
AS503220	BS Fitting Installation - Conduits, Trunking, & Ductworks	180	10-Mar-22	05-Sep-22	25-Apr-22	21-Oct-22	46
AS503240	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	90	10-Nov-22	07-Feb-23	21-Nov-22	18-Feb-23	11
AS503260	Installation of Control & Monitoring System	120	10-Dec-22	08-Apr-23	17-Dec-22	15-Apr-23	7
AS503280	Installation of CCTV System	90	10-Dec-22	09-Mar-23	05-Jan-23	04-Apr-23	26
AS503290	Installation of Gas Detection System	75	09-Jan-23	24-Mar-23	04-Feb-23	19-Apr-23	26
11kV Switchroom							
AS503300	BS Fitting Installation	60	10-Mar-22	08-May-22	21-Jun-22	19-Aug-22	103
AS503320	E&M Installation of 11kV Switchboard (S17)	75	16-Jun-22	29-Aug-22	06-Oct-22	19-Dec-22	112
AS503340	Main Cables Laying between 11kV SwitchRoom of CHP Bldg to Tx Rm of Workshop No.2	60	29-Jul-22	26-Sep-22	18-Nov-22	16-Jan-23	112
Tx Rm							
AS503360	BS Fitting Installation	60	09-May-22	07-Jul-22	20-Aug-22	18-Oct-22	103
AS503380	E&M Installation of 11kV Transfomers (S17)	60	29-Oct-22	27-Dec-22	18-Dec-22	15-Feb-23	50
LV Switchroom							
AS503400	BS Fitting Intallation	60	08-Jul-22	05-Sep-22	19-Oct-22	17-Dec-22	103
AS503420	E&M Installation of LVSB at 1/F (S17)	90	29-Oct-22	26-Jan-23	18-Dec-22	17-Mar-23	50
AS503440	Ready for Energisation	3	27-Jan-23	29-Jan-23	18-Mar-23	20-Mar-23	50
Sludge Digesters & Distribution Chamber							
Sludge Digestion (SDi)							
AS503500	FRP Walkway / Cover Installation	120	05-Jan-22	04-May-22	13-Jan-22	12-May-22	8
AS503600	E&M Installation of Sludge Digestion System (S5)	230	05-May-22	20-Dec-22	13-May-22	28-Dec-22	8
Workshop No. 2							
AS504000	Mobilisation	14	03-Jan-22	16-Jan-22	22-Feb-22	07-Mar-22	50
CLP Substation							
AS504100	BS Fitting Intallation (at CLP Sub-station in Workshop No.2)	60	17-Jan-22	17-Mar-22	08-Mar-22	06-May-22	50
AS509940a	Inspections, Rectification & H/O to CLP	60	18-Mar-22	16-May-22	08-Jul-22	05-Sep-22	112
AS509960	E&M Installation of HV Transformer (By CLP)	180	17-May-22	12-Nov-22	06-Sep-22	04-Mar-23	112
AS509980	Energisation (By CLP)	1	13-Nov-22	13-Nov-22	05-Mar-23	05-Mar-23	112
11kV HV Switchroom							



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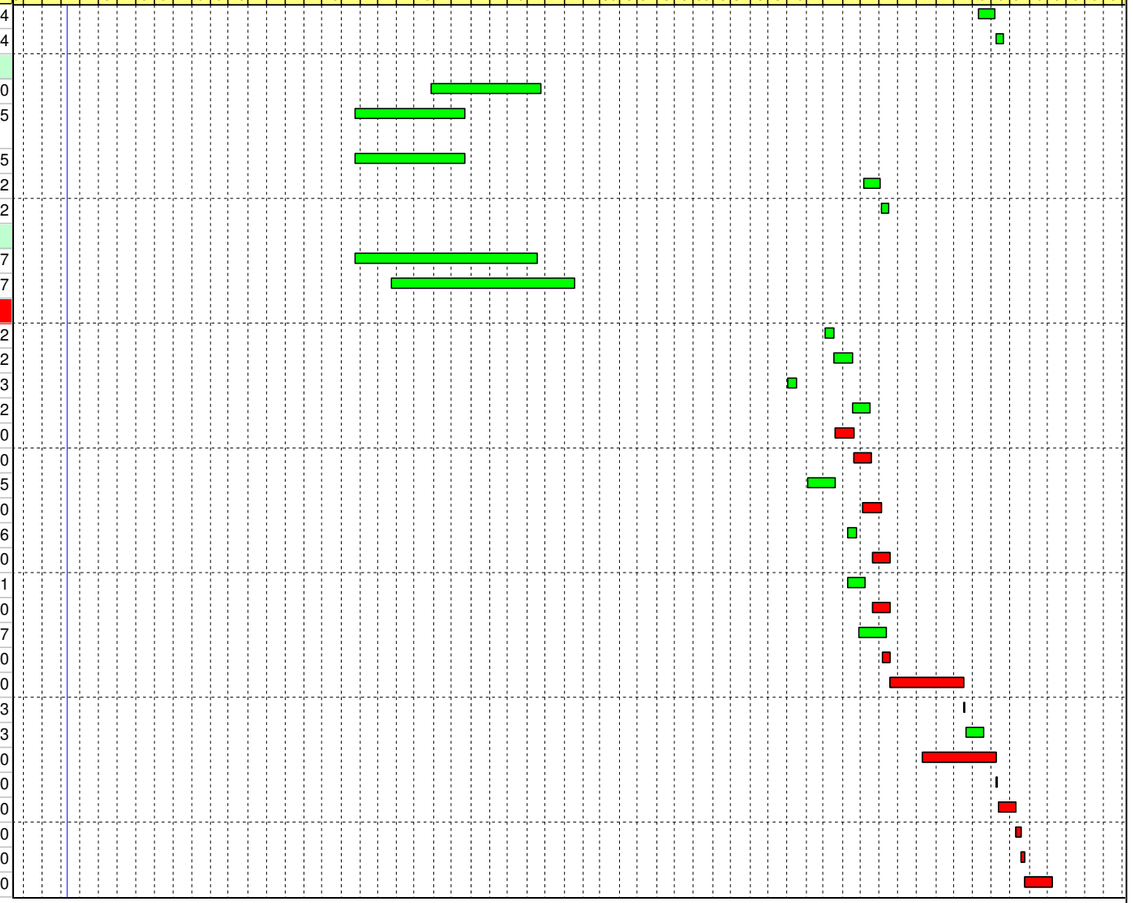
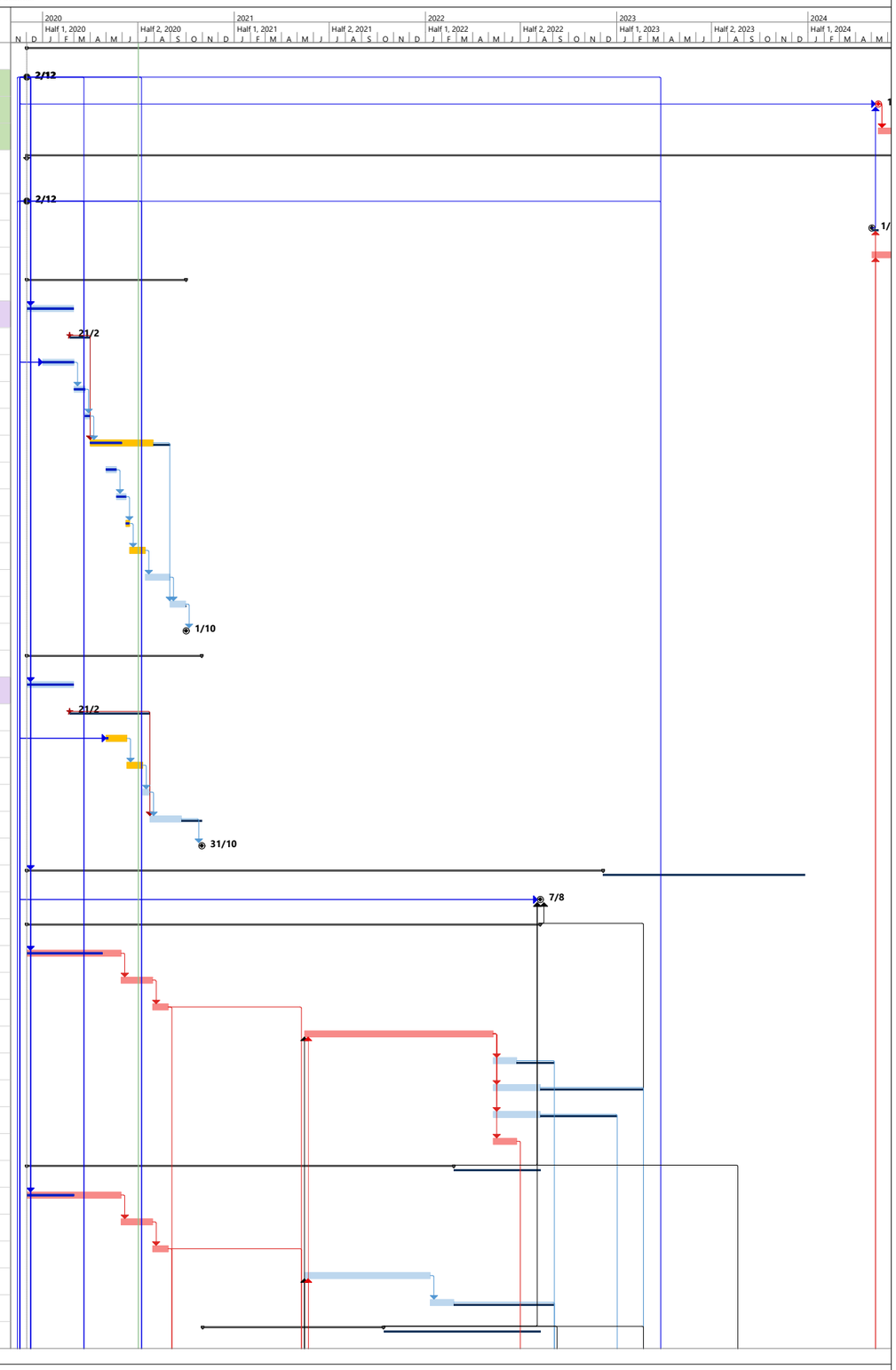
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS504200	BS Fitting Intallation	60	16-Feb-22	16-Apr-22	07-Apr-22	05-Jun-22	50
AS504240	E&M Installation of 11kV HVSB (at Workshop No.2)	60	17-Apr-22	15-Jun-22	06-Jun-22	04-Aug-22	50
AS504260	Main Cables Laying between Workshop No.2 & Tx Rm for UV System No.1	45	16-Jun-22	30-Jul-22	05-Aug-22	18-Sep-22	50
AS504280	Main Cables Laying between Workshop No.2 & Tx Rm for Sludge Dewatering Bldg	60	31-Jul-22	28-Sep-22	19-Sep-22	17-Nov-22	50
AS504300	Main Cables Laying between Workshop No.2 & Tx Rm for CHP Bldg	60	29-Sep-22	27-Nov-22	18-Nov-22	16-Jan-23	50
Building Services							
AS504400a	FS Installation - Conduits, Trunking, & Pipeworks	90	08-Jul-22	05-Oct-22	03-May-23	31-Jul-23	299
AS504410a	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	90	09-May-23	06-Aug-23	01-Aug-23	29-Oct-23	84
AS504420a	BS Fitting Installation - Conduits, Trunking, & Ductworks	90	06-Sep-22	04-Dec-22	15-Apr-23	13-Jul-23	221
AS504430a	BS Fitting Installation - Cable Laying, Termination, Associated Fitting & Field Devices	90	08-Jun-23	05-Sep-23	27-Sep-23	25-Dec-23	111
AS504450	Installation of CCTV System	90	08-Jul-23	05-Oct-23	27-Oct-23	24-Jan-24	111
AS504460	Installation of Lift	240	05-Dec-22	01-Aug-23	14-Jul-23	09-Mar-24	221
Biogas Storage & Pre-Treatment (BSPT)							
AS504500	E&M Installation of Biogas Storage Tank 1	240	25-May-22	19-Jan-23	25-May-22	19-Jan-23	0
AS504520	E&M Installation of Biogas Storage Tank 2	240	09-Jun-22	03-Feb-23	09-Jun-22	03-Feb-23	0
AS504540	E&M Installation of Biogas Storage Tank 3	210	07-Sep-22	04-Apr-23	07-Sep-22	04-Apr-23	0
Miscellaneous							
AS106300	Installation of Control & Monitoring System - UV	75	12-Feb-23	27-Apr-23	05-Apr-23	18-Jun-23	52
AS505000	E&M Installation of THP System (S4)	120	21-Aug-22	18-Dec-22	22-Oct-22	18-Feb-23	62
AS505100	E&M Installation of Thickened Sludge Feed Pipe to THP System	75	19-Dec-22	03-Mar-23	20-Jan-23	04-Apr-23	32
AS505200	E&M Installation of H2S Removal System (S7)	80	02-Oct-22	20-Dec-22	10-Oct-22	28-Dec-22	8
AS505300	E&M Installation of Waste Gas Burning System (S9)	120	10-Dec-22	08-Apr-23	05-Jan-23	04-May-23	26
AS505400	E&M Installation of Plant Service Water System (S12)	90	25-May-22	22-Aug-22	02-Jun-22	30-Aug-22	8
AS505500	E&M Installation of Reclaimed Water Utilisation (S13)	75	19-Aug-22	01-Nov-22	27-Aug-22	09-Nov-22	8
AS505600	E&M Installation of SAS Pumping System (S14)	210	19-Nov-21	16-Jun-22	29-Nov-21	26-Jun-22	10
AS505700	E&M Installation of DO System (S21)	90	06-Dec-22	05-Mar-23	14-Dec-22	13-Mar-23	8
AS506000	E&M Installation of Sewage Pump (S21)	60	02-Nov-22	31-Dec-22	10-Nov-22	08-Jan-23	8
AS506100	E&M Installation of THP Cooling Pump (S21)	60	02-Mar-23	30-Apr-23	10-Mar-23	08-May-23	8
AS506200	E&M Installation of Ferric Chloride Storage Tank (S21)	45	01-Jan-23	14-Feb-23	09-Jan-23	22-Feb-23	8
AS506300	E&M Installation of Ferric Chloride Dosing Pump (S21)	45	31-Jan-23	16-Mar-23	08-Feb-23	24-Mar-23	8
AS506400	E&M Installation of Temporary Primary Sludge Pump (S21)	45	02-Mar-23	15-Apr-23	10-Mar-23	23-Apr-23	8
AS506500b	E&M Installation of Genset	180	18-Jan-22	16-Jul-22	06-Nov-22	04-May-23	292
Building Services							
AS507000	FS Installation - Conduits, Trunking, & Pipeworks	240	09-May-22	03-Jan-23	05-Sep-22	02-May-23	119
AS507100	FS Installation - Cable Laying, Termination, Associated Fitting & Field Devices	240	08-Feb-23	05-Oct-23	04-Mar-23	29-Oct-23	24
AS507200	Installation of Control & Monitoring System	120	29-Dec-22	27-Apr-23	05-Jan-23	04-May-23	7
AS507300	Installation of CCTV System	150	10-Nov-22	08-Apr-23	06-Dec-22	04-May-23	26
AS507700	BS Installation for Sludge Digester	45	21-Dec-22	03-Feb-23	04-Feb-23	20-Mar-23	45
AS507800	BS Installation for THP Facilities	30	04-Feb-23	05-Mar-23	20-Apr-23	19-May-23	75
AS507900	BS Installation for Biogas Holding Tanks	60	06-Mar-23	04-May-23	21-Mar-23	19-May-23	15
AS508000	BS Installation for Sewage Pumping Station	60	06-Mar-23	04-May-23	21-Mar-23	19-May-23	15
AS508100	BS Installation for Other Facilities	90	04-Feb-23	04-May-23	19-Feb-23	19-May-23	15
Statutory Submission / Inspection							
FSD Submission / Inspection							
AS509120	Prepare & Submit FSI/314 & FSI/501	14	06-Oct-23	19-Oct-23	09-Nov-23	22-Nov-23	34
AS509120a	FSD Review & Approval of FSI/314 & FSI/501	21	20-Oct-23	09-Nov-23	07-Dec-23	27-Dec-23	48
AS509140a	F.S. Inspection, Defects Rectification & Re-inspection	45	10-Nov-23	24-Dec-23	28-Dec-23	10-Feb-24	48
AS509200	Issuance of Acceptance Letter	28	18-Jan-24	14-Feb-24	11-Feb-24	09-Mar-24	24
AS509220	Application of D.G. Licence	0	29-Dec-20		29-Jul-21		212
AS509240	Processing of D.G. Licence Application	300	29-Dec-20	24-Oct-21	29-Jul-21	24-May-22	212
AS509250b	Apply for D.G. Inspection	45	22-Aug-23	05-Oct-23	15-Sep-23	29-Oct-23	24
AS509260	D.G. Inspection, Defects Rectification & Re-inspection (Ventilation Division)	45	06-Oct-23	19-Nov-23	30-Oct-23	13-Dec-23	24
AS509280b	D.G. Inspection, Defects Rectification & Re-inspection (DG Division)	45	20-Nov-23	03-Jan-24	14-Dec-23	27-Jan-24	24
AS509300b	Issue D.G. Licence	14	04-Jan-24	17-Jan-24	28-Jan-24	10-Feb-24	24
WSD Submission / Inspection							
AS509300	Submit WWO46 Pt. I & II to WSD (FS)	30	29-Dec-20	27-Jan-21	12-Jul-21	10-Aug-21	195
AS509320	Approval of WWO46 Pt. I & II by WSD (FS)	30	28-Jan-21	26-Feb-21	11-Aug-21	09-Sep-21	195
AS509340	Submit WWO46 Pt. IV to WSD (FS)	7	06-Oct-23	12-Oct-23	09-Nov-23	15-Nov-23	34
AS509360	WSD Inspection (FS)	28	13-Oct-23	09-Nov-23	16-Nov-23	13-Dec-23	34

Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Total Float
AS509362b	Taking of Water Samples and Meter Installation & Tesing	28	10-Nov-23	07-Dec-23	14-Dec-23	10-Jan-24	34
AS509364b	Issue of WWO46 Pt. V	14	08-Dec-23	21-Dec-23	11-Jan-24	24-Jan-24	34
EMSD Submission / Inspection							
AS509370b	Application & Approval of the BEC Submission	180	28-May-21	23-Nov-21	09-Nov-22	07-May-23	530
AS509380b	Application & Approval of the Zone Classification of Hazardous Area - including Fire Risk Assessment Report	180	23-Jan-21	21-Jul-21	09-Nov-22	07-May-23	655
AS509400a	Application for Construction Approval of Notifiable Gas Installation (Form 104)	180	23-Jan-21	21-Jul-21	09-Nov-22	07-May-23	655
AS509420a	Application for Approval of Use of Notifiable Gas Installation (Form 105)	28	06-May-23	02-Jun-23	08-May-23	04-Jun-23	2
AS509440a	EMSD Inspection - Gas Holding Tanks	14	03-Jun-23	16-Jun-23	05-Jun-23	18-Jun-23	2
EPD Submission / Inspection							
AS509500a	EPD Submission & Approval for Air Pollution Control - Genset	300	23-Jan-21	18-Nov-21	31-Mar-23	24-Jan-24	797
AS509520a	EPD Submission & Approval for Air Pollution Control - CHP, CAPC, Flare	300	24-Mar-21	17-Jan-22	31-Mar-23	24-Jan-24	737
Testing & Commissioning							
AS510100	SAT of THP System	15	04-Mar-23	18-Mar-23	05-Apr-23	19-Apr-23	32
AS510200a	System Commissioning Tests for THP System	30	19-Mar-23	17-Apr-23	20-Apr-23	19-May-23	32
AS510300	SAT for Sludge Dewatering System	15	02-Jan-23	16-Jan-23	06-Mar-23	20-Mar-23	63
AS510400	System Commissioning Tests for Sludge Dewatering System	30	18-Apr-23	17-May-23	20-Apr-23	19-May-23	2
AS510500	SAT for Biogas Storage System	30	21-Mar-23	19-Apr-23	21-Mar-23	19-Apr-23	0
AS510600	System Commissioning Tests for Biogas Storage System	30	20-Apr-23	19-May-23	20-Apr-23	19-May-23	0
AS510700	SAT for Sludge Digestion System	45	04-Feb-23	20-Mar-23	21-Mar-23	04-May-23	45
AS510800	System Commissioning Tests for Sludge Digestion System	30	05-May-23	03-Jun-23	05-May-23	03-Jun-23	0
AS510900	SAT for Gas Burning System	15	09-Apr-23	23-Apr-23	05-May-23	19-May-23	26
AS511000	System Commissioning Tests for Gas Burning System	30	20-May-23	18-Jun-23	20-May-23	18-Jun-23	0
AS511100	SAT for CHP System	30	09-Apr-23	08-May-23	20-Apr-23	19-May-23	11
AS511200	System Commissioning Tests for CHP System	30	20-May-23	18-Jun-23	20-May-23	18-Jun-23	0
AS511300b	SAT & System Commissioning Tests for Other Facilities	45	28-Apr-23	11-Jun-23	05-May-23	18-Jun-23	7
AS512100	Seeding	14	05-Jun-23	18-Jun-23	05-Jun-23	18-Jun-23	0
AS512200a	Process Start Up - Digester 1	120	19-Jun-23	16-Oct-23	19-Jun-23	16-Oct-23	0
AS512300a	Notice to Commence Phase 1 System Commissioning - Digester 1	3	17-Oct-23	19-Oct-23	09-Dec-23	11-Dec-23	53
AS512400a	Phase 1 System Commissioning - Digester 1	30	20-Oct-23	18-Nov-23	12-Dec-23	10-Jan-24	53
AS512500a	Process Start Up - Digester 2	120	11-Aug-23	08-Dec-23	11-Aug-23	08-Dec-23	0
AS512600a	Notice to Commence Phase 1 System Commissioning - Digester 2	3	09-Dec-23	11-Dec-23	09-Dec-23	11-Dec-23	0
AS512700a	Phase 1 System Commissioning - Digester 2	30	12-Dec-23	10-Jan-24	12-Dec-23	10-Jan-24	0
AS512800a	Phase 2 System Commissioning - Digester 1 & 2	7	11-Jan-24	17-Jan-24	11-Jan-24	17-Jan-24	0
AS512900a	Notice to Commence Plant Commissioning	7	18-Jan-24	24-Jan-24	18-Jan-24	24-Jan-24	0
AS513000a	Plant Commissioning Tests	45	25-Jan-24	09-Mar-24	25-Jan-24	09-Mar-24	0



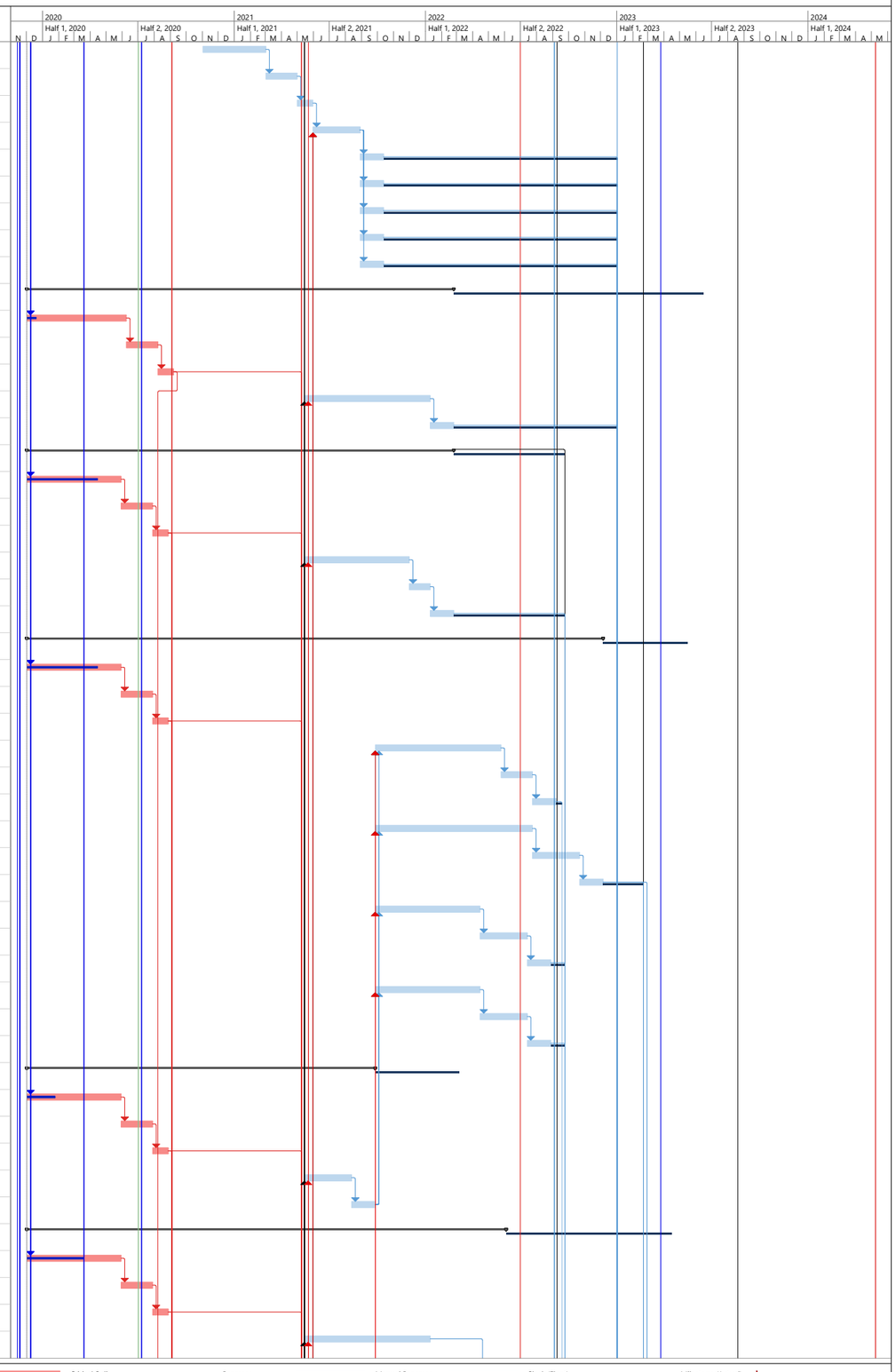
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
1	**1**		**1**	**DE/2018/04 - Contract Master Programme**	**1990 days**	**Mon 2/12/19**	**Tue 13/5/25**	**Mon 2/12/19**	**Tue 13/5/25**	**Tue 13/5/...**	**Mon 2/1...**	**0 days**			
2	2		1.1	*Starting Date*	0 days	Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	Mon 2/12/...	Mon 2/12/...	0 days		3SS+1625 eday	
3	3		1.2	*Completion Date*	0 days	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	0 days	2SS+1625 eda	4	
4	4		1.3	*Defect Dates with respect to Completion Date*	*365 days*	*Tue 14/5/24*	*Tue 13/5/25*	*Tue 14/5/24*	*Tue 13/5/25*	Tue 13/5/...	Tue 14/5/...	*0 days*	3		
5	**5**		**2**	**DE/2018/04 - the Contractor's Programme (w/ Defects Date of Planned Competion Date)**	**1978 days**	**Mon 2/12/19**	**Thu 1/5/25**	**Mon 2/12/19**	**Thu 1/5/25**	**Thu 1/5/25**	**Mon 2/12/19**	**0 days**			
6	6		2.1	*Starting Date*	0 days	Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	Mon 2/12/...	Mon 2/12/...	0 days		455,541,869,9	
7	7	IW, PST, BR, MFS,LA,PV,CCTV,P\	2.2	Planned Completion Date	0 days	Wed 1/5/24	Wed 1/5/24	Wed 1/5/24	Wed 1/5/24	Tue 14/5/24	Tue 14/5/24	12 days	948,950,951,1	3	
8	8		2.3	*Defect Dates with respect to planned completion date*	*365 days*	*Thu 2/5/24*	*Thu 1/5/25*	*Thu 2/5/24*	*Thu 1/5/25*	Thu 1/5/25	Thu 2/5/24	*0 days*	948		
9	**9**	**WA1-C**	**2.4**	**Works Area WA1-C**	**304 days**	**Mon 2/12/19**	**Thu 1/10/20**	**Mon 2/12/19**	**Thu 1/10/20**	**Thu 1/10/20**	**Mon 2/12/...**	**0 days**			
10	**10**	**WA1-C**	**2.4.1**	**Access date for Works Area WA1-C**	**89 edays**	**Mon 2/12/19**	**Sat 29/2/20**	**Mon 2/12/19**	**Sat 29/2/20**	**Sat 29/2/20**	**Mon 2/12/...**	**0 edays**	**6,2**		
11	11	WA1-C	2.4.2	Actual Access / Handover Date	1 day	Fri 21/2/20	Fri 21/2/20	Fri 21/2/20	Fri 21/2/20	Sat 30/5/20	Sat 30/5/20	39 days		15	
12	12	WA1-C	2.4.3	Submission for acceptance of subcontract works package (Site Office) (04SC003)	60 days	Wed 1/1/20	Sat 29/2/20	Wed 1/1/20	Sat 29/2/20	Sat 29/2/20	Wed 1/1/20	0 days	6SS+30 edays	13	
13	13	WA1-C	2.4.4	Invitation of quotations for subcontract works (Site Office)	21 days	Sun 1/3/20	Sat 21/3/20	Sun 1/3/20	Sat 21/3/20	Sat 21/3/20	Sun 1/3/20	0 days	12	14	
14	14	WA1-C	2.4.5	Acceptance of conforming quotation (Site Office)	10 days	Sun 22/3/20	Tue 31/3/20	Sun 22/3/20	Tue 31/3/20	Tue 31/3/20	Sun 22/3/20	0 days	13	15	
15	15	WA1-C	2.4.6	Design and Fabrication of the Contractor's Site Accommodations	120 days	Wed 1/4/20	Wed 29/7/20	Wed 1/4/20	Wed 29/7/20	Mon 31/8/...	Wed 1/4/20	32 days	14,11	21	
16	16	WA1-C	2.4.7	Submission for acceptance of subcontract works package (Site Office Foundation)	20 days	Fri 1/5/20	Wed 20/5/20	Fri 1/5/20	Wed 20/5/20	Wed 20/5/...	Fri 1/5/20	0 days		17	
17	17	WA1-C	2.4.8	Invitation of quotations for subcontract works (Site Office Foundation)	18 days	Thu 21/5/20	Sun 7/6/20	Thu 21/5/20	Sun 7/6/20	Sun 7/6/20	Thu 21/5/20	0 days	16	18	
18	18	WA1-C	2.4.9	Acceptance of conforming quotation (Site foundation)	7 days	Mon 8/6/20	Sun 14/6/20	Mon 8/6/20	Sun 14/6/20	Mon 15/6/...	Mon 8/6/20	0 days	17	19	
19	19	WA1-C	2.4.10	Design and Construction of the Contractor's Site Office foundation	30 days	Mon 15/6/20	Tue 14/7/20	Mon 15/6/20	Tue 14/7/20	Wed 15/7/...	Tue 16/6/20	0 days	18	20	
20	20	WA1-C	2.4.11	Construction of Contractor's Site Office foundation	47 days	Wed 15/7/20	Sun 30/8/20	Wed 15/7/20	Sun 30/8/20	Mon 31/8/...	Thu 16/7/20	0 days	19	21	
21	21	WA1-C	2.4.12	Site Installation of the Contractor's Site Accommodations (MiC)	30 days	Mon 31/8/20	Tue 29/9/20	Mon 31/8/20	Tue 29/9/20	Wed 30/9/...	Tue 1/9/20	1 day	15,20	22	
22	22	WA1-C	2.4.13	Anticipated date of working at site	0 days	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	0 days	21		
23	**23**	**WA2-C**	**2.5**	**Works Area WA2-C**	**334 days**	**Mon 2/12/19**	**Sat 31/10/20**	**Mon 2/12/19**	**Sat 31/10/20**	**Sat 31/10/...**	**Mon 2/12/...**	**0 days**			
24	**24**	**WA2-C**	**2.5.1**	**Access date for Works Area WA2-C**	**89 edays**	**Mon 2/12/19**	**Sat 29/2/20**	**Mon 2/12/19**	**Sat 29/2/20**	**Sat 29/2/20**	**Mon 2/12/...**	**0 edays**	**6,2**		
25	25	WA2-C	2.5.2	Actual Access / Handover Date	1 day	Fri 21/2/20	Fri 21/2/20	Fri 21/2/20	Fri 21/2/20	Mon 31/8/...	Mon 31/8/...	153 days		29	
26	26	WA2-C	2.5.3	Submission for acceptance of subcontract works package	40 edays	Fri 1/5/20	Wed 10/6/20	Fri 1/5/20	Wed 10/6/20	Sun 19/7/20	Fri 1/5/20	0 edays	6SS+30 edays	27	
27	27	WA2-C	2.5.4	Invitation of quotations for subcontract works	30 edays	Wed 10/6/20	Fri 10/7/20	Wed 10/6/20	Fri 10/7/20	Tue 18/8/20	Sun 19/7/20	0 edays	26	28	
28	28	WA2-C	2.5.5	Acceptance of conforming quotation	14 edays	Fri 10/7/20	Fri 24/7/20	Fri 10/7/20	Fri 24/7/20	Tue 1/9/20	Tue 18/8/20	0 edays	27	29	
29	29	WA2-C	2.5.6	Erection of Contractor's Storage Area	60 edays	Fri 24/7/20	Tue 22/9/20	Fri 24/7/20	Tue 22/9/20	Sat 31/10/20	Tue 1/9/20	39 edays	28,25	30	
30	30	WA2-C	2.5.7	Anticipated date of Storage Area available	0 days	Sat 31/10/20	Sat 31/10/20	Sat 31/10/20	Sat 31/10/20	Sat 31/10/20	Sat 31/10/20	0 days	29		
31	**31**		**2.6**	**Procurement and delivery of major plant and materials**	**1100 days**	**Mon 2/12/19**	**Mon 5/12/22**	**Mon 2/12/19**	**Mon 5/12/22**	**Tue 26/12...**	**Mon 2/12/...**	**386 days**	**6,2**		
32	32		2.6.1	Planned Completion Date for Procurement of major plant and materials	0 days	Sun 7/8/22	Sun 7/8/22	Sun 7/8/22	Sun 7/8/22	Sun 7/8/22	Sun 7/8/22	0 days	6SS+620 days		
33	**33**	**IW, PST, BR, MFS**	**2.6.2**	**General - stoplogs and penstocks, C11, EQT013**	**980 days**	**Mon 2/12/19**	**Sun 7/8/22**	**Mon 2/12/19**	**Sun 7/8/22**	**Sun 30/4/23**	**Mon 2/12/...**	**0 days**		**32,608**	
34	34	IW, PST, BR, MFS	2.6.2.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	35	
35	35	IW, PST, BR, MFS	2.6.2.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	34	36	
36	36	IW, PST, BR, MFS	2.6.2.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	35	459,472	
37	37	IW, PST, BR, MFS	2.6.2.4	Manufacturing and Factory Acceptance Test of Plant	360 days	Sat 15/5/21	Mon 9/5/22	Sat 15/5/21	Mon 9/5/22	Mon 9/5/22	Sat 15/5/21	0 days	459,472	41,40,39,38	
38	38	IW	2.6.2.5	IW - Shipping and Delivery of Plant to site	45 days	Tue 10/5/22	Thu 23/6/22	Tue 10/5/22	Thu 23/6/22	Fri 10/2/23	Wed 28/1...	72 days	37	558	
39	39	PST	2.6.2.6	PST - Shipping and Delivery of Plant to site	90 days	Tue 10/5/22	Sun 7/8/22	Tue 10/5/22	Sun 7/8/22	Tue 16/5/...	Thu 16/2/...	197 days	37	608	
40	40	BR	2.6.2.7	BR - Shipping and Delivery of Plant to site	90 days	Tue 10/5/22	Sun 7/8/22	Tue 10/5/22	Sun 7/8/22	Mon 1/5/...	Wed 1/2/...	147 days	37	653	
41	41	MFS	2.6.2.8	MFS - Shipping and Delivery of Plant to site	45 days	Tue 10/5/22	Thu 23/6/22	Tue 10/5/22	Thu 23/6/22	Thu 23/6/22	Tue 10/5/22	0 days	37	694	
42	**42**	**PST, MFS**	**2.6.3**	**General - Instrumentations except use at BR, C11, EQT035**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Wed 25/1/...**	**Mon 2/12/...**	**165 days**		**32,617**	
43	43	PST, MFS	2.6.3.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	44	
44	44	PST, MFS	2.6.3.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	43	45	
45	45	PST, MFS	2.6.3.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	44	459,472	
46	46	PST, MFS	2.6.3.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 21/12...	Tue 26/4/22	0 days	459,472	47	
47	47	PST, MFS	2.6.3.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sat 4/2/23	Thu 22/12/...	192 days	46	558	
48	**48**	**PST, BR, MFS, Chamber**	**2.6.4**	**General - pipework and valves, C11, ref. EQT036**	**345 days**	**Mon 2/11/20**	**Tue 12/10/21**	**Mon 2/11/20**	**Tue 12/10/21**	**Wed 14/6/...**	**Tue 5/7/22**	**299 days**		**32,609,700**	



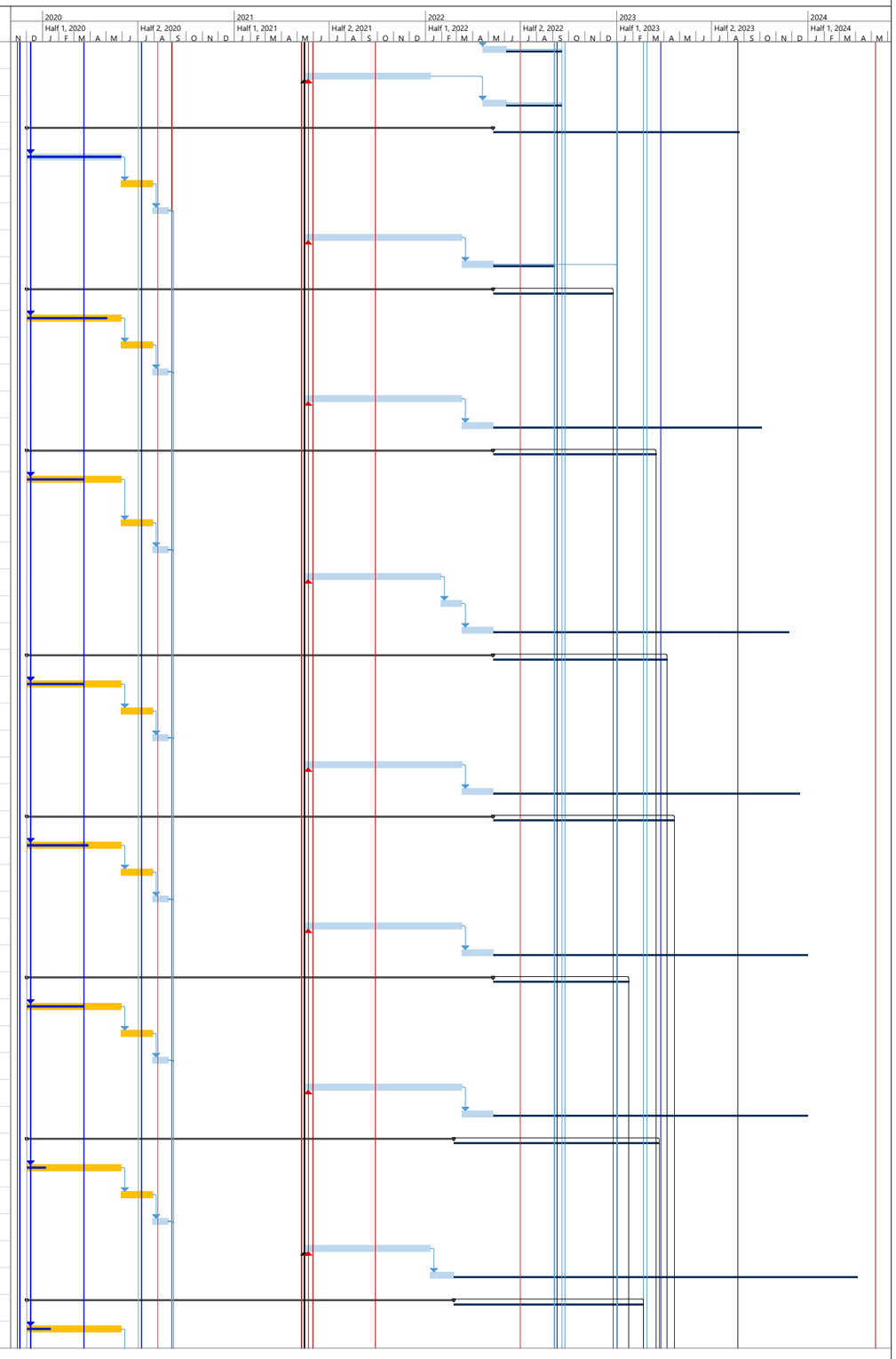
Bestwise
Project: DE/2018/04
Date: Thu 2/7/20

Task | Milestone, Tentative | Milestone | Summary | Project Summary | Manual Summary | Late | Critical | Critical Split | Progress | Manual Progress | Slack (Float) | Milestone (Actual)

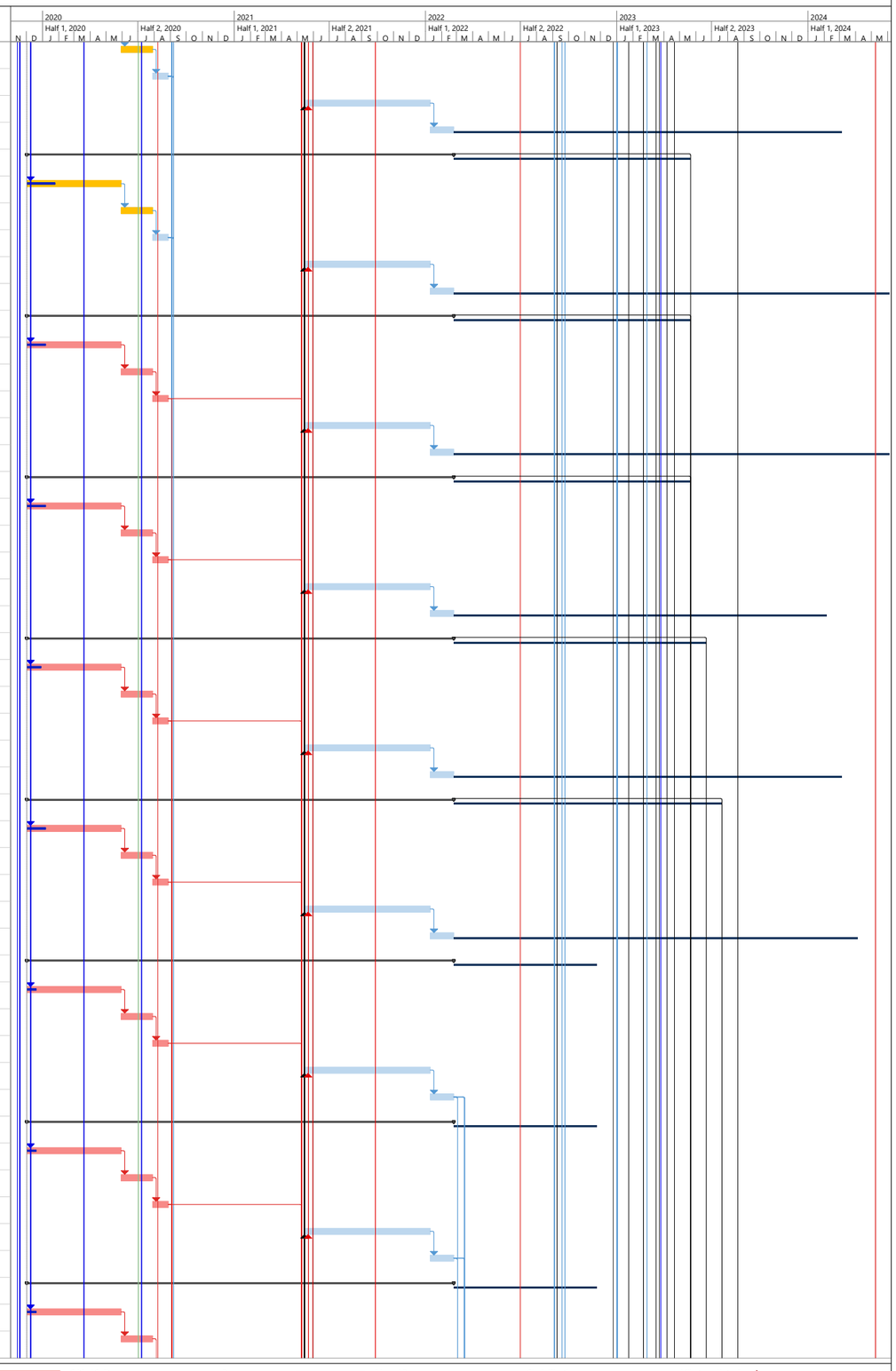
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
49	49	IW, PST, BR, MFS, Chamber	2.6.4.1	Submission for acceptance of purchasing package	120 days	Mon 2/11/20	Mon 1/3/21	Mon 2/11/20	Mon 1/3/21	Sun 13/11/...	Sun 17/7/22	0 days		50	
50	50	IW, PST, BR, MFS, Chamber	2.6.4.2	Invitation of quotations for purchasing package	60 days	Tue 2/3/21	Fri 30/4/21	Tue 2/3/21	Fri 30/4/21	Mon 16/1/...	Fri 18/11/22	0 days	49	51	
51	51	IW, PST, BR, MFS, Chamber	2.6.4.3	Acceptance of conforming quotation	30 days	Sat 1/5/21	Sun 30/5/21	Sat 1/5/21	Sun 30/5/21	Wed 15/2/...	Tue 17/1/23	0 days	50	52	
52	52	IW, PST, BR, MFS, Chamber	2.6.4.4	Manufacturing and Factory Acceptance Test of Plant	90 days	Mon 31/5/21	Sat 28/8/21	Mon 31/5/21	Sat 28/8/21	Fri 12/5/23	Sun 12/2/23	0 days	459,472,51	53,57,56,55,54	
53	53	IW	2.6.4.5	IW - Shipping and Delivery of Plant to site	45 days	Sun 29/8/21	Tue 12/10/21	Sun 29/8/21	Tue 12/10/21	Mon 26/6/...	Sat 13/5/23	446 days	52	654	
54	54	PST	2.6.4.6	PST - Shipping and Delivery of Plant to site	45 days	Sun 29/8/21	Tue 12/10/21	Sun 29/8/21	Tue 12/10/21	Tue 21/11/...	Sun 8/10/23	446 days	52	654	
55	55	BR	2.6.4.7	BR - Shipping and Delivery of Plant to site	45 days	Sun 29/8/21	Tue 12/10/21	Sun 29/8/21	Tue 12/10/21	Tue 21/11/...	Sun 8/10/23	446 days	52	654	
56	56	MFS	2.6.4.8	MFS - Shipping and Delivery of Plant to site	45 days	Sun 29/8/21	Tue 12/10/21	Sun 29/8/21	Tue 12/10/21	Tue 21/11/...	Sun 8/10/23	446 days	52	654	
57	57	Chamber	2.6.4.9	Chamber - Shipping and Delivery of Plant to site	45 days	Sun 29/8/21	Tue 12/10/21	Sun 29/8/21	Tue 12/10/21	Tue 21/11/...	Sun 8/10/23	446 days	52	654	
58	**58**	**PST, BR, MFS**	**2.6.5**	**General - electric actuators, C11, ref. EQT042**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Wed 14/6/...**	**Mon 2/12/...**	**476 days**			
59	59	PST, BR, MFS	2.6.5.1	Submission for acceptance of purchasing package	190 days	Mon 2/12/19	Mon 8/6/20	Mon 2/12/19	Mon 8/6/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	60	
60	60	PST, BR, MFS	2.6.5.2	Invitation of quotations for purchasing package	60 days	Tue 9/6/20	Fri 7/8/20	Tue 9/6/20	Fri 7/8/20	Tue 28/7/20	Sat 30/5/20	0 days	59	61	
61	61	PST, BR, MFS	2.6.5.3	Acceptance of conforming quotation	30 days	Sat 8/8/20	Sun 6/9/20	Sat 8/8/20	Sun 6/9/20	Thu 27/8/20	Wed 29/7/...	0 days	60	459,472	
62	62	PST, BR, MFS	2.6.5.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 7/10/23	Fri 10/2/23	0 days	459,472	63	
63	63	PST, BR, MFS	2.6.5.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 21/11/...	Sun 8/10/23	312 days	62	654	
64	**64**	**MFS**	**2.6.6**	**General - HV Switchboards, C9, ref. EQT031**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 24/4/...**	**Mon 2/12/...**	**212 days**		**730**	
65	65	MFS	2.6.6.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	66	
66	66	MFS	2.6.6.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	65	67	
67	67	MFS	2.6.6.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	66	459,472	
68	68	MFS	2.6.6.4	MFS - Manufacturing of Plant	200 days	Sat 15/5/21	Tue 30/11/21	Sat 15/5/21	Tue 30/11/21	Sat 11/2/23	Wed 27/7/...	0 days	459,472	69	
69	69	MFS, FAT	2.6.6.5	MFS - Factory Acceptance Test of Plant (to be witnessed by PM)	40 days	Wed 1/12/21	Sun 9/1/22	Wed 1/12/21	Sun 9/1/22	Thu 23/3/23	Sun 12/2/23	0 days	68	70	
70	70	MFS	2.6.6.6	MFS - Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sun 7/5/23	Fri 24/3/23	212 days	69	730	
71	**71**	**IW,PST, BR, MFS**	**2.6.7**	**General - LV Switchboards, C9, ref. EQT033**	**1100 days**	**Mon 2/12/19**	**Mon 5/12/22**	**Mon 2/12/19**	**Mon 5/12/22**	**Mon 15/5/...**	**Mon 2/12/...**	**161 days**			
72	72	IW,PST, BR, MFS	2.6.7.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	73	
73	73	IW,PST, BR, MFS	2.6.7.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	72	74	
74	74	IW,PST, BR, MFS	2.6.7.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	73	459,472	
75	75	IW	2.6.7.4	IW - Manufacturing of Plant	240 days	Mon 27/9/21	Tue 24/5/22	Mon 27/9/21	Tue 24/5/22	Mon 16/1/...	Sun 22/5/22	0 days	459,472,92	76	
76	76	IW, FAT	2.6.7.5	IW - Factory Acceptance Test of Plant (to be witnessed by PM)	60 days	Wed 25/5/22	Sat 23/7/22	Wed 25/5/22	Sat 23/7/22	Fri 17/3/23	Tue 17/1/...	0 days	75	77	
77	77	IW	2.6.7.6	IW - Shipping and Delivery of Plant to site	45 days	Sun 24/7/22	Tue 6/9/22	Sun 24/7/22	Tue 6/9/22	Mon 1/5/23	Sat 18/3/23	11 days	76	573	
78	78	PST	2.6.7.7	PST - Manufacturing of Plant	300 days	Mon 27/9/21	Sat 23/7/22	Mon 27/9/21	Sat 23/7/22	Mon 16/1/...	Wed 23/3/...	0 days	459,472,92	79	
79	79	PST, FAT	2.6.7.8	PST - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Sun 24/7/22	Fri 21/10/22	Sun 24/7/22	Fri 21/10/22	Wed 29/3/...	Fri 30/12/22	0 days	78	80	
80	80	PST	2.6.7.9	PST - Shipping and Delivery of Plant to site	45 days	Sat 22/10/22	Mon 5/12/22	Sat 22/10/22	Mon 5/12/22	Sat 13/5/23	Thu 30/3/23	77 days	79	621,622	
81	81	BR,MFS	2.6.7.10	BR - Manufacturing of Plant	200 days	Mon 27/9/21	Thu 14/4/22	Mon 27/9/21	Thu 14/4/22	Tue 22/11/...	Sat 7/5/22	0 days	459,472,92	82	
82	82	BR, FAT	2.6.7.11	BR - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Fri 15/4/22	Wed 13/7/22	Fri 15/4/22	Wed 13/7/22	Tue 21/2/23	Thu 24/11/...	0 days	81	83	
83	83	BR,MFS	2.6.7.12	BR - Shipping and Delivery of Plant to site	45 days	Thu 14/7/22	Sat 27/8/22	Thu 14/7/22	Sat 27/8/22	Fri 7/4/23	Wed 22/2/...	27 days	82	726	
84	84	MFS	2.6.7.13	MFS - Manufacturing of Plant	200 days	Mon 27/9/21	Thu 14/4/22	Mon 27/9/21	Thu 14/4/22	Tue 22/11/...	Sat 7/5/22	0 days	459,472,92	85	
85	85	MFS, FAT	2.6.7.14	MFS - Factory Acceptance Test of Plant (to be witnessed by PM)	90 days	Fri 15/4/22	Wed 13/7/22	Fri 15/4/22	Wed 13/7/22	Tue 21/2/23	Thu 24/11/...	0 days	84	86	
86	86	MFS	2.6.7.15	MFS - Shipping and Delivery of Plant to site	45 days	Thu 14/7/22	Sat 27/8/22	Thu 14/7/22	Sat 27/8/22	Fri 7/4/23	Wed 22/2/...	27 days	85	727	
87	**87**	**IW,PST, BR, MFS**	**2.6.8**	**General - VSDs & Passive Type Harmonic Filters, C11, ref. EQT034**	**665 days**	**Mon 2/12/19**	**Sun 26/9/21**	**Mon 2/12/19**	**Sun 26/9/21**	**Sun 6/3/22**	**Mon 2/12/...**	**161 days**			
88	88	IW,PST, BR, MFS	2.6.8.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	89	
89	89	IW,PST, BR, MFS	2.6.8.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	88	90	
90	90	IW,PST, BR, MFS	2.6.8.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	89	459,472	
91	91	IW,PST, BR, MFS	2.6.8.4	Manufacturing and Factory Acceptance Test of Plant	90 days	Sat 15/5/21	Thu 12/8/21	Sat 15/5/21	Thu 12/8/21	Sat 5/2/22	Mon 8/11/...	0 days	459,472	92	
92	92	IW,PST, BR, MFS	2.6.8.5	Shipping and Delivery of Plant to site	45 days	Fri 13/8/21	Sun 26/9/21	Fri 13/8/21	Sun 26/9/21	Tue 22/3/22	Sun 6/2/22	0 days	91	78,81,84,75	
93	**93**	**MFS,IW**	**2.6.9**	**General - 11kV/380V Stepdown Power Transformers, C11, EQT032**	**915 days**	**Mon 2/12/19**	**Fri 3/6/22**	**Mon 2/12/19**	**Fri 3/6/22**	**Sat 15/4/23**	**Mon 2/12/...**	**316 days**			
94	94	MFS,IW	2.6.9.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	95	
95	95	MFS,IW	2.6.9.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	94	96	
96	96	MFS,IW	2.6.9.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	95	459,472	
97	97	IW	2.6.9.4	IW - Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 7/12/...	Tue 12/4/22	0 days	459,472	98FS+100 days	



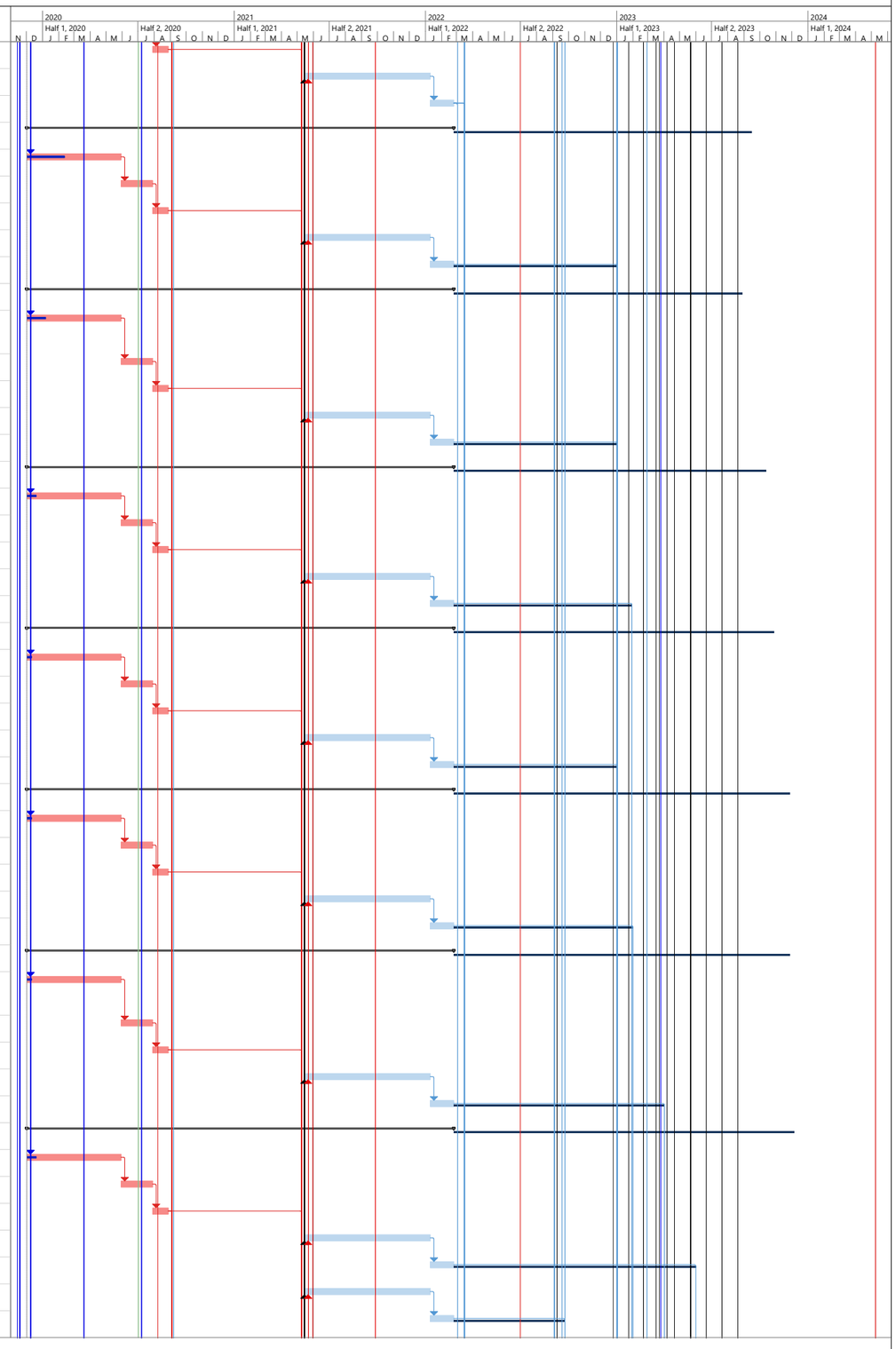
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
98	98	IW	2.6.9.5	IW - Shipping and Delivery of Plant to site	45 days	Wed 20/4/22	Fri 3/6/22	Wed 20/4/22	Fri 3/6/22	Mon 1/5/23	Sat 18/3/23	106 days	97FS+100 days	573	
99	99	MFS	2.6.9.6	MFS - Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 7/12/...	Tue 12/4/22	0 days	459,472	100FS+100 days	
100	100	MFS	2.6.9.7	MFS - Shipping and Delivery of Plant to site	45 days	Wed 20/4/22	Fri 3/6/22	Wed 20/4/22	Fri 3/6/22	Mon 1/5/23	Sat 18/3/23	106 days	99FS+100 days	574	
101	**101**	**IW**	**2.6.10**	**Inlet Works - mechanical raked bar screens, C11, ref. EQT001**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Tue 22/8/23**	**Mon 2/12/...**	**470 days**			
102	102	IW	2.6.10.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	103	
103	103	IW	2.6.10.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	102	104	
104	104	IW	2.6.10.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	103	463,471,460,5	
105	105	IW	2.6.10.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Mon 1/5/23	Wed 6/7/22	0 days	472	106	
106	106	IW	2.6.10.5	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Fri 30/6/23	Tue 2/5/23	117 days	105	560,563	
107	**107**	**IW**	**2.6.11**	**Inlet Works - screening conveyors, C11, ref. EQT002**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 20/1...**	**Mon 2/12/...**	**229 days**		**561**	
108	108	IW	2.6.11.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	109	
109	109	IW	2.6.11.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	108	110	
110	110	IW	2.6.11.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	109	463,471,460,5	
111	111	IW	2.6.11.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Fri 4/8/23	Sun 9/10/22	0 days	472	112	
112	112	IW	2.6.11.5	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Tue 3/10/23	Sat 5/8/23	512 days	111		
113	**113**	**IW**	**2.6.12**	**Inlet Works - inlet Pumps (Marking Scheme Approach), C11, ref. EQT006**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Wed 15/11...**	**Mon 2/12/...**	**311 days**		**562**	
114	114	IW	2.6.12.1	Submission for acceptance of purchasing package including proposed marking scheme	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/19	0 days	6,2	115	
115	115	IW	2.6.12.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	114	116	
116	116	IW	2.6.12.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	115	463,471,460,5	
117	117	IW	2.6.12.4	Manufacturing of Inlet Pumps	260 days	Sat 15/5/21	Sat 29/1/22	Sat 15/5/21	Sat 29/1/22	Thu 17/8/23	Thu 1/12/22	0 days	472	118	
118	118	IW, FAT	2.6.12.5	Factory Acceptance Test of Plant (to be witnessed by PM)	40 days	Sun 30/1/22	Thu 10/3/22	Sun 30/1/22	Thu 10/3/22	Tue 26/9/23	Fri 18/8/23	0 days	117	119	
119	119	IW	2.6.12.6	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sat 25/11/23	Wed 27/9/...	565 days	118		
120	**120**	**IW**	**2.6.13**	**Inlet Works - grit removal system, C11, ref. EQT004**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Wed 6/12/...**	**Mon 2/12/...**	**332 days**		**564**	
121	121	IW	2.6.13.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	122	
122	122	IW	2.6.13.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	121	123	
123	123	IW	2.6.13.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	122	463,471,460,5	
124	124	IW	2.6.13.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Tue 17/10/...	Thu 22/12/...	0 days	472	125	
125	125	IW	2.6.13.5	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sat 16/12/23	Wed 18/10...	586 days	124		
126	**126**	**IW**	**2.6.14**	**Inlet Works - grit classifiers, C11, ref. EQT005**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Wed 20/12...**	**Mon 2/12/...**	**346 days**		**565**	
127	127	IW	2.6.14.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	128	
128	128	IW	2.6.14.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	127	129	
129	129	IW	2.6.14.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	128	463,471,460,5	
130	130	IW	2.6.14.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Tue 31/10/...	Thu 5/1/23	0 days	472	131	
131	131	IW	2.6.14.5	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sat 30/12/23	Wed 1/11/...	600 days	130		
132	**132**	**IW**	**2.6.15**	**Inlet Works - compactors, C11, ref. EQT003**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Wed 20/12...**	**Mon 2/12/...**	**259 days**		**566**	
133	133	IW	2.6.15.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	134	
134	134	IW	2.6.15.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	133	135	
135	135	IW	2.6.15.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	134	463,471,460,5	
136	136	IW	2.6.15.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Tue 31/10/...	Thu 5/1/23	0 days	472	137	
137	137	IW	2.6.15.5	Shipping and Delivery of Plant to site	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sat 30/12/23	Wed 1/11/...	600 days	136		
138	**138**	**PST**	**2.6.16**	**PST - lamella plate settlers, C11, ref. EQT014**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Fri 27/10/23**	**Mon 2/12/...**	**392 days**		**610**	
139	139	PST	2.6.16.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	140	
140	140	PST	2.6.16.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	139	141	
141	141	PST	2.6.16.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	140	463,471,460,5	
142	142	PST	2.6.16.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 19/2/...	Sun 25/6/23	0 days	459,472	143	
143	143	PST	2.6.16.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 4/4/24	Tue 20/2/24	771 days	142		
144	**144**	**PST**	**2.6.17**	**PST - reciprocating type bottom scrapers, C11, ref. EQT014**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Wed 27/9/...**	**Mon 2/12/...**	**362 days**		**611**	
145	145	PST	2.6.17.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	146	



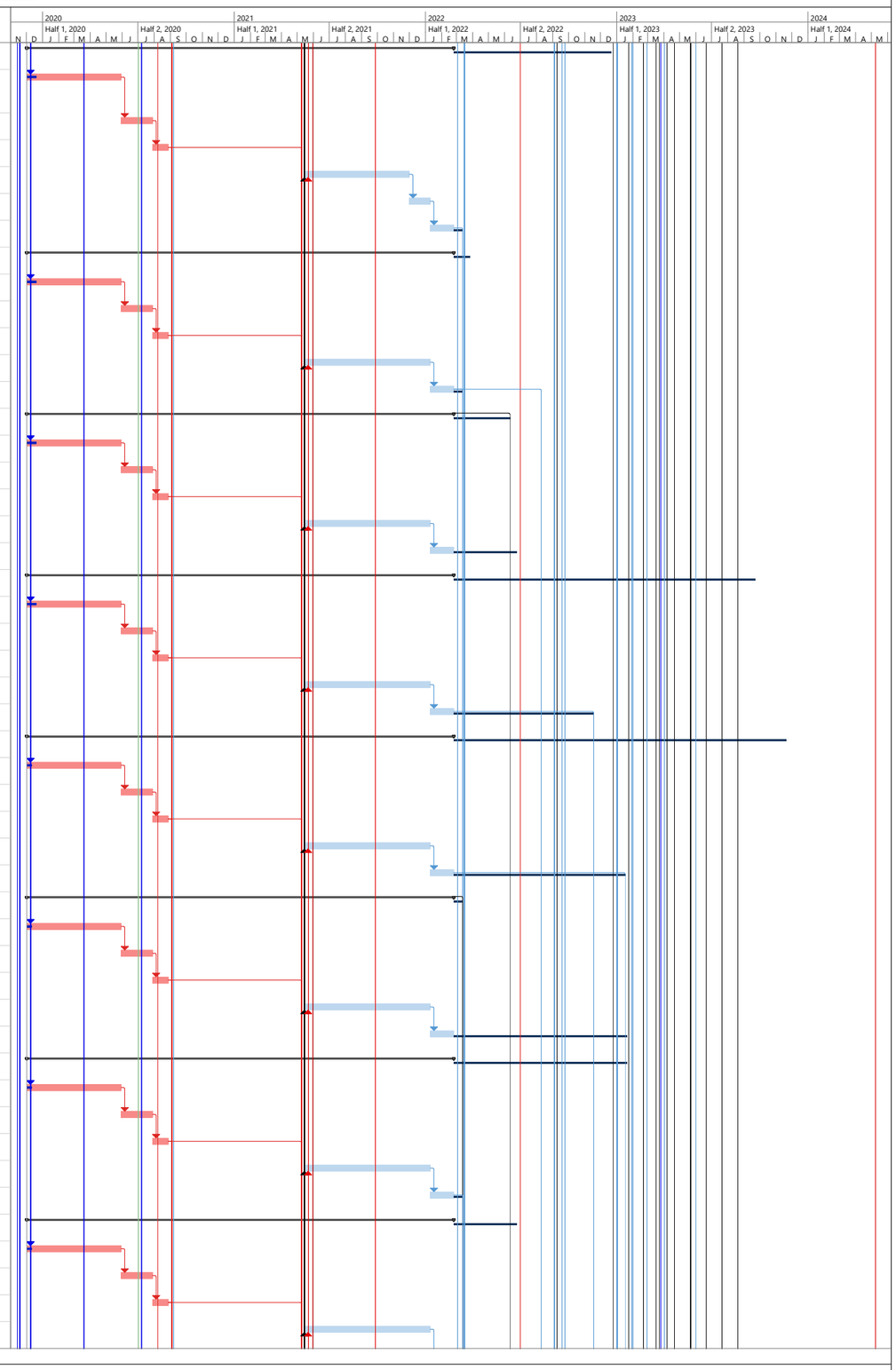
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
146	146	PST	2.6.17.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	145	147	
147	147	PST	2.6.17.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	146	463,471,460,5	
148	148	PST	2.6.17.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 20/1/24	Fri 26/5/23	0 days	459,472	149	
149	149	PST	2.6.17.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 5/3/24	Sun 21/1/24	741 days	148		
150	**150**	**PST**	**2.6.18**	**PST - surface scum skimmers, C11, ref. EQT015**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 26/12...**	**Mon 2/12/...**	**452 days**		**612**	
151	151	PST	2.6.18.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Mon 8/6/20	Mon 2/12/...	0 days	6,2	152	
152	152	PST	2.6.18.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Fri 7/8/20	Tue 9/6/20	0 days	151	153	
153	153	PST	2.6.18.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Sun 6/9/20	Sat 8/8/20	0 days	152	463,471,460,5	
154	154	PST	2.6.18.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Fri 19/4/24	Thu 24/8/23	0 days	459,472	155	
155	155	PST	2.6.18.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 3/6/24	Sat 20/4/24	831 days	154		
156	**156**	**PST**	**2.6.19**	**PST - scum collector pipes, C11, ref. EQT015**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 26/12...**	**Mon 2/12/...**	**452 days**		**613**	
157	157	PST	2.6.19.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	158	
158	158	PST	2.6.19.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	157	159	
159	159	PST	2.6.19.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	158	459,472	
160	160	PST	2.6.19.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Fri 19/4/24	Thu 24/8/23	0 days	459,472	161	
161	161	PST	2.6.19.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 3/6/24	Sat 20/4/24	831 days	160		
162	**162**	**PST**	**2.6.20**	**PST - piston type primary sludge pumps, C11, ref. EQT016**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 28/8/...**	**Mon 2/12/...**	**452 days**		**614**	
163	163	PST	2.6.20.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	164	
164	164	PST	2.6.20.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	163	165	
165	165	PST	2.6.20.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	164	459,472	
166	166	PST	2.6.20.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Thu 21/12/...	Wed 26/4/...	0 days	459,472	167	
167	167	PST	2.6.20.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sun 4/2/24	Fri 22/12/23	711 days	166		
168	**168**	**PST**	**2.6.21**	**PST - drain pumps, C11, ref. EQT007**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Wed 27/9/...**	**Mon 2/12/...**	**482 days**		**615**	
169	169	PST	2.6.21.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	170	
170	170	PST	2.6.21.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	169	171	
171	171	PST	2.6.21.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	170	459,472	
172	172	PST	2.6.21.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 20/1/24	Fri 26/5/23	0 days	459,472	173	
173	173	PST	2.6.21.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 5/3/24	Sun 21/1/24	741 days	172		
174	**174**	**PST**	**2.6.22**	**PST - air blowers, C11, ref. EQT018**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Fri 27/10/23**	**Mon 2/12/...**	**512 days**		**616**	
175	175	PST	2.6.22.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	176	
176	176	PST	2.6.22.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	175	177	
177	177	PST	2.6.22.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	176	459,472	
178	178	PST	2.6.22.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 19/2/...	Sun 25/6/23	0 days	459,472	179	
179	179	PST	2.6.22.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 4/4/24	Tue 20/2/24	771 days	178		
180	**180**	**Chemical**	**2.6.23**	**Chemical Storage and Dosing - chemical storage tanks, C11, ref. EQT025**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 22/11...**	**Mon 2/12/...**	**272 days**			
181	181	Chemical	2.6.23.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	182	
182	182	Chemical	2.6.23.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	181	183	
183	183	Chemical	2.6.23.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	182	459,472	
184	184	Chemical	2.6.23.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 15/10/22	Fri 18/2/22	0 days	459,472	185	
185	185	Chemical	2.6.23.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 28/11...	Sat 15/10/22	0 days	184	755,767,780,7	
186	**186**	**Chemical**	**2.6.24**	**Chemical Storage and Dosing - chemical dosing pumps, C11, ref. EQT027**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 22/11...**	**Mon 2/12/...**	**272 days**			
187	187	Chemical	2.6.24.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	188	
188	188	Chemical	2.6.24.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	187	189	
189	189	Chemical	2.6.24.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	188	459,472	
190	190	Chemical	2.6.24.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 15/10/22	Fri 18/2/22	0 days	459,472	191	
191	191	Chemical	2.6.24.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 28/11...	Sat 15/10/22	0 days	190	755,767,780,7	
192	**192**	**Chemical**	**2.6.25**	**Chemical Storage and Dosing - transfer pumps, C11, ref. EQT026**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 22/11...**	**Mon 2/12/...**	**272 days**			
193	193	Chemical	2.6.25.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	194	
194	194	Chemical	2.6.25.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	193	195	



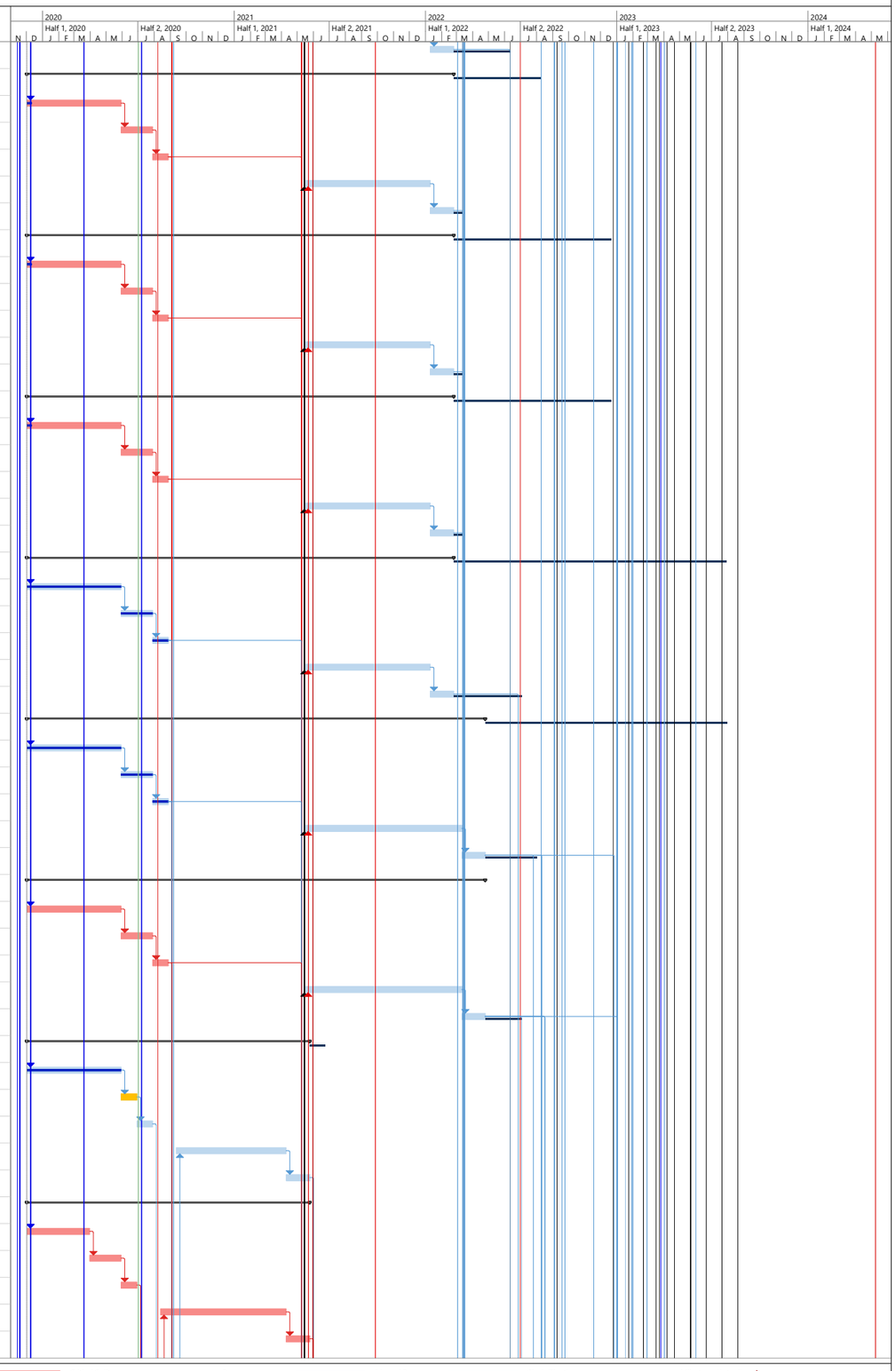
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
195	195	Chemical	2.6.25.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	194	459,472	
196	196	Chemical	2.6.25.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 15/10/22	Fri 18/2/22	0 days	459,472	197	
197	197	Chemical	2.6.25.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 28/11...	Sat 15/10/22	0 days	196	755,767,780,7	
198	**198**	**BR**	**2.6.26**	**BR - pre-treatment fine screens, C11, ref. EQT019**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 14/9/23**	**Mon 2/12/...**	**568 days**			
199	199	BR	2.6.26.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	200	
200	200	BR	2.6.26.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	199	201	
201	201	BR	2.6.26.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	200	459,472	
202	202	BR	2.6.26.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sun 7/1/24	Sat 13/5/23	0 days	459,472	203	
203	203	BR	2.6.26.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Wed 21/2/...	Mon 8/1/24	312 days	202	655	
204	**204**	**BR**	**2.6.27**	**BR - air diffusion system (Marking Scheme Approach), EQT017**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 28/8/...**	**Mon 2/12/...**	**551 days**			
205	205	BR	2.6.27.1	Submission for acceptance of purchasing package including proposed marking scheme	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/19	0 days	6,2	206	
206	206	BR	2.6.27.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	205	207	
207	207	BR	2.6.27.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	206	459,472	
208	208	BR	2.6.27.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Thu 21/12/...	Wed 26/4/...	0 days	459,472	209	
209	209	BR	2.6.27.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sun 4/2/24	Fri 22/12/23	312 days	208	656	
210	**210**	**BR**	**2.6.28**	**BR - submersible mixers, C11, EQT020**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 12/10...**	**Mon 2/12/...**	**596 days**			
211	211	BR	2.6.28.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	212	
212	212	BR	2.6.28.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	211	213	
213	213	BR	2.6.28.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	212	459,472	
214	214	BR	2.6.28.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sun 4/2/24	Sat 10/6/23	0 days	459,472	215	
215	215	BR	2.6.28.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Wed 20/3/...	Mon 5/2/24	340 days	214	657	
216	**216**	**BR**	**2.6.29**	**BR - mixed liquor return pumps, C11, EQT008**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Fri 27/10/23**	**Mon 2/12/...**	**611 days**			
217	217	BR	2.6.29.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	218	
218	218	BR	2.6.29.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	217	219	
219	219	BR	2.6.29.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	218	459,472	
220	220	BR	2.6.29.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 19/2/...	Sun 25/6/23	0 days	459,472	221	
221	221	BR	2.6.29.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 4/4/24	Tue 20/2/24	312 days	220	658	
222	**222**	**BR**	**2.6.30**	**BR - scum removal systems, C11, EQT021, EQT022**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Sun 26/11...**	**Mon 2/12/...**	**641 days**			
223	223	BR	2.6.30.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	224	
224	224	BR	2.6.30.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	223	225	
225	225	BR	2.6.30.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	224	459,472	
226	226	BR	2.6.30.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 20/3/...	Tue 25/7/23	0 days	459,472	227	
227	227	BR	2.6.30.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sat 4/5/24	Thu 21/3/24	342 days	226	659	
228	**228**	**BR**	**2.6.31**	**BR - aeration blowers (Marking Scheme Approach), EQT039**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Sun 26/11...**	**Mon 2/12/...**	**641 days**			
229	229	BR	2.6.31.1	Submission for acceptance of purchasing package including proposed marking scheme	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/19	0 days	6,2	230	
230	230	BR	2.6.31.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	229	231	
231	231	BR	2.6.31.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	230	459,472	
232	232	BR, FAT	2.6.31.4	Manufacturing and Factory Acceptance Test of Plant (to be witnessed by PM)	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 20/3/...	Tue 25/7/23	0 days	459,472	233	
233	233	BR	2.6.31.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sat 4/5/24	Thu 21/3/24	402 days	232	660	
234	**234**	**BR**	**2.6.32**	**BR - instrumentations, C11, EQT035**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 5/12/23**	**Mon 2/12/...**	**650 days**			
235	235	BR	2.6.32.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	236	
236	236	BR	2.6.32.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	235	237	
237	237	BR	2.6.32.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	236	459,472	
238	238	BR	2.6.32.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Tue 5/3/24	Mon 10/7/...	0 days	459,472	239	
239	239	BR	2.6.32.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Fri 19/4/24	Wed 6/3/24	462 days	238	661	
240	240	MFS	2.6.32.6	MFS - Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Fri 29/3/24	Thu 3/8/23	0 days	459,472	241	
241	241	MFS	2.6.32.7	MFS - Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Mon 13/5/...	Sat 30/3/24	212 days	240	731	



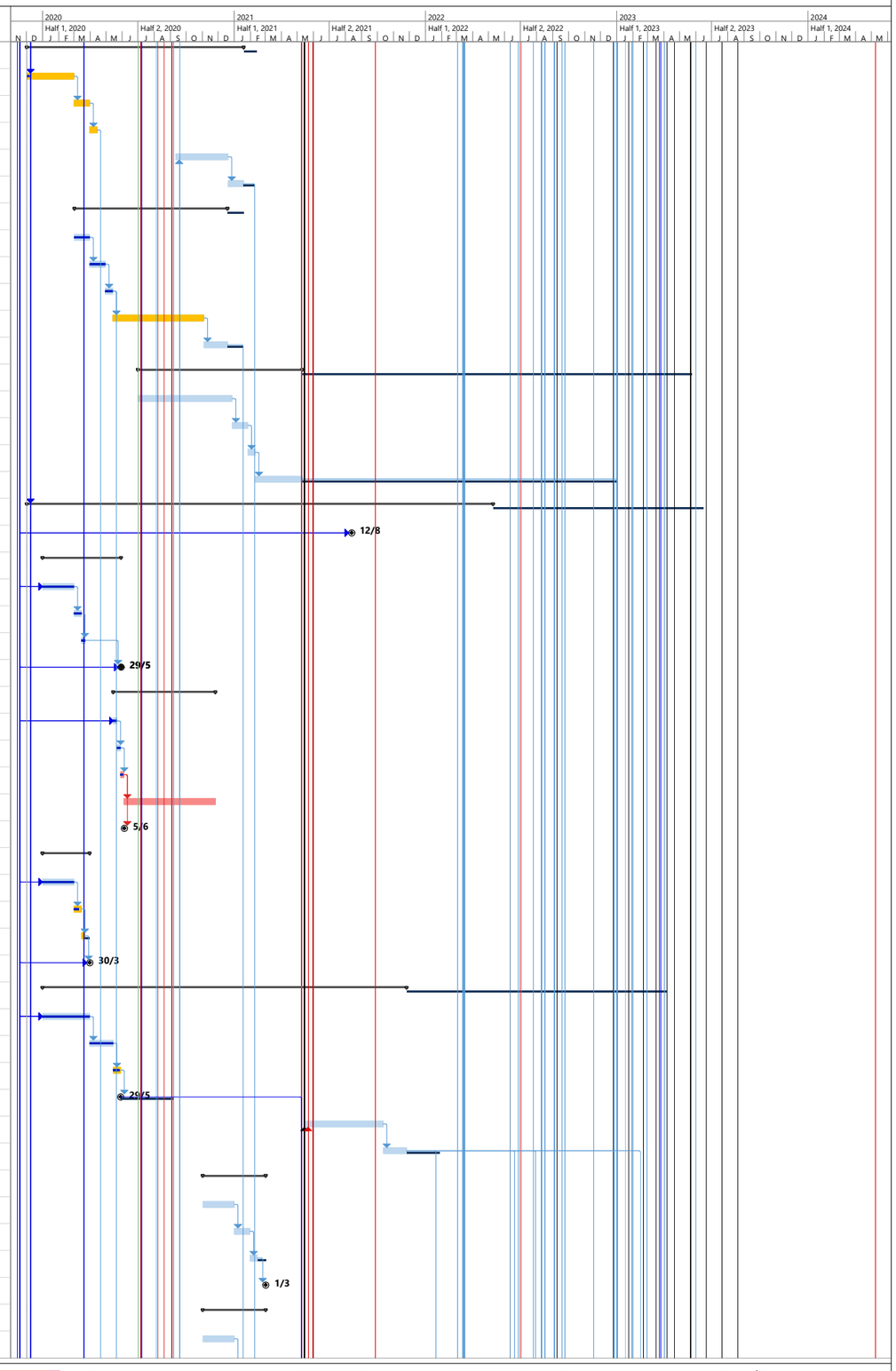
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
242	**242**	**MFS**	**2.6.33**	**MFS - hollow fibre membrane modules (Marking Scheme Approach), ref. EQT023**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 20/12...**	**Mon 2/12/...**	**300 days**			
243	243	MFS	2.6.33.1	Submission for acceptance of purchasing package including proposed marking scheme	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/19	0 days	6,2	244	
244	244	MFS	2.6.33.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	243	245	
245	245	MFS	2.6.33.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	244	459,472	
246	246	MFS	2.6.33.4	Manufacturing of Plant	200 days	Sat 15/5/21	Tue 30/11/21	Sat 15/5/21	Tue 30/11/21	Mon 26/9/...	Fri 11/3/22	0 days	459,472	247	
247	247	MFS, FAT	2.6.33.5	Factory Acceptance Test of Plant (to be witnessed by PM)	40 days	Wed 1/12/21	Sun 9/1/22	Wed 1/12/21	Sun 9/1/22	Sat 5/11/22	Tue 27/9/22	0 days	246	248	
248	248	MFS	2.6.33.6	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 20/12/...	Sun 6/11/22	17 days	247	695	
249	**249**	**MFS**	**2.6.34**	**MFS - air scour blowers, C11, ref. EQT040**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Fri 25/3/22**	**Mon 2/12/...**	**30 days**			
250	250	MFS	2.6.34.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	251	
251	251	MFS	2.6.34.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	250	252	
252	252	MFS	2.6.34.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	251	459,472	
253	253	MFS	2.6.34.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Tue 8/2/22	Mon 14/6/...	0 days	459,472	254	
254	254	MFS	2.6.34.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Fri 25/3/22	Wed 9/2/22	17 days	253	696,721	
255	**255**	**MFS**	**2.6.35**	**MFS - permeate pumps, C11, ref. EQT024**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 23/6/22**	**Mon 2/12/...**	**107 days**		**697**	
256	256	MFS	2.6.35.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	257	
257	257	MFS	2.6.35.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	256	258	
258	258	MFS	2.6.35.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	257	459,472	
259	259	MFS	2.6.35.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 9/5/22	Sun 12/9/21	0 days	459,472	260	
260	260	MFS	2.6.35.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 23/6/22	Tue 10/5/22	120 days	259		
261	**261**	**MFS**	**2.6.36**	**MFS - compressed air system, C11, ref. EQT029**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 21/9/23**	**Mon 2/12/...**	**575 days**			
262	262	MFS	2.6.36.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	263	
263	263	MFS	2.6.36.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	262	264	
264	264	MFS	2.6.36.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	263	459,472	
265	265	MFS	2.6.36.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sun 14/1/24	Sat 20/5/23	0 days	459,472	266	
266	266	MFS	2.6.36.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Wed 28/2/...	Mon 15/1/...	267 days	265	722	
267	**267**	**MFS**	**2.6.37**	**MFS - instrumentation, C11, ref. EQT035**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 20/1...**	**Mon 2/12/...**	**635 days**			
268	268	MFS	2.6.37.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	269	
269	269	MFS	2.6.37.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	268	270	
270	270	MFS	2.6.37.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	269	459,472	
271	271	MFS	2.6.37.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Thu 14/3/24	Wed 19/7/...	0 days	459,472	272	
272	272	MFS	2.6.37.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sun 28/4/24	Fri 15/3/24	327 days	271	723	
273	**273**	**MFS**	**2.6.38**	**MFS - chemical storage tanks, C11, ref. EQT025**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 19/1/23**	**Mon 2/12/...**	**17 days**		**701**	
274	274	MFS	2.6.38.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	275	
275	275	MFS	2.6.38.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	274	276	
276	276	MFS	2.6.38.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	275	459,472	
277	277	MFS	2.6.38.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 5/12/...	Sun 10/4/22	0 days	459,472	278	
278	278	MFS	2.6.38.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 19/1/23	Tue 6/12/22	330 days	277		
279	**279**	**MFS**	**2.6.39**	**MFS - chemical dosing pumps, C11, ref. EQT026**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 19/1/23**	**Mon 2/12/...**	**330 days**			
280	280	MFS	2.6.39.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	281	
281	281	MFS	2.6.39.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	280	282	
282	282	MFS	2.6.39.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	281	459,472	
283	283	MFS	2.6.39.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 5/12/...	Sun 10/4/22	0 days	459,472	284	
284	284	MFS	2.6.39.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 19/1/23	Tue 6/12/22	17 days	283	702	
285	**285**	**MFS**	**2.6.40**	**MFS - return activated sludge pumps (Marking Scheme Approach), ref. EQT010**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Thu 23/6/22**	**Mon 2/12/...**	**120 days**			
286	286	MFS	2.6.40.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	287	
287	287	MFS	2.6.40.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	286	288	
288	288	MFS	2.6.40.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	287	459,472	
289	289	MFS	2.6.40.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Mon 9/5/22	Sun 12/9/21	0 days	459,472	290	



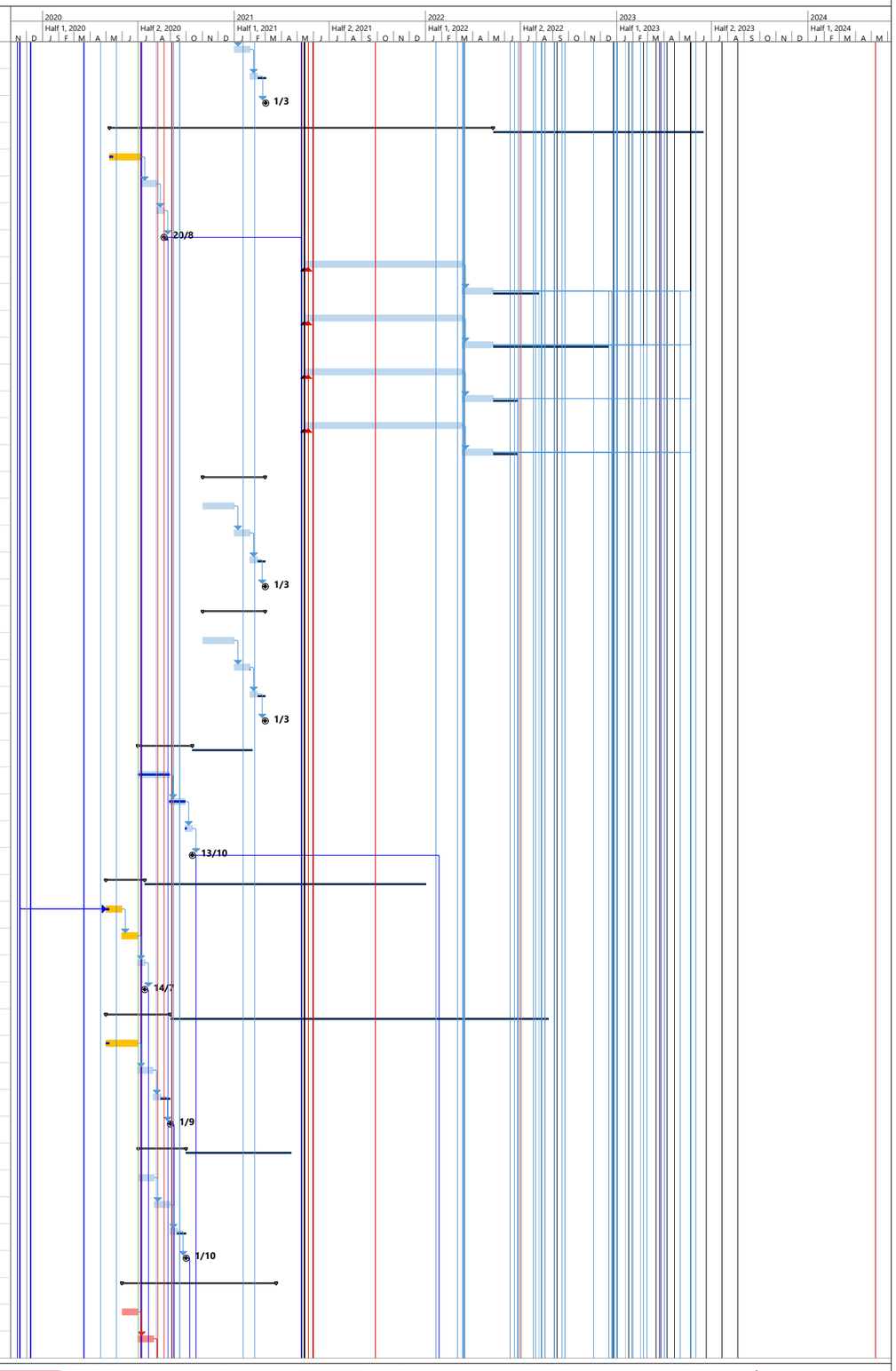
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
290	290	MFS	2.6.40.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Thu 23/6/22	Tue 10/5/22	107 days	289	698	
291	**291**	**MFS**	**2.6.41**	**MFS - membrane tank drain pumps, C11, ref. EQT009**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Sun 7/8/22**	**Mon 2/12/...**	**165 days**			
292	292	MFS	2.6.41.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	293	
293	293	MFS	2.6.41.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	292	294	
294	294	MFS	2.6.41.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	293	459,472	
295	295	MFS	2.6.41.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Thu 23/6/22	Wed 27/10...	0 days	459,472	296	
296	296	MFS	2.6.41.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sun 7/8/22	Fri 24/6/22	17 days	295	699	
297	**297**	**MFS**	**2.6.42**	**Plant Service Water System - booster pumps, C11, ref. EQT030**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 20/12...**	**Mon 2/12/...**	**300 days**			
298	298	MFS	2.6.42.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	299	
299	299	MFS	2.6.42.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	298	300	
300	300	MFS	2.6.42.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	299	459,472	
301	301	MFS	2.6.42.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 5/11/22	Fri 11/3/22	0 days	459,472	302	
302	302	MFS	2.6.42.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 20/12/...	Sun 6/11/22	17 days	301	703	
303	**303**	**MFS**	**2.6.43**	**Plant Service Water System - hydro-pneumatic pressure tanks, C11, ref. EQT030**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Tue 20/12...**	**Mon 2/12/...**	**300 days**			
304	304	MFS	2.6.43.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	305	
305	305	MFS	2.6.43.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	304	306	
306	306	MFS	2.6.43.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	305	459,472	
307	307	MFS	2.6.43.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Sat 5/11/22	Fri 11/3/22	0 days	459,472	308	
308	308	MFS	2.6.43.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Tue 20/12/...	Sun 6/11/22	17 days	307	703	
309	**309**	**DOU**	**2.6.44**	**DOU - biotrickling filter (DOU No. 1), C11, ref. EQT028**	**815 days**	**Mon 2/12/19**	**Wed 23/2/22**	**Mon 2/12/19**	**Wed 23/2/22**	**Sat 29/7/23**	**Mon 2/12/...**	**521 days**			
310	310	DOU	2.6.44.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	311	
311	311	DOU	2.6.44.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	310	312	
312	312	DOU	2.6.44.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	311	459,472	
313	313	DOU	2.6.44.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Sat 15/5/21	Sun 9/1/22	Sat 15/5/21	Sun 9/1/22	Wed 21/6/...	Tue 25/10/...	0 days	459,472	314	
314	314	DOU	2.6.44.5	Shipping and Delivery of Plant to site	45 days	Mon 10/1/22	Wed 23/2/22	Mon 10/1/22	Wed 23/2/22	Sat 5/8/23	Thu 22/6/23	129 days	313	800	
315	**315**	**DOU**	**2.6.45**	**DOU - activated carbon filter (DOU No. 2A, No. 3A, No. 3B), C11, ref. EQT028**	**875 days**	**Mon 2/12/19**	**Sun 24/4/22**	**Mon 2/12/19**	**Sun 24/4/22**	**Sat 29/7/23**	**Mon 2/12/...**	**461 days**			
316	316	DOU	2.6.45.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	317	
317	317	DOU	2.6.45.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	316	318	
318	318	DOU	2.6.45.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	317	459,472	
319	319	DOU	2.6.45.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Wed 21/6/...	Fri 26/8/22	0 days	459,472	320	
320	320	DOU	2.6.45.5	Shipping and Delivery of Plant to site	45 days	Fri 11/3/22	Sun 24/4/22	Fri 11/3/22	Sun 24/4/22	Sat 5/8/23	Thu 22/6/23	98 days	319	806,811,816	
321	**321**	**DOU**	**2.6.46**	**DOU - FRP air ductwork, C11**	**875 days**	**Mon 2/12/19**	**Sun 24/4/22**	**Mon 2/12/19**	**Sun 24/4/22**	**Sat 29/7/23**	**Mon 2/12/...**	**0 days**			
322	322	DOU	2.6.46.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	323	
323	323	DOU	2.6.46.2	Invitation of quotations for purchasing package	60 days	Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Tue 28/7/20	Sat 30/5/20	0 days	322	324	
324	324	DOU	2.6.46.3	Acceptance of conforming quotation	30 days	Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 27/8/20	Wed 29/7/...	0 days	323	459,472	
325	325	DOU	2.6.46.4	Manufacturing and Factory Acceptance Test of Plant	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Wed 21/6/...	Fri 26/8/22	0 days	459,472	326	
326	326	DOU	2.6.46.5	Shipping and Delivery of Plant to site	45 days	Fri 11/3/22	Sun 24/4/22	Fri 11/3/22	Sun 24/4/22	Sat 5/8/23	Thu 22/6/23	69 days	325	802,807,812,8	
327	**327**	**Filter Plates**	**2.6.47**	**Mis - new replacement filter plates and provision of filter cloths, C11, ref. EQT03**	**540 days**	**Mon 2/12/19**	**Mon 24/5/21**	**Mon 2/12/19**	**Mon 24/5/21**	**Wed 23/6/...**	**Mon 2/12/...**	**30 days**			
328	328	Filter Plates	2.6.47.1	Submission for acceptance of purchasing package	180 days	Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Fri 29/5/20	Mon 2/12/...	0 days	6,2	329	
329	329	Filter Plates	2.6.47.2	Invitation of quotations for purchasing package	30 days	Sat 30/5/20	Sun 28/6/20	Sat 30/5/20	Sun 28/6/20	Tue 30/6/20	Mon 1/6/20	0 days	328	330	
330	330	Filter Plates	2.6.47.3	Acceptance of conforming quotation	30 days	Mon 29/6/20	Tue 28/7/20	Mon 29/6/20	Tue 28/7/20	Thu 30/7/20	Wed 1/7/20	0 days	329	529	
331	331	Filter Plates	2.6.47.4	Manufacturing and Factory Acceptance Test of Plant	210 days	Sat 12/9/20	Fri 9/4/21	Sat 12/9/20	Fri 9/4/21	Sun 9/5/21	Mon 12/10...	0 days	529	332	
332	332	Filter Plates	2.6.47.5	Shipping and Delivery of Plant to site	45 days	Sat 10/4/21	Mon 24/5/21	Sat 10/4/21	Mon 24/5/21	Wed 23/6/...	Mon 10/5/...	0 days	331	939	
333	**333**	**Filter Press**	**2.6.48**	**Mis - membrane filter press system (Cancelled, PPMI-005, to be removed)**	**540 days**	**Mon 2/12/19**	**Mon 24/5/21**	**Mon 2/12/19**	**Mon 24/5/21**	**Mon 24/5/...**	**Mon 2/12/...**	**0 days**			
334	334	Filter Press	2.6.48.1	Submission for acceptance of purchasing package	120 days	Mon 2/12/19	Mon 30/3/20	Mon 2/12/19	Mon 30/3/20	Mon 30/3/...	Mon 2/12/...	0 days	6,2	335	
335	335	Filter Press	2.6.48.2	Invitation of quotations for purchasing package	60 days	Tue 31/3/20	Fri 29/5/20	Tue 31/3/20	Fri 29/5/20	Fri 29/5/20	Tue 31/3/20	0 days	334	336	
336	336	Filter Press	2.6.48.3	Acceptance of conforming quotation	30 days	Sat 30/5/20	Sun 28/6/20	Sat 30/5/20	Sun 28/6/20	Sun 28/6/20	Sat 30/5/20	0 days	335	528	
337	337	Filter Press	2.6.48.4	Manufacturing and Factory Acceptance Test of Plant	240 days	Thu 13/8/20	Fri 9/4/21	Thu 13/8/20	Fri 9/4/21	Fri 9/4/21	Thu 13/8/20	0 days	528	338	
338	338	Filter Press	2.6.48.5	Shipping and Delivery of Plant to site	45 days	Sat 10/4/21	Mon 24/5/21	Sat 10/4/21	Mon 24/5/21	Mon 24/5/...	Sat 10/4/21	0 days	337	923	



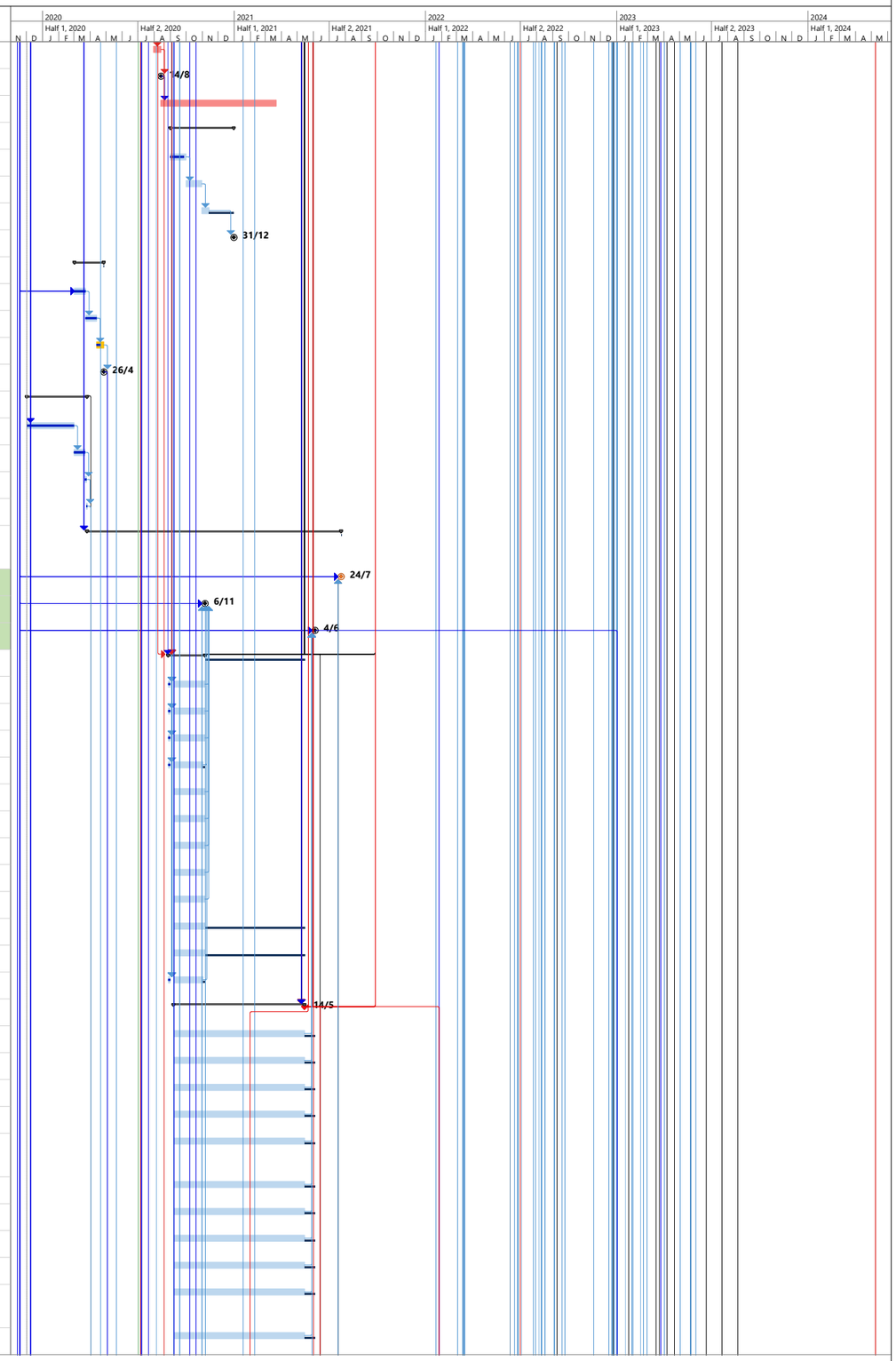
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
339	**339**	**PST No. 4 & No. 6**	**2.6.49**	**Mis - replacement of PST no. 4 and no. 6, C11, ref. EQT037**	**414 days**	**Mon 2/12/19**	**Mon 18/1/21**	**Mon 2/12/19**	**Mon 18/1/21**	**Thu 11/2/21**	**Mon 2/12/...**	**24 days**			
340	340	PST No. 4 & No. 6	2.6.49.1	Submission for acceptance of purchasing package	90 days	Mon 2/12/19	Sat 29/2/20	Mon 2/12/19	Sat 29/2/20	Mon 2/3/20	Mon 2/12/...	0 days	6,2	341	
341	341	PST No. 4 & No. 6	2.6.49.2	Invitation of quotations for purchasing package	30 days	Sun 1/3/20	Mon 30/3/20	Sun 1/3/20	Mon 30/3/20	Wed 1/4/20	Mon 2/3/20	0 days	340	342	
342	342	PST No. 4 & No. 6	2.6.49.3	Acceptance of conforming quotation	14 days	Tue 31/3/20	Mon 13/4/20	Tue 31/3/20	Mon 13/4/20	Wed 15/4/...	Wed 1/4/20	0 days	341	526	
343	343	PST No. 4 & No. 6	2.6.49.4	Manufacturing and Factory Acceptance Test of Plant	100 days	Fri 11/9/20	Sat 19/12/20	Fri 11/9/20	Sat 19/12/20	Tue 12/1/21	Mon 5/10/...	0 days	526	344	
344	344	PST No. 4 & No. 6	2.6.49.5	Shipping and Delivery of Plant to site	30 days	Sun 20/12/20	Mon 18/1/21	Sun 20/12/20	Mon 18/1/21	Thu 11/2/21	Wed 13/1/...	21 days	343	896	
345	**345**	**Temp Filtrate**	**2.6.50**	**Mis - filtrate lift pumps and filtrate transfer pumps, C11, ref. EQT011**	**292 days**	**Mon 2/3/20**	**Fri 18/12/20**	**Mon 2/3/20**	**Fri 18/12/20**	**Mon 18/1/...**	**Mon 2/3/20**	**31 days**			
346	346	Temp Filtrate	2.6.50.1	Submission for acceptance of purchasing package	29 days	Mon 2/3/20	Mon 30/3/20	Mon 2/3/20	Mon 30/3/20	Mon 30/3/...	Mon 2/3/20	0 days		347	
347	347	Temp Filtrate	2.6.50.2	Invitation of quotations for purchasing package	30 days	Tue 31/3/20	Wed 29/4/20	Tue 31/3/20	Wed 29/4/20	Wed 29/4/...	Tue 31/3/20	0 days	346	348	
348	348	Temp Filtrate	2.6.50.3	Acceptance of conforming quotation and acceptance for Manufacture	14 days	Thu 30/4/20	Wed 13/5/20	Thu 30/4/20	Wed 13/5/20	Wed 13/5/...	Thu 30/4/20	0 days	347	530,349	
349	349	Temp Filtrate	2.6.50.4	Manufacturing and Factory Acceptance Test of Plant	174 days	Thu 14/5/20	Tue 3/11/20	Thu 14/5/20	Tue 3/11/20	Fri 4/12/20	Sun 14/6/20	0 days	348	350	
350	350	Temp Filtrate	2.6.50.5	Shipping and Delivery of Plant to site	45 days	Wed 4/11/20	Fri 18/12/20	Wed 4/11/20	Fri 18/12/20	Mon 18/1/...	Sat 5/12/20	30 days	349	884	
351	**351**	**PV**	**2.6.51**	**Mis - pv system, C11, ref. EQT041**	**314 days**	**Wed 1/7/20**	**Mon 10/5/21**	**Wed 1/7/20**	**Mon 10/5/21**	**Wed 24/5/...**	**Fri 15/7/22**	**744 days**			
352	352	PV	2.6.51.1	Submission for acceptance of purchasing package	180 days	Wed 1/7/20	Sun 27/12/20	Wed 1/7/20	Sun 27/12/20	Tue 14/6/22	Fri 17/12/21	0 days		353	
353	353	PV	2.6.51.2	Invitation of quotations for purchasing package	30 days	Mon 28/12/20	Tue 26/1/21	Mon 28/12/20	Tue 26/1/21	Thu 9/2/23	Wed 11/1/...	0 days	352	354	
354	354	PV	2.6.51.3	Acceptance of conforming quotation	14 days	Wed 27/1/21	Tue 9/2/21	Wed 27/1/21	Tue 9/2/21	Thu 23/2/23	Fri 10/2/23	0 days	353	355	
355	355	PV	2.6.51.4	Commencement of Design Work	90 days	Wed 10/2/21	Mon 10/5/21	Wed 10/2/21	Mon 10/5/21	Wed 24/5/...	Fri 24/2/23	601 days	354	679,678	
356	**356**		**2.7**	**Subletting of major sub-contract works**	**890 days**	**Mon 2/12/19**	**Mon 9/5/22**	**Mon 2/12/19**	**Mon 9/5/22**	**Wed 14/6/...**	**Mon 2/12/...**	**401 days**	**6,2**		
357	357		2.7.1	Planned Completion Date for Procurement of major plant and materials	0 days	Thu 12/8/21	Thu 12/8/21	Thu 12/8/21	Thu 12/8/21	Thu 12/8/21	Thu 12/8/21	0 days	6SS+620 days		
358	**358**	**BEAM**	**2.7.2**	**General - Independent BEAM Plus Consultant (04SC007)**	**150 days**	**Wed 1/1/20**	**Fri 29/5/20**	**Wed 1/1/20**	**Fri 29/5/20**	**Fri 29/5/20**	**Wed 1/1/20**	**0 days**			
359	359	BEAM	2.7.2.1	Submission for acceptance of proposed Independent BEAM Plus Consultant	60 edays	Wed 1/1/20	Sun 1/3/20	Wed 1/1/20	Sun 1/3/20	Sun 1/3/20	Wed 1/1/20	0 edays	6SS+30 edays	360	
360	360	BEAM	2.7.2.2	Acceptance of proposed Independent BEAM Plus Consultant	14 edays	Sun 1/3/20	Sun 15/3/20	Sun 1/3/20	Sun 15/3/20	Sun 15/3/20	Sun 1/3/20	0 edays	359	361	
361	361	BEAM	2.7.2.3	Engagement with an Independent BEAM Plus Consultant	7 days	Sun 15/3/20	Sat 21/3/20	Sun 15/3/20	Sat 21/3/20	Sat 21/3/20	Sun 15/3/20	0 days	360	362	
362	362	BEAM	2.7.2.4	Latest Date for engagement with an independent BEAM Plus Consultant	0 days	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	0 days	6SS+180 days		
363	**363**	**Model**	**2.7.3**	**General - Conduction of Pump sump physical model test**	**195 days**	**Fri 15/5/20**	**Wed 25/11/20**	**Fri 15/5/20**	**Wed 25/11/20**	**Wed 25/11...**	**Fri 15/5/20**	**0 days**			
364	364	Model	2.7.3.1	Submission for acceptance of proposed hydraulic laboratory to conduct the test	7 edays	Fri 15/5/20	Fri 22/5/20	Fri 15/5/20	Fri 22/5/20	Fri 22/5/20	Fri 15/5/20	0 edays	6SS+30 edays	365	
365	365	Model	2.7.3.2	Invitation to quotations for provision of service	7 edays	Fri 22/5/20	Fri 29/5/20	Fri 22/5/20	Fri 29/5/20	Fri 29/5/20	Fri 22/5/20	0 edays	364	366	
366	366	Model	2.7.3.3	Acceptance of proposed hydraulic laboratory	6 days	Fri 29/5/20	Wed 3/6/20	Fri 29/5/20	Wed 3/6/20	Wed 3/6/...	Fri 29/5/20	0 days	365	368,367	
367	367	Model	2.7.3.4	Commencement of detailed proposal and conduction of test	175 days	Thu 4/6/20	Wed 25/11/20	Thu 4/6/20	Wed 25/11/20	Wed 25/11...	Thu 4/6/20	0 days	366		
368	368	Model	2.7.3.5	Latest Date for engagement with an hydraulic laboratory	0 days	Fri 5/6/20	Fri 5/6/20	Fri 5/6/20	Fri 5/6/20	Fri 5/6/20	Fri 5/6/20	0 days	366		
369	**369**	**ICE**	**2.7.4**	**General - Independent Checking Engineer (04SC004)**	**90 days**	**Wed 1/1/20**	**Mon 30/3/20**	**Wed 1/1/20**	**Mon 30/3/20**	**Mon 30/3/...**	**Wed 1/1/20**	**0 days**			
370	370	ICE	2.7.4.1	Submission for acceptance of proposed Independent Checking Engineer	60 edays	Wed 1/1/20	Sun 1/3/20	Wed 1/1/20	Sun 1/3/20	Sun 1/3/20	Wed 1/1/20	0 edays	6SS+30 edays	371	
371	371	ICE	2.7.4.2	Acceptance of proposed Independent Checking Engineer	14 edays	Sun 1/3/20	Sun 15/3/20	Sun 1/3/20	Sun 15/3/20	Tue 24/3/20	Sun 1/3/20	0 edays	370	372	
372	372	ICE	2.7.4.3	Engagement with an Independent Checking Engineer	7 days	Sun 15/3/20	Sat 21/3/20	Sun 15/3/20	Sat 21/3/20	Mon 30/3/...	Tue 24/3/20	9 days	371	373	
373	373	ICE	2.7.4.4	Latest Date for engagement with an ICE	0 days	Mon 30/3/20	Mon 30/3/20	Mon 30/3/20	Mon 30/3/20	Mon 30/3/...	Mon 30/3/...	0 days	6SS+120 days		
374	**374**	**LA**	**2.7.5**	**General - Lifting Appliances (04SC008)**	**695 days**	**Wed 1/1/20**	**Thu 25/11/21**	**Wed 1/1/20**	**Thu 25/11/21**	**Wed 5/4/23**	**Wed 1/1/20**	**496 days**			
375	375	LA	2.7.5.1	Submission for acceptance of subcontract works package	90 edays	Wed 1/1/20	Tue 31/3/20	Wed 1/1/20	Tue 31/3/20	Tue 31/3/20	Wed 1/1/20	0 edays	6SS+30 edays	376	
376	376	LA	2.7.5.2	Invitation of tender for subcontract works	45 edays	Tue 31/3/20	Fri 15/5/20	Tue 31/3/20	Fri 15/5/20	Fri 15/5/20	Tue 31/3/20	0 edays	375	377	
377	377	LA	2.7.5.3	Acceptance of conforming tender	14 edays	Fri 15/5/20	Fri 29/5/20	Fri 15/5/20	Fri 29/5/20	Sun 27/9/20	Fri 15/5/20	0 edays	376	378	
378	378	LA	2.7.5.4	Sub-contract work commencement date	0 days	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	Fri 29/5/20	Sun 27/9/20	Sun 27/9/20	101 days	377	472	
379	379	LA	2.7.5.5	Manufacturing and Factory Acceptance Test of Plant	150 days	Sat 15/5/21	Mon 11/10/21	Sat 15/5/21	Mon 11/10/21	Tue 14/2/23	Sun 18/9/22	0 days	459,472	380	
380	380	LA	2.7.5.6	Shipping and Delivery of Plant to site	45 days	Tue 12/10/21	Thu 25/11/21	Tue 12/10/21	Thu 25/11/21	Fri 31/3/23	Wed 15/2/...	62 days	379	547,599,646,6	
381	**381**	**Mech**	**2.7.6**	**General - Mechanical Installations**	**120 days**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 1/3/21**	**Wed 18/11...**	**0 days**			
382	382	Mech	2.7.6.1	Submission for acceptance of subcontract works package	60 days	Mon 2/11/20	Thu 31/12/20	Mon 2/11/20	Thu 31/12/20	Sat 16/1/21	Wed 18/11...	0 days		383	
383	383	Mech	2.7.6.2	Invitation of tender for subcontract works	30 days	Fri 1/1/21	Sat 30/1/21	Fri 1/1/21	Sat 30/1/21	Mon 15/2/...	Sun 17/1/21	0 days	382	384	
384	384	Mech	2.7.6.3	Acceptance of conforming tender	14 days	Sun 31/1/21	Sat 13/2/21	Sun 31/1/21	Sat 13/2/21	Mon 1/3/21	Tue 16/2/21	16 days	383	385	
385	385	Mech	2.7.6.4	Sub-contract work commencement date	0 days	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	0 days	384		
386	**386**	**Elec**	**2.7.7**	**General - Electrical Installations**	**120 days**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 1/3/21**	**Tue 17/11...**	**0 days**			
387	387	Elec	2.7.7.1	Submission for acceptance of subcontract works package	60 edays	Mon 2/11/20	Fri 1/1/21	Mon 2/11/20	Fri 1/1/21	Sat 16/1/21	Tue 17/11/...	0 edays		388	



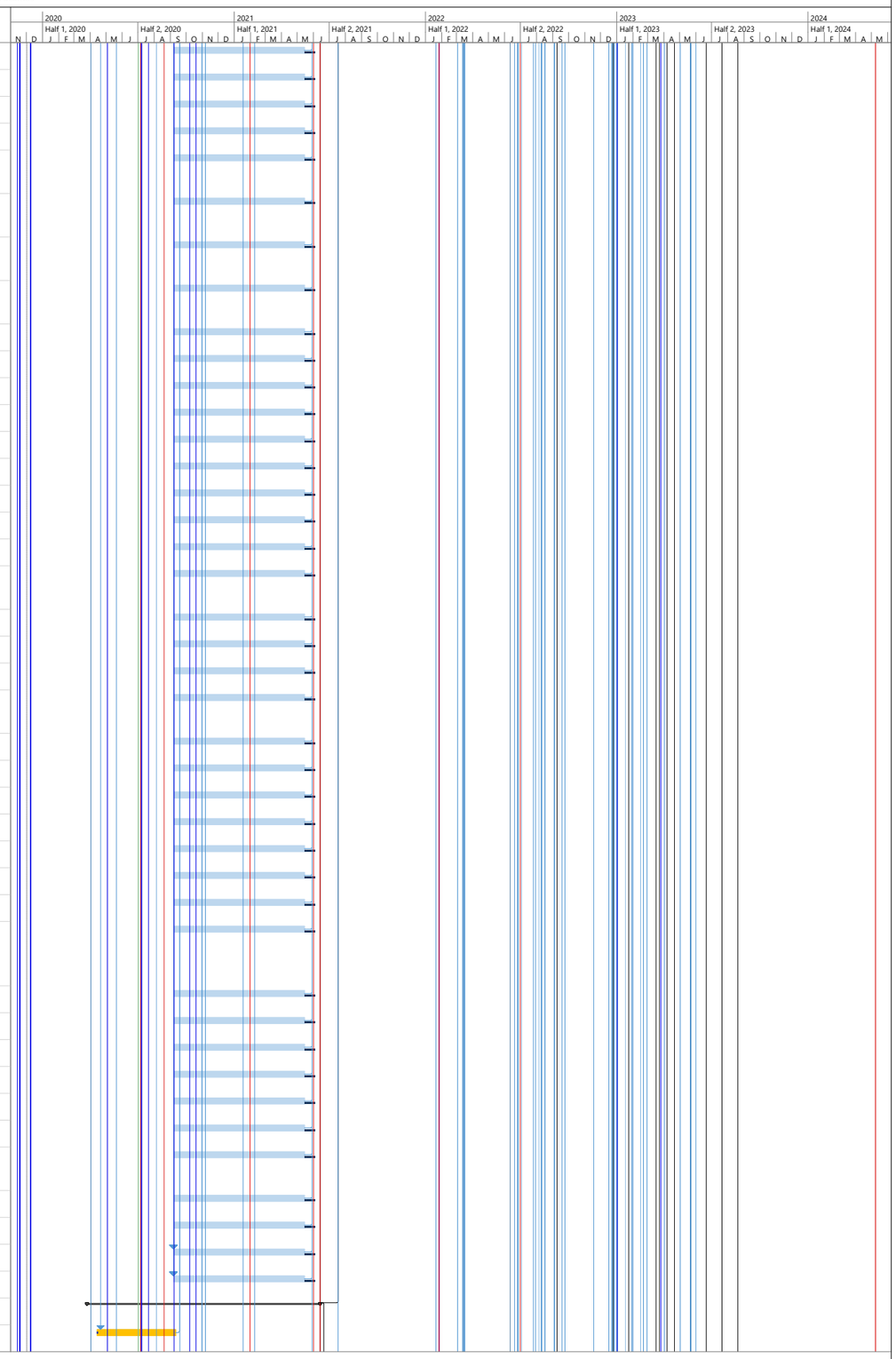
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
388	388	Elec	2.7.7.2	Invitation of tender for subcontract works	30 edays	Fri 1/1/21	Sun 31/1/21	Fri 1/1/21	Sun 31/1/21	Mon 15/2/...	Sat 16/1/21	0 edays	387	389	
389	389	Elec	2.7.7.3	Acceptance of conforming tender	14 edays	Sun 31/1/21	Sun 14/2/21	Sun 31/1/21	Sun 14/2/21	Mon 1/3/21	Mon 15/2/...	15.38 edays	388	390	
390	390	Elec	2.7.7.4	Sub-contract work commencement date	0 days	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	0 days	389		
391	**391**	**SCADA, CMMS, PMS, IDMS**	**2.7.8**	**General - Facility Computerised Systems (SCADA, CMMS, PMS, IDMS)**	**732 days**	**Fri 8/5/20**	**Mon 9/5/22**	**Fri 8/5/20**	**Mon 9/5/22**	**Wed 14/6/...**	**Fri 8/5/20**	**401 days**			
392	392	SCADA	2.7.8.1	Submission for acceptance of subcontract works package	60 edays	Fri 8/5/20	Tue 7/7/20	Fri 8/5/20	Tue 7/7/20	Wed 15/7/...	Fri 8/5/20	0 edays		393	
393	393	SCADA	2.7.8.2	Invitation of tender for subcontract works	30 edays	Tue 7/7/20	Thu 6/8/20	Tue 7/7/20	Thu 6/8/20	Fri 14/8/20	Wed 15/7/...	0 edays	392	394	
394	394	SCADA	2.7.8.3	Acceptance of conforming tender	14 edays	Thu 6/8/20	Thu 20/8/20	Thu 6/8/20	Thu 20/8/20	Fri 28/8/20	Fri 14/8/20	0 edays	393	395	
395	395	SCADA	2.7.8.4	Sub-contract work commencement date	0 days	Thu 20/8/20	Thu 20/8/20	Thu 20/8/20	Thu 20/8/20	Fri 28/8/20	Fri 28/8/20	8 days	394	459,472	
396	396	SCADA	2.7.8.5	Manufacturing of Plant, PLC for IW	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Wed 22/3/...	Fri 27/5/22	0 days	459,472	397	
397	397	SCADA, FAT	2.7.8.6	Factory Acceptance Test of Plant, PLC for IW (To be witnessed by PM)	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sun 21/5/23	Thu 23/3/23	87 days	396	577,624,665,7	
398	398	SCADA	2.7.8.7	Manufacturing of Plant, PLC for PST	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Tue 7/3/23	Thu 12/5/22	0 days	459,472	399	
399	399	SCADA, FAT	2.7.8.8	Factory Acceptance Test of Plant, PLC for PST (To be witnessed by PM)	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Sat 6/5/23	Wed 8/3/23	221 days	398	577,624,665,7	
400	400	SCADA	2.7.8.9	Manufacturing of Plant, PLC for BR2A &B	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Mon 30/1/...	Wed 6/4/22	0 days	459,472	401	
401	401	SCADA, FAT	2.7.8.10	Factory Acceptance Test of Plant, PLC for BR2A &B (To be witnessed by PM)	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Fri 31/3/23	Tue 31/1/23	47 days	400	577,624,665,7	
402	402	SCADA	2.7.8.11	Manufacturing of Plant, PLC for MFB2	300 days	Sat 15/5/21	Thu 10/3/22	Sat 15/5/21	Thu 10/3/22	Sun 7/5/23	Tue 12/7/22	0 days	459,472	403	
403	403	SCADA, FAT	2.7.8.12	Factory Acceptance Test of Plant, PLC for MFB2 (To be witnessed by PM)	60 days	Fri 11/3/22	Mon 9/5/22	Fri 11/3/22	Mon 9/5/22	Thu 6/7/23	Mon 8/5/23	47 days	402	577,624,665,7	
404	**404**	**BS**	**2.7.9**	**General - Building Services Installations**	**119 days**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 1/3/21**	**Tue 17/11...**	**0 days**			
405	405	BS	2.7.9.1	Submission for acceptance of subcontract works package	60 edays	Mon 2/11/20	Fri 1/1/21	Mon 2/11/20	Fri 1/1/21	Sat 16/1/21	Tue 17/11/...	0 edays		406	
406	406	BS	2.7.9.2	Invitation of tender for subcontract works	30 edays	Fri 1/1/21	Sun 31/1/21	Fri 1/1/21	Sun 31/1/21	Mon 15/2/...	Sat 16/1/21	0 edays	405	407	
407	407	BS	2.7.9.3	Acceptance of conforming tender	14 edays	Sun 31/1/21	Sun 14/2/21	Sun 31/1/21	Sun 14/2/21	Mon 1/3/21	Mon 15/2/...	15 edays	406	408	
408	408	BS	2.7.9.4	Sub-contract work commencement date	0 days	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	0 days	407		
409	**409**	**MVAC**	**2.7.10**	**General - Mechanical Ventilation and Air Conditioning Installation**	**119 days**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 2/11/20**	**Mon 1/3/21**	**Mon 1/3/21**	**Tue 17/11...**	**0 days**			
410	410	MVAC	2.7.10.1	Submission for acceptance of subcontract works package	60 days	Mon 2/11/20	Thu 31/12/20	Mon 2/11/20	Thu 31/12/20	Fri 15/1/21	Tue 17/11/...	0 days		411	
411	411	MVAC	2.7.10.2	Invitation of tender for subcontract works	30 edays	Thu 31/12/20	Sat 30/1/21	Thu 31/12/20	Sat 30/1/21	Mon 15/2/...	Sat 16/1/21	0.63 edays	410	412	
412	412	MVAC	2.7.10.3	Acceptance of conforming tender	14 edays	Sun 31/1/21	Sat 13/2/21	Sun 31/1/21	Sat 13/2/21	Sun 28/2/21	Mon 15/2/...	15 days	411	413	
413	413	MVAC	2.7.10.4	Sub-contract work commencement date	0 days	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	Mon 1/3/21	0 days	412		
414	**414**	**Genset**	**2.7.11**	**General - Emergency Power Generator Set (04SC006)**	**104 days**	**Wed 1/7/20**	**Tue 13/10/20**	**Wed 1/7/20**	**Tue 13/10/20**	**Fri 5/2/21**	**Wed 1/7/20**	**115 days**			
415	415	Genset	2.7.11.1	Submission for acceptance of subcontract works package	60 edays	Wed 1/7/20	Sun 30/8/20	Wed 1/7/20	Sun 30/8/20	Sun 30/8/20	Wed 1/7/20	0 edays		416	
416	416	Genset	2.7.11.2	Invitation of tender for subcontract works	30 edays	Sun 30/8/20	Tue 29/9/20	Sun 30/8/20	Tue 29/9/20	Tue 29/9/20	Sun 30/8/20	0 edays	415	417	
417	417	Genset	2.7.11.3	Acceptance of conforming tender	14 edays	Tue 29/9/20	Tue 13/10/20	Tue 29/9/20	Tue 13/10/20	Fri 5/2/21	Tue 29/9/20	0 edays	416	418	
418	418	Genset	2.7.11.4	Sub-contract work commencement date	0 days	Tue 13/10/20	Tue 13/10/20	Tue 13/10/20	Tue 13/10/20	Fri 5/2/21	Fri 5/2/21	0 days	417	826,535	
419	**419**	**Pb**	**2.7.12**	**General - Plumbing Installation**	**74 days**	**Fri 1/5/20**	**Tue 14/7/20**	**Fri 1/5/20**	**Tue 14/7/20**	**Sun 2/1/22**	**Fri 1/5/20**	**537 days**			
420	420	Pb	2.7.12.1	Submission for acceptance of subcontract works package	30 edays	Fri 1/5/20	Sun 31/5/20	Fri 1/5/20	Sun 31/5/20	Thu 25/11/...	Fri 1/5/20	0 edays	6SS+30 edays	421	
421	421	Pb	2.7.12.2	Invitation of tender for subcontract works	30 edays	Sun 31/5/20	Tue 30/6/20	Sun 31/5/20	Tue 30/6/20	Sun 26/12/...	Fri 26/11/21	0 edays	420	422	
422	422	Pb	2.7.12.3	Acceptance of conforming tender	14 edays	Tue 30/6/20	Tue 14/7/20	Tue 30/6/20	Tue 14/7/20	Sun 9/1/22	Sun 26/12/...	0 edays	421	423	
423	423	Pb	2.7.12.4	Sub-contract work commencement date	0 days	Tue 14/7/20	Tue 14/7/20	Tue 14/7/20	Tue 14/7/20	Sun 9/1/22	Sun 9/1/22	0 days	422	858	
424	**424**	**FSI**	**2.7.13**	**General - Fire Services Installation**	**123 days**	**Fri 1/5/20**	**Tue 1/9/20**	**Fri 1/5/20**	**Tue 1/9/20**	**Tue 23/8/22**	**Fri 1/5/20**	**721 days**			
425	425	FSI	2.7.13.1	Submission for acceptance of subcontract works package	60 days	Fri 1/5/20	Mon 29/6/20	Fri 1/5/20	Mon 29/6/20	Sat 9/7/22	Fri 1/5/20	0 days		426	
426	426	FSI	2.7.13.2	Invitation of tender for subcontract works	30 days	Tue 30/6/20	Wed 29/7/20	Tue 30/6/20	Wed 29/7/20	Mon 8/8/22	Sun 10/7/22	0 days	425	427	
427	427	FSI	2.7.13.3	Acceptance of conforming tender	14 days	Thu 30/7/20	Wed 12/8/20	Thu 30/7/20	Wed 12/8/20	Mon 22/8/...	Tue 9/8/22	19 days	426	428	
428	428	FSI	2.7.13.4	Sub-contract work commencement date	0 days	Tue 1/9/20	Tue 1/9/20	Tue 1/9/20	Tue 1/9/20	Tue 23/8/22	Tue 23/8/22	0 days	427	841	
429	**429**	**Earth**	**2.7.14**	**General - Earthing and Lightning Protection System**	**91 days**	**Thu 2/7/20**	**Thu 1/10/20**	**Thu 2/7/20**	**Thu 1/10/20**	**Tue 20/4/21**	**Fri 5/2/21**	**201 days**			
430	430	Earth	2.7.14.1	Submission for acceptance of subcontract works package	30 edays	Thu 2/7/20	Sat 1/8/20	Thu 2/7/20	Sat 1/8/20	Sun 7/3/21	Fri 5/2/21	0 edays		431	
431	431	Earth	2.7.14.2	Invitation of tender for subcontract works	30 edays	Sat 1/8/20	Mon 31/8/20	Sat 1/8/20	Mon 31/8/20	Tue 6/4/21	Sun 7/3/21	0 edays	430	432	
432	432	Earth	2.7.14.3	Acceptance of conforming tender	14 edays	Mon 31/8/20	Mon 14/9/20	Mon 31/8/20	Mon 14/9/20	Tue 20/4/21	Tue 6/4/21	17 edays	431	433	
433	433	Earth	2.7.14.4	Sub-contract work commencement date	0 days	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	Thu 1/10/20	Tue 20/4/21	Tue 20/4/21	0 days	432	531	
434	**434**	**CCTV**	**2.7.15**	**General - CCTV Installation**	**294 days**	**Mon 1/6/20**	**Sun 21/3/21**	**Mon 1/6/20**	**Sun 21/3/21**	**Sun 21/3/21**	**Mon 1/6/20**	**0 days**			
435	435	CCTV	2.7.15.1	Submission for acceptance of subcontract works package	30 edays	Mon 1/6/20	Wed 1/7/20	Mon 1/6/20	Wed 1/7/20	Wed 1/7/20	Mon 1/6/20	0 edays		436	
436	436	CCTV	2.7.15.2	Invitation of tender for subcontract works	30 edays	Wed 1/7/20	Fri 31/7/20	Wed 1/7/20	Fri 31/7/20	Fri 31/7/20	Wed 1/7/20	0 edays	435	437	



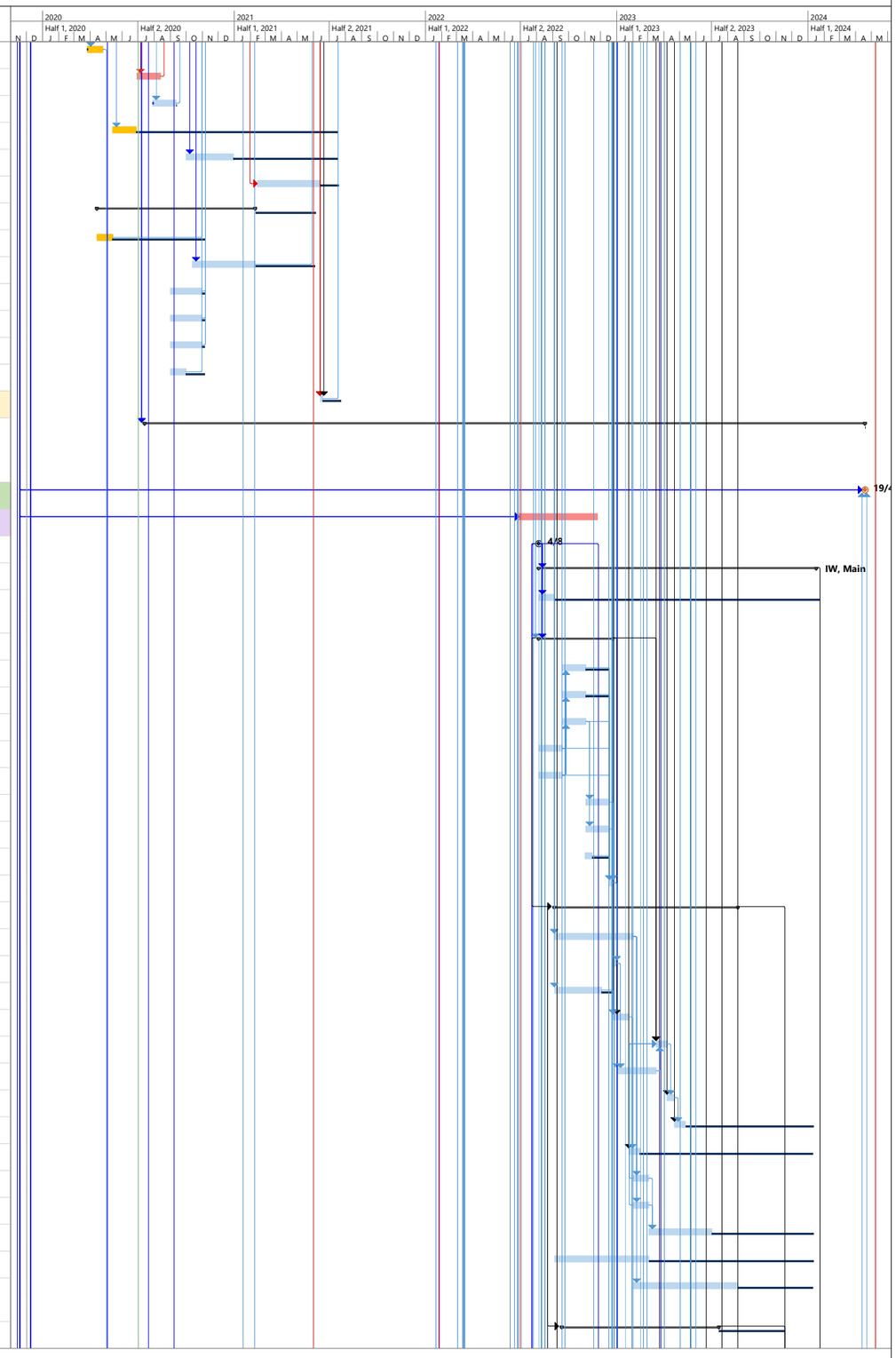
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
437	437	CCTV	2.7.15.3	Acceptance of conforming tender	14 edays	Fri 31/7/20	Fri 14/8/20	Fri 31/7/20	Fri 14/8/20	Fri 14/8/20	Fri 31/7/20	0 edays	436	438	
438	438	CCTV	2.7.15.4	Sub-contract work commencement date	0 days	Fri 14/8/20	Fri 14/8/20	Fri 14/8/20	Fri 14/8/20	Fri 14/8/20	Fri 14/8/20	0 days	437	439	
439	439	CCTV	2.7.15.5	Design, Procurements and Delivery to Site	220 days	Fri 14/8/20	Sun 21/3/21	Fri 14/8/20	Sun 21/3/21	Sun 21/3/21	Fri 14/8/20	0 days	438		
440	**440**	**Civil**	**2.7.16**	**General - Civil Construction Work for underground pipework**	**121 days**	**Tue 1/9/20**	**Thu 31/12/20**	**Tue 1/9/20**	**Thu 31/12/20**	**Thu 31/12...**	**Tue 1/9/20**	**0 days**			
441	441	Civil	2.7.16.1	Submission for acceptance of subcontract works package	30 days	Tue 1/9/20	Wed 30/9/20	Tue 1/9/20	Wed 30/9/20	Mon 16/11...	Tue 1/9/20	0 days		442	
442	442	Civil	2.7.16.2	Invitation of tender for subcontract works	30 days	Thu 1/10/20	Fri 30/10/20	Thu 1/10/20	Fri 30/10/20	Wed 16/12...	Tue 17/11/...	0 days	441	443	
443	443	Civil	2.7.16.3	Acceptance of conforming tender	14 days	Sat 31/10/20	Fri 13/11/20	Sat 31/10/20	Fri 13/11/20	Wed 30/12...	Thu 17/12/...	47 days	442	444	
444	444	Civil	2.7.16.4	Sub-contract work commencement date	0 days	Thu 31/12/20	Thu 31/12/20	Thu 31/12/20	Thu 31/12/20	Thu 31/12/...	Thu 31/12/...	0 days	443		
445	**445**	**Temp Filtrate**	**2.7.17**	**General - Civil Construction Work for Temp. Filtrate Eq. System**	**56 days**	**Mon 2/3/20**	**Sun 26/4/20**	**Mon 2/3/20**	**Sun 26/4/20**	**Tue 28/4/20**	**Mon 2/3/20**	**1 day**			
446	446	Temp Filtrate	2.7.17.1	Submission for acceptance of subcontract works package	21 days	Mon 2/3/20	Sun 22/3/20	Mon 2/3/20	Sun 22/3/20	Sun 22/3/20	Mon 2/3/20	0 days	6SS+30 edays	447	
447	447	Temp Filtrate	2.7.17.2	Invitation of tender for subcontract works	21 days	Mon 23/3/20	Sun 12/4/20	Mon 23/3/20	Sun 12/4/20	Sun 12/4/20	Mon 23/3/...	0 days	446	448	
448	448	Temp Filtrate	2.7.17.3	Acceptance of conforming tender	14 days	Mon 13/4/20	Sun 26/4/20	Mon 13/4/20	Sun 26/4/20	Mon 27/4/...	Mon 13/4/...	0 days	447	449	
449	449	Temp Filtrate	2.7.17.4	Sub-contract work commencement date	0 days	Sun 26/4/20	Sun 26/4/20	Sun 26/4/20	Sun 26/4/20	Tue 28/4/20	Tue 28/4/20	0 days	448	875	
450	**450**	**existing genset**	**2.7.18**	**Mis - Modification of existing power house**	**115 days**	**Mon 2/12/19**	**Wed 25/3/20**	**Mon 2/12/19**	**Wed 25/3/20**	**Wed 25/3/...**	**Mon 2/12/...**	**0 days**		**527**	
451	451	existing genset	2.7.18.1	Submission for acceptance of subcontract works package	90 days	Mon 2/12/19	Sat 29/2/20	Mon 2/12/19	Sat 29/2/20	Sat 29/2/20	Mon 2/12/...	0 days	6,2	452	
452	452	existing genset	2.7.18.2	Invitation of tender for subcontract works	21 days	Sun 1/3/20	Sat 21/3/20	Sun 1/3/20	Sat 21/3/20	Sat 21/3/20	Sun 1/3/20	0 days	451	453	
453	453	existing genset	2.7.18.3	Acceptance of conforming tender	3 days	Sun 22/3/20	Tue 24/3/20	Sun 22/3/20	Tue 24/3/20	Tue 24/3/20	Sun 22/3/20	0 days	452	454	
454	454	existing genset	2.7.18.4	Sub-contract work commencement date	1 day	Wed 25/3/20	Wed 25/3/20	Wed 25/3/20	Wed 25/3/20	Wed 25/3/...	Wed 25/3/...	0 days	453	527	
455	**455**		**2.8**	**Section 1 - Completion of the design of E&M Works for all works as defined in WI_GP Cl. 10.1(a)**	**485 days**	**Thu 26/3/20**	**Sat 24/7/21**	**Thu 26/3/20**	**Sat 24/7/21**	**Sat 24/7/21**	**Thu 26/3/20**	**1 day**	6,2		
456	456	IW, PST, BR, MFS,LA,PV,CCTV,P	2.8.1	Section 1 - Latest Completion Date	0 days	Sat 24/7/21	Sat 24/7/21	Sat 24/7/21	Sat 24/7/21	Sat 24/7/21	Sat 24/7/21	0 days	6SS+600 eday		
457	457	IW, PST, BR, MFS,LA,PV,CCTV,P	2.8.2	Key Date KD1A, document submissions Part 1	0 days	Fri 6/11/20	Fri 6/11/20	Fri 6/11/20	Fri 6/11/20	Fri 6/11/20	Fri 6/11/20	1 day	6SS+340 eday		
458	458	IW, PST, BR, MFS,LA,PV,CCTV,P	2.8.3	Key Date KD1B, document submissions Part 2	0 days	Fri 4/6/21	Fri 4/6/21	Fri 4/6/21	Fri 4/6/21	Fri 4/6/21	Fri 4/6/21	1 day	6SS+550 eday	679	
459	**459**	**IW, PST, BR, MFS,LA,PV, DOU,**	**2.8.4**	**Document Submissions for design work from formation level up to +8.0 mPD**	**70 days**	**Fri 28/8/20**	**Thu 5/11/20**	**Fri 28/8/20**	**Thu 5/11/20**	**Fri 14/5/21**	**Fri 28/8/20**	**190 days**	36,45,61,67,7	142,202,208,2	
460	460	IW	2.8.4.1	Civil and dimensional requirement drawings for Inlet Works No. 1	70 days	Fri 28/8/20	Thu 5/11/20	Fri 28/8/20	Thu 5/11/20	Fri 6/11/20	Fri 28/8/20	0 days	104,110,116,	457	
461	461	PST	2.8.4.2	Civil and dimensional requirement drawings for PST No. 1 ~ 4	70 days	Fri 28/8/20	Thu 5/11/20	Fri 28/8/20	Thu 5/11/20	Fri 6/11/20	Fri 28/8/20	0 days	104,110,116,	457	
462	462	BR	2.8.4.3	Civil and dimensional requirement drawings for BR No. 2A & 2B	70 days	Fri 28/8/20	Thu 5/11/20	Fri 28/8/20	Thu 5/11/20	Fri 6/11/20	Fri 28/8/20	0 days	104,110,116,	457	
463	463	MFS	2.8.4.4	Civil and dimensional requirement drawings for MFB No. 2	60 days	Fri 28/8/20	Mon 2/11/20	Fri 28/8/20	Mon 2/11/20	Fri 6/11/20	Fri 28/8/20	3.5 days	104,110,116,	457	
464	464	IW	2.8.4.5	Electrical schematic drawings for Inlet Works No. 1	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 6/11/20	Tue 8/9/20	0 days		457	
465	465	PST	2.8.4.6	Electrical schematic drawings for PST No. 1 ~4	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 6/11/20	Tue 8/9/20	0 days		457	
466	466	BR	2.8.4.7	Electrical schematic drawings for BR No. 2A & 2B	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 6/11/20	Tue 8/9/20	0 days		457	
467	467	MFS	2.8.4.8	Electrical schematic drawings for MFB No. 2	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 6/11/20	Tue 8/9/20	0 days		457	
468	468	Temp Chemical	2.8.4.9	Electrical schematic drawings for Temporary Chemical Dosing System	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 6/11/20	Tue 8/9/20	0 days		457	
469	469	DOU	2.8.4.10	Electrical schematic drawings for Deodorisation Systems	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 14/5/21	Tue 16/3/...	190 days			
470	470	Chemical	2.8.4.11	Electrical schematic drawings for Chemical Systems No. 1 and No. 2	60 days	Mon 7/9/20	Thu 5/11/20	Mon 7/9/20	Thu 5/11/20	Fri 14/5/21	Tue 16/3/...	190 days			
471	471	IW, PST, BR, MFS,LA,PV, DOU	2.8.4.12	Design Calculations for acceptance	60 days	Fri 28/8/20	Mon 2/11/20	Fri 28/8/20	Mon 2/11/20	Fri 6/11/20	Fri 28/8/20	3.5 days	104,110,116,	457	
472	**472**	**IW, PST, BR, MFS, LA,PV,DOU, (**	**2.8.5**	**Document Submissions for design work above level +8.0 mPD**	**250 days**	**Sun 6/9/20**	**Fri 14/5/21**	**Sun 6/9/20**	**Fri 14/5/21**	**Fri 4/6/21**	**Sun 27/9/20**	**0 days**	378,36,45,61,	105,111,117,1	
473	473	IW, PST, BR, MFS	2.8.5.1	CDS001 - General Design Parameters	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
474	474	IW, PST, BR, MFS	2.8.5.2	CDS002 - Detailed Design for Inlet Works No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
475	475	IW, PST, BR, MFS	2.8.5.3	CDS003 - Detailed Design for Primary Sedimentation Tanks	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
476	476	IW, PST, BR, MFS	2.8.5.4	CDS004 - Detailed Design for Bioreactor 2A and 2B	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
477	477	IW, PST, BR, MFS	2.8.5.5	CDS005 - Detailed Design for Membrane Filtration System, Pumps and Membrane Modules	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
478	478	IW, PST, BR, MFS	2.8.5.6	CDS006 - Detailed Design for Chemical Dosing System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
479	479	IW, PST, BR, MFS	2.8.5.7	CDS007-1 - Detailed Design for Deodorisation System, DOU No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
480	480	IW, PST, BR, MFS	2.8.5.8	CDS007-2 - Detailed Design for Deodorisation System, DOU No. 2A	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
481	481	IW, PST, BR, MFS	2.8.5.9	CDS007-3 - Detailed Design for Deodorisation System, DOU No. 3A	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
482	482	IW, PST, BR, MFS	2.8.5.10	CDS008 - Detailed Design for Membrane Filtration System, Air Blowers, Dosing Systems etc.	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
483	483	IW, PST, BR, MFS	2.8.5.11	CDS009 - Detailed Design for Plant Service Water System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	



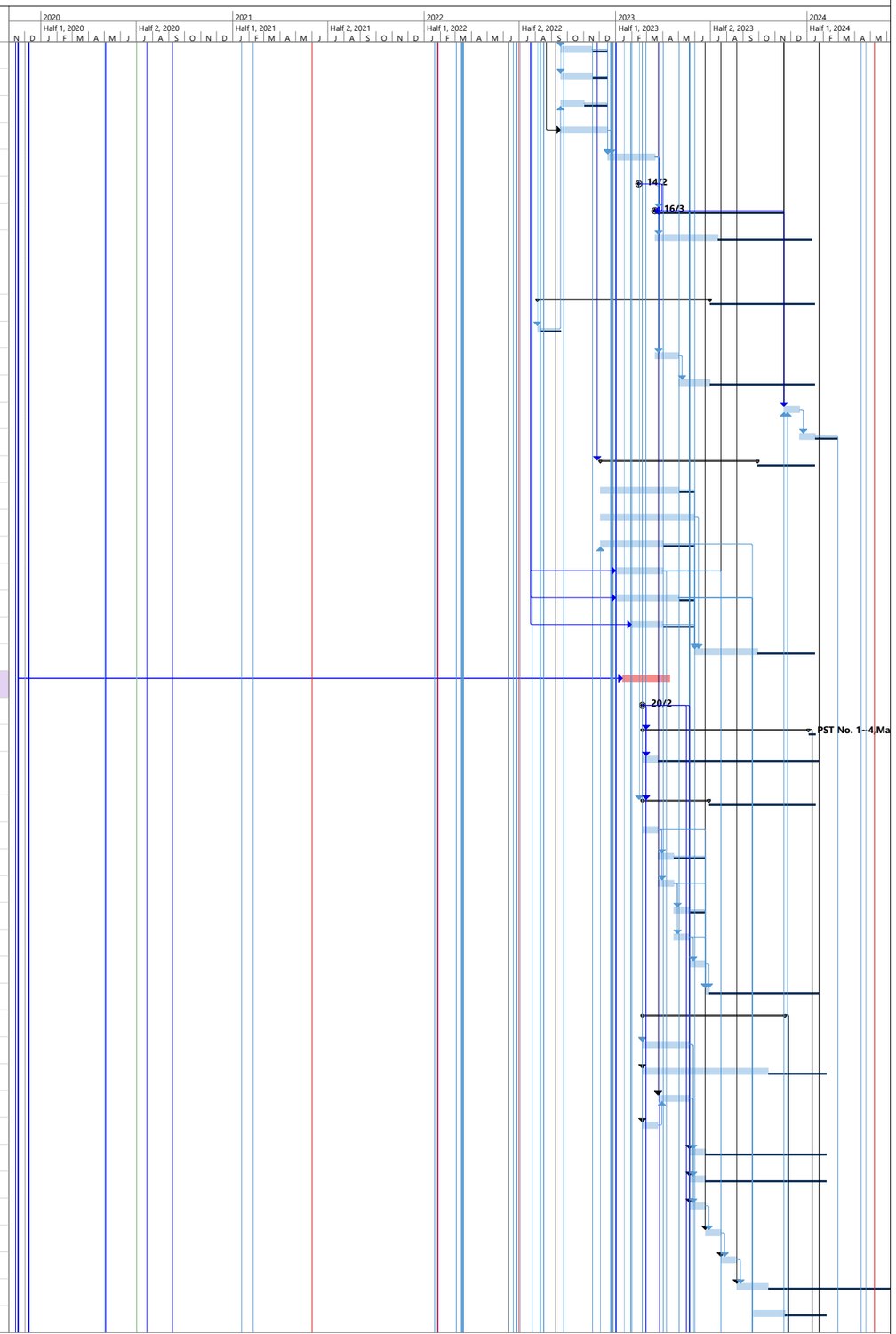
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
484	484	IW, PST, BR, MFS	2.8.5.12	CDS012 - Detailed Design for SCADA System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
485	485	IW, PST, BR, MFS	2.8.5.13	CDS13-1 - Detailed Design for CCTV System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
486	486	IW, PST, BR, MFS	2.8.5.14	CDS13-2 - Detailed Design for Gas Detection and Monitoring System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
487	487	IW, PST, BR, MFS	2.8.5.15	CDS14-1 - Detailed Design for Power monitoring system (PMS)	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
488	488	IW, PST, BR, MFS	2.8.5.16	CDS14-2 - Detailed Design for Computerized maintenance and mangement (CMMS)	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
489	489	IW, PST, BR, MFS	2.8.5.17	CDS14-3 - Detailed Design for Information and documents management system (IDMS)	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
490	490	IW, PST, BR, MFS	2.8.5.18	CDS015 - Detailed Design for Underground Pipework Modification and Connection with the existing Bioreactor 1, 3 & 4	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
491	491	IW, PST, BR, MFS	2.8.5.19	CDS016 - Detailed Design for Temporary Pumping System for maintaining the existing bioreactors 1, 3 and 4 operation	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
492	492	IW, PST, BR, MFS	2.8.5.20	CDS018 - Detailed Design for Flowmeter and Valve Chambers	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
493	493	IW, PST, BR, MFS	2.8.5.21	CDS020 - Electrical Installation Typical Details	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
494	494	IW, PST, BR, MFS	2.8.5.22	CDS021 - Detailed Design for Electrical Installations for Inlet Works No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
495	495	IW, PST, BR, MFS	2.8.5.23	CDS022 - Detailed Design for Electrical Installations for PST No. 1~4	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
496	496	IW, PST, BR, MFS	2.8.5.24	CDS023 - Detailed Design for Electrical Installations for BR No. 2A & 2B	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
497	497	IW, PST, BR, MFS	2.8.5.25	CDS024 - Detailed Design for Electrical Installations for MFB No. 2	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
498	498	IW, PST, BR, MFS	2.8.5.26	CDS025-1 - Detailed Design for LV Switchboards for Inlet Works No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
499	499	IW, PST, BR, MFS	2.8.5.27	CDS025-2 - Detailed Design for LV Switchboards for PST No. 1~4	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
500	500	IW, PST, BR, MFS	2.8.5.28	CDS025-3 - Detailed Design for LV Switchboards for BR 2A and 2B	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
501	501	IW, PST, BR, MFS	2.8.5.29	CDS025-4 - Detailed Design for LV Switchboards for Membrane Filtration System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
502	502	IW, PST, BR, MFS	2.8.5.30	CDS026 - Detailed Design for HV Switchboards	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
503	503	IW, PST, BR, MFS	2.8.5.31	CDS027 - Detailed Design for Electrical Installations for Chemical System No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
504	504	IW, PST, BR, MFS	2.8.5.32	CDS028 - Detailed Design for Electrical Installations for Chemical System No. 2	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
505	505	IW, PST, BR, MFS	2.8.5.33	CDS029 - Detailed Design for Electrical Installations for Temporary Chemical System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
506	506	IW, PST, BR, MFS	2.8.5.34	CDS031 - Detailed Design for MVAC System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
507	507	IW, PST, BR, MFS	2.8.5.35	CDS033 - Detailed Design for Plumbing System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
508	508	IW, PST, BR, MFS	2.8.5.36	CDS034-1 - Detailed Design for Electrical Installations BS at Inlet Works No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
509	509	IW, PST, BR, MFS	2.8.5.37	CDS034-2 - Detailed Design for Electrical Installations BS at PST No. 1~4	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
510	510	IW, PST, BR, MFS	2.8.5.38	CDS034-3 - Detailed Design for Electrical Installations BS at BR No. 2A & 2B	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
511	511	IW, PST, BR, MFS	2.8.5.39	CDS034-4 - Detailed Design for Electrical Installations BS at MFB No. 2	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
512	512	IW, PST, BR, MFS	2.8.5.40	CDS034-5 - Detailed Design for Electrical Installations BS at Chemical Systems	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
513	513	IW, PST, BR, MFS	2.8.5.41	CDS034-6 - Detailed Design for Electrical Installations BS at Emergency Generator House, FS and Sprinkler Pump Room, Street Fire Hydrant Pump Room	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
514	514	IW, PST, BR, MFS	2.8.5.42	CDS042 - Detailed Design for Lightning Protection System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
515	515	IW, PST, BR, MFS	2.8.5.43	CDS049 - Detailed Design for Fire Services	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
516	516	IW, PST, BR, MFS	2.8.5.44	CDS050-1 - Detailed Design for Lifting Appliances - Inlet Works No. 1	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
517	517	IW, PST, BR, MFS	2.8.5.45	CDS050-2 - Detailed Design for Lifting Appliances - PST No. 1 ~ 4	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
518	518	IW, PST, BR, MFS	2.8.5.46	CDS050-3 - Detailed Design for Lifting Appliances - BR 2A & 2B	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
519	519	IW, PST, BR, MFS	2.8.5.47	CDS050-4 - Detailed Design for Lifting Appliances - MFB No. 2	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
520	520	IW, PST, BR, MFS	2.8.5.48	CDS050-5 - Detailed Design for Lifting Appliances - Temp. Filtrate Eq. System, Existing Sludge Press House	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
521	521	IW, PST, BR, MFS	2.8.5.49	CDS060 - Detailed Design for PV System	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
522	522	IW, PST, BR, MFS	2.8.5.50	CDS061 - Detailed Design for Emergency Generator Set	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays		458	
523	523	IW, PST, BR, MFS, LA,PV,DOU, C	2.8.5.51	Plant and Material submissions for acceptance	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays	104,110,116,	458	
524	524	IW, PST, BR, MFS, LA,PV,DOU, C	2.8.5.52	Design Calculations for acceptance	250 edays	Sun 6/9/20	Fri 14/5/21	Sun 6/9/20	Fri 14/5/21	Fri 4/6/21	Sun 27/9/20	20.63 edays	104,110,116,	458	
525	**525**	**IW, PST, BR, MFS**	**2.8.6**	**Document Submissions for remaining work**	**445 days**	**Thu 26/3/20**	**Sun 13/6/21**	**Thu 26/3/20**	**Sun 13/6/21**	**Sun 18/7/21**	**Thu 26/3/20**	**0 days**		**456,540**	
526	526	PST No. 4 & No. 6	2.8.6.1	Design submissions for retrofitting the existing PST No. 4 and No. 6	150 days	Tue 14/4/20	Thu 10/9/20	Tue 14/4/20	Thu 10/9/20	Sun 4/10/20	Tue 14/4/20	0 days	342	343	



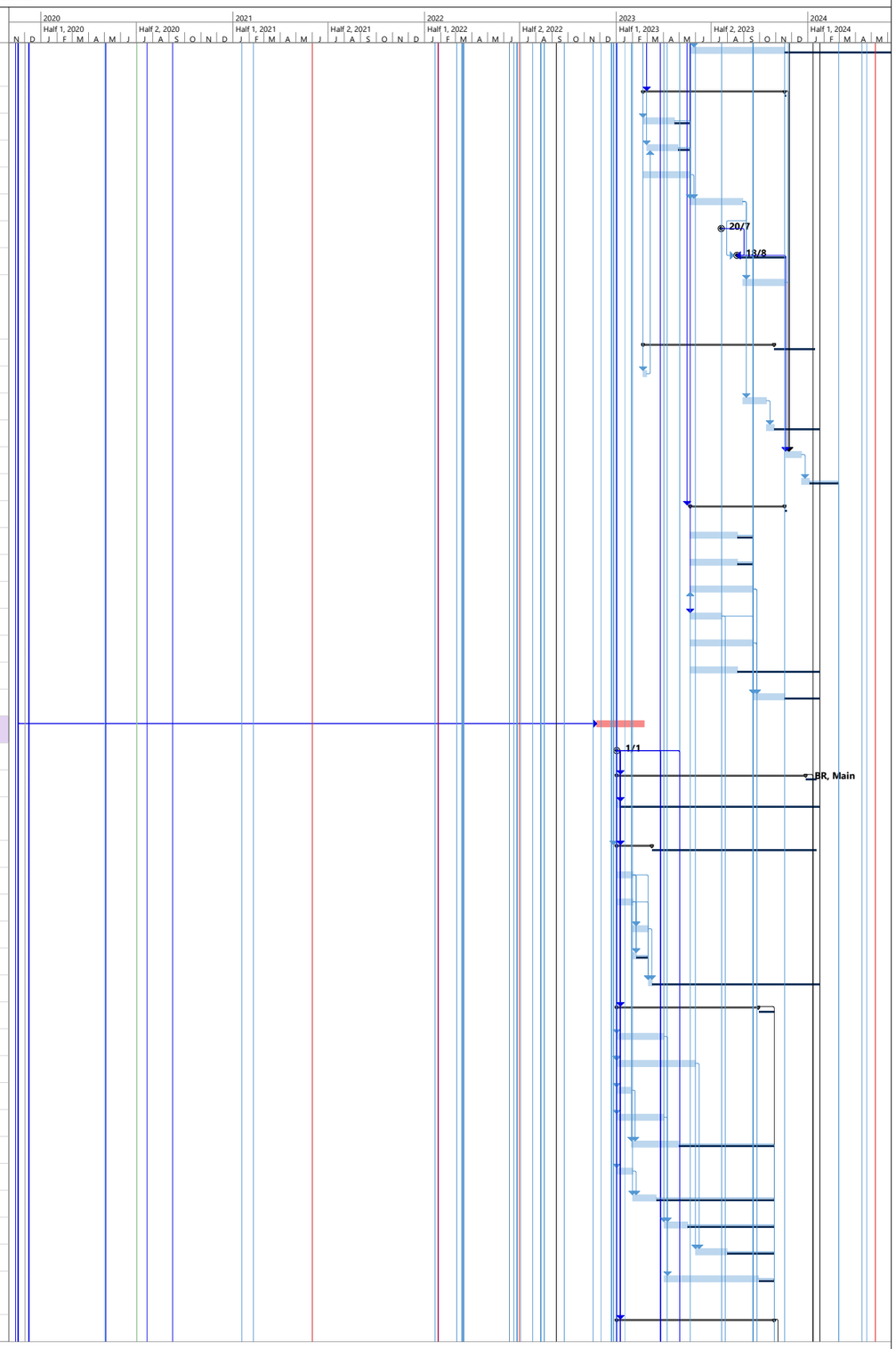
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
527	527	existing genset	2.8.6.2	Design submissions for E&M installation works of existing power house	30 days	Thu 26/3/20	Fri 24/4/20	Thu 26/3/20	Fri 24/4/20	Thu 30/4/20	Thu 26/3/20	0 days	450,454	915	
528	528	Filter Press	2.8.6.3	Design submissions for E&M installation works of existing sludge thickening buil	45 days	Mon 29/6/20	Wed 12/8/20	Mon 29/6/20	Wed 12/8/20	Wed 12/8/...	Mon 29/6/...	0 days	336	337	
529	529	Filter Plates	2.8.6.4	Design submission for replacement of filter plates	45 edays	Tue 28/7/20	Fri 11/9/20	Tue 28/7/20	Fri 11/9/20	Mon 12/10...	Tue 28/7/20	0.63 edays	330	331	
530	530	Temp Filtrate	2.8.6.5	Design submission for E&M Installation works for temp. filtrate eq. system	45 days	Thu 14/5/20	Sat 27/6/20	Thu 14/5/20	Sat 27/6/20	Sun 18/7/21	Fri 4/6/21	386 days	348		
531	531	Earth	2.8.6.6	Design Submission for Earthing and Lightning Protection System	90 days	Thu 1/10/20	Tue 29/12/20	Thu 1/10/20	Tue 29/12/20	Sun 18/7/21	Tue 20/4/21	201 days	433		
532	532	DOU	2.8.6.7	DG Stores Submissions to FSD for approval	120 days	Sun 14/2/21	Sun 13/6/21	Sun 14/2/21	Sun 13/6/21	Sun 18/7/21	Sun 21/3/21	35 days	472FS-90 day		
533	**533**		**2.8.7**	**Three-Month Rolling Contractor's Design Submissions**	**302 days**	**Tue 14/4/20**	**Tue 9/2/21**	**Tue 14/4/20**	**Tue 9/2/21**	**Fri 4/6/21**	**Tue 8/9/20**	**115 days**			
534	534		2.8.7.1	CDS01 - General Design Parameters	30 days	Tue 14/4/20	Wed 13/5/20	Tue 14/4/20	Wed 13/5/20	Fri 6/11/20	Thu 8/10/20	176 days		457	
535	535	Genset	2.8.7.2	CDS61 - Emergency Power Generator	120 days	Tue 13/10/20	Tue 9/2/21	Tue 13/10/20	Tue 9/2/21	Fri 4/6/21	Fri 5/2/21	114 days	418	458	
536	536		2.8.7.3	CDS80-1 - Civil Work Requirements for Inlet Works up to +8.0 mPD	60 days	Tue 1/9/20	Fri 30/10/20	Tue 1/9/20	Fri 30/10/20	Fri 6/11/20	Tue 8/9/20	6 days		457	
537	537		2.8.7.4	CDS80-2 - Civil Work Requirements for PST up to +8.0 mPD	60 days	Tue 1/9/20	Fri 30/10/20	Tue 1/9/20	Fri 30/10/20	Fri 6/11/20	Tue 8/9/20	6 days		457	
538	538		2.8.7.5	CDS80-3 - Civil Work Requirements for BR 2A&2B up to +8.0 mPD	60 days	Tue 1/9/20	Fri 30/10/20	Tue 1/9/20	Fri 30/10/20	Fri 6/11/20	Tue 8/9/20	6 days		457	
539	539		2.8.7.6	CDS80-4 - Civil Work Requirements for MFB no. 2 up to +8.0 mPD	30 days	Tue 1/9/20	Wed 30/9/20	Tue 1/9/20	Wed 30/9/20	Fri 6/11/20	Thu 8/10/20	36 days		457	
540	540	Risk Allowance	2.8.8	Risk Allowance for completion of Section 1	5 days	Mon 14/6/21	Fri 18/6/21	Mon 14/6/21	Fri 18/6/21	Fri 23/7/21	Mon 19/7/...	35 days	525,459,472	456	
541	**541**		**2.9**	**Section 2 - Completion of all works for Inlet Works, PST No. 1~4, BR No. 2A & 2B, MFB No. 2, temporary chemical dosing system, deodorisation systems, chemical system no. 1 and no. 2, FS and sprinkler pump room, ...etc as defined in WI_GP 10.1(b)**	**1375 days**	**Tue 14/7/20**	**Fri 19/4/24**	**Tue 14/7/20**	**Fri 19/4/24**	**Fri 19/4/24**	**Mon 20/12/21**	**1 day**	**6,2**		
542	542	IW, PST, BR, MFS,LA,PV,CCTV,P	2.9.1	Section 2 - Latest Completion Date	0 days	Fri 19/4/24	Fri 19/4/24	Fri 19/4/24	Fri 19/4/24	Fri 19/4/24	Fri 19/4/24	0 days	6SS+1600 eda		
543	**543**	**IW, LA, BS,FSI, Elec**	**2.9.2**	**Access Date for Portion B-2, Inlet Works No. 1**	**150 edays**	**Tue 28/6/22**	**Fri 25/11/22**	**Tue 28/6/22**	**Fri 25/11/22**	**Fri 25/11/22**	**Tue 28/6/22**	**0 edays**	**6SS+939 eday**		
544	544	IW, LA, BS,FSI, Elec, Others	2.9.3	Tentative Civil Handover Date, Portion B-2, Inlet Works No. 1	1 day	Thu 4/8/22	Thu 4/8/22	Thu 4/8/22	Thu 4/8/22	Mon 28/11...	Mon 28/11...	0 days		547,545,587FS	
545	545	IW, Main	2.9.4	**Commencement of E&M Installation at Inlet Works No. 1**	530 days	Fri 5/8/22	Tue 16/1/24	Fri 5/8/22	Tue 16/1/24	Mon 11/3/...	Thu 26/1/23	0 days	544	864	
546	546	IW, H&S	2.9.4.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc., IW	30 days	Fri 5/8/22	Sat 3/9/22	Fri 5/8/22	Sat 3/9/22	Mon 22/1/24	Sun 24/12/23	506 days	544		
547	**547**	**IW, LA**	**2.9.4.2**	**Installation of Lifting Appliances at Inlet Works No. 1**	**142 days**	**Fri 5/8/22**	**Sat 24/12/22**	**Fri 5/8/22**	**Sat 24/12/22**	**Fri 25/8/23**	**Thu 6/4/23**	**0 days**	**380,544**	**557SS+30 days**	
548	548	IW, LA	2.9.4.2.1	1/F EOT Crane LA-01-01 SWL 5t	45 days	Mon 19/9/22	Wed 2/11/22	Mon 19/9/22	Wed 2/11/22	Fri 18/8/23	Wed 5/7/23	45 days	551,552	556	LA - A x 4~6 men
549	549	IW, LA	2.9.4.2.2	1/F EOT Crane LA-01-02 SWL 5t	45 days	Mon 19/9/22	Wed 2/11/22	Mon 19/9/22	Wed 2/11/22	Fri 18/8/23	Wed 5/7/23	45 days	551,552	556	LA - B x 4~6 men
550	550	IW, LA	2.9.4.2.3	1/F EOT Crane LA-01-03 SWL 5t	45 days	Mon 19/9/22	Wed 2/11/22	Mon 19/9/22	Wed 2/11/22	Tue 4/7/23	Sun 21/5/23	0 days	551,552	553,554,556	LA - C x 4~6 men
551	551	IW, LA	2.9.4.2.4	UG EOT Crane LA-01-04 SWL 10t	45 days	Fri 5/8/22	Sun 18/9/22	Fri 5/8/22	Sun 18/9/22	Sat 20/5/23	Thu 6/4/23	0 days		548,549,550,5	LA - A x 4~6 men
552	552	IW, LA	2.9.4.2.5	UG EOT Crane LA-01-05 SWL 10t	45 days	Fri 5/8/22	Sun 18/9/22	Fri 5/8/22	Sun 18/9/22	Sat 20/5/23	Thu 6/4/23	0 days		548,549,550,5	LA - B x 4~6 men
553	553	IW, LA	2.9.4.2.6	1/F Retractable Crane LA-01-06 SWL 10t	45 days	Thu 3/11/22	Sat 17/12/22	Thu 3/11/22	Sat 17/12/22	Fri 18/8/23	Wed 5/7/23	0 days	550	556	LA - C x 4~6 men
554	554	IW, LA	2.9.4.2.7	1/F Mobile A-frame LA-01-07 SWL 2t	45 days	Thu 3/11/22	Sat 17/12/22	Thu 3/11/22	Sat 17/12/22	Fri 18/8/23	Wed 5/7/23	0 days	550	556	LA - A x 4~6 men
555	555	IW, LA	2.9.4.2.8	Submission of T&C Plan and Procedures of LA for acceptance	14 days	Tue 1/11/22	Mon 14/11/22	Tue 1/11/22	Mon 14/11/22	Fri 18/8/23	Sat 5/8/23	33 days		556	
556	556	IW, LA	2.9.4.2.9	T&C, Loading Test for Lifting Appliances	7 days	Sun 18/12/22	Sat 24/12/22	Sun 18/12/22	Sat 24/12/22	Fri 25/8/23	Sat 19/8/23	0 days	548,549,550,	559	LA - B x 4~6 men
557	**557**	**IW, Mech**	**2.9.4.3**	**Mechanical Installations for Inlet Works No. 1**	**350 days**	**Sun 4/9/22**	**Sat 19/8/23**	**Sun 4/9/22**	**Sat 19/8/23**	**Wed 10/1/...**	**Thu 26/1/23**	**0 days**	**547SS+30 day**	**572SS+14 days**	
558	558	IW, Mech	2.9.4.3.1	Installation of penstocks and stoplogs (Penstock 35nos, Stoplogs 37 nos)	150 days	Sun 4/9/22	Tue 31/1/23	Sun 4/9/22	Tue 31/1/23	Sat 24/6/23	Thu 26/1/23	0 days	47,38	567,568,571	ME - E x 4~6 men
559	559	IW, Mech	2.9.4.3.2	Installation of fixed bar screen (x1)	7 days	Sun 25/12/22	Sat 31/12/22	Sun 25/12/22	Sat 31/12/22	Fri 1/9/23	Sat 26/8/23	0 days	556	563	ME - D x 2~4 men
560	560	IW, Mech	2.9.4.3.3	Installation of mechanical raked coarse bar screens (x4)	90 days	Sun 4/9/22	Fri 2/12/22	Sun 4/9/22	Fri 2/12/22	Mon 20/11...	Wed 23/8/...	22 days	106	561	ME - A x 4~6 men
561	561	IW, Mech	2.9.4.3.4	Installation of screening conveyors (x6)	30 days	Sun 25/12/22	Mon 23/1/23	Sun 25/12/22	Mon 23/1/23	Wed 20/12...	Tue 21/11/...	0 days	547,107,560	566	ME - A x 4~6 men
562	562	IW, Mech	2.9.4.3.5	Installation of inlet pumps (x5)	21 days	Fri 17/3/23	Thu 6/4/23	Fri 17/3/23	Thu 6/4/23	Wed 6/12/...	Thu 16/11/...	0 days	547,567SS+14	564	ME - B x 4~6 men
563	563	IW, Mech	2.9.4.3.6	Installation of mechanical raked fine bar screens (x4)	75 days	Sun 1/1/23	Thu 16/3/23	Sun 1/1/23	Thu 16/3/23	Wed 15/11...	Sat 2/9/23	0 days	106,559	562	ME - B x 4~6 men
564	564	IW, Mech	2.9.4.3.7	Installation of grit removal system (x3)	14 days	Fri 7/4/23	Thu 20/4/23	Fri 7/4/23	Thu 20/4/23	Wed 20/12...	Thu 7/12/23	0 days	562,120	565	ME - B x 4~6 men
565	565	IW, Mech	2.9.4.3.8	Installation of grit classifiers (x2)	21 days	Fri 21/4/23	Thu 11/5/23	Fri 21/4/23	Thu 11/5/23	Wed 10/1/...	Thu 21/12/...	244 days	564,126		ME - B x 4~6 men
566	566	IW, Mech	2.9.4.3.9	Installation of compactors (x2)	21 days	Tue 24/1/23	Mon 13/2/23	Tue 24/1/23	Mon 13/2/23	Wed 10/1/...	Thu 21/12/...	331 days	561,132		ME - A x 4~6 men
567	567	IW, Mech	2.9.4.3.10	Installation of pipework and valves	30 days	Wed 1/2/23	Thu 2/3/23	Wed 1/2/23	Thu 2/3/23	Tue 12/9/23	Mon 14/8/...	0 days	558	562SS+14 days	ME - D x 2~4 men
568	568	IW, Mech	2.9.4.3.11	Pipework pressure tests	30 days	Wed 1/2/23	Thu 2/3/23	Wed 1/2/23	Thu 2/3/23	Tue 12/9/23	Mon 14/8/...	0 days	558	562SS+14 days	ME - D x 2~4 men
569	569	IW, Mech	2.9.4.3.12	Installation of instrumentations	120 days	Fri 3/3/23	Fri 30/6/23	Fri 3/3/23	Fri 30/6/23	Wed 10/1/...	Wed 13/9/...	194 days	567,568		ME - A x 4~6 men
570	570	IW, Mech	2.9.4.3.13	Installation of Platforms, Covers etc	180 days	Sun 4/9/22	Thu 2/3/23	Sun 4/9/22	Thu 2/3/23	Wed 10/1/...	Sat 15/7/23	314 days			ME - D x 2~4 men
571	571	IW, Mech	2.9.4.3.14	Site Acceptance Tests - mechanical aspects including alignment and levels checks, leakage tests, welding tests, installation checks, pressure tests etc.	200 days	Wed 1/2/23	Sat 19/8/23	Wed 1/2/23	Sat 19/8/23	Wed 10/1/24	Sun 25/6/23	144 days	558		ME - D x 2~4 men
572	**572**	**IW, Elec**	**2.9.4.4**	**Electrical Installations for Inlet Works No. 1**	**300 days**	**Sun 18/9/22**	**Fri 14/7/23**	**Sun 18/9/22**	**Fri 14/7/23**	**Thu 11/1/24**	**Fri 17/3/23**	**126 days**	**557SS+14 day**	**585**	



ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
573	573	IW, Elec	2.9.4.4.1	Installation of LV Switchboards, IW	60 days	Sun 18/9/22	Wed 16/11/22	Sun 18/9/22	Wed 16/11/22	Wed 14/6/...	Sun 16/4/23	30 days	98,77	577	LV - A x 4~6 men
574	574	IW, Elec	2.9.4.4.2	Installation of Transformer, IW	60 days	Sun 18/9/22	Wed 16/11/22	Sun 18/9/22	Wed 16/11/22	Wed 14/6/...	Sun 16/4/23	30 days	100	577	EE - A x 4~6 men
575	575	IW, Elec, SCADA	2.9.4.4.3	Installation of PLC Panels, IW	45 days	Sun 18/9/22	Tue 1/11/22	Sun 18/9/22	Tue 1/11/22	Wed 14/6/...	Mon 1/5/23	45 days	582	577	EE - B x 4~6 men
576	576	IW, Elec	2.9.4.4.4	Installation of cable trays and cable containments	90 days	Sun 18/9/22	Fri 16/12/22	Sun 18/9/22	Fri 16/12/22	Wed 14/6/...	Fri 17/3/23	0 days	557SS	577	EE - C x 4~6 men
577	577	IW, Elec, SCADA	2.9.4.4.5	Cables laying and terminations	90 days	Sat 17/12/22	Thu 16/3/23	Sat 17/12/22	Thu 16/3/23	Tue 12/9/23	Thu 15/6/23	0 days	576,397,401,	579,583,580	EE - C x 4~6 men
578	578	IW, Elec, Others	2.9.4.4.6	Tentative Civil Handover Date, HV cables draw pits from MFB2 to IW	0 days	Tue 14/2/23	Tue 14/2/23	Tue 14/2/23	Tue 14/2/23	Tue 12/12/...	Tue 12/12/...	1 day		579FF+30 days	
579	579	IW, Elec	2.9.4.4.7	Energisation of LV Switchboards, IW	0 days	Thu 16/3/23	Thu 16/3/23	Thu 16/3/23	Thu 16/3/23	Thu 11/1/24	Thu 11/1/24	246 days	577,578FF+3(	585	LV - A x 4~6 men
580	580	IW, Elec	2.9.4.4.8	Site Acceptance Tests - Electrical aspects including voltange and current tests, equipment protection interlock checks, motor rotation direction and electrical tests, control and functional checks etc.	120 days	Fri 17/3/23	Fri 14/7/23	Fri 17/3/23	Fri 14/7/23	Wed 10/1/24	Wed 13/9/23	180 days	577		LV - A x 4~6 men
581	**581**	**IW, SCADA**	**2.9.4.5**	**SCADA Systems, Inlet Works**	**329 days**	**Fri 5/8/22**	**Thu 29/6/23**	**Fri 5/8/22**	**Thu 29/6/23**	**Tue 16/1/24**	**Mon 24/4/...**	**201 days**			
582	582	IW, SCADA	2.9.4.5.1	Delivery of PLC Panel to LV Switch Room, IW	7 days	Fri 5/8/22	Thu 11/8/22	Fri 5/8/22	Thu 11/8/22	Sun 30/4/...	Mon 24/4...	37 days	397	575	
583	583	IW, SCADA	2.9.4.5.2	Configuration of PLC System, IW	45 days	Fri 17/3/23	Sun 30/4/23	Fri 17/3/23	Sun 30/4/23	Fri 17/11/23	Wed 4/10/...	0 days	577	584	PLC - A x 1 man
584	584	IW, SCADA	2.9.4.5.3	Site Acceptance Test for PLC System at Inlet Works No. 1	60 days	Mon 1/5/23	Thu 29/6/23	Mon 1/5/23	Thu 29/6/23	Tue 16/1/24	Sat 18/11/23	201 days	583		
585	585	IW, SCADA	2.9.4.6	Site Acceptance Test for E&M Equip & Instrumentations calibration, IW	30 days	Sat 18/11/23	Sun 17/12/23	Sat 18/11/23	Sun 17/12/23	Sun 25/2/24	Sat 27/1/24	0 days	557,572,579,(	586	
586	586	IW, SCADA	2.9.4.7	System Commissioning for E&M Equip at Inlet Works No. 1	30 edays	Sun 17/12/23	Tue 16/1/24	Sun 17/12/23	Tue 16/1/24	Sat 23/3/24	Thu 22/2/24	43.63 edays	585	946	
587	**587**	**BS, IW**	**2.9.4.8**	**Building Services Installations for Inlet Works No. 1**	**300 days**	**Sat 3/12/22**	**Thu 28/9/23**	**Sat 3/12/22**	**Thu 28/9/23**	**Tue 16/1/24**	**Thu 23/3/23**	**110 days**	**544FS+120 da**		
588	588	BS, IW, MVAC	2.9.4.8.1	Mechanical Ventilation and Air Conditioning System, IW	150 days	Sat 3/12/22	Mon 1/5/23	Sat 3/12/22	Mon 1/5/23	Mon 18/9/...	Sat 22/4/23	30 days		594	MVAC - B x 4~6 men
589	589	BS, IW	2.9.4.8.2	Lighting and Power Distribution System, IW	180 days	Sat 3/12/22	Wed 31/5/23	Sat 3/12/22	Wed 31/5/23	Mon 18/9/...	Thu 23/3/23	0 days		594	BS - A x 4~6 men
590	590	BS, IW, Pb	2.9.4.8.3	Plumbing Installation, IW	120 days	Sat 3/12/22	Sat 1/4/23	Sat 3/12/22	Sat 1/4/23	Mon 18/9/...	Mon 22/5/...	60 days	859	861,594	Pb - A x 4~6 men
591	591	BS, IW, CCTV	2.9.4.8.4	CCTV Installation (5 indoor +5 outdoor Cameras), IW	90 days	Sun 1/1/23	Fri 31/3/23	Sun 1/1/23	Fri 31/3/23	Mon 18/9/...	Wed 21/6/...	0 days	544SS+150 da	945,594,943	BS - B x 4~6 men
592	592	BS, IW, FSI	2.9.4.8.5	Fire Services Installation, IW	120 days	Sun 1/1/23	Sun 30/4/23	Sun 1/1/23	Sun 30/4/23	Mon 18/9/...	Mon 22/5/...	31 days	544SS+150 da	843,855,856,5	FS - A x 4~6 men
593	593	BS,IW,Earth	2.9.4.8.6	Earthing and Lightning Protection System, IW	60 days	Tue 31/1/23	Fri 31/3/23	Tue 31/1/23	Fri 31/3/23	Mon 18/9/...	Fri 21/7/23	61 days	544SS+180 da	594	BS - C x 2~4 men
594	594	BS, IW	2.9.4.8.7	Testing and Commissioning of Building Services Installations, IW	120 days	Thu 1/6/23	Thu 28/9/23	Thu 1/6/23	Thu 28/9/23	Tue 16/1/24	Tue 19/9/23	110 days	588,589,590,		BS - C x 2~4 men
595	595	PST, LA, BS,FSI,Elec	2.9.5	Access Date for Portion B-3, PST No. 1~4	90 edays	Sat 14/1/23	Fri 14/4/23	Sat 14/1/23	Fri 14/4/23	Fri 14/4/23	Sat 14/1/23	0 edays	6SS+1139 eda		
596	596	PST, LA, BS, Others	2.9.6	Tentative Civil Handover Date, Portion B-3, PST No. 1~4	1 day	Mon 20/2/23	Mon 20/2/23	Mon 20/2/23	Mon 20/2/23	Fri 24/2/23	Fri 24/2/23	0 days		599,634FS+90	
597	597	PST No. 1~4,Main	2.9.7	Commencement of E&M Installation at PST No. 1~4	317 days	Tue 21/2/23	Wed 3/1/24	Tue 21/2/23	Wed 3/1/24	Sun 10/3/24	Sun 16/4/23	13 days	596	864	
598	598	PST No. 1~4	2.9.7.1	Provision of Temporary Water Supply, Electricity Supply, Lighting Welfare facilities etc., PST	30 days	Tue 21/2/23	Wed 22/3/23	Tue 21/2/23	Wed 22/3/23	Mon 22/1/24	Sun 24/12/23	306 days	596		
599	**599**	**LA, PST**	**2.9.7.2**	**Installation of Lifting Appliances at PST No. 1~4**	**127 days**	**Tue 21/2/23**	**Tue 27/6/23**	**Tue 21/2/23**	**Tue 27/6/23**	**Tue 16/1/24**	**Tue 12/9/23**	**203 days**	**380,596**		
600	600	LA, PST	2.9.7.2.1	Basement EOT Crane LA-02-01 SWL 10t	30 days	Tue 21/2/23	Wed 22/3/23	Tue 21/2/23	Wed 22/3/23	Tue 17/10/...	Mon 18/9/...	0 days		601,602,606	LA - A x 4~6 men
601	601	LA, PST	2.9.7.2.2	Coping Level EOT Crane LA-02-02 SWL 5t	30 days	Thu 23/3/23	Fri 21/4/23	Thu 23/3/23	Fri 21/4/23	Mon 15/1/...	Sun 17/12/...	60 days	600	606	LA - A x 4~6 men
602	602	LA, PST	2.9.7.2.3	Coping Level EOT Crane LA-02-03 SWL 5t	30 days	Thu 23/3/23	Fri 21/4/23	Thu 23/3/23	Fri 21/4/23	Thu 16/11/...	Wed 18/10...	0 days	600	603,604,606	LA - B x 4~6 men
603	603	LA, PST	2.9.7.2.4	Coping Level EOT Crane LA-02-04 SWL 5t	30 days	Sat 22/4/23	Sun 21/5/23	Sat 22/4/23	Sun 21/5/23	Mon 15/1/...	Sun 17/12/...	30 days	602	606	LA - A x 4~6 men
604	604	LA, PST	2.9.7.2.5	Coping Level EOT Crane LA-02-05 SWL 5t	30 days	Sat 22/4/23	Sun 21/5/23	Sat 22/4/23	Sun 21/5/23	Sat 16/12/23	Fri 17/11/23	0 days	602	605,606	LA - B x 4~6 men
605	605	LA, PST	2.9.7.2.6	Coping Level EOT Crane LA-02-06 SWL 2t	30 days	Mon 22/5/23	Tue 20/6/23	Mon 22/5/23	Tue 20/6/23	Mon 15/1/...	Sun 17/12/...	0 days	604	606	LA - A x 4~6 men
606	606	LA, PST	2.9.7.2.7	T&C, Loading Test for Lifting Appliances at PST No. 1~4	7 days	Wed 21/6/23	Tue 27/6/23	Wed 21/6/23	Tue 27/6/23	Mon 22/1/...	Tue 16/1/24	209 days	600,601,602,(		LA - A x 4~6 men
607	**607**	**PST, Mech**	**2.9.7.3**	**Mechanical Installations at PST No. 1~4**	**272 days**	**Tue 21/2/23**	**Sun 19/11/23**	**Tue 21/2/23**	**Sun 19/11/23**	**Thu 25/1/24**	**Mon 1/5/23**	**0 days**		**632**	
608	608	PST, Mech	2.9.7.3.1	Installation of penstocks and stoplogs (Penstock 18nos, Stoplogs 14 nos)	90 days	Tue 21/2/23	Sun 21/5/23	Tue 21/2/23	Sun 21/5/23	Fri 5/1/24	Sun 8/10/23	0 days	33,39	614,619	ME - E x 4~6 men
609	609	PST, Mech	2.9.7.3.2	Installation of pipework and valves	240 days	Tue 21/2/23	Wed 18/10/23	Tue 21/2/23	Wed 18/10/23	Tue 6/2/24	Mon 12/6/...	111 days	48		ME - B x 4~6 men
610	610	PST, Mech	2.9.7.3.3	Installation of lamella plate settlers (x4)	60 days	Thu 23/3/23	Sun 21/5/23	Thu 23/3/23	Sun 21/5/23	Sun 7/1/24	Thu 9/11/23	0 days	611,138	612,613	ME - A x 4~6 men
611	611	PST, Mech	2.9.7.3.4	Installation of reciprocating type bottom scrapers (x4)	30 days	Tue 21/2/23	Wed 22/3/23	Tue 21/2/23	Wed 22/3/23	Wed 8/11/...	Tue 10/10/...	0 days	144	610	ME - A x 4~6 men
612	612	PST, Mech	2.9.7.3.5	Installation of surface scum skimmers (x1)	30 days	Mon 22/5/23	Tue 20/6/23	Mon 22/5/23	Tue 20/6/23	Tue 6/2/24	Mon 8/1/24	231 days	610,150		ME - A x 4~6 men
613	613	PST, Mech	2.9.7.3.6	Installation of scum collector pipes (x1)	30 days	Mon 22/5/23	Tue 20/6/23	Mon 22/5/23	Tue 20/6/23	Tue 6/2/24	Mon 8/1/24	231 days	610,156		ME - B x 4~6 men
614	614	PST, Mech	2.9.7.3.7	Installation of piston type primary sludge pumps (x3)	30 days	Mon 22/5/23	Tue 20/6/23	Mon 22/5/23	Tue 20/6/23	Wed 8/11/...	Tue 10/10/...	0 days	162,608	615	ME - C x 4~6 men
615	615	PST, Mech	2.9.7.3.8	Installation of drain pumps (x1)	30 days	Wed 21/6/23	Thu 20/7/23	Wed 21/6/23	Thu 20/7/23	Fri 8/12/23	Thu 9/11/23	0 days	168,614	616	ME - C x 4~6 men
616	616	PST, Mech	2.9.7.3.9	Installation of air blowers (x2)	30 days	Fri 21/7/23	Sat 19/8/23	Fri 21/7/23	Sat 19/8/23	Sun 7/1/24	Sat 9/12/23	0 days	174,615	617	ME - C x 4~6 men
617	617	PST, Mech	2.9.7.3.10	Installation of instrumentations	60 days	Sun 20/8/23	Wed 18/10/23	Sun 20/8/23	Wed 18/10/23	Wed 3/7/24	Sun 5/5/24	259 days	42,616		ME - C x 4~6 men
618	618	PST, Mech	2.9.7.3.11	Installation of Platforms, Covers etc., PST	60 days	Thu 21/9/23	Sun 19/11/23	Thu 21/9/23	Sun 19/11/23	Tue 6/2/24	Sat 9/12/23	79 days			ME - F x 4~6 men



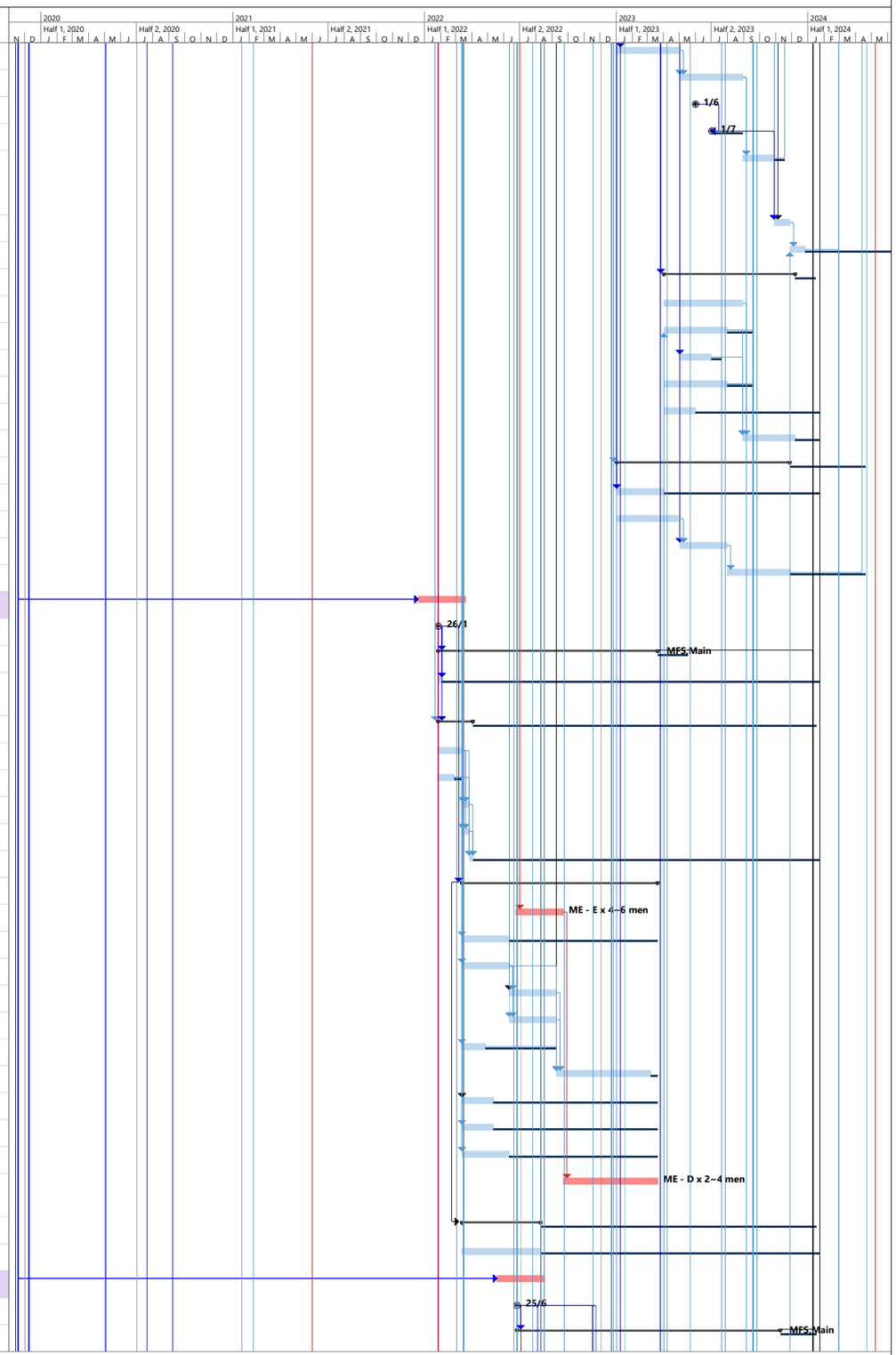
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
619	619	PST, Mech	2.9.7.3.12	Site Acceptance Tests - mechanical aspects including alignment and levels checks, leakage tests, welding tests, installation checks, pressure tests etc.	180 days	Mon 22/5/23	Fri 17/11/23	Mon 22/5/23	Fri 17/11/23	Wed 3/7/24	Sat 6/1/24	229 days	608		ME - D x 2~4 men
620	**620**	**PST, Elec**	**2.9.7.4**	**Electrical Installations for PST No. 1~4**	**270 days**	**Tue 21/2/23**	**Fri 17/11/23**	**Tue 21/2/23**	**Fri 17/11/23**	**Thu 25/1/24**	**Sun 16/4/23**	**2 days**	**596**	**632**	
621	621	PST, Elec	2.9.7.4.1	Installation of LV Switchboards, PST	60 days	Tue 21/2/23	Fri 21/4/23	Tue 21/2/23	Fri 21/4/23	Sun 30/7/23	Thu 1/6/23	30 days	80	624	LV - A x 4~6 men
622	622	PST, Elec, SCADA	2.9.7.4.2	Installation of PLC Panel, PST	60 days	Tue 28/2/23	Fri 28/4/23	Tue 28/2/23	Fri 28/4/23	Wed 12/7/...	Sun 14/5/23	23 days	80,629	624	
623	623	PST, Elec	2.9.7.4.3	Installation of cable trays and cable containments, PST	90 days	Tue 21/2/23	Sun 21/5/23	Tue 21/2/23	Sun 21/5/23	Sun 30/7/23	Tue 2/5/23	0 days		624	
624	624	PST, Elec, SCADA	2.9.7.4.4	Cables laying and terminations, PST	100 days	Mon 22/5/23	Tue 29/8/23	Mon 22/5/23	Tue 29/8/23	Tue 7/11/23	Mon 31/7/...	0 days	621,623,397,4	626FS-30 days,	
625	625	PST, Elec, Others	2.9.7.4.5	Tentative Civil Handover Date, LV cables draw pits from IW to PST	0 days	Thu 20/7/23	Thu 20/7/23	Thu 20/7/23	Thu 20/7/23	Mon 8/1/24	Mon 8/1/24	2 days		626FF+30 days	
626	626	PST, Elec	2.9.7.4.6	Energisation of LV Switchboards, PST	1 day	Fri 18/8/23	Fri 18/8/23	Fri 18/8/23	Fri 18/8/23	Sat 10/2/24	Sat 10/2/24	93 days	624FS-30 day	632	LV - A x 4~6 men
627	627	PST, Elec	2.9.7.4.7	Site Acceptance Tests - Electrical aspects including voltange and current tests, equipment protection interlock checks, motor rotation direction and electrical tests, control and functional checks etc.	80 days	Wed 30/8/23	Fri 17/11/23	Wed 30/8/23	Fri 17/11/23	Fri 26/1/24	Wed 8/11/23	0 days	624	585	LV - A x 4~6 men
628	**628**	**PST, SCADA**	**2.9.7.5**	**SCADA Systems, PST No. 1~4**	**250 days**	**Tue 21/2/23**	**Sat 28/10/23**	**Tue 21/2/23**	**Sat 28/10/23**	**Tue 16/1/24**	**Tue 9/5/23**	**77 days**			
629	629	PST, SCADA	2.9.7.5.1	Delivery of PLC Panel to LV Switch Room, PST No. 1~4	7 days	Tue 21/2/23	Mon 27/2/23	Tue 21/2/23	Mon 27/2/23	Fri 12/5/23	Sat 6/5/23	0 days	399	622	
630	630	PST,SCADA	2.9.7.5.2	Configuration of PLC System	45 days	Wed 30/8/23	Fri 13/10/23	Wed 30/8/23	Fri 13/10/23	Sun 7/1/24	Fri 24/11/23	0 days	624	631	PLC - B x 1 man
631	631	PST, SCADA	2.9.7.5.3	Site Acceptance Test for PLC System at PST No. 1~4	15 days	Sat 14/10/23	Sat 28/10/23	Sat 14/10/23	Sat 28/10/23	Mon 22/1/...	Mon 8/1/24	86 days	630		
632	632	PST, SCADA	2.9.7.6	Site Acceptance Test for E&M Equip and Instrumentations calibrations at PST No	30 edays	Sun 19/11/23	Tue 19/12/23	Sun 19/11/23	Tue 19/12/23	Fri 8/3/24	Wed 7/2/24	0.63 edays	607,620,626	633	
633	633	PST, SCADA	2.9.7.7	System Commissioning for E&M Equip at PST No, 1~4	15 days	Wed 20/12/23	Wed 3/1/24	Wed 20/12/23	Wed 3/1/24	Fri 22/3/24	Fri 8/3/24	56 days	632	946	
634	**634**	**PST**	**2.9.7.8**	**Building Services Installations for for PST No. 1~4**	**180 days**	**Mon 22/5/23**	**Fri 17/11/23**	**Mon 22/5/23**	**Fri 17/11/23**	**Tue 16/1/24**	**Fri 26/5/23**	**4 days**	**596FS+90 day**		
635	635	BS, PST, MVAC	2.9.7.8.1	Mechanical Ventilation and Air Conditioning System, PST	90 days	Mon 22/5/23	Sat 19/8/23	Mon 22/5/23	Sat 19/8/23	Thu 23/11/...	Sat 26/8/23	30 days		641	MVAC - B x 4~6 men
636	636	BS, PST	2.9.7.8.2	Lighting and Power Distribution System, PST	90 days	Mon 22/5/23	Sat 19/8/23	Mon 22/5/23	Sat 19/8/23	Thu 23/11/...	Sat 26/8/23	30 days		641	BS - A x 4~6 men
637	637	BS, PST, Pb	2.9.7.8.3	Plumbing Installation, PST	120 days	Mon 22/5/23	Mon 18/9/23	Mon 22/5/23	Mon 18/9/23	Tue 24/10/...	Tue 27/6/23	0 days	859	861,641	Pb - B x 4~6 men
638	638	BS, PST, CCTV	2.9.7.8.4	CCTV Installation (9 indoor + 2 outdoor Cameras), PST	60 days	Mon 22/5/23	Thu 20/7/23	Mon 22/5/23	Thu 20/7/23	Thu 23/11/...	Mon 25/9/...	0 days	596FS+60 day	945,641	BS - B x 4~6 men
639	639	BS, PST, FSI	2.9.7.8.5	Fire Services Installation, PST	120 days	Mon 22/5/23	Mon 18/9/23	Mon 22/5/23	Mon 18/9/23	Fri 22/9/23	Fri 26/5/23	0 days		843,855,856,6	FS - A x 4~6 men
640	640	BS, PST, Earth	2.9.7.8.6	Earthing and Lightning Protection System, PST	90 days	Mon 22/5/23	Sat 19/8/23	Mon 22/5/23	Sat 19/8/23	Mon 22/1/...	Wed 25/10...	156 days			BS - C x 2~4 men
641	641	BS, PST	2.9.7.8.7	Testing and Commissioning of Building Services Installations, PST	60 days	Tue 19/9/23	Fri 17/11/23	Tue 19/9/23	Fri 17/11/23	Mon 22/1/...	Fri 24/11/23	66 days	635,636,637,6		BS - C x 2~4 men
642	**642**	**BR, LA, BS, PV,FSI,Elec**	**2.9.8**	**Access Date for Portion B-4, BR 2A & 2B**	**90 edays**	**Fri 25/11/22**	**Thu 23/2/23**	**Fri 25/11/22**	**Thu 23/2/23**	**Thu 23/2/23**	**Fri 25/11/22**	**0 edays**	**6SS+1089 eda**		
643	643	BR, LA, BS, PV, Others	2.9.9	Tentative Civil Handover Date, Portion B-4, BR2A & 2B	1 day	Sun 1/1/23	Sun 1/1/23	Sun 1/1/23	Sun 1/1/23	Thu 16/2/23	Thu 16/2/23	0 days		646,652,663,6	
644	**644**	**BR, Main**	**2.9.10**	**Commencement of E&M Installation at Bioreactor No. 2A & 2B**	**360 days**	**Mon 2/1/23**	**Wed 27/12/23**	**Mon 2/1/23**	**Wed 27/12/23**	**Thu 18/4/24**	**Fri 17/3/23**	**20 days**	**643**	**864**	
645	645	BR	2.9.10.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc., BR 2A&2B	7 days	Mon 2/1/23	Sun 8/1/23	Mon 2/1/23	Sun 8/1/23	Tue 23/1/24	Wed 17/1/24	380 days	643		
646	**646**	**BR, LA**	**2.9.10.2**	**Installation of Lifting Appliances at BR 2A & 2B**	**67 days**	**Mon 2/1/23**	**Thu 9/3/23**	**Mon 2/1/23**	**Thu 9/3/23**	**Tue 16/1/24**	**Sat 11/11/...**	**313 days**	**380,643**		
647	647	BR, LA	2.9.10.2.1	Coping Level EOT Crane LA-03-01 SWL 5t	30 days	Mon 2/1/23	Tue 31/1/23	Mon 2/1/23	Tue 31/1/23	Sat 16/12/23	Fri 17/11/23	0 days		649,650,651	LA - A x 4~6 men
648	648	BR, LA	2.9.10.2.2	Coping Level EOT Crane LA-03-02 SWL 5t	30 days	Mon 2/1/23	Tue 31/1/23	Mon 2/1/23	Tue 31/1/23	Sat 16/12/23	Fri 17/11/23	0 days		649,650,651	LA - B x 4~6 men
649	649	BR, LA	2.9.10.2.3	Coping Level EOT Crane LA-03-03 SWL 5t	30 days	Wed 1/2/23	Thu 2/3/23	Wed 1/2/23	Thu 2/3/23	Mon 15/1/...	Sun 17/12/...	0 days	647,648	651	LA - A x 4~6 men
650	650	BR, LA	2.9.10.2.4	Coping Level Mobile A-frame LA-03-04 SWL 4t	7 days	Wed 1/2/23	Tue 7/2/23	Wed 1/2/23	Tue 7/2/23	Mon 15/1/...	Tue 9/1/24	23 days	647,648	651	LA - B x 4~6 men
651	651	BR, LA	2.9.10.2.5	T&C, Loading Test for Lifting Appliances at Bioreactor No. 2A & 2B	7 days	Fri 3/3/23	Thu 9/3/23	Fri 3/3/23	Thu 9/3/23	Mon 22/1/...	Tue 16/1/24	319 days	647,648,649,6		LA - B x 4~6 men
652	**652**	**BR, Mech**	**2.9.10.3**	**Mechanical Installations for E&M Equip at BR 2A & 2B**	**270 days**	**Mon 2/1/23**	**Thu 28/9/23**	**Mon 2/1/23**	**Thu 28/9/23**	**Wed 10/1/...**	**Sun 16/4/23**	**30 days**	**643**	**669**	
653	653	BR, Mech	2.9.10.3.1	Installation of penstocks and stoplogs (Penstocks 8nos, Stoplogs 8nos	90 days	Mon 2/1/23	Sat 1/4/23	Mon 2/1/23	Sat 1/4/23	Thu 21/1...	Sat 23/9/23	0 days	40	662	ME - E x 4~6 men
654	654	BR, Mech	2.9.10.3.2	Installation of pipework and valves	150 days	Mon 2/1/23	Wed 31/5/23	Mon 2/1/23	Wed 31/5/23	Thu 23/11/...	Tue 27/6/23	0 days	63,53,57,56,5	661	ME - C x 4~6 men
655	655	BR, Mech	2.9.10.3.3	Installation of pre-treatment fine screens (x4)	28 days	Mon 2/1/23	Sun 29/1/23	Mon 2/1/23	Sun 29/1/23	Tue 24/10/...	Wed 27/9/...	0 days	203	657	ME - A x 4~6 men
656	656	BR, Mech	2.9.10.3.4	Installation of air diffusion system (x2)	90 days	Mon 2/1/23	Sat 1/4/23	Mon 2/1/23	Sat 1/4/23	Fri 8/12/23	Sun 10/9/23	0 days	209	660	ME - D x 2~4 men
657	657	BR, Mech	2.9.10.3.5	Installation of submersible mixers (x16)	90 days	Mon 30/1/23	Sat 29/4/23	Mon 30/1/23	Sat 29/4/23	Fri 26/1/24	Sun 29/10/...	182 days	655,215	669	ME - B x 4~6 men
658	658	BR, Mech	2.9.10.3.6	Installation of mixed liquor return pumps (x6)	30 days	Mon 2/1/23	Tue 31/1/23	Mon 2/1/23	Tue 31/1/23	Fri 8/12/23	Thu 9/11/23	0 days	221	659	ME - A x 4~6 men
659	659	BR, Mech	2.9.10.3.7	Installation of scum removal systems (x2)	45 days	Wed 1/2/23	Fri 17/3/23	Wed 1/2/23	Fri 17/3/23	Fri 26/1/24	Wed 13/12...	225 days	658,227	669	ME - B x 4~6 men
660	660	BR, Mech	2.9.10.3.8	Installation of aeration blowers (x4)	45 days	Sun 2/4/23	Tue 16/5/23	Sun 2/4/23	Tue 16/5/23	Fri 26/1/24	Wed 13/12...	165 days	656,233	669	ME - D x 2~4 men
661	661	BR, Mech	2.9.10.3.9	Installation of instrumentations	60 days	Thu 1/6/23	Sun 30/7/23	Thu 1/6/23	Sun 30/7/23	Fri 26/1/24	Tue 28/11/...	90 days	654,239	669	ME - D x 2~4 men
662	662	BR, Mech	2.9.10.3.10	Site Acceptance Tests - mechanical aspects including alignment and levels checks, leakage tests, welding tests, installation checks, pressure tests etc.	180 days	Sun 2/4/23	Thu 28/9/23	Sun 2/4/23	Thu 28/9/23	Fri 26/1/24	Mon 31/7/23	30 days	653	669	ME - D x 2~4 men
663	663	BR, Elec	2.9.10.4	Electrical Installations for E&M Equip at BR 2A & 2B	300 days	Mon 2/1/23	Sat 28/10/23	Mon 2/1/23	Sat 28/10/23	Wed 10/1/...	Fri 17/3/23	0 days	643	669	



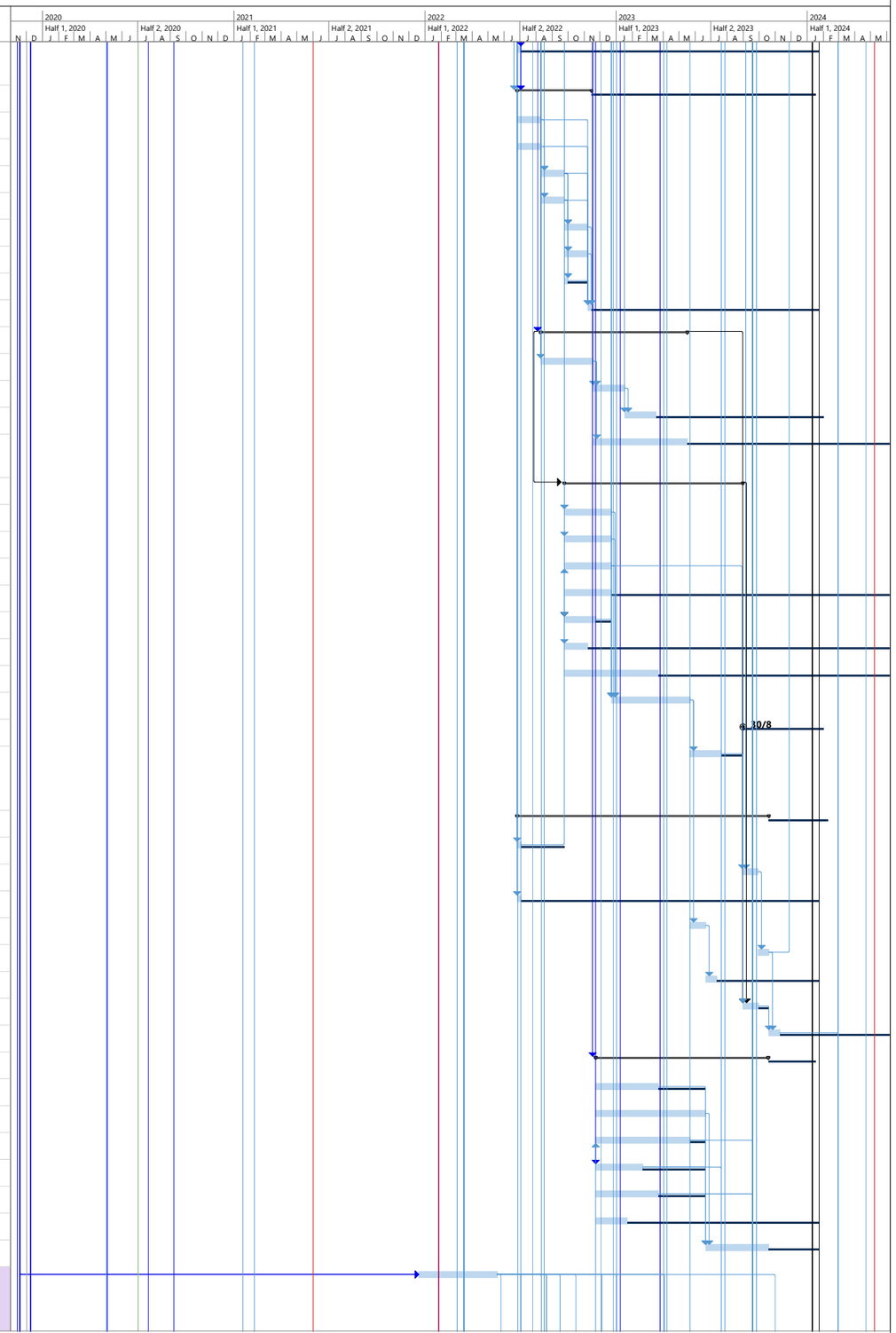
Bestwise
Project: DE/2018/04
Date: Thu 2/7/20

Task | Milestone, Tentative | Milestone | Summary | Project Summary | Manual Summary | Late | Critical | Critical Split | Progress | Manual Progress | Slack (Float) | Milestone (Actual)

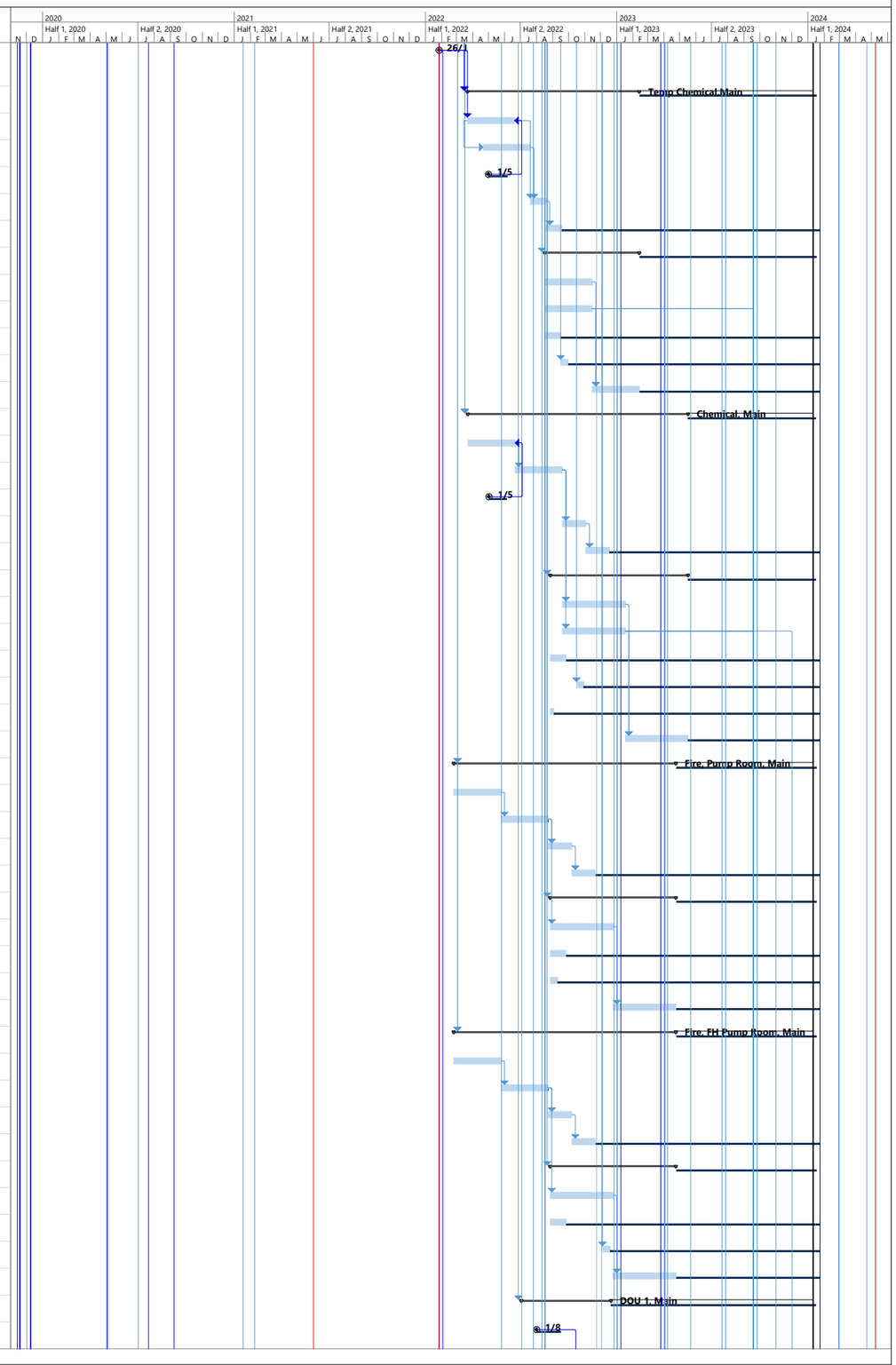
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
664	664	BR, Elec	2.9.10.4.1	Installation of cable trays and cable containments	120 days	Mon 2/1/23	Mon 1/5/23	Mon 2/1/23	Mon 1/5/23	Sun 22/10/...	Sun 25/6/23	0 days	643	665	
665	665	BR, Elec, SCADA	2.9.10.4.2	Cables laying and terminations	120 days	Tue 2/5/23	Tue 29/8/23	Tue 2/5/23	Tue 29/8/23	Mon 19/2/...	Mon 23/10...	0 days	664,397,401,7	738,668	
666	666	BR, Elec, Others	2.9.10.4.3	Tentative Civil Handover Date, LV cables draw pits from MFB2 to BR2	0 days	Thu 1/6/23	Thu 1/6/23	Thu 1/6/23	Thu 1/6/23	Sun 24/12/...	Sun 24/12/...	1 day		667FF+30 days	
667	667	BR, Elec	2.9.10.4.4	Energisation of LV Switchboards, BR2	1 day	Sat 1/7/23	Sat 1/7/23	Sat 1/7/23	Sat 1/7/23	Mon 22/1/...	Mon 22/1/...	59 days	666FF+30 day	669	LV - A x 4~6 men
668	668	BR, Elec	2.9.10.4.5	Site Acceptance Tests - Electrical aspects including voltange and current tests, equipment protection interlock checks, motor rotation direction and electrical tests, control and functional checks etc.	60 days	Wed 30/8/23	Sat 28/10/23	Wed 30/8/23	Sat 28/10/23	Fri 19/4/24	Tue 20/2/24	20 days	665	585	LV - A x 4~6 men
669	669	BR, SCADA	2.9.10.5	Site Acceptance Test for E&M Equip at BR 2A & 2B	30 edays	Sat 28/10/23	Mon 27/11/23	Sat 28/10/23	Mon 27/11/23	Fri 19/7/24	Wed 19/6/...	0.63 edays	652,663,667,6	670	
670	670	BR,SCADA	2.9.10.6	System Commissioning for E&M Equip at BR 2A & 2B	30 days	Tue 28/11/23	Wed 27/12/23	Tue 28/11/23	Wed 27/12/23	Sat 17/8/24	Fri 19/7/24	180 days	669,741	946	
671	671	BR	2.9.10.7	Building Services Installations for BR 2A & 2B	250 days	Sun 2/4/23	Thu 7/12/23	Sun 2/4/23	Thu 7/12/23	Tue 16/1/24	Fri 12/5/23	40 days	643FS+90 eda		
672	672	BS, BR	2.9.10.7.1	Lighting and Power Distribution System, BR2	150 days	Sun 2/4/23	Tue 29/8/23	Sun 2/4/23	Tue 29/8/23	Sat 14/10/23	Thu 18/5/23	0 days		677	BS - A x 4~6 men
673	673	BS, BR, Pb	2.9.10.7.2	Plumbing Installation, BR2	120 days	Sun 2/4/23	Sun 30/7/23	Sun 2/4/23	Sun 30/7/23	Sun 15/10/...	Sun 18/6/23	50 days	859	861,677	Pb - A x 4~6 men
674	674	BS, BR, CCTV	2.9.10.7.3	CCTV Installation (7 indoor + 2 outdoor Cameras), BR2	60 days	Tue 2/5/23	Fri 30/6/23	Tue 2/5/23	Fri 30/6/23	Sun 15/10/...	Thu 17/8/23	20 days	643FS+120 da	945,677	BS - B x 4~6 men
675	675	BS, BR, FSI	2.9.10.7.4	Fire Services Installation, BR2	120 days	Sun 2/4/23	Sun 30/7/23	Sun 2/4/23	Sun 30/7/23	Sat 23/9/23	Sat 27/5/23	50 days		843,855,856,6	FS - B x 4~6 men
676	676	BS,BR,Earth	2.9.10.7.5	Lightning Protection System, BR2	60 days	Sun 2/4/23	Wed 31/5/23	Sun 2/4/23	Wed 31/5/23	Tue 23/1/24	Sat 25/11/23	237 days			BS - C x 2~4 men
677	677	BS, BR	2.9.10.7.6	Testing and Commissioning of Building Services Installations, BR2	100 days	Wed 30/8/23	Thu 7/12/23	Wed 30/8/23	Thu 7/12/23	Mon 22/1/...	Sun 15/10/...	46 days	672,673,674,6		BS - C x 2~4 men
678	**678**	**BR, PV**	**2.9.10.8**	**PV System**	**330 days**	**Mon 2/1/23**	**Mon 27/11/23**	**Mon 2/1/23**	**Mon 27/11/23**	**Thu 18/4/24**	**Thu 25/5/23**	**143 days**	**355**		
679	679	BR, PV	2.9.10.8.1	Complete the CLP's Electronic Application Form and Upload Required Docum	90 days	Mon 2/1/23	Sat 1/4/23	Mon 2/1/23	Sat 1/4/23	Mon 22/1/...	Wed 25/10...	296 days	458,355		
680	680	BR, PV	2.9.10.8.2	Material ordering and delivery to site	120 days	Mon 2/1/23	Mon 1/5/23	Mon 2/1/23	Mon 1/5/23	Thu 21/9/23	Thu 25/5/23	0 days		681	
681	681	BR, PV	2.9.10.8.3	Technical Assessment, System Test and Installation	90 days	Tue 2/5/23	Sun 30/7/23	Tue 2/5/23	Sun 30/7/23	Wed 20/12...	Fri 22/9/23	0 days	680,643	682	PV - A x 4~6 men
682	682	BR, PV	2.9.10.8.4	CLP's smart meter installation and Final on-grid test with CLP	120 days	Mon 31/7/23	Mon 27/11/23	Mon 31/7/23	Mon 27/11/23	Thu 18/4/24	Thu 21/12/...	143 days	681	542	
683	683	MFS, LA, BS	2.9.11	Access Date for Portion B-5A, MFB No. 2 below 1st floor level	90 edays	Mon 20/12/21	Sun 20/3/22	Mon 20/12/21	Sun 20/3/22	Sun 20/3/22	Mon 20/1...	0 edays	6SS+749 eday		
684	684	MFS, LA, BS, Others	2.9.12	Tentative Civil Handover Date, Portion B-5A, MFB No. 2 below 1st floor level	1 day	Wed 26/1/22	Wed 26/1/22	Wed 26/1/22	Wed 26/1/22	Tue 8/2/22	Tue 8/2/22	0 days		687,693FS+45	
685	**685**	**MFS,Main**	**2.9.13**	**Commencement of E&M Installation at MFB No. 2 Lower Part**	**418 days**	**Thu 27/1/22**	**Mon 20/3/23**	**Thu 27/1/22**	**Mon 20/3/23**	**Tue 16/1/24**	**Sat 26/3/22**	**58 days**	**684**	**864**	
686	686	MFS	2.9.13.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc., MFB2	7 days	Thu 27/1/22	Wed 2/2/22	Thu 27/1/22	Wed 2/2/22	Tue 23/1/24	Wed 17/1/24	720 days	684		
687	**687**	**MFS, LA**	**2.9.13.2**	**Installation of Lifting Appliances at MFB No. 2**	**66 days**	**Thu 27/1/22**	**Sat 2/4/22**	**Thu 27/1/22**	**Sat 2/4/22**	Tue 16/1/24	Sun 12/11/...	**654 days**	**380,684**		
688	688	MFS, LA	2.9.13.2.1	B2 EOT Crane LA-04-01 SWL 5t	45 days	Thu 27/1/22	Sat 12/3/22	Thu 27/1/22	Sat 12/3/22	Mon 1/1/24	Sat 18/11/23	0 days		690,691,692	
689	689	MFS, LA	2.9.13.2.2	B2 EOT Crane LA-04-02 SWL 5t	30 days	Thu 27/1/22	Fri 25/2/22	Thu 27/1/22	Fri 25/2/22	Mon 1/1/24	Sun 3/12/23	15 days		690,691,692	
690	690	MFS, LA	2.9.13.2.3	B2 MR LA-04-03 SWL 5t	14 days	Sun 13/3/22	Sat 26/3/22	Sun 13/3/22	Sat 26/3/22	Mon 15/1/...	Tue 2/1/24	0 days	688,689	692	
691	691	MFS, LA	2.9.13.2.4	B1 MR LA-04-04 SWL 3t	14 days	Sun 13/3/22	Sat 26/3/22	Sun 13/3/22	Sat 26/3/22	Mon 15/1/...	Tue 2/1/24	0 days	688,689	692	
692	692	MFS,LA	2.9.13.2.5	T&C, Loading Test for Lifting Appliances	7 days	Sun 27/3/22	Sat 2/4/22	Sun 27/3/22	Sat 2/4/22	Mon 22/1/...	Tue 16/1/24	660 days	688,689,690,6		
693	**693**	**MFS, Mech**	**2.9.13.3**	**Mechanical Installations for E&M Equip. at MFB No. 2 Lower Part**	**373 days**	**Sun 13/3/22**	**Mon 20/3/23**	**Sun 13/3/22**	**Mon 20/3/23**	Mon 20/3/...	Sat 26/3/22	**0 days**	**684FS+45 eda**	**705SS**	
694	694	MFS, Mech	2.9.13.3.1	Installation of penstocks and stoplogs (Penstocks 18nos, Stoplogs 11n	90 days	Fri 24/6/22	Wed 21/9/22	Fri 24/6/22	Wed 21/9/22	Wed 21/9...	Fri 24/6/22	0 days	41	704	ME - E x 4~6 men
695	695	MFS, Mech	2.9.13.3.2	Installation of hollow fibre membrane modules (x9)	90 days	Sun 13/3/22	Fri 10/6/22	Sun 13/3/22	Fri 10/6/22	Mon 20/3/...	Wed 21/12...	283 days	248		ME - A x 4~6 men
696	696	MFS, Mech	2.9.13.3.3	Installation of air scour blowers (x3)	90 days	Sun 13/3/22	Fri 10/6/22	Sun 13/3/22	Fri 10/6/22	Thu 23/6/22	Sat 26/3/22	0 days	254	700,697,698	ME - B x 4~6 men
697	697	MFS, Mech	2.9.13.3.4	Installation of permeate pumps (x10)	90 days	Sat 11/6/22	Thu 8/9/22	Sat 11/6/22	Thu 8/9/22	Wed 21/9/...	Fri 24/6/22	0 days	255,696	700	ME - A x 4~6 men
698	698	MFS, Mech	2.9.13.3.5	Installation of return activated sludge pumps (x5)	90 days	Sat 11/6/22	Thu 8/9/22	Sat 11/6/22	Thu 8/9/22	Wed 21/9/...	Fri 24/6/22	0 days	290,696	700	ME - B x 4~6 men
699	699	MFS, Mech	2.9.13.3.6	Installation of membrane tank drain pumps (x2)	45 days	Sun 13/3/22	Tue 26/4/22	Sun 13/3/22	Tue 26/4/22	Wed 21/9/...	Mon 8/8/22	135 days	296	700	ME - C x 4~6 men
700	700	MFS, Mech	2.9.13.3.7	Installation of pipework and valves	180 days	Fri 9/9/22	Tue 7/3/23	Fri 9/9/22	Tue 7/3/23	Mon 20/3/...	Thu 22/9/22	13 days	48,696,697,69		ME - C x 4~6 men
701	701	MFS, Mech	2.9.13.3.8	Installation of chemical storage tank	60 days	Sun 13/3/22	Wed 11/5/22	Sun 13/3/22	Wed 11/5/22	Mon 20/3/...	Fri 20/1/23	313 days	273		ME - D x 2~4 men
702	702	MFS, Mech	2.9.13.3.9	Installation of chemical dosing pumps	60 days	Sun 13/3/22	Wed 11/5/22	Sun 13/3/22	Wed 11/5/22	Mon 20/3/...	Fri 20/1/23	313 days	284		ME - D x 2~4 men
703	703	MFS, Mech	2.9.13.3.10	Installation of plant service water system	90 days	Sun 13/3/22	Fri 10/6/22	Sun 13/3/22	Fri 10/6/22	Mon 20/3/...	Wed 21/12...	283 days	302,308		ME - C x 4~6 men
704	704	MFS, Mech	2.9.13.3.11	Site Acceptance Tests - mechanical aspects including alignment and levels checks, leakage tests, welding tests, installation checks, pressure tests etc.	180 days	Thu 22/9/22	Mon 20/3/23	Thu 22/9/22	Mon 20/3/23	Mon 20/3/23	Thu 22/9/22	0 days	694		ME - D x 2~4 men
705	705	MFS, Elec	2.9.13.4	Electrical Installations for E&M Equip. at MFB No. 2 Lower Part	150 days	Sun 13/3/22	Tue 9/8/22	Sun 13/3/22	Tue 9/8/22	Tue 16/1/24	Sun 20/8/23	525 days	693SS		
706	706	MFS, Elec	2.9.13.4.1	Installation of cable trays and cable containments	150 days	Sun 13/3/22	Tue 9/8/22	Sun 13/3/22	Tue 9/8/22	Mon 22/1/...	Sat 26/8/23	531 days			
707	707	MFS, LA, BS	2.9.14	Access Date for Portion B-5B, MFB No. 2 remaining portion	90 edays	Thu 19/5/22	Wed 17/8/22	Thu 19/5/22	Wed 17/8/22	Wed 17/8/...	Thu 19/5/22	0 edays	6SS+899 eday		
708	708	MFS, LA, BS, Others	2.9.15	Tentative Civil Handover Date, Portion B-5B, MFB No. 2 remaining portion	1 day	Sat 25/6/22	Sat 25/6/22	Sat 25/6/22	Sat 25/6/22	Thu 29/9/22	Thu 29/9/22	0 days		711,720FS+45	
709	**709**	**MFS,Main**	**2.9.16**	**Commencement of E&M Installation at MFB No. 2 Upper Part**	**502 days**	**Sun 26/6/22**	**Thu 9/11/23**	**Sun 26/6/22**	**Thu 9/11/23**	**Sun 10/3/24**	**Tue 21/2/23**	**68 days**	**708**	**864**	



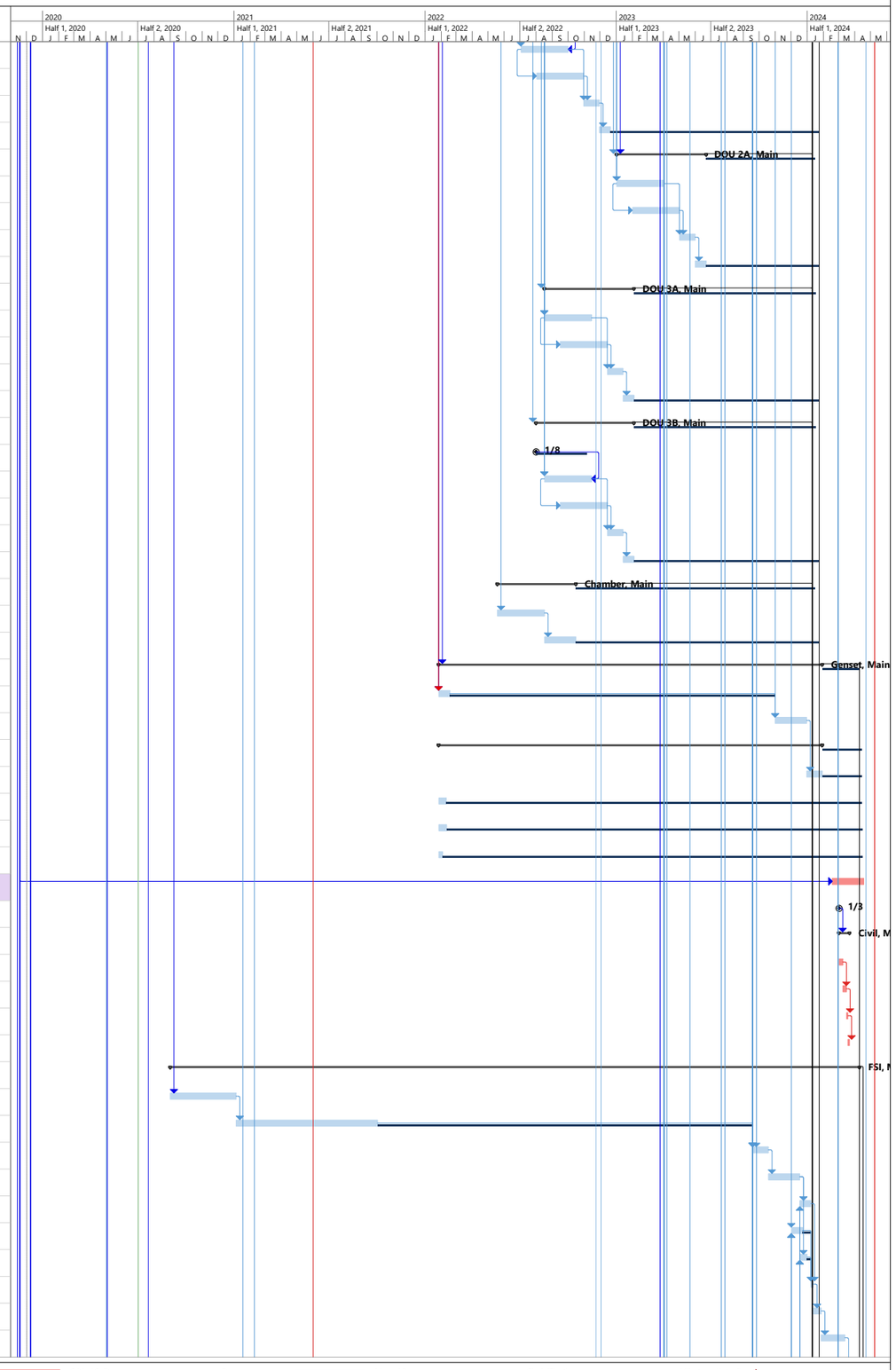
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
710	710	MFS	2.9.16.1	Provision of Temporary Water Supply, Electricity Supply, Lighting, Welfare facilities etc., MFB2	7 days	Sun 26/6/22	Sat 2/7/22	Sun 26/6/22	Sat 2/7/22	Tue 23/1/24	Wed 17/1/24	570 days	708		
711	**711**	**MFS, LA**	**2.9.16.2**	**Installation of Lifting Appliances at MFB No. 2**	**142 days**	**Sun 26/6/22**	**Mon 14/11/22**	**Sun 26/6/22**	**Mon 14/11/22**	Tue 16/1/24	Mon 28/8/...	**428 days**	**380,708**		
712	712	MFS, LA	2.9.16.2.1	GF EOT Crane LA-04-05 SWL 5t	45 days	Sun 26/6/22	Tue 9/8/22	Sun 26/6/22	Tue 9/8/22	Tue 17/10/...	Sun 3/9/23	0 days		714,715,719	LA - A x 4~6 men
713	713	MFS, LA	2.9.16.2.2	GF Gantry Crane LA-04-06 SWL 6t	45 days	Sun 26/6/22	Tue 9/8/22	Sun 26/6/22	Tue 9/8/22	Tue 17/10/...	Sun 3/9/23	0 days		714,715,719	LA - B x 4~6 men
714	714	MFS, LA	2.9.16.2.3	1F EOT Crane LA-04-07 SWL 15t	45 days	Wed 10/8/22	Fri 23/9/22	Wed 10/8/22	Fri 23/9/22	Fri 1/12/23	Wed 18/10...	0 days	712,713	716,717,718,7	LA - A x 4~6 men
715	715	MFS, LA	2.9.16.2.4	1F EOT Crane LA-04-08 SWL 15t	45 days	Wed 10/8/22	Fri 23/9/22	Wed 10/8/22	Fri 23/9/22	Fri 1/12/23	Wed 18/10...	0 days	712,713	716,717,718,7	LA - B x 4~6 men
716	716	MFS, LA	2.9.16.2.5	RF EOT Crane LA-04-09 SWL 2t	45 days	Sat 24/9/22	Mon 7/11/22	Sat 24/9/22	Mon 7/11/22	Mon 15/1/...	Sat 2/12/23	0 days	714,715	719	LA - A x 4~6 men
717	717	MFS, LA	2.9.16.2.6	RF Retractable MR LA-04-10 SWL 2t	45 days	Sat 24/9/22	Mon 7/11/22	Sat 24/9/22	Mon 7/11/22	Mon 15/1/...	Sat 2/12/23	0 days	714,715	719	LA - B x 4~6 men
718	718	MFS, LA	2.9.16.2.7	Mobile A-frame LA-04-11 SWL 2t	7 days	Sat 24/9/22	Fri 30/9/22	Sat 24/9/22	Fri 30/9/22	Mon 15/1/...	Tue 9/1/24	38 days	714,715	719	LA - C x 4~6 men
719	719	MFS, LA	2.9.16.2.8	T&C, Loading Test for Lifting Appliances	7 days	Tue 8/11/22	Mon 14/11/22	Tue 8/11/22	Mon 14/11/22	Mon 22/1/...	Tue 16/1/24	434 days	712,713,714,		LA - A x 4~6 men
720	**720**	**MFS, Mech**	**2.9.16.3**	**Mechanical Installations for E&M Equip. at MFB No. 2 Upper Part**	**280 days**	**Wed 10/8/22**	**Tue 16/5/23**	**Wed 10/8/22**	**Tue 16/5/23**	**Fri 19/1/24**	**Sat 15/4/23**	**0 days**	**708FS+45 ed**	**725SS+45 eda**	
721	721	MFS, Mech	2.9.16.3.1	Installation of air scour blowers (x3)	100 days	Wed 10/8/22	Thu 17/11/22	Wed 10/8/22	Thu 17/11/22	Sat 30/12/23	Fri 22/9/23	0 days	254	722,724	ME - A x 4~6 men
722	722	MFS, Mech	2.9.16.3.2	Installation of compressed air system (x1)	60 days	Fri 18/11/22	Mon 16/1/23	Fri 18/11/22	Mon 16/1/23	Sat 2/12/23	Wed 4/10/...	0 days	266,721	723	ME - B x 4~6 men
723	723	MFS, Mech	2.9.16.3.3	Installation of instrumentations	60 days	Tue 17/1/23	Fri 17/3/23	Tue 17/1/23	Fri 17/3/23	Wed 31/1/...	Sun 3/12/23	320 days	722,272		ME - D x 2~4 men
724	724	MFS, Mech	2.9.16.3.4	Site Acceptance Tests - mechanical aspects including alignment and levels checks, leakage tests, welding tests, installation checks, pressure tests etc.	180 days	Fri 18/11/22	Tue 16/5/23	Fri 18/11/22	Tue 16/5/23	Thu 27/6/24	Sun 31/12/23	408 days	721		ME - D x 2~4 men
725	**725**	**MFS, Elec**	**2.9.16.4**	**Electrical Installations for E&M Equip. at MFB No. 2 Upper Part**	**341 days**	**Sat 24/9/22**	**Wed 30/8/23**	**Sat 24/9/22**	**Wed 30/8/23**	**Fri 19/1/24**	**Sun 26/3/23**	**0 days**	**720SS+45 ed**	**743**	
726	726	MFS, Elec	2.9.16.4.1	Installation of LV Switchboards, BR2	90 days	Sat 24/9/22	Thu 22/12/22	Sat 24/9/22	Thu 22/12/22	Thu 6/7/23	Sat 8/4/23	0 days	83	733	LV - B x 4~6 men
727	727	MFS, Elec	2.9.16.4.2	Installation of LV Switchboards, MFB No. 2	90 days	Sat 24/9/22	Thu 22/12/22	Sat 24/9/22	Thu 22/12/22	Thu 6/7/23	Sat 8/4/23	0 days	86	733	LV - A x 4~6 men
728	728	MFS, Elec, SCADA	2.9.16.4.3	Installation of PLC Panels, BR2	90 days	Sat 24/9/22	Thu 22/12/22	Sat 24/9/22	Thu 22/12/22	Thu 6/7/23	Sat 8/4/23	0 days	737	733,738	
729	729	MFS, Elec, SCADA	2.9.16.4.4	Installation of PLC Panels, MFB No. 2	90 days	Sat 24/9/22	Thu 22/12/22	Sat 24/9/22	Thu 22/12/22	Thu 27/6/24	Sat 30/3/24	553 days			PLC - B x 1 man
730	730	MFS, Elec	2.9.16.4.5	Installation of HV Switchboards, MFB No. 2	60 days	Sat 24/9/22	Tue 22/11/22	Sat 24/9/22	Tue 22/11/22	Thu 6/7/23	Mon 8/5/23	30 days	64,70	733	HV - A x 4~6 men
731	731	MFS, Elec	2.9.16.4.6	Installation of transformer, MFB No. 2	45 days	Sat 24/9/22	Mon 7/11/22	Sat 24/9/22	Mon 7/11/22	Thu 27/6/24	Tue 14/5/24	598 days	241		
732	732	MFS, Elec	2.9.16.4.7	Installation of cable trays and cable containments	180 days	Sat 24/9/22	Wed 22/3/23	Sat 24/9/22	Wed 22/3/23	Thu 27/6/24	Sun 31/12/...	463 days			
733	733	MFS, Elec, SCADA	2.9.16.4.8	Cables laying and terminations	150 days	Fri 23/12/22	Sun 21/5/23	Fri 23/12/22	Sun 21/5/23	Sun 3/12/23	Fri 7/7/23	0 days	397,726,730,	740,735	
734	734	MFS, Elec	2.9.16.4.9	Energisation of LV Switchboards, MFB	1 day	Wed 30/8/23	Wed 30/8/23	Wed 30/8/23	Wed 30/8/23	Wed 31/1/...	Wed 31/1/...	154 days			LA - A x 4~6 men
735	735	MFS, Elec	2.9.16.4.10	Site Acceptance Tests - Electrical aspects including voltange and current tests, equipment protection interlock checks, motor rotation direction and electrical tests, control and functional checks etc.	60 days	Mon 22/5/23	Thu 20/7/23	Mon 22/5/23	Thu 20/7/23	Thu 27/6/24	Mon 29/4/24	41 days	733	743	LV - A x 4~6 men
736	**736**	**MFS, SCADA**	**2.9.16.5**	**SCADA Systems, BR No. 1 & No 2, MFB No. 2**	**481 days**	**Sun 26/6/22**	**Thu 19/10/23**	**Sun 26/6/22**	**Thu 19/10/23**	**Fri 9/2/24**	**Sun 19/3/23**	**113 days**			
737	737	MFS, SCADA	2.9.16.5.1	Delivery of PLC System, BR2	7 days	Sun 26/6/22	Sat 2/7/22	Sun 26/6/22	Sat 2/7/22	Thu 6/4/23	Fri 31/3/23	83 days	401	728	
738	738	MFS, SCADA	2.9.16.5.2	Configuration of PLC System for BR No. 1 & No. 2	30 days	Wed 30/8/23	Thu 28/9/23	Wed 30/8/23	Thu 28/9/23	Wed 31/1/...	Tue 2/1/24	0 days	665,728	741	PLC - A x 1 man
739	739	MFS,SCADA	2.9.16.5.3	Delivery of PLC System, MFB No. 2	7 days	Sun 26/6/22	Sat 2/7/22	Sun 26/6/22	Sat 2/7/22	Mon 22/1...	Tue 16/1/...	569 days	403		
740	740	MFS, SCADA	2.9.16.5.4	Configuration of PLC System for MFB No. 2	30 days	Mon 22/5/23	Tue 20/6/23	Mon 22/5/23	Tue 20/6/23	Tue 2/1/24	Mon 4/12/...	0 days	733	742	
741	741	MFS, SCADA	2.9.16.5.5	Site Acceptance Test for PLC System at BR No. 1 and No. 2	21 days	Fri 29/9/23	Thu 19/10/23	Fri 29/9/23	Thu 19/10/23	Wed 21/2/...	Thu 1/2/24	0 days	738	670,744	
742	742	MFS, SCADA	2.9.16.5.6	Site Acceptance Test for PLC System at MFB No. 2	21 days	Wed 21/6/23	Tue 11/7/23	Wed 21/6/23	Tue 11/7/23	Tue 23/1/24	Wed 3/1/24	196 days	740		
743	743	MFS,SCADA	2.9.16.6	Site Acceptance Test for E&M Equip at MFB No. 2	30 edays	Wed 30/8/23	Fri 29/9/23	Wed 30/8/23	Fri 29/9/23	Sun 28/7/24	Fri 28/6/24	20.63 edays	720,725,735	744	
744	744	MFS,SCADA	2.9.16.7	System Commissioning for E&M Equip at MFB No. 2	21 days	Fri 20/10/23	Thu 9/11/23	Fri 20/10/23	Thu 9/11/23	Sat 17/8/24	Sun 28/7/24	228 days	743,741	946	
745	**745**	**MFS**	**2.9.16.8**	**Building Services Installations for MFB No. 2**	**330 days**	**Wed 23/11/22**	**Wed 18/10/23**	**Wed 23/11/22**	**Wed 18/10/23**	**Tue 16/1/24**	**Tue 21/2/23**	**90 days**	**708FS+150 ed**		
746	746	BS, MFS, MVAC	2.9.16.8.1	Mechanical Ventilation and Air Conditioning System, MFB No. 2	120 days	Wed 23/11/22	Wed 22/3/23	Wed 23/11/22	Wed 22/3/23	Mon 25/9/...	Mon 29/5/...	90 days		752	MVAC - A x 4~6 men
747	747	BS, MFS	2.9.16.8.2	Lighting and Power Distribution System, MFB No. 2	210 days	Wed 23/11/22	Tue 20/6/23	Wed 23/11/22	Tue 20/6/23	Mon 25/9/...	Tue 28/2/23	0 days		752	BS - A x 4~6 men
748	748	BS, MFS, Pb	2.9.16.8.3	Plumbing Installation, MFB No. 2	180 days	Wed 23/11/22	Sun 21/5/23	Wed 23/11/22	Sun 21/5/23	Mon 25/9/...	Thu 30/3/23	30 days	859	861,752	Pb - B x 4~6 men
749	749	BS, MFS, CCTV	2.9.16.8.4	CCTV Installation (10 indoor + 3 outdoor Cameras), MFB No. 2	90 days	Wed 23/11/22	Mon 20/2/23	Wed 23/11/22	Mon 20/2/23	Mon 25/9/...	Wed 28/6/...	120 days	708FS+120 da	945,752	BS - B x 4~6 men
750	750	BS, MFS, FSI	2.9.16.8.5	Fire Services Installation, MFB No. 2	120 days	Wed 23/11/22	Wed 22/3/23	Wed 23/11/22	Wed 22/3/23	Sat 23/9/23	Sat 27/5/23	90 days		843,855,856,7	FS - B x 4~6 men
751	751	BS, MFS, Earth	2.9.16.8.6	Earthing and Lightning Protection System, MFB No. 2	60 days	Wed 23/11/22	Sat 21/1/23	Wed 23/11/22	Sat 21/1/23	Tue 23/1/24	Sat 25/11/23	367 days			BS - C x 2~4 men
752	752	BS, MFS	2.9.16.8.7	Testing and Commissioning of Building Services Installations, MFB No. 2	120 days	Wed 21/6/23	Wed 18/10/23	Wed 21/6/23	Wed 18/10/23	Tue 23/1/24	Tue 26/9/23	97 days	746,747,748,		BS - C x 2~4 men
753	**753**	**Chem**	**2.9.17**	**Access Date for Portion B-7 & 7B, Chemical Dosing, Concrete Plinth for DOs, Chemical Sys 1 & 2, FS & sprinkler pump room, Genset, FS hydrant and booster pump room, flowmeter chambers**	**150 edays**	**Mon 20/12/21**	**Thu 19/5/22**	**Mon 20/12/21**	**Thu 19/5/22**	**Fri 17/2/23**	**Tue 20/9/22**	**0 edays**	**6SS+749 edays,2SS+74 edays**	**761FS+90 edays,802FS+4 days,807FS+45 days,812FS+90 days,818FS+90**	



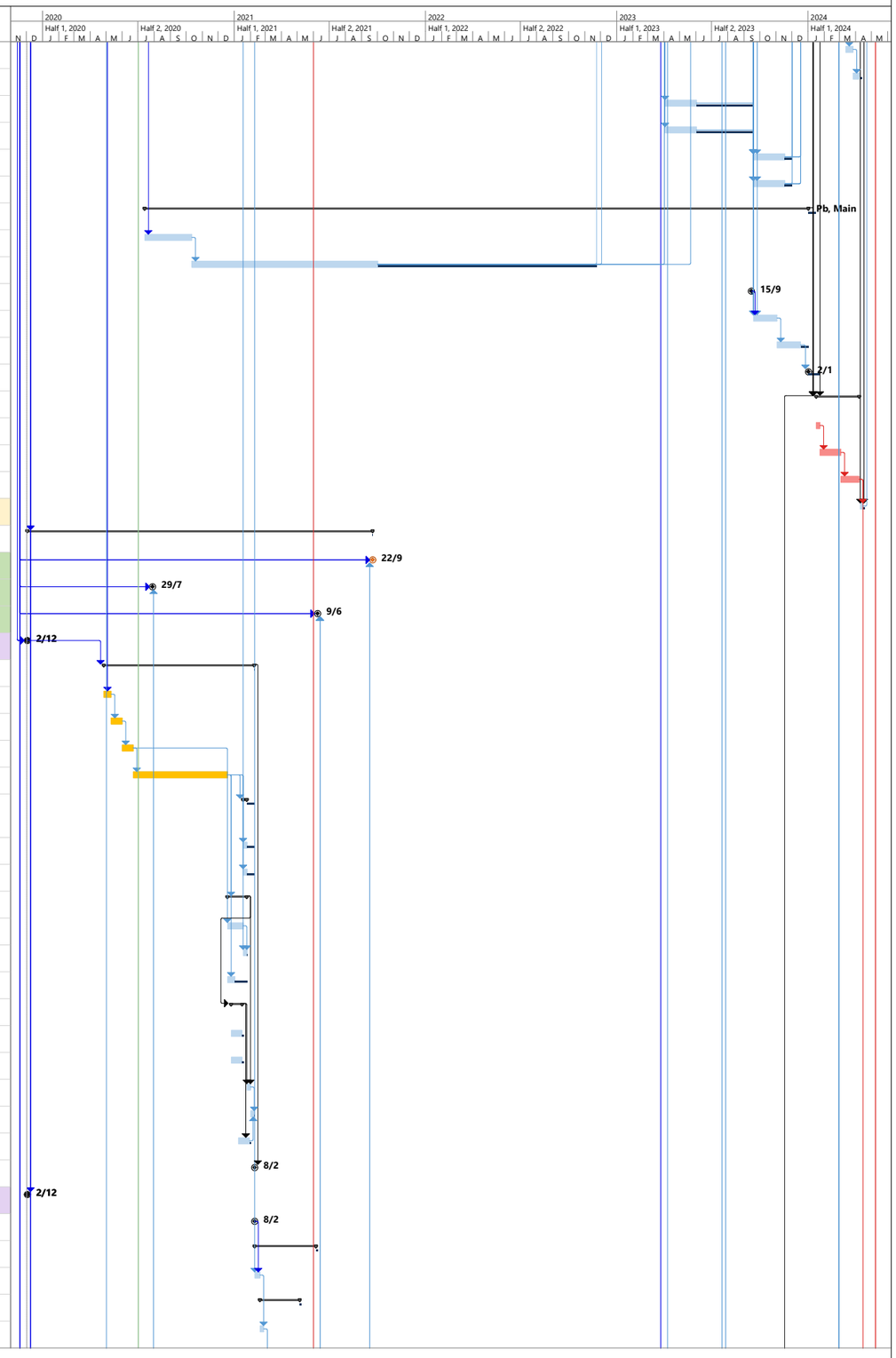
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
754	754	Temp Chemical, Others	2.9.18	Tentative Civil Handover Date, Portion B-7 & B-7B, temporary chemical dosing system, concrete plinth for deodorisation system	1 day	Wed 26/1/22	Wed 26/1/22	Wed 26/1/22	Wed 26/1/22	Wed 26/7/23	Wed 26/7/23	0 days		756,825,755	
755	**755**	**Temp Chemical,Main**	**2.9.19**	**Commencement of E&M Installation at Temporary Chemical Dosing System**	**328 days**	**Mon 21/3/22**	**Sun 12/2/23**	**Mon 21/3/22**	**Sun 12/2/23**	**Wed 17/1/...**	**Fri 21/7/23**	**338 days**	**185,191,197,**	**864**	
756	756	Temp Chemical, Mech	2.9.19.1	Mechanical Installations for E&M Equip. for Chemical Dosing System	90 edays	Mon 21/3/22	Sun 19/6/22	Mon 21/3/22	Sun 19/6/22	Wed 25/10...	Thu 27/7/23	0 edays	754,758FF+5(	757SS+30 eday	ME - D x 2~4 men
757	757	Temp Chemical, Elec	2.9.19.2	Electrical Installations for E&M Equip. for Chemical Dosing System	90 edays	Wed 20/4/22	Tue 19/7/22	Wed 20/4/22	Tue 19/7/22	Sat 25/11/23	Sun 27/8/23	0 edays	756SS+30 eda	759	
758	758	Temp Chemical, others	2.9.19.3	Tentative Civil Handover Date, Chemical Pipe Trench (by others)	0 days	Sun 1/5/22	Sun 1/5/22	Sun 1/5/22	Sun 1/5/22	Tue 5/9/23	Tue 5/9/23	37 days		756FF+50 days	
759	759	Temp Chemical	2.9.19.4	Site Acceptance Test for E&M Equip for Chemical Dosing System	30 edays	Tue 19/7/22	Thu 18/8/22	Tue 19/7/22	Thu 18/8/22	Mon 25/12...	Sat 25/11/23	0 edays	756,757	760	
760	760	Temp Chemical	2.9.19.5	System Commissioning for E&M Equip for Chemical Dosing System	30 edays	Thu 18/8/22	Sat 17/9/22	Thu 18/8/22	Sat 17/9/22	Wed 24/1/...	Mon 25/12...	493.63 edays	759		
761	761	Temp Chemical	2.9.19.6	**Building Services Installations at Temp. Chemical Dosing System areas**	180 days	Wed 17/8/22	Sun 12/2/23	Wed 17/8/22	Sun 12/2/23	Tue 16/1/24	Fri 21/7/23	338 days	753FS+90 eda		
762	762	Temp Chemical, BS	2.9.19.6.1	Lighting and Power Distribution System, Temp. Chem	90 days	Wed 17/8/22	Mon 14/11/22	Wed 17/8/22	Mon 14/11/22	Tue 24/10/...	Thu 27/7/23	0 days		766	BS - A x 4~6 men
763	763	Temp Chemical, FSI	2.9.19.6.2	Fire Services Installation, DG Stores, Temp. Chem	90 days	Wed 17/8/22	Mon 14/11/22	Wed 17/8/22	Mon 14/11/22	Sun 22/10/...	Tue 25/7/23	0 days		855,856,766	FS - A x 4~6 men
764	764	Temp Chemical,Earth	2.9.19.6.3	Lightning Protection System, Temp. Chem	30 days	Wed 17/8/22	Thu 15/9/22	Wed 17/8/22	Thu 15/9/22	Mon 22/1/...	Sun 24/12/...	494 days			
765	765	Temp, Chemical, MVAC	2.9.19.6.4	Mechanical Ventilation System, Temp. Chem	14 days	Fri 16/9/22	Thu 29/9/22	Fri 16/9/22	Thu 29/9/22	Mon 22/1/...	Tue 9/1/24	480 days	753FS+120 ec		MVAC - A x 4~6 men
766	766	Temp Chemical, BS	2.9.19.6.5	Testing and Commissioning of Building Services Installations, Temp. Chem	90 days	Tue 15/11/22	Sun 12/2/23	Tue 15/11/22	Sun 12/2/23	Mon 22/1/...	Wed 25/10...	344 days	762,763		BS - C x 2~4 men
767	**767**	**Chemical, Main**	**2.9.20**	**Commencement of E&M Installation at Chemical Dosing System 1 and System 2**	**420 days**	**Tue 22/3/22**	**Tue 16/5/23**	**Tue 22/3/22**	**Tue 16/5/23**	**Tue 16/1/24**	**Wed 23/11...**	**245 days**	**197,191,185**	**864**	
768	768	Chemical, Mech	2.9.20.1	Mechanical Installations for E&M Equip. for Chemical Dosing System	90 edays	Tue 22/3/22	Mon 20/6/22	Tue 22/3/22	Mon 20/6/22	Mon 27/2/...	Tue 29/11/...	0 edays	770FF+50 da	769	ME - D x 2~4 men
769	769	Chemical, Elec	2.9.20.2	Electrical Installations for E&M Equip. for Chemical Dosing System	90 edays	Mon 20/6/22	Sun 18/9/22	Mon 20/6/22	Sun 18/9/22	Mon 29/5/...	Tue 28/2/23	0.63 edays	768	771,774,775	
770	770	Chemical, others	2.9.20.3	Tentative Civil Handover Date, Chemical Pipe Trench (by others)	0 days	Sun 1/5/22	Sun 1/5/22	Sun 1/5/22	Sun 1/5/22	Sun 8/1/23	Sun 8/1/23	33 days		768FF+50 days	
771	771	Chemical, Elec	2.9.20.4	Site Acceptance Test for E&M Equip for Chemical Dosing System	45 days	Mon 19/9/22	Wed 2/11/22	Mon 19/9/22	Wed 2/11/22	Sat 9/12/23	Thu 26/10/...	0 days	769	772	
772	772	Chemical, Elec	2.9.20.5	System Commissioning for E&M Equip for Chemical Dosing System	45 days	Thu 3/11/22	Sat 17/12/22	Thu 3/11/22	Sat 17/12/22	Tue 23/1/24	Sun 10/12/...	402 days	771		
773	**773**	**Chemical**	**2.9.20.6**	**Building Services Installations at Chemical Dosing System areas**	**263 days**	**Sat 27/8/22**	**Tue 16/5/23**	**Sat 27/8/22**	**Tue 16/5/23**	**Tue 16/1/24**	**Mon 22/5/...**	**245 days**	**753FS+100 da**		
774	774	Chemical, BS	2.9.20.6.1	Lighting and Power Distribution System, Chem 1&2	120 days	Mon 19/9/22	Mon 16/1/23	Mon 19/9/22	Mon 16/1/23	Mon 25/9/...	Mon 29/5/...	0 days	769	779	BS - B x 4~6 men
775	775	Chemical, FSI	2.9.20.6.2	Fire Services Installation, DG Stores	120 days	Mon 19/9/22	Mon 16/1/23	Mon 19/9/22	Mon 16/1/23	Mon 25/9/...	Mon 29/5/...	0 days	769	855,856,846,7	FS - A x 4~6 men
776	776	Chemical, Earth	2.9.20.6.3	Lightning Protection System, Chem 1&2	30 days	Sat 27/8/22	Sun 25/9/22	Sat 27/8/22	Sun 25/9/22	Mon 22/1/...	Sun 24/12/...	484 days			
777	777	Chemical, MVAC	2.9.20.6.4	Mechanical Ventilation System, Chem 2	14 days	Sun 16/10/22	Sat 29/10/22	Sun 16/10/22	Sat 29/10/22	Mon 22/1/...	Tue 9/1/24	450 days	753FS+150 da		MVAC - A x 4~6 men
778	778	Chemical, Pb	2.9.20.6.5	Plumbing Installation, Chem 1	7 days	Sat 27/8/22	Fri 2/9/22	Sat 27/8/22	Fri 2/9/22	Mon 22/1/...	Tue 16/1/24	507 days			Pb - A x 4~6 men
779	779	Chemical, BS	2.9.20.6.6	Testing and Commissioning of Building Services Installations, Chem 1&2	120 days	Tue 17/1/23	Tue 16/5/23	Tue 17/1/23	Tue 16/5/23	Tue 23/1/24	Tue 26/9/23	252 days	774,775		BS - C x 2~4 men
780	**780**	**Fire, Pump Room, Main**	**2.9.21**	**Commencement of E&M Installation at FS & Sprinkler Pump Room**	**424 days**	**Wed 23/2/22**	**Sun 23/4/23**	**Wed 23/2/22**	**Sun 23/4/23**	**Tue 16/1/24**	**Wed 23/11...**	**268 days**	**197,191,185**	**864**	
781	781	Fire	2.9.21.1	Mechanical Installations for FS & Sprinkler Pumps	90 edays	Wed 23/2/22	Tue 24/5/22	Wed 23/2/22	Tue 24/5/22	Tue 28/2/23	Wed 30/11...	0 edays		782	
782	782	Fire	2.9.21.2	Electrical Installations for FS & Sprinkler Pumps	90 edays	Tue 24/5/22	Mon 22/8/22	Tue 24/5/22	Mon 22/8/22	Mon 29/5/...	Tue 28/2/23	0.63 edays	781	783,786	
783	783	Fire	2.9.21.3	Site Acceptance Test for FS & Sprinkler Pumps	45 days	Tue 23/8/22	Thu 6/10/22	Tue 23/8/22	Thu 6/10/22	Sat 9/12/23	Thu 26/10/...	0 days	782	784	
784	784	Fire	2.9.21.4	System Commissioning for FS & Sprinkler Pumps	45 days	Fri 7/10/22	Sun 20/11/22	Fri 7/10/22	Sun 20/11/22	Tue 23/1/24	Sun 10/12/...	429 days	783		
785	**785**	**Fire**	**2.9.21.5**	**Building Services Installations at FS & Sprinkler Pump Room**	**240 days**	**Sat 27/8/22**	**Sun 23/4/23**	**Sat 27/8/22**	**Sun 23/4/23**	**Tue 16/1/24**	**Mon 22/5/...**	**268 days**	**753FS+100 da**		
786	786	Fire	2.9.21.5.1	Lighting and Power Distribution System, Chem 1&2	120 days	Sat 27/8/22	Sat 24/12/22	Sat 27/8/22	Sat 24/12/22	Mon 25/9/...	Mon 29/5/...	0 days	782	789	
787	787	Fire	2.9.21.5.2	Lightning Protection System, FS & Sprinkler Pump Room	30 days	Sat 27/8/22	Sun 25/9/22	Sat 27/8/22	Sun 25/9/22	Mon 22/1/...	Sun 24/12/...	484 days			
788	788	Fire	2.9.21.5.3	Mechanical Ventilation System, FS & Sprinkler PR	14 days	Sat 27/8/22	Fri 9/9/22	Sat 27/8/22	Fri 9/9/22	Mon 22/1/...	Tue 9/1/24	500 days			
789	789	Fire	2.9.21.5.4	Testing and Commissioning of Building Services Installations, FS & Sprinkler P	120 days	Sun 25/12/22	Sun 23/4/23	Sun 25/12/22	Sun 23/4/23	Tue 23/1/24	Tue 26/9/23	275 days	786		
790	**790**	**Fire, FH Pump Room, Main**	**2.9.22**	**Commencement of E&M Installation at Street FH Pump Room**	**424 days**	**Wed 23/2/22**	**Sun 23/4/23**	**Wed 23/2/22**	**Sun 23/4/23**	**Tue 16/1/24**	**Wed 23/11...**	**268 days**	**197,191,185**	**864**	
791	791	Fire	2.9.22.1	Mechanical Installations for Street FH Pumps	90 edays	Wed 23/2/22	Tue 24/5/22	Wed 23/2/22	Tue 24/5/22	Tue 28/2/23	Wed 30/11...	0 edays		792	
792	792	Fire	2.9.22.2	Electrical Installations for Street FH Pump	90 edays	Tue 24/5/22	Mon 22/8/22	Tue 24/5/22	Mon 22/8/22	Mon 29/5/...	Tue 28/2/23	0.63 edays	791	793,796	
793	793	Fire	2.9.22.3	Site Acceptance Test for Street FH Pump	45 days	Tue 23/8/22	Thu 6/10/22	Tue 23/8/22	Thu 6/10/22	Sat 9/12/23	Thu 26/10/...	0 days	792	794	
794	794	Fire	2.9.22.4	System Commissioning for Street FH Pumps	45 days	Fri 7/10/22	Sun 20/11/22	Fri 7/10/22	Sun 20/11/22	Tue 23/1/24	Sun 10/12/...	429 days	793		
795	**795**	**Fire**	**2.9.22.5**	**Building Services Installations at Street FH Pump Room**	**240 days**	**Sat 27/8/22**	**Sun 23/4/23**	**Sat 27/8/22**	**Sun 23/4/23**	**Tue 16/1/24**	**Mon 22/5/...**	**268 days**	**753FS+100 da**		
796	796	Fire	2.9.22.5.1	Lighting and Power Distribution System, Street FH PR	120 days	Sat 27/8/22	Sat 24/12/22	Sat 27/8/22	Sat 24/12/22	Mon 25/9/...	Mon 29/5/...	0 days	792	799	
797	797	Fire	2.9.22.5.2	Lightning Protection System, Street FH PR	30 days	Sat 27/8/22	Sun 25/9/22	Sat 27/8/22	Sun 25/9/22	Mon 22/1/...	Sun 24/12/...	484 days			
798	798	Fire, MVAC	2.9.22.5.3	Mechanical Ventilation System, Street FH PR	14 days	Mon 5/12/22	Sun 18/12/22	Mon 5/12/22	Sun 18/12/22	Mon 22/1/...	Tue 9/1/24	400 days	753FS+200 da		MVAC - A x 4~6 men
799	799	Fire	2.9.22.5.4	Testing and Commissioning of Building Services Installations, FH PR	120 days	Sun 25/12/22	Sun 23/4/23	Sun 25/12/22	Sun 23/4/23	Tue 23/1/24	Tue 26/9/23	275 days	796		
800	**800**	**DOU 1, Main**	**2.9.23**	**Commencement of E&M Installation at DOU 1**	**171 days**	**Sat 2/7/22**	**Tue 20/12/22**	**Sat 2/7/22**	**Tue 20/12/22**	**Wed 17/1/...**	**Sun 30/7/23**	**392 days**	**314**	**864**	
801	801	DOU, Others	2.9.23.1	Tentative Civil Handover Date, underground air pipework (by others)	0 days	Mon 1/8/22	Mon 1/8/22	Mon 1/8/22	Mon 1/8/22	Tue 19/9/23	Tue 19/9/23	46 days		802FF+45 days	



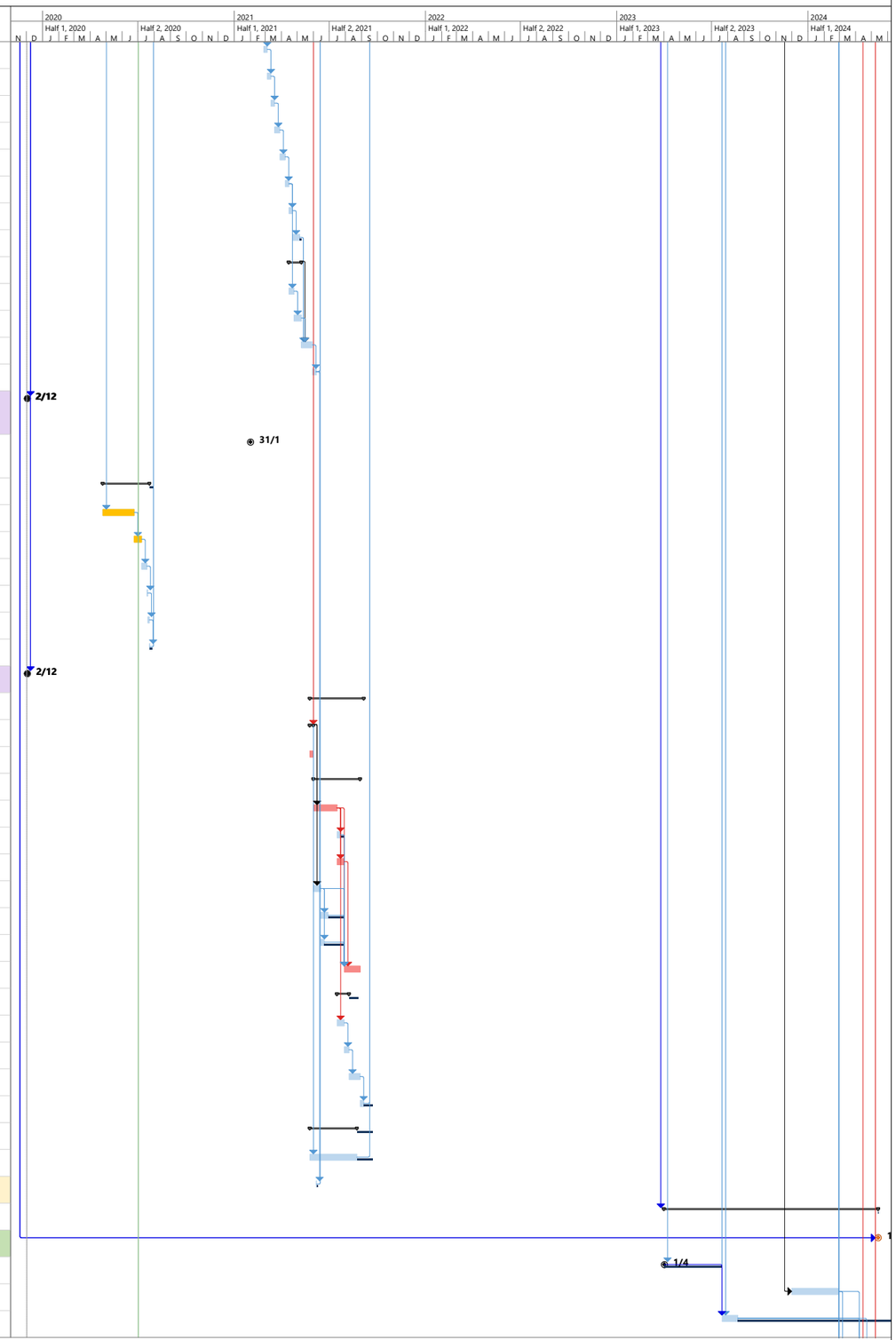
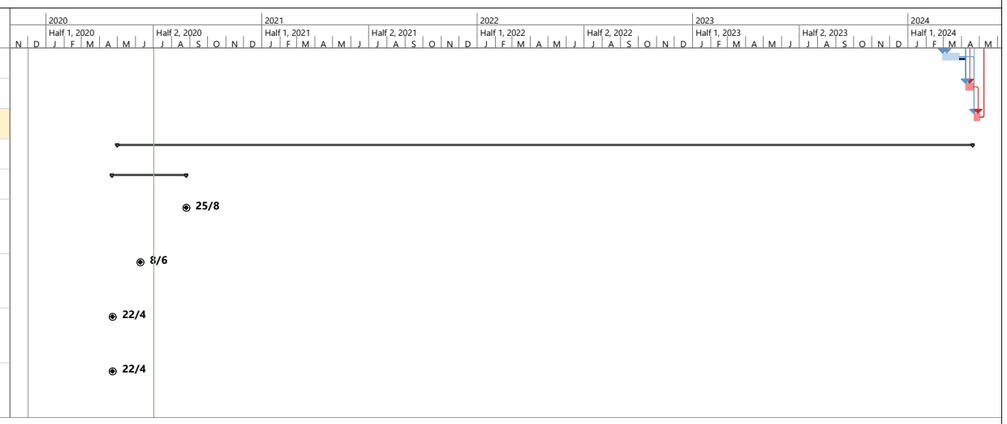
ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
802	802	DOU, Mech	2.9.23.2	Mechanical Installations for DOU 1	90 edays	Sat 2/7/22	Fri 30/9/22	Sat 2/7/22	Fri 30/9/22	Fri 3/11/23	Sat 5/8/23	0 edays	753FS+45 day	803SS+30 eday	ME - F x 4~6 men
803	803	DOU, Elec	2.9.23.3	Electrical Installations for DOU 1	90 edays	Mon 1/8/22	Sun 30/10/22	Mon 1/8/22	Sun 30/10/22	Sun 3/12/23	Mon 4/9/23	0 edays	802SS+30 eda	804	
804	804	DOU	2.9.23.4	Site Acceptance Test for DOU1	30 edays	Sun 30/10/22	Tue 29/11/22	Sun 30/10/22	Tue 29/11/22	Tue 2/1/24	Sun 3/12/23	0 edays	802,803	805	
805	805	DOU	2.9.23.5	System Commissioning for DOU 1	21 edays	Tue 29/11/22	Tue 20/12/22	Tue 29/11/22	Tue 20/12/22	Tue 23/1/24	Tue 2/1/24	398.63 edays	804		
806	**806**	**DOU 2A, Main**	**2.9.24**	**Commencement of E&M Installation at DOU 2A**	**171 days**	**Sun 1/1/23**	**Wed 21/6/23**	**Sun 1/1/23**	**Wed 21/6/23**	**Wed 17/1/...**	**Sun 30/7/23**	**209 days**	**320,643**	**864**	
807	807	DOU, Mech	2.9.24.1	Mechanical Installations for DOU 2A	90 edays	Sun 1/1/23	Sat 1/4/23	Sun 1/1/23	Sat 1/4/23	Fri 3/11/23	Sat 5/8/23	0 edays	753FS+45 day	808SS+30 eday	ME - F x 4~6 men
808	808	DOU, Elec	2.9.24.2	Electrical Installations for DOU 2A	90 edays	Tue 31/1/23	Mon 1/5/23	Tue 31/1/23	Mon 1/5/23	Sun 3/12/23	Mon 4/9/23	0 edays	807SS+30 eda	809	
809	809	DOU	2.9.24.3	Site Acceptance Test for E&M Equip for DOU 2A	30 edays	Mon 1/5/23	Wed 31/5/23	Mon 1/5/23	Wed 31/5/23	Tue 2/1/24	Sun 3/12/23	0 edays	807,808	810	
810	810	DOU	2.9.24.4	System Commissioning Test for DOU 2A	21 edays	Wed 31/5/23	Wed 21/6/23	Wed 31/5/23	Wed 21/6/23	Tue 23/1/24	Tue 2/1/24	215.63 edays	809		
811	**811**	**DOU 3A, Main**	**2.9.25**	**Commencement of E&M Installation at DOU 3A**	**171 days**	**Tue 16/8/22**	**Fri 3/2/23**	**Tue 16/8/22**	**Fri 3/2/23**	**Wed 17/1/...**	**Sun 30/7/23**	**347 days**	**320**	**864**	
812	812	DOU, Mech	2.9.25.1	Mechanical Installations for DOU 3A	90 edays	Tue 16/8/22	Mon 14/11/22	Tue 16/8/22	Mon 14/11/22	Fri 3/11/23	Sat 5/8/23	0 edays	753FS+90 day	813SS+30 eday	ME - F x 4~6 men
813	813	DOU, Elec	2.9.25.2	Electrical Installations for DOU 3A	90 edays	Thu 15/9/22	Wed 14/12/22	Thu 15/9/22	Wed 14/12/22	Sun 3/12/23	Mon 4/9/23	0 edays	812SS+30 eda	814	
814	814	DOU	2.9.25.3	Site Acceptance Test for E&M Equip for DOU 3A	30 edays	Wed 14/12/22	Fri 13/1/23	Wed 14/12/22	Fri 13/1/23	Tue 2/1/24	Sun 3/12/23	0 edays	812,813	815	
815	815	DOU	2.9.25.4	System Commissioning Test for DOU 3A	21 edays	Fri 13/1/23	Fri 3/2/23	Fri 13/1/23	Fri 3/2/23	Tue 23/1/24	Tue 2/1/24	353.63 edays	814		
816	**816**	**DOU 3B, Main**	**2.9.26**	**Commencement of E&M Installation at DOU 3B**	**187 days**	**Mon 1/8/22**	**Fri 3/2/23**	**Mon 1/8/22**	**Fri 3/2/23**	**Wed 17/1/...**	**Sun 30/7/23**	**347 days**	**320**	**864**	
817	817	DOU, others	2.9.26.1	Tentative Civil Handover Date underground air pipework (by others)	0 days	Mon 1/8/22	Mon 1/8/22	Mon 1/8/22	Mon 1/8/22	Wed 4/10/...	Wed 4/10/...	96 days		818FF+30 days	
818	818	DOU, Mech	2.9.26.2	Mechanical Installations for DOU 3B	90 edays	Tue 16/8/22	Mon 14/11/22	Tue 16/8/22	Mon 14/11/22	Fri 3/11/23	Sat 5/8/23	0 edays	753FS+90 day	819SS+30 eday	ME - F x 4~6 men
819	819	DOU, Elec	2.9.26.3	Electrical Installations for DOU 3B	90 edays	Thu 15/9/22	Wed 14/12/22	Thu 15/9/22	Wed 14/12/22	Sun 3/12/23	Mon 4/9/23	0 edays	818SS+30 eda	820	
820	820	DOU	2.9.26.4	Site Acceptance Test for E&M Equip for DOU 3B	30 edays	Wed 14/12/22	Fri 13/1/23	Wed 14/12/22	Fri 13/1/23	Tue 2/1/24	Sun 3/12/23	0 edays	818,819	821	
821	821	DOU	2.9.26.5	System Commissioning Test for DOU 3B	21 edays	Fri 13/1/23	Fri 3/2/23	Fri 13/1/23	Fri 3/2/23	Tue 23/1/24	Tue 2/1/24	353.63 edays	820		
822	**822**	**Chamber, Main**	**2.9.27**	**Commencement of Valves and Flowmeters Installation at Chambers**	**150 days**	**Thu 19/5/22**	**Sat 15/10/22**	**Thu 19/5/22**	**Sat 15/10/22**	**Tue 16/1/24**	**Sun 20/8/23**	**458 days**		**864**	
823	823	Chamber, Mech	2.9.27.1	Installation of valves and flowmeters	90 days	Thu 19/5/22	Tue 16/8/22	Thu 19/5/22	Tue 16/8/22	Thu 23/11/...	Sat 26/8/23	0 days	753	824	ME - C x 4~6 men
824	824	Chamber	2.9.27.2	cables laying and terminations	60 days	Wed 17/8/22	Sat 15/10/22	Wed 17/8/22	Sat 15/10/22	Mon 22/1/...	Fri 24/11/23	464 days	823		EE - A x 4~6 men
825	**825**	**Genset, Main**	**2.9.28**	**Commencement of E&M Installation at Emergency Generator House**	**733 days**	**Thu 27/1/22**	**Mon 29/1/24**	**Thu 27/1/22**	**Mon 29/1/24**	**Sat 13/4/24**	**Mon 25/1...**	**71 days**	**754**	**868**	
826	826	Genset	2.9.28.1	Application for EPD's Approval for Installation of Diesel Engine Generator	21 days	Thu 27/1/22	Wed 16/2/22	Thu 27/1/22	Wed 16/2/22	Sun 14/1/24	Mon 25/12...	622 days	418,472	827	
827	827	Genset	2.9.28.2	Installation and SAT of Emergency Power Generator and associated work, GH	60 days	Wed 1/11/23	Sat 30/12/23	Wed 1/11/23	Sat 30/12/23	Thu 14/3/24	Mon 15/1/...	0 days	826,753	829	GS - A x 4 men
828	**828**	**Genset,BS**	**2.9.28.3**	**Building Services Installation at Emergency Generator House**	**733 days**	**Thu 27/1/22**	**Mon 29/1/24**	**Thu 27/1/22**	**Mon 29/1/24**	**Sat 13/4/24**	**Fri 15/3/24**	**75 days**			
829	829	Genset,FSI	2.9.28.3.1	Fire Services Installation, GH	30 days	Sun 31/12/23	Mon 29/1/24	Sun 31/12/23	Mon 29/1/24	Sat 13/4/24	Fri 15/3/24	75 days	827		FS - A x 4~6 men
830	830	Genset, MVAC	2.9.28.3.2	Mechanical Ventilation System, GH	14 days	Thu 27/1/22	Wed 9/2/22	Thu 27/1/22	Wed 9/2/22	Sun 14/4/24	Mon 1/4/24	795 days			MVAC - A x 4~6 men
831	831	Genset,Earth	2.9.28.3.3	Lightning Protection System, GH	15 days	Thu 27/1/22	Thu 10/2/22	Thu 27/1/22	Thu 10/2/22	Sun 14/4/24	Sun 31/3/24	794 days			
832	832	Genset,BS	2.9.28.3.4	Testing and Commissioining of Building Services Installation, GH	7 days	Thu 27/1/22	Wed 2/2/22	Thu 27/1/22	Wed 2/2/22	Sun 14/4/24	Mon 8/4/24	802 days			BS - A x 4~6 men
833	**833**	**Civil**	**2.9.29**	**Access Date for Portion B-9B, underground pipework**	**60 edays**	**Sun 18/2/24**	**Thu 18/4/24**	**Sun 18/2/24**	**Thu 18/4/24**	**Thu 18/4/24**	**Sun 18/2/24**	**0 edays**	**6SS+1539 eda**		
834	834	Civil, others	2.9.30	Tentative Civil Handover Date for Portion B-9B (by others)	1 day	Fri 1/3/24	Fri 1/3/24	Fri 1/3/24	Fri 1/3/24	Fri 1/3/24	Fri 1/3/24	0 days		835	
835	**835**	**Civil, Main**	**2.9.31**	**Commencement of underground pipework modification and connection works**	**20 days**	**Sat 2/3/24**	**Thu 21/3/24**	**Sat 2/3/24**	**Thu 21/3/24**	**Thu 21/3/24**	**Sat 2/3/24**	**0 days**	**834**		
836	836	Civil	2.9.31.1	Road Excavation	7 days	Sat 2/3/24	Fri 8/3/24	Sat 2/3/24	Fri 8/3/24	Fri 8/3/24	Sat 2/3/24	0 days		837	
837	837	Civil	2.9.31.2	Pipe Laying and connection works	7 days	Sat 9/3/24	Fri 15/3/24	Sat 9/3/24	Fri 15/3/24	Fri 15/3/24	Sat 9/3/24	0 days	836	838	
838	838	Civil	2.9.31.3	Pressure Tests	3 days	Sat 16/3/24	Mon 18/3/24	Sat 16/3/24	Mon 18/3/24	Mon 18/3/...	Sat 16/3/24	0 days	837	839	
839	839	Civil	2.9.31.4	Make Good	3 days	Tue 19/3/24	Thu 21/3/24	Tue 19/3/24	Thu 21/3/24	Thu 21/3/24	Tue 19/3/24	0 days	838		
840	**840**	**FSI, Main**	**2.9.32**	**Commencement of Fire Services Installation**	**1317 days**	**Tue 1/9/20**	**Tue 9/4/24**	**Tue 1/9/20**	**Tue 9/4/24**	**Sat 13/4/24**	**Tue 23/8/22**	**0 days**		**868**	
841	841	FSI	2.9.32.1	Design Review of Approved General Building Plan	126 days	Tue 1/9/20	Mon 4/1/21	Tue 1/9/20	Mon 4/1/21	Mon 26/12...	Tue 23/8/22	0 days	428	842	
842	842	FSI	2.9.32.2	Submission of WWO542 for WSD's approval	270 days	Tue 5/1/21	Fri 1/10/21	Tue 5/1/21	Fri 1/10/21	Fri 22/9/23	Tue 27/12/...	717 days	841	843	
843	843	FSI	2.9.32.3	Submission of WWO46 for WSD's Inspection	30 days	Tue 19/9/23	Wed 18/10/23	Tue 19/9/23	Wed 18/10/23	Mon 23/10...	Sun 24/9/23	0 days	592,639,675,	844	
844	844	FSI	2.9.32.4	Obtain WWO46 Part V	60 days	Thu 19/10/23	Sun 17/12/23	Thu 19/10/23	Sun 17/12/23	Fri 22/12/23	Tue 24/10/...	0 days	843	847,845	
845	845	FSI	2.9.32.5	FSD Inspection and Approval for MVAC	21 days	Mon 18/12/23	Sun 7/1/24	Mon 18/12/23	Sun 7/1/24	Thu 11/1/24	Fri 22/12/23	0 days	855,856,844	848	
846	846	FSI	2.9.32.6	FSD Inspection and Approval for DG Stores	21 days	Sat 2/12/23	Fri 22/12/23	Sat 2/12/23	Fri 22/12/23	Thu 11/1/24	Fri 22/12/23	16 days	855,856,775	848	
847	847	FSI	2.9.32.7	Submission of (FSI/314 & FSI/501) to FSD	14 days	Mon 18/12/23	Sun 31/12/23	Mon 18/12/23	Sun 31/12/23	Thu 11/1/24	Fri 29/12/23	7 days	855,856,844	848	
848	848	FSI	2.9.32.8	Pre-inspection meeting with FSD	5 days	Mon 8/1/24	Fri 12/1/24	Mon 8/1/24	Fri 12/1/24	Tue 16/1/24	Fri 12/1/24	0 days	847,845,846	849	
849	849	FSI	2.9.32.9	Initial Inspection with FSD	15 days	Sat 13/1/24	Sat 27/1/24	Sat 13/1/24	Sat 27/1/24	Wed 31/1/...	Wed 17/1/...	0 days	848	850	
850	850	FSI	2.9.32.10	Document Checking	45 days	Sun 28/1/24	Tue 12/3/24	Sun 28/1/24	Tue 12/3/24	Sat 16/3/24	Thu 1/2/24	0 days	849	851	



ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
851	851	FSI	2.9.32.11	Re-inspections with FSD	14 days	Wed 13/3/24	Tue 26/3/24	Wed 13/3/24	Tue 26/3/24	Sat 30/3/24	Sun 17/3/24	0 days	850	852	
852	852	FSI	2.9.32.12	Issue of acceptance memo by FSD	14 days	Wed 27/3/24	Tue 9/4/24	Wed 27/3/24	Tue 9/4/24	Sat 13/4/24	Sun 31/3/24	4 days	851		
853	853	FSI	2.9.32.13	Installation of FS Pumps and Sprinkler Pumps	60 days	Mon 3/4/23	Thu 1/6/23	Mon 3/4/23	Thu 1/6/23	Sun 22/10/...	Thu 24/8/23	109 days	753	856	FS - A x 4~6 men
854	854	FSI	2.9.32.14	Installation of Fire Hydrant and Booster Pumps	60 days	Mon 3/4/23	Thu 1/6/23	Mon 3/4/23	Thu 1/6/23	Sun 22/10/...	Thu 24/8/23	109 days	753	856	FS - A x 4~6 men
855	855	FSI	2.9.32.15	SAT for Manual and automatic fire detection and alarm system	60 days	Tue 19/9/23	Fri 17/11/23	Tue 19/9/23	Fri 17/11/23	Thu 21/12/...	Mon 23/10...	14 days	592,639,675,	847,845,846	
856	856	FSI	2.9.32.16	SAT for Fire hydrants, hose reels and street fire hydrant system	60 days	Tue 19/9/23	Fri 17/11/23	Tue 19/9/23	Fri 17/11/23	Thu 21/12/...	Mon 23/10...	14 days	592,639,675,	847,845,846	
857	**857**	**Pb, Main**	**2.9.33**	**Commencement of Plumbing Installation**	**1267 days**	**Tue 14/7/20**	**Tue 2/1/24**	**Tue 14/7/20**	**Tue 2/1/24**	**Wed 17/1/...**	**Sun 2/1/22**	**15 days**		**864**	
858	858	Pb	2.9.33.1	Submission of detail design for acceptance	90 days	Tue 14/7/20	Sun 11/10/20	Tue 14/7/20	Sun 11/10/20	Thu 7/4/22	Sat 8/1/22	0 days	423	859	Pb - A x 4~6 men
859	859	Pb	2.9.33.2	Submission of WWO542 for WSD's approval	355 days	Mon 12/10/20	Fri 1/10/21	Mon 12/10/20	Fri 1/10/21	Tue 28/3/23	Fri 8/4/22	417 days	858	590,637,673,7	Pb - B x 4~6 men
860	860	Pb, others	2.9.33.3	Connection of External Pumping System (By others)	0 days	Fri 15/9/23	Fri 15/9/23	Fri 15/9/23	Fri 15/9/23	Wed 25/10...	Wed 25/10...	4 days		861	
861	861	Pb	2.9.33.4	Submission of WWO46 for WSD's Inspection	45 days	Tue 19/9/23	Thu 2/11/23	Tue 19/9/23	Thu 2/11/23	Sat 9/12/23	Thu 26/10/...	0 days	590,637,673,	862	
862	862	Pb	2.9.33.5	Obtain WWO46 Part V	45 days	Fri 3/11/23	Sun 17/12/23	Fri 3/11/23	Sun 17/12/23	Tue 23/1/24	Sun 10/12/...	15 days	861	863	
863	863	Pb, Others	2.9.33.6	Tentative Date for connection of external water pipework (by others)	0 days	Tue 2/1/24	Tue 2/1/24	Tue 2/1/24	Tue 2/1/24	Wed 24/1/...	Wed 24/1/...	22 days	862		
864	**864**	**Test, Main**	**2.9.34**	**Testing and Commissioning**	**82 days**	**Wed 17/1/24**	**Sun 7/4/24**	**Wed 17/1/24**	**Sun 7/4/24**	**Sun 7/4/24**	**Wed 17/...**	**0 days**	**545,597,644,/**	**944SS-90 eday**	
865	865	Test	2.9.34.1	System Commissioning Tests of the E&M systems	7 days	Wed 17/1/24	Tue 23/1/24	Wed 17/1/24	Tue 23/1/24	Tue 23/1/...	Wed 17/1...	0 days		866	
866	866	Test	2.9.34.2	MBR System Process Startup	40 days	Wed 24/1/24	Sun 3/3/24	Wed 24/1/24	Sun 3/3/24	Sun 3/3/24	Wed 24/1...	0 days	865	867	
867	867	Test	2.9.34.3	Plant Commissioning	35 days	Mon 4/3/24	Sun 7/4/24	Mon 4/3/24	Sun 7/4/24	Sun 7/4/24	Mon 4/3/...	0 days	866	868,947	
868	868	Risk Allowance	2.9.35	Risk Allowance for completion of Section 2	5 days	Wed 10/4/24	Sun 14/4/24	Wed 10/4/24	Sun 14/4/24	Thu 18/4/24	Sun 14/4/24	4 days	867,840,825	542	
869	869		2.10	Section 3 - Completion of all works for retrofitting of the existing PST...etc	659 days	Mon 2/12/19	Wed 22/9/21	Mon 2/12/19	Wed 22/9/21	Wed 22/9/...	Mon 2/12/...	1 day	6,2		
870	870	Filter Press, Filter Plates	2.10.1	Section 3 - Latest Completion Date	0 days	Wed 22/9/21	Wed 22/9/21	Wed 22/9/21	Wed 22/9/21	Wed 22/9/...	Wed 22/9/...	0 days	6SS+660 eday		
871	871	existing genset	2.10.2	Key Date KD3A, E&M Installation works of existing power house	0 days	Wed 29/7/20	Wed 29/7/20	Wed 29/7/20	Wed 29/7/20	Wed 29/7/...	Wed 29/7/...	1 day	6SS+240 eday		
872	872	PST No. 4 & No. 6	2.10.3	Key Date KD3B, E&M work for provision of the existing PSTs	0 days	Wed 9/6/21	Wed 9/6/21	Wed 9/6/21	Wed 9/6/21	Wed 9/6/21	Wed 9/6/21	1 day	6SS+555 eday		
873	**873**	**Temp Filtrate, LA**	**2.10.4**	**Access Date for Portion B-3B, Temporary Filtrate Lifting Well and Eq. Tank**	**0 edays**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/...**	**Mon 2/12/...**	**0 edays**	**6SS,2SS**	**874**	
874	**874**	**Temp Filtrate**	**2.10.5**	**Commencement of E&M Installation at Temp. Filtrate Lifting Well and Eq. Tank**	**287 days**	**Mon 27/4/20**	**Sun 7/2/21**	**Mon 27/4/20**	**Sun 7/2/21**	**Mon 8/2/21**	**Tue 28/4/20**	**1 day**	**873**	**892**	
875	875	Temp Filtrate	2.10.5.1	Civil on-site survey and report submission for acceptance	14 days	Mon 27/4/20	Sun 10/5/20	Mon 27/4/20	Sun 10/5/20	Mon 11/5/...	Tue 28/4/20	0 days	449	876	
876	876	Temp Filtrate	2.10.5.2	Civil structural design and drawing submission for acceptance	21 days	Mon 11/5/20	Sun 31/5/20	Mon 11/5/20	Sun 31/5/20	Mon 1/6/20	Tue 12/5/20	0 days	875	877	
877	877	Temp Filtrate	2.10.5.3	Civil formation and underground work	21 days	Mon 1/6/20	Sun 21/6/20	Mon 1/6/20	Sun 21/6/20	Mon 22/6/...	Tue 2/6/20	0 days	876	883,878	
878	878	Temp Filtrate	2.10.5.4	RC structure works including cast-in items	180 days	Mon 22/6/20	Fri 18/12/20	Mon 22/6/20	Fri 18/12/20	Sat 19/12/20	Tue 23/6/20	0 days	877	879,882,885,8	
879	**879**	**Temp Filtrate**	**2.10.5.5**	**Installation of Lifting Appliances at Temporary Filtrate Lifting Well and Eq. Tank**	**7 days**	**Mon 18/1/21**	**Sun 24/1/21**	**Mon 18/1/21**	**Sun 24/1/21**	**Mon 8/2/21**	**Tue 2/2/21**	**15 days**	**878**		
880	880	Temp Filtrate, LA	2.10.5.5.1	GF MR LA-09-01 SWL 1t	7 days	Mon 18/1/21	Sun 24/1/21	Mon 18/1/21	Sun 24/1/21	Mon 8/2/21	Tue 2/2/21	15 days	878		LA - A x 4~6 men
881	881	Temp Filtrate, LA	2.10.5.5.2	GF MR LA-09-02 SWL 1t	7 days	Mon 18/1/21	Sun 24/1/21	Mon 18/1/21	Sun 24/1/21	Mon 8/2/21	Tue 2/2/21	15 days	878		LA - B x 4~6 men
882	**882**	**Temp Filtrate, Mech**	**2.10.5.6**	**Mechanical Installations for Temp. Filtrate Lifting Well and Eq. Tank**	**37 days**	**Sat 19/12/20**	**Sun 24/1/21**	**Sat 19/12/20**	**Sun 24/1/21**	**Mon 25/1/...**	**Sun 20/12...**	**0 days**	**878**	**886FS-30 days**	
883	883	Temp Filtrate, Mech	2.10.5.6.1	Installation of pipework and valves	30 days	Sat 19/12/20	Sun 17/1/21	Sat 19/12/20	Sun 17/1/21	Mon 18/1/...	Sun 20/12/...	0 days	877	884	ME - A x 4~6 men
884	884	Temp Filtrate, Mech	2.10.5.6.2	Installation of pumps	7 days	Mon 18/1/21	Sun 24/1/21	Mon 18/1/21	Sun 24/1/21	Mon 25/1/...	Tue 19/1/21	1 day	883,350		ME - A x 4~6 men
885	885	Temp Filtrate, Mech	2.10.5.6.3	Installation of instrumentations	14 days	Sat 19/12/20	Fri 1/1/21	Sat 19/12/20	Fri 1/1/21	Mon 25/1/...	Tue 12/1/21	24 days	878		ME - A x 4~6 men
886	**886**	**Temp Filtrate**	**2.10.5.7**	**Electrical Installations for Temp. Filtrate Lifting Well and Eq. Tank**	**21 days**	**Sat 26/12/20**	**Fri 15/1/21**	**Sat 26/12/20**	**Fri 15/1/21**	**Mon 18/1/...**	**Tue 29/12...**	**0 days**	**882FS-30 day**	**889,891FS-7 d**	
887	887	Temp Filtrate, Elec	2.10.5.7.1	Installation of cable trays and cable containments	21 days	Sat 26/12/20	Fri 15/1/21	Sat 26/12/20	Fri 15/1/21	Mon 18/1/...	Tue 29/12/...	3 days			
888	888	Temp Filtrate, Elec	2.10.5.7.2	Cables laying and terminations	21 days	Sat 26/12/20	Fri 15/1/21	Sat 26/12/20	Fri 15/1/21	Mon 18/1/...	Tue 29/12/...	3 days			
889	889	Temp Filtrate	2.10.5.8	Site Acceptance Test for E&M Equip at Filtrate Lifting Well and Eq. Tank	7 days	Mon 25/1/21	Sun 31/1/21	Mon 25/1/21	Sun 31/1/21	Mon 1/2/21	Tue 26/1/21	0 days	882,886	890	
890	890	Temp Filtrate	2.10.5.9	System Commissioning for E&M Equip at Temp. Filtrate Lifting Well and Eq. Tan	7 days	Mon 1/2/21	Sun 7/2/21	Mon 1/2/21	Sun 7/2/21	Mon 8/2/21	Tue 2/2/21	1 day	889,891		
891	891	Temp Filtrate	2.10.5.10	Building Services Installations for Filtrate Lifting Well and Eq. Tank	21 days	Sat 9/1/21	Fri 29/1/21	Sat 9/1/21	Fri 29/1/21	Mon 1/2/21	Tue 12/1/21	2 days	886FS-7 days	890	
892	892	Temp Filtrate	2.10.6	Work completion for Temp. Filtrate Lifting Well and Eq. Tank	0 days	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	0 days	874		
893	**893**	**PST No. 4 & No. 6**	**2.10.7**	**Access Date for Portion B-3A, Existing PST No. 4 and No. 6**	**0 edays**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/...**	**Mon 2/12/...**	**0 edays**	**6,2**		
894	894	PST No. 4 & No. 6, Others	2.10.8	Tentative Commencement Date	1 day	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	Mon 8/2/21	Thu 11/2/21	Thu 11/2/21	0 days		896	
895	**895**	**PST No. 4 & No. 6**	**2.10.9**	**Commencement of retrofitting the existing PST No. 4 and No. 6**	**117 days**	**Tue 9/2/21**	**Sat 5/6/21**	**Tue 9/2/21**	**Sat 5/6/21**	**Tue 8/6/21**	**Fri 12/2/21**	**3 days**			
896	896	PST No. 4 & No. 6	2.10.9.1	Site Clearance	10 days	Tue 9/2/21	Thu 18/2/21	Tue 9/2/21	Thu 18/2/21	Sun 21/2/21	Fri 12/2/21	0 days	344,894	898	
897	**897**	**PST No. 4 & No. 6, Mech**	**2.10.9.2**	**Mechanical Installations of existing PSTs**	**76 days**	**Fri 19/2/21**	**Wed 5/5/21**	**Fri 19/2/21**	**Wed 5/5/21**	**Tue 11/5/21**	**Mon 22/2/...**	**3 days**			
898	898	PST No. 4 & No. 6, Mech	2.10.9.2.1	Installation of PST influent feed pipe	7 days	Fri 19/2/21	Thu 25/2/21	Fri 19/2/21	Thu 25/2/21	Sun 28/2/21	Mon 22/2/...	0 days	896	899	ME - A x 4~6 men



ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
899	899	PST No. 4 & No. 6, Mech	2.10.9.2.2	Installation of circular baffle diffuser box	7 days	Fri 26/2/21	Thu 4/3/21	Fri 26/2/21	Thu 4/3/21	Sun 7/3/21	Mon 1/3/21	0 days	898	900	ME - A x 4~6 men
900	900	PST No. 4 & No. 6, Mech	2.10.9.2.3	Installation of scum baffle plates	7 days	Fri 5/3/21	Thu 11/3/21	Fri 5/3/21	Thu 11/3/21	Sun 14/3/21	Mon 8/3/21	0 days	899	901	ME - A x 4~6 men
901	901	PST No. 4 & No. 6, Mech	2.10.9.2.4	Installation of scum box with collection valve and pipework	7 days	Fri 12/3/21	Thu 18/3/21	Fri 12/3/21	Thu 18/3/21	Sun 21/3/21	Mon 15/3/...	0 days	900	902	ME - A x 4~6 men
902	902	PST No. 4 & No. 6, Mech	2.10.9.2.5	Installation of v-notched weir plate	10 days	Fri 19/3/21	Sun 28/3/21	Fri 19/3/21	Sun 28/3/21	Wed 31/3/...	Mon 22/3/...	0 days	901	903	ME - A x 4~6 men
903	903	PST No. 4 & No. 6, Mech	2.10.9.2.6	Installation of center bearing and slip ring assembly for rotating bridge	10 days	Mon 29/3/21	Wed 7/4/21	Mon 29/3/21	Wed 7/4/21	Sat 10/4/21	Thu 1/4/21	0 days	902	904	ME - A x 4~6 men
904	904	PST No. 4 & No. 6, Mech	2.10.9.2.7	Installation of motor and gearbox assembly for rotating bridge	7 days	Thu 8/4/21	Wed 14/4/21	Thu 8/4/21	Wed 14/4/21	Sat 17/4/21	Sun 11/4/21	0 days	903	905,908	ME - A x 4~6 men
905	905	PST No. 4 & No. 6, Mech	2.10.9.2.8	Installation of rotating bridge sludge and scum scraper assembly	7 days	Thu 15/4/21	Wed 21/4/21	Thu 15/4/21	Wed 21/4/21	Tue 27/4/21	Wed 21/4/...	0 days	904	906	ME - A x 4~6 men
906	906	PST No. 4 & No. 6, Mech	2.10.9.2.9	installation of removable FRP covers for effluent channel	14 days	Thu 22/4/21	Wed 5/5/21	Thu 22/4/21	Wed 5/5/21	Tue 11/5/21	Wed 28/4/...	3 days	905	910	ME - A x 4~6 men
907	**907**	**PST No. 4 & No. 6, Elec**	**2.10.9.3**	**Electrical Installations of existing PSTs**	**24 days**	**Thu 15/4/21**	**Sat 8/5/21**	**Thu 15/4/21**	**Sat 8/5/21**	**Tue 11/5/21**	**Sun 18/4/21**	**0 days**		**910**	
908	908	PST No. 4 & No. 6, Elec	2.10.9.3.1	Installation of local control panels	10 days	Thu 15/4/21	Sat 24/4/21	Thu 15/4/21	Sat 24/4/21	Tue 27/4/21	Sun 18/4/21	0 days	904	909	
909	909	PST No. 4 & No. 6, Elec	2.10.9.3.2	cable laying and terminatons	14 days	Sun 25/4/21	Sat 8/5/21	Sun 25/4/21	Sat 8/5/21	Tue 11/5/21	Wed 28/4/...	0 days	908	910	
910	910	PST No. 4 & No. 6	2.10.9.4	Site Acceptance Test for E&M Equip at existing PST No. 4 and No. 6	21 days	Sun 9/5/21	Sat 29/5/21	Sun 9/5/21	Sat 29/5/21	Tue 1/6/21	Wed 12/5/...	0 days	907,906,909	911	
911	911	PST No. 4 & No. 6	2.10.9.5	System Commissioning for E&M Equip at existing PST No. 4 and No. 6	7 days	Sun 30/5/21	Sat 5/6/21	Sun 30/5/21	Sat 5/6/21	Tue 8/6/21	Wed 2/6/21	0 days	910	872,940	
912	**912**	**existing genset**	**2.10.10**	**Access Date for Portion B-7A & 7B, area for modification of existing emergency generator electrical works**	**0 edays**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**0 edays**	**6,2**		
913	913	existing genset, Others	2.10.11	Tentative Civil Handover Date, Portion B-7A & 7B area for modification of existing emergency generator electrical works	1 day	Sun 31/1/21	Sun 31/1/21	Sun 31/1/21	Sun 31/1/21	Sun 31/1/21	Sun 31/1/21	0 days			
914	**914**	**existing genset**	**2.10.12**	**Commencement of Modification of existing emergency generator Electrical Work**	**89 days**	**Sat 25/4/20**	**Wed 22/7/20**	**Sat 25/4/20**	**Wed 22/7/20**	**Tue 28/7/20**	**Fri 1/5/20**	**6 days**			
915	915	existing genset	2.10.12.1	Fabrication and delivery of material to site	60 days	Sat 25/4/20	Tue 23/6/20	Sat 25/4/20	Tue 23/6/20	Mon 29/6/...	Fri 1/5/20	0 days	527	916	
916	916	existing genset	2.10.12.2	Modification of existing emergency generator electrical works	14 days	Wed 24/6/20	Tue 7/7/20	Wed 24/6/20	Tue 7/7/20	Mon 13/7/...	Tue 30/6/20	0 days	915	917	
917	917	existing genset	2.10.12.3	Test the new switchboar for on-site mobile generator	10 days	Wed 8/7/20	Fri 17/7/20	Wed 8/7/20	Fri 17/7/20	Thu 23/7/20	Tue 14/7/20	0 days	916	918	
918	918	existing genset	2.10.12.4	Dismantling and removal the existing power & control cables	2 days	Sat 18/7/20	Sun 19/7/20	Sat 18/7/20	Sun 19/7/20	Sat 25/7/20	Fri 24/7/20	0 days	917	919	
919	919	existing genset	2.10.12.5	Take down existing generator to DSD	3 days	Mon 20/7/20	Wed 22/7/20	Mon 20/7/20	Wed 22/7/20	Tue 28/7/20	Sun 26/7/20	0 days	918	920	
920	920	Risk Allowance	2.10.13	Risk Allowance for meeting Key Date KD3A	1 day	Thu 23/7/20	Thu 23/7/20	Thu 23/7/20	Thu 23/7/20	Wed 29/7/...	Wed 29/7/...	5 days	919	871	
921	**921**	**Filter Press**	**2.10.14**	**Access Date for B-10, existing sludge thickening building**	**0 edays**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/19**	**Mon 2/12/...**	**Mon 2/12/...**	**0 edays**	**6,2**		
922	**922**	**Filter Press**	**2.10.15**	**Commencement of E&M Installation at Existing Filter Press House**	**103 days**	**Tue 25/5/21**	**Sat 4/9/21**	**Tue 25/5/21**	**Sat 4/9/21**	**Tue 21/9/21**	**Tue 25/5/21**	**0 days**			
923	923	**Filter Press, LA**	**2.10.15.1**	**Installation of Lifting Appliances at Existing Filter Press House**	**7 days**	**Tue 25/5/21**	**Mon 31/5/21**	**Tue 25/5/21**	**Mon 31/5/21**	**Mon 31/5/...**	**Tue 25/5/21**	**0 days**	**338**	**926,929**	
924	924	Filter Press, LA	2.10.15.1.1	GF MR LA-09-03 SWL 1t	7 days	Tue 25/5/21	Mon 31/5/21	Tue 25/5/21	Mon 31/5/21	Mon 31/5/...	Tue 25/5/21	0 days			LA - A x 4~6 men
925	925	**Filter Press, Mech**	**2.10.15.2**	**Mechanical Installations for E&M Equip. at Existing Filter Press House**	**89 days**	**Tue 1/6/21**	**Sat 28/8/21**	**Tue 1/6/21**	**Sat 28/8/21**	**Sat 28/8/21**	**Tue 1/6/21**	**0 days**			
926	926	Filter Press, Mech	2.10.15.2.1	Installation of membrane filter press	45 days	Tue 1/6/21	Thu 15/7/21	Tue 1/6/21	Thu 15/7/21	Thu 15/7/21	Tue 1/6/21	0 days	923	927,928,932,9	ME - A x 4~6 men
927	927	Filter Press, Mech	2.10.15.2.2	Installation of sluge feed pumps	7 days	Fri 16/7/21	Thu 22/7/21	Fri 16/7/21	Thu 22/7/21	Thu 29/7/21	Fri 23/7/21	7 days	926	932	ME - D x 2~4 men
928	928	Filter Press, Mech	2.10.15.2.3	Installation of polymer dosing pumps	14 days	Fri 16/7/21	Thu 29/7/21	Fri 16/7/21	Thu 29/7/21	Thu 29/7/21	Fri 16/7/21	0 days	926	932	ME - A x 4~6 men
929	929	Filter Press, Mech	2.10.15.2.4	Installation of air compressors	14 days	Tue 1/6/21	Mon 14/6/21	Tue 1/6/21	Mon 14/6/21	Thu 15/7/21	Fri 2/7/21	0 days	923	930,931,932	ME - A x 4~6 men
930	930	Filter Press, Mech	2.10.15.2.5	Installation of air receivers	14 days	Tue 15/6/21	Mon 28/6/21	Tue 15/6/21	Mon 28/6/21	Thu 29/7/21	Fri 16/7/21	31 days	929	932	ME - A x 4~6 men
931	931	Filter Press, Mech	2.10.15.2.6	Installation of high pressure water pump	7 days	Tue 15/6/21	Mon 21/6/21	Tue 15/6/21	Mon 21/6/21	Thu 29/7/21	Fri 23/7/21	38 days	929	932	ME - A x 4~6 men
932	932	Filter Press, Mech	2.10.15.2.7	Connection of pipework	30 days	Fri 30/7/21	Sat 28/8/21	Fri 30/7/21	Sat 28/8/21	Sat 28/8/21	Fri 30/7/21	0 days	926,927,928,		ME - A x 4~6 men
933	**933**	**Filter Press, Elec**	**2.10.15.3**	**Electrical Installation for E&M Equip. at Existing Filter Press House**	**23 days**	**Fri 16/7/21**	**Sat 7/8/21**	**Fri 16/7/21**	**Sat 7/8/21**	**Tue 24/8...**	**Mon 2/8/...**	**17 days**			
934	934	Filter Press, Elec	2.10.15.3.1	Installation of local control panels	14 days	Fri 16/7/21	Thu 29/7/21	Fri 16/7/21	Thu 29/7/21	Sun 15/8/21	Mon 2/8/21	0 days	926	935	
935	935	Filter Press, Elec	2.10.15.3.2	cable laying and terminations	9 days	Fri 30/7/21	Sat 7/8/21	Fri 30/7/21	Sat 7/8/21	Tue 24/8/21	Mon 16/8/...	0 days	934	936	
936	936	Filter Press, Elec	2.10.15.4	Site Acceptance Test for E&M Equip. at Existing Filter Press House	21 days	Sun 8/8/21	Sat 28/8/21	Sun 8/8/21	Sat 28/8/21	Tue 14/9/21	Wed 25/8/...	0 days	935	937	
937	937	Filter Press, Elec	2.10.15.5	System Commissioning Test for E&M Equip. at Existing Filter Press House	7 days	Sun 29/8/21	Sat 4/9/21	Sun 29/8/21	Sat 4/9/21	Tue 21/9/21	Wed 15/9/...	17 days	936	870	
938	**938**	**Filter Plates**	**2.10.16**	**Commencement of replacement of filter plates**	**90 days**	**Tue 25/5/21**	**Sun 22/8/21**	**Tue 25/5/21**	**Sun 22/8/21**	**Tue 21/9/21**	**Thu 24/6/21**	**30 days**			
939	939	Filter Plates	2.10.16.1	Replacement of filter plates	90 days	Tue 25/5/21	Sun 22/8/21	Tue 25/5/21	Sun 22/8/21	Tue 21/9/21	Thu 24/6/21	30 days	332	870	
940	940	Risk Allowance	2.10.17	Risk Allowance for meeting Key Date KD3B	1 day	Sun 6/6/21	Sun 6/6/21	Sun 6/6/21	Sun 6/6/21	Wed 9/6/21	Wed 9/6/21	2 days	911	872	
941	**941**		**2.11**	**Section 4 - Completion of Work for remainder of the works**	**409 days**	**Sat 1/4/23**	**Tue 14/5/24**	**Sat 1/4/23**	**Tue 14/5/24**	**Tue 14/5/24**	**Tue 12/12...**	**1 day**	**6,2**		
942	942	IW, PST, BR, MFS,PV,CCTV,PV, D	2.11.1	Section 4 - Latest Completion Date	0 days	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	Tue 14/5/24	0 days	6SS+1625 eda		
943	943	CCTV, SCADA	2.11.2	Latest date for connection of optical filbres	1 day	Sat 1/4/23	Sat 1/4/23	Sat 1/4/23	Sat 1/4/23	Thu 18/7/24	Thu 18/7/24	110 days	591	945	
944	944	Text	2.11.3	Document Submission and Resubmission for T&C procedures	90 days	Fri 1/12/23	Wed 28/2/24	Fri 1/12/23	Wed 28/2/24	Fri 22/3/24	Sun 24/12/...	0 days	864SS-90 eda	946,947	
945	945	CCTV	2.11.4	Overall commissioning of CCTV system	30 days	Fri 21/7/23	Sat 19/8/23	Fri 21/7/23	Sat 19/8/23	Sat 17/8/24	Fri 19/7/24	310 days	591,638,674,	948,947,946	



ID	ID	Text1	WBS	Task Name	Duration between Task Start and Finish	Start	Finish	Early Start	Early Finish	Late Finish	Late Start	Float Time	Predecessors	Successors	Resource Names
946	946	SCADA	2.11.5	Overall commissioning of Facility Computerised Systems (SCADA, CMMS, PMS, IDM	28 days	Thu 29/2/24	Wed 27/3/24	Thu 29/2/24	Wed 27/3/24	Fri 19/4/24	Sat 23/3/24	11 days	586,633,670,	948,947	
947	947	Others	2.11.6	Overall Plant Commissioning and DSD pre-handover inspections	14 days	Mon 8/4/24	Sun 21/4/24	Mon 8/4/24	Sun 21/4/24	Sun 21/4/24	Mon 8/4/24	0 days	945,946,944,9	948	
948	948	Risk Allowance	2.11.7	Risk Allowance for completion of Section 4	10 days	Mon 22/4/24	Wed 1/5/24	Mon 22/4/24	Wed 1/5/24	Wed 1/5/24	Mon 22/4/...	0 days	945,946,947	7,8	
949	949		3	Beam Plus Submissions	1450 days	Fri 1/5/20	Fri 19/4/24	Fri 1/5/20	Fri 19/4/24	Fri 19/4/24	Fri 1/5/20	0 days			
983	**983**		**4**	**Summary of compensation events notified**	**126 days**	**Wed 22/4/2(**	**Tue 25/8/20**	**Wed 22/4/20**	**Tue 25/8/20**	**Tue 25/8...**	**Wed 22/...**	**0 days**			
984	984		4.1	Compensation Event (CE) No. 001, Special Arrangement in Reducing the Risk of the Spread of Novel Coronavirus	1 day	Tue 25/8/20	Tue 25/8/20	Tue 25/8/20	Tue 25/8/20	Tue 25/8/20	Tue 25/8/20	0 days			
985	985		4.2	Compensation Event (CE) No. 002, the Contractor's Site Accommodation by Modular Intengrated Construction (MiC) Method	1 day	Mon 8/6/20	Mon 8/6/20	Mon 8/6/20	Mon 8/6/20	Mon 8/6/20	Mon 8/6/20	0 days			
986	986		4.3	Compensation Event (CE) No. 003, Designated Area for the Contractor's Site Accommodation in Works Area WA1	1 day	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	0 days			
987	987		4.4	ompensation Event (CE) No. 005, Designated Area for the Contractor's Storage Area in Works Area WA2-C	1 day	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	Wed 22/4/20	0 days