Drainage Services Department

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

Monthly EM&A Report April 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

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk



Ref.: DSDSWHS1EM00_0_0049L.20

13 May 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 April 2020

Reference is made to the Environmental Team's submission of Monthly EM&A Report for April 2020 (Version 1) certified by the ET Leader and provided to us via e-mail on 13 May 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

Ray Yan

Independent Environmental Checker

C.C.

DSD Cinotech Attn.: Ms Konica Cheung

Attn.: Mr K. S. Lee

(By Fax: 3104 6420)

(By Fax: 3107 1388)

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
Introduction	1
Summary of Main Works Undertaken and Key Measures Implementation	
Summary of Exceedances, Investigation and Follow-up	
Complaint Handling, Prosecution and Public Engagement	
Reporting Changes	3
Future Key Issues	3
1 INTRODUCTION	4
Background	4
Purpose of the Report	4
Project Organizations	4
Construction Activities undertaken during the Reporting Month	
Summary of EM&A Requirements	
Statues of Environmental Licensing and Permitting	6
2 AIR QUALITY	8
Monitoring Requirement	8
Monitoring Locations	8
Monitoring Parameters and Frequency	8
Monitoring Equipment	8
Monitoring Methodology	
Results and Observations	
Comparison of EM&A Result with EIA Prediction	12
3 NOISE	13
Monitoring Requirements	13
Monitoring Locations	
Monitoring Parameters, Frequency and Duration	
Monitoring Equipment	
Monitoring Methodology and QA/QC Procedure	14
Maintenance and Calibration	
Results and Observations	
Comparison of EM&A Result with EIA Prediction	
4 ECOLOGY	
Monitoring Requirements	
Monitoring Locations	
Monitoring Parameters, Frequency and Duration	
Monitoring Methodology	
Analytical Methodology	
Results	
Analysis	
Observations	
5 WATER QUALITY	
Monitoring Requirement	21

6 WAST	E MANAGEMENT	21
	Requirementgement Status	
7 LAND	SCAPE AND VISUAL	22
Audit Requi	rement	. 22
8 ENVIR	RONMENTAL AUDIT	23
Site Audits		. 23
Implementat	ion Status of Environmental Mitigation Measures	. 23
9 ENVIR	RONMENTAL NON-CONFORMANCE	26
•	Complaint, Warning, Notification of any Summons and Successful Prosecution Exceedance	
10 FUTUI	RE KEY ISSUES	27
Monitoring 3	Schedule	. 28
•	LUSIONS AND RECOMMENDATIONS	
	ations	
LIST OF T	ABLES	
Table I	Summary Table for Major Site Activities in the Reporting Month	
Table II	Summary of Complaint/Summons/Prosecution in the Reporting Month	
Table III	Summary Table for Site Activities in the next Reporting Period	
Table 1.1	Key Project Contacts	
Table 1.2	Summary Table for Major Site Activities in the Reporting Month	
Table 1.3	Summary of Environmental License and Permit	
Table 2.1	Air Quality Monitoring Locations	
Table 2.2 Table 2.3	Frequency and Parameters of Air Quality Monitoring Air Quality Monitoring Equipment	
Table 2.3	Major Dust Source during Air Quality Monitoring	
Table 2.4 Table 2.5	Comparison of 1-hr TSP Monitoring Data with Predictions in EIA Report	(A c
1 aoic 2.3	Approved in 2013)	(As
Table 2.6	Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report	(\D c
1 aoic 2.0	Approved in 2013)	(As
Table 3.1	Noise Monitoring Stations	
Table 3.2	Frequency and Parameters of Noise Monitoring	
Table 3.3	Noise Monitoring Equipment	
Table 3.4	Other Noise Source during Noise Monitoring	
Table 3.5	Baseline Noise Level and Noise Limit Level for Monitoring Stations	
Table 3.6	Comparison of Noise Monitoring Data with Predictions in EIA Report (As Appre	oved
	in 2013)	
Table 4.1	Monitoring of Measures to Minimise Disturbance to Waterbirds on Ng Tung, Sho Yue and Shek Sheung Rivers during Pre-Construction Phase	eung
Table 4.2	Ecological Monitoring Stations	

Table 4.3	Representative Waterbirds
Table 4.4	Total Bird Species and Abundance in the Reporting Month
Table 4.5	Abundance of Representative Waterbirds in the Reporting Month
Table 4.6	T-test Result for All Waterbirds in the Reporting Month
Table 4.7	T-test Result for Representative Waterbirds in the Reporting Month
Table 4.8	Observations during Ecological Monitoring in the Reporting Month
Table 8.1	Observations and Recommendations of Site Audit of Contract No. DC/2018/06
Table 8.2	Observations and Recommendations of Site Audit of Contract No. DC/2018/0
Table 9.1	Summary of Complaint Follow-up Actions in the Reporting Month
Table 10.1	Summary Table for Site Activities in the Next Reporting Period

LIST OF FIGURES

Figure 1.1	Layout Plan of the Project Site
Figure 1.2	Project Organisation for Environmental Monitoring and Audit
Figure 2	Locations of Air Quality Monitoring Stations
Figure 3	Locations of Construction Noise Monitoring Stations
Figure 4	Survey Location for Impact Ecological Monitoring

LIST OF APPENDICES

Appendix A	Action and Limit Levels
Appendix B	Environmental Monitoring Schedules
Appendix C	Copies of Calibration Certificates for Air Quality Monitoring
Appendix D	Weather Information
Appendix E	1-hour TSP Monitoring Results and Graphical Presentations
Appendix F	24-hour TSP Monitoring Results and Graphical Presentations
Appendix G	Copies of Calibration Certificates for Noise Monitoring
Appendix H	Noise Monitoring Results and Graphical Presentations
Appendix I	Ecological Monitoring Results and Analysis
Appendix J	Photo Records of Ecological Monitoring
Appendix K	Site Audit Summary
Appendix L	Waste Flow Table
Appendix M	Event and Action Plans
Appendix N	Environmental Mitigation Implementation Schedule (EMIS)
Appendix O	Summaries of Environmental Complaint, Warning, Summon and Notification of
	Successful Prosecution
Appendix P	Summary of Exceedance
Appendix Q	Tentative Construction Programme

EXECUTIVE SUMMARY

Introduction

1. This is the 4th 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 April 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 Drainage diversion work 	
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	 Site cleaning tidy up and clearance Predrilling works Demolition works Drainage and underground utilities 	
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	No construction activities in the reporting month.	
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	No construction activities in the reporting month.	

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

Air Quality

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

Water Quality

- Ponding water was pumped and collected in the sedimentation tank.
- Manholes were covered by impervious sheets to prevent muddy water flowing into the drainage system.
- The water pump drainage was repaired and well-maintained to prevent water accumulation on-site.

Waste Management

- General refuse was removed to avoid waste accumulation.
- Waste stockpile was covered by tarpaulin sheets.

Summary of Exceedances, Investigation and Follow-up

4. Exceedance of Action/Limit levels during the reporting month (April 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 and Limit Level was triggered.

Monthly EM&A Report – April 2020

Complaint Handling, Prosecution and Public Engagement

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

E-von4	E	vent Details	Follow-up/ Remedial Actions	Status/	
Event Number		Brief Description		Remarks	
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 Drainage diversion work
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	 Site cleaning tidy up and clearance Demolition works Drainage and underground utilities Sheet pile construction
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Facilities	Site clearance and fencing work
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	 Preparation work of E&M installation at temporary filtrate lifting well and equalization tank Preparation work of modification of existing emergency generator electrical works

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 93,000m²/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 190,000m³/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 4th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in April 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
 - o Contract No.: DC/2018/06 Kwan Lee Chun Wo Joint Venture (KLCWJV)
 - o Contract No.: DC/2018/07 Kwan Lee Chun Wo Joint Venture (KLCWJV)
 - o Contract No.: DE/2018/03 Jardine Engineering Corporation Limited (JEC)
 - o 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
Cinatash	Environmental Team	Mr. KS Lee (ET Leader)	2151 2091
Cinotech	Environmental Team	Ms. Betty Choi	2151 2072
Ramboll	Independent Environmental Checker	Mr. Ray Yan	3465 2836
KLCWJV	Contractor (DC/2018/06)	Mr. Yip Yun Lam	9532 7174
KLCWJV	Contractor (DC/2018/07)	Mr. Karsten Kwong	9771 0059
JEC	Contractor (DE/2018/03)	Mr. Lau Kim Hung	2947 1125
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 Drainage diversion work
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	 Site cleaning tidy up and clearance Predrilling works Demolition works Drainage and underground utilities
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	No construction activities in the reporting month.
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	No construction activities in the reporting month.

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 April 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

Caratana at Nia	Permit / License No.	Valid Period		G		
Contract No.		From	То	Status		
Environmental Permit (EP)						
All	FEP-02/474/2013	15 Feb 2018	N/A	Valid		
All	EP-474/2013	21 Nov 2013	N/A	Valid		
Notification of	Construction Works under Air Po	ollution Control	Ordinance (APC	CO)		
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	N/A	11 Nov 2019	31 Dec 2024	Valid		
Billing Accoun	t for Construction Waste Disposa	l				
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	f 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		
Effluent Disch	arge License					
DC/2018/06	WT00035431-2019 (Portion C)	20 Jan 2020	31 Jan 2025	Valid		
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		

Contract No.	Permit / License No.	Valid Period		Ctatura
		From	To	Status
Construction 1	Noise Permit (Water Pump)			
DC/2018/06	GW-RN0044-20	15 Feb 2020	14 Apr 2020	Expired on 14 Apr 2020
Admission Ticket for Disposal of Special Waste				
DC/2018/07	15646	27 Apr 2020	26 Jul 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 recalibrated at least once every six months and the wind directions were divided into 16 sectors of 22.5 degrees each.

Monthly EM&A Report – April 2020

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	2
HVC Compler	GMW Model: GS 2310	1
HVS Sampler	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 m³/min. and 1.4 m³/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:

11

Table 2.4 Major Dust Source during Air Quality Monitor
--

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 (April 2020), µg/m³
AM1 - Wai Loi Tsuen	N/A	N/A ⁽¹⁾	24.0 - 93.6
AM2 - Fu Tei Au	FLN-E28	255	24.0 - 122.4

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 (April 2020), µg/m³
AM1a - Site Boundary of the Shek Wu Hui STW (East)	N/A ⁽¹⁾	37.7 - 79.6
AM2a - Site Boundary of the Shek Wu Hui STW (North)	N/A ⁽¹⁾	35.2 - 76.2

Remarks:

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).

⁽¹⁾ No 24-hr TSP concentration was predicted in 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				L ₁₀ (30 min.) dB(A)	Free Field
NM2	0700-1900 hrs on normal weekdays	30 minutes	Once per week	L ₉₀ (30 min.) dB(A)	Free Field
NM3	•			$\begin{array}{c} L_{eq}(30 \text{ min.}) \\ dB(A) \end{array}$	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 Cound Lavel Mater	BSWA 308	2
Integrating Sound Level Meter	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: ATime 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}, L₉₀ and L₁₀ 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	
NM2	58.0	75
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 (April 2020), Leq (30min) dB(A)
NM1 - Wai Loi Tsuen	N/A	N/A ⁽¹⁾	53.8 – 59.9
NM2 - Fu Tei Au	N/A	N/A ⁽¹⁾	57.6 - 66.4
NM3 – Man Kok Village	FN-18	66-75	53.4 - 62.1

Remarks:

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).

⁽¹⁾ No construction noise level was predicted in 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			
Point Count Location P1		No	
Point Count Location P2	Along No Tuno Discon		
Transect T2	Along Ng Tung River		
Point Count Location P3		Yes	
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	

Monthly EM&A Report – April 2020

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 R	epresentative	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	57	632
Waterbirds	20	221

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	80
Ardea cinerea	Grey Heron	蒼鷺	0
Ardeola bacchus	Chinese Pond Heron	池鷺	47
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	1
Ardea alba	Great Egret	大白鷺	23
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	44

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 Departing Month		Confidence Level (Critical Value)		
1-values (T-values of Data in Reporting Month		95% (-2.353)	99% (-4.541)
A hora domon	Monthly	0.808	✓	✓
Abundance	Seasonal	1.256	✓	✓

Remarks

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

Common Name of	T-value		nce Level l Value)	T-value		nce Level l Value)	Overall
Representative Waterbird	Monthly	95% (-2.353)	99% (-4.541)	Seasonal	95% (-2.353)	99% (-4.541)	Overan
Little Egret	-0.310	~	~	0.000	~	~	~
Grey Heron				N/A*			
Chinese Pond Heron	-0.899	~	~	-1.446	v	~	~
Great Cormorant				N/A*			
Great Egret	3.806	~	~	3.761	✓	~	~
Eastern Cattle Egret	0.835	~	V	1.790	V	~	~

Remarks

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
 - Singing
 - Soaring
 - Resting
 - Fighting

^{✓ =} 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.

^{*} 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.

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

Table 4.8 Observations during Ecological Monitoring in the Reporting Month

T and the second	Observations		
Location	Project Related	Non-project Related	
T1 (PC1, PC2)	Excavation	Oil stain, excavation, fishing	
T2 (PC3, PC4)	Vibration hammer, excavation, drilling	Helicopter, mowing, oil stain	
PC5	N/A	Jaywalking	
T3 (PC6, PC7)	N/A	Singing, fishing, oil stain, logging	

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 9, 14, 21 & 28 April 2020 in the reporting month. Joint site inspection with the representative of IEC was conducted on 9 April 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
	9 Apr 2020	Stockpile should be covered with impervious materials to prevent dust generation at Portion C.	The condition was observed to be improved/rectified by the contractor during the audit session on 14 Apr 2020.
Air Quality	14 Apr 2020	Dusty materials were observed on the haul road at Portion C when a truck passed by. More frequent water spraying should be provided to avoid dust generation.	The condition was observed to be improved/rectified by the contractor during the audit session on 21 Apr 2020.
	28 Apr 2020	Dust generation was observed in the unpaved area at the western side of Portion C. Water spraying should be provided to minimize air quality impact in the area.	Follow-up actions will be reported in the next month.
Noise	N/A	There was no observation in the reporting period.	N/A
Waste / Chemical Management	14 & 21 Apr 2020	Waste deposited should be removed and tidied up as soon as possible at Portion A.	The condition was observed to be improved/rectified by the contractor during the audit session on 28 Apr 2020.

Parameters	Date	Observations and Recommendations	Follow-up
	28 Apr 2020	General refuse and construction waste was deposited at Portion A. The Contractor should clear and separate the general refuse and construction waste or cover them with impervious materials to prevent waste accumulation.	Follow-up actions will be reported in the next month.
	28 Apr 2020	Chemicals should be stored inside the drip tray properly at Portion C.	Follow-up actions will be reported in the next month.
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	14 Apr 2020	General refuse and waste stockpile accumulated should be removed or covered by impervious materials at Portion B.	The condition was observed to be improved/rectified by the contractor during the audit session on 21 Apr 2020.	
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 and 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**.
- 9.2 One (1) environmental complaint regarding muddy water discharge near SWHEPP from the previous reporting period was required to be followed up in this reporting month. The investigation details and follow-up actions are provided in **Table 9.1**.

Table 9.1 Summary of Complaint Follow-up Actions in the Reporting Month

Received Date	Date of Incident / Location	Summary	Follow-up/ Remedial Actions	Status/ Remarks
18 March 2020	Mid-February – March 2020/ Expansion Site of SWHSTP	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

Summary of Exceedance

9.3 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 Drainage diversion work
DC/2018/07	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Civil Works for Sewage Treatment Facilities	 Site cleaning tidy up and clearance Demolition works Drainage and underground utilities Sheet pile construction
DE/2018/03	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sluge Treatment Faciliteis	Site clearance and fencing work
DE/2018/04	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 - E&M Works for Sewage Treatment Facilities	 Preparation work of E&M installation at temporary filtrate lifting well and equalization tank Preparation work of modification of existing emergency generator electrical works

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**.

Monthly EM&A Report – April 2020

11 **CONCLUSIONS AND RECOMMENDATIONS**

Conclusions

11.1 This is the 4th 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/Limit Level 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.
- 11.7 1 environmental complaint from the previous reporting period was required to be followed up in the reporting month.

Recommendations

11.8 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.
- The public road should keep free from dust and soil.

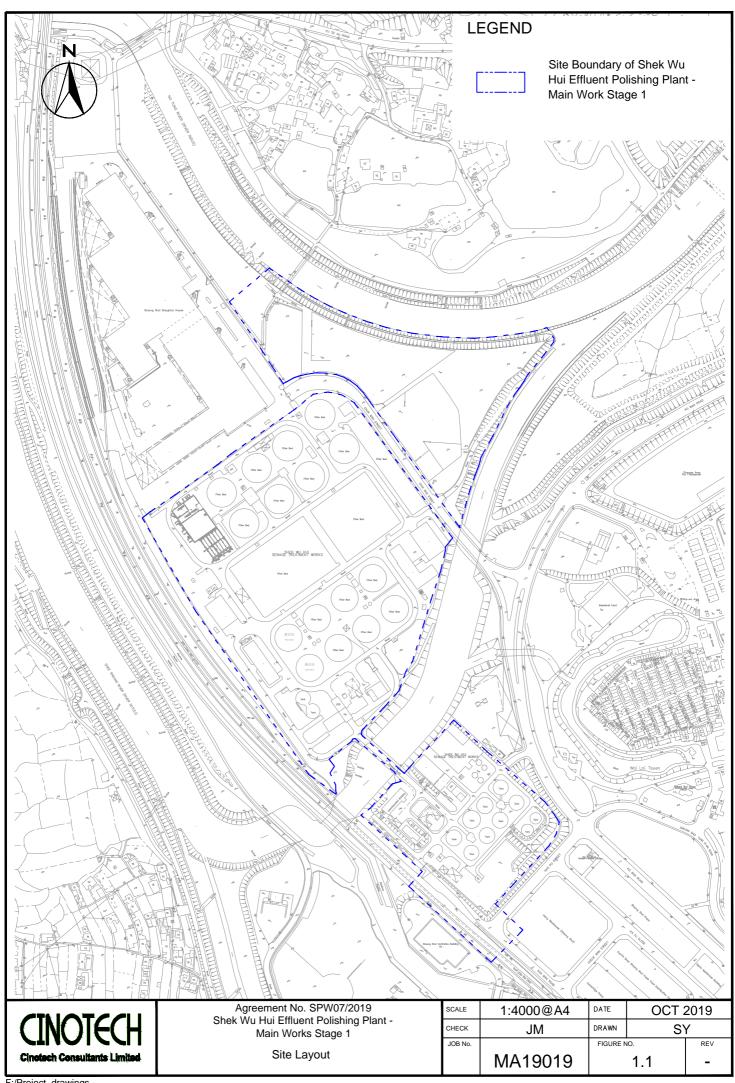
Water Quality

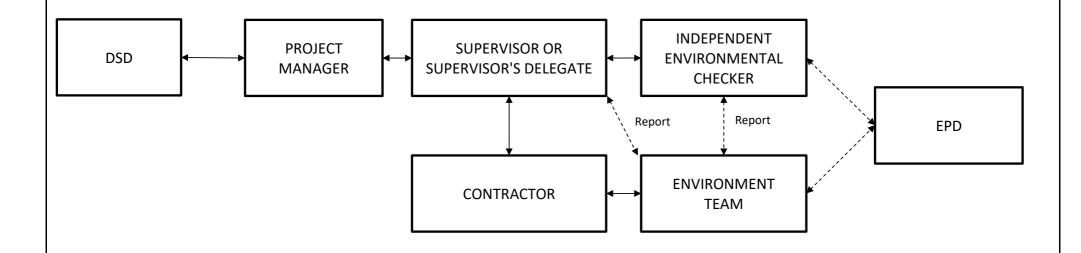
- Ponding water should be removed and pumped through the sedimentation tank.
- The drainage pipes and system should be well-maintained.
- Water from road washing should not fall into the manholes and drainage system.
- Muddy water should not be discharged into the surrounding rivers.
- No slurry should be disposed of at the existing Shek Wu Hui Sewage Treatment Works.

Waste Management

- General refuse and construction waste accumulation should be avoided.
- Chemicals should be stored in drip trays properly.

FIGURES



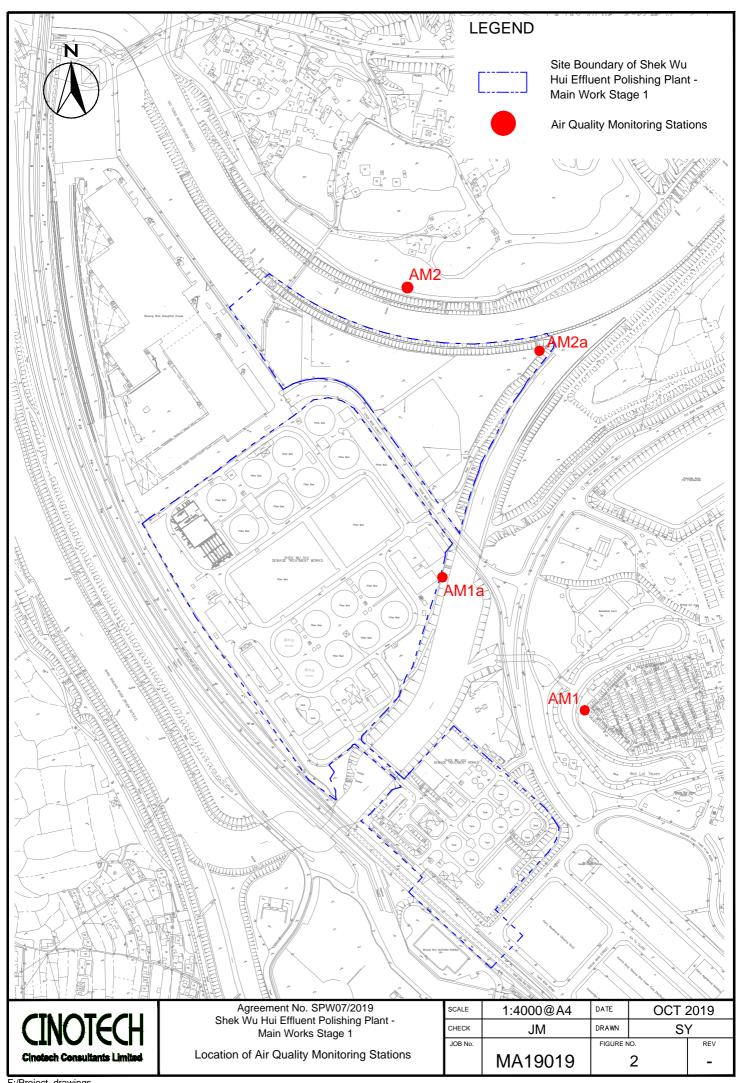


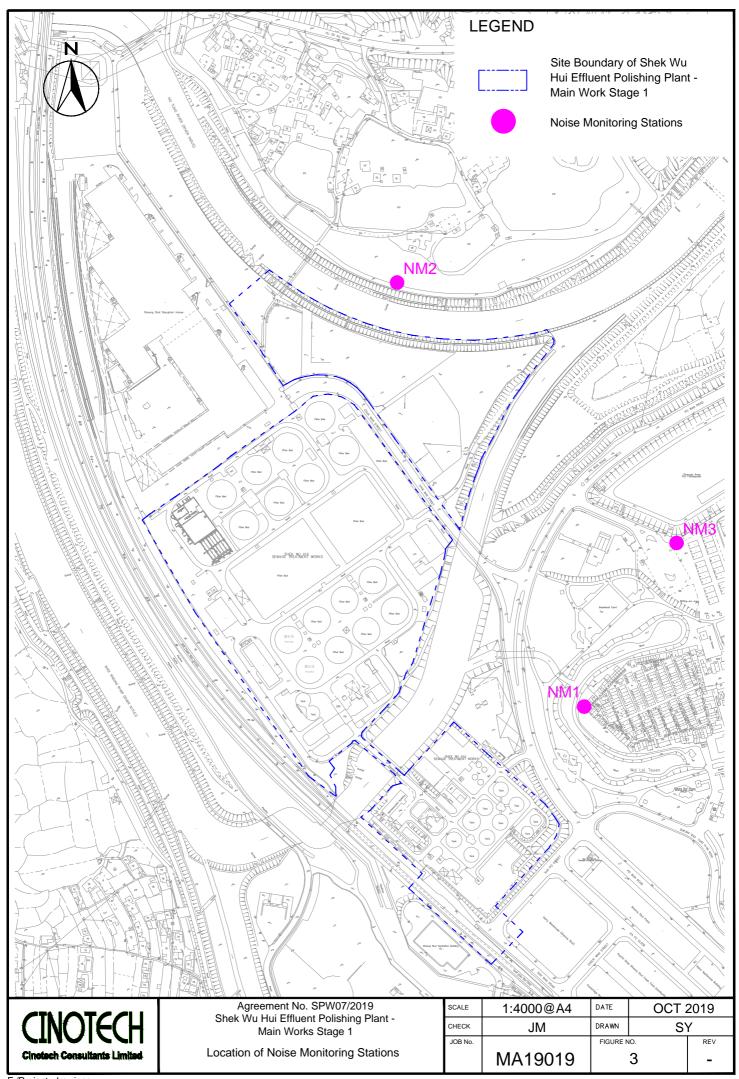
CIN	O	IECH

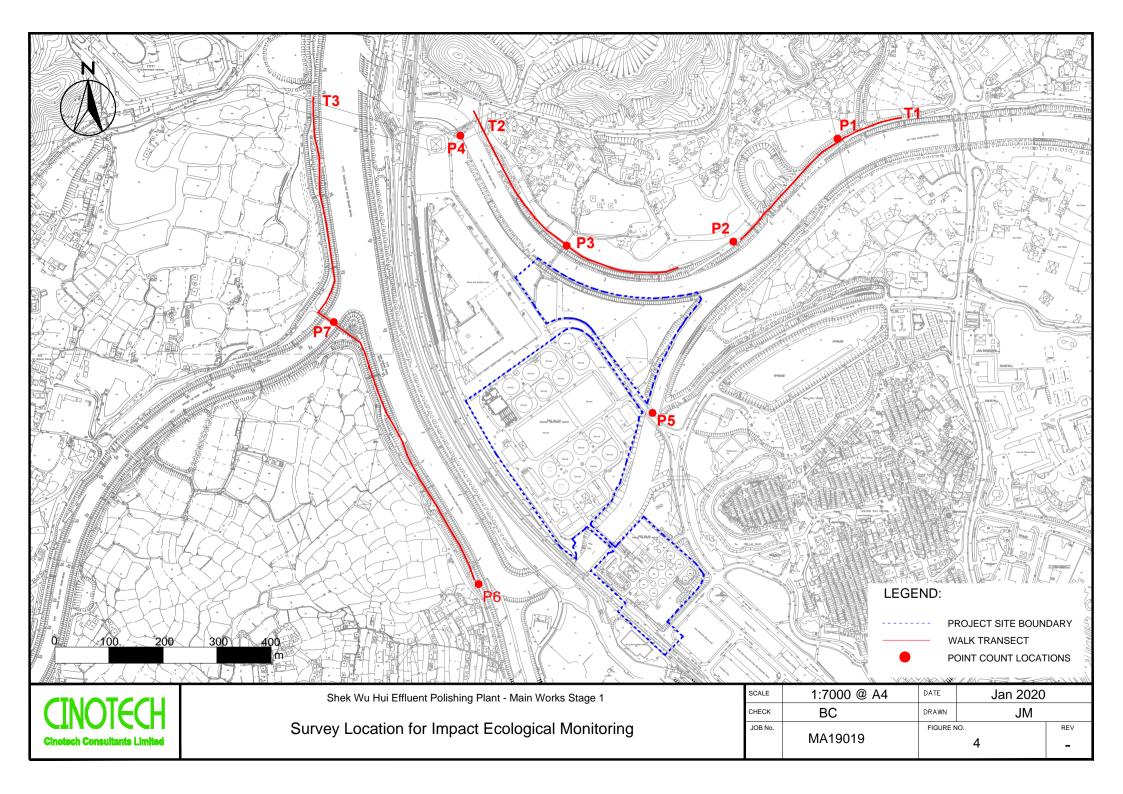
Agreement No. SPW07/2019 Shek Wu Hui Effluent Polishing Plant- Main Works Stage 1

Project Organisation For Environmental Monitoring and Audit

SCALE	N.T.S.	DATE	Sep 2019
CHECK	JM	DRAWN	SY
JOB NO.	MA19019	FIGURE NO.	1.2







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	300

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	200

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) ⁽¹⁾

Note:

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.

⁽¹⁾ 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.

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 (April 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Apr	2-Apr	3-Apr	4-Apr
					24 hrs TSP	
5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr
	1 hr TSP x 3 Noise		Ecology	1 hr TSP x 3 24 hrs TSP		
12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr
		1 hr TSP x 3 Noise Ecology	24 hrs TSP			
19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr
	1 hr TSP x 3 Noise	24 hrs TSP			1 hr TSP x 3 Ecology	
26-Apr	27-Apr	28-Apr	29-Apr	30-Apr		
	24 hrs TSP Ecology		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 (May 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-May	2-May
						24 hrs TSP
3-May	4-May	5-May	6-May	7-May	8-May	9-May
		1 hr TSP x 3 Noise Ecology			24 hrs TSP	
10-May	11-May	12-May	13-May	14-May	15-May	16-May
To May	1 hr TSP x 3 Noise Ecology	12 1111)	13 1147	24 hrs TSP	1 hr TSP x 3	10 1141
17-May	18-May	19-May	20-May	21-May	22-May	23-May
·			24 hrs TSP	1 hr TSP x 3 Noise	Ecology	-
24-May	25-May	26-May	27-May	28-May	29-May	30-May
		24 hrs TSP Ecology	1 hr TSP x 3 Noise			·
31-May						

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



Date of Calibration 6-Feb-20

Cerificate of Calibration

Description:

Digital Dust Indicator

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

Manufacturer:	Sibata Scientific Technology LTD.	_ Validity of Cali	bration Record	6-Apr-20	
Model No.:	LD-5R				
Serial No.:	972778				
Equipment No.:	SA-01-07	Sensitivity 0.001 mg/m3	<u> </u>		
High Volume Sa	ampler No.: A-01-01A	Before Sensitivity Adjustment	735 CPM		
Tisch Calibratio	n Orifice No.: <u>3607</u>	After Sensitivity Adjustment	735 CPM		
	Ca	libration of 1 hr TSP			
Calibration Laser Dust Monitor			HVS		
Point	Mass Concentration (μg/ X-axis	m3) M	ass concentration (μg/s	m^3)	
1	48.0		112.5		
2	38.0		108.0		
3	27.0		102.5		
Average	37.7		107.7		
By Linear Regi Slope , mw = Correlation co	ression of Y on X 	Intercept, bw =	89.7153		
	Se	t Correlation Factor			
Particaulate Cor	ncentration by High Volume Sampler ((µg/m³)	107.7		
Particaulate Cor	ncentration by Dust Meter (µg/m³)		37.7		
Measureing time	e, (min)		60.0		
Set Correlation	Factor, SCF				
SCF = [K=Hig	h Volume Sampler / Dust Meter, (μ	g/m3)]2.	9		
In-house method	d in according to the instruction manual	al:			
The Dust Monit	or was compared with a calibrated His	h Volume Sampler and The resu	lt was used to generate	the Correlation	

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: Approved by: Very Leung

Wong Shing Kwai

Approved by: Henry Leung



Date of Calibration 6-Apr-20

Cerificate of Calibration

Digital Dust Indicator

Description:

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

Manufacturer:	Sibata Scienti	fic Technology LTD.	_	Validity of Calib	ration Record	6-Jun-20
Model No.:	LD-5R					
Serial No.:	972778					
Equipment No.:	SA-01-07		Sensitivity	0.001 mg/m3	_	
High Volume Sa	mpler No.:	A-01-01A	Before Sensit	ivity Adjustment	735 CPM	
Tisch Calibration Orifice No.: 3607 Aft		After Sensitiv	rity Adjustment	735 CPM		
		Ca	libration of 1 l	nr TSP		
Calibration Laser Dust Monitor				HVS		
Point	Mass Concentration (ug/n		/m3)	Mas	ss concentration (μ Y-axis	ug/m³)
1	44.0				84.5	
2	34.0			81.0		
3	25.0		76.8			
Average		34.3		80.8		
By Linear Regr Slope , mw = Correlation co	0.40			ccept, bw =	66.8876	
		Se	t Correlation	Factor		
Particaulate Con	centration by I	High Volume Sampler	$(\mu g/m^3)$		80.8	
Particaulate Concentration by Dust Meter (μg/m³)			34.3			
Measureing time, (min)				60.0		
Set Correlation I	Factor, SCF					
SCF = [K=Hig	h Volume Sam	npler / Dust Meter, (μ	g/m3)]	2.4		
The Dust Monito	or was compare	o the instruction manued with a calibrated High	gh Volume San	pler and The result	was used to gener	rate the Correlation

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

Calibrated by: Wong Shing Kwai



Date of Calibration 6-Feb-20

Cerificate of Calibration

Digital Dust Indicator

Description:

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

Manufacturer:	Sibata Scientific Technology LTD.	_ Validity of Cal	ibration Record	6-Apr-20	
Model No.:	LD-5R				
Serial No.:	972779				
Equipment No.:	SA-01-08	Sensitivity 0.001 mg/m3			
High Volume Sa	mpler No.: <u>A-01-01A</u>	Before Sensitivity Adjustment	744 CPM		
Tisch Calibration	n Orifice No.: <u>3607</u>	After Sensitivity Adjustment	744 CPM		
	Ca	libration of 1 hr TSP			
Calibration	Laser Dust Monitor		HVS		
Point	Mass Concentration (μg/ X-axis	m3) N	fass concentration (μg/1 Y-axis	$(\mu g/m^3)$	
1	52.0		112.5		
2	36.0		108.0		
3	19.0		102.5		
Average	35.7		107.7		
By Linear Regr Slope , mw = Correlation co	ression of Y on X	Intercept, bw =	96.8510		
	Se	t Correlation Factor			
	centration by High Volume Sampler ($(\mu g/m^3)$	107.7		
Particaulate Con	centration by Dust Meter (μg/m³)		35.7		
Measureing time	e, (min)		60.0		
Set Correlation I SCF = [K=High	Factor , SCF h Volume Sampler / Dust Meter, (μ	g/m3)]3	.0		
	in according to the instruction manual or was compared with a calibrated Hig		alt was used to generate	the Correlation	

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: Approved by: Very Kenry Leung

Wong Shing Kwai

Henry Leung



Date of Calibration 6-Apr-20

Cerificate of Calibration

Digital Dust Indicator

Description:

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

Manufacturer:	Sibata Scientific Technolo	ogy LTD.	Validity of Calib	ration Record	6-Jun-20	
Model No.:	LD-5R					
Serial No.:	972779					
Equipment No.:	SA-01-08	Sensitivity	0.001 mg/m3	-		
High Volume Sa	mpler No.: <u>A-01-01A</u>	Before Sens	itivity Adjustment	744 CPM		
Tisch Calibration	n Orifice No.: 3607	After Sensit	ivity Adjustment	744 CPM		
		Calibration of 1	hr TSP			
Calibration	Laser Dus	st Monitor		HVS		
Point Mass Concentration (µg/ X-axis			Mass concentration (με Y-axis		ug/m³)	
1	45	5.0		84.5		
2	32	2.0		81.0		
3	18	3.0		76.8		
Average	31	1.7		80.8		
By Linear Regr Slope , mw = Correlation co	ession of Y on X 0.2854 pefficient* =	Into 0.9995	ercept, bw = 	71.7298	J	
		Set Correlation	Factor			
	centration by High Volume	1 10		80.8		
Particaulate Concentration by Dust Meter (µg/m³)				31.7		
Measureing time, (min)				60.0		
Set Correlation F SCF = [K=High	Factor, SCF Nolume Sampler / Dust	Meter, (μg/m3)]	2.6			
	in according to the instruc		mpler and The result	was used to gene	rate the Correlation	

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: Approved by: Very Key Wong Shing Kwai

Approved by: Henry Leung



RECALIBRATION **DUE DATE:**

January 17, 2021

ertificate o

Calibration Certification Information

Cal. Date: January 17, 2020

Rootsmeter S/N: 438320

Ta: 295 Pa: 744.2 °K

Operator: Jim Tisch

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	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	√∆H(Ta/Pa)	
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(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	
	m=	2.09221		m=	1.31010	
QSTD	b=	-0.02779	QA	b=	-0.01759	
` [r=	0.99994		r=	0.99994	

Calculations					
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)		
Qstd=	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: calibrate	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: slono					

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

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



05 March 2020

Date:

File No. MA19019/17/0003 Project No. AM1a - Site boundary of the Shek Wu Hui STW (East) 5-Mar-20 Next Due Date: 5-May-20 Operator: SK Date: Equipment No.: A-01-17 GS2310 _____ Serial No. ____ 3460 Model No.: **Ambient Condition** 291.2 764.4 Temperature, Ta (K) Pressure, Pa (mmHg) **Orifice Transfer Standard Information** Serial No. 3746 Slope, mc 0.0592 Intercept, bc -0.02740 mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ 17-Jan-20 Last Calibration Date: Qstd = $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ Next Calibration Date: 17-Jan-21 **Calibration of TSP Sampler** Orfice HVS Calibration ΔH (orifice), $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd (CFM) ΔW (HVS), in. Point $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 10.4 1 16.0 4.06 69.01 3.27 2 12.5 3.59 61.05 7.8 2.83 9.2 3.08 52.44 6.2 2.53 3 5.5 2.38 2.03 4 40.65 4.0 5 3.2 1.81 31.12 2.4 1.57 By Linear Regression of Y on X Slope , mw = ______0.0436 Intercept, bw = 0.2268 Correlation coefficient* = *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 = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.30 Remarks: SK Wong Signature: 05 March 2020 Conducted by: Date:

Checked by: Henry Leung Signature:

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



05 March 2020

Date:

File No. MA19019/24/0003 Project No. AM2a - Site Boundary of the Shek Wu Hui STW (North) 5-Mar-20 Next Due Date: 5-May-20 Operator: SK Date: Equipment No.: A-01-24 TE 5170 Serial No. 1659 Model No.: **Ambient Condition** 764.4 Temperature, Ta (K) 291.2 Pressure, Pa (mmHg) **Orifice Transfer Standard Information** Serial No. 3746 Slope, mc 0.0592 Intercept, bc -0.02740 mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ 17-Jan-20 Last Calibration Date: Qstd = $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ Next Calibration Date: 17-Jan-21 **Calibration of TSP Sampler** Orfice HVS Calibration ΔH (orifice), $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd (CFM) ΔW (HVS), in. Point $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 9.9 1 14.5 3.86 65.72 3.19 2 11.0 3.36 57.30 7.6 2.80 8.1 2.89 49.24 6.1 2.51 3 5.1 4.3 4 2.29 39.16 2.10 5 3.2 1.81 31.12 3.1 1.79 By Linear Regression of Y on X Slope , mw = _____0.0402 Intercept, bw = 0.5261 Correlation coefficient* = *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 = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.94 Remarks: SK Wong 05 March 2020 Conducted by: Signature: Date:

Checked by: Henry Leung Signature:



Cerificate of Calibration - Wind Monitoring Station

Description: BM3 - Control Room at SWHSTW

Manufacturer: Global Water Instrumentation

Model No.: WE800 Weather Station

Serial No.: <u>1517001963</u>

Equipment No.: SA-03-01

Date of Calibration 30-Oct-2019

Next Due Date <u>30-Apr-2020</u>

1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1) Anemometer Value (V1)		D = V1 - V2
0.0	0.0	0.0
1.5	1.5	0.0
2.5	2.7	-0.2
4.0	4.3	-0.3

2. Performance check of Wind Direction

Wind Di	rection (°)	Difference D (°)	
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:	16/	Approved by:	leng Don
	Wong Shing Kwai	_	Henry/Leung

APPENDIX D WEATHER INFORMATION

I. General Information from Hong Kong Observatory

D .	Mean Air	Mean Relative	Precipitation
Date	Temperature (°C)	Humidity (%)	(mm)
1-Apr-20	19.7	91	0.2
2-Apr-20	19.9	86	0.4
3-Apr-20	20.4	88	0.6
4-Apr-20	20.8	89	1.1
5-Apr-20	18.2	88	4.6
6-Apr-20	17.1	92	21.5
7-Apr-20	19.1	86	Trace
8-Apr-20	20.6	71	0
9-Apr-20	21.6	69	0
10-Apr-20	21.7	73	0
11-Apr-20	22.5	88	20.5
12-Apr-20	20.8	59	0.4
13-Apr-20	20.2	44	0
14-Apr-20	21.1	65	0
15-Apr-20	22.2	66	0
16-Apr-20	23.3	77	0
17-Apr-20	24.1	79	0
18-Apr-20	24.4	81	Trace
19-Apr-20	25.9	80	0
20-Apr-20	26.4	81	0
21-Apr-20	26.7	82	0
22-Apr-20	22.1	94	25.8
23-Apr-20	20.6	89	1.3
24-Apr-20	19.4	84	0.6
25-Apr-20	20.5	83	0.1
26-Apr-20	23.1	75	0.7
27-Apr-20	24.4	65	0
28-Apr-20	24.3	64	0
29-Apr-20	24.2	72	0
30-Apr-20	25.3	74	0

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

Date	Time	Wind Direction (°)	Wind Speed (m/s)
1-Apr-20	1:00	63.4	0.1
1-Apr-20	2:00	101.5	0.1
1-Apr-20	3:00	120.5	0.1
1-Apr-20	4:00	42.1	0.3
1-Apr-20	5:00	56.1	0.4
1-Apr-20	6:00	96.8	0.1
1-Apr-20	7:00	134.6	0.1
1-Apr-20	8:00	84.9	0.7
1-Apr-20	9:00	78.6	0.5
1-Apr-20	10:00	101.6	0.6
1-Apr-20	11:00	43.9	0.3
1-Apr-20	12:00	58.9	0.2
1-Apr-20	13:00	46.2	0.2
1-Apr-20	14:00	96.7	0.1
1-Apr-20	15:00	54.1	0.4
1-Apr-20	16:00	109.8	0.3
1-Apr-20	17:00	36.1	0.1
1-Apr-20	18:00	65.0	0.1
1-Apr-20	19:00	146.8	0.1
1-Apr-20	20:00	53.9	0.2
1-Apr-20	21:00	46.7	0.2
1-Apr-20	22:00	85.6	0.1
1-Apr-20	23:00	94.3	0.3
2-Apr-20	0:00	56.7	0.1
2-Apr-20	1:00	59.6	0.1
2-Apr-20	2:00	106.5	0.4
2-Apr-20	3:00	71.6	0.1
2-Apr-20	4:00	49.5	0.5
2-Apr-20	5:00	62.3	0.4
2-Apr-20	6:00	119.5	0.7
2-Apr-20	7:00	45.6	0.3
2-Apr-20	8:00	78.0	0.3
2-Apr-20	9:00	95.6	0.3
2-Apr-20	10:00	78.6	0.4
2-Apr-20	11:00	45.1	0.2
2-Apr-20	12:00	126.9	0.3

Date	Time	Wind Direction (°)	Wind Speed (m/s)
2-Apr-20	13:00	67.8	0.4
2-Apr-20	14:00	45.9	0.3
2-Apr-20	15:00	83.6	0.1
2-Apr-20	16:00	46.5	0.2
2-Apr-20	17:00	137.4	0.1
2-Apr-20	18:00	89.5	0.2
2-Apr-20	19:00	96.1	0.3
2-Apr-20	20:00	81.2	0.4
2-Apr-20	21:00	64.0	0.1
2-Apr-20	22:00	42.3	0.2
2-Apr-20	23:00	71.3	0.2
3-Apr-20	0:00	92.5	0.1
3-Apr-20	1:00	89.8	0.1
3-Apr-20	2:00	45.2	0.2
3-Apr-20	3:00	30.6	0.1
3-Apr-20	4:00	50.2	0.1
3-Apr-20	5:00	64.8	0.1
3-Apr-20	6:00	63.1	0.1
3-Apr-20	7:00	83.2	0.3
3-Apr-20	8:00	101.6	0.2
3-Apr-20	9:00	34.5	0.2
3-Apr-20	10:00	61.5	0.1
3-Apr-20	11:00	55.1	0.2
3-Apr-20	12:00	125.2	0.1
3-Apr-20	13:00	54.1	0.1
3-Apr-20	14:00	31.5	0.1
3-Apr-20	15:00	50.4	0.2
3-Apr-20	16:00	30.9	0.1
3-Apr-20	17:00	83.8	0.1
3-Apr-20	18:00	107.7	0.2
3-Apr-20	19:00	70.0	0.2
3-Apr-20	20:00	63.2	0.3
3-Apr-20	21:00	125.9	0.2
3-Apr-20	22:00	140.0	0.2
3-Apr-20	23:00	85.8	0.2
4-Apr-20	0:00	71.4	0.3

Date	Time	Wind Direction (°)	Wind Speed (m/s)
4-Apr-20	1:00	80.5	0.2
4-Apr-20	2:00	52.2	0.3
4-Apr-20	3:00	53.3	0.3
4-Apr-20	4:00	85.2	0.3
4-Apr-20	5:00	30.2	0.3
4-Apr-20	6:00	99.2	0.3
4-Apr-20	7:00	60.7	0.3
4-Apr-20	8:00	34.8	0.3
4-Apr-20	9:00	31.5	0.4
4-Apr-20	10:00	72.3	0.5
4-Apr-20	11:00	40.5	0.6
4-Apr-20	12:00	91.3	0.7
4-Apr-20	13:00	72.0	0.9
4-Apr-20	14:00	121.4	1.0
4-Apr-20	15:00	154.5	1.1
4-Apr-20	16:00	174.5	1.1
4-Apr-20	17:00	83.2	0.9
4-Apr-20	18:00	100.0	0.7
4-Apr-20	19:00	69.1	0.6
4-Apr-20	20:00	78.4	0.6
4-Apr-20	21:00	58.1	0.4
4-Apr-20	22:00	111.2	0.3
4-Apr-20	23:00	73.4	0.3
5-Apr-20	0:00	72.7	0.3
5-Apr-20	1:00	63.1	0.3
5-Apr-20	2:00	43.9	0.3
5-Apr-20	3:00	78.0	0.3
5-Apr-20	4:00	149.1	0.3
5-Apr-20	5:00	32.6	0.4
5-Apr-20	6:00	35.5	0.3
5-Apr-20	7:00	54.6	0.4
5-Apr-20	8:00	29.8	0.4
5-Apr-20	9:00	58.3	0.3
5-Apr-20	10:00	82.4	0.5
5-Apr-20	11:00	93.8	0.5
5-Apr-20	12:00	88.5	0.5

Date	Time	Wind Direction (°)	Wind Speed (m/s)
5-Apr-20	13:00	100.0	0.6
5-Apr-20	14:00	67.0	0.4
5-Apr-20	15:00	67.5	0.4
5-Apr-20	16:00	70.8	0.4
5-Apr-20	17:00	62.1	0.4
5-Apr-20	18:00	63.2	0.4
5-Apr-20	19:00	90.1	0.3
5-Apr-20	20:00	45.3	0.3
5-Apr-20	21:00	78.6	0.3
5-Apr-20	22:00	57.3	0.3
5-Apr-20	23:00	79.6	0.3
6-Apr-20	0:00	103.6	0.3
6-Apr-20	1:00	81.7	0.3
6-Apr-20	2:00	78.3	0.3
6-Apr-20	3:00	83.3	0.3
6-Apr-20	4:00	81.5	0.3
6-Apr-20	5:00	60.9	0.3
6-Apr-20	6:00	90.4	0.3
6-Apr-20	7:00	100.7	0.3
6-Apr-20	8:00	82.0	0.4
6-Apr-20	9:00	95.0	0.4
6-Apr-20	10:00	54.3	0.5
6-Apr-20	11:00	58.7	0.3
6-Apr-20	12:00	71.0	0.4
6-Apr-20	13:00	62.7	0.4
6-Apr-20	14:00	81.7	0.4
6-Apr-20	15:00	311.7	0.4
6-Apr-20	16:00	49.3	0.4
6-Apr-20	17:00	55.9	0.4
6-Apr-20	18:00	97.0	0.4
6-Apr-20	19:00	67.5	0.4
6-Apr-20	20:00	89.5	0.4
6-Apr-20	21:00	42.2	0.4
6-Apr-20	22:00	47.8	0.3
6-Apr-20	23:00	77.5	0.3
7-Apr-20	0:00	70.2	0.3

Date	Time	Wind Direction (°)	Wind Speed (m/s)
7-Apr-20	1:00	49.2	0.3
7-Apr-20	2:00	33.4	0.3
7-Apr-20	3:00	32.4	0.3
7-Apr-20	4:00	196.6	0.3
7-Apr-20	5:00	180.3	0.4
7-Apr-20	6:00	236.6	0.4
7-Apr-20	7:00	44.6	0.4
7-Apr-20	8:00	59.1	0.8
7-Apr-20	9:00	22.3	0.7
7-Apr-20	10:00	27.2	0.9
7-Apr-20	11:00	74.4	0.8
7-Apr-20	12:00	286.9	1.0
7-Apr-20	13:00	299.1	1.1
7-Apr-20	14:00	44.0	1.2
7-Apr-20	15:00	138.2	1.1
7-Apr-20	16:00	84.8	1.1
7-Apr-20	17:00	79.9	1.0
7-Apr-20	18:00	97.8	0.9
7-Apr-20	19:00	64.7	0.7
7-Apr-20	20:00	81.7	0.6
7-Apr-20	21:00	93.1	0.5
7-Apr-20	22:00	88.2	0.5
7-Apr-20	23:00	80.9	0.4
8-Apr-20	0:00	57.0	0.4
8-Apr-20	1:00	112.4	0.4
8-Apr-20	2:00	81.9	0.3
8-Apr-20	3:00	80.4	0.3
8-Apr-20	4:00	57.8	0.3
8-Apr-20	5:00	63.8	0.3
8-Apr-20	6:00	69.4	0.3
8-Apr-20	7:00	96.5	0.3
8-Apr-20	8:00	105.9	0.3
8-Apr-20	9:00	97.4	0.4
8-Apr-20	10:00	64.7	0.5
8-Apr-20	11:00	135.1	0.7
8-Apr-20	12:00	111.0	0.8

Date	Time	Wind Direction (°)	Wind Speed (m/s)
8-Apr-20	13:00	164.7	0.8
8-Apr-20	14:00	152.9	0.8
8-Apr-20	15:00	154.3	0.8
8-Apr-20	16:00	103.1	0.7
8-Apr-20	17:00	113.1	0.7
8-Apr-20	18:00	87.6	0.5
8-Apr-20	19:00	108.0	0.4
8-Apr-20	20:00	90.0	0.4
8-Apr-20	21:00	71.1	0.3
8-Apr-20	22:00	99.7	0.3
8-Apr-20	23:00	84.5	0.3
9-Apr-20	0:00	81.3	0.2
9-Apr-20	1:00	72.2	0.2
9-Apr-20	2:00	107.2	0.2
9-Apr-20	3:00	60.5	0.2
9-Apr-20	4:00	72.3	0.2
9-Apr-20	5:00	85.5	0.2
9-Apr-20	6:00	85.0	0.2
9-Apr-20	7:00	80.1	0.2
9-Apr-20	8:00	75.5	0.1
9-Apr-20	9:00	52.8	0.1
9-Apr-20	10:00	200.4	0.1
9-Apr-20	11:00	116.6	0.2
9-Apr-20	12:00	177.3	0.3
9-Apr-20	13:00	138.8	0.4
9-Apr-20	14:00	147.1	0.5
9-Apr-20	15:00	131.7	0.4
9-Apr-20	16:00	153.6	0.4
9-Apr-20	17:00	78.9	0.2
9-Apr-20	18:00	96.4	0.2
9-Apr-20	19:00	93.7	0.3
9-Apr-20	20:00	105.5	0.3
9-Apr-20	21:00	66.0	0.3
9-Apr-20	22:00	72.0	0.2
9-Apr-20	23:00	92.2	0.2
10-Apr-20	0:00	102.1	0.2

Date	Time	Wind Direction (°)	Wind Speed (m/s)
10-Apr-20	1:00	90.0	0.2
10-Apr-20	2:00	84.1	0.2
10-Apr-20	3:00	80.5	0.2
10-Apr-20	4:00	83.3	0.2
10-Apr-20	5:00	77.4	0.2
10-Apr-20	6:00	71.3	0.2
10-Apr-20	7:00	88.7	0.2
10-Apr-20	8:00	97.2	0.1
10-Apr-20	9:00	121.0	1.0
10-Apr-20	10:00	219.1	2.2
10-Apr-20	11:00	163.4	0.3
10-Apr-20	12:00	111.8	1.5
10-Apr-20	13:00	138.2	0.8
10-Apr-20	14:00	122.9	1.2
10-Apr-20	15:00	115.8	0.3
10-Apr-20	16:00	93.1	1.1
10-Apr-20	17:00	88.6	0.8
10-Apr-20	18:00	108.8	0.2
10-Apr-20	19:00	83.3	0.2
10-Apr-20	20:00	82.9	0.2
10-Apr-20	21:00	52.5	0.1
10-Apr-20	22:00	87.0	0.1
10-Apr-20	23:00	91.1	0.2
11-Apr-20	0:00	86.1	0.4
11-Apr-20	1:00	139.7	0.2
11-Apr-20	2:00	45.5	0.3
11-Apr-20	3:00	65.5	0.1
11-Apr-20	4:00	71.2	0.1
11-Apr-20	5:00	115.7	0.1
11-Apr-20	6:00	129.6	0.2
11-Apr-20	7:00	88.7	0.1
11-Apr-20	8:00	86.6	0.1
11-Apr-20	9:00	80.0	0.1
11-Apr-20	10:00	164.9	0.1
11-Apr-20	11:00	81.3	0.2
11-Apr-20	12:00	83.2	0.2

Date	Time	Wind Direction (°)	Wind Speed (m/s)
11-Apr-20	13:00	106.6	0.1
11-Apr-20	14:00	176.1	0.2
11-Apr-20	15:00	92.3	0.1
11-Apr-20	16:00	69.8	0.1
11-Apr-20	17:00	71.0	0.1
11-Apr-20	18:00	81.2	0.1
11-Apr-20	19:00	83.8	0.1
11-Apr-20	20:00	81.4	0.1
11-Apr-20	21:00	78.3	0.1
11-Apr-20	22:00	27.7	0.1
11-Apr-20	23:00	68.8	0.6
12-Apr-20	0:00	71.2	0.7
12-Apr-20	1:00	65.2	0.4
12-Apr-20	2:00	63.4	0.3
12-Apr-20	3:00	71.8	0.2
12-Apr-20	4:00	59.1	0.2
12-Apr-20	5:00	64.1	0.2
12-Apr-20	6:00	71.0	0.2
12-Apr-20	7:00	39.5	0.7
12-Apr-20	8:00	88.7	0.2
12-Apr-20	9:00	108.7	1.1
12-Apr-20	10:00	10.8	1.0
12-Apr-20	11:00	24.8	0.4
12-Apr-20	12:00	60.5	1.0
12-Apr-20	13:00	30.9	0.4
12-Apr-20	14:00	159.5	1.2
12-Apr-20	15:00	94.3	0.8
12-Apr-20	16:00	82.6	0.3
12-Apr-20	17:00	63.9	0.8
12-Apr-20	18:00	64.8	0.2
12-Apr-20	19:00	68.9	0.3
12-Apr-20	20:00	49.0	0.2
12-Apr-20	21:00	44.0	0.2
12-Apr-20	22:00	67.9	0.2
12-Apr-20	23:00	70.2	0.1
13-Apr-20	0:00	69.4	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
13-Apr-20	1:00	69.3	0.3
13-Apr-20	2:00	45.8	0.5
13-Apr-20	3:00	64.1	2.0
13-Apr-20	4:00	69.2	1.8
13-Apr-20	5:00	19.2	0.7
13-Apr-20	6:00	93.8	1.1
13-Apr-20	7:00	81.9	0.1
13-Apr-20	8:00	60.0	0.3
13-Apr-20	9:00	39.3	0.6
13-Apr-20	10:00	64.0	0.3
13-Apr-20	11:00	218.6	0.2
13-Apr-20	12:00	148.0	0.2
13-Apr-20	13:00	195.6	0.2
13-Apr-20	14:00	171.0	0.3
13-Apr-20	15:00	273.2	0.9
13-Apr-20	16:00	303.1	1.8
13-Apr-20	17:00	253.2	0.5
13-Apr-20	18:00	189.8	0.2
13-Apr-20	19:00	206.4	0.2
13-Apr-20	20:00	85.2	0.1
13-Apr-20	21:00	62.7	0.1
13-Apr-20	22:00	73.1	0.1
13-Apr-20	23:00	86.7	0.1
14-Apr-20	0:00	81.9	0.2
14-Apr-20	1:00	169.6	0.1
14-Apr-20	2:00	228.2	0.1
14-Apr-20	3:00	143.8	0.1
14-Apr-20	4:00	216.4	0.1
14-Apr-20	5:00	224.7	0.1
14-Apr-20	6:00	142.5	0.1
14-Apr-20	7:00	59.5	0.1
14-Apr-20	8:00	77.3	0.1
14-Apr-20	9:00	118.8	0.1
14-Apr-20	10:00	156.7	0.2
14-Apr-20	11:00	116.9	0.7
14-Apr-20	12:00	60.5	0.3

Date	Time	Wind Direction (°)	Wind Speed (m/s)
14-Apr-20	13:00	77.7	0.2
14-Apr-20	14:00	125.9	0.2
14-Apr-20	15:00	96.3	0.2
14-Apr-20	16:00	155.9	0.1
14-Apr-20	17:00	134.4	0.1
14-Apr-20	18:00	114.6	0.1
14-Apr-20	19:00	59.1	0.1
14-Apr-20	20:00	87.5	0.2
14-Apr-20	21:00	69.5	0.2
14-Apr-20	22:00	89.3	0.2
14-Apr-20	23:00	68.4	0.1
15-Apr-20	0:00	71.9	0.1
15-Apr-20	1:00	104.8	0.1
15-Apr-20	2:00	224.9	0.2
15-Apr-20	3:00	226.0	0.1
15-Apr-20	4:00	257.0	0.1
15-Apr-20	5:00	288.0	0.1
15-Apr-20	6:00	115.5	0.1
15-Apr-20	7:00	83.2	0.1
15-Apr-20	8:00	310.1	0.1
15-Apr-20	9:00	249.9	0.1
15-Apr-20	10:00	267.9	0.3
15-Apr-20	11:00	98.6	0.2
15-Apr-20	12:00	310.7	0.2
15-Apr-20	13:00	232.5	0.4
15-Apr-20	14:00	246.3	0.3
15-Apr-20	15:00	248.7	0.5
15-Apr-20	16:00	290.3	2.0
15-Apr-20	17:00	267.3	0.4
15-Apr-20	18:00	244.6	0.6
15-Apr-20	19:00	227.4	0.1
15-Apr-20	20:00	158.7	0.1
15-Apr-20	21:00	56.5	0.1
15-Apr-20	22:00	249.4	0.1
15-Apr-20	23:00	248.0	0.1
16-Apr-20	0:00	271.4	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
16-Apr-20	1:00	180.0	0.1
16-Apr-20	2:00	220.0	0.1
16-Apr-20	3:00	165.1	0.1
16-Apr-20	4:00	264.5	0.1
16-Apr-20	5:00	218.3	0.1
16-Apr-20	6:00	25.7	0.1
16-Apr-20	7:00	98.5	0.1
16-Apr-20	8:00	103.1	0.1
16-Apr-20	9:00	181.3	0.2
16-Apr-20	10:00	260.7	0.5
16-Apr-20	11:00	246.5	0.6
16-Apr-20	12:00	238.2	1.3
16-Apr-20	13:00	226.2	1.6
16-Apr-20	14:00	252.8	2.2
16-Apr-20	15:00	254.3	0.8
16-Apr-20	16:00	148.6	0.6
16-Apr-20	17:00	122.5	0.2
16-Apr-20	18:00	108.3	0.1
16-Apr-20	19:00	65.9	0.1
16-Apr-20	20:00	81.4	0.1
16-Apr-20	21:00	87.2	0.1
16-Apr-20	22:00	93.2	0.1
16-Apr-20	23:00	78.5	0.1
17-Apr-20	0:00	73.2	0.1
17-Apr-20	1:00	142.3	0.1
17-Apr-20	2:00	61.8	0.1
17-Apr-20	3:00	33.9	0.1
17-Apr-20	4:00	102.7	0.1
17-Apr-20	5:00	83.3	0.1
17-Apr-20	6:00	62.5	0.1
17-Apr-20	7:00	60.3	0.1
17-Apr-20	8:00	88.1	0.2
17-Apr-20	9:00	71.5	0.5
17-Apr-20	10:00	98.8	0.2
17-Apr-20	11:00	102.2	0.5
17-Apr-20	12:00	64.3	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
17-Apr-20	13:00	143.6	0.1
17-Apr-20	14:00	160.8	0.2
17-Apr-20	15:00	253.5	0.5
17-Apr-20	16:00	225.5	0.3
17-Apr-20	17:00	96.1	0.1
17-Apr-20	18:00	106.4	0.1
17-Apr-20	19:00	77.4	0.1
17-Apr-20	20:00	106.2	0.1
17-Apr-20	21:00	83.4	0.1
17-Apr-20	22:00	77.4	0.1
17-Apr-20	23:00	83.7	0.1
18-Apr-20	0:00	56.7	0.1
18-Apr-20	1:00	76.0	0.1
18-Apr-20	2:00	73.5	0.1
18-Apr-20	3:00	91.2	0.1
18-Apr-20	4:00	79.0	0.1
18-Apr-20	5:00	72.9	0.1
18-Apr-20	6:00	78.2	0.1
18-Apr-20	7:00	87.0	0.1
18-Apr-20	8:00	76.6	0.1
18-Apr-20	9:00	97.1	0.1
18-Apr-20	10:00	176.6	0.1
18-Apr-20	11:00	87.4	0.1
18-Apr-20	12:00	259.8	0.1
18-Apr-20	13:00	280.3	0.4
18-Apr-20	14:00	270.5	0.6
18-Apr-20	15:00	56.5	0.1
18-Apr-20	16:00	328.1	0.4
18-Apr-20	17:00	239.8	0.6
18-Apr-20	18:00	60.1	0.1
18-Apr-20	19:00	83.2	0.1
18-Apr-20	20:00	86.6	0.1
18-Apr-20	21:00	91.7	0.2
18-Apr-20	22:00	90.2	0.1
18-Apr-20	23:00	77.5	0.2
19-Apr-20	0:00	110.4	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
19-Apr-20	1:00	46.7	0.1
19-Apr-20	2:00	129.8	0.1
19-Apr-20	3:00	237.5	0.1
19-Apr-20	4:00	98.9	0.1
19-Apr-20	5:00	51.0	0.1
19-Apr-20	6:00	78.6	0.1
19-Apr-20	7:00	44.3	0.1
19-Apr-20	8:00	80.3	0.1
19-Apr-20	9:00	285.1	0.3
19-Apr-20	10:00	113.4	0.2
19-Apr-20	11:00	257.0	0.4
19-Apr-20	12:00	230.0	1.5
19-Apr-20	13:00	250.5	1.4
19-Apr-20	14:00	282.2	0.8
19-Apr-20	15:00	223.0	0.4
19-Apr-20	16:00	276.9	0.5
19-Apr-20	17:00	254.0	1.0
19-Apr-20	18:00	128.6	0.1
19-Apr-20	19:00	168.8	0.1
19-Apr-20	20:00	136.0	0.1
19-Apr-20	21:00	209.7	0.1
19-Apr-20	22:00	229.0	0.1
19-Apr-20	23:00	278.3	0.1
20-Apr-20	0:00	209.8	0.1
20-Apr-20	1:00	242.3	0.1
20-Apr-20	2:00	221.9	0.1
20-Apr-20	3:00	208.6	0.1
20-Apr-20	4:00	147.2	0.1
20-Apr-20	5:00	146.3	0.1
20-Apr-20	6:00	253.5	0.1
20-Apr-20	7:00	287.3	0.1
20-Apr-20	8:00	270.9	0.1
20-Apr-20	9:00	132.1	0.1
20-Apr-20	10:00	294.0	0.8
20-Apr-20	11:00	257.2	1.0
20-Apr-20	12:00	262.6	0.7

Date	Time	Wind Direction (°)	Wind Speed (m/s)
20-Apr-20	13:00	209.4	0.3
20-Apr-20	14:00	271.6	0.7
20-Apr-20	15:00	249.1	1.1
20-Apr-20	16:00	314.8	0.5
20-Apr-20	17:00	236.0	1.3
20-Apr-20	18:00	238.0	0.2
20-Apr-20	19:00	222.6	0.2
20-Apr-20	20:00	170.4	0.2
20-Apr-20	21:00	123.6	0.1
20-Apr-20	22:00	80.6	0.1
20-Apr-20	23:00	101.0	0.1
21-Apr-20	0:00	256.7	0.1
21-Apr-20	1:00	117.8	0.1
21-Apr-20	2:00	85.1	0.1
21-Apr-20	3:00	76.5	0.1
21-Apr-20	4:00	58.7	0.1
21-Apr-20	5:00	81.4	0.1
21-Apr-20	6:00	69.7	0.1
21-Apr-20	7:00	76.2	0.1
21-Apr-20	8:00	110.7	0.1
21-Apr-20	9:00	72.1	0.1
21-Apr-20	10:00	64.8	0.8
21-Apr-20	11:00	124.3	0.1
21-Apr-20	12:00	231.2	0.2
21-Apr-20	13:00	141.0	0.1
21-Apr-20	14:00	176.1	0.1
21-Apr-20	15:00	223.2	1.0
21-Apr-20	16:00	234.7	1.4
21-Apr-20	17:00	174.1	0.1
21-Apr-20	18:00	120.8	0.2
21-Apr-20	19:00	80.0	0.2
21-Apr-20	20:00	84.3	0.1
21-Apr-20	21:00	68.1	0.1
21-Apr-20	22:00	81.3	0.1
21-Apr-20	23:00	72.7	0.1
22-Apr-20	0:00	66.0	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
22-Apr-20	1:00	93.2	0.1
22-Apr-20	2:00	59.7	0.1
22-Apr-20	3:00	70.2	0.1
22-Apr-20	4:00	83.5	0.1
22-Apr-20	5:00	127.0	0.1
22-Apr-20	6:00	61.1	0.1
22-Apr-20	7:00	71.8	0.2
22-Apr-20	8:00	136.2	0.1
22-Apr-20	9:00	66.5	0.3
22-Apr-20	10:00	143.7	0.5
22-Apr-20	11:00	106.3	1.8
22-Apr-20	12:00	90.7	0.4
22-Apr-20	13:00	98.0	0.1
22-Apr-20	14:00	96.1	0.1
22-Apr-20	15:00	103.0	0.5
22-Apr-20	16:00	60.0	1.1
22-Apr-20	17:00	102.8	0.3
22-Apr-20	18:00	87.3	0.1
22-Apr-20	19:00	80.6	0.1
22-Apr-20	20:00	208.5	0.1
22-Apr-20	21:00	209.2	0.2
22-Apr-20	22:00	82.9	0.1
22-Apr-20	23:00	93.7	0.1
23-Apr-20	0:00	114.9	0.2
23-Apr-20	1:00	104.5	0.2
23-Apr-20	2:00	69.5	0.3
23-Apr-20	3:00	114.9	0.3
23-Apr-20	4:00	142.5	0.1
23-Apr-20	5:00	76.4	0.1
23-Apr-20	6:00	68.1	0.1
23-Apr-20	7:00	114.2	0.1
23-Apr-20	8:00	45.6	0.1
23-Apr-20	9:00	66.5	0.1
23-Apr-20	10:00	63.5	0.1
23-Apr-20	11:00	66.8	0.1
23-Apr-20	12:00	52.3	0.2

Date	Time	Wind Direction (°)	Wind Speed (m/s)
23-Apr-20	13:00	100.9	0.3
23-Apr-20	14:00	45.6	0.1
23-Apr-20	15:00	64.6	0.1
23-Apr-20	16:00	77.1	0.2
23-Apr-20	17:00	65.8	0.1
23-Apr-20	18:00	79.5	0.1
23-Apr-20	19:00	91.9	0.1
23-Apr-20	20:00	62.4	0.1
23-Apr-20	21:00	102.7	0.1
23-Apr-20	22:00	68.9	0.1
23-Apr-20	23:00	62.6	0.1
24-Apr-20	0:00	79.8	0.1
24-Apr-20	1:00	35.1	0.2
24-Apr-20	2:00	24.7	0.1
24-Apr-20	3:00	58.6	0.1
24-Apr-20	4:00	30.8	0.2
24-Apr-20	5:00	42.8	0.4
24-Apr-20	6:00	38.1	0.9
24-Apr-20	7:00	206.0	0.8
24-Apr-20	8:00	40.2	0.3
24-Apr-20	9:00	75.4	0.1
24-Apr-20	10:00	68.9	0.1
24-Apr-20	11:00	84.6	0.2
24-Apr-20	12:00	57.9	0.2
24-Apr-20	13:00	76.6	0.1
24-Apr-20	14:00	104.9	0.1
24-Apr-20	15:00	66.7	0.1
24-Apr-20	16:00	25.6	0.1
24-Apr-20	17:00	52.7	0.1
24-Apr-20	18:00	62.5	0.1
24-Apr-20	19:00	56.5	0.1
24-Apr-20	20:00	72.5	0.3
24-Apr-20	21:00	85.9	0.6
24-Apr-20	22:00	50.2	0.2
24-Apr-20	23:00	55.4	0.1
25-Apr-20	0:00	66.5	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
25-Apr-20	1:00	64.6	0.1
25-Apr-20	2:00	55.3	0.1
25-Apr-20	3:00	43.9	0.1
25-Apr-20	4:00	42.3	0.1
25-Apr-20	5:00	45.6	0.1
25-Apr-20	6:00	53.7	0.1
25-Apr-20	7:00	219.7	0.1
25-Apr-20	8:00	47.7	0.1
25-Apr-20	9:00	73.2	0.1
25-Apr-20	10:00	77.5	0.2
25-Apr-20	11:00	26.7	0.1
25-Apr-20	12:00	76.1	0.1
25-Apr-20	13:00	268.1	0.1
25-Apr-20	14:00	204.4	0.1
25-Apr-20	15:00	117.2	0.1
25-Apr-20	16:00	119.1	0.1
25-Apr-20	17:00	191.2	0.1
25-Apr-20	18:00	250.7	0.1
25-Apr-20	19:00	201.3	0.1
25-Apr-20	20:00	243.6	0.1
25-Apr-20	21:00	216.8	0.1
25-Apr-20	22:00	258.1	0.1
25-Apr-20	23:00	157.4	0.1
26-Apr-20	0:00	168.2	0.1
26-Apr-20	1:00	243.0	0.1
26-Apr-20	2:00	223.7	0.1
26-Apr-20	3:00	139.3	0.1
26-Apr-20	4:00	198.8	0.1
26-Apr-20	5:00	249.2	0.1
26-Apr-20	6:00	208.1	0.1
26-Apr-20	7:00	269.2	0.1
26-Apr-20	8:00	212.0	0.1
26-Apr-20	9:00	99.2	0.2
26-Apr-20	10:00	313.8	0.7
26-Apr-20	11:00	79.0	0.1
26-Apr-20	12:00	34.3	0.2

Date	Time	Wind Direction (°)	Wind Speed (m/s)
26-Apr-20	13:00	199.7	0.5
26-Apr-20	14:00	312.4	0.7
26-Apr-20	15:00	255.0	0.2
26-Apr-20	16:00	183.5	0.2
26-Apr-20	17:00	174.5	0.1
26-Apr-20	18:00	231.3	0.2
26-Apr-20	19:00	166.2	0.1
26-Apr-20	20:00	44.7	0.1
26-Apr-20	21:00	81.4	0.1
26-Apr-20	22:00	239.5	0.1
26-Apr-20	23:00	166.2	0.1
27-Apr-20	0:00	214.8	0.1
27-Apr-20	1:00	295.9	0.1
27-Apr-20	2:00	43.8	0.1
27-Apr-20	3:00	252.8	0.1
27-Apr-20	4:00	124.1	0.1
27-Apr-20	5:00	62.0	0.1
27-Apr-20	6:00	61.9	0.1
27-Apr-20	7:00	51.4	0.1
27-Apr-20	8:00	106.3	0.1
27-Apr-20	9:00	141.1	0.3
27-Apr-20	10:00	96.1	0.3
27-Apr-20	11:00	77.0	0.3
27-Apr-20	12:00	80.2	0.5
27-Apr-20	13:00	191.3	0.9
27-Apr-20	14:00	101.7	0.1
27-Apr-20	15:00	187.5	0.2
27-Apr-20	16:00	108.5	0.2
27-Apr-20	17:00	75.0	0.1
27-Apr-20	18:00	120.6	0.2
27-Apr-20	19:00	73.6	0.4
27-Apr-20	20:00	74.9	0.1
27-Apr-20	21:00	89.8	0.1
27-Apr-20	22:00	76.0	0.1
27-Apr-20	23:00	70.4	0.1
28-Apr-20	0:00	58.3	0.1

Date	Time	Wind Direction (°)	Wind Speed (m/s)
28-Apr-20	1:00	76.8	0.1
28-Apr-20	2:00	79.0	0.1
28-Apr-20	3:00	60.9	0.2
28-Apr-20	4:00	42.8	0.2
28-Apr-20	5:00	76.2	0.3
28-Apr-20	6:00	69.5	0.2
28-Apr-20	7:00	68.7	0.1
28-Apr-20	8:00	87.0	0.1
28-Apr-20	9:00	104.7	0.1
28-Apr-20	10:00	130.2	0.1
28-Apr-20	11:00	119.8	0.7
28-Apr-20	12:00	192.4	1.0
28-Apr-20	13:00	134.2	0.4
28-Apr-20	14:00	175.4	0.7
28-Apr-20	15:00	241.9	0.8
28-Apr-20	16:00	165.4	0.5
28-Apr-20	17:00	147.5	0.2
28-Apr-20	18:00	264.3	0.3
28-Apr-20	19:00	141.0	0.4
28-Apr-20	20:00	137.6	0.2
28-Apr-20	21:00	83.7	0.1
28-Apr-20	22:00	131.3	0.1
28-Apr-20	23:00	156.1	0.1
29-Apr-20	0:00	64.8	0.1
29-Apr-20	1:00	100.7	0.1
29-Apr-20	2:00	75.5	0.3
29-Apr-20	3:00	77.0	0.1
29-Apr-20	4:00	101.0	0.1
29-Apr-20	5:00	82.9	0.1
29-Apr-20	6:00	67.6	0.2
29-Apr-20	7:00	75.6	0.2
29-Apr-20	8:00	98.4	0.8
29-Apr-20	9:00	87.0	0.1
29-Apr-20	10:00	60.0	0.6
29-Apr-20	11:00	161.3	0.2
29-Apr-20	12:00	174.0	0.2

Date	Time	Wind Direction (°)	Wind Speed (m/s)
29-Apr-20	13:00	92.5	0.2
29-Apr-20	14:00	69.5	0.4
29-Apr-20	15:00	125.5	0.6
29-Apr-20	16:00	68.7	0.5
29-Apr-20	17:00	87.5	0.1
29-Apr-20	18:00	119.1	0.1
29-Apr-20	19:00	100.8	0.1
29-Apr-20	20:00	99.7	0.1
29-Apr-20	21:00	101.9	0.1
29-Apr-20	22:00	92.5	0.1
29-Apr-20	23:00	70.2	0.1
30-Apr-20	0:00	73.2	0.1
30-Apr-20	1:00	62.4	0.1
30-Apr-20	2:00	71.8	0.1
30-Apr-20	3:00	66.3	0.1
30-Apr-20	4:00	42.9	0.1
30-Apr-20	5:00	73.9	0.2
30-Apr-20	6:00	121.2	0.3
30-Apr-20	7:00	103.9	0.3
30-Apr-20	8:00	79.4	0.3
30-Apr-20	9:00	179.5	0.1
30-Apr-20	10:00	190.1	0.4
30-Apr-20	11:00	307.7	0.2
30-Apr-20	12:00	197.2	0.1
30-Apr-20	13:00	199.3	0.5
30-Apr-20	14:00	99.1	0.2
30-Apr-20	15:00	102.3	0.1
30-Apr-20	16:00	105.2	0.2
30-Apr-20	17:00	131.4	0.1
30-Apr-20	18:00	232.5	0.3
30-Apr-20	19:00	80.9	0.1
30-Apr-20	20:00	116.5	0.1
30-Apr-20	21:00	139.3	0.1
30-Apr-20	22:00	86.7	0.1
30-Apr-20	23:00	81.8	0.1

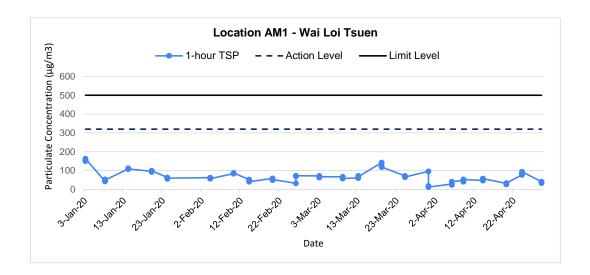
APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

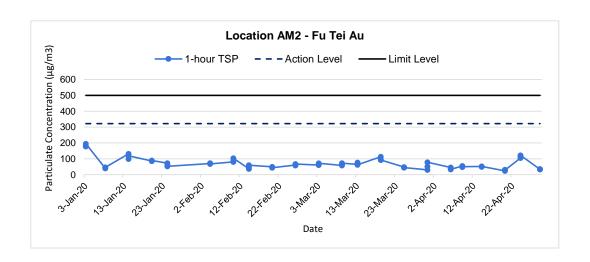
Appendix E - 1-hour TSP Monitoring Results

Location AM1 - Wai Loi Tsuen								
Date	Time	Weather	Particulate Concentration (µg/m³)					
6-Apr-20	9:00	Rainy	28.8					
6-Apr-20	10:00	Rainy	24.0					
6-Apr-20	11:00	Rainy	40.8					
9-Apr-20	9:00	Sunny	48.0					
9-Apr-20	10:00	Sunny	40.8					
9-Apr-20	11:00	Sunny	52.8					
14-Apr-20	9:00	Fine	46.8					
14-Apr-20	10:00	Fine	57.2					
14-Apr-20	11:00	Fine	57.2					
20-Apr-20	9:00	Sunny	31.2					
20-Apr-20	10:00	Sunny	26.4					
20-Apr-20	11:00	Sunny	33.6					
24-Apr-20	9:00	Cloudy	76.8					
24-Apr-20	10:00	Cloudy	84.0					
24-Apr-20	11:00	Cloudy	93.6					
29-Apr-20	9:00	Sunny	40.8					
29-Apr-20	10:00	Sunny	33.6					
29-Apr-20	11:00	Sunny	36.0					
		Average	47.4					
		Maximum	93.6					
		Minimum	24.0					

Location AM2	Location AM2 - Fu Tei Au								
Date	Time	Weather	Particulate Concentration (µg/m³)						
6-Apr-20	13:00	Rainy	45.6						
6-Apr-20	14:00	Rainy	38.4						
6-Apr-20	15:00	Rainy	33.6						
9-Apr-20	13:00	Sunny	55.2						
9-Apr-20	14:00	Sunny	48.0						
9-Apr-20	15:00	Sunny	50.4						
14-Apr-20	13:00	Fine	52.0						
14-Apr-20	14:00	Fine	49.4						
14-Apr-20	15:00	Fine	52.0						
20-Apr-20	13:00	Sunny	24.0						
20-Apr-20	14:00	Sunny	31.2						
20-Apr-20	15:00	Sunny	28.8						
24-Apr-20	13:00	Cloudy	105.6						
24-Apr-20	14:00	Cloudy	117.6						
24-Apr-20	15:00	Cloudy	122.4						
29-Apr-20	13:00	Sunny	33.6						
29-Apr-20	14:00	Sunny	33.6						
29-Apr-20	15:00	Sunny	36.0						
		Average	53.2						
		Maximum	122.4						
		Minimum	24.0						







Title	Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1	Date Apr 2020	Project No. MA	A19019	CINOTCCII
	Graphical Presentation of 1-hour TSP Monitoring Results		Appendix	E	CINOIECH

APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - 24-hour TSP Monitoring Results

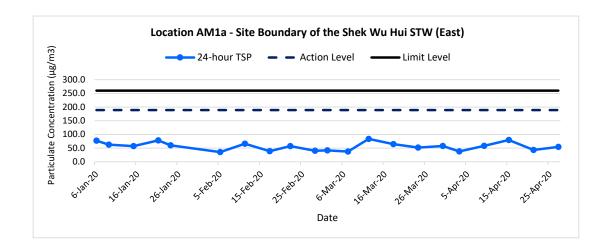
Location AM1a - Site Boundary of the Shek Wu Hui STW (East)

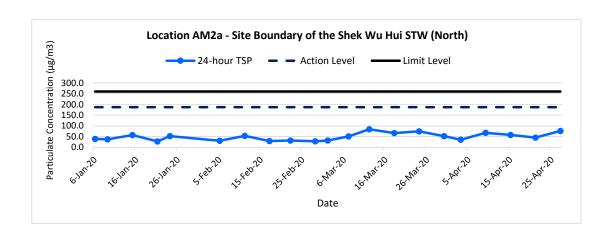
Start Date	Weather	Air Temp.	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m³/min.)	Av. Flow	Total vol.	Conc.
Start Date	Condition	(K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m ³ /min)	(m^3)	$(\mu g/m^3)$
3-Apr-20	Rainy	293.6	764.2	3.4786	3.5445	0.0659	8442.6	8466.6	24.0	1.21	1.21	1.21	1746.1	37.7
9-Apr-20	Sunny	294.7	764.4	3.4754	3.5772	0.1018	8466.6	8490.6	24.0	1.21	1.21	1.21	1742.8	58.4
15-Apr-20	Sunny	295.8	762.2	3.4766	3.6148	0.1382	8490.6	8514.6	24.0	1.21	1.20	1.21	1736.4	79.6
21-Apr-20	Cloudy	297.4	761.2	3.4816	3.5561	0.0745	8514.6	8538.6	24.0	1.20	1.21	1.20	1729.8	43.1
27-Apr-20	Sunny	297.3	764.0	3.4530	3.5476	0.0946	8538.6	8562.6	24.0	1.20	1.20	1.20	1733.7	54.6
-													Min	37.7
													Max	79.6
													Average	54.7

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

Start Date	Weather	Air Temp.	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m³/min.)	Av. Flow	Total vol.	Conc.
Start Date	Condition	(K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m ³ /min)	(m^3)	$(\mu g/m^3)$
3-Apr-20	Rainy	293.6	764.2	3.4730	3.5343	0.0613	18660.9	18684.9	24.0	1.21	1.21	1.21	1742.9	35.2
9-Apr-20	Sunny	294.7	764.4	3.4599	3.5777	0.1178	18684.9	18708.9	24.0	1.21	1.21	1.21	1739.1	67.7
15-Apr-20	Sunny	295.8	762.2	3.4693	3.5694	0.1001	18708.9	18732.9	24.0	1.20	1.20	1.20	1731.7	57.8
21-Apr-20	Cloudy	297.4	761.2	3.4565	3.5343	0.0778	18732.9	18756.9	24.0	1.19	1.20	1.20	1724.0	45.1
27-Apr-20	Sunny	297.3	764.0	3.4617	3.5935	0.1318	18756.9	18780.9	24.0	1.20	1.20	1.20	1728.5	76.2
													Min	35.2
													Max	76.2
													Average	56.4







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

APPENDIX G COPIES OF CALIBRATION CERTIFICATES FOR NOISE MONITORING



0022524

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

Measuring results

i.	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	11

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.

within

the allowable deviation.

Performed by

Calibration Technician

Approved by



0022522

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

Measuring results

Referenc	e value	Indication value	Deviation	Allowed deviation	Object
94.0)dB	94.0dB	0.0dB	+/- 1.5dB	1
114.	0dB	113.9dB	-0.1dB	+/- 1.5dB	1

Measuring equipment

1 2		Calibrator / Master	brator / 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) $ _{f within} $ the allowable deviation	Measured value(s)	within	the allowable	deviation
---	-------------------	--------	---------------	-----------

Performed by

Calibration Technician

Approved by



0022999

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

Measuring results

	Reference value	Indication value	Deviation	Allowed deviation	Object	
Γ	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.
(-)	** 1 C 1 1 1 1 1		

Performed by

Calibration Technician

Approved by



0022676

Customer:	Object 1: ST-120 sound calibrator
Cinotech Consultants Limited	Serial No. /Ref. No.: 181001636
RM 1710, Technology Park,	Object 2:
18 On Lai Street, Shatin, N.T.	Serial No. /Ref. No. :
Hong Kong	
Customer Code : SVEC09005	Manufacturer: Soundtek
Date of calibration: 24/10/2019	Certificate No.: 0022676
Date of the recommended re-calibration: 24/10/2020	Handle by: F0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.7dB	-0.3dB	+/- 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

Approved by

Calibration Technician

APPENDIX H NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix H - Noise Monitoring Results

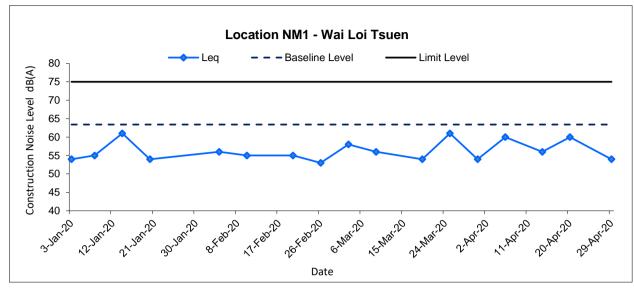
(0700-1900 hrs on Normal Weekdays)

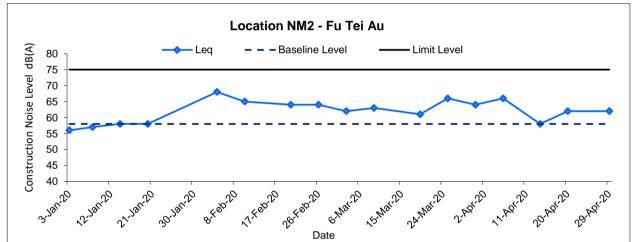
Location NM1	Location NM1 - Wai Loi Tsuen												
					Un	it: dB (A) (30-min)							
Date	Time	Weather	Meas	sured Noise I	_evel	Baseline Level	Construction Noise Level						
			L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}						
6-Apr-20	13:20	Rainy	59.8	60.9	58.4	63.4	59.8 Measured ≦ Baseline						
14-Apr-20	9:30	Fine	56.4	58.2	52.4	63.4	56.4 Measured ≦ Baseline						
20-Apr-20	13:45	Sunny	59.9	61.6	51.4	63.4	59.9 Measured ≦ Baseline						
29-Apr-20	13:30	Sunny	53.8	55.6	51.2	63.4	53.8 Measured ≦ Baseline						

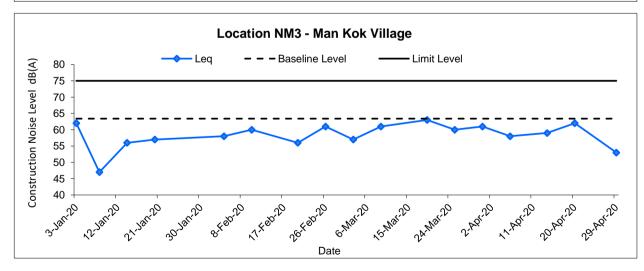
Location NM2 ·	Location NM2 - Fu Tei Au													
					Uni	it: dB (A) (30-min)								
Date	Time	Weather	Meas	sured Noise I	_evel	Baseline Level	Construction Noise Level							
			L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}							
6-Apr-20	15:30	Rainy	67.0	69.9	63.2	58.0	66.4							
14-Apr-20	11:00	Fine	60.8	61.2	54.4	58.0	57.6							
20-Apr-20	16:00	Sunny	63.6	65.2	61.1	58.0	62.2							
29-Apr-20	15:45	Sunny	63.5	64.9	61.8	58.0	62.1							

Location NM3	Location NM3 - Man Kok Village												
				Unit: dB (A) (30-min)									
Date	Time	Weather	Measured Noise Level			Baseline Level	Construction Noise Level						
			L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}						
6-Apr-20	14:30	Rainy	64.5	65.6	63.4	63.4	58.0						
14-Apr-20	10:10	Fine	59.0	61.8	52.1	63.4	59 Measured ≦ Baseline						
20-Apr-20	15:15	Sunny	62.1	63.8	53.5	63.4	62.1 Measured ≦ Baseline						
29-Apr-20	14:30	Sunny	53.4	54.6	53.4 Measured ≦ Baseline								









Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1

Graphical Presentation of Construction Noise Monitoring Results

Date Project

Apr 2020 No. MA19019

Appendix H

APPENDIX I ECOLOGICAL MONITORING RESULTS AND ANALYSIS

MA19019 - Ecological Monitoring Result and Analysis

Scientific Name	Common Name	Chinese Name	Waterbird	Point Count	Transect
Scientific Name	Common Name	Chinese Name	waterbird	Abundance	Abundance
Acridotheres cristatellus	Crested Myna	八哥		100	+++++
Acridotheres tristis	Common Myna	家八哥		0	+
Actitis hypoleucos	Common Sandpiper	磯鷸	*	5	+
Alcedo atthis	Common Kingfisher	普通翠鳥	*	1	+
Amaurornis phoenicurus	White-breasted Waterhen	白胸苦惡鳥	*	0	+
Anthus hodgsoni	Olive Backed Pipit	樹鷚		30	+++
Apus nipalensis	House Swift	小白腰雨燕		8	+
Ardea alba	Great Egret	大白鷺	*	23	++
Ardeola bacchus	Chinese Pond Heron	池鷺	*	47	+++++
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	*	44	++
Cacomantis merulinus	Plaintive cuckoo	八聲杜鵑		1	+
Centropus sinensis	Greater Coucal	褐翅鴉鵑		3	+
Ceryle rudis	Pied Kingfisher	斑魚狗	*	0	+
Charadrius dubius	Little Ringed Plover	金眶鴴	*	1	
Copsychus saularis	Magpie Robin	鵲鴝		1	+
Corvus macrorhynchus	Jungle Crow	大嘴烏鴉		5	+
Corvus torquatus	Collared Crow	白頸鴉	*	2	+
Dicrurus hottentottus	Hair-crested Drogon	髪 冠卷尾		2	+
Egretta garzetta	Little Egret	小白鷺	*	80	++++
Eudynamys scolopacea	Common Koel	噪鵑		12	++
Gallinula chloropus	Common Moorhen	黑水雞	*	0	+
Garrulax perspicillatus	Masked Laughing Thrush	黑臉噪鶥		40	++++
Glareola maldivarum	Oriental pratincole	普通燕鴴	*	1	11111
Hierococcyx sparverioides	Large Hawk Cuckoo	大鷹鵑		13	++
Himantopus himantopus	Black-winged Stilt	黑翅長腳鷸	*	5	+
Hirundo rustica	Barn Swallow	家燕	·	49	+++
Lanius cristatus	Brown Shrinke	紅尾伯勞		1	
Lanius schach	Rufous-backed Shrike	棕背伯勞		0	
Lonchura punctulata	Spotted Munia			7	+
	<u> </u>	斑文鳥		12	++
Lonchura striata	White-rumped Munia	白腰文鳥	*		
Milvus migrans	Black Kite	黑鳶	77	2	+
Motacilla alba	White Wagtail	白鶺鴒		22	++++
Motacilla cinerea	Grey Wagtail	灰鶺鴒		2	
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯	*	8	+++
Pandion haliaetus	Osprey	魚鷹	*	1	+
Parus cinereus	Cinereous Tit	蒼背山雀		1	+
Passer montanus	Eurasian Tree Sparrow	樹麻雀		2	+
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	*	1	
Phylloscopus fuscatus	Dusky Warbler	褐柳鶯		2	+
Phylloscopus inornatus	Yellow-browed Warbler	黄眉柳鶯		9	+
Phylloscopus proregulus	Pallas's Leaf Warbler	黄腰柳鶯		5	+
Pica pica	Magpie	喜鵲		2	+
Prinia flaviventris	Yellow-bellied Prinia	黄腹鷦鶯		3	+
Prinia inornata	Plain Prinia	純色鷦鶯		1	+
Psittacula eupatria	Alexandrine Parakeet	亞歷山大鸚鵡		2	+
Pycnonotus jocosus	Crested bulbul	紅耳鵯		2	+
Pycnonotus sinensis	Chinese Bulbul	白頭鵯		4	+
Saxicola stejnegeri	Stejneger's Stonechat	黑喉石䳭		1	+
Streptopelia chinensis	Spotted Dove	珠頸斑鳩		31	+++
Sturnus nigricollis	Black-necked Starling	黑領椋鳥		15	++++
Tachybaptus ruficollis	Little Grebe	小鸊鷉	*	1	
Tringa glareola	Wood Sandpiper	林鷸	*	2	+
Tringa nebularia	Common Greenshank	青腳鷸	*	5	+
Tringa ochropus	Green Sandpiper	白腰草鷸	*	0	+
Urocissa erythrorhyncha	Red-billed Blue Magpie	紅咀藍鵲		4	+
Zitting cisticola	Streaked Fantail Warbler	棕扇尾鶯		2	+
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		4	++
The Jork Connection	1. 2.5		nt Count Abundance	632	
		I Otal I Oll	ar Count ribundance	UJA	

*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.

Agreement No. SPW 07/2019		Project No.	
Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1		MA19019	
Monthly Data Analysis for Ecological Monitoring	Date April 2020	Appendix I	CINOICU

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Apr Season Summer

	Table II: Total Bird Abundance from Point Count											
	Survey	Informati	on	Total Bird Abu	Total Bird Abundance from Point Count							
No.	Date	Time	Tide Level	Individuals Recorded	Total	Species Recorded						
#1	8 Amm 2020	11:00	High	High 59		16						
#1	8 Apr 2020	15:00	Low	82	141	14						
#2	14 Apr 2020	10:30	High	78	189	19						
#2	14 Apr 2020	8:00	Low	111	109	23						
#3	24 Apr 2020	10:00	High	71	175	20						
#3	24 Apr 2020	8:00	Low	104	1/5	23						
#1	27 Amm 2020	11:00	High	42	127	17						
#4	27 Apr 2020	7:45	Low	85	127	19						
-			•	Overall Total	632							

		Tabl	le III: Total W	aterbird Abundance from Point	Count
	Survey	Informati	on	Numbers of	f Waterbirds
No.	Date	Time	Tide Level	Individuals Recorded	Total
#1	9 Amm 2020	11:00	High	41	81
#1	8 Apr 2020	15:00	Low	40	01
#2	14 Am 2020	10:30	High	13	50
#2	14 Apr 2020	8:00	Low	37	50
#3	24 Apr 2020	10:00	High	16	49
#3	24 Apr 2020	8:00	Low	33	49
щл	27. 4 2020	11:00	High	19	41
#4	27 Apr 2020	7:45	Low	22	41
			•	Overall Total	221
				Average	55

Table IV: T-Test Analysis for All Waterbirds

Baseline Data

Monthly Average Abundance (Apr) 48.13 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.
- H₁ The data collected does not falls within the normal distrubution when compared to the baseline monitoring data.

If t-test value is <u>smaller</u> 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 Rep	orting Month	95%	99%
A lavan dom oo	Monthly	0.808	✓	✓
Abundance	Season	1.256	✓	✓

Overall:

✓

Remarks:

- \checkmark = T-value falls within the confidence level, the impact monitoring data shows no significant difference to the baseline data.
- **X** = T-value falls outside the confidence level, the impact monitoring data shows significant difference to the baseline data.

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1		Project No. MA19019	CINOTECH
Monthly Data Analysis for Ecological Monitoring	Date	Appendix	CINOISCU
Withting Data Marysis for Deological Monitoring	April 2020	I	

MA19019 - Waterbird Ecological Monitoring Result

Monitoring Month Apr Season Summer

	Table V: Abundance of Representative Waterbirds from Point Count												
	Representative Species		Recorded Abundance							Baseline Data			
Species Name	Chinese Name	8 Apr 2020	14 Apr 2020	24 Apr 2020	27 Apr 2020		Total	Average	Avg (Apr)	Avg (Summer)			
Egretta garzetta	Little Egret	小白鷺	23	28	11	18		80	20	21	20		
Ardea cinerea	Grey Heron	蒼鷺	0	0	0	0		0	0	0	1		
Ardeola bacchus	Chinese Pond Heron	池鷺	17	4	14	12		47	12	14	16		
Phalacrocorax carbo	Great Cormorant	普通鸕鷀	0	1	0	0		1	0	0	0		
Ardea alba	Great Egret	大白鷺	6	4	8	5		23	6	3	3		
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	21	13	10	0		44	11	7	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 distribution when compare to the baseline monitoring data.

H₁ The data collected does not falls within the normal distribution when compare to the baseline monitoring data.

If t-test value for a specific representative is <u>smaller</u> 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	1	T-value	Confide	nce Level	T-value	Confide	nce Level	Overall
Species Name	Common Name	Chinese Name	Monthly	95%	99%	Seasonal	95%	99%	
Egretta garzetta	Little Egret	小白鷺	-0.310	✓	✓	0.000	✓	✓	✓
Ardea cinerea*	Grey Heron*	蒼鷺*				N/A*			
Ardeola bacchus	Chinese Pond Heron	池鷺	-0.899	✓	✓	-1.446	✓	✓	✓
Phalacrocorax carbo*	Great Cormorant*	普通鸕鷀*				N/A*			
Ardea alba	Great Egret	大白鷺	3.806	✓	✓	3.761	✓	✓	✓
Bubulcus coromandus	Eastern Cattle Egret	牛背鷺	0.835	✓	√	1.790	✓	√	✓

Remarks

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

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant - Main Work Stage 1		Project No. MA19019	CINICICCII
Monthly Data Analysis for Ecological Monitoring	Date April 2020	Appendix I	CINOIECH

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

 $[\]checkmark$ = T-value falls within the confidence level, the impact monitoring data shows no 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 Apr 20)

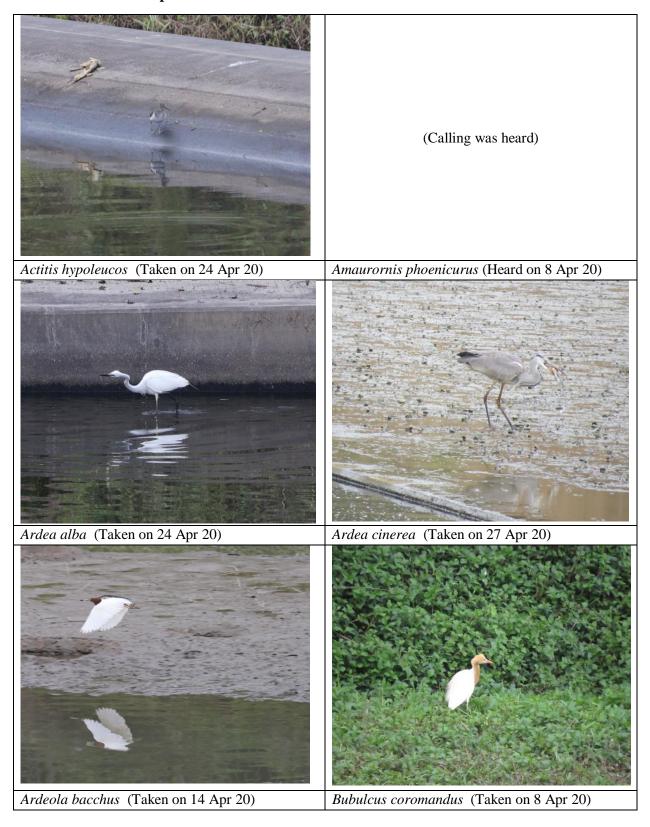


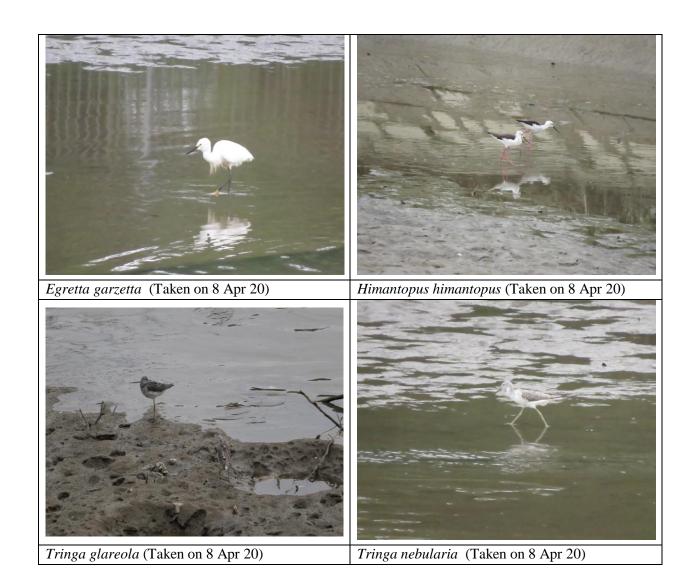
Ng Tung River (Taken on 8 Apr 20)



Shek Sheung River (Taken on 8 Apr 20)

Part B – Waterbird Species





Part C – Human Activities & Site Conditions





APPENDIX K SITE AUDIT SUMMARY

Checklist Reference Number	200409
Date	9 April 2020
Time	14:00 – 15:45

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 site inspection.	
	C. Air Quality	
200409-R1	• Stockpile should be covered with impervious materials to prevent dust generation at Portion C.	C1
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	Following up on the previous site inspection (ref no.: 200331): Item 200331-R1 was rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lelvo	9 April 2020
Checked by	Mr. Samson Yuen	for.	14 April 2020

Checklist Reference Number	200414
Date	14 April 2020
Time	14:30 – 16:45

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 site inspection.	
	C. Air Quality	
200414-R2	Dusty materials were observed on the haul road at Portion C when a truck passed by. More frequent water spraying should be provided to avoid dust generation.	C5
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200414-R1	Waste deposited should be removed and tidied up as soon as possible at Portion A.	E2iii
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	Following up on the previous site inspection (ref no.: 200409): Item 200409-R1 was rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lilvo	14 April 2020
Checked by	Mr. Samson Yuen	for.	16 April 2020

Checklist Reference Number	200421
Date	21 April 2020
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 site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200414-R1	Waste deposited should be removed and tidied up as soon as possible at Portion A.	E2iii
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	Following up on the previous site inspection (ref no.: 200414): Follow-up actions are needed to be reviewed for item 200414-R1. Item 200414-R2 was rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lilvo	21 April 2020
Checked by	Mr. Samson Yuen	for.	22 April 2020

Checklist Reference Number	200428
Date	28 April 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 site inspection.	
	C. Air Quality	
200428-R3	Dust generation was observed in the unpaved area at the western side of Portion C. Water spraying should be provided to minimize air quality impact in the area.	C12
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• General refuse and construction waste was deposited at Portion A. The	
200428-R1	Contractor should clear and separate the general refuse and construction waste or cover them with impervious materials to prevent waste accumulation.	E2iii
200428-R2	Chemicals should be stored inside the drip tray properly at Portion C.	E6iv
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	Following up on the previous site inspection (ref no.: 200421): Item 200414-R1 was rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lelvo	28 April 2020
Checked by	Mr. Samson Yuen	for.	29 April 2020

Checklist Reference Number	200409
Date	9 April 2020
Time	14:00 – 15:45

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 site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200331).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Ledro	9 April 2020
Checked by	Mr. Samson Yuen	fr.	14 April 2020

Checklist Reference Number	200414
Date	14 April 2020
Time	14:30 – 16:45

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 site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200414-R1	General refuse and waste stockpile accumulated should be removed or covered by impervious materials at Portion B.	E2iii, iv
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200409).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lelvo	14 April 2020
Checked by	Mr. Samson Yuen	for.	16 April 2020

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 Contract DC/2018/07

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	200421
Date	21 April 2020
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 site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	Following up on the previous site inspection (ref no.: 200414): Item 200414-R1 was rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Lelvo	21 April 2020
Checked by	Mr. Samson Yuen	for.	22 April 2020

Agreement No. SPW 07/2019 Shek Wu Hui Effluent Polishing Plant – Main Works Stage 1 Contract DC/2018/07

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	200428
Date	28 April 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 site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Ecology and Fisheries	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	No follow-up items from the previous site inspection (ref no.: 200421).	

	Name	Signature	Date
Recorded by	Ms. Echo Hung	Ledro	28 April 2020
Checked by	Mr. Samson Yuen	fr.	29 April 2020

APPENDIX L WASTE FLOW TABLE

Name of Department: DSD Contract No. DC/2018/06

Monthly Summary Waste Flow Table for <u>2020</u> (year)

	Act		es of Inert C	&D Material	s Generated	Monthly	Actual	Quantities o	f C&D Wastes	Generated	Monthly
		Hard Rock									
	Total	and Large	Reused in	Reused in	Disposed			Paper/			Others, e.g.
Month	Quantity	Broken	the	other	as Public			cardboard		Chemical	general
	Generated	Concrete	Contract	Projects	Fill	Imported Fill	Metals	packaging	Plastics	Waste	refuse
	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)	(in '000m ³)					
Jan	0.376	0.000	0.000	0.000	0.376	0.000	0.000	0.000	0.000	0.000	0.040
Feb	1.122	0.000	0.000	0.250	0.872	0.000	0.000	0.000	0.000	0.000	0.082
Mar	2.289	0.000	0.000	0.350	1.939	0.000	0.000	0.000	0.000	0.000	0.057
Apr	2.707	0.000	0.000	0.165	2.542	0.000	0.000	0.000	0.000	0.000	0.008
May											
Jun											
Sub-total	6.494	0.000	0.000	0.765	5.729	0.000	0.000	0.000	0.000	0.000	0.187
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	6.494	0.000	0.000	0.765	5.729	0.000	0.000	0.000	0.000	0.000	0.187

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 the density of mixed rock and soil is 1.9 ton/m3.
- 4. Assume the density of slurry and bentonite is 2.8 ton/m3.
- 5. The slurry and bentonite are disposed at Tseung Kwan O Area 137 Fill Bank.
- 6. The non-inert C&D wastes are disposed at NENT.

	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 m³.
- (4) The density of soil fill is 2.24 ton/m³.

SUMMARY TABLE FOR WORK PROCESSES OR ACTIVITIES REQUIRING TIMBER FOR TEMPORARY WORKS

Contract No.: <u>DC/2018/06</u>

Contract Title: Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 Civil Works for Sludge Treatment Facilities and 132kV Primary Substation

Item	Month.	Description of Works Process or	Justifications for Using Timber in	_	Est. Quantities of Timber reused	Actual Quantities	Remarks
No.		Activity [see note (a) below]	Temporary Construction Works	Timber Used (m ³)	(m ³)	Used (m ³)	
1	Oct-19	N/A	N/A	0	0	0	N/A
2	Nov-19	N/A	N/A	0	0	0	N/A
3	Dec-19	N/A	N/A	0	0	0	N/A
4	Jan-20	N/A	N/A	0	0	0	N/A
5	Feb-20	N/A	N/A	0	0	0	N/A
6	Mar-20	N/A	N/A	0	0	0	N/A
7	Apr-20	N/A	N/A	0	0	0	N/A
			Total Estimated Quantity of Timber Used	0			

Notes:

(a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.

Name of Department: DSD Contract No. DC/2018/07

Monthly Summary Waste Flow Table for 2020 (year)

	Actua	Quantities	of Inert C&D	Materials G	enerated Mo	onthly	Actual	Quantities o	f C&D Wastes	Generated	Monthly
		Hard Rock									
Month	Total	and Large	Reused in	Reused in	Disposed			Paper/			Others, e.g.
Month	Quantity	Broken	the	other	as Public	Imported		cardboard		Chemical	general
	Generated	Concrete	Contract	Projects	Fill	Fill	Metals	packaging	Plastics	Waste	refuse
	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in kg)	(in '000kg)					
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.760
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.490
Mar	150.170	0.000	0.000	0.000	150.170	0.000	0.000	0.000	0.000	0.000	0.000
Apr	135.570	0.000	0.000	0.000	135.570	0.000	19.090	0.000	0.000	0.000	2.540
May											
Jun											
Sub-total	285.740	0.000	0.000	0.000	285.740	0.000	19.090	0.000	0.000	0.000	12.790
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	285.740	0.000	0.000	0.000	285.740	0.000	19.090	0.000	0.000	0.000	12.790

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 the density of mixed rock and soil is 1.9 ton/m3.
- 4. Assume the density of slurry and bentonite is 2.8 ton/m3.
- 5. The slurry and bentonite are disposed at Tseung Kwan O Area 137 Fill Bank.
- 6. The non-inert C&D wastes are disposed at NENT.

Environmental Aspect Evaluation Form

Name of Department: ArchSD/CEDD/DSD/EMSD/HyD/WSD

Contract No.: <u>DE/2018/03</u>

Monthly Summary Waste Flow Table for <u>2020</u> (year)

		Actual Quanti	ties of Inert C&D	Materials Generate	ed Monthly			Actual Quantities of	C&D Wastes G	enerated Monthly	
Month	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	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-
Sub-total	0	0	0	0	0	0	0	0	0	0	0
July	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0	0	0	0

Environmental Aspect Evaluation Form

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract*											
I large Broken I I I I I I I I I I I I I Metals I I I I Chemical Waste I								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	ТВА	TBA	ТВА	TBA	TBA	TBA	ТВА	TBA	ТВА	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 m³. (PS Clause 6.21.7(4)(b) refers)

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

Monthly Summary Waste Flow Table for 2020 (year)

		Actual Quanti	ties of Inert C&D	Materials Generate	ed Monthly			Actual Quantities of	C&D Wastes G	enerated Monthly	
Month	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											
June											
Sub-total	0	0	0	0	0	0	0	0	0	0	0
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0	0	0	0

Notes:

`

⁽¹⁾ The performance targets are given in PS Clause 6.21.8(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

APPENDIX M EVENT AND ACTION PLANS

Table M-1 Event/Action Plan for Air Quality

E4	Action								
Event	ET	IEC	ER	Contractor					
Action level being exceeded by one sampling	 Identify source, investigate the causes of complaint and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate. 					
Action level being exceeded by two or more consecutive sampling	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 					

E4	Action									
Event	ET	IEC ER	Contractor							
Limit level being exceeded by one sampling	arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring. 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.	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 							
Limit level being exceeded by two or	Notify IEC, ER, Contractor and EPD;	 Discuss amongst ER, ET, and Confirm receipt of notification of exceedance in 	Take immediate action to avoid further exceedance;							
more consecutive	2. Identify source;	remedial actions; writing;	2. Submit proposals for remedial							
sampling	3. Repeat measurement to	2. Review Contractor's 2. Notify Contractor;	actions to IEC within three							
	confirm findings;	remedial actions whenever 3. In consolidation with the	working days of notification;							

E		Ac	tion		
Event	ET	IEC	ER	Contractor	
Event	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	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	Contractor 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	
	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.		instruct the Contractor to stop that portion of work until the exceedance is abated.	abated.	

Table M-2 Event/Action Plan for Construction Noise

E4	Action									
Event	ET	IEC ER	Contractor							
Action Level	1. Notify IEC and Contractor;	1. Review the analysed results 1. Confirm receipt of	1. Submit noise mitigation							
	2. Carry out investigation;	submitted by the ET; notification of failure in	proposals to IEC;							
	3. Report the results of	2. Review the proposed writing;	2. Implement noise mitigation							
	investigation to the IEC, ER	remedial measures by the 2. Notify Contractor;	proposals.							
	and Contractor;	Contractor and advise the ER 3. Require Contractor to propose								
	4. Discuss with the Contractor	accordingly; remedial measures for the								
	and formulate remedial	3. Supervise the analysed noise problem;								
	measures;	implementation of remedial 4. Ensure remedial measures are								
	5. Increase monitoring	measures. properly implemented.								
	frequency to check									
	mitigation effectiveness.									
Limit Level	1. Identify source;	1. Discuss amongst ER, ET, and 1. Confirm receipt of	Take immediate action to							
	2. Inform IEC, ER, EPD and	Contractor on the potential notification of failure in	avoid further exceedance;							
	Contractor;	remedial actions; writing;	2. Submit proposals for							
	3. Repeat measurements to	2. Review Contractors remedial 2. Notify Contractor;	remedial actions to IEC							
	confirm findings;	actions whenever necessary 3. Require Contractor to	within 3 working days of							
	4. Increase monitoring	to assure their effectiveness propose remedial measures	notification;							
	frequency;	and advise the ER for the analysed noise	3. Implement the agreed							
	5. Carry out analysis of	accordingly; problem;	proposals;							

E-vor4		Act	tion			
Event	ET	IEC	ER	Contractor		
	Contractor's working	3. Supervise the	4. Ensure remedial measures	4. Resubmit proposals if		
	procedures to determine	implementation of remedial	properly implemented;	problem still not under		
	possible mitigation to be	measures.	5. If exceedance continues,	control;		
	implemented;		consider what portion of the	5. Stop the relevant portion of		
	6. Inform IEC, ER and EPD the		work is responsible and	works as determined by the		
	causes and actions taken for		instruct the Contractor to stop	ER until the exceedance is		
	the exceedances;		that portion of work until the	abated.		
	7. Assess effectiveness of		exceedance is abated.			
	Contractor's remedial actions					
	and keep IEC, EPD and ER					
	informed of the results;					
	8. If exceedance stops, cease					
	additional monitoring.					

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.

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

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

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

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 Impa							
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,	Air Pollution Control Ordinance (APCO) and Air Pollution	۸
	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;				Stage 2 and Stage 3	Control (Construction Dust) Regulation	*
	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;						۸
	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;						۸
	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;						۸
	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.						۸
	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;						۸

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
\$2.3.1.3	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; Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and		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	٨
	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					Dust) Regulation	N/A
	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;						٨
	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;						۸
	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						۸
	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						۸

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				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)	N/A
S3.2.1.2	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Silencers or mufflers on construction equipment should be utilized and should be properly maintained 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	۸
	Mobile plant, if any, should be sited as far away from NSRs as possible.						۸
	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.						۸
	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.						۸
	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 Impa		T	T	T	ı	1	
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	۸
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;	er locations well away from nearby water bodies should be used for borary storage of materials (i.e. equipment, filling materials, chemicals fuel) and temporary stockpiles of construction debris and spoil, and	Stage 3		۸		
	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	EIAO-TM	۸
	Adequate lateral support should be erected where necessary in order to prevent soil/mud from slipping into water bodies;				Stage 3		۸
	Site boundaries should be clearly marked and any works beyond the boundary strictly prohibited;						۸
	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;						۸
	Excavation profiles should be properly designed and executed with attention to the relevant requirements for environment, health and safety;	1					۸
	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;						۸
	Speed control for the trucks carrying contaminated materials should be enforced;	1					۸
	Vehicle wheel washing facilities at construction sites' exit points should be established and used, where necessary						۸

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 In	mpact						
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	۸
\$5.2.2.2 – \$5.2.2.3	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.	_	Contractors	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	EIAO-TM, WPCO, EIAO	۸
	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						۸

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 Managen					1	T	
S6.2.2.1	responsible for the implementation of good site practices, arrangements for	Minimize waste generation during construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3	Waste Disposal Ordinance (WDO)	۸
	Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;						۸
	Provision of sufficient waste disposal points and regular collection for disposal;					۸	
	Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;						۸
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;						۸
	An Environmental Management Plan (EMP) should be prepared by the contractor and submitted to the Supervisor for approval.						۸
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	۸
	Proper storage and site practices to minimize the potential for damage and contamination of construction materials;				and Stage 5		٨
	Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste;						۸
	Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); and						۸
	Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.						۸

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,	WDO	۸
	Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and				Stage 2 and Stage 3		*
	Different locations should be designated to stockpile each material to enhance reuse.						۸
S6.2.4.2	Remove waste in timely manner;	Minimize waste	Contractor	Work Sites	Construction phase of Main	WDO	#
	Employ the trucks with cover or enclosed containers for waste transportation	impacts arising from waste storage			Works Stage 1, Stage 2 and Stage 3		۸
	Obtain relevant waste disposal permits from the appropriate authorities						۸
	Disposal of waste should be done at licensed waste disposal facilities.						۸
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,	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	۸
	Carry out on-site sorting;				Stage 2 and Stage 3		٨
	Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;						۸
	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.						۸
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	۸

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	phase of Main Works Stage 1,	Land (Miscellaneous Provisions) Ordinance, WDO, ETWB TCW No. 19/2005	۸
	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.						۸
	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.						۸
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		Stage 2 and Stage 3	Waste Disposal (Chemical Waste General) Regulation, Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	۸
	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	Contractor	Work Sites	Construction phase of Main	Waste Disposal (Chemical Waste	۸
	Recycling bins should also be placed to encourage recycling.	general refuse and avoid odour, pest			Works Stage 1, Stage 2 and	General) Regulation	٨
	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.	and litter impacts			Stage 3		۸
	A reputable waste collector should be employed to remove general refuse on a daily basis.						۸

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 \							
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	npact to the indscape and	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.				Passe		N/A
\$7.3.2.1		Protect and Preserve Trees	Designer / Contractor	Work Sites		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
\$7.3.2.1	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. 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.	To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure manmade 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 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	where possible. Otherwise	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	structures	construction,	ETWB TCW No.11/2004 – Cyber Manual for Greening	N/A
\$7.3.2.1	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	buildings	phase and	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
\$7.3.2.1	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
	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.		Designer	Work Sites	Construction phase		^
\$7.3.2.1	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		۸

Remarks: EM	1&A Programme under FEP-02/474/2013
۸	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: April 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

 $\textbf{Remarks}: \ No\ environmental\ complaint/warning/summon\ and\ prosecution\ was\ received\ in\ the\ reporting\ period.$

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: April 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



Treatment Facilities and CLP 132kV Primary Substation									KL-CW	
me	Duratior Start	Finish	Actual Start	Actual Finish	Total Predecessors Successors 9	omple	2020		2023	2026
Dates	2229.2 da Mon 16/9/19	Thu 23/10/25	Mon 16/9/19	NA	0 days	0%	Q3 Q1 Q3 Q1 16/9	Q3 Q1 Q3 Q1 Q	03 Q1 Q3 Q1 Q3 Q1	Q3 Q1 Q3 23/10
p Date	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 4,5FS+180 days,6,7,8,9,11,12,1	100%	♦ 16/9			
s Date (cal. day)	180 days Mon 16/9/19	Fri 13/3/20	Mon 16/9/19	NA	0 days	99%	16/9 13/3			
ion A-1	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion A-2	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2FS+180 days	100%	♦ 16/9			
ion C-1A	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-1B	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-2A	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-2B	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-2C	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-2D	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-3	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-4	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	♦ 16/9			
ion C-5	0 days Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	16/9			
ion C-6	0 days Fri 13/3/20	Fri 13/3/20	NA	NA	0 days 2FS+180 days 311,303	0%	♦ 13/3			
ks Area WA1	1 day Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2	100%	16/9 16/9			
rks 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%	16/9 16/9			
	840 days Tue 17/9/19	Mon 3/1/22	NA	NA	0 days	0%	17/9	3/1		
ate (cal. day) A (525 days after starting date)	-	Mon 22/2/21	NA NA	NA NA	0 days	0%	1113	♦ 22/2		
	525 days Tue 17/9/19					0%		♦ 22/2 ♦ 7/7		
A (660 days after starting date)	660 days Tue 17/9/19	Wed 7/7/21	NA NA	NA NA	0 days			♦ /// ♦ 15/10		
A (760 days after starting date)	760 days Tue 17/9/19	Fri 15/10/21	NA NA	NA NA	0 days	0%				
B (750 days after starting date)	750 days Tue 17/9/19	Tue 5/10/21	NA NA	NA NA	0 days	0%				
C (750 days after starting date)	750 days Tue 17/9/19	Tue 5/10/21	NA	NA	0 days	0%				
BD (660 days after starting date)	660 days Tue 17/9/19	Wed 7/7/21	NA	NA	0 days	0%		♦ 7/7		
E (840 days after starting date)	840 days Tue 17/9/19	Mon 3/1/22	NA	NA	0 days	0%		♦ 3/1		
etion Date (cal. day)	2228.2 da Tue 17/9/19	Thu 23/10/25	NA	NA	0 days	0%	17/9	·		23/10
tion 1 of Works (675 days after starting date)	675 days Tue 17/9/19	Thu 22/7/21	NA	NA	0 days	0%		♦ 22/7		
tion 2 of Works (1,295 days after starting date)	1294 day: Tue 17/9/19	Sun 2/4/23	NA	NA	0 days	0%			♦ 2/4	
tion 3 of Works (1,120 days after starting date)	1120 day: Tue 17/9/19	Mon 10/10/22	NA	NA	0 days	0%	•		♦ 10/10	
tion 4 of Works (900 days after starting date)	900 days Tue 17/9/19	Fri 4/3/22	NA	NA	0 days	0%	•	♦ 4/3		
tion 5 of Works (1,590 days after starting date)	1590 day: Tue 17/9/19	Tue 23/1/24	NA	NA	0 days 32,33	0%			♦ 23/1	
ect Liability Period	365 days Wed 24/1/24	Thu 23/10/25	NA	NA	0 days 31	0%				23/10
Landscape Establishment Works	365 days Wed 24/1/24	Wed 22/1/25	NA	NA	0 days 31	0%			24/1 22/1	
Completion - Key Date (cal. day)	314 days Fri 7/5/21	Thu 17/3/22	NA	NA	-74.8 days	0%		7/5		
525 days after starting date)	0 days Fri 7/5/21	Fri 7/5/21	NA	NA	-74.8 days 140FF,138FF,330,	0%		♦ 7/5		
660 days after starting date)	0 days Mon 27/9/21	Mon 27/9/21	NA	NA	-83 days 366FF	0%		♦ 27/9		
760 days after starting date)	0 days Wed 13/10/21		NA	NA	0 days 180FF,181FF	0%		♦ 13/10		
750 days after starting date)	0 days Thu 30/9/21	Thu 30/9/21	NA	NA	4 days 198FF,199FF	0%		♦ 30/9		
750 days after starting date)	0 days Mon 24/5/21	Mon 24/5/21	NA NA	NA NA	133 days 210FF,211FF	0%		♦ 24/5		
660 days after starting date)	0 days Mon 17/5/21	Mon 17/5/21	NA NA	NA NA	50 days 236FF,237FF	0%		♦ 17/5		
840 days after starting date)	0 days Wild 17/3/21	Thu 17/3/22	NA NA	NA NA	-73.8 days 253FF,248FF,284F	0%		4 1176		
Completion - Section of the Works (cal. day)	1245.2 da Tue 24/8/21	Mon 20/1/25	NA NA	NA NA	-33.8 days	0%		24/8	20/1	
1 of Works (675 days after starting date)	0 days Tue 24/8/21	Tue 24/8/21	NA NA	NA NA	-33.8 days 142FF,309FF,141F	0%			, -	
	0 days	Mon 13/3/23	NA NA	NA NA	20 days 371FF,368FF,370F	0%		¥ 2-110	♦ 13/3	
2 of Works (1,295 days after starting date) 3 of Works (1,120 days after starting date)	0 days Mon 25/4/22	Mon 25/4/22	NA NA	NA NA		0%			V 10/0	
	· ·				167 days 212FF,213FF,238F			♦ 23/3		
4 of Works (900 days after starting date)	0 days Wed 23/3/22	Wed 23/3/22	NA NA	NA NA	-20 days 269FF,273FF,304F 0 days 341FF,339FF,340F	0% 0%		♦ 23/3	♦ 22/1	
5 of Works (1,590 days after starting date)	0 days Mon 22/1/24	Mon 22/1/24		NA						
Liability Period	0 days Mon 20/1/25	Mon 20/1/25	NA NA	NA NA	0 days 343FF	0%			♦ 20/1 1/1 ■ 20/1	
ndscape Establishment Works	20 days Wed 1/1/25	Mon 20/1/25	NA Na	NA	0 days 343FF	0%	4010		1/1 20/1	
ons (cal. day)	1054 day Mon 16/9/19	Thu 4/8/22	Mon 16/9/19	NA	20 days	62%	16/9	- 4/2	₩ŏ	
ting Package	536 days Mon 16/9/19	Thu 4/3/21	Mon 16/9/19	NA	63.8 days	52%	16/9	4/3		
pare & Submit Subletting Procedures	1 day Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	Mon 16/9/19	0 days 2 53	100%	16/9 16/9			
Review & Accept Subletting Procedures	21 days Mon 16/9/19	Mon 7/10/19	Mon 16/9/19	Mon 7/10/19	0 days 52 55,57,54,56	100%	16/9 7/10			
letting 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 53 311	100%	7/10 6/11			
letting for Drainage Diversion Works for UV System no.1& Effluent	44 days Tue 8/10/19	Wed 20/11/19	Tue 8/10/19	Wed 20/11/19	0 days 53 308	100%	8/10 20 /11			
pping Station No.1										
letting for the Temporary Site accommodation (On hold)	8 days Thu 14/11/19	Thu 21/11/19	Thu 14/11/19	NA	32 days 53 111	99%	14/11 •21/11			
letting for Pre-drilling Works	49 days Sat 12/10/19	Fri 29/11/19	Sat 12/10/19	Fri 29/11/19	0 days 53 58SS+15 days,59SS+15 days,1	100%	12/10 29/11			
letting for Pre-bored Socketed Steel H-Pile	45 days Mon 18/11/19	Sat 25/1/20	Mon 18/11/19	NA	7.25 days 57SS+15 days 355,150,191,207,220,230,245,1	90%	18/11 📂 25/1			
letting 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 57SS+15 days 61,60,74,62,63,64	100%	25/10 🔳 27/11			
letting for ELS Works	60 days Fri 20/12/19	Mon 17/2/20	Fri 20/12/19	NA	105 days 59 127,154,160,166,172,179,193,2	80%	20/12 🔖 17/2			
letting for R.C Works	60 days Mon 1/6/20	Thu 30/7/20	NA	NA	-4 days 59 128,194,210,223,359,272,252,2	0%	1/6	30/7		
letting for ABWS & BS Works	60 days Mon 4/1/21	Thu 4/3/21	NA	NA	63.8 days 59 142,184,201,213,224,239,254,2	0%		4/1 4/3		
letting for Pipeworks, Utilities, and Roadworks	60 days Mon 2/3/20	Thu 30/4/20	NA	NA	227 days 59 336,333,334,335,332	0%	2/3 30	/4		
letting for Hard Landscape, Soft Landscape, and others	60 days Mon 8/6/20	Thu 6/8/20	NA	NA	0 days 59 339,340,341,343	0%	8/6	■ 6/8		
ory Submission, Submission & Approval		Thu 4/8/22	Mon 16/9/19	NA			16/9		1/8	
pare and Submit Subcontractor Management Plan (SMP)	-				-		16/9			
pare and Submit Interface Management Plan	·				-		Ĭ			
	· ·				-					
ersion	51 days 181011 10/3/13	146 3/11/19	WOII 10/3/13	146 3/11/13	0 days 2 000,10	10070	.0,0			
	r 45 days Mon 16/0/10	Wed 30/10/10	Mon 16/0/10	NΔ	0 days 2	78%	16/9 30/10			
pare TTA Plan, submit & approve for carnageway at Chuk Wan Road for 2 13kV substation	10 days 10011 10/3/13	**Cu 30/10/19	WOII 10/3/13	INO		1070	10,0			
letting for Fort Submission and Sipare and Sipare and Sipare TTA Persion	lard Landscape, Soft Landscape, and others sion, Submission & Approval ubmit Subcontractor Management Plan (SMP) ubmit Interface Management Plan lan, submit & approve for footpath for Stage 1 - Drainage lan, submit & approve for carriageway at Chuk Wan Road for	Pipeworks, Utilities, and Roadworks for days for days	Pipeworks, Utilities, and Roadworks	Pipeworks, Utilities, and Roadworks	Na Na Na Na Na Na Na Na	Pipeworks, Utilities, and Roadworks 60 days Ann 8/6/20 Thu 30/4/20 NA NA 227 days 59 336,333,334,335,332 And Landscape, Soft Landscape, and others 60 days Mon 8/6/20 Thu 6/8/20 NA NA 0 days 59 339,340,341,343 And Sesion, Submission & Approval 1054 day Mon 16/9/19 Thu 4/8/22 Mon 16/9/19 NA 20 days 2	Pipeworks, Utilities, and Roadworks 60 days Mon 2/3/20 Thu 30/4/20 NA NA 227 days 59 336,333,334,335,332 0% Alard Landscape, Soft Landscape, and others 60 days Mon 8/6/20 Thu 6/8/20 NA NA 0 days 59 339,340,341,343 0% Alard Landscape, Soft Landscape, and others 60 days Mon 16/9/19 Thu 4/8/22 Mon 16/9/19 NA 20 days 82% Usinit Subcontractor Management Plan (SMP) 0 days Mon 16/9/19 Mon 16/9/19 Mon 16/9/19 Mon 16/9/19 0 days 2 100% Usinit Interface Management Plan 60 days Mon 16/9/19 Thu 4/11/19 Mon 16/9/19 NA 0 days 2 58% Usinit Supprove for footpath for Stage 1 - Drainage 51 days Mon 16/9/19 Tue 5/11/19 Mon 16/9/19 Tue 5/11/19 0 days 2 308,70 100% Usinit Approve for carriageway at Chuk Wan Road for 45 days Mon 16/9/19 Wed 30/10/19 Mon 16/9/19 NA 0 days 2 78%	Pipeworks, Utilities, and Roadworks 60 days Mon 2/3/20 Thu 30/4/20 NA NA 227 days 59 336,333,334,335,332 0% Alard Landscape, Soft Landscape, and others 60 days Mon 8/6/20 Thu 6/8/20 NA NA 0 days 59 339,340,341,343 0% Sision, Submission & Approval 1054 day Mon 16/9/19 Thu 4/8/22 Mon 16/9/19 NA 20 days bubmit Subcontractor Management Plan (SMP) 0 days Mon 16/9/19 Mon 16/9/19 Mon 16/9/19 NA 0 days 2 100% bubmit Interface Management Plan 60 days Mon 16/9/19 Thu 14/11/19 Mon 16/9/19 NA 0 days 2 308,70 100% 16/9 17/11 Idan, submit & approve for footpath for Stage 1 - Drainage 51 days Mon 16/9/19 Wed 30/10/19 Mon 16/9/19 NA 0 days 2 78% 16/9 30/10	Pipeworks, Utilities, and Roadworks 60 days Mon 2/3/20 Thu 30/4/20 NA NA 227 days 59 336,333,334,335,332 0% and Landscape, and others 60 days Mon 8/6/20 Thu 6/8/20 NA NA NA 0 days 59 339,340,341,343 0% and Landscape, and others 60 days Mon 16/9/19 Thu 4/8/22 Mon 16/9/19 NA 20 days bubmit Subcontractor Management Plan (SMP) 0 days Mon 16/9/19 Mon 16/9/19 Mon 16/9/19 NA 0 days 2 100% bubmit Interface Management Plan 60 days Mon 16/9/19 Thu 4/11/19 Mon 16/9/19 NA 0 days 2 308,70 100% 16/9/19 Thu 5/11/11 Inn, submit & approve for footpath for Stage 1 - Drainage 51 days Mon 16/9/19 Wed 30/10/19 Mon 16/9/19 NA 0 days 2 78% 16/9 30/10	Pipeworks, Utilities, and Roadworks 60 days Mon 2/3/20 Thu 30/4/20 NA NA NA 227 days 59 336,333,343,35,322 0% Alard Landscape, Soft Landscape, and others 60 days Mon 8/6/20 Thu 6/8/20 NA NA NA 20 days Sision, Submission & Approval Ubmit Subcontractor Management Plan (SMP) Ubmit Interface Management Plan Han, submit & approve for footpath for Stage 1 - Drainage 151 days Mon 16/9/19 Thu 4/1/1/19 Mon 16/9/19 NA 0 days 27 days 59 336,333,34,335,332 0% 82% 16/9 16/9 100% 16/9 100% 16/9 16/9 16/9 16/9 16/9 16/9 16/9 16/9



Task Name	Duratior Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors Successors	% Comple	Q1 Q3
Excavation Permit Application	38 days Mon 16/9/19	Tue 28/1/20	Mon 16/9/19	NA	-88.6 days	68 374FS+60 days,373FS+60 da	vs 80%	16/9 0 28/1
Approval for Lighting Removal at Portion C-1A of the Site from Hyd	68 days Mon 16/9/19	Fri 22/11/19	Mon 16/9/19	Fri 22/11/19	0 days	•	100%	16/9 22/11
Prepare, submit & approve for commencement of Works near MTRCL	43 days Mon 16/9/19	Mon 28/10/19	Mon 16/9/19	Mon 28/10/19	0 days		100%	16/9 28/10
protection zone at Sun Wan Road from MTRCL	To days Mon 10/0/10	1001 20/10/10	WIGHT TO/O/ TO	WIGH 20/10/10	o dayo	2 000,000	10070	100 a
Prepare, submit & approve the layout plan of the Temporary Site	60 days Fri 25/10/19	Mon 23/12/19	Fri 25/10/19	NA	0 days	2 111	50%	25/10 23/12
accommodation (PPMI no.001) (On hold)	00 days 111 25/10/19	WOT 25/12/19	11123/10/13	INA	0 uays	2 111	30 /6	20.17
	47 days Thu 7/11/10	Man 22/12/10	Thu 7/11/10	Man 22/12/10	O daya	EQ 127.154.160.166.170.170.103	2 1000/	7/11 23/12
Prepare, submit & approve the ELS design for deep excavation	47 days Thu 7/11/19	Mon 23/12/19	Thu 7/11/19	Mon 23/12/19	0 days			
Prepare, submit & approve the Method Statement for Drainage Diversion	27 days Mon 16/9/19	Sat 12/10/19	Mon 16/9/19	Sat 12/10/19	0 days	2 308,76	100%	16/9 12/10
Works								
PM approve the Method Statement for Drainage Diversion Works	14 days Sun 20/10/19	Sat 2/11/19	Sun 20/10/19	NA	0 days	75	80%	20/10 @ 2/11
Prepare, submit & approve for the FSD submissions for CLP 132kV	60 days Mon 6/6/22	Thu 4/8/22	NA	NA	20 days	371	0%	6/6 4/8
Substation								
Environmental Aspect Submissions	120 days Mon 16/9/19	Mon 13/1/20	Mon 16/9/19	Mon 13/1/20	0 days	2	100%	16/9 13/1
Prepare, submit & approve Site Management Plan for Trip Tricket System	n 58 days Mon 16/9/19	Tue 12/11/19	Mon 16/9/19	Tue 12/11/19	0 days	2	100%	16/9 🚾 12/11
Prepare, submit & approve Waste Management Plan	57 days Mon 16/9/19	Mon 11/11/19	Mon 16/9/19	Mon 11/11/19	0 days	2	100%	16/9 📉 11/11
Prepare, submit & approve Environmental Management Plan	50 days Mon 16/9/19	Mon 4/11/19	Mon 16/9/19	Mon 4/11/19	0 days	2	100%	16/9 4/1
, , , , , , , , , , , , , , , , , , ,					, .			
Notification to EPD for Works Commencement	55.44 day Wed 9/10/19	Mon 13/1/20	Wed 9/10/19	Mon 13/1/20	0 days	308,329	100%	9/10 13/1
Procurement Procurement	548 days Mon 16/9/19	Tue 16/3/21	Mon 16/9/19	NA	51.8 days	555,525	27%	16/9
Prepare and submit the Procurement Procedure	•				-	85	100%	16/9 19/10
4	34 days Mon 16/9/19	Sat 19/10/19	Mon 16/9/19	Sat 19/10/19	0 days			
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		100%	♦ 19/10
Prepare, submit and approve the pipe works material	45 days Sun 20/10/19	Tue 3/12/19	Sun 20/10/19	NA	44.1 days		80%	20/10 3/12
Prepare, submit and approve the water proofing material	30 days Mon 15/6/20	Tue 14/7/20	NA	NA	12 days		0%	15/6 14/7
Prepare, submit and approve the concrete mix	60 days Sat 1/2/20	Tue 31/3/20	NA	NA	57 days	85 128,194,210,223,359,89	0%	1/2 31/3
Prepare, submit and approve the rebar material	30 days Mon 11/5/20	Tue 9/6/20	NA	NA	17 days	88 90,128,194,210,223,359	0%	11/5 🔳 9/6
Prepare, submit and approve the metal works material	30 days Wed 10/6/20	Thu 9/7/20	NA	NA	17 days		0%	10/6 9/7
Prepare, submit and approve the ABWF works material	30 days Mon 15/2/21	Tue 16/3/21	NA	NA	51.8 days			15/2 16/3
Preparation of Cost Saving Design	243.8 day Wed 18/9/19	Mon 18/5/20	Wed 18/9/19	NA NA	-77.8 days		48%	18/9
					-			18/9 1/2
Prepare, submit and approve CSD package no.1	136.2 dayWed 18/9/19	Sat 1/2/20	Wed 18/9/19	NA	10.8 days		65%	
Prepare and submit CSD proposal	66 days Wed 18/9/19	Fri 22/11/19	Wed 18/9/19	Fri 22/11/19	0 days		100%	18/9 22/11
PM review and approval of CSD	7 days Sat 23/11/19	Fri 29/11/19	Sat 23/11/19	Fri 29/11/19	0 days		100%	23/11 29/11
Obtain AIP	0 days Fri 29/11/19	Fri 29/11/19	Fri 29/11/19	Fri 29/11/19	0 days	95 98,97	100%	♦ 2 9/11
PM review and approval of CSD	42 days Fri 29/11/19	Thu 9/1/20	Fri 29/11/19	NA	33 days	96 150,191	20%	29/11 🧃 9/1
Obtain DDA	14 days Fri 29/11/19	Sat 1/2/20	Fri 29/11/19	NA	10.8 days	96 150,191	20%	29/11 👔 1/2
Prepare, submit and approve CSD package no.2	243.8 dayWed 18/9/19	Mon 18/5/20	Wed 18/9/19	NA	-77.8 days		37%	18/9
Prepare and submit CSD proposal	95 days Wed 18/9/19	Mon 10/2/20	Wed 18/9/19	NA	-77.8 days	· ·	80%	18/9
				NA NA			0%	10/2 16/3
PM review and approval of CSD	35 days Mon 10/2/20	Mon 16/3/20	NA		-77.8 days			
Obtain AIP	21 days Mon 16/3/20	Mon 6/4/20	NA	NA	-77.8 days		0%	16/3 6/4
PM review and approval of CSD	42 days Mon 6/4/20	Mon 18/5/20	NA	NA	-77.8 days		0%	6/4 18/5
Obtain DDA	14 days Mon 6/4/20	Mon 20/4/20	NA	NA	-49.8 days	102 125,220	0%	6/4 ■ 20/4
Site Preliminary Works	166 days Mon 16/9/19		Mon 16/9/19	NA	0 days		68%	16/9
Initial Tree survey and report submission	14 days Thu 26/9/19	Wed 9/10/19	Thu 26/9/19	Wed 9/10/19	0 days	2 108	100%	26/9 🔳 9/10
Prepare and submit and approve the Method Statement of Tree felling &	72 days Mon 7/10/19	Tue 17/12/19	Mon 7/10/19	Tue 17/12/19	0 days	2 108	100%	7/10 17/12
Prunning works								
Mobilization for Hoarding	0 days Thu 21/11/19	Tue 26/11/19	Thu 21/11/19	Tue 26/11/19	0 days	2,116,106,107 109	100%	♦ 26/11
Hoarding Erection at Portion C	40 days Wed 27/11/19	Wed 15/1/20	Wed 27/11/19	NA	0 days	108 121	70%	27/11 👩 15/1
Utility applications and Connection	89 days Mon 16/9/19	Thu 2/1/20	Mon 16/9/19	NA NA	46 days		75%	16/9 2/1
Construction of Site Accommodation in Works Area (On hold)			NA	NA NA		73,110FF,56	0%	24/12 28/2
, ,	52 days Tue 24/12/19				-	70,11011,00	0 70	
Construction Works of Portion C of the Site	1954 day Mon 16/9/19	Mon 20/1/25	Mon 16/9/19	NA	0 days		1%	16/9
UV System No. 1 & Effluent Pumping Station No. 1	575.8 day Mon 16/9/19	Tue 24/8/21	Mon 16/9/19	NA	0 days		12%	16/9
Preliminary Works	105 days Mon 16/9/19	Tue 21/1/20	Mon 16/9/19	Tue 21/1/20	0 days		100%	16/9 21/1
Site Clearance & Site Set Up	23 days Mon 16/9/19	Mon 14/10/19	Mon 16/9/19	Mon 14/10/19	0 days	2 116,117,118	100%	16/9 14/10
Tree Felling Works	5 days Tue 15/10/19	Sun 20/10/19	Tue 15/10/19	Sun 20/10/19	0 days	115 108	100%	15/10 20/10
Trial Pit Excavation & UU Detection Works	6 days Tue 15/10/19		Tue 15/10/19	Mon 21/10/19	0 days		100%	15/10 21/10
Temporary Footpath Diversion	20 days Mon 14/10/19		Mon 14/10/19	Tue 5/11/19	0 days		100%	14/10 5/1
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	•	100%	10/12 10/12
					-		100%	18/1 @ 21/1
Removal of Existing Street light and Provision of Temporary Street light	3 days Sat 18/1/20	Tue 21/1/20	Sat 18/1/20	Tue 21/1/20	o days	71,118FS-15 days 308FS-5 days	100%	10/1 0 2 // 1
Desdellers Wester (0. 4: 41 (1.98 1.1.)	0 d T 0110115	101-3 44 140 140	T. 0//0//0	10/- 144/10/10	0.1	200 224 220 57 40 40050 44 1	40001	31/12
Predrilling Works (8no, 1rig, 4days/drillhole/rig)	0 days Tue 3/12/19	Wed 11/12/19	Tue 3/12/19	Wed 11/12/19		308,331,330,57,10 122FS+14 days	100%	♦ 11/12 • • • • • • • • • • • • • • • • • • •
Installation of Monitoring Points	0 days Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19		121FS+14 days 123	100%	19/12
Sheetpile Installation (FSP IV, 2200sq.m, 2 Rig, 50sqm/rig/day)	22 days Sat 4/1/20	Tue 28/4/20	Sat 4/1/20	NA	-51 days	122,308,329 124	5%	4/1 🦠 🔳 28/4
Setting up plant for pre-bored socked H-pile Installation	5 days Wed 29/4/20	Wed 6/5/20	NA	NA	-51 days	123 125	0%	29/4 6/5
Pre-bored Socketed H-Pile Installation (34 Nos, 2 Rig, 3days/rig/pile)	51 days Mon 18/5/20	Sat 18/7/20	NA	NA	-60.8 days	58,124,99,104,103 126	0%	18/5 18/7
Pile Loading Test	26 days Sat 18/7/20	Thu 13/8/20	NA	NA	-72.8 days		0%	18/7 📕 13/8
ELS Works (incl. Strut (4-layers) Installation & Excavation (3,700 cu.m)	45 days Thu 13/8/20	Wed 7/10/20	NA	NA	-60.8 days		0%	13/8 7/10
R.C. Structure (370sq.m)			NA	NA NA		87,88,89,90,61	0%	7/10 7/5
, , ,	171 days Wed 7/10/20	Fri 7/5/21			-			
Below Ground Level Stage no.1 @ -1.10mPD	55 days Wed 7/10/20	Fri 11/12/20	NA NA	NA NA	-60.8 days		0%	7/10 11/12
Base slab Construction (162 sq.m)	25 days Wed 7/10/20	Fri 6/11/20	NA	NA	-60.8 days		0%	7/10 6/11
Walls and Slabs Construction @-1.10mPD to +2.50mPD	30 days Fri 6/11/20	Fri 11/12/20	NA	NA	-60.8 days		0%	6/11 ■ 11/12
Below Ground Level Stage no.2 @ +1.50mPD	44 days Fri 11/12/20	Thu 4/2/21	NA	NA	-60.8 days		0%	11/12 📺 4/2
Base slab Construction (170sg.m)	24 days Fri 11/12/20	Tue 12/1/21	NA	NA	-60.8 days	131 134	0%	11/12 🔳 12/1



	sk Name	Duratior Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors Successors	% Comple	20	020 Q1
	Walls and Slabs Construction @+1.5mPD to +4.9mPD	20 days Tue 12/1/21	Thu 4/2/21	NA	NA	-60.8 days	133 136	0%	Q3 Q1 Q3	Q1 Q3
	Below Ground Level Stage no.3 @ +3.80mPD	50 days Thu 4/2/21	Sat 10/4/21	NA NA	NA NA	-60.8 days		0%		4/2 10/4
	Base slab Construction (15 sq.m + 40 sq.m)	16 days Thu 4/2/21	Fri 26/2/21	NA NA	NA NA	-60.8 days		0%		4/2 26/2
	Walls and Slabs Construction @+3.80mPD to +7.4mPD	20 days Fri 26/2/21	Mon 22/3/21	NA NA	NA NA	-60.8 days		0%		26/2 22/3
	Extraction of Sheetpiles	14 days Mon 22/3/21	Sat 10/4/21	NA NA	NA NA	22 days	· ·	0%		22/3 10/4
	Above Ground Level @ +7.4mPD	36 days Mon 22/3/21	Fri 7/5/21	NA NA	NA NA	-60.8 days		0%		22/3 7/5
D1A	Walls, Slabs and staircase Construction @+7.4mPD to 16.4mPD	36 days Mon 22/3/21	Fri 7/5/21	NA NA	NA NA	-60.8 days		0%		22/3 7/5
JIA		· ·								◆ 7/5
14	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days Fri 7/5/21	Fri 7/5/21	NA	NA	90 days		0%		
/1	ABWF Works + BS Works	90 days Fri 7/5/21	Tue 24/8/21	NA	NA		91,62,140 43FF	0%	_,	7/5 24/8
,	Sludge Digesters and Distribution Chamber	638 days Sat 7/12/19	Mon 31/1/22	Sat 7/12/19	NA	201 days		2%	7/12	•
	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		100%	7/12 13	
	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	146SF 144SF	100%	14/12 20	
	Predrilling Works (23no., 3rig, 4days/drillhole/rig)	17 days Sat 21/12/19	Mon 13/1/20	Sat 21/12/19	Mon 13/1/20	0 days	57FS+14 days 147,145SF,148	100%	21/12 🔳	13/1
	Installation of Monitoring Points	0 days Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	Thu 19/12/19	0 days	146 150	100%		19/12
	Sheet Pile Installation	45 days Tue 14/1/20	Mon 9/3/20	NA	NA	0 days	146 150FS-23 days,178	0%	14/1 🧄	9/3
	Setting up plant for pre-bored socked H-pile Installation	5 days Sat 29/2/20	Thu 5/3/20	NA	NA	-20 days	150	0%	29/2	5/3
	Pre-bored Socketed H-Pile Installation (127nos, 3 Rig, 3days/rig/pile)	127 days Fri 6/3/20	Mon 10/8/20	NA	NA	-20 days	58,147,148FS-23 d 151,303	0%	6/3	10/8
	Pile Load Test (2no.)	26 days Tue 11/8/20	Sat 5/9/20	NA	NA	1 day		0%		11/8 ■ 5/9
	Construction of Digestors	231 days Mon 7/9/20	Sat 19/6/21	NA	NA	0 days	101,100,100,100,100,11	0%		7/9
	•		Mon 26/4/21	NA NA	NA NA	0 days	151	0%		7/9 26/4
	Digester No. 1	187 days Mon 7/9/20				-				
	ELS Works (incl. Strut (3-layers) Installation & Excavation (4,440 cu.m	•	Mon 19/10/20	NA NA	NA	-	74,60,151 166,155	0%		7/9 19/10
	Construction of Digesters	88 days Tue 20/10/20	Wed 3/2/21	NA	NA	0 days		0%		20/10 3/2
	Water Test	20 days Thu 4/2/21	Tue 2/3/21	NA	NA	0 days		0%		4/2 2/3
	Apply Internal Anti-corrosion Protective Lining	14 days Wed 3/3/21	Thu 18/3/21	NA	NA	0 days		0%		3/3 18/3
	Construction of Roof Slab	30 days Fri 19/3/21	Mon 26/4/21	NA	NA	0 days	157 169	0%		19/3 26/4
	Digester No. 2	187 days Mon 7/9/20	Mon 26/4/21	NA	NA	0 days	151	0%		7/9 26/4
	ELS Works (incl. Strut (3-layers) Installation & Excavation (4,440 cu.m)) 35 days Mon 7/9/20	Mon 19/10/20	NA	NA	0 days	74,60,151 172,161	0%		7/9 🚾 19/10
	Construction of Digesters	88 days Tue 20/10/20	Wed 3/2/21	NA	NA	0 days	160 162,179,173FS-58 days	0%		20/10 3/2
	Water Test	20 days Thu 4/2/21	Tue 2/3/21	NA	NA	0 days		0%		4/2 2/3
	Apply Internal Anti-corrosion Protective Lining	14 days Wed 3/3/21	Thu 18/3/21	NA NA	NA NA	0 days		0%		3/3 18/3
		•		NA NA	NA NA			0%		19/3 26/4
	Construction of Roof Slab	30 days Fri 19/3/21	Mon 26/4/21							_
	Digester No. 3	196 days Tue 20/10/20	Sat 19/6/21	NA	NA	0 days		0%		20/10 19/6
	ELS Works (incl. Strut (3-layers) Installation & Excavation (4,440 cu.m		Mon 30/11/20	NA	NA	0 days	74,60,154 167,332,333,334,336,335			20/10 30/11
	Construction of Digesters	88 days Tue 1/12/20	Fri 19/3/21	NA	NA	0 days	166,155FS-58 day: 168,179	0%		1/12 19/3
	Water Test	20 days Sat 20/3/21	Thu 15/4/21	NA	NA	9 days	167 169	0%		20/3 15/4
	Apply Internal Anti-corrosion Protective Lining	14 days Tue 27/4/21	Thu 13/5/21	NA	NA	0 days	168,158 170	0%		27/4 13/5
	Construction of Roof Slab	30 days Fri 14/5/21	Sat 19/6/21	NA	NA	0 days	169	0%		14/5 🔳 19/6
	Digester No. 4	196 days Tue 20/10/20	Sat 19/6/21	NA	NA	0 days	151	0%		20/10 19/6
	ELS Works (incl. Strut (3-layers) Installation & Excavation (4,440 cu.m		Mon 30/11/20	NA	NA	0 days	74,60,160 173,332,333,334,336,335	0%		20/10 🚃 30/11
	Construction of Digesters	88 days Tue 1/12/20	Fri 19/3/21	NA	NA		172,161FS-58 days 174,179,180	0%		1/12 19/3
	Water Test	20 days Sat 20/3/21	Thu 15/4/21	NA NA	NA NA	9 days	173 175	0%		20/3 15/4
	Apply Internal Anti-corrosion Protective Lining	14 days Tue 27/4/21	Thu 13/5/21	NA NA	NA NA		174,164 176	0%		27/4 13/5
		,		NA NA	NA NA	-	1 1			14/5 19/6
	Construction of Roof Slab	30 days Fri 14/5/21	Sat 19/6/21				175	0%		_
	Construction of Distribution Chamber	219 days Mon 18/1/21	Wed 13/10/21	NA	NA	0 days		0%		18/1 13/10
	Sheet Pile Installation	45 days Mon 18/1/21	Sat 13/3/21	NA	NA	5 days		0%		18/1 13/3
	ELS Works (incl. Strut (3-layers) Installation & Excavation (8,880 cu.m))	79 days Sat 20/3/21	Sat 26/6/21	NA	NA	0 days		0%		20/3 26/6
A	Construction of Distribution Chamber	90 days Mon 28/6/21	Wed 13/10/21	NA	NA	0 days	179,173 184,181,37FF,183,182	0%		28/6 13/10
Α	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days Wed 13/10/21	Wed 13/10/21	NA	NA	0 days	180 37FF	0%		♦ 13/10
	Drainage System (within Bldg/ Structure) Installation	90 days Fri 15/10/21	Mon 31/1/22	NA	NA	201 days	180 45FF	0%		15/10 31/1
	FRP Walkway & Miscellanous Installation	90 days Fri 15/10/21	Mon 31/1/22	NA	NA	201 days		0%		15/10 31/1
3	ABWF Works & BS Works, incl. External Linning	90 days Fri 15/10/21	Mon 31/1/22	NA	NA		180,91,62 45FF	0%		15/10 31/1
	Sludge Dewatering Building	638 days Tue 26/11/19		Tue 26/11/19	NA NA	211 days		5%	26/11	
	Site Clearance & Site Set Up	6 days Tue 26/11/19		Tue 26/11/19	Mon 2/12/19	0 days		100%	26/11 2/1	
	·					-			4/12 2	
	Predrilling Works (39no.4rig, 4days/drillhole/rig))	18 days Wed 4/12/19	Tue 24/12/19	Wed 4/12/19	Tue 24/12/19		57FS+14 days,186 188	100%		
	Installation of Monitoring Points	10 days Fri 3/1/20	Tue 14/1/20	Fri 3/1/20	Tue 14/1/20	0 days		100%	3/1	
	Sheet Pile Installation	30 days Wed 15/1/20	Mon 24/2/20	Wed 15/1/20	NA	3 days		10%	15/1	
	Setting up plant for pre-bored socked H-pile Installation	5 days Tue 25/2/20	Sat 29/2/20	NA	NA	3 days		0%		29/2
	Pre-bored Socketed H-Pile Installation (202 Nos, 4 Rig, 3days/rig/pile)	152 days Mon 2/3/20	Thu 3/9/20	NA	NA	3 days	189,58,190,93,98,9 219,192	0%	2/3	3/9
	Pile Loading Test	25 days Fri 4/9/20	Mon 28/9/20	NA	NA	4 days	191 193	0%		4/9 ■ 28/9
	ELS Works (incl. Strut (3-layers) Installation & Excavation (25,000 cu.m))	60 days Tue 29/9/20	Thu 10/12/20	NA	NA	2 days	74,60,192 194,195,332,333,334,336	,335 0%		29/9 10/12
	R.C. Structure	238 days Fri 11/12/20	Thu 30/9/21	NA	NA	2 days	87,88,89,90,61,193 201,200,199	0%		11/12 30/9
	Basement Consturction @	76 days Fri 11/12/20	Tue 16/3/21	NA	NA	2 days		0%		11/12 16/3
	Ground Floor Construction @ +7.55mpD	65 days Wed 17/3/21	Sat 5/6/21	NA	NA	2 days		0%		17/3 5/6
	1/F Construction @ +15.3m mPD	65 days Mon 7/6/21	Mon 23/8/21	NA NA	NA NA	2 days		0%		7/6 23/8
3	Roof Construction @ +25.65mPD		Thu 30/9/21	NA NA	NA NA	2 days		0%		24/8 30/9
		32 days Tue 24/8/21					· ·			
В	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days Thu 30/9/21	Thu 30/9/21	NA	NA	2 days		0%		♦ 30/9 2/40 ————————————————————————————————————
	Drainage System (within Bldg/ Structure) Installation	90 days Sat 2/10/21	Wed 19/1/22	NA	NA	211 days		0%		2/10 19/1
5	ABWF Works & BS Works	89 days Sat 2/10/21	Tue 18/1/22	NA	NA	212 days	194,91,62 45FF	0%		2/10 18/1
(Combined Heat Power Building	518 days Tue 10/12/19	Wed 8/9/21	Tue 10/12/19	NA	319 days		4%	10/12 🔖	
	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	2,204SF	100%	10/12 16	6/12
	Predrilling Works (15no. 2rig, 4days/drillhole/rig)	0 days Tue 17/12/19	Mon 30/12/19	Tue 17/12/19	Mon 30/12/19	0 days	57FS+28 days 205,203SF	100%	♦	30/12
	- · · · · · · · · · · · · · · · · · · ·			Fri 3/1/20	Thu 9/1/20	0 days		100%	3/1	9/1
	Installation of Monitoring Points	6 days Fri 3/1/20	Thu 9/1/20	1113/1/20	1110 3/1/20	U uavs	204 207	100 /01		



KD Ta	sk Name	Duratior Start	Finish	Actual Start	Actual Finish	Total Slack	Predecessors	Successors	% Comple	2020 2023 2026
	D 1 10 11 11 11 11 11 11 11 11 11 11 11 1	75 1 0	14/ 100/11/22	0 : 1011 77	***		50.005.005	000	. Q1	2020 2023 21 Q3 Q1
	Pre-bored Socketed H-Pile Installation (50 Nos, 2 Rig 3days/rig/pile)	75 days Sat 18/1/20	Wed 29/4/20	Sat 18/1/20	NA NA		58,205,206	208	5%	18/1 29/4
i	Pile Loading Test	26 days Sat 2/5/20	Mon 1/6/20	NA NA	NA NA	110 days		209	0%	2/5 1 /6 2/6 1 6/9
	Excavation for Pile Cap (2,060 cu.m)	90 days Tue 2/6/20	Wed 16/9/20	NA NA			74,60,208	210	0%	17/9 24/5
KD3C	R.C. Structure	200 days Thu 17/9/20	Mon 24/5/21	NA NA	NA NA			209 39FF,212,213,211,278	0%	24/5 • 24/5
KD3C	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days Mon 24/5/21	Mon 24/5/21	NA NA	NA NA	110 days		39FF 45FF	0%	25/5 4/8
SW3	Drainage System (within Bldg/ Structure) Installation	60 days Tue 25/5/21	Wed 4/8/21	NA NA	NA NA	349 days		45FF	0%	25/5 8/9
	ABWF Works & BS Works	90 days Tue 25/5/21	Wed 8/9/21				210,91,62	40FF		25/5
	Sewage Pumping Station	570 days Mon 25/5/20	Mon 25/4/22	NA NA	NA NA	55 days	0	040	0% 0%	25/5 30/5
	Site Clearance & Site Set Up	6 days Mon 25/5/20	Sat 30/5/20	NA NA	NA NA	55 days		216	0%	1/6 1 18/6
	Predrilling Works (4no.1rig, 4days/drillhole/rig)	16 days Mon 1/6/20	Thu 18/6/20	NA NA	NA		57FS+14 days,2			
	Installation of Monitoring Points	6 days Fri 19/6/20	Fri 26/6/20	NA NA	NA NA	55 days		218	0%	19/6 26/6
	Sheet Pile Installation	30 days Sat 27/6/20	Sat 1/8/20	NA NA	NA	55 days		220	0%	27/6 1/8
	Setting up plant for pre-bored socked H-pile Installation	5 days Fri 4/9/20	Wed 9/9/20	NA NA	NA	22 days		220	0%	4/9 9/9
	Pre-bored Socketed H-Pile Installation (22 Nos, 1 Rig, 3days/rig/pile)	66 days Thu 10/9/20	Sat 28/11/20	NA NA	NA	-	58,218,219,99,1		0%	10/9 28/11
	Pile Loading Test	26 days Sun 29/11/20		NA	NA	28 days		222	0%	29/11 24/12
KDOE	ELS Works (incl. Strut (3-layers) Installation & Excavation (1,440 cu.m))	80 days Mon 28/12/20		NA NA	NA		74,60,221	223	0%	28/12 7/4
KD3E	R.C. Structure	200 days Tue 4/5/21	Fri 31/12/21	NA NA	NA		87,88,89,90,61,2		0%	31/12
SW3	ABWF Works & BS Works	90 days Mon 3/1/22	Mon 25/4/22	NA	NA		91,62,223	45FF	0%	3/1 25/4
	Workshop No. 2	501 days Tue 24/12/19		Tue 24/12/19	NA O 00/40/40	324 days		007	3%	24/12 29/12
	Site Clearance & Site Set Up	3 days Tue 24/12/19		Tue 24/12/19	Sun 29/12/19	0 days		227	100%	24/12 29/12 31/12 13/1
	Predrilling Works (10no.1rig, 4days/drillhole/rig)	11 days Tue 31/12/19		Tue 31/12/19	Mon 13/1/20	0 days		228	100%	
1	Installation of Monitoring Points	2 days Tue 14/1/20	Wed 15/1/20	NA NA	NA	77 days		230,229	0%	14/1 • 15/1
1	Setting up plant for pre-bored socked H-pile Installation	5 days Mon 20/4/20	Fri 24/4/20	NA	NA	3 days		230	0%	20/4 24/4
1	Pre-bored Socketed H-Pile Installation (36 Nos, 2 Rig, 3days/rig/pile)	54 days Sat 25/4/20	Tue 30/6/20	NA	NA		58,228,229	231	0%	25/4 30/6
	Pile Loading Test	26 days Wed 1/7/20	Sun 26/7/20	NA	NA	4 days		232	0%	1/7 26/7
	Excavation for Pile Cap (1,800 cu.m)	20 days Mon 27/7/20	Tue 18/8/20	NA	NA		74,60,231	234,332,333,334,336,335	0%	27/7 18/8
	R.C. Structure	220 days Wed 19/8/20	Mon 17/5/21	NA	NA	4 days			0%	19/8 17/5
	Ground Floor Construction @ +6.30mpD	80 days Wed 19/8/20	Mon 23/11/20	NA	NA	4 days		235	0%	19/8 23/11
	First Floor Construction @ +13.50mpD	80 days Tue 24/11/20		NA	NA	4 days		236	0%	24/11 3/3
KD3D	Roof Construction @+19.00mPD	60 days Thu 4/3/21	Mon 17/5/21	NA	NA	4 days	235	238,239,40FF,237,250	0%	4/3 17/5
KD3D	Allow access to Contarctor DE/2018/03 for E&M Installation	0 days Mon 17/5/21	Mon 17/5/21	NA	NA	40 days	236	40FF	0%	♦ 17/5
	Drainage System (within Bldg/ Structure) Installation	60 days Tue 18/5/21	Thu 29/7/21	NA	NA	354 days	236	45FF	0%	18/5 29/7
SW3	ABWF Works & BS Works	90 days Tue 18/5/21	Thu 2/9/21	NA	NA	324 days	91,62,236	45FF	0%	18/5 2/9
*	Thermal Hydrolysis Pretreatment	403 days Thu 19/12/19	Mon 3/5/21	Thu 19/12/19	NA	0 days			11%	19/12
	Site Clearance & Site Set Up	16.12 day Thu 19/12/19	Sun 12/1/20	Thu 19/12/19	Sun 12/1/20	0 days	2	242	100%	19/12 🔳 12/1
	Predrilling Works (3no.1rig, 4days/drillhole/rig)	2 days Mon 13/1/20	Tue 14/1/20	Mon 13/1/20	Tue 14/1/20	0 days	57FS+24 days,2	41 243	100%	13/1 14/1
	Installation of Monitoring Points	6 days Wed 15/1/20	Tue 21/1/20	NA	NA	254 days	242	245	0%	15/1 🧔 21/1
	Setting up plant for pre-bored socked H-pile Installation	5 days Tue 24/11/20	Sat 28/11/20	NA	NA	0 days		245	0%	24/11 28/11
	Pre-bored Socketed H-Pile Installation (15 Nos, 1 Rig, 3days/rig/pile)	45 days Mon 30/11/20	Sat 23/1/21	NA	NA	0 days	58,243,244	246	0%	30/11 🚃 23/1
	Pile Loading Test	25 days Sun 24/1/21	Wed 17/2/21	NA	NA	0 days	245	247	0%	24/1 17/2
	Excavation for Pile Cap (160 cu.m)	20 days Thu 18/2/21	Fri 12/3/21	NA	NA	0 days	74,60,246	248	0%	18/2 12/3
KD3E	R.C. Plinth	40 days Sat 13/3/21	Mon 3/5/21	NA	NA	0 days	247	41FF,223	0%	13/3 3/5
*	Ferric Chloride Dosing Facilities	216 days Tue 18/5/21	Mon 7/2/22	NA	NA	4 days			0%	18/5
	Excavation for Raft Footing (105 cu.m)	35 days Tue 18/5/21	Tue 29/6/21	NA	NA	4 days	2,236	251	0%	18/5 🔳 29/6
	Plate Load Test	18 days Wed 30/6/21	Wed 21/7/21	NA	NA	4 days	250	252	0%	30/6 21/7
	R.C. Structure	66 days Thu 22/7/21	Fri 8/10/21	NA	NA	4 days	251,61	253	0%	22/7 🚃 8/10
KD3E	Steel Roof Structure (On-site Fabrication)	65 days Sat 9/10/21	Fri 24/12/21	NA	NA	4 days	252	41FF,254	0%	9/10 24/12
SW3	ABWF Works & BS Works	45 days Sat 25/12/21	Mon 7/2/22	NA	NA	244 days	253,91,62	45FF	0%	25/12 🔳 7/2
*	Fire Hydrant and Booster Pump Room	204.8 day Mon 19/7/21	Thu 24/3/22	NA	NA	11 days			0%	19/7
	Excavation for Raft Footing (160 cu.m)	10 days Mon 19/7/21	Thu 29/7/21	NA	NA	11 days	2,261	257,294	0%	19/7 29/7
	Plate Load Test	18 days Fri 30/7/21	Thu 19/8/21	NA	NA	11 days		258	0%	30/7 ■ 19/8
KD3E	R.C. Structure	60 days Mon 15/11/21		NA	NA	-	257,61,263	259,41FF,296FS-1 day	0%	15/11 27/1
SW3	ABWF Works & BS Works	45 days Thu 27/1/22	Thu 24/3/22	NA	NA		258,91,62	45FF	0%	27/1 24/3
	Transformer and Switchroom	183 days Tue 1/6/21	Mon 10/1/22	NA NA	NA	-20.8 days			0%	1/6 10/1
	Excavation for Raft Footing (310 cu.m)	20 days Tue 1/6/21	Fri 25/6/21	NA	NA	-20.8 days		262,256	0%	1/6 25/6
	Plate Load Test	18 days Fri 25/6/21	Sat 17/7/21	NA NA	NA	-20.8 days		263	0%	25/6 17/7
KD3E	R.C. Structure	60 days Thu 2/9/21	Mon 15/11/21	NA NA	NA	-	262,61,284	264,41FF,258	0%	2/9 15/11
SW3	ABWF Works & BS Works	45 days Mon 15/11/21		NA NA	NA NA		263,91,62	45FF	0%	15/11 10/1
	Water Meter Cabinet	73 days Tue 12/10/21		NA NA	NA NA	-20 days	,,		0%	12/10 8/1
	Excavation for Raft Footing (6 cu.m)	10 days Tue 12/10/21		NA NA	NA NA	-20 days	2.304	267	0%	12/10 23/10
	Plate Load Test	18 days Mon 25/10/21		NA NA	NA NA	-20 days		268	0%	25/10 13/11
	R.C. Structure	30 days Mon 15/11/21		NA NA	NA NA	-20 days		269,271	0%	15/11 18/12
SW4	ABWF Works & BS Works	15 days Mon 20/12/21		NA NA	NA NA		268,91,62	46FF	0%	20/12 8/1
	Guard House	75 days Sun 19/12/21		NA NA	NA NA	-20 days	_00,01,02		0%	19/12 23/3
	Excavation to Formation	21 days Sun 19/12/21		NA NA	NA NA	-23 days	2 268	272	0%	19/12 8/1
	R.C. Structure	30 days Mon 10/1/22		NA NA	NA NA			273	0%	10/1 10/2
SW4		· ·				-17 days		46FF		17/2 23/3
-	ABWF Works & BS Works	30 days Thu 17/2/22	Wed 23/3/22	NA NA	NA NA		272,91,62	40ГГ	0%	_
	Coolers Pumping Station	100 days Mon 28/6/21		NA NA	NA NA	0 days	2.170	276 200	0%	28/6 26/10
CIAIA	Excavation for Raft Footing (185 cu.m)	40 days Mon 28/6/21	Fri 13/8/21	NA NA	NA NA	0 days		276,290	0%	28/6 13/8
SW4	R.C. Structure	60 days Sat 14/8/21	Tue 26/10/21	NA NA	NA	0 days	2/0,01	41FF,292	0%	14/8 26/10
	Waste Gas Buner	53 days Tue 25/5/21	Tue 27/7/21	NA	NA	110 days	2.242	270.000	0%	25/5 27/7
	Excavation for Raft Rooting (75cu.m)	15 days Tue 25/5/21	Thu 10/6/21	NA	NA	110 days		279,298	0%	25/5 10/6
	Plate Load Test	18 days Fri 11/6/21	Sat 3/7/21	NA	NA	110 days		280	0%	11/6 3/7



וו שא	ask Name	Duratior Start	Finish	Actual Start	Actual Finish	Total Predecessors Successors	% Comple	2020 2023
KD3E	R.C. Plinth	20 days Man 5/7/04	Tue 27/7/21	NA	NA		0% Q1 Q	3 Q1 Q3 Q1 Q1 Q3 Q1 Q1 Q3 Q1 Q3 Q1 Q3 Q1 Q1 Q3 Q1
*		20 days Mon 5/7/21 98 days Fri 7/5/21	Thu 2/9/21	NA NA	NA NA	•	0% 0%	7/5 2/17
	Plant Services Water System Excavation for Raft Footing (800 cu.m)	•	Tue 1/6/21	NA NA	NA NA	-60.8 days 2,140 283,261	0%	7/5 1/6
		20 days Fri 7/5/21 18 days Tue 1/6/21		NA NA	NA NA		0%	1/6 23/6
D3E	Plate Load Test		Wed 23/6/21				0%	23/6 23/9
	Basement Construction @+1.20mPD	60 days Wed 23/6/21	Thu 2/9/21	NA	NA			2/10 29/12
	Deodorization System No. 11	73 days Sat 2/10/21	Wed 29/12/21	NA	NA	2 days	0%	<u> </u>
	Excavation for Raft Footing (1,280 cu.m)	20 days Sat 2/10/21	Tue 26/10/21	NA	NA	2 days 2,198 287	0%	2/10 26/10
	Plate Load Test	18 days Wed 27/10/21	Tue 16/11/21	NA	NA	2 days 286 288	0%	27/10 16/11
)3E	R.C. Plinth	35 days Wed 17/11/21	Wed 29/12/21	NA	NA	2 days 287,61 41FF	0%	17/11 29/12
	Biogas Holder	102 days Mon 30/8/21	Fri 31/12/21	NA	NA	0 days	0%	30/8 31/12
	Excavation for Raft Footing (1,120 cu.m)	20 days Mon 30/8/21	Tue 21/9/21	NA	NA	9 days 2,275 291	0%	30/8 21/9
	Plate Load Test	18 days Thu 23/9/21	Fri 15/10/21	NA	NA	9 days 290 292	0%	23/9 15/10
3E	R.C. Plinth	55 days Wed 27/10/21	Fri 31/12/21	NA	NA	0 days 291,61,276 41FF	0%	27/10 31/12
	H2S Removal System	139.8 day Mon 27/9/21	Thu 17/3/22	NA	NA	-60.8 days	0%	27/9 17/3
	Excavation for Raft Footing (396 cu.m)	10 days Mon 27/9/21	Fri 8/10/21	NA	NA	9 days 2,256 295	0%	27/9 8/10
	Plate Load Test	20 days Sat 9/10/21	Tue 2/11/21	NA	NA	9 days 294 296	0%	9/10 2/11
3E	R.C. Plinth	40 days Wed 26/1/22	Thu 17/3/22	NA	NA	-60.8 days 295,61,258FS-1 da 41FF	0%	26/1 17/3
	Deodorization System No. 12	58 days Fri 11/6/21	Thu 19/8/21	NA NA	NA NA	110 days	0%	11/6 19/8
	Excavation to Formation	20 days Fri 11/6/21	Tue 6/7/21	NA NA	NA NA	110 days 2,278 299	0%	11/6 6/7
						• •	0%	7/7 27/7
25	Plate Load Test	18 days Wed 7/7/21	Tue 27/7/21	NA NA	NA NA	110 days 298 300		
3E	R.C. Plinth	20 days Wed 28/7/21	Thu 19/8/21	NA	NA	110 days 299,61,280 41FF	0%	28/7 19/8
	Underpass	496 days Tue 11/2/20	Mon 11/10/21	NA	NA	-20 days	0%	11/2
	Temporary Storage for H pile works and access for DSD	155 days Tue 11/2/20	Tue 14/7/20	NA	NA	3 days 190SS-14 days 303	0%	11/2 14/7
	Sheet Pile Installation + ELS Works (incl. Strut (2-layers) Installation &	68 days Tue 11/8/20	Sat 31/10/20	NA	NA	-20 days 15,189,150,302 304	0%	11/8 31/10
	Excavation (300 cu.m))							
/4	R.C. Structure	280 days Mon 2/11/20	Mon 11/10/21	NA	NA	-20 days 303,61 46FF,266	0%	2/11 11/10
	Pipe Works and Utility Installation	1832 day Thu 16/1/20	Mon 20/1/25	NA	NA	0 days 86	0%	16/1 🖕 20/1
	Pipe Works At Chuk Wan Street	548 days Thu 16/1/20	Fri 16/7/21	NA	NA	1.1 days	0%	16/1
	Drainage Diversion (Existing Drainage Culvert)	443 days Thu 16/1/20	Fri 16/7/21	NA	NA	1.1 days	0%	16/7
1A	Stage 1 - Drainage Diversion of Drainage b/w Reconstructed Storm Water Manhole SMH1003177A and Reconstructed Storm Water	60 days Thu 16/1/20	Sat 28/3/20	NA	NA	1.1 days 68,55,75,120FS-5 121,329SS,123 days,82,119	0%	16/1 28/3
1A	Stage 2 - Drainage Diversion of Drainage b/w MHD26 and SMHH1003177A, to Abandon of Exisitng Drainage Culvert (1 Cell,	120 days Fri 19/2/21	Fri 16/7/21	NA	NA	32.8 days 325 43FF	0%	19/2 16/7
V4	Trencless Work for Pipe Installation	162 days Tue 4/8/20	Thu 18/2/21	NA	NA	32.8 days	0%	4/8 18/2
-	Construction of Temporary Jacking Pit	61 days Tue 4/8/20	Thu 15/2/21	NA NA	NA NA	32.8 days 15,54	0%	4/8 15/10
					NA NA		0%	4/8 11/8
	Trial Pit Excavation & UU Detection Works	7 days Tue 4/8/20	Tue 11/8/20	NA NA		32.8 days 2FS+210 days 313,316		
	Pit Construction (11m x 9m)	40 days Wed 12/8/20	Sat 26/9/20	NA	NA	32.8 days 312 314	0%	12/8 26/9
	Setting up of Entrance Ring and Gantry	14 days Mon 28/9/20	Thu 15/10/20	NA	NA	32.8 days 313 319	0%	28/9 🔳 15/10
	Construction of Temporary Receiving Pit	47 days Wed 12/8/20	Wed 7/10/20	NA	NA	56.8 days	0%	12/8 110
	Trial Pit Excavation & UU Detection Works	7 days Wed 12/8/20	Wed 19/8/20	NA	NA	56.8 days 312 317	0%	12/8 19/8
	Pit Construction (6m x 9m)	40 days Thu 20/8/20	Wed 7/10/20	NA	NA	56.8 days 316 320FF	0%	20/8 7/10
	Pipe Jacking Operation	41 days Fri 16/10/20	Thu 3/12/20	NA	NA	32.8 days	0%	16/10 📠 3/12
	Setting Up of Trenchless Equipment	7 days Fri 16/10/20	Fri 23/10/20	NA	NA	32.8 days 314 320	0%	16/10 23/10
	Pipe Jacking Operation (30m, 3m/day)	10 days Sat 24/10/20	Thu 5/11/20	NA	NA	32.8 days 319,317FF 321	0%	24/10 ■ 5/11
	Installation of grouting pipe and rail	7 days Fri 6/11/20	Fri 13/11/20	NA	NA	32.8 days 320 322	0%	6/11 13/11
	Pipe Laying Works	10 days Sat 14/11/20	Wed 25/11/20	NA NA	NA NA	32.8 days 321 323	0%	14/11 25/11
	Formwork Erection and grouting works	7 days Thu 26/11/20	Thu 3/12/20	NA NA	NA NA	32.8 days 322 324	0%	26/11 3/12
	Reinstatement of Temporary Launching Pit	30 days Fri 4/12/20	Mon 11/1/21	NA NA	NA NA	32.8 days 323 325	0%	4/12 11/1
				NA NA	NA NA	32.8 days 323 325 329 329	0%	12/1 = 18/2
	Reinstatement of Temporary Receiving Pit Process Pipeworks, All Sewerage, Utilities & Roadworks in Portion C of the Site	30 days Tue 12/1/21 of 629	Thu 18/2/21 Tue 1/3/22	NA NA	NA NA	19 days 324 309	0%	16/1
		· ·	Cat 20/2/20	NA	NA	21 1 days	00/	16/1 28/3
	Process Pipeworks	60 days Thu 16/1/20	Sat 28/3/20	NA NA	NA NA	21.1 days	0%	16/1 28/3
1A	Connection pipe at UV System no.1 & Effluent Pumping Stataior no.1	ου days Thu 16/1/20	Sat 28/3/20	NA	NA	21.1 days	0%	16/1 28/3
						0441		100 - 50
	Effluent Pipe (aprox. 70m, dia 300 - 1600)	40 days Thu 16/1/20	Thu 5/3/20	NA	NA	21.1 days 308SS,82 331,330,123	0%	16/1 • 5/3
	Effluent Pipe Flowmeter Chamber (3.8mx3.95mx3.42m(D))	20 days Fri 6/3/20	Sat 28/3/20	NA	NA	265 days 329 121,35	0%	6/3 28/3
	Plant Services Water Pipe (approx. 15m, dia 150-350)	20 days Fri 6/3/20	Sat 28/3/20	NA	NA	265 days 329 121,35	0%	6/3 28/3
4	Remaining Effluent Pipes	360 days Fri 11/12/20	Tue 1/3/22	NA	NA	19 days 63,166,172,193,23,46FF	0%	11/12 1/3
4	Stormdrain Pipeworks	360 days Fri 11/12/20	Tue 1/3/22	NA	NA	2 days 63,166,172,193,23:46FF	0%	11/12 1/3
4	Seawage Pipeworks	360 days Fri 11/12/20	Tue 1/3/22	NA	NA	2 days 63,166,172,193,23,46FF	0%	11/12 1/3
4	Watermain Pipeworks	360 days Fri 11/12/20	Tue 1/3/22	NA	NA	2 days 63,166,172,193,23,46FF	0%	11/12
4	Cable & Other Underground Utility Pipeworks	360 days Fri 11/12/20	Tue 1/3/22	NA	NA	2 days 63,166,172,193,23.46FF	0%	11/12
14	Pipe Bridge No.1	180 days Mon 2/8/21	Fri 28/1/22	NA NA	NA NA	54 days 2 46FF	0%	2/8 28/1
	Remaining Pipe Works & Lanscape Works	1316 day Fri 7/8/20	Mon 20/1/25	NA NA	NA NA	0 days	0%	7/8
5	Irrigation System	1025 day: Fri 7/8/20	Fri 19/1/24	NA NA	NA NA	2 days 64,2FS+231 days 47FF	0%	7/8
15 15	Hard Landscape Works		Fri 19/1/24	NA NA	NA NA	2 days 64,2FS+231 days 47FF	0%	7/8
	·	1025 day: Fri 7/8/20						
V5	Soft Landscape Works	1025 day:Fri 7/8/20	Fri 19/1/24	NA	NA	0 days 64,2FS+235 days 343,47FF	0%	7/8
V5	Outfall and River Embankment works & Retaining Wall	388 days Mon 3/10/22	Mon 22/1/24	NA	NA	0 days 47FF	0%	3/10 22/1
	Establishment Works (365 Calendar Days)	291 days Sat 20/1/24	Mon 20/1/25	NA	NA	0 days 341,64 48FF,49FF	0%	20/1 20/1
_	onstruction of Portion A of the Site	1203 day Wed 27/11/19	Mon 13/3/23	Wed 27/11/19	NA	20 days	4%	27/ 1
	CLP 132kV Substation	975 days Wed 27/11/19	Mon 13/3/23	Wed 27/11/19	NA	17 days	4%	27//1
	Internal Works	1203 day Wed 27/11/19	Mon 13/3/23	Wed 27/11/19	NA	20 days	5%	27/11
					Fri 13/12/19	0 days 2 348	100%	10/12 13/12



CIVII VV	vorks for Studge Treatment Facilities and CLP 132kV Primary Substation								
)	KD Task Name	Duratior Start	Finish	Actual Start	Actual Finish	Total Predecessors	Successors	% Comple	Q1 Q3 Q1
348	Additional tree felling works (NCE no. xx)	4 days Fri 20/12/19	Mon 23/12/19	Fri 20/12/19	Mon 23/12/19	0 days 347	350,349	100%	20/12 23/12
349	Trial Pit Excavation & UU Detection Works	10 days Mon 2/12/19	Thu 12/12/19	Mon 2/12/19	Thu 12/12/19	0 days 348	351	100%	2/12 1 2/12
350	Additional demolition of existing warehouse structures (NCE no. xx)	27 days Wed 27/11/19	Tue 31/12/19	Wed 27/11/19	Tue 31/12/19	0 days 72,348	353,351	100%	27/11 31/12
351	Predrilling Works (11no., 1rig, 4days/drillhole/rig)	10 days Sat 4/1/20	Thu 16/1/20	Sat 4/1/20	Thu 16/1/20	0 days 57,350,349	352	100%	4/1 16/1
352	Instsallation of Monitoring Points	5 days Thu 16/1/20	Wed 22/1/20	Thu 16/1/20	NA	16 days 351	354	70%	16/1 🍦 22/1
353	Demolition of Existing Boundary Wall for Temproary Access	25 days Thu 2/1/20	Mon 3/2/20	NA	NA	9 days 72,350	354	0%	2/1 🧃 3/2
354	Setting up plant for pre-bored socked H-pile Installation	5 days Tue 4/2/20	Sat 8/2/20	NA	NA	9 days 352,353	355	0%	4/2 8/2
355	Pre-bored Socketed H-Pile Installation (41 Nos, 2 Rig, 3days/rig/pile)	62 days Mon 10/2/20	Sat 25/4/20	NA	NA	9 days 58,354	356	0%	10/2 === 25/4
356	Pile Load Test	25 days Sun 26/4/20	Wed 20/5/20	NA	NA	13 days 355	357	0%	26/4 20/5
357	Additional Sheetpile Installation (NCE no.xx)	25 days Thu 21/5/20	Thu 18/6/20	NA	NA	11 days 356	358	0%	21/5 18/6
358	ELS Works (incl. Strut (3-layers) Installation & Excavation (NCE no.xx)	45 days Fri 19/6/20	Wed 12/8/20	NA	NA	11 days 357	359	0%	19/6 12/8
359	R.C. Structure (880 sq.m)	194 days Thu 19/11/20	Sat 17/7/21	NA	NA	-70 days 87,88,89,90,61,3	376	0%	19/11
360	Basement	60 days Thu 19/11/20	Sat 30/1/21	NA	NA	-70 days	361	0%	19/11 30/1
361	Ground Floor	60 days Mon 1/2/21	Sat 17/4/21	NA	NA	-70 days 360	362	0%	1/2 17/4
362	First Floor	44 days Mon 19/4/21	Thu 10/6/21	NA	NA	-70 days 361	363	0%	19/4 🚃 10/6
363	Roof Floor (461sq.m)	30 days Fri 11/6/21	Sat 17/7/21	NA	NA	-70 days 362	364,366	0%	11/6 17/7
364	ABWF Works & BS Works	60 days Mon 19/7/21	Mon 27/9/21	NA	NA	0 days 363,91,62	365SS	0%	19/7 🚃 27/9
365	Installation of telephone line/ direct link for FSD Inspection	60 days Mon 19/7/21	Mon 27/9/21	NA	NA	0 days 364SS		0%	19/7 🚃 27/9
366	KD2A Architectual Works	60 days Mon 19/7/21	Mon 27/9/21	NA	NA	-70 days 363	367,36FF	0%	19/7 🚃 27/9
367	Handover to CLP for Electrical System Installation	30 days Tue 28/9/21	Wed 27/10/21	NA	NA	301 days 366	368,370,371,369	0%	28/9 27/10
368	E&M Installation, Testing & Commissioning by CLP	180 days Thu 28/10/21	Mon 25/4/22	NA	NA	342 days 367	44FF	0%	28/10 25/4
369	Testing & Commissioning of the E&M Works	90 days Thu 28/10/21	Tue 25/1/22	NA	NA	432 days 367	44FF	0%	28/10 25/1
370	ABWF Works - External Finishing & BS Works	90 days Thu 28/10/21	Wed 16/2/22	NA	NA	334 days 367,91,62	44FF	0%	28/10 16/2
371	SW2 Building Services Installation Works (incl. Fire Services, Plumbing, Drainage, etc.) & FS Inspection	180 days Fri 5/8/22	Mon 13/3/23	NA	NA	17 days 367,77	44FF	0%	5/8 13/3
372	External Works	302 days Thu 9/4/20	Sat 17/4/21	NA	NA	-70 days		0%	9/4 17/4
373		152 days Thu 9/4/20	Tue 13/10/20	NA	NA	-70 days 70FS+60 days		0%	9/4 13/10
374	Drainage Works	76 days Thu 9/4/20	Tue 14/7/20	NA	NA	-70 days 70FS+60 days	375	0%	9/4 14/7
375	Road Works	76 days Wed 15/7/20	Tue 13/10/20	NA	NA	-70 days 374	376	0%	15/7 13/10
376	Temporary Site Access	30 days Wed 14/10/20	Wed 18/11/20	NA	NA	-70 days 375	377,359	0%	14/10 💻 18/11
377	SW2 Construction of New Boundary Wall	120 days Thu 19/11/20	Sat 17/4/21	NA	NA	582 days 376	44FF	0%	19/11 19/11

	Contract Dates	1585 days	Mon 18/11/19	Thu 27/3/25		0 days	None	Qtr 2	18/11 Qtr 1 Qtr 2	Vu 4 Vull Vur2 دعي	T VIIIV + IIV CIIV	QII QII QII QII QII	Qtr 2 Qtr 3 Qtr 4 Qtr 1 Qtr 2 Q	QU4 QU1
	Starting Date	0 days	Mon 18/11/19	Mon 18/11/19	35FS+1 day,36FS+1 day		Calendar Day		18/11					Ţ
	Access Dates (cal. day)	310 days	Mon 18/11/19	Tue 22/9/20		0 days	Calendar Day		18/11	22/9				
	Portion B-1 (Access Road AR3)	0 days	Mon 18/11/19	Mon 18/11/19 2	118	77 days	Calendar Day		18/11 • 18/11 •					
	Portion B-1A (Area for the works for Sidestream Treatment Facilities by Others	0 days	Mon 18/11/19	Mon 18/11/19 2		1957 days	Calendar Day		10/11					
	Portion B-2 (Inlet Works No.1)	0 days	Mon 18/11/19	Mon 18/11/19 2	122,143,148	105 days	Calendar Day		18/11 🧄					
	Portion B-2A (Area for the pipe-jacking works by others)	0 days	Mon 18/11/19	Mon 18/11/19 2		1957 days	Calendar Day		18/11					
	Portion B-3 (Primary Sedimentation Tanks No. 1-4)	0 days	Mon 18/11/19	Mon 18/11/19 2	177	0 days	Calendar Day		18/11					
	Portion B-4 (Bioreactor No. 2A & 2B) Portion B-5 (Membrane Facilities Building No.2)	0 days 0 days	Mon 18/11/19 Mon 18/11/19	Mon 18/11/19 2 Mon 18/11/19 2	189 203	0 days 49 days	Calendar Day Calendar Day		18/11 • 18/11 •					
	Portion B-6 (SAS Pumping Station)	0 days	Mon 18/11/19	Mon 18/11/19 2	224	184 days	Calendar Day		18/11					
	Portion B-7 (Ancillary structures)	0 days	Mon 18/11/19	Mon 18/11/19 2	233	299 days	Calendar Day		18/11 🍑					
	Portion B-7A (Alternation works for existing Power House)	0 days	Wed 2/9/20	Wed 2/9/20 2FS+290 da	ays 280,29FS+1 day	0 days	Calendar Day			2/9 🔷				
	Portion B-8 (Alternation for existing Membrane Facilities Building No.1)	0 days	Tue 22/9/20	Tue 22/9/20 2FS+310 da	•	838 days	Calendar Day			22/9 🔷				
	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 2	279	72 days	Calendar Day		18/11					
	Portion B-9 (remainder works in Zone B)	0 days	Mon 18/11/19	Mon 18/11/19 2	282,290	98 days	Calendar Day		18/11 🔷					
	Portion B-9A (Area for the pipe-jacking works by others)	0 days	Mon 18/11/19	Mon 18/11/19 2		1957 days	Calendar Day		18/11 🔷					
	Portion B-9B (Area for underground pipework modification and connection	0 days	Mon 18/11/19	Mon 18/11/19 2		1957 days	Calendar Day		18/11					
	works by others) Portion B-9C (Area for the works for pipeworks)	0 days	Wed 22/7/20	Wed 22/7/20 2FS+248 da	avs	1709 days	Calendar Day		22/7	•				
	Key Dates (cal. day)	1440 days	Tue 19/11/19	Sat 28/10/23	-,-	0 days	Calendar Day		19/11	*			28/10 1 28/10	
١.	KD1A completion of AR3 in Portion B-1 (300days after starting date)	300 days	Tue 19/11/19	Sun 13/9/20 2FS+1 day,	41FF	0 days	Calendar Day		19/11					
3	KD1B completion of utilities diversion for commencement of Inlet Works No.1	360 days	Tue 19/11/19	Thu 12/11/20 2FS+1		0 days	Calendar Day		19/11	12/11				
;	in Portion B-2 (360days after starting date) KD1C completion of civil and structural works of Inlet Works No.1 in Portion	990 days	Tue 19/11/19	day,42FF Thu 4/8/22 2FS+1		0 days	Calendar Day		19/11			4/8		
	B-2 (990days after starting date)			day,43FF			·							
)	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 2FS+1		0 days	Calendar Day		19/11			20	/2	
:	in Portion B-3 (1190days after starting date) KD1E completion of civil and structural works of Bioreactor in Portion B-4	1140 days	Tue 19/11/19	day,44FF Sun 1/1/23 2FS+1		0 days	Calendar Day		19/11			1/1		
	(1,140days after starting date)			day,45FF			·							
-	KD1F completion of civil and structural works of MFB from B2 floor to 1st floor	800 days	Tue 19/11/19	Wed 26/1/22 2FS+1		0 days	Calendar Day		19/11		26/1			
3	level in Portion B-5 (800days after starting date) KD1G completion of civil and structural works of MFB in Portion B-5 (950days	950 days	Tue 19/11/19	day,46FF Sat 25/6/22 2FS+1		0 days	Calendar Day		19/11			25/6		
	after starting date)	Joo dayo		day,47FF			Day							
1	KD1H completion of civil and structural works of SAS Pumping Station in	630 days	Tue 19/11/19	Mon 9/8/21 2FS+1		0 days	Calendar Day		19/11		9/8			
	Portion B-6 (630days after starting date) KD1I completion alternation works for existing Power House in Portion B-7A	150 days	Fri 4/9/20	day,48FF Sun 31/1/21 13FS+1		0 days	Calendar Day			4/9 31/1				
	(150days after access date of B-7A)			day,49FF			•							
J	KD1J completion of auxiliary facilites in Portion B-7 (800days after starting date)	800 days	Tue 19/11/19	Wed 26/1/22 2FS+1 day,50FF		0 days	Calendar Day		19/11		26/1			
Α	KD2A completion of effluent pipes to UV system and connection to its	495 days	Tue 19/11/19	Sat 27/3/21 2FS+1		0 days	Calendar Day		19/11	27/3				
	downstream in Portion B-9 (495days after starting date)	,		day,51FF										
3	KD2B completion of air supply main alternation to existing air blower house	420 days	Tue 19/11/19	Mon 11/1/21 2FS+1 day,52FF		0 days	Calendar Day		19/11	11/1				
4	No.2 in Portion B-8A (420days after starting date) KD3A completion of all utilities and road works (1440days after starting date)	1440 days	Tue 19/11/19	Sat 28/10/23 2FS+1		0 days	Calendar Day		19/11				28/10	
	· · · · · · · · · · · · · · · · · · ·			day,53FF		, .	,							
	Completion Date (cal. Day)	1956 days	Tue 19/11/19	Thu 27/3/25		0 days	Calendar Day		19/11				47/44	27/3
	Section 1 of the Works (1,460 after starting date)	1460 days	Tue 19/11/19 Tue 19/11/19	Fri 17/11/23 2FS+1 day, Fri 6/5/22 2FS+1 day,		0 days	Calendar Day				6/5 🍁		17/11 🔷	
	Section 2 of the Works (900 after starting date) Section 3 of the Works (1,590 after starting date)	900 days 1590 days	Tue 19/11/19	Tue 26/3/24 2FS+1 day,		0 days 0 days	Calendar Day Calendar Day				0/3		26/3 🧆	
	Defects Liability Period and Landscape Establishment Works	365 days	Thu 28/3/24	Thu 27/3/25 37FS+1 day	•	0 days	Calendar Day						•	27/3
ı	Planned Completion	1686 days	Fri 14/8/20	Thu 27/3/25		0 days	Calendar Day		14/8	•				27/3
	Planned Completion - Key Dates (cal. day)	1170 days	Fri 14/8/20	Sat 28/10/23	0455	0 days	Calendar Day		14/8	•			28/10	
3	KD1A completion of AR3 in Portion B-1 (300days after starting date) KD1B completion of utilities diversion for commencement of Inlet Works No.1	0 days 0 days	Sat 12/9/20 Fri 14/8/20	Sat 12/9/20 121FF Fri 14/8/20 123FF	21FF 22FF	0 days 90 days	Calendar Day Calendar Day			12/9 ♦ 8 ♦				
,	in Portion B-2 (360days after starting date)	o days	11114/0/20	111 14/0/20 12311	2211	30 days	Calcildal Day			•				
;	KD1C completion of civil and structural works of Inlet Works No.1 in Portion	0 days	Thu 4/8/22	Thu 4/8/22 175FF,174F	FF 23FF	0 days	Calendar Day					4/8 🔷		
)	B-2 (990days after starting date) KD1D completion of civil and structural works of Primary Sedimentation Tanks	0 days	Mon 20/2/23	Mon 20/2/23 186FF,185F	F 24FF	0 days	Calendar Day					20/2 🧄		
	in Portion B-3 (1190days after starting date)	o days	141011 20/2/20	MON 20/2/20 1001 1 , 100F		o days	Calcillati Day							
E	KD1E completion of civil and structural works of Bioreactor in Portion B-4	0 days	Sat 31/12/22	Sat 31/12/22 197FF,198F	FF 25FF	0 days	Calendar Day					31/12 🔷		
F	(1,140days after starting date) KD1F completion of civil and structural works of MFB from B2 floor to 1st floor	0 days	Tue 25/1/22	Tue 25/1/22 219FF,220F	F 26FF	0 days	Calendar Day				25/1 🔷			
	level in Portion B-5 (800days after starting date)	o days				Jacyo	Calonida Day							
3	KD1G completion of civil and structural works of MFB in Portion B-5 (950days	0 days	Sat 25/6/22	Sat 25/6/22 221FF,222F	F 27FF	0 days	Calendar Day				25/	6 ♦		
Н	after starting date) KD1H completion of civil and structural works of SAS Pumping Station in	0 days	Mon 9/8/21	Mon 9/8/21 231FF,230F	F 28FF	0 days	Calendar Day			Q.	/8 ♦			
	Portion B-6 (630days after starting date)	o days	WIOTI 3/0/21	WOT 9/0/21 23 11 1 ,23UF		o days	Calcillat Day				- *			
	KD1I completion alternation works for existing Power House in Portion B-7A	0 days	Sat 30/1/21	Sat 30/1/21 280FF	29FF	0 days	Calendar Day			30/1 🔷				
J	(150days after access date of B-7A) KD1J completion of auxiliary facilities in Portion B-7 (800days after starting	0 days	Wed 26/1/22	Wed 26/1/22 276FF,275F	F.2730FF	0 days	Calendar Day				26/1 🄷			
	date)	o days				Jacyo	Calonida Day							
4	KD2A completion of effluent pipes to UV system and connection to its	0 days	Sat 27/3/21	Sat 27/3/21 283FF	31FF	0 days	Calendar Day			27/3 🤷				
3	downstream in Portion B-9 (495days after starting date) KD2B completion of air supply main alternation to existing air blower house	0 days	Thu 3/9/20	Thu 3/9/20 279FF	32FF	130 days	Calendar Day			3/9 🄷				
	No.2 in Portion B-8A (420days after starting date)	o days				. oo aayo	Calonida Day			*				
A	KD3A completion of all utilities and road works (1440days after starting date)	0 days	Sat 28/10/23	Sat 28/10/23 289FF	33FF	0 days	Calendar Day						28/10 🄷	
	Planned Completion Date (cal. Day)	1056 days	Fri 6/5/22	Thu 27/3/25		0 days	Calendar Day				6/5			27/3
	Section 1 of the Works (1,460 after starting date)	0 days	Wed 23/8/23	Wed 23/8/23 277FF,271F	F,2635FF	86 days	Calendar Day						23/8 🔷	
	Section 2 of the Works (900 after starting date)	0 days	Fri 6/5/22	Fri 6/5/22 284FF,287F		0 days	Calendar Day				6/5 🧄			
	Section 3 of the Works (1,590 after starting date)	0 days	Tue 26/3/24	Tue 26/3/24 281FF,291F	F,2937FF,58FF	0 days	Calendar Day						26/3 ♦	
	Planned Time Risk Allowance (14days per 365day)	60 days	Sat 13/1/24 Thu 27/3/25	Tue 26/3/24 57FF Thu 27/3/25 294FF	38FF	294 days	None Calendar Day						13/1 26/3	27/3
9	Defects Liability Period and Landscape Establishment Works Submissions (cal.day)	0 days 880 days	Mon 18/11/19	Fri 15/4/22	SOFF	0 days	Calendar Day Calendar Day		18/11			5/4		2113
	Subletting Package	96 days	Mon 18/11/19	Fri 21/2/20		0 days	Calendar Day		18/11 21/2		•			
	Prepare & submit subletting procedure	12 days	Mon 18/11/19	Fri 29/11/19 2	63	0 days	Calendar Day		18/11 29/11					
	PM review and accept subletting procedure	12 days	Sat 30/11/19	Wed 11/12/19 62	64,65,68,69,70,71,72,73		Calendar Day		30/11 11/12					
	Subletting for Preliminary Works (surveying, condition survey, site clearacne	14 days	Thu 12/12/19	Wed 25/12/19 63,82	87,116	1 day	Calendar Day		12/12 = 25/12					
	etc) Subletting for Contractor desinger for temporary works and ICE	24 days	Thu 12/12/19	Sat 4/1/20 63,82	71,72,66	212 days	Calendar Day		12/12 = 4/1					
	Subletting for independent BIM consultant	24 days	Mon 6/1/20	Wed 5/2/20 65	112	1474 days	None		6/1 5/2					
	Subletting for demolition works	24 days	Thu 12/12/19	Sat 4/1/20 82,63	179,191,234,143,204,20	,	Calendar Day	dem	12/12 = 4/1					
	Subletting for AR3 access road and UU diversion for Inlet Works No.1	24 days	Thu 12/12/19	Sat 4/1/20 63,82	119	29 days	Calendar Day		12/12 = 4/1					
	Subletting for pre-drilling works	24 days	Thu 12/12/19	Sat 4/1/20 63,82	225,150,180,192,208	136 days	Calendar Day	pd	12/12 = 4/1					
	Subletting for pre-bored H pile works	36 days	Thu 12/12/19	Thu 16/1/20 63,82	151,181,193,209,226	143 days	Calendar Day	hp	12/12 - 16/1					

Critical Task

Milestone

Summary

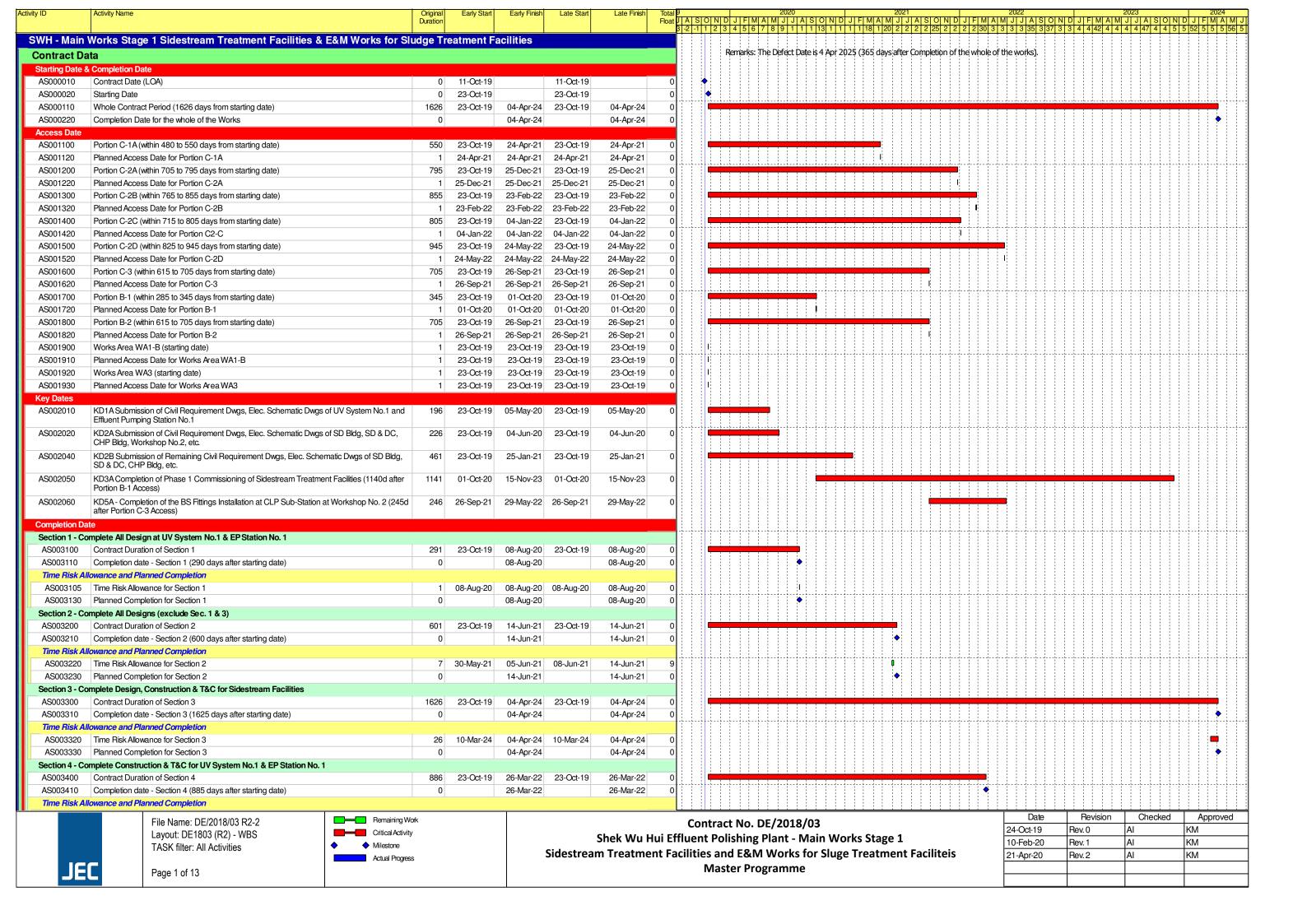
	Sewage Treatment Facilities				_				The state of the s
ID Key Date	Task Name	Duration	Start	Finish Predecessors	Successors	Total Slack	Task Calendar	trade	Qur 2 Qur 3 Qur 4 Qur 1 Qur 2 Qur 3 Qur 4 Qur
71	Subletting for ELS works for Inlet Works No.1	48 days	Sun 5/1/20	Fri 21/2/20 63,65,82	154	560 days	Calendar Day	ex	5/1 — 21/2
72	Subletting for ELS works for Membrance Facilities Building and other buildings	48 days	Sun 5/1/20	Fri 21/2/20 63,65,82	184,196,213,229	212 days	Calendar Day	ex	5/1 === 21/2
73	Subletting for structural works for Inlet Works Building	48 days	Thu 12/12/19	Tue 28/1/20 63,82	160	635 days	Calendar Day	rc	12/12 28/1
74	Subletting for structural works for Primary Sedimentation Tanks	48 days	Thu 12/12/19	Tue 28/1/20 63,82	100	1885 days	Calendar Day	rc	12/12 28/1
75	Subletting for structural works for Bioreactors	48 days	Thu 12/12/19	Tue 28/1/20 63,82	197	850 days	Calendar Day	rc	12/12 — 28/1
76	Subletting for structural works for Membrance Facilities Building	48 days	Thu 12/12/19	Tue 28/1/20 63,82	219	590 days	Calendar Day	rc	12/12 — 28/1
77	Subletting for structural works for SAS pumping house and ancillary structures	48 days	Thu 12/12/19	Tue 28/1/20 63,82	230	327 days	Calendar Day	rc	12/12 == 28/1
78	Subletting for ABWF works	48 days	Thu 12/12/19	Tue 28/1/20 63,82	176,187,202,223,232,2	240.21132 days	Calendar Day	abwf	12/12 == 28/1
79	Subletting for Process Pipeworks, Utilities and Roadworks	48 days	Thu 12/12/19	Tue 28/1/20 63,82	279,283FS+22 days	0 days	Calendar Day	uu	12/12 2002 28/1
80	Subletting for Landscape Hardworks and Softworks	48 days	Thu 12/12/19	Tue 28/1/20 63,82	292,293,294	978 days	Calendar Day	land	12/12 - 28/1
81	Statutory Submission, Submission and Approval	880 days	Mon 18/11/19	Fri 15/4/22		0 days	Calendar Day		18/11
82	Prepare and submit Subcontractor Management Plan (SMP)	24 days	Mon 18/11/19	Wed 11/12/19 2	64,65,67,68,69,70,71,7		Calendar Day		18/11 S 11/12 18/11 23/12
84	Prepare and submit Interface Management Plan Prepare and submit the TTA plans inside Treatment Plant for UU diversion	36 days 24 days	Mon 18/11/19 Mon 18/11/19	Mon 23/12/19 2 Wed 11/12/19 2	118	1921 days 53 days	Calendar Day Calendar Day		18/11 11/12
	and buildings construction	24 days	WOII 10/11/13	Wed 11/12/13/2	110	55 days	Calendar Day		(a.,)
85	Prepare and submit method statement for UU diversion for Inlet Works No.1	12 days	Mon 18/11/19	Fri 29/11/19 2	86	116 days	Calendar Day		18/11 29/11
86	PM review and accept the method statement	12 days	Sat 30/11/19	Wed 11/12/19 85	124,125	116 days	Calendar Day		30/11 = 11/12
87	Prepare and submit combine underground services drawing for PM's review	24 days	Thu 26/12/19	Sat 18/1/20 64	118	15 days	Calendar Day		26/12 = 18/1
	the alignment								
88	Prepare and submit method statement for demolition existing structures	24 days	Mon 18/11/19	Wed 11/12/19 2	204,179,191,234,143,2		Calendar Day	dem	18/11 11/12
90	Prepare and submit method statement for structural works for buildings	24 days	Mon 18/11/19	Wed 11/12/19 2	470 404 004 440 004 0	1933 days	Calendar Day	rc	18/11 11/12 18/11 23/12
,,,	Prepare and submit method statements to MTRC regarding the works within railing protection boundary	36 days	Mon 18/11/19	Mon 23/12/19 2	179,191,234,143,204,2	Lor, 2 13 uays	Calendar Day	dem	TWITE SWITE
91	Prepare and submit & approve Safety Management Plan	24 days	Mon 18/11/19	Wed 11/12/19 2		1933 days	Calendar Day		18/11 11/12
92	Prepare and submit Excavation and lateral support (ELS) proposal	24 days	Mon 10/2/20	Wed 4/3/20 2	206	7 days	Calendar Day	ex	10/2 = 4/3
93	Prepare and submit Dewatering proposal for basement construction	24 days	Mon 10/2/20	Wed 4/3/20 2	206	7 days	Calendar Day	ex	10/2 = 4/3 5/2 = 28/2
74	Prepare and submit Pre-construction condition survey of existing structures/ services	24 days	Wed 5/2/20	Fri 28/2/20 116		1854 days	Calendar Day		312 - 2012
95	Prepare and submit Settlement and movement monitoring proposal of existing	24 days	Wed 5/2/20	Fri 28/2/20 116		1854 days	Calendar Day		5/2 = 28/2
-06	structures/ services		F-: 47/4/00	Mon 16/0/00 0E0 : 00 :1-		1007 -1	Colonda		170 16/3
96	Prepare and submit design of structure elements of the temporary activated carbon deodourization unit	60 days	Fri 17/1/20	Mon 16/3/20 2FS+60 days		1837 days	Calendar Day		17/1 —— 16/3
97	Prepare of RSE and structural design for alternation and additional (A&A)	180 days	Mon 18/10/21	Fri 15/4/22	223	324 days	Calendar Day		18/10 15/4
	works at Membrane Facilities Building No.1 and Main Power House								
98	Environmental Aspect Submissions	136 days	Mon 18/11/19	Wed 1/4/20		23 days	Calendar Day		18/11 1/4
99	Prepare, submit & approve Site Management Plan for Trip Tricket System	45 days	Mon 18/11/19	Wed 1/1/20 2		1912 days	Calendar Day		18/11 1/1
100	Prepare, submit & approve Waste Management Plan	45 days	Mon 18/11/19	Wed 1/1/20 2		1912 days	Calendar Day		18/11 1/1
101	Prepare, submit & approve Environmental Management Plan	45 days	Mon 18/11/19	Wed 1/1/20 2		1912 days	Calendar Day		18/11 1/1
102	Procurement	72 days	Mon 18/11/19	Tue 28/1/20	101	23 days	Calendar Day		18/11 28/1 18/11 29/11
103	Prepare and submit the Procurement Procedure PM Review & Accept Procurement Procedure	12 days 12 days	Mon 18/11/19 Sat 30/11/19	Fri 29/11/19 2 Wed 11/12/19 103	104 105,106,107,108,109,1	23 days	Calendar Day Calendar Day		30/11 = 1/1/2
105	Prepare, submit and approve the pipe works material	25 days	Thu 12/12/19	Sun 5/1/20 104	123,279,285,286,288,2		Calendar Day	uu	12/12 = 5/1
106	Prepare, submit and approve the pipe water proofing material	25 days	Thu 12/12/19	Sun 5/1/20 104	123,279,285,286,288,2		Calendar Day	uu	12/12 = 5/1
107	Prepare, submit and approve the concrete mix material	48 days	Thu 12/12/19	Tue 28/1/20 104	160,197,219,230	327 days	Calendar Day	rc	12/12 — 28/1
108 109	Prepare, submit and approve the rebar material	48 days	Thu 12/12/19	Tue 28/1/20 104	160,197,219,230	327 days	Calendar Day	rc	12/12 2 8/1 12/12 2 8/1
110	Prepare, submit and approve the metal works material Prepare, submit and approve the ABWF works material	48 days 48 days	Thu 12/12/19 Thu 12/12/19	Tue 28/1/20 104 Tue 28/1/20 104	176,187,202,223,232,2	1885 days	Calendar Day Calendar Day	abwf	12/12 28/1
111	BIM	48 days	Thu 6/2/20	Wed 1/4/20	170,107,202,223,232,2	1474 days	None	abwi	6/2 1/4
112	Prepare, submit and approve the proposal of details of Common data	48 days	Thu 6/2/20	Wed 1/4/20 66		1474 days	None		6/2 1/4
113	environment (CDE)	1057.1	35 10/11/10	mi 0.0 to to t		0.1	01 1 D		18/11
113	Construction Works Preliminary Works	1957 days 109 days	Mon 18/11/19 Mon 18/11/19	Thu 27/3/25 Thu 5/3/20		0 days 0 days	Calendar Day Calendar Day		18/11 5/3
115	Initial Survey	24 days	Mon 18/11/19	Sat 14/12/19 2	116	8 days	Normal Working	g Hours	18/11 4/12
116	Condition Survey	30 days	Fri 27/12/19	Tue 4/2/20 64,115	117,94,95	0 days	Normal Workin	-	27/12 🗪 4/2
117	Installation of Monitoring Markers	26 days	Wed 5/2/20	Thu 5/3/20 116	120	0 days	Normal Workin	-	5/2 🔤 5/3
118	Access Road (AR3), B-1	193 days	Mon 20/1/20	Sat 12/9/20 4,84,87		0 days	Normal Workin	-	20/1 12/9
119 120	Site setup and clearance wroks Drainage and Utilities Works	28 days	Mon 20/1/20	Mon 24/2/20 68 Tue 9/6/20 119,117	120 121	9 days	Normal Working		20/1 == 24/2 6/3 ******* 9/6
120 121 KD1A	Roadworks	76 days 80 days	Fri 6/3/20 Wed 10/6/20	Sat 12/9/20 120	41FF	0 days 0 days	Normal Working	-	10/6 12/9
122	Inlet Works No.1, B-2	854 days	Mon 6/1/20	Mon 21/11/22 6		45 days	Normal Workin	-	6/1 21/11
123	Diversion Works (1. Inlet Truck Sewer, Leachate Rising Mains, Sludge	180 days	Mon 6/1/20	Fri 14/8/20 105,106	42FF	74 days	Normal Working		G/1 14/8
124	Pipes, Tank Drains and Pipelines near Primary Sludge Thinkeners)	40	Man 0/4/00	Cot 19/4/00 00	12500	74	Hours_201909		6/1 = 18/1
124	Utilities scanning to idenify existing UU arrangement Trial pits to locate the collection points	12 days 24 days	Mon 6/1/20 Mon 6/1/20	Sat 18/1/20 86 Wed 5/2/20 86,124SS	125SS 127,133,137,134,135,1	74 days	Normal Workin		6/1 = 18/1
126	Diversion of Inlet Truck Sewer (approx. 40m 1800mm dia concrete	146 days	Thu 6/2/20	Mon 3/8/20	121,100,101,104,100,1	84 days	Normal Working	-	6/2 3/8
	pipe, 4 deep manholes and Inlet Reception Chamber)					-	Hours_201909	24	
127	Trench Excavation for 1800mm dia pipeline and manholes	45 days	Thu 6/2/20	Sat 28/3/20 125	128	84 days	Normal Working		6/2 28/3
128	Construct M/H MHA01, MHA02, MHA03, MHA04 and Inlet Reception Chamber	65 days	Mon 30/3/20	Fri 19/6/20 127	129	84 days	Normal Working Hours_2019092		30/3 19/6
129	Lay 1800mm dia concretre pipe	24 days	Sat 20/6/20	Mon 20/7/20 128	130	84 days	Normal Working		20/6 — 20/7
130	Collection to existing Inlet Chamber	12 days	Tue 21/7/20	Mon 3/8/20 129		84 days	Normal Workin	-	21/7 = 3/8
131	Diversion of Leachate Rising Main, Sludge Pipes and Tank Drain	150 days	Thu 6/2/20	Fri 7/8/20		80 days	Normal Working	-	6/2 7/8
132	Diversion of tank drain, approx. 70m 675mm dia conrete pipe and 2 manholes MHD8.5 & MHD9.5)	150 days	Thu 6/2/20	Fri 7/8/20 125	135SS+60 days,134SS+60	80 days	Normal Working Hours_2019092		6/2 7/8
133	Diversion of leachate rising main, CHLC, approx. 24m DN250 DI	60 days	Tue 21/4/20	Fri 3/7/20 125,132SS+60	uays, 10400700	110 days	Normal Working		21/4 3/7
	• • • • • • • • • • • • • • • • • • • •			days		,	Hours_2019092	24	
134	Diversion of sludge pipe, CHES1 approx. 154m DN250 CI	75 days	Tue 21/4/20	Tue 21/7/20 125,132SS+60		95 days	Normal Working Hours_2019092		21/4 21/7
135	Diversion of sludge pipe, CHES2 approx. 106m DN250 CI	75 days	Tue 21/4/20	days Tue 21/7/20 125,132SS+60		95 days	Normal Working		21/4 21/7
				days			Hours_2019092	24	
136	Diversion of pipelines near Primary Sludge Thickeners (approx. 180m	156 days	Thu 6/2/20	Fri 14/8/20		74 days	Normal Workin		6/2 14/8
137	long 150mm to 375mm concrete pipes) Trench Excavation from M/H MHD1E to MHD5 (approx. 90m long with	60 days	Thu 6/2/20	Mon 20/4/20 125	138SS+45 days,140	74 days	Hours_201909		6/2 20/4
131	M/Hs MHD1A, 1B, 1C, 1D & 1E)	ou days	111u 0/2/20	IVIUIT 20/4/20 120	13033743 uays, 140	14 uays	Normal Working Hours_2019092		VII
138	Manholes construction and Pipe laying	60 days	Mon 30/3/20	Sat 13/6/20 137SS+45 days	s 139	100 days	Normal Workin		30/3 13/6
139	Backfilling	25 days	Mon 15/6/20	Wed 15/7/20 138	11100 :	100 days	Normal Working	-	15/6 = 15/7
140	Trench Excavation from MHD5 to MHD9.5 (approx. 90m long with M/Hs MHD5A & 5B)	60 days	Tue 21/4/20	Fri 3/7/20 137	141SS+26 days	74 days	Normal Working Hours_2019092		21/4 3/7
141	Manholes construction and Pipe laying	45 days	Sat 23/5/20	Thu 16/7/20 140SS+26 days	s 142	74 days	Normal Working		23/5 16/7
142 KD1B	Backfilling	25 days	Fri 17/7/20	Fri 14/8/20 141		74 days	Normal Workin		17/7 — 14/8
143	Decommission and Demolition of Existing Faciliates and Structures	240 days	Mon 2/3/20	Fri 18/12/20 6,67,88,90	149	0 days	Normal Working	-	2/3 18/12
144	Primary Sludge Thickening Tank No.1 and No.2	80 days	Mon 2/3/20	Tue 9/6/20	145	0 days	Normal Working	g Hoursdem	2/3 2/3 9/6

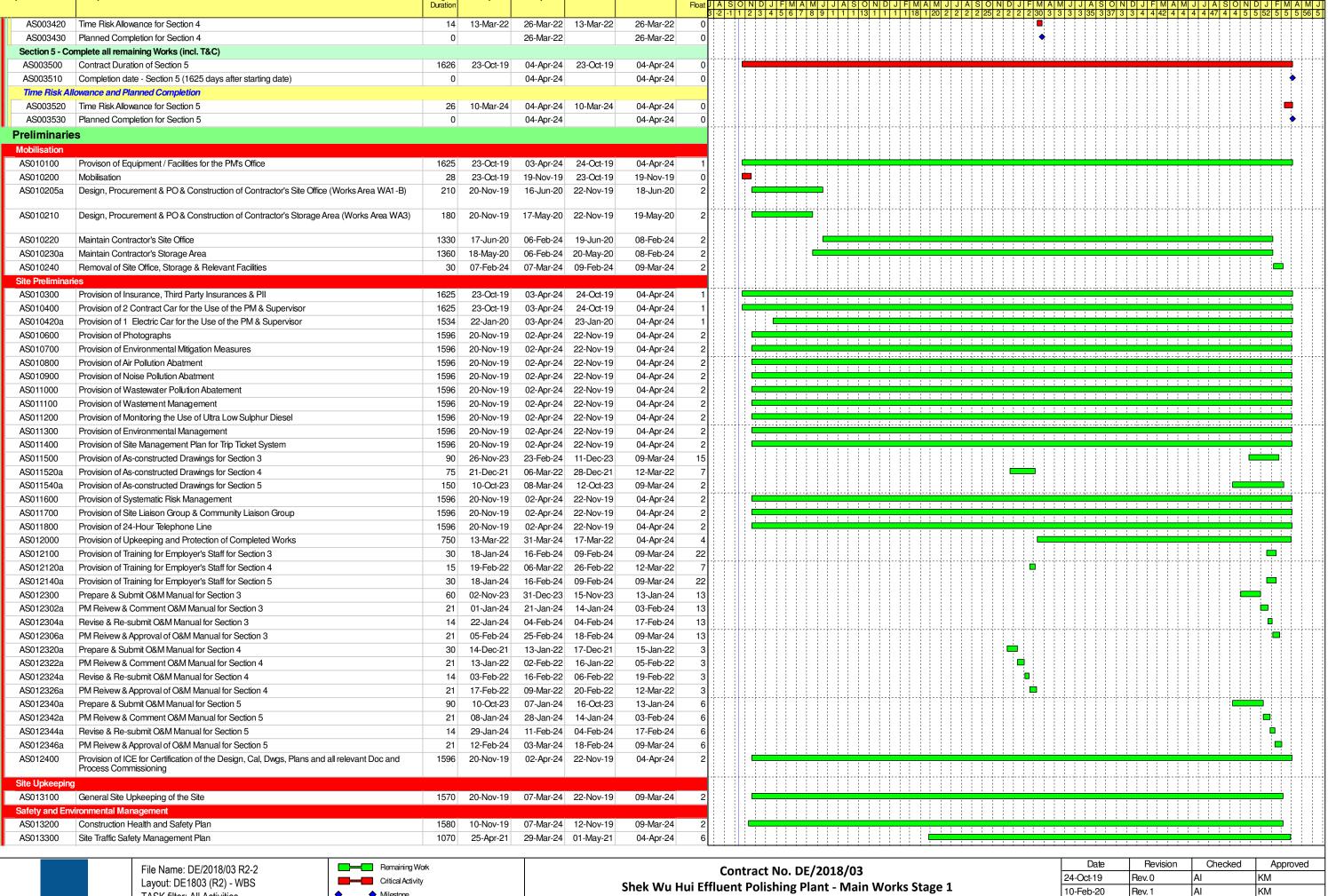
Critical Task Milestone ♦

Summary

	Sewage Treatment Facilities	D (Cr. r	T' ' 1 D 1	lo.	m . 1.01 1	m 1 0 1 1	2000 2001 2000 2000 2000
ID Key Date	Task Name	Duration	Start	Finish Predecessors	Successors	Total Slack	Task Calendar trade	Qr2 Qr3 Qr4 Qr1 Qr2 Qr3 Qr4 Qr4 Qr1 Qr2 Qr3 Qr4 Qr4 Qr1 Qr2 Qr3 Qr4
145	Primary Sludge Pump Pit	60 days	Wed 10/6/20	Thu 20/8/20 144	146	0 days	Normal Working Hoursdem	10/6 20/8
146	Septic Tank	50 days	Fri 21/8/20	Tue 20/10/20 145	147	0 days	Normal Working Hoursdem	21/8 20/10
147	Diesel Tank	50 days	Wed 21/10/20	Fri 18/12/20 146		0 days	Normal Working Hoursdem	21/10 5555 18/12
148	Inlet Works No.1 Building	569 days	Sat 19/12/20	Mon 21/11/22 6		0 days	Normal Working Hou	19/12
149	Excavate to +6.5mPD (1980sqm excavated soil)	10 days	Sat 19/12/20	Sat 2/1/21 143	150	0 days	Normal Working Hoursex	19/12 2/1
150	Predrilling (59nrs, 6rigs, 4days/drillhole/rig)	40 days	Mon 4/1/21	Mon 22/2/21 149,69	151	0 days	Normal Working Hourspd	4/1 22/2 22/2
151	Pre-bored H piles (186nos, 7rigs, 5days/rig/pile)	133 days	Tue 23/2/21	Wed 4/8/21 150,70	152SS+24 days,154,162,	-	Normal Working Hourthp	23/2
152	Sheetpile Installation (FSPIV, 3,840sq.m, 1rigs, 50sqm/rig/day) with toe grouting	80 days	Tue 23/3/21	Wed 30/6/21 151SS+24 days	s 154	55 days	Normal Working sp Hours_20190924	23/3 30/6
153	Pile Load Test	26 days	Thu 5/8/21	Fri 3/9/21 151	154	0 days	Normal Working Hourst	5/8 🖘 3/9
154	ELS works (strutting 4 layers, excavate soil 7445cu.m)	77 days	Sat 4/9/21	Mon 6/12/21 152,151,71,153		0 days	Normal Working Hoursex	4/9 6/12
155	Excavate to +5.0mPD and S1 wailing / strutting (960sgm excavated soil)	15 days	Sat 4/9/21	Tue 21/9/21	156	0 days	Normal Working Flouriex Normal Working ex	4/9 \$\ 21/9
133	Excavate to 10.0111 B and 01 waiting (0000411 excavated 5011)	10 days	Out 4/ 5/21	140 21/3/21	100	o days	Hours_20190924	
156	Excavate to +2.0mPD and S2 wailing / strutting (1920sqm excavated	20 days	Thu 23/9/21	Mon 18/10/21 155	157	0 days	Normal Working ex	23/9 🔤 18/10
157	soil)						Hours_20190924	
157	Excavate to +0.0mPD and S3 wailing / strutting (1280sqm excavated soil)	15 days	Tue 19/10/21	Thu 4/11/21 156	158	0 days	Normal Working ex Hours_20190924	19/10 🖾 4/11
158	Excavate to -3.0mPD and S4 wailing / strutting (1920sqm excavated	20 days	Fri 5/11/21	Sat 27/11/21 157	159	0 days	Normal Working ex	5/11 🔀 27/11
150	soil)	20 days	1113/11/21	Gat 27/11/21 137	100	o days	Hours_20190924	
159	Excavate -7.4mPD (1365sqm excavated soil)	7 days	Mon 29/11/21	Mon 6/12/21 158	166	0 days	Normal Working Hoursex	29/11 🛭 6/12
160	R.C. Structure works	296 days	Thu 5/8/21	Thu 4/8/22 73,107,108		0 days	Normal Working Hourerc	5/8 4/8
161	Phase A (floor area 585 sqm)	105 days	Thu 5/8/21	Wed 8/12/21		66 days	Normal Working Hourerc	5/8 8/12
162	Rebar fix and formwork and concreting for the pile cap (G/F)	40 days	Thu 5/8/21	Mon 20/9/21 151	163	66 days	Normal Working Hourerc	5/8 == 20/9
163	Rebar fix and formwork and concreting upto +13.45mPD (1/F)	25 days	Tue 21/9/21	Fri 22/10/21 162	164	66 days	Normal Working Hourerc	21/9 == 22/10
164	Rebar fix and formwork and concreting upto +25.80mPD (R/F)	40 days	Sat 23/10/21	Wed 8/12/21 163	170	66 days	Normal Working Hours rc	23/10 8/12
165	Phase B (621 sqm) and Phase C (662 sqm)	193 days	Tue 7/12/21	Thu 4/8/22		0 days	Normal Working Hourerc	7/12 4/8
166	Rebar fix and formwork and concreting for the Inlet Works structure	26 days	Tue 7/12/21	Sat 8/1/22 159	167	0 days	Normal Working rc	7/12 55 8/1
167	upto level -3.0mPD and removal of S4 wailing/strutting Rebar fix and formwork and concreting for the Inlet Works structure	14 days	Mon 10/1/22	Tue 25/1/22 166	168	0 days	Hours_20190924 Normal Working rc	10/1 🔼 25/1
10.	upto level +0.0mPD and removal of S3 and S2 wailing/strutting	i + udys	141011 10/1/22	140 20/1/22 100	.50	o days	Hours_20190924	
	,							
168	Rebar fix and formwork and concreting for the Inlet Works structure	14 days	Wed 26/1/22	Mon 14/2/22 167	169	0 days	Normal Working rc	26/1 □ 14/2
169	upto level +5.0mPD and removal of S1 wailing/strutting	44.4-	T 45/0/00	W-40/0/00 400	470	0 4	Hours_20190924	AFFO TO AD
170	Apply waterproofing membrance and backfilling	14 days	Tue 15/2/22	Wed 2/3/22 168	170	0 days	Normal Working Hours	15/2 ¹² 2/3 3/3 ¹² 3/4
170	Rebar fix and formwork and concreting for the Inlet Works structure of ground floor levels	35 days	Thu 3/3/22	Wed 13/4/22 169,164	171	0 days	Normal Working rc Hours_20190924	3/3 224
171	Rebar fix and formwork and concreting for the Inlet Works structure of	30 days	Thu 14/4/22	Tue 24/5/22 170	172	0 days	Normal Working rc	14/4 📨 24/5
	1/F levels (Phase B +20.11mPD and Phase C +13.45mPD)	oo aayo		. 40 2 1/0/22 11 0		o dayo	Hours_20190924	
172	Rebar fix and formwork and concreting for the Inlet Works structure of double part levels (Phase B +21.31mPD)	20 days	Wed 25/5/22	Fri 17/6/22 171	173	0 days	Normal Working rc	25/5 🚾 17/6
173	Rebar fix and formwork and concreting for the Inlet Works structure of	20 days	Sat 18/6/22	Tue 12/7/22 172	174	0 days	Hours_20190924 Normal Working rc	18/6 🖾 12/7
175	R/F levels (Phase B +27.50mPD and Phase C +25.80mPD)	20 days	Sat 10/0/22	Tue 12/1/22 1/2	174	0 days	Hours_20190924	100 - 127
							_	
174 KD1C	Rebar fix and formwork and concreting for the Inlet Works structure	20 days	Wed 13/7/22	Thu 4/8/22 173	176,43FF,175	0 days	Normal Working rc	13/7 🔤 4/8
175 100 10	upto level +27.8mPD (upper roof floor level)		TI 4/0/00	TI 1/0/00 17.1	4000		Hours_20190924	un a
175 KD1C	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 4/8/22	Thu 4/8/22 174	43FF	0 days	Normal Working Hours_20190924	4/8 ♦
176 SW1	ABWF works	90 days	Fri 5/8/22	Mon 21/11/22 174,110,78	55FF	293 days	Normal Working Hoursabwf	5/821/11
177	Primary Sedimentation Tanks, B-3	1115 days	Mon 18/11/19	Wed 23/8/23 8	00.1	0 days	Normal Working Hou	18/11
178	Operation of the Existing Primary sedimentation Tanks	615 days	Mon 18/11/19	Sat 11/12/21 2	179	0 days	None	18/11
179	Decommission and Demolition of existing primary sedimentation tanks no. 1 &	45 days	Mon 13/12/21	Wed 9/2/22 67,88,90,178	180	0 days	Normal Working dem	13/12 5555 9/2
	2			,,,,,,			Hours_20190924	
180	Predrilling (68nrs, 7rigs, 4days/drillhole/rig)	38 days	Thu 10/2/22	Fri 25/3/22 179,69,225	181	0 days	Normal Working Hourspd	10/2 5252 25/3
181	Pre-bored H piles (205nos, 8rigs, 4days/pile/rig)	102 days	Sat 26/3/22	Mon 1/8/22 180,70,226	182SS+45 days,184,183	,	Normal Working Hourthp	26/3 1/8
182	Sheetpile Installation (FSP-II, 3360sq.m) with toe grouting	85 days	Wed 25/5/22	Fri 2/9/22 181SS+45 days		0 days	Normal Working Houresp	25/5 229
183 184	Pile Load Test	26 days	Tue 2/8/22	Wed 31/8/22 181	184	2 days	Normal Working Hourelt	2/8 = 31/8
185 KD1D	ELS works (20000cu.m soil with 2 layers wailing / strutting)	45 days	Sat 3/9/22	Fri 28/10/22 181,72,183,182		0 days	Normal Working Hoursex	3/9 28/10 29/10 2222222 20/2
186 KD1D	R.C. Structure works Allow access to Contractor DE/2018/04 for E&M installation and T&C works	92 days	Sat 29/10/22	Mon 20/2/23 184	186,187,44FF,188 44FF	0 days	Normal Working Hourerc	29/10 20/2
187 SW1	Allow access to contractor DE/2018/04 for Early Installation and Tac works ABWF works	0 days 150 days	Mon 20/2/23 Tue 21/2/23	Mon 20/2/23 185 Wed 23/8/23 185,110,78	55FF	0 days 71 days	Normal Working Hours Normal Working Hoursabwf	21/2 23/8
188 SW1	Flowmeter Chamber no.1	60 days	Tue 21/2/23	Sat 6/5/23 185	55FF	161 days	None	21/2 6/5
189	Bioreactors No.2A & 2B, B-4	1106 days	Mon 18/11/19	Sat 12/8/23 9	3377	0 days	Normal Working Hou	18/11 12/8
190	Operation of 2no. Existing 800mm air mains over bioreactor no.2	360 days	Mon 18/11/19	Tue 2/2/21 2	191	0 days	None	18/11 18/11
191	Decommission and Demolition of existing bioreactor no.2	60 days	Wed 3/2/21	Tue 20/4/21 67,88,90,190		0 days	Normal Working Hoursdem	3/2 20/4
192	Predrilling (76nrs, 7rigs, 4days/drillhole/rig)	44 days	Wed 21/4/21	Sat 12/6/21 191,69	193	0 days	Normal Working Hourspd	21/4 555 12/6
193	Pre-bored H piles (157nos, 6rigs, 5days/pile/rig)	131 days	Tue 15/6/21	Thu 18/11/21 192,70,209	194SS+72 days,196,195		Normal Working Hourshp	15/6 ************************************
194	Sheetpile Installation (FSP-II, 3000sq.m, 50sqm/rig/day) with toe grouting	60 days	Wed 8/9/21	Fri 19/11/21 193SS+72 days		25 days	Normal Working sp	8/9 — 19/11
105							Hours_20190924	
195	Pile Load Test	26 days	Fri 19/11/21	Sat 18/12/21 193	196	0 days	Normal Working Hours It	19/11 18/12
196	ELS works (18100cu.m soil with 4 layers wailing / strutting)	125 days	Mon 20/12/21	Fri 27/5/22 193,194,72,195		0 days	Normal Working Hoursex	20/12 27/5
197 KD1E	R.C. Structure works	180 days	Sat 28/5/22	Sat 31/12/22 75,107,108,196			Normal Working Hourerc	28/5 31/12
198 KD1E 199 SW1	Allow access to Contractor DE/2018/04 for E&M installation and T&C works Flowmeter no. 2-4	0 days	Sat 31/12/22	Sat 31/12/22 197	45FF 55FF	0 days	Normal Working Hours	31/12 ♦ 3/1 12/8
199 SW1 200 SW1	Flowmeter no. 2-4 Gate Valve Chamber no.1-3	180 days 180 days	Tue 3/1/23	Sat 12/8/23 197 Sat 12/8/23 197	55FF	80 days 80 days	None None	3/1 12/8
200 SW1	Plug Vakve Chamber no.1-2	180 days	Tue 3/1/23 Tue 3/1/23	Sat 12/8/23 197 Sat 12/8/23 197	55FF	80 days	None	3/1 12/8
201 SW1	ABWF works	180 days	Tue 3/1/23 Tue 3/1/23	Sat 12/8/23 197 Sat 12/8/23 197,110,78	55FF	80 days	Normal Working Hoursabwf	3/1 12/8
203	Membrane Facilities Building, B-5	941 days	Mon 6/1/20	Thu 9/3/23 10	JJ1 1	0 days	Normal Working Hou	6/1
204	Decommission and Demolition of existing final sedimentation tanks no. 3 & 4	14 days	Mon 6/1/20	Tue 21/1/20 88,67,90	205	0 days	Normal Working dem	S/I ≅ 21/I
	(Partial)					, 5	Hours_20190924	
205	Installation of sheetpile, FSP-IV 2460sq.m & FSP-II 1680sq.m	40 days	Wed 22/1/20	Wed 11/3/20 204	206	0 days	Normal Working sp	22/1 5550 11/3
206	(50sq.m/rig/day, 2rigs) with toe grout	00 4-	Th.: 40/2/22	Wed 0/4/00 005 33 33	207	0 4	Hours_20190924	12/3 📨 8/4
206	Excavation to level +5.5mPD (5700cu.m soil, 250cu.m/day)	23 days	Thu 12/3/20	Wed 8/4/20 205,92,93	207	0 days	Normal Working Hoursex	
207	Demolition of remaining final sedimentation tanks	45 days	Thu 9/4/20		208	0 days	Normal Working Hours dem	9/4 5555 5/6 6/6 5555 27/7
208	Predrilling (83nrs, 8rigs, 4days/drillhole/rig)	42 days	Sat 6/6/20	Mon 27/7/20 207,69	209	0 days	Normal Working Hours bo	28/7 (28/7 13/1
210	Pre-bored H piles (224nos, 8rigs, 5days/pile/rig)	140 days	Tue 28/7/20 Thu 14/1/21	Wed 13/1/21 208,70	211,210,193 213	0 days	Normal Working Hoursey	197
210	Install S1 wailing / strutting Pile Load Test	10 days 26 days	Thu 14/1/21 Thu 14/1/21	Mon 25/1/21 209 Tue 16/2/21 209	213 212	16 days 0 days	Normal Working Hoursex Normal Working Hourstt	14/1 23/1
212	ELS works	26 days 169 days	Wed 17/2/21	Thu 9/9/21 211	-14	0 days	None	17/2
213	Excavate to level +2mPD and install S2 wailing / strutting (8090cu.m soil,	45 days	Wed 17/2/21 Wed 17/2/21	Tue 13/4/21 210,72	214	0 days	Normal Working ex	17/2 2222 13/4
	250cu.m/day)	40 days				o dayo	Hours_20190924	
214	Installation of sheetpile, FSP-IV 380sq.m (50sq.m/rig/day, 1rigs)	14 days	Wed 14/4/21	Thu 29/4/21 213	215	0 days	Normal Working Hoursep	14/4 😊 29/4
					1-1-		to a second seco	1
215	Excavate to level -1.5mPD and install S3 wailing / strutting (4000cu.m soil,	25 days	Fri 30/4/21	Mon 31/5/21 214	216	0 days	Normal Working ex	30/4 🔤 31/5
215	160cu.m/day)						Hours_20190924	
		25 days 35 days	Fri 30/4/21 Tue 1/6/21	Mon 31/5/21 214 Tue 13/7/21 215	216	0 days		30/4 SS 31/5 1/6 SSS 13/7

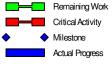
	Sewage Treatment Facilities							In the second se
ID Key Date	Task Name	Duration	Start	Finish Predecessors	Successors	Total Slack	Task Calendar trade	2020 2021 2022 2023 2024 2025 Qur 3 Qur 4 Qur 1 Qur 2 Qur 3 Qur 4 Qur 1 Qur 3 Qur 4
217	Excavate to level -7.3mPD and install S5 wailing / strutting (4540cu.m soil,	30 days	Wed 14/7/21	Tue 17/8/21 216	218	0 days	Normal Working ex	013
	160cu.m/day)					·	Hours_20190924	
218	Excavate to final formation level -9.0mPD and install S5 wailing / strutting	20 days	Wed 18/8/21	Thu 9/9/21 217	219	0 days	Normal Working ex	18/8 🖘 9/9
219 KD1F	(2860cu.m soil, 160cu.m/day) R.C. Structure works (from B2 - Level 1)	112 days	Fri 10/9/21	Tue 25/1/22 76,107,108,23	80 46FF 220 221	0 days	Hours_20190924 Normal Working Hoursrc	10/9 ********* 25/1
220 KD1F	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Tue 25/1/22	Tue 25/1/22 219	46FF	0 days	Normal Working Hours	25/1 ♦
221 KD1G	R.C. Structure works (from Level 1 to Roof)	120 days	Wed 26/1/22	Sat 25/6/22 219	223,47FF,222	0 days	Normal Working Hourerc	26/1 22222222 25/6
222 KD1G	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Sat 25/6/22	Sat 25/6/22 221	47FF	0 days	Normal Working Hours	25/6 ♦
223 SW1	ABWF works	210 days	Mon 27/6/22	Thu 9/3/23 221,110,78,97	' 55FF	206 days	Normal Working Hoursabwf	27/6 9/3
224	SAS Pumping Station, B-6	455 days	Wed 20/5/20	Thu 25/11/21 11		0 days	Normal Working Hou	20/5
225	Predrilling (4nrs, 1rig, 4days/drillhole/rig)	16 days	Wed 20/5/20	Sat 6/6/20 69	226,180	0 days	Normal Working Hourspd	20/5 🗠 6/6
226	Pre-bored H piles (12nos, 1rigs, 5days/pile/rig)	60 days	Mon 8/6/20	Tue 18/8/20 225,70	227,181,228	0 days	Normal Working Hourshp	8/6
227	Sheetpile Installation (FSP-II, 690sq.m, 50sqm/day) with toe grouting	28 days	Wed 19/8/20	Sat 19/9/20 226	229	0 days	Normal Working Hourssp	19/8 🔼 19/9
228	Pile Load Test	26 days	Wed 19/8/20	Thu 17/9/20 226	229	2 days	Normal Working HoursIt	19/8 17/9
229	ELS works (1300cu.m soil with 2 layers wailing / strutting)	75 days	Mon 21/9/20	Sat 19/12/20 227,72,228	230	0 days	Normal Working Hoursex	21/9 19/12
230 KD1H	R.C. Structure works	186 days	Mon 21/12/20	Mon 9/8/21 77,107,108,22		0 days	Normal Working Hourerc	21/12 9/8
231 KD1H	Allow access to Contractor DE/2018/03 for E&M installation and T&C works	0 days	Mon 9/8/21	Mon 9/8/21 230	48FF	0 days	Normal Working Hours	9/8 ♦
232 SW1	ABWF works	90 days	Tue 10/8/21	Thu 25/11/21 230,110,78	55FF	585 days	Normal Working Hoursabwf	10/8 25/11
233	Ancillary Structures, B-7	503 days	Mon 7/9/20	Sat 21/5/22 12	005 044 040 054 000 000	5 days	Normal Working Hou	7/9 21/5 7/9 30/1
234	Demolition of Existing Faciliates and Structures (leachate pump pit & pumping station)	120 days	Mon 7/9/20	Sat 30/1/21 67,88,90	235,241,248,254,260,260	5,25 days	Normal Working dem Hours_20190924	7/9 30/1
235	Chemical System No.1	168 days	Mon 1/2/21	Thu 26/8/21 234		5 days	Normal Working Hou	1/2 25/8
236	Excavation for Raft Footing (20cu.m)	10 days	Mon 1/2/21	Thu 11/2/21	237	5 days	Normal Working Hoursex	1/2 11/2
237	Plate load test	14 days	Tue 16/2/21	Wed 3/3/21 236	238,242	5 days	Normal Working Hours	16/2 3/3
238 KD1J	R.C. structure works	45 days	Mon 15/3/21	Mon 10/5/21 237	239,50FF,244,240	0 days	Normal Working Hourerc	15/3 🏧 10/5
239 KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 10/5/21	Mon 10/5/21 238	50FF	215 days	Normal Working	10/5 ♦
							Hours_20190924	
240 SW1	ABWF works + BS works	90 days	Tue 11/5/21	Thu 26/8/21 110,78,238	55FF	660 days	Normal Working Hoursabwf	11/5 26/8
241	Chemical System No.2	189 days	Thu 4/3/21	Thu 21/10/21 234	2.40	5 days	Normal Working Hou	4/3 21/10
242 243	Excavation for Raft Footing (100cu.m)	15 days	Thu 4/3/21	Sat 20/3/21 237	243	5 days	Normal Working House	4/3 20/3 22/3 9/4
	Plate load test	14 days	Mon 22/3/21	Fri 9/4/21 242	244,249	5 days	Normal Working Hours	
244 KD1J 245 KD1J	R.C. structure works Allow access to Contractor DE/2018/04 for E&M installation and T&C works	45 days	Tue 11/5/21	Mon 5/7/21 243,238 Mon 5/7/21 244	245,251,50FF,246,247 50FF	0 days	Normal Working Hourerc	11/5 557 5/7 ♦
243 KD13	Allow access to Contractor DE/2018/04 for Edivi Installation and Tac Works	0 days	Mon 5/7/21	WON 5/7/21 244	OUFF	170 days	Normal Working Hours_20190924	37.4
246 SW1	ABWF works + BS works	90 days	Tue 6/7/21	Thu 21/10/21 110,78,244	55FF	615 days	Normal Working Hoursabwf	6/7 21/10
247 SW1	Demolition of existing chemical room	60 days	Tue 6/7/21	Mon 13/9/21 244	55FF	645 days	Normal Working Hours	6/7 13/9
248	Fire Services Sprinkler Pumping Room	220 days	Sat 10/4/21	Mon 3/1/22 234		5 days	Normal Working Hou	10/4
249	Excavation for Raft Footing (800cu.m)	45 days	Sat 10/4/21	Thu 3/6/21 243	250	5 days	Normal Working Hoursex	10/4 3/6
250	Plate load test	14 days	Fri 4/6/21	Mon 21/6/21 249	251,255	5 days	Normal Working Hours	4/6 21/6
251 KD1J	R.C. structure works	60 days	Tue 6/7/21	Mon 13/9/21 250,244	253,257,252,50FF	0 days	Normal Working Hoursrc	6/7 5555 13/9
252 KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 13/9/21	Mon 13/9/21 251	50FF	110 days	Normal Working	13/9 ♦
253 SW1	ADM/F do . DOdo	00 1	T 4.4/0/04	Mars 0/4/00 440 70 054		555 4	Hours_20190924	14/9 3/1
253 SW1	ABWF works + BS works Temporary Chemical Dosing System	90 days 191 days	Tue 14/9/21 Tue 22/6/21	Mon 3/1/22 110,78,251 Thu 10/2/22 234	55FF	555 days 5 days	Normal Working Hoursabwf Normal Working Hou	22/6
255	Excavation for Raft Footing (300cu.m)	30 days	Tue 22/6/21	Tue 27/7/21 250	256	5 days	Normal Working Housex	22/6 27/7
256	Plate load test	14 days	Wed 28/7/21	Thu 12/8/21 255	257,261	5 days	Normal Working Hours	28/7 12/8
257 KD1J	R.C. structure works	30 days	Tue 14/9/21	Thu 21/10/21 256,251	258.50FF.263.259	0 days	Normal Working Hoursrc	14/9 🔤 21/10
258 KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 21/10/21	Thu 21/10/21 257	50FF	80 days	Normal Working	21/10 ♦
							Hours_20190924	
259 SW1	ABWF works + BS works	90 days	Fri 22/10/21	Thu 10/2/22 110,78,257	55FF	525 days	Normal Working Hours abwf	22/10 10/2
260	Fire Hydrant and Booster Pump Room	177 days	Fri 13/8/21	Thu 17/3/22 234		5 days	Normal Working Hou	13/8 17/3
261	Excavation for Raft Footing (200cu.m)	30 days	Fri 13/8/21	Thu 16/9/21 256	262	5 days	Normal Working Hoursex	13/8 16/9
262	Plate load test	14 days	Fri 17/9/21	Tue 5/10/21 261	263,267	5 days	Normal Working Hours	17/9 5/10
263 KD1J	R.C. structure works	30 days	Fri 22/10/21	Thu 25/11/21 262,257	264,265,50FF,269	0 days	Normal Working Hourerc	22/10 25/11
264 KD1J 265 SW1	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Thu 25/11/21	Thu 25/11/21 263	50FF	50 days	Normal Working Hours	25/11 ♦ 26/11 17/3
266 SVV I	ABWF works + BS works	90 days	Fri 26/11/21 Wed 6/10/21	Thu 17/3/22 263,110,78 Tue 26/4/22 234	55FF	495 days	Normal Working Hoursabwf Normal Working Hou	6/10
267	Emergency Generator House Excavation for Raft Footing (100cu.m)	163 days 20 days	Wed 6/10/21	Fri 29/10/21 262	268	5 days 5 days	Normal Working Housex	6/10 29/10
268	Plate load test	14 days	Sat 30/10/21	Mon 15/11/21 267	269,273	5 days	Normal Working Hours	30/10 15/11
269 KD1J	R.C. structure works	30 days	Fri 26/11/21	Mon 3/1/22 268,263	270,50FF,271,275	0 days	Normal Working Hourerc	26/11 553 3/1
270 KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Mon 3/1/22	Mon 3/1/22 269	50FF	20 days	Normal Working	3/1 ♠
	and the works	5 44,5					Hours_20190924	
271 SW1	ABWF works + BS works	90 days	Tue 4/1/22	Tue 26/4/22 110,78,269	55FF	465 days	Normal Working Hoursabwf	4/1 26/4
272	Deodorization System No.1 and No.3A	149 days	Tue 16/11/21	Sat 21/5/22 234		5 days	Normal Working Hou	16/11 21/5
273	Excavation for Raft Footing (400cu.m)	20 days	Tue 16/11/21	Wed 8/12/21 268	274	5 days	Normal Working Hoursex	16/11 8/12
274	Plate load test	14 days	Thu 9/12/21	Fri 24/12/21 273	275	5 days	Normal Working Hours	9/12 24/12
275 KD1J	R.C. structure works	20 days	Tue 4/1/22	Wed 26/1/22 274,269	276,277,50FF	0 days	Normal Working Hourerc	4/1 × 26/1
276 KD1J	Allow access to Contractor DE/2018/04 for E&M installation and T&C works	0 days	Wed 26/1/22	Wed 26/1/22 275	50FF	0 days	Normal Working Hours_20190924	26/1 ♦
277 SW1	ABWF works + BS works	90 days	Thu 27/1/22	Sat 21/5/22 275	55FF	445 days	Normal Working Hours	27/1 21/5
278 SW1	Additional and Alternation Works for Existing Facilities (B-7A, B-8, B-8A)	662 days	Wed 29/1/20	Fri 22/4/22	50	0 days	Normal Working Hou	29/1 22/4
279 KD2B	B-8A Alternation works for existing Air Blower House No.2 (Pipeline CHTA,	180 days	Wed 29/1/20	Thu 3/9/20 15,79,105,106	5 52FF,280	0 days	Normal Working uu	29/1
	approx. 133m DN800 D.I.)						Hours_20190924	
280 KD1I	B7-A Alternation works for exisiting Power House	122 days	Fri 4/9/20	Sat 30/1/21 13,67,88,90,2		0 days	Normal Working Hoursdem	4/9 30/1
281 SW3	Alternation works for existing Membrane Facilities Building No.1	360 days	Mon 1/2/21	Fri 22/4/22 14,280	57FF	573 days	Normal Working Hours	1/2 22/4
282	External Underground Service, Utilities, Road/Drain	1091 days	Mon 24/2/20	Sat 28/10/23 16		0 days	Normal Working Hou	24/2 28/10
283 KD2A	Process Pipes CHR and CHS (approx. 100m twin DN900 D.I.)	325 days	Mon 24/2/20		+2289,288SS+101 days,28		Normal Working Hoursuu	24/2
284 SW2	Process Pipes, exclude CHR and CHS	550 days	Mon 29/6/20		ay: 289FS-100 days,56FF	0 days	Normal Working Hours uu	29/6 29/6 29/6 29/6 29/6 29/6 29/6 29/6
285 SW2	Drainage	550 days	Mon 29/6/20		ay: 289FS-100 days,56FF	0 days	Normal Working Hours un	29/6
286 SW2 287 SW2	Sewerage	550 days	Mon 29/6/20		ay: 289FS-100 days,56FF	0 days	Normal Working Hours un	29/6
287 SW2 288 SW2	Waterworks Cable Ducts	550 days	Mon 29/6/20	Fri 6/5/22 283SS+101 da		0 days	Normal Working Hours	29/6
289 KD3A	Cable Ducts Roadworks	550 days 540 days	Mon 29/6/20 Fri 31/12/21	Sat 28/10/23 285FS-100 da	ay: 289FS-100 days,56FF	0 days 0 days	Normal Working Hours	31/12
290 KD3A	Landscaping Works	854 days	Wed 11/5/22	Thu 27/3/25 16	iya 001 1	0 days	Normal Working Hour	11/5
291 SW3	Irrigation System	120 days	Wed 11/5/22 Wed 11/5/22	Fri 30/9/22 287FS+2 days	1 292 57FF	0 days	Normal Working Houseuu	11/5
292 SW3	Hard Landscaping Works	220 days	Mon 3/10/22	Mon 3/7/23 291,80	293,57FF	0 days	Normal Working Hoursland	3/10
293 SW3	Soft Landscaping Works	220 days	Tue 4/7/23	Tue 26/3/24 292,80	294,57FF	0 days	Normal Working Hoursland	4/7 (111111111111111111111111111111111111
294 DLP	Establishment Works (365 days)	294 days	Wed 27/3/24	Thu 27/3/25 293,80	59FF	0 days	Normal Working Hours	27/3
		, .						



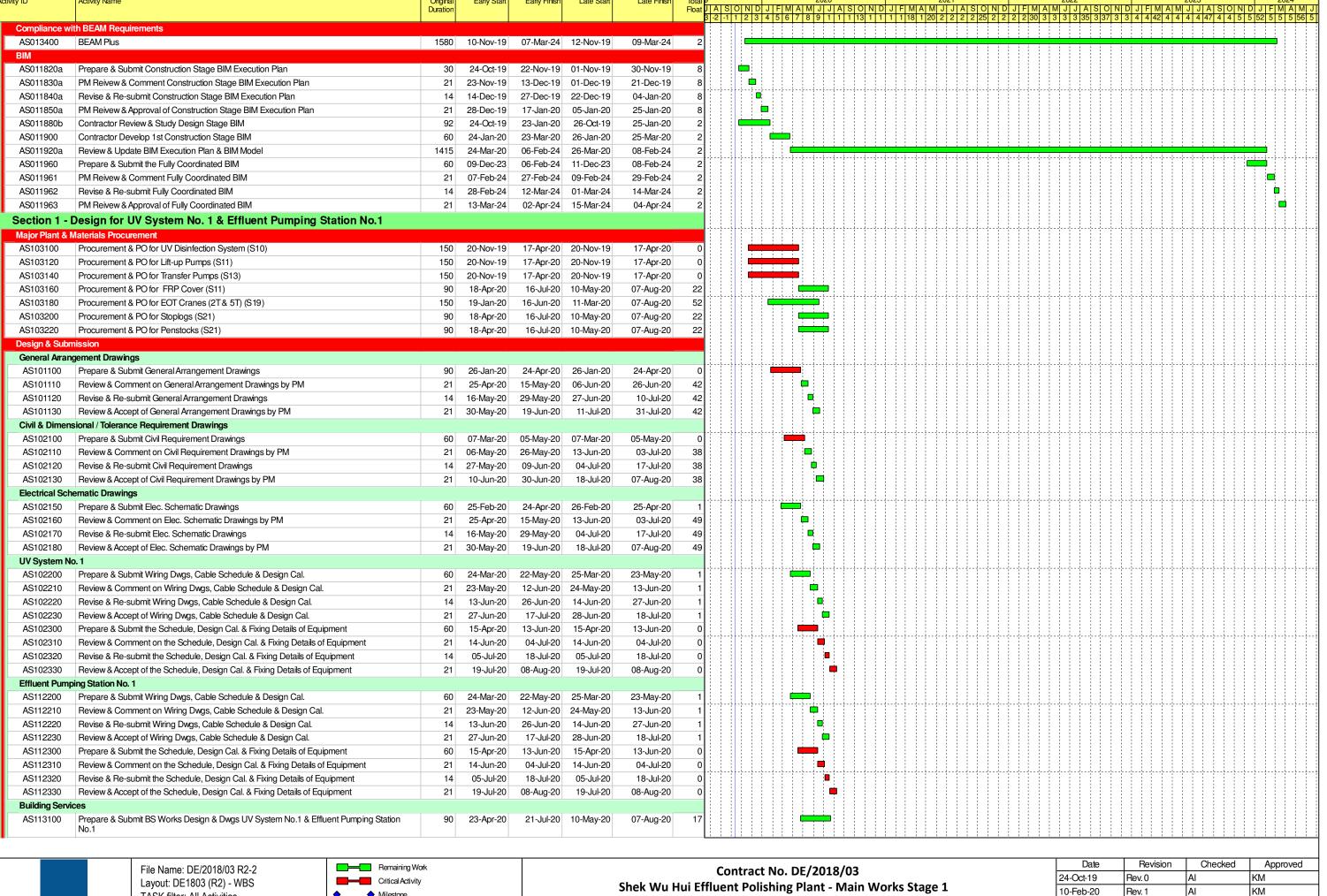




Page 2 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

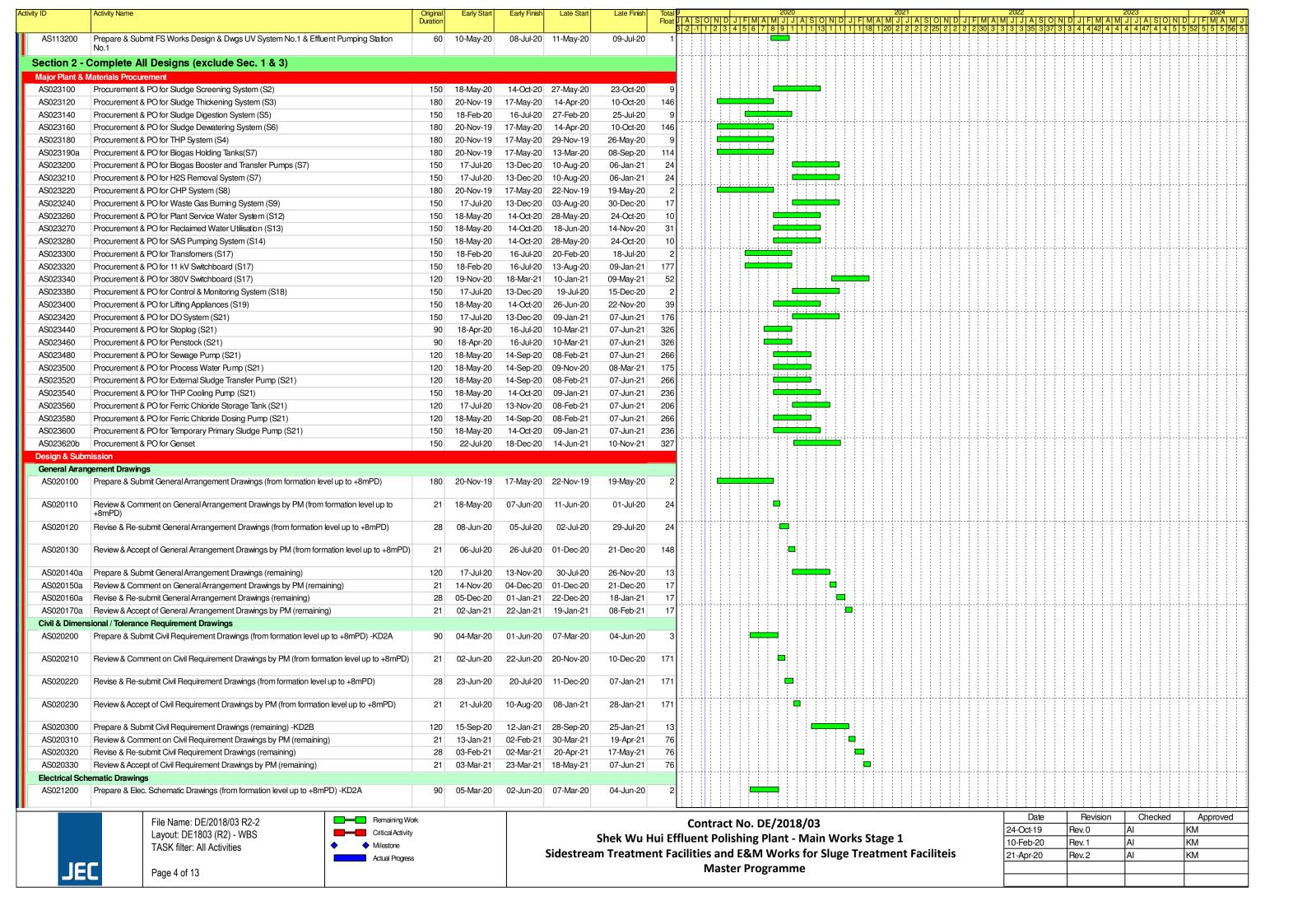


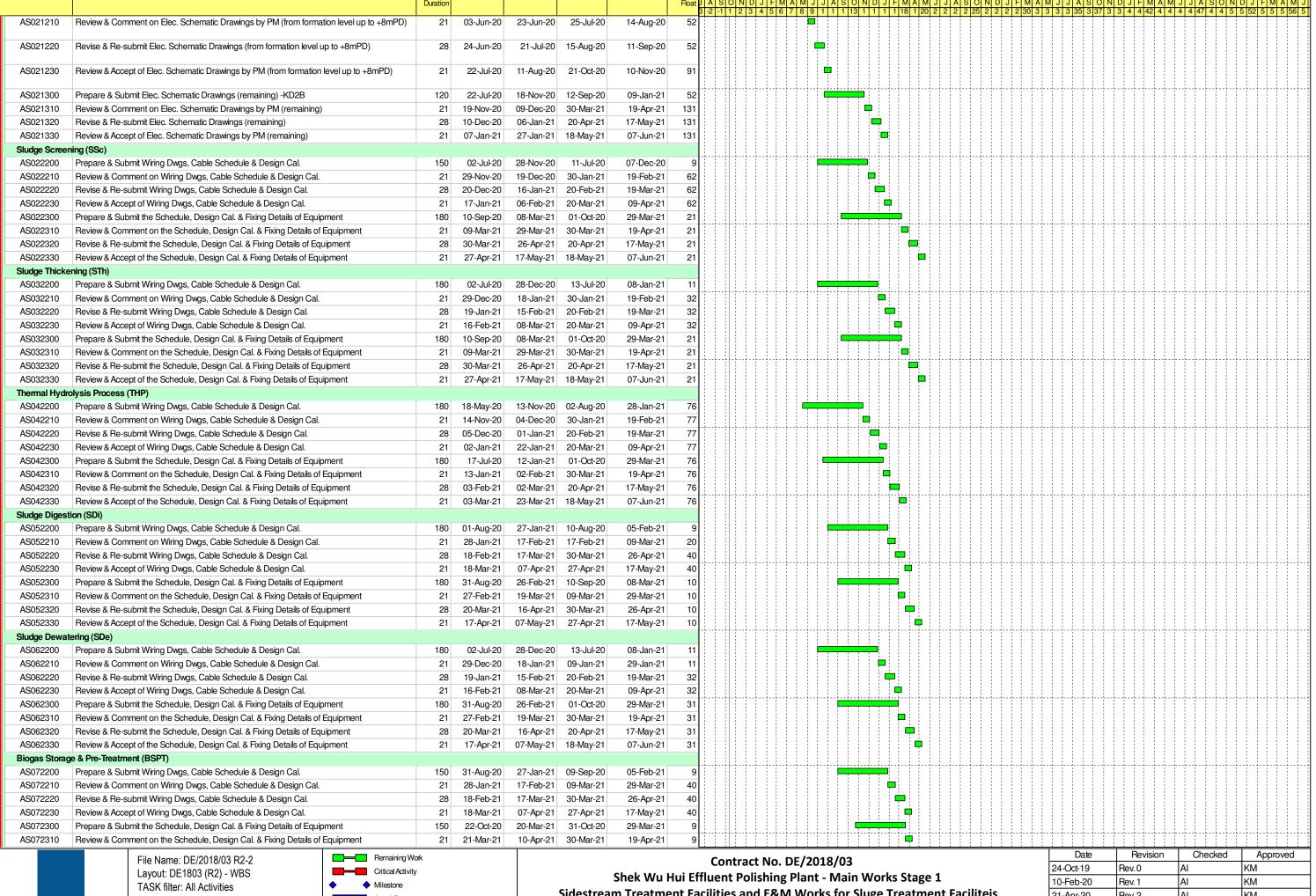


Page 3 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

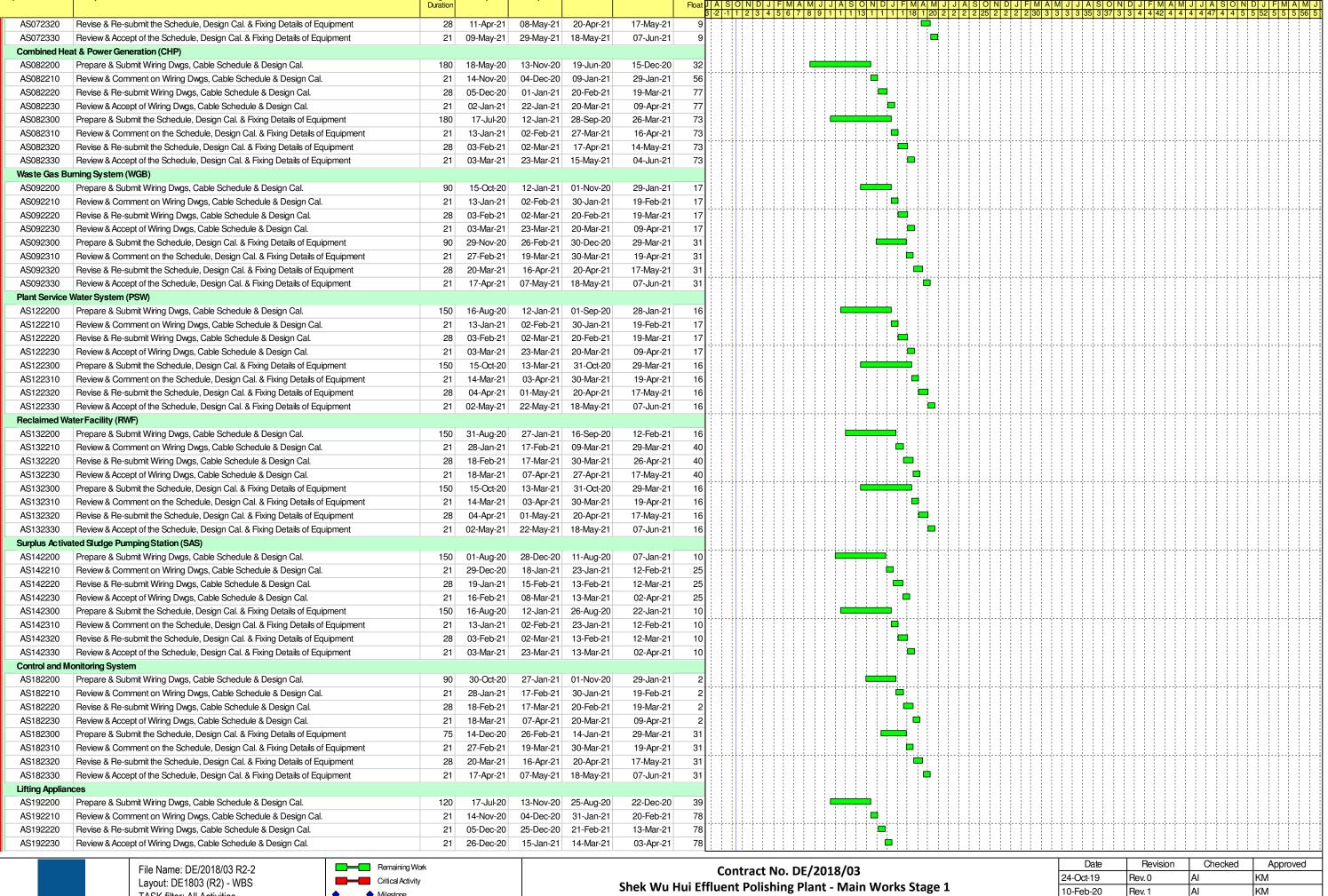




Page 5 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

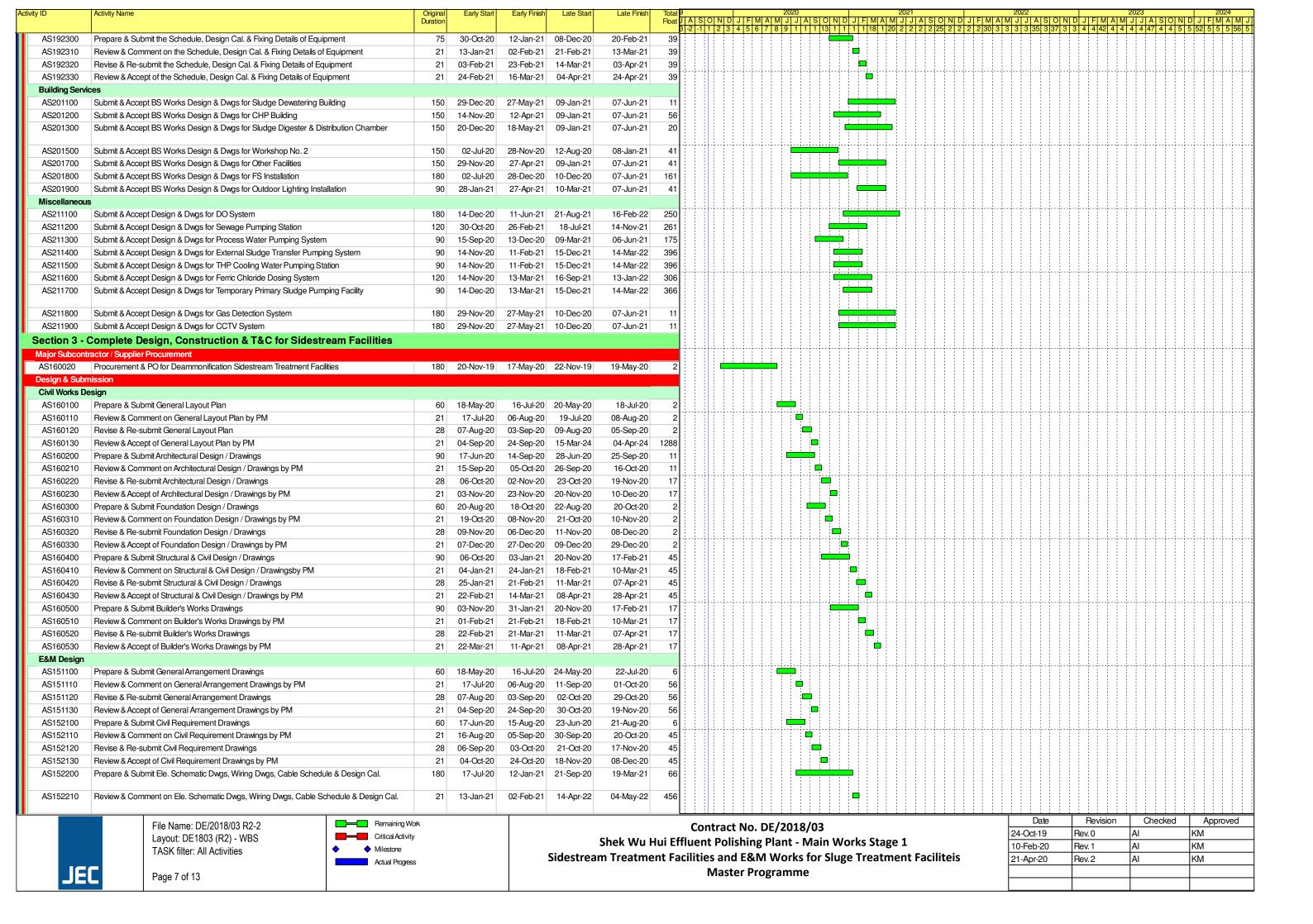


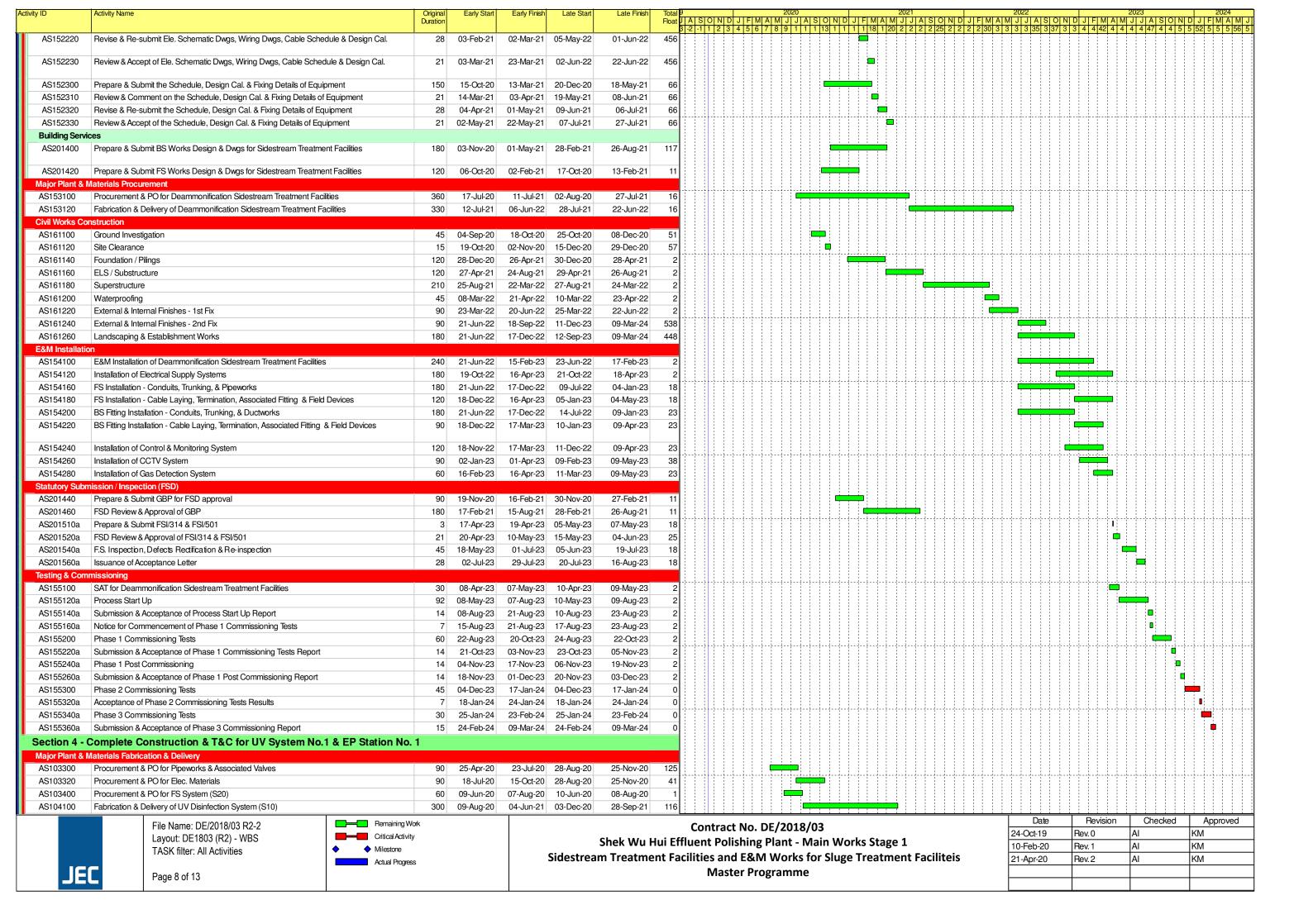


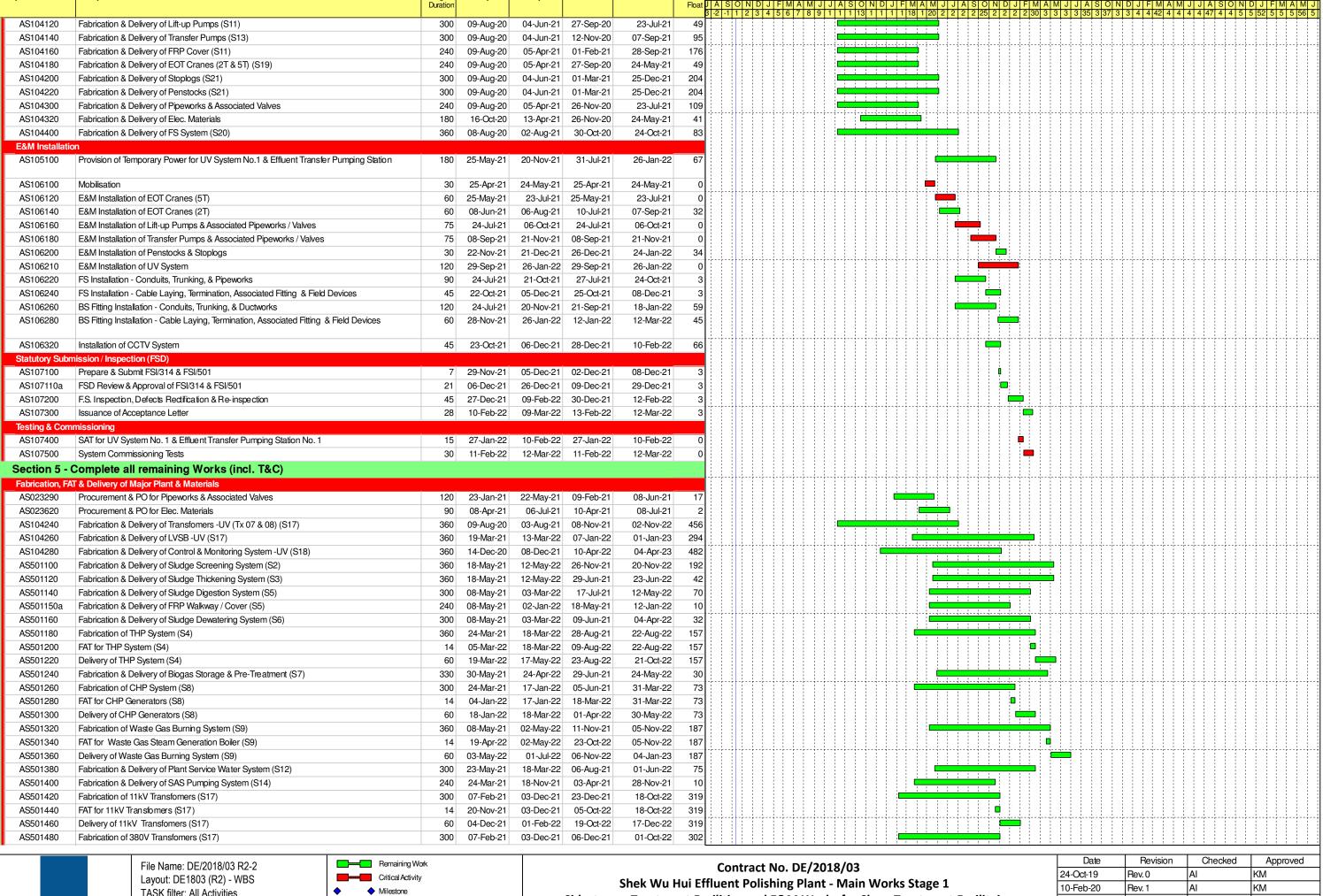
Page 6 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

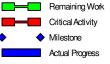




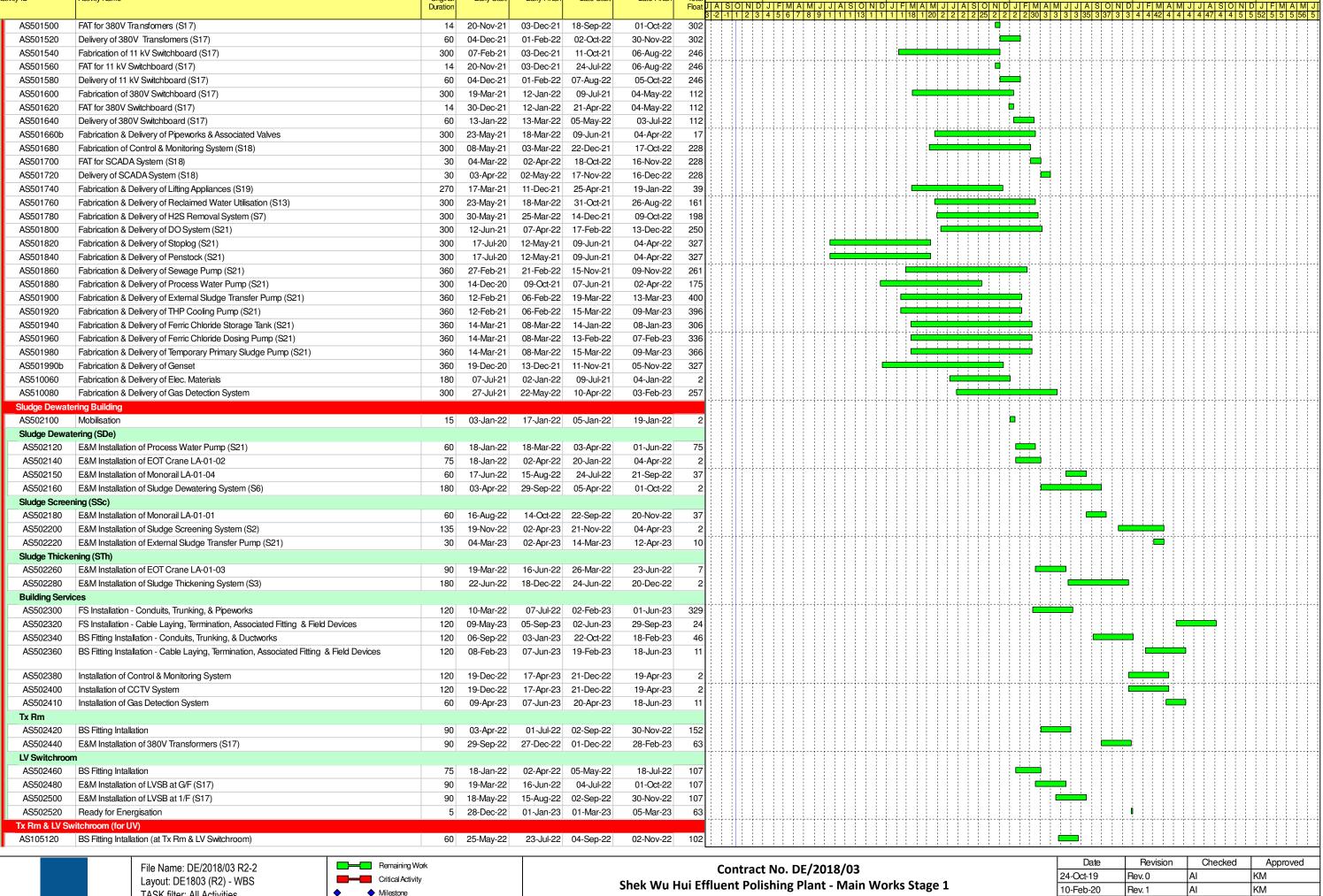




Page 9 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

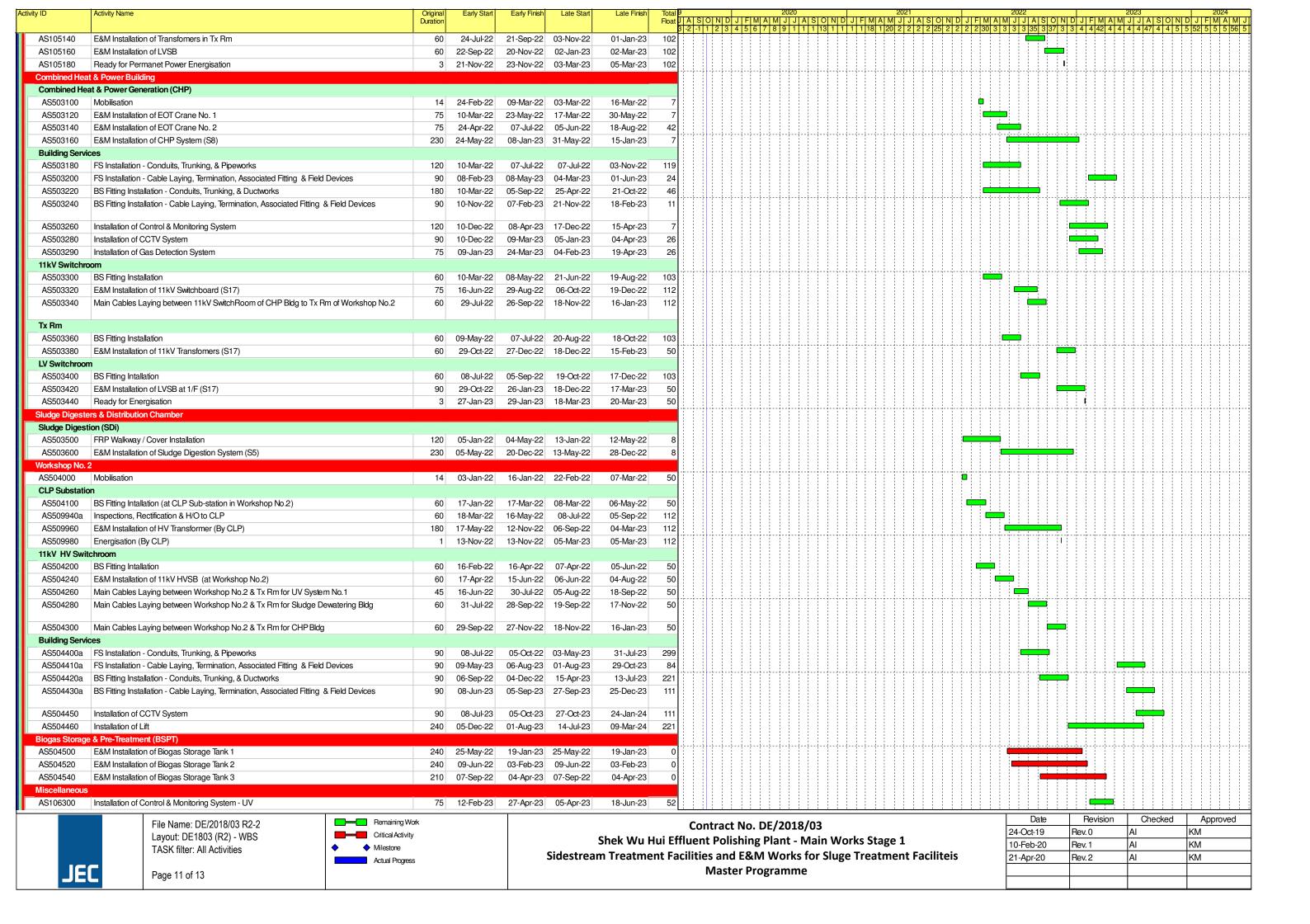


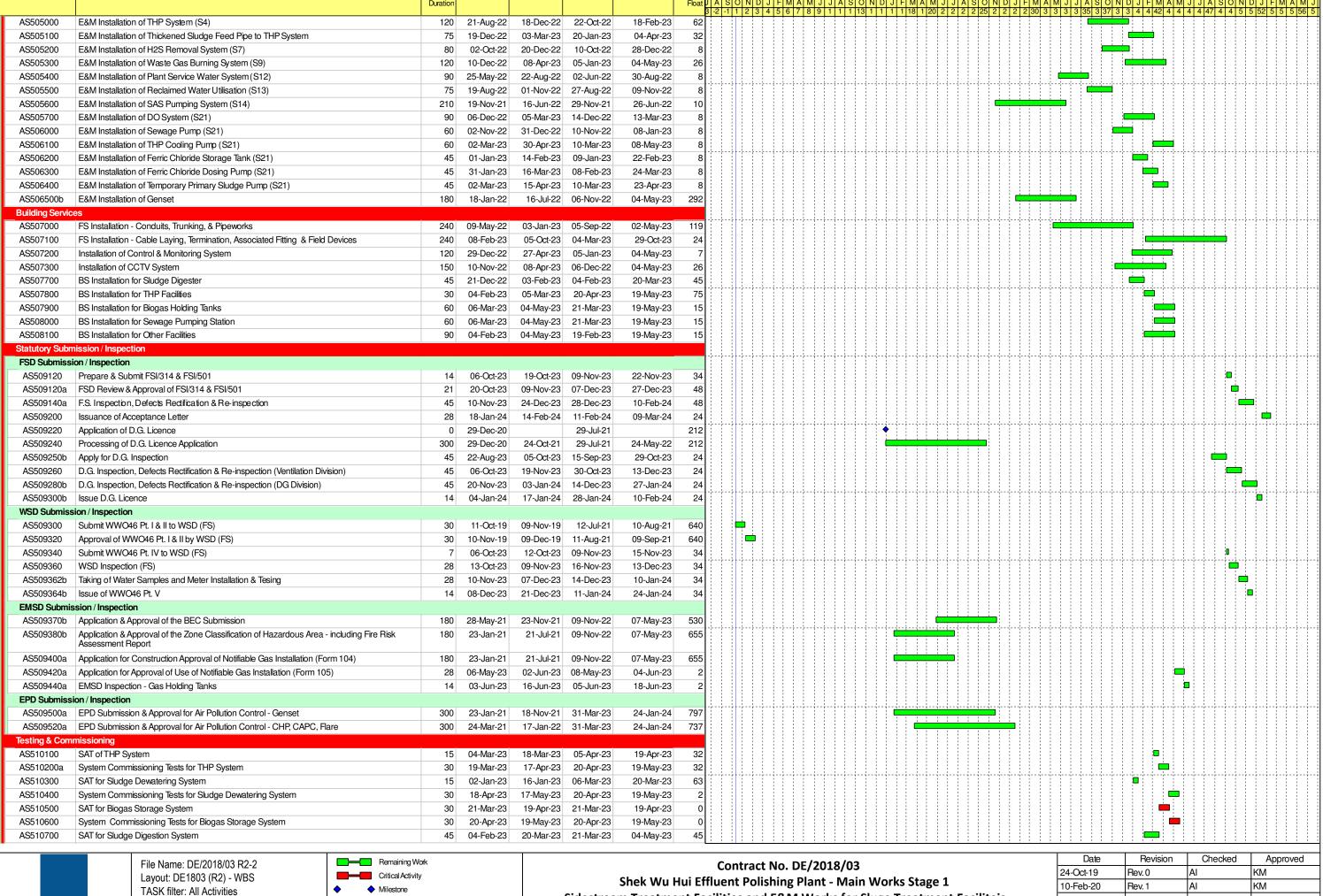


Page 10 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM







Page 12 of 13



Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM

Activity ID	Activity Name	Original	Early Start	Early Finish	Late Start	Late Finish	Total	9			2020				2021			7	2022			20)23		202	4
,		Duration	,	,			Float	J A S	J N D J	F M A	M J J A	S O N	D J F	M A M	J J A	S O N	D J F	M A M	J J A	S O N D	J F M	A M J	J A S	0 N D	J F M	A M J
AS510800	System Commissioning Tests for Sludge Digestion System	30	05-May-23	03-Jun-23	05-May-23	03-Jun-23	0	<u> </u>	1210171	0 0 7		11101	1 1 1 1	10 1 20			-1-1-1	00 0 0	0 0 00	70070	7 7 7 12		7 7/ 7	710101	52 0 0	7 00 0
AS510900	SAT for Gas Burning System	15	09-Apr-23	23-Apr-23	05-May-23	19-May-23	26	11 1 1																		
AS511000	System Commissioning Tests for Gas Burning System	30	20-May-23	18-Jun-23	20-May-23	18-Jun-23	0	11 11														🛑				
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																	1		
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						1 1 1 1 1 1													
AS512600a	Notice to Commence Phase 1 System Commissioning - Digester 2	3	09-Dec-23	11-Dec-23	09-Dec-23	11-Dec-23	0																	1		
AS512700a	Phase 1 System Commissioning - Digester 2	30	12-Dec-23	10-Jan-24	12-Dec-23	10-Jan-24	0																		4	
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						1 1 7			1 1 7 7 7	1 777	1 777			- -					1 1 1



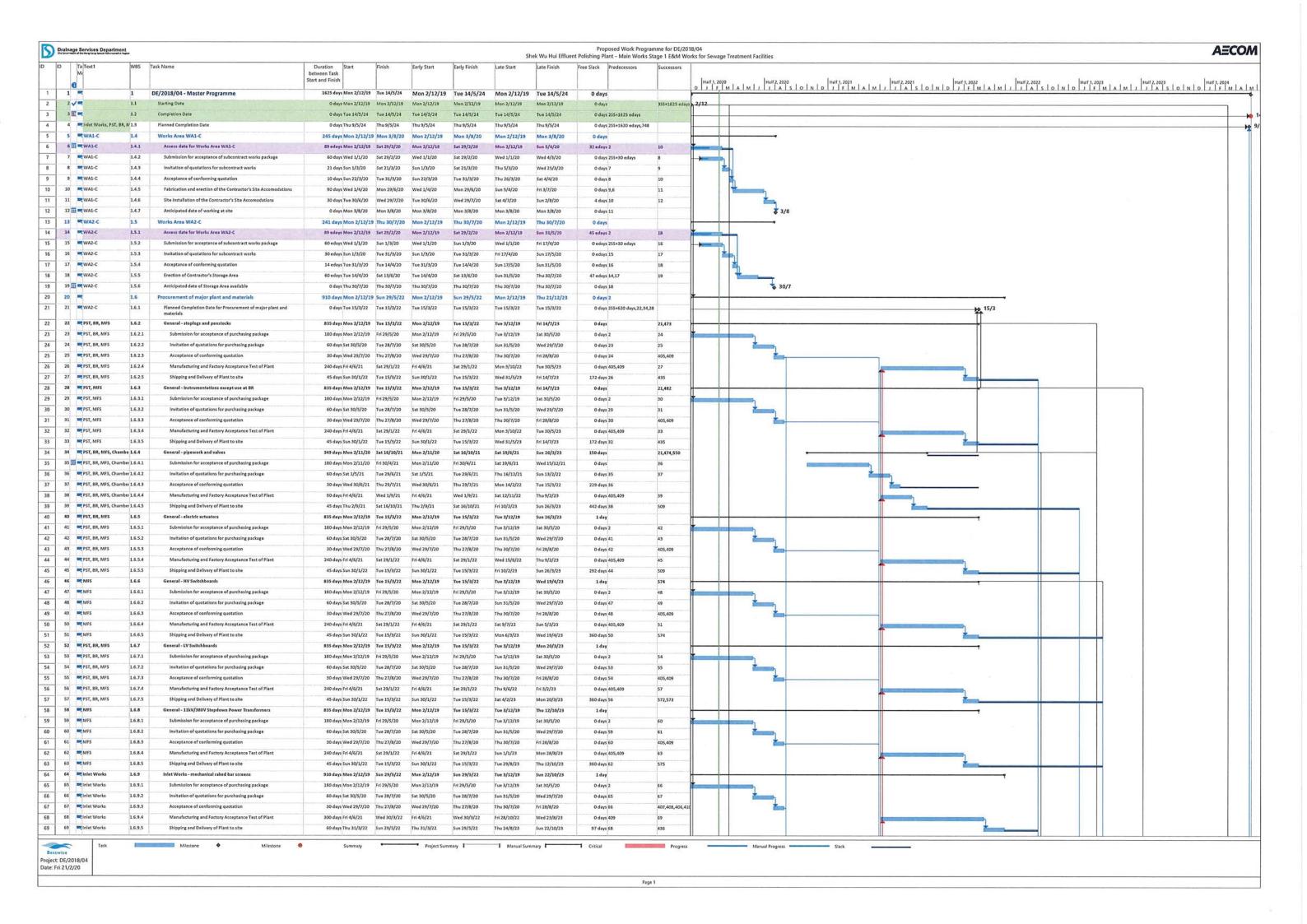
File Name: DE/2018/03 R2-2 Layout: DE1803 (R2) - WBS TASK filter: All Activities

Page 13 of 13



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

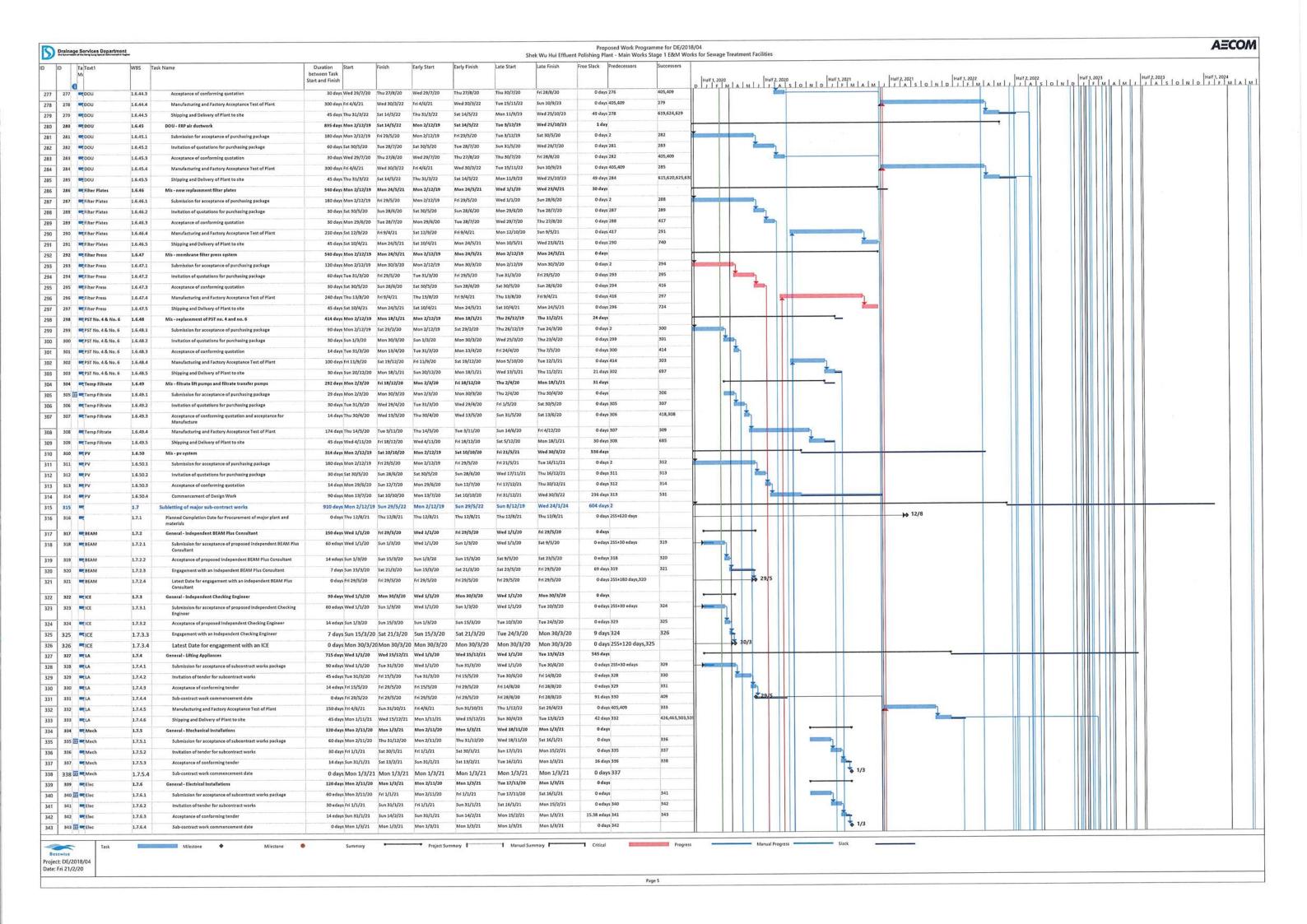
Date	Revision	Checked	Approved
24-Oct-19	Rev. 0	Al	KM
10-Feb-20	Rev. 1	Al	KM
21-Apr-20	Rev. 2	Al	KM



Dral	alnage	Services Departme	Region						3	Shek Wu Hui Efflue	Proposed Work Prog ent Polishing Plant - Main Works	s Stage 1 E&M Wo	ks for Sewage	ewage Treatment Facilities
ID		Ta Text1	W8S Ta	ik Name	Duration Start	Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack Predecessors	Successors		
	6	Mc			between Task Start and Finish								Half 1, 2020	F1, 2020 Half 2, 2020 Half 3, 2021 Half 2, 2022 Half 2, 2022 Half 2, 2023 Half 3, 2023 Half 3, 2024 Half 3, 2023 Half 3, 2024 Half 3, 2
7	70	Inlet Works	1.6.10	Inlet Works - screening conveyors	910 days Mon 2/12/19	Sun 29/5/22	Mon 2/12/19	Sun 29/5/22	Tue 3/12/19	Tue 31/10/23	1 day	437		
7	71	Inlet Works	1.6.10.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	72		
		Inlet Works	1.6.10.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	100000000000000000000000000000000000000	Sat 30/5/20 Wed 29/7/20	Tue 28/7/20 Thu 27/8/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 71 0 days 72	73 407,408,405,41		
		Inlet Works	1.6.10.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 300 days Fri 4/6/21	Wed 30/3/22	Fri 4/6/21	Wed 30/3/22	Sun 6/11/22	Fri 1/9/23	0 days 409	75	1 1	
	200	Inlet Works	1.6.10.5	Shipping and Delivery of Plant to site	60 days Thu 31/3/22	221300000000000	Thu 31/3/22	Sun 29/5/22	Sat 2/9/23	Tue 31/10/23	520 days 74		1 1	<u> </u>
7	76	Inlet Works	1.6.11	Inlet Works - Inlet Pumps	910 days Mon 2/12/19	Sun 29/5/22	Mon 2/12/19	Sun 29/5/22	Tue 3/12/19	Thu 26/10/23	1 day	438		
7	77	Inlet Works	1.6.11.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	78		
7		Inlet Works	1.6.11.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 77 0 days 78	79 407,408,406,41	4	
,	263	Inlet Works	1.6.11.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 300 days Fri 4/6/21	Thu 27/8/20 Wed 30/3/22	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20 Wed 30/3/22	Tue 1/11/22	Sun 27/8/23	0 days 409	81	1 1	
		Inlet Works	1,6.11.5	Shipping and Delivery of Plant to site	60 days Thu 31/3/22	Sun 29/5/22	Thu 31/3/22	Sun 29/5/22	Mon 28/8/23	Thu 26/10/23	515 days 80		1	<u> </u>
8	82	Inlet Works	1.6.12	Inlet Works - grit removal system	910 days Mon 2/12/19	Sun 29/5/22	Mon 2/12/19	Sun 29/5/22	Tue 3/12/19	Thu 16/11/23	1 day	439	+	
8	83	Inlet Works	1,6.12,1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	84		
_		Inlet Works	1.6.12.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 83 0 days 84	407,408,405,41		
		Inlet Works	1.6.12.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 300 days Fri 4/6/21	Thu 27/8/20 Wed 30/3/22	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20 Wed 30/3/22	Thu 30/7/20 Tue 22/11/22	Fri 28/8/20 Sun 17/9/23	0 days 409	87		
8		Inlet Works	1.6.12.5	Shipping and Delivery of Plant to site	60 days Thu 31/3/22		Thu 31/3/22	Sun 29/5/22	Mon 18/9/23	Thu 16/11/23	536 days 86			
8	88	Inlet Works	1,6,13	Inlet Works - grit classifiers	910 days Mon 2/12/19		Mon 2/12/19	Sun 29/5/22	Tue 3/12/19	Thu 30/11/23	1 day	440	+	
8	89	Inlet Works	1.6.13.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	90		
ď		Inlet Works	1.6.13.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 89	91		
		Inlet Works	1,6.13.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20 Wed 30/3/22	Thu 30/7/20 Tue 6/12/22	Fri 28/8/20 Sun 1/10/23	0 days 90 0 days 409	407,408,406,41	1	
		Inlet Works	1,6,13,4	Manufacturing and Factory Acceptance Test of Plant Shipping and Delivery of Plant to site	300 days Fri 4/6/21 60 days Thu 31/3/22	Wed 30/3/22 Sun 29/5/22	Fri 4/6/21 Thu 31/3/22	Sun 29/5/22	Mon 2/10/23	Thu 30/11/23	550 days 92			
9		Inlet Works	1.6.14	Inlet Works - compactors	910 days Mon 2/12/19		Mon 2/12/19	Sun 29/5/22	Tue 3/12/19	Thu 30/11/23	1 day	441	-	
9	95	Inlet Works	1.6.14.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	96		
9	96	Inlet Works	1.6.14.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 95	97		
9	24	Inlet Works	1.6.14.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 96	407,408,406,41		
9		Inlet Works	1.6.14.4	Manufacturing and Factory Acceptance Test of Plant	300 days Fri 4/6/21 60 days Thu 31/3/22	Wed 30/3/22	Fri 4/6/21 Thu 31/3/22	Wed 30/3/22 Sun 29/5/22	Tue 6/12/22 Mon 2/10/23	Sun 1/10/23 Thu 30/11/23	0 days 409 550 days 98	99		
		Inlet Works	1,6.14.5	Shipping and Delivery of Plant to site PST - Jamella plate settlers	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Tue 12/9/23	1 day	475	-	
		PST	1,6,15,1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	102		
10	102	PST	1.6.15.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 101	103		
10	103	PST	1.6.15.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 102	407,408,406,4	1 1	
		PST	1.6.15.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Fri 2/12/22	Sat 29/7/23	0 days 405,409	105	1	
	27.5	PST PST	1.6.15.5	Shipping and Delivery of Plant to site PST - reciprocating type bottom scrapers	45 days Sun 30/1/22 835 days Mon 2/12/19		Sun 30/1/22 Mon 2/12/19	Tue 15/3/22 Tue 15/3/22	Sun 30/7/23 Tue 3/12/19	Tue 12/9/23 Sun 13/8/23	546 days 104 1 day	476		
		PST	1,6,16,1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	108		
10	108	PST PST	1.6.16.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 107	109		
10	109	PST	1,6,16.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 108	407,408,406,4	1 1	
	200	PST	1.6.16.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Wed 2/11/22	Thu 29/6/23	0 days 405,409	111		
		■ PST ■ PST	1.6.16.5	Shipping and Delivery of Plant to site PST - surface scurn skimmers	45 days Sun 30/1/22 835 days Mon 2/12/19		Sun 30/1/22 Mon 2/12/19	Tue 15/3/22 Tue 15/3/22	Fri 30/6/23 Tue 3/12/19	Sun 13/8/23 Thu 21/12/23	516 days 110 1 day	477		
		PST	1.6.17.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	O days 2	114	+	
		PST	1.6.17.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 113	115		
11	115	■ PST	1.6.17.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Frl 28/8/20	0 days 114	407,408,406,4	4	
		■ PST	1.6.17.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sun 12/3/23	Mon 6/11/23	0 days 405,409	117	4	
		■ PST	1.6.17.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22 835 days Mon 2/12/19		Sun 30/1/22 Mon 2/12/19	Tue 15/3/22 Tue 15/3/22	Tue 7/11/23 Tue 3/12/19	Thu 21/12/23 Thu 21/12/23	646 days 116 1 day	478		
	118	Hard Control	1.6.18	PST - scum collector pipes Submission for acceptance of purchasing package	180 days Mon 2/12/19	Parco Desired Process	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	120		
		■ PST	1.6.18.2	Invitation of quotations for purchasing package	60 days 5at 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 119	121		
17	121	■ PST	1.6,18.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 120	405,409		
		PST PST	1.6.18.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sun 12/3/23	Mon 6/11/23	0 days 405,409	123	1	
	377	PST	1.6.18.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22 835 days Mon 2/12/19	100000000000000000000000000000000000000	Sun 30/1/22 Mon 2/12/19	Tue 15/3/22 Tue 15/3/22	Tue 7/11/23 Tue 3/12/19	Thu 21/12/23 Fri 22/9/23	646 days 122 1 day	479		
		PST	1.6.19	PST - piston type primary sludge pumps Submission for acceptance of purchasing package	835 days Mon 2/12/19 180 days Mon 2/12/19		Mon 2/12/19 Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	O days 2	126		
	-	PST	1.6.19.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	100 012 12 12 12 12 12	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 125	127		
		■PST	1.6.19.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 126	405,409		
12		■ PST	1.6.19.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Mon 12/12/22	Tue 8/8/23	0 days 405,409	129	1	
		PST	1.6.19.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Section Contracts	Sun 30/1/22	Tue 15/3/22	Wed 9/8/23	Fri 22/9/23 Sun 22/10/23	556 days 128 1 day	480		
		■ PST ■ PST	1.6.20	PST - drain pumps Submission for acceptance of purchasing package	835 days Mon 2/12/19 180 days Mon 2/12/19		Mon 2/12/19 Mon 2/12/19	Tue 15/3/22 Fri 29/5/20	Tue 3/12/19 Tue 3/12/19	Sun 22/10/23 Sat 30/5/20	0 days 2	132	+	
		■ PST	1.6.20.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 131	133		
	888	■ PST	1.6.20.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 132	405,409		
13	134	PST	1.6.20.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Wed 11/1/23	Thu 7/9/23	O days 405,409	135		
		■ PST	1.6.20.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Fri 8/9/23	Sun 22/10/23	586 days 134		4	
		PST	1.6.21	PST - air blowers Submission for acceptance of purchasing package	835 days Mon 2/12/19	The second	Mon 2/12/19 Mon 2/12/19	Tue 15/3/22 Fri 29/5/20	Tue 3/12/19 Tue 3/12/19	Tue 21/11/23 Sat 30/5/20	1 day 0 days 2	138	4	
		■ PST ■ PST	1.6.21.1	Submission for acceptance of purchasing package Invitation of quotations for purchasing package	180 days Mon 2/12/19 60 days Sat 30/5/20		Mon 2/12/19 Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 137	139		
-		IT'		Annual of Language Payoffs	-5 507 57 507 57 50	1	production.	100.000	1	1000000	5-09-74 PSS		ш	
et: DE		Task	(See See See See See See See See See See	Milestone • Milestone	Summary	•	Project Su	mmary I	1 Manual S	Summary I	Critical	Progres		Manual Progress Slack

Drain	nage Serv	vices Department								Shek Wu Hui Efflue	Proposed Work Progr ent Polishing Plant - Main Works			
ID	Ta Te	ext1	WBS Task	k Name	Duration Start	Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack Predecessors	Successors	or sewage	
1000	Mc	C1101			between Task Start and Finish								Half 1, 207	Half 1, 2020 Half 2, 2020 Half 3, 2021 Half 2, 2022 Half 3, 2023 Half 2, 2023 Half 3, 2023 Half 3, 2023 Half 3, 2024 Half
135	9 PS	ST :	1.6.21.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 138	405,409	DIF	
140	0 P S	ST :	1.6.21.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Fri 10/2/23	Sat 7/10/23	0 days 405,409	141	1 1	
14:	1 = PS	ST :	1.6,21.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Sun 8/10/23	Tue 21/11/23	616 days 140			
14:			1.6.22	Chemical Storage and Dosing - chemical storage tanks	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Mon 26/12/22	1 day			
14			1.6.22.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	C. THEODERSON	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	144		
144			1.6.22.2	Invitation of quotations for purchasing package Acceptance of conforming quotation	60 days Sat 30/5/20 30 days Wed 29/7/20		Sat 30/5/20 Wed 29/7/20	Tue 28/7/20 Thu 27/8/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 143 0 days 144	405,409		
14	3. 10.		1.6.22.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Thu 17/3/22	Fri 11/11/22	0 days 405,409	147	1 1	
14			1.6.22.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Sat 12/11/22	Mon 26/12/22	0 days 146	595,605		
141	8 = Ch		1.6.23	Chemical Storage and Dosing - chemical dosing pumps	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Mon 26/12/22	1 day		1	 _
149	9 C h	hemical :	1.6.23.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	150		
150	o = Ch	hemical :	1.6.23.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 149	151		
15:	1 Ch	hemical :	1.6.23.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 150	405,409		
2 153			1.6.23.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Thu 17/3/22	Fri 11/11/22	0 days 405,409	153	1 1	
15			1.6.23.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Sat 12/11/22	Mon 26/12/22	0 days 152	595,605		
15	1 3		1.6.24	Chemical Storage and Dosing - transfer pumps Submission for acceptance of purchasing package	835 days Mon 2/12/19 180 days Mon 2/12/19		Mon 2/12/19 Mon 2/12/19	Tue 15/3/22 Fri 29/5/20	Tue 3/12/19 Tue 3/12/19	Mon 26/12/22 Sat 30/5/20	1 day 0 days 2	156	4	
150			1.6.24.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 155	157		
15			1.6.24.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 156	405,409	1	
151	8 = Ch		1.6.24.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Thu 17/3/22	Fri 11/11/22	O days 405,409	159	1	
155	9 = Ch	hemical :	1.6.24.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Sat 12/11/22	Mon 26/12/22	0 days 158	595,605	1	
160	O R	R	1.6.25	BR - pre-treatment fine screens	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 2/8/23	1 day		1	-
16:	200		1.6.25.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	C. Discourance	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	162		
163			1.6.25.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 161	163		
3 163	100 100		1.6.25.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20 Sun 18/6/23	0 days 162 0 days 405,409	405,409	4	
164			1.6.25.4	Manufacturing and Factory Acceptance Test of Plant Shipping and Delivery of Plant to site	240 days Fri 4/6/21 45 days Sun 30/1/22	Sat 29/1/22	Fri 4/6/21 Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Sat 22/10/22 Mon 19/6/23	Wed 2/8/23	292 days 164	510		
160			1.6.26	BR - air diffussion system	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Thu 25/5/23	1 day	200		
167			1.6.26.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	168	+	
168	8 R	R	1.6.26.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 167	169		
169	9 S BR	R 1	1.6.26.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 168	405,409	1	
170	O R	R I	1.6.26.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sun 14/8/22	Mon 10/4/23	0 days 405,409	171	1 1	
172	1 = 8R	R	1.6.26.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Tue 11/4/23	Thu 25/5/23	292 days 170	511		
2 17:			1.6.27	BR - submersible mixers	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 23/8/23	1 day			
3 173			1.6.27.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2 0 days 173	174		
4 174 5 175			1.6.27.2	Invitation of quotations for purchasing package Acceptance of conforming quotation	60 days Sat 30/5/20 30 days Wed 29/7/20	100000000000000000000000000000000000000	Sat 30/5/20 Wed 29/7/20	Tue 28/7/20 Thu 27/8/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 174	405,409	-	
	6 RBR		1.6.27.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sat 12/11/22	Sun 9/7/23	0 days 405,409	177		
	7 = BR		1.6.27.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Mon 10/7/23	Wed 23/8/23	313 days 176	512	1 1	
B 178	8 R	R :	1.6.28	BR - mixed liquor return pumps	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Mon 24/7/23	1 day		1	
9 179	9 B R	R	1.6.28.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	180		
180	O BR	R	1.6.28.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 179	181		
183			1.6.28.3	Acceptance of conforming quotation	30 days Wed 29/7/20	e hannel tribban	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 180	405,409		
2 18;			1.6.28.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21		Fri 4/6/21	Sat 29/1/22	Thu 13/10/22	Fri 9/6/23	0 days 405,409	183	4 1	
18:			1.6.28.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22 835 days Mon 2/12/19		Sun 30/1/22 Mon 2/12/19	Tue 15/3/22 Tue 15/3/22	Sat 10/6/23 Tue 3/12/19	Mon 24/7/23 Wed 23/8/23	292 days 182 1 day	513		
185	-		1.6.29.1	BR - scum removal systems Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	186	-	
186			1.6.29.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 185	187		
18			1.6.29.3	Acceptance of conforming quotation	30 days Wed 29/7/20	- Innered Talkenser	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 186	405,409	1 1	
188	8 = BR		1.6.29.4	Manufacturing and Factory Acceptance Test of Plant		Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sat 12/11/22	Sun 9/7/23	0 days 405,409	189	1 1	
189	9 R BR	R	1.6.29.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Mon 10/7/23	Wed 23/8/23	322 days 188	514	1 1	
190	o R	R	1.6.30	BR - aeration blowers	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 23/8/23	1 day			 _
193			1.6.30.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	O days 2	192		
193	300		1.6.30.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	100000000000000000000000000000000000000	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 191	193		
193			1.6.30.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20 Sat 29/1/22	Thu 30/7/20 Sat 12/11/22	Fri 28/8/20 Sun 9/7/23	0 days 192 0 days 405,409	405,409 195		
194	4 RBR		1.6.30.4	Manufacturing and Factory Acceptance Test of Plant Shipping and Delivery of Plant to site	240 days Fri 4/6/21 45 days Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Fri 4/6/21 Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Mon 10/7/23	Sun 9/7/23 Wed 23/8/23	382 days 194	515	-	
19			1.6.31	BR - Instrumentations	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 23/8/23	1 day		+	
197	7 357000		1.6.31.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	S. I Section Section 1	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	198	+	
198	8 R		1.6.31.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 197	199		
199	9 R BR	R :	1.6.31.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 198	405,409		
200	O R	R	1.6.31.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sat 12/11/22	Sun 9/7/23	0 days 405,409	201		
20:			1.6.31.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Mon 10/7/23	Wed 23/8/23	442 days 200	516		
202			1.6.32	MFS - hollow fibre membrane modules	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Sat 10/12/22	1 day	204		
201		1004	1.6.32.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	· DANGER	Mon 2/12/19 Sat 30/5/20	Fri 29/5/20 Tue 28/7/20	Tue 3/12/19 Sun 31/5/20	Sat 30/5/20 Wed 29/7/20	0 days 2 0 days 203	204		
204			1.6.32.2	Invitation of quotations for purchasing package Acceptance of conforming quotation	60 days Sat 30/5/20 30 days Wed 29/7/20		Sat 30/5/20 Wed 29/7/20	Tue 28/7/20 Thu 27/8/20	Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 203	405,409		
-	6 = MF		1.6.32.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Tue 1/3/22	Wed 26/10/22	0 days 405,409	207	-	
	7 S MF		1.6.32.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Thu 27/10/22	Sat 10/12/22	0 days 206	545	1	
-						1	X - 20,000,000	Approximation and the second	Amountaine		The second second		-11	
		Task	-	Milestone • Milestone	6 Summary	-	Project Su	mmary [1 Manual S	Summary	Critical	Progre	5	Manual Progress Slack
ct: DE	/2018/04	4												

Drainage Services Depar	artment						S	ihek Wu Hui Effluent	Proposed Work Pro t Polishing Plant - Main Wor			Treatment Facilities
ID Ta Text1	WBS Tas	ik Name	Duration Start	Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack Predecessors	Successors		
M			Start and Finish								Half 1, 2020	Haif 2, 2020 Haif 1, 2021 Haif 2, 2021 Haif 2, 2022 Haif 3, 2022 Haif 3, 2022 Haif 3, 2023 Haif 3, 2023 Haif 3, 2023 Haif 3, 2024 Haif 3, 2025 Haif
208 MFS	1.6.33	MFS - air scour blowers	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Fri 25/3/22	1 day		101717181	
209 MFS	1.6.33.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	210		
210 MFS	1.6.33.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20 Fri 28/8/20	0 days 209 0 days 210	405,409	4 11	
211 MFS 212 MFS	1.6.33.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 240 days Fri 4/6/21	Sat 29/1/22	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20 Sat 29/1/22	Thu 30/7/20 Mon 14/6/21	Tue 8/2/22	0 days 405,409	213	1 11	
213 MFS	1.6.33.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Wed 9/2/22	Fri 25/3/22	0 days 212	546,568		
214 MFS	1.6.34	MFS - permeate pumps	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Thu 23/6/22	1 day	547	1	
215 MFS	1.6.34.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	216		
216 MFS	1.6.34.2	Invitation of quotations for purchasing package	60 days 5at 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 215	217 405,409		
217 MFS 218 MFS	1.6.34.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 240 days Fri 4/6/21	Sat 29/1/22	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20 Sat 29/1/22	Thu 30/7/20 Sun 12/9/21	Fri 28/8/20 Mon 9/5/22	0 days 216 0 days 405,409	219	-	
219 MFS	1.6.34.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Tue 10/5/22	Thu 23/6/22	100 days 218			
220 MFS	1.6.35	MFS - compressed air system	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Sat 29/7/23	1 day			
221 MF5	1,6,35,1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	222		
222 MFS	1.6.35.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 221	223		
223 MFS	1.6.35.3	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20	11 100000000000000000000000000000000000	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20	Thu 30/7/20 Tue 18/10/22	Fri 28/8/20 Wed 14/6/23	0 days 222 0 days 405,409	405,409	-	
224 MFS 225 MFS	1.6.35.4	Manufacturing and Factory Acceptance Test of Plant Shipping and Delivery of Plant to site	240 days Fri 4/6/21 45 days Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Thu 15/6/23	Sat 29/7/23	267 days 224	569		<u> </u>
226 MFS	1.6.36	MFS - instrumentation	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 27/9/23	1 day		1	
227 - MFS	1.6.36.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	O days 2	228		
228 MFS	1,6,36,2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 227	229		
229 MFS	1.6.36.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 228	405,409		
230 MFS	1.6.36.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22 Tue 15/3/22	Fri 4/6/21 Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Sat 17/12/22 Mon 14/8/23	Sun 13/8/23 Wed 27/9/23	0 days 405,409 327 days 230	231 570	- 1	
231 MFS 232 MFS	1.6.36.5	Shipping and Delivery of Plant to site MFS - chemical storage tanks	45 days Sun 30/1/22 835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Mon 14/8/23 Tue 3/12/19	Wed 8/2/23	0 days	551		
233 MFS	1.6.37.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	_ 0.550.000.000.000	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	234		
234 MFS	1.6.37.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 233	235		
235 MFS	1.6.37.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 234	405,409		
236 MFS	1.6.37.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sat 30/4/22	Sun 25/12/22	0 days 405,409	237		
237 MFS	1.6.37.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	100000000000000000000000000000000000000	Sun 30/1/22	Tue 15/3/22 Tue 15/3/22	Mon 26/12/22 Tue 3/12/19	Wed 8/2/23 Wed 8/2/23	330 days 236			
238 MFS 239 MFS	1.6.38	MFS - chemical dosing pumps Submission for acceptance of purchasing package	835 days Mon 2/12/19 180 days Mon 2/12/19		Mon 2/12/19 Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	240	+	
240 MFS	1.6.38.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 239	241		
241 = MFS	1.6.38.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Thu 27/8/20	Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 240	405,409		
242 MFS	1.6.38.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sat 30/4/22	Sun 25/12/22	0 days 405,409	243		
243 MFS	1.6.38.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	1 1000000000000000000000000000000000000	Sun 30/1/22	Tue 15/3/22	Mon 26/12/22	Wed 8/2/23	0 days 242	552		
244 MFS	1.6.39	MFS - return activated sludge pumps	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Thu 23/6/22	1 day 0 days 2	246		
245 MFS	1.6.39.1	Submission for acceptance of purchasing package Invitation of quotations for purchasing package	180 days Mon 2/12/19 60 days Sat 30/5/20		Mon 2/12/19 Sat 30/5/20	Fri 29/5/20 Tue 28/7/20	Tue 3/12/19 Sun 31/5/20	Sat 30/5/20 Wed 29/7/20	0 days 245	247	-	
247 MFS	1.6.39.3	Acceptance of conforming quotation	30 days Wed 29/7/20		Wed 29/7/20	Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 246	405,409	-	
248 MFS	1.6.39.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Sun 12/9/21	Mon 9/5/22	0 days 405,409	249		
249 MFS	1.6.39.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Tue 10/5/22	Thu 23/6/22	90 days 248	548		
250 MFS	1,6,40	MFS - membrane tank drain pumps	835 days Mon 2/12/19			Tue 15/3/22	Tue 3/12/19	Tue 24/5/22	1 day	252		
251 MFS	1.6.40.1	Submission for acceptance of purchasing package Invitation of quotations for purchasing package	180 days Mon 2/12/19 60 days Sat 30/5/20		Mon 2/12/19 Sat 30/5/20	Fri 29/5/20 Tue 28/7/20	Tue 3/12/19 Sun 31/5/20	Sat 30/5/20 Wed 29/7/20	0 days 2 0 days 251	252		
252 MFS 253 MFS	1.6.40.3	Acceptance of conforming quotation	30 days Wed 29/7/20	Contract Contract		Thu 27/8/20	Thu 30/7/20	Fri 28/8/20	0 days 252	405,409	- 1 1 1	
254 MFS	1.6.40.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Fri 13/8/21	Sat 9/4/22	0 days 405,409	255		
255 MFS	1.6.40.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22	Tue 15/3/22	Sun 30/1/22	Tue 15/3/22	Sun 10/4/22	Tue 24/5/22	0 days 254	549		
256 MFS	1.6.41	Plant Service Water System - booster pumps	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Tue 24/1/23	1 day			
257 MFS	1.6.41.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	SECTION .	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20 Wed 29/7/20	0 days 2	258 259		
258 MFS 259 MFS	1.6.41.2	Invitation of quotations for purchasing package Acceptance of conforming quotation	60 days Sat 30/5/20 30 days Wed 29/7/20		Sat 30/5/20 Wed 29/7/20	Tue 28/7/20 Thu 27/8/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 257 0 days 258	405,409		
259 MFS	1.6.41.4	Manufacturing and Factory Acceptance Test of Plant	240 days Fri 4/6/21	Sat 29/1/22	Fri 4/6/21	Sat 29/1/22	Fri 15/4/22	Sat 10/12/22	0 days 405,409	261		
261 MFS	1.6.41.5	Shipping and Delivery of Plant to site	45 days Sun 30/1/22			Tue 15/3/22	Sun 11/12/22	Tue 24/1/23	0 days 260	553		
262 MFS	1.6.42	Plant Service Water System - hydro-pneumatic pressure tanks	835 days Mon 2/12/19	Tue 15/3/22	Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Tue 24/1/23	1 day			
263 MFS	1.6.42.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19		Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	264		
264 MFS	1.6.42.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20		Sat 30/5/20	Tue 28/7/20	Sun 31/5/20 Thu 30/7/20	Wed 29/7/20 Fri 28/8/20	0 days 263 0 days 264	265 405,409		
265 MFS	1.6.42.4	Acceptance of conforming quotation Manufacturing and Factory Acceptance Test of Plant	30 days Wed 29/7/20 240 days Fri 4/6/21	Thu 27/8/20 Sat 29/1/22	Wed 29/7/20 Fri 4/6/21	Thu 27/8/20 Sat 29/1/22	Fri 15/4/22	Sat 10/12/22	0 days 264 0 days 405,409	267		
267 MFS	1.6.42.4	Shipping and Delivery of Plant to site	45 days Sun 30/1/22		Sun 30/1/22	Tue 15/3/22	Sun 11/12/22	Tue 24/1/23	0 days 266	553		
268 DOU	1.6.43	DOU - biotrickling filter (DOU No. 1)	835 days Mon 2/12/19		Mon 2/12/19	Tue 15/3/22	Tue 3/12/19	Wed 25/10/23	1 day		1	
269 C DOU	1.6.43.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	Fri 29/5/20	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	270		
270 = DOU	1.6,43.2	Invitation of quotations for purchasing package	60 days Sat 30/5/20	0.0000000000000000000000000000000000000		Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 269	271		
271 DOU	1.6.43.3	Acceptance of conforming quotation	30 days Wed 29/7/20			Thu 27/8/20	Thu 30/7/20 Sat 14/1/23	Fri 28/8/20 Sun 10/9/23	0 days 270 0 days 405,409	405,409		
272 RDOU	1.6.43.4	Manufacturing and Factory Acceptance Test of Plant Shipping and Delivery of Plant to site	240 days Fri 4/6/21 45 days Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Fri 4/6/21 Sun 30/1/22	Sat 29/1/22 Tue 15/3/22	Sat 14/1/23 Mon 11/9/23	Wed 25/10/23	109 days 272	614		
274 DOU	1.6.44	DOU - activated carbon filter (DOU No. 2A, No. 3A, No. 3B)	895 days Mon 2/12/19	NAMES OF TAXABLE PARTY.		Sat 14/5/22	Tue 3/12/19	Wed 25/10/23	1 day		1	
275 RDOU	1.6.44.1	Submission for acceptance of purchasing package	180 days Mon 2/12/19	0.0000000000000000000000000000000000000	Mon 2/12/19	Fri 29/5/20	Tue 3/12/19	Sat 30/5/20	0 days 2	276		
276 DOU	1.6.44.2	Invitation of quotations for purchasing package	60 days 5at 30/5/20	Tue 28/7/20	Sat 30/5/20	Tue 28/7/20	Sun 31/5/20	Wed 29/7/20	0 days 275	277		
					60 -	120						
Task		Milestone • Milestone	Summary	•	Project Su	mmary	1 Manual S	ummary 1	Critical	Progr	55	Manual Progress Slack
ect: DE/2018/04												
Fri 21/2/20												



AECOM Proposed Work Programme for DE/2018/04 Drainage Services Department Shek Wu Hui Effluent Polishing Plant - Main Works Stage 1 E&M Works for Sewage Treatment Facilities Duration between Task Start and Finish Early Finish Late Start Late Finish Free Slack Predecessor Ved 10/5/23 Sun 29/5/22 Sun 1/3/20 Sun 29/5/22 Sat 16/5/2 General - Facility Computerised Systems (SCADA, CMMS, PMS, IDMS 820 days Sun 1/3/20 345 345 E SCADA 1.7.7.1 60 edays Sun 1/3/20 Thu 30/4/20 Sun 1/3/20 Thu 30/4/20 Sat 16/5/20 Wed 15/7/20 0 edays Submission for acceptance of subcontract works package 0 edays 345 346 346 SCADA 30 edays Thu 30/4/20 Sat 30/5/20 Thu 30/4/20 Fri 14/8/20 1.7.7.2 Invitation of tender for subcontract works 0 edays 346 347 347 SCADA 1.7.7.3 14 edays Sat 30/5/20 Sat 13/6/20 Sat 30/5/20 Sat 13/6/20 Fri 14/8/20 Fri 28/8/20 76 days 347 405 409 348 348 SCADA 1.7.7.4 0 days Sat 13/6/20 Sat 13/6/20 Sat 13/6/20 Sat 13/6/20 Fri 28/8/20 Fri 28/8/20 Sub-contract work commencement date 349 349 SCADA 1.7.7.5 Manufacturing and Factory Acceptance Test of Plant 360 days Fri 4/6/21 Sun 29/5/22 Fri 4/6/21 Sun 29/5/22 Mon 16/5/22 Wed 10/5/23 201 days 405,409 448,486,519,5 350 General - Building Services Installations 119 days Mon 2/11/20 Mon 1/3/21 Mon 1/3/21 1.7.8 O edays 351 351 = 85 1.7.8.1 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 Tue 17/11/20 Sat 16/1/21 Mon 15/2/21 0 edays 351 353 352 30 edays Fri 1/1/21 Sun 31/1/21 Sun 31/1/21 Sat 16/1/21 352 88 1.7.8.2 Invitation of tender for subcontract work 15 edays 352 353 353 85 1.7.8.3 Acceptance of conforming tender 14 edays Sun 31/1/21 Sun 14/2/21 Sun 31/1/21 Sun 14/2/21 Mon 15/2/21 Mon 1/3/21 **\$ 1/3** 354 354 **■ ■**BS Mon 1/3/21 Mon 1/3/21 Mon 1/3/21 0 days 353 0 days Mon 1/3/21 Mon 1/3/21 Mon 1/3/21 1.7.8.4 0 days 355 355 MVA 1.7.9 General - Air Conditioning and Mechanical Ventilation Installation 119 days Mon 2/11/20 Mon 1/3/21 Mon 2/11/20 Mon 1/3/21 Tue 17/11/20 Mon 1/3/21 356 E MVAC Fri 15/1/21 0 days 356 1.7.9.1 Submission for acceptance of subcontract works package 0.63 edays 356 357 357 MVAC 1.7.9.2 Invitation of tender for subcontract works 30 edays Thu 31/12/20 Sat 30/1/21 Thu 31/12/20 Sat 30/1/21 Sat 16/1/21 Mon 15/2/21 Acceptance of conforming tender Mon 15/2/21 Sun 28/2/21 15 days 357 358 1.7.9.3 14 days Sun 31/1/21 Sat 13/2/21 Sat 13/2/21 0 days 358 Mon 1/3/21 Mon 1/3/21 359 359 T MVAC 1.7.9.4 Sub-contract work commencement date 0 days Mon 1/3/21 Mon 1/3/21 Mon 1/3/21 Mon 1/3/21 Wed 24/1/24 1198 days 360 1.7.10 General - Emergency Power Generator Set 104 days Wed 1/7/20 Tue 13/10/20 Wed 1/7/20 Tue 13/10/20 Thu 12/10/23 0 edays Sun 30/8/20 Thu 12/10/23 Mon 11/12/23 361 361 File Genset 1.7.10.1 Submission for acceptance of subcontract works package 60 edays Wed 1/7/20 Sun 30/8/20 Wed 1/7/20 Tue 29/9/20 Mon 11/12/23 Wed 10/1/24 0 edays 361 362 1.7.10.2 30 edays Sun 30/8/20 Tue 29/9/20 0 edays 362 363 Wed 24/1/24 363 Genset 1.7.10.3 Acceptance of conforming tender 14 edays Tue 29/9/20 Tue 13/10/20 Tue 29/9/20 Tue 13/10/20 Wed 10/1/24 364 364 Gense 1.7.10.4 0 days Tue 13/10/20 Tue 13/10/20 Tue 13/10/20 Wed 24/1/24 Wed 24/1/24 234 days 363 638 Wed 21/12/22 Tue 14/7/20 Sat 8/10/22 365 365 P&D 1.7.11 General - Plumbing and Drainage Installation 74 days Fri 1/5/20 Tue 14/7/20 Fri 1/5/20 30 edays Fri 1/5/20 Sun 31/5/20 Fri 1/5/20 Sun 31/5/20 Sat 8/10/22 Mon 7/11/22 O edays 255+30 edays 366 E - P&D 1.7.11.1 Wed 7/12/22 367 367 P&D 1.7.11.2 Invitation of tender for subcontract works 30 edays Sun 31/5/20 Tue 30/6/20 Sun 31/5/20 Tue 30/6/20 Mon 7/11/22 O edays 366 Tue 14/7/20 Tue 14/7/20 Wed 7/12/22 Wed 21/12/22 O edays 367 368 1.7.11.3 Wed 21/12/22 369 0 days Tue 14/7/20 Tue 14/7/20 Tue 14/7/20 Wed 21/12/22 369 P&D 1.7.11.4 Sub-contract work commencement date Tue 14/7/20 370 123 days Fri 1/5/20 Tue 1/9/20 Fri 1/5/20 Tue 1/9/20 Wed 20/5/20 Tue 1/9/20 0 days 1.7.12 Sat 18/7/20 371 371 TE - FS Mon 29/6/20 Fri 1/5/20 Mon 29/6/20 Wed 20/5/20 1.7.12.1 Submission for acceptance of subcontract works package 60 days Fri 1/5/20 372 1.7.12.2 30 days Tue 30/6/20 Wed 29/7/20 Wed 29/7/20 Sun 19/7/20 Mon 17/8/20 0 days 371 373 19 days 372 Tue 18/8/20 Mon 31/8/20 373 14 days Thu 30/7/20 Wed 12/8/20 Thu 30/7/20 Wed 12/8/20 373 FSI 1.7.12.3 Acceptance of conforming tender 374 374 🔟 🖛 FS 0 days Tue 1/9/20 Tue 1/9/20 Tue 1/9/20 Tue 1/9/20 Tue 1/9/20 Tue 1/9/20 0 days 373 1.7.12.4 Tue 1/12/20 Fri 1/5/20 Tue 1/12/20 Mon 20/7/20 375 375 Earth 1.7.13 General - Earthing and Ughtning Protection System 214 days Fri 1/5/20 Tue 1/12/20 376 90 edays Fri 1/5/20 Thu 30/7/20 Fri 1/5/20 Thu 30/7/20 Mon 20/7/20 Sun 18/10/20 Oedays 376 E Earth 1.7.13.1 Sat 29/8/20 377 30 edays Thu 30/7/20 Sat 29/8/20 Thu 30/7/20 377 Earth 1.7.13.2 Invitation of tender for subcontract works 379 378 378 Earth 14 edays Sat 29/8/20 Sat 12/9/20 Sat 29/8/20 Sat 12/9/20 Tue 17/11/20 Tue 1/12/20 80 edays 377 1.7.13.3 **%** 1/12 379 379 Farth Tue 1/12/20 0 days 378 Tue 1/12/20 Tue 1/12/20 1.7.13.4 Sub-contract work commencement date 0 days Tue 1/12/20 Tue 1/12/20 Tue 1/12/20 294 days Mon 1/6/20 Sun 21/3/21 1.7.14 Mon 1/6/20 Sun 21/3/21 Fri 5/8/22 Thu 25/5/23 795 days Wed 1/7/20 30 edays Mon 1/6/20 Wed 1/7/20 381 Mon 1/6/20 381 T CCTV 1.7.14.1 Submission for acceptance of subcontract works package 382 382 CCTV Invitation of tender for subcontract works 30 edays Wed 1/7/20 Fri 31/7/20 Wed 1/7/20 Fri 31/7/20 Sun 4/9/22 Tue 4/10/22 0 edays 381 1.7.14.2 383 Fri 14/8/20 Fri 31/7/20 Fri 14/8/20 Tue 18/10/22 383 **■**CCTV 14 edays Fri 31/7/20 1.7.14.3 Acceptance of conforming tender 384 384 CCTV 1.7.14,4 0 days Fri 14/8/20 Fri 14/8/20 Fri 14/8/20 Fri 14/8/20 Tue 18/10/22 Tue 18/10/22 0 days 383 385 Sun 21/3/21 Fri 14/8/20 Sun 21/3/21 501 days 384 385 CCTV Design, Procurements and Delivery to Site 220 days Fri 14/8/20 1.7.14.5 386 386 Civil 1.7.15 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 Sun 18/10/20 Thu 31/12/20 0 days 387 30 days Tue 1/9/20 Wed 30/9/20 Wed 30/9/20 0 days 387 E Civil 1.7.15.1 Submission for acceptance of subcontract works package 388 388 CIVII 1.7.15.2 Invitation of tender for subcontract works 30 days Thu 1/10/20 Fri 30/10/20 Thu 1/10/20 Fri 30/10/20 Tue 17/11/20 Wed 16/12/20 0 days 387 14 days Sat 31/10/20 Fri 13/11/20 47 days 388 389 Acceptance of conforming tender 1.7.15.3 0 days 389 390 390 TE CIVII 1.7.15.4 Sub-contract work commencement date 0 days Thu 31/12/20 Thu 31/12/20 Thu 31/12/20 Thu 31/12/20 Thu 31/12/20 Thu 31/12/20 56 days Mon 2/3/20 Sun 26/4/20 1 day Sun 26/4/20 Tue 3/3/20 Tue 28/4/20 391 1.7.16 General - Civil Construction Work for Temp. Filtrate Eq. System 391 Temp Filtrate 0 days 2SS+30 edays 392 392 Temp Filtrate 1.7.16.1 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 Tue 3/3/20 Mon 23/3/20 Mon 13/4/20 0 days 392 393 21 days Mon 23/3/20 Sun 12/4/20 Sun 12/4/20 Tue 24/3/20 1.7.16.2 Temp Filtrate 0 days 393 394 394 Temp Filtrate 1.7.16.3 Acceptance of conforming tender 14 days Mon 13/4/20 Sun 26/4/20 Mon 13/4/20 Sun 26/4/20 Tue 14/4/20 Mon 27/4/20 Tue 28/4/20 0 days 394 676 395 395 Temp Filtrate 1.7.16.4 Sun 26/4/20 396 396 existing gense 1.7.17 Mis - Modification of existing power house 115 days Mon 2/12/19 Wed 25/3/20 Mon 2/12/19 Wed 25/3/20 Sun 8/12/19 Tue 31/3/20 0 days Sat 29/2/20 Sun 8/12/19 Ed 6/3/20 0 days 2 397 1.7.17.1 sion for acceptance of subcontract works package 90 days Mon 2/12/19 Sat 29/2/20 existing genset Fri 27/3/20 0 days 397 398 398 existing genset 1.7.17.2 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 7/3/20 399 399 existing genset 3 days Sun 22/3/20 Tue 24/3/20 Sat 28/3/20 Mon 30/3/20 0 days 398 400 1.7.17.3 Acceptance of conforming tender Tue 24/3/20 400 existing genset Tue 31/3/20 0 days 399 400 1.7.17.4 Sub-contract work commencement date 1 day Wed 25/3/20 Wed 25/3/20 Wed 25/3/20 Wed 25/3/20 Tue 31/3/20 401 1 day 2 401 Section 1 - Completion of the design of E&M Works for all 485 days Thu 26/3/20 Sat 24/7/21 Sat 24/7/21 Sat 24/7/21 works as defined in WI_GP Cl. 10.1(a) 0 days 255+600 edays,413,420 Sat 24/7/21 402 402 F Inlet Works, P5T, BR, N 1.8.1 Section 1 - Latest Completion Date 0 days Sat 24/7/21 Sat 24/7/21 Sat 24/7/21 Sat 24/7/21 Sat 24/7/21 403 Fri 6/11/20 Fri 6/11/20 1 day 255+340 edays 405 407. ₩ 6/11 403 E Inlet Works, PST, BR, N 1.8.2 0 days 255+550 edays, 410, 411, 531 404 404 Time Inlet Works, PST, BR, N 1.E.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 4/6/21 405 Document Submissions for design work from formation level up to +8.0 mPD 1 day 25.31.43.49.55.121.127, 104.164,170,1 405 Inlet Works, PST, BR, 1.8.4 MFS,LA,PV, DOU, Thu 5/11/20 Sat 29/8/20 Fri 6/11/20 0 days 67 73 79 85 91 97 103 1 403 406 70 days Fri 28/8/20 406 Inlet Works, PST, BR, N 1.8.4.1 Drawing submissions for acceptance Fri 6/11/20 0 days 67,73,79,85,91,97,103,1 403 407 407 Inlet Works, PST, BR, M1.8.4.2 Plant and Material submissions for acceptance 70 days Fri 28/8/20 Thu 5/11/20 Fri 28/8/20 Thu 5/11/20 Sat 29/8/20 Fri 6/11/20 0 days 67 73 79 85 91 97 103 1 403 531 408 Thu 5/11/20 Sat 29/8/20 408 Inlet Works, PST, BR, N 1.8.4.3 Fri 4/6/21 0 days 331,25,31,43,49,55,121, 68,74,80,86,9 409 409 Inlet Works, PST, BR, N 1.8.5 Document Submissions for design work above level +8.0 mPD 280 days Thu 27/8/20 Thu 3/6/21 Thu 27/8/20 Thu 3/6/21 Fri 28/8/20 Thu 3/6/21 Fri 4/6/21 0.63 edays 67.73.79.85.91.97.103.1 404 410 410 Inlet Works, PST, BR, N 1.8.5.1 Drawing submissions for acceptance 280 edays Thu 27/8/20 Thu 3/6/21 Thu 27/8/20 Fri 28/8/20 0.63 edays 67,73,79,85,91,97,103,1 404 411 Fri 4/6/21 411 Inlet Works, PST, BR, N 1.8.5.2 Plant and Material submissions for acceptant 280 edays Thu 27/8/20 Thu 3/6/21 Thu 27/8/20 Thu 3/6/21 Fri 28/8/20 Manual Progress Manual Summary Progress Project Summary 1 Critical Milestone • Project: DE/2018/04 Date: Fri 21/2/20

		epartment							5	hek Wu Hui Effluer	nt Polishing Plant - Main Works S	mme for DE/20 Stage 1 E&M W		Facilities							AΞ
ID	Ta Text1	w	8S Task	Name		Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack Predecessors	Successors		40.000							
	M		1000		between Task Start and Finish	10000	4 P. C. D. C	PERSONALISES.		100000000000000000000000000000000000000			Half 1, 2020	Half 2, 2030	Half 1, 2021 Half 2, 20	021 Half 1, 2022	Half	2, 2022	Half 1, 2023	Half 2, 2023	Half 1, 202
412	Inlet Wor	ks, PST, BR, M1.	8.5.3	Design Calculations for acceptance	280 edays Thu 27/8/20	Thu 3/6/21	Thu 27/8/20	Thu 3/6/21	Fri 28/8/20	Fri 4/6/21	0.63 edays 67,73,79,85,91,97,10	3,1 404	DJFMAM	IIIASONO	I I E M A M I I I A	SONDIFIMIA	AIMIAI	AISIOINID		ALJIJIAISIO	INIDIJIEL
413		ks, PST, BR, N1.		Document Submissions for remaining work	465 days Thu 26/3/20	Sat 3/7/21	Thu 26/3/20	Sat 3/7/21	Wed 1/4/20	Sun 18/7/21	0 days	402,420	+ -					acii ii			7
414	PST No. 4	& No. 6 1.	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	Fri 8/5/20	Sun 4/10/20	0 days 301	302						(11)			,
415	existing g	enset 1.1	8.6.2	Design submissions for E&M installation works of existing power	30 days Thu 26/3/20	Fri 24/4/20	Thu 26/3/20	Fri 24/4/20	Wed 1/4/20	Thu 30/4/20	0 days 396,400	716	in-					41 1			
416	Filter Pres	is 1.1	8.6.3	house Design submissions for E&M installation works of existing sludge	45 days Mon 29/6/20	Wed 12/8/20	Mon 29/6/20	Wed 12/8/20	Mon 29/6/20	Wed 12/8/20	0 days 295	296		*				411 11			
				thickening building									1 1					411 - 11			
417	Filter Plat		8.6.4	Design submission for replacement of filer plates	45 edays Tue 28/7/20		Tue 28/7/20	Fri 11/9/20	Fri 28/8/20	Mon 12/10/20 Sun 18/7/21	0.63 edays 289 386 days 307	290						411 11			
418	Temp Filt	rate 13	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	Fri 4/6/21	3un 10///21	389 0475 307							(IIII - 1)			
9 419	■ DOU	1.0	8.6.6	DG Stores Submissions to FSD for approval	120 days Sat 6/3/21	Sat 3/7/21	Sat 6/3/21	Sat 3/7/21	Sun 21/3/21	Sun 18/7/21	15 days 409FS-90 days				*						
10 420	Risk Allow		707	Risk Allowance for completion of Section 1	Seal Control of The C	Thu 8/7/21	Sun 4/7/21	Thu 8/7/21	Mon 19/7/21	Fri 23/7/21	15 days 413,405,409	402			12						
1 421	-	1.		Section 2 - Completion of all works for Inlet Works, PST No. 1~4, BR No. 2A & 2B, MFB No. 2, temporary chemical dosing system,		Fri 19/4/24	Mon 2/12/19	Fri 19/4/24	Mon 20/12/21	Sat 20/4/24	1 day 2								A(111144111)		
				deodorisation systems, chemical system no. 1 and no. 2, FS and sprinkler pump room,etc as defined in WI_GP 10.1(b)															AH HAR I HER		
2 422	a lalar Was	ks, PST, BR, N 1.5		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 255+1600 edays,535,	665	5								
CONTRACT.		ks, LA, BS,FSI L		Access Date for Portion B-2, Inlet Works No. 1	150 edays Tue 28/6/22		Tue 28/6/22	Fri 25/11/22	Tue 28/6/22	Fri 25/11/22	0 edays 255+939 edays						-		AHHIIII		
		ks, LA, BS,FSI 1.5		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	Wed 25/1/23	Wed 25/1/23	0 days	426,425,455F5						♦ 4/8			
425	Inlet Wor			Commencement of E&M Installation at Inlet Works No. 1	420 days Fri 5/8/22	Thu 28/9/23	Fri 5/8/22	Thu 28/9/23	Fri 26/5/23	Sat 20/4/24	195 days 385,424	669						4		++++	
426	= Inlet Wor	ks, LA 1.	9.4.1	Installation of Lifting Appliances at Inlet Works No. 1	135 days Fri 5/8/22	Sat 17/12/22	Fri 5/8/22	Sat 17/12/22	Wed 14/6/23	Thu 26/10/23	0 days 333,424	4345S+30 day									
427	■ LA	1.5	9,4,1.1	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	Tue 12/9/23	Thu 26/10/23	358 days 430,431							1		11 1	
428	■ IA		9.4.1.2	1/F EOT Crane LA-01-02 SWL 5t	45 days Mon 19/9/22		Mon 19/9/22	Wed 2/11/22	Tue 12/9/23	Thu 26/10/23	358 days 430,431										•
	₹IA		9,4.1.3	1/F EOT Crane LA-01-03 SWL 5t	45 days Mon 19/9/22		Mon 19/9/22	Wed 2/11/22	Sat 29/7/23	Mon 11/9/23	0 days 430,431	432,433									
430	120 20		9.4.1.4	UG FOT Crane LA-01-04 SWL 10t	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sun 18/9/22	Fri 5/8/22	Sun 18/9/22 Sun 18/9/22	Wed 14/6/23 Wed 14/6/23	Fri 28/7/23 Fri 28/7/23	O days	427,428,429									
431	■ LA		9,4,1,6	UG EOT Crane LA-01-05 SWL 10t 1/F Retractable Crane LA-01-06 SWL 10t		Sun 18/9/22 Sat 17/12/22	Fri 5/8/22 Thu 3/11/22	Sun 18/9/22 Sat 17/12/22	Wed 14/6/23 Tue 12/9/23	Thu 26/10/23	313 days 429	- Company									40 T
432	100		9.4.1.7	1/F Mobile A-frame LA-01-07 SWL 2t		Sat 17/12/22	Thu 3/11/22	Sat 17/12/22	Tue 12/9/23	Thu 26/10/23	313 days 429										•
	Inlet Wor		9.4.2	Mechanical Installations for Inlet Works No. 1		Sat 11/2/23	Sun 4/9/22	Sat 11/2/23	Sat 15/7/23	Thu 21/12/23	0 days 42655+30 days	44455+14 day						111111111111111111111111111111111111111			
5 435	Inlet Wor	ks, Mech 1.	9.4.2.1	Installation of stoplogs and penstocks	90 days Sun 4/9/22	Fri 2/12/22	Sun 4/9/22	Fri 2/12/22	Sat 15/7/23	Thu 12/10/23	0 days 27,33	442						1			
6 436	Inlet Wor	ks, Mech 1.5	9.4.2.2	Installation of mechanical raked bar screens	60 days Sun 4/9/22	Wed 2/11/22	Sun 4/9/22	Wed 2/11/22	Mon 23/10/23	Thu 21/12/23	414 days 69										
7 437	Inlet Wor	ks, Mech 1.5	9,4.2.3	Installation of screening conveyors	30 days Sun 18/12/22	Mon 16/1/23	Sun 18/12/22	Mon 16/1/23	Wed 1/11/23	Thu 30/11/23	0 days 426,70	441						. 11 17	4		
8 438	Inlet Wor	ks, Mech 1.5	9.4.2.4	Installation of inlet pumps	21 days Sun 18/12/22	Sat 7/1/23	Sun 18/12/22	Sat 7/1/23	Fri 27/10/23	Thu 16/11/23	0 days 426,4425S+14 days,7							/ III			
19 439	Inlet Wor	Catharana III I I I I I I I I I I I I I I I I	9,4.2.5	Installation of grit removal system		Sat 21/1/23	Sun 8/1/23	Sat 21/1/23	Fri 17/11/23	Thu 30/11/23	0 days 438,82	440						AH 117			
40 440			9.4.2.6	Installation of grit classifiers		Sat 11/2/23	Sun 22/1/23 Tue 17/1/23	Sat 11/2/23 Mon 6/2/23	Fri 1/12/23 Fri 1/12/23	Thu 21/12/23 Thu 21/12/23	313 days 439,88 318 days 437,94							/11/1 IV	4		
41 441	Inlet Wor	ANTANASCO III CA	9.4.2.7	Installation of compactors Installation of pipework and valves		Mon 6/2/23 Sun 1/1/23	Sat 3/12/22	Sun 1/1/23	Fri 13/10/23	Sat 11/11/23	0 days 435	43855+14 day						.			
43 443	Inlet Wor		9.4.2.9	Installation of instrumentations		Tue 31/1/23	Mon 2/1/23	Tue 31/1/23	Wed 22/11/23	Thu 21/12/23	324 days 442							AH - 117			B
44 444	Inlet Wor	ks, Elec 1.	9.4.3	Electrical Installations for Inlet Works No. 1	180 days Sun 18/9/22	Thu 16/3/23	Sun 18/9/22	Thu 16/3/23	Sun 25/6/23	Fri 22/12/23	0 days 43455+14 days	453						, 1	 		
45 445	Inlet Wor	ks, Elec 1.5	9.4.3.1	Installation of LV Switchboards	45 days Sun 18/9/22	Tue 1/11/22	Sun 18/9/22	Tue 1/11/22	Tue 7/11/23	Thu 21/12/23	135 days	449									
46 446	Inlet Wor	ks, Elec, SCAD 1.	9.4.3.2	Installation of PLC Panels	45 days Sun 18/9/22	Tue 1/11/22	Sun 18/9/22	Tue 1/11/22	Tue 7/11/23	Thu 21/12/23	135 days	449,451									
47 447	Inlet Wor	ks, Elec 1.9	9,4,3,3	Installation of cable trays and cable containments	90 days Sun 18/9/22		Sun 18/9/22	Fri 16/12/22	Sun 25/6/23	Fri 22/9/23	0 days 4345S	448									
48 448	10 0000000	ks, Elec, SCAD 1.	2000000	Cables laying and terminations		Thu 16/3/23	Sat 17/12/22	Thu 16/3/23	Sat 23/9/23	Thu 21/12/23	0 days 447,349	449,451 453	1 1					H + H'	16/3		
49 449			9,4.3.5	Energisation of LV Switchboards SCADA Systems, Inlet Works		Thu 16/3/23 Thu 29/6/23	Thu 16/3/23 Fri 17/3/23	Thu 16/3/23 Thu 29/6/23	Fri 22/12/23 Sun 31/12/23	Fri 22/12/23 Sat 13/4/24	0 days 448,445,446 289 days	433	1 1								
50 450		ks, SCADA 1.		Configuration of PLC System		Sun 30/4/23	Fri 17/3/23	Sun 30/4/23	Sun 31/12/23	Tue 13/2/24	0 days 448,446	452	1 1						Ton		
52 452		ks, SCADA 1.		Site Acceptance Test for PLC System at Inlet Works No. 1		Thu 29/6/23	Mon 1/5/23	Thu 29/6/23	Wed 14/2/24	5at 13/4/24	289 days 451								7		
		ks, SCADA 1.		Site Acceptance Test for E&M Equip at Inlet Works No. 1	The state of the s	Mon 15/5/23	Fri 17/3/23	Mon 15/5/23	Fri 22/12/23	Mon 19/2/24	0 days 434,444,449	454						$H \vdash W$	1 1 1	B-	
4 454	Inlet Wor	ks, SCADA 1.	9.4.6	System Commissioning for E&M Equip at Inlet Works No. 1	60 edays Mon 15/5/23	Fri 14/7/23	Mon 15/5/23	Fri 14/7/23	Tue 20/2/24	5at 20/4/24	274.63 edays 453	746						(111 - 11)		1	
55 455	BS, Inlet \	Works 1.	9.4.7	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	Frl 26/5/23	Sat 13/4/24	174 days 424FS+120 days		1 1					1		1111	
		Works, MVAC 1.		Mechanical Ventilation System	223000000000000000000000000000000000000	Mon 1/5/23	Sat 3/12/22	Mon 1/5/23	Wed 19/7/23	Fri 15/12/23	30 days	461									
57 457			9.4.7.2	Lighting and Power Distribution System		Wed 31/5/23	Sat 3/12/22	Wed 31/5/23	Mon 19/6/23	Fri 15/12/23	0 days	461 667,461									
8 458		Works, P&D 1.9		Plumbing and Drainage Installation CCTV Installation (5 Cameras)	120 days Sat 3/12/22 90 days Sat 3/12/22	Sat 1/4/23 Thu 2/3/23	Sat 3/12/22 Sat 3/12/22	Sat 1/4/23 Thu 2/3/23	Fri 18/8/23 Sun 17/9/23	Fri 15/12/23	60 days 666 90 days 42455+60 days	745,461						4			
69 459 60 460	BS, Inlet V		9.4.7.5	Fire Services Installation		Sat 1/4/23	Sat 3/12/22	Sat 1/4/23	Fri 26/5/23	Fri 22/9/23	60 days	650,662,663,4	(1								
51 461	BS, Inlet \		9.4.7.6	Testing and Commissioning of Building Services Installations	120 days Thu 1/6/23		Thu 1/6/23	Thu 28/9/23	Sat 16/12/23	Sat 13/4/24	198 days 456,457,458,459,460									+	
52 462	PST, LA, E		9.5	Access Date for Portion B-3, PST No. 1"4	90 edays Sat 14/1/23		Sat 14/1/23	Fri 14/4/23	Sat 14/1/23	Fri 14/4/23	0 edays 2SS+1139 edays		 								
53 463	PST, LA, E	1.	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	465,493FS+90	1 1						20/2		
54 464	PST No. 1	~4 1.	9.7	Commencement of E&M Installation at PST No. 1"4	330 days Tue 21/2/23		Tue 21/2/23	Tue 16/1/24	Frl 26/5/23	Fri 19/4/24	85 days 463	669	1 1								
5 465	LA, PST		9.7.1	Installation of Lifting Appliances at PST No. 1"4	120 days Tue 21/2/23		Tue 21/2/23	Tue 20/6/23	Sat 16/12/23	Sat 13/4/24	298 days 333,463	467.40	1 1								
6 466	LA, PST		9.7.1.1	Basement EOT Crane LA-02-01 SWL 10t	30 days Tue 21/2/23		Tue 21/2/23	Wed 22/3/23	Sat 16/12/23	Sun 14/1/24	0 days	467,468	1 1								
7 467 8 468	LA, PST		9.7.1.2	Coping Level FOY Crane LA-02-03 SWL 5t	30 days Thu 23/3/23 30 days Thu 23/3/23	Fri 21/4/23	Thu 23/3/23 Thu 23/3/23	Fri 21/4/23 Fri 21/4/23	Fri 15/3/24 Mon 15/1/24	Sat 13/4/24 Tue 13/2/24	358 days 466 O days 466	469,470									
	LA, PST		9.7.1.3	Coping Level EOT Crane LA-02-03 SWL St Coping Level EOT Crane LA-02-04 SWL St	30 days Thu 23/3/23 30 days 5at 22/4/23	La company	Sat 22/4/23	Sun 21/5/23	Fri 15/3/24	Sat 13/4/24	328 days 468								1		
9 469			9.7.1.5	Coping Level EOT Crane LA-02-05 SWL 5t		Sun 21/5/23	Sat 22/4/23	Sun 21/5/23	Wed 14/2/24	Thu 14/3/24	0 days 468	471								-	
1 471			9.7.1.6	Coping Level EOT Crane LA-02-06 SWL 2t	30 days Mon 22/5/23		Mon 22/5/23	Tue 20/6/23	Fri 15/3/24	Sat 13/4/24	298 days 470										
2 472			9.7.2	Mechanical Installations at PST No. 1~4	180 days Tue 21/2/23		Tue 21/2/23	Sat 19/8/23	Tue 25/7/23	Sat 20/1/24	30 days	491									
3 473	PST, Med	h 1.	9.7.2.1	Installation of stoplogs and penstocks	45 days Tue 21/2/23	Thu 6/4/23	Tue 21/2/23	Thu 6/4/23	Wed 9/8/23	Fri 22/9/23	0 days 22	479									
4 474	PST, Med	h 1.	9.7.2.2	Installation of pipework and valves	180 days Tue 21/2/23	Season Policy IV	Tue 21/2/23	Sat 19/8/23	Tue 25/7/23	Sat 20/1/24	154 days 34								I I		
75 475			9.7.2.3	Installation of lamella plate settlers	100 days Thu 23/3/23		Thu 23/3/23	Fri 30/6/23	Wed 13/9/23	Thu 21/12/23	0 days 476,100	477,478	1 1								
16 476			9.7.2.4	Installation of reciprocating type bottom scrapers	500.08 (SEQUENCES)	Wed 22/3/23	Tue 21/2/23	Wed 22/3/23 Sun 30/7/23	Mon 14/8/23 Fri 22/12/23	Tue 12/9/23 Sat 20/1/24	0 days 106 174 days 475,112	475	1 1								
and I see	PST, Mec	1.	9.7.2.5	Installation of surface scum skimmers	30 days Sat 1/7/23	Sun 30/7/23	Sat 1/7/23	3un 30///23	711 22/12/23	211 20/1/24	21-1-4013-11-5,216		11								
7 477	404 00																				

Drain	age Servi	vices Department							5	Shek Wu Hui Efflue	Proposed Work Progra nt Polishing Plant - Main Works S		&M Works for Sewage Treatment Facilities
ID	Ta Tex	ext1	WBS Task	k Name	Duration Start between Task	Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack Predecessors	Successors	
	0				Start and Finish								Half 1, 2020
	B PST		1.9.7.2.6	Installation of scurn collector pipes	30 days Sat 1/7/23	Sun 30/7/23	Sat 1/7/23	Sun 30/7/23	Fri 22/12/23	Sat 20/1/24	174 days 475,118	480	
479		ST, Mech ST, Mech	1.9.7.2.7	Installation of piston type primary sludge pumps Installation of drain pumps	30 days Fri 7/4/23 30 days Sun 7/5/23	Sat 6/5/23 Mon 5/6/23	Fri 7/4/23 Sun 7/5/23	Sat 6/5/23 Mon 5/6/23	Sat 23/9/23 Mon 23/10/23	Sun 22/10/23 Tue 21/11/23	0 days 124,473 0 days 130,479	481	
481	1 1 1 1 1 1 1	ST, Mech	1.9.7.2.9	Installation of air blowers	30 days Tue 6/6/23	Processor Control	Tue 6/6/23	Wed 5/7/23	Wed 22/11/23	Thu 21/12/23	O days 136,480	482	
482		ST, Mech	1.9.7.2.10	Installation of instrumentations	30 days Thu 6/7/23		Thu 6/7/23	Fri 4/8/23	Fri 22/12/23	Sat 20/1/24	169 days 28,481		
483	B PST	ST, Elec	1.9.7.3	Electrical Installations for PST No. 1"4	210 days Tue 21/2/2	3 Mon 18/9/2	Tue 21/2/23	Mon 18/9/23	Sun 4/6/23	Sat 20/1/24	0 days 463	491	
4 484			1.9.7.3.1	installation of LV Switchboards	60 days Tue 21/2/2		Tue 21/2/23	Fri 21/4/23	Tue 4/7/23	Fri 1/9/23	30 days	486	
5 485	1 5355	ST, Elec	1.9.7.3.2	Installation of cable trays and cable containments	90 days Tue 21/2/2 120 days Mon 22/5/3		Tue 21/2/23 Mon 22/5/23	Sun 21/5/23 Mon 18/9/23	Sun 4/6/23 Sat 2/9/23	Fri 1/9/23 Sat 30/12/23	0 days 0 days 484,485,349	486 487FS-30 day	-30 days.4
5 486 7 487		ST, Elec, SCADA ST, Elec	1.9.7.3.3	Cables laying and terminations Energisation of LV Switchboards	1 day Sun 20/8/2		Sun 20/8/23	Sun 20/8/23	Sat 20/1/24	Sat 20/1/24	153 days 486FS-30 days		<u>√∞20/8</u>
3 488	1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ST, SCADA	1.9.7.4	SCADA Systems, PST No. 1"4	105 days Tue 19/9/2		Tue 19/9/23	Mon 1/1/24	Sun 31/12/23	Sat 13/4/24	103 days		
9 489	PST	ST,SCADA	1.9.7.4.1	Configuration of PLC System	60 days Tue 19/9/2	3 Fri 17/11/23	Tue 19/9/23	Fri 17/11/23	Sun 31/12/23	Wed 28/2/24	0 days 486	490	
90	D PST	ST, SCADA	1.9.7.4.2	Site Acceptance Test for PLC System at PST No. 1~4	45 days 5at 18/11/2		Sat 18/11/23	Mon 1/1/24	Thu 29/2/24	Sat 13/4/24	103 days 489		
1 491		ST, SCADA	1.9.7.5	Site Acceptance Test for E&M Equip at PST No. 1~4	60 edays Mon 18/9/		Mon 18/9/23	Fri 17/11/23	Sun 21/1/24	Thu 21/3/24	0.63 edays 472,483 118 days 491	492	
492	1 6 4 8	ST, SCADA	1.9.7.6	System Commissioning for E&M Equip at PST No. 1-4 Building Services Installations for for PST No. 1-4	30 days Sat 18/11/2 240 days Mon 22/5/			Sun 17/12/23 Tue 16/1/24	Thu 21/3/24 Fri 26/5/23	Fri 19/4/24 Sat 13/4/24	4 days 463FS+90 days	740	
4 494		s, PST, MVAC	1.9.7.7.1	Mechanical Ventilation System	90 days Mon 22/5/:		Mon 22/5/23	Sat 19/8/23	Sun 17/9/23	Fri 15/12/23	30 days	499	
5 495	s = 85,	S, PST	1.9.7.7.2	Lighting and Power Distribution System	90 days Mon 22/5/	3 Sat 19/8/23	Mon 22/5/23	Sat 19/8/23	Sun 17/9/23	Fri 15/12/23	30 days	499	
496	6 3 BS,	S, PST, P&D	1.9.7.7.3	Plumbing and Drainage Installation	120 days Mon 22/5/			Mon 18/9/23	Fri 18/8/23	Fri 15/12/23	O days 666	667,499	
497		S, PST, CCTV	1.9.7.7.4	CCTV Installation (9 Cameras)	60 days Mon 22/5/			Thu 20/7/23	Tue 17/10/23	Fri 15/12/23	60 days 463FS+60 days	745,499	
8 498 9 499		S, PST, FSI	1.9.7.7.5	Fire Services Installation Testing and Commissioning of Building Services Installations	120 days Mon 22/5/2 120 days Tue 19/9/2	No. of the state o		Mon 18/9/23 Tue 16/1/24	Fri 26/5/23 Sat 16/12/23	Fri 22/9/23 Sat 13/4/24	0 days 88 days 494,495,496,497,498	650,662,663	
		1	1.9.7.7.6	Access Date for Portion B-4, BR 2A & 2B	90 edays Fri 25/11/2	2 NO. 21 CO. 25 PROCESS	THE RESERVE OF THE PERSON NAMED IN COLUMN 1	Thu 23/2/23	Fri 25/11/22	Thu 23/2/23	0 edays 255+1089 edays	1	
	1		1.9.9	Tentative Civil Handover Date, Portion B-4, BR2A & 2B	1 day Sun 1/1/23		Sun 1/1/23	Sun 1/1/23	Tue 10/1/23	Tue 10/1/23	O days	503,508,517	08,517,52:
2 502	2 SR	R	1.9.10	Commencement of E&M Installation at Bioreactor No. 2A & 2B	1042 days Fri 4/6/21	Wed 10/4/24	Fri 4/6/21	Wed 10/4/24	Thu 31/3/22	Fri 19/4/24	O days	669	
3 503			1.9.10.1	Installation of Lifting Appliances	60 days Mon 2/1/2		Mon 2/1/23	Thu 2/3/23	Wed 14/2/24	Sat 13/4/24	408 days 333,501		
4 504			1.9.10.1.1	Coping Level EOT Crane LA-03-01 SWL 5t	30 days Mon 2/1/2		Mon 2/1/23 Mon 2/1/23	Tue 31/1/23 Tue 31/1/23	Wed 14/2/24 Wed 14/2/24	Thu 14/3/24 Thu 14/3/24	O days	506,507 506,507	
5 505 6 506			1.9.10.1.5	Coping Level EOT Crane LA-03-02 SWL 5t Coping Level EOT Crane LA-03-03 SWL 5t	30 days Mon 2/1/2 30 days Wed 1/2/2		Wed 1/2/23	Thu 2/3/23	Fri 15/3/24	Sat 13/4/24	408 days 504,505	300,307	
7 507			1.9.10.1.4	Coping Level Mobile A-frame LA-03-04 SWL 4t	7 days Wed 1/2/2		Wed 1/2/23	Tue 7/2/23	Sun 7/4/24	Sat 13/4/24	431 days 504,505		
8 508	8 = BR,	R, Mech	1.9.10.2	Mechanical Installations for E&M Equip at BR 2A & 2B	180 days Mon 2/1/2	3 Fri 30/6/23	Mon 2/1/23	Fri 30/6/23	Mon 27/3/23	Fri 22/9/23	60 days 501	521	
9 509	9 S BR,	R, Mech	1.9.10.2.1	Installation of pipework and valves	150 days Mon 2/1/2	Wed 31/5/2	Mon 2/1/23	Wed 31/5/23	Mon 27/3/23	Wed 23/8/23	O days 45,39	516	
0 510		R, Mech	1.9.10.2.2	Installation of pre-treatment fine screens	21 days Mon 2/1/2		Mon 2/1/23	Sun 22/1/23	Thu 3/8/23	Wed 23/8/23	0 days 165	512 515	
1 511		R, Mech R. Mech	1.9.10.2.2	Installation of air diffusion system Installation of submersible mixers	90 days Mon 2/1/2 30 days Mon 23/1/	and the second	Mon 2/1/23 Mon 23/1/23	Sat 1/4/23 Tue 21/2/23	Fri 26/5/23 Thu 24/8/23	Wed 23/8/23 Fri 22/9/23	0 days 171 213 days 510,177	313	
2 512 3 513		R, Mech	1.9.10.2.5	Installation of mixed liquor return pumps	30 days Mon 2/1/2		Mon 2/1/23	Tue 31/1/23	Tue 25/7/23	Wed 23/8/23	0 days 183	514	
4 514			1.9.10.2.€	Installation of scurn removal systems	30 days Wed 1/2/2	3 Thu 2/3/23	Wed 1/2/23	Thu 2/3/23	Thu 24/8/23	Fri 22/9/23	204 days 513,189		
5 515	5 = BR,	R, Mech	1.9.10.2.7	Installation of aeration blowers	30 days Sun 2/4/23	Mon 1/5/23	Sun 2/4/23	Mon 1/5/23	Thu 24/8/23	Fri 22/9/23	144 days 511,195		
6 516	1 77	R, Mech	1.9.10,2.8	Installation of instrumentations	30 days Thu 1/6/23		Thu 1/6/23	Fri 30/6/23	Thu 24/8/23	Fri 22/9/23	84 days 509,201	521	
7 517 8 518			1.9.10.3	Electrical Installations for E&M Equip at BR 2A & 2B Installation of cable trays and cable containments	240 days Mon 2/1/2 120 days Mon 2/1/2			Tue 29/8/23 Mon 1/5/23	Wed 11/1/23 Wed 11/1/23	Fri 22/9/23 Wed 10/5/23	0 days 501 0 days 501	519	
20		R, Elec, SCADA	1.9.10.3.7	Cables laying and terminations	120 days Tue 2/5/23			Tue 29/8/23	Thu 11/5/23	Thu 7/9/23	O days 518,349	580	
	O Œ ■ BR,		1.9.10.3.5	Energisation of LV Switchboards	1 day 5at 1/7/23	Sat 1/7/23	Sat 1/7/23	Sat 1/7/23	Fri 22/9/23	Fri 22/9/23	83 days		
1 521	1 = BR,	R, SCADA	1.9.10.4	Site Acceptance Test for E&M Equip at BR 2A & 2B	90 edays Tue 29/8/2	3 Mon 27/11/2	3 Tue 29/8/23	Mon 27/11/23	Sat 23/9/23	Fri 22/12/23	15.63 edays 508,517	522	
2 522		R,SCADA	1.9.10.5	System Commissioning for E&M Equip at BR 2A & 2B	120 days Wed 13/12	and the second second	CANADA CONTRACTOR CONTRACTOR		Fri 22/12/23	Fri 19/4/24	3 days 521,582	746	
3 523			1.9.10.6	Building Services Installations for BR 2A & 2B	300 days Sun 2/4/23		Sun 2/4/23 Sun 2/4/23	Fri 26/1/24 Fri 30/6/23	Fri 26/5/23 Sun 17/9/23	Sat 13/4/24 Fri 15/12/23	54 days 501F5+90 edays 90 days	529	
5 525		S, BR, MVAC	1.9.10.6.1	Mechanical Ventilation System Lighting and Power Distribution System	90 days Sun 2/4/23 180 days Sun 2/4/23	2 Carol Salahana		Thu 28/9/23	Mon 19/6/23	Fri 15/12/23	O days	529	
6 526		s, BR, P&D	1.9.10.6.5	Plumbing and Drainage Installation	120 days Sun 2/4/23		Sun 2/4/23	Sun 30/7/23	Fri 18/8/23	Fri 15/12/23	50 days 666	667,529	29
7 527	7 = 85,	S, BR, CCTV	1.9.10.6.4	CCTV Installation (7 Cameras)	60 days Tue 2/5/23	Fri 30/6/23	Tue 2/5/23	Fri 30/6/23	Tue 17/10/23	Fri 15/12/23	90 days 501FS+120 days	745,529	
8 528		S, BR, FSI	1.9.10,6.5	Fire Services Installation	120 days Sun 2/4/23			Sun 30/7/23	Fri 26/5/23	Fri 22/9/23	50 days	650,662,663	52,663,524
9 529			1.9.10.6.€	Testing and Commissioning of Building Services Installations	120 days Fri 29/9/23		Fri 29/9/23	Fri 26/1/24	Sat 16/12/23	Sat 13/4/24 Thu 18/4/24	78 days 524,525,526,527,528	8	
0 530			1.9.10.7	PV System Submission of Application to CLP	907 days Fri 4/6/21 90 days Fri 4/6/21	Mon 27/11/ Wed 1/9/21	Fri 4/6/21	Mon 27/11/23 Wed 1/9/21	Thu 31/3/22 Thu 31/3/22	Tue 28/6/22	0 days 404,408,314	532	
2 532			1.9.10.7.2	CLP's approval	120 days Thu 2/9/21	1 2 2 2 2 2 2 2 2 2		Thu 30/12/21	Wed 29/6/22	Wed 26/10/22	0 days 531	533	
3 533			1.9.10.7.5	Material ordering and delivery to site	210 days Fri 31/12/2		Fri 31/12/21	Thu 28/7/22	Thu 27/10/22	Wed 24/5/23	157 days 532	534	<u>*</u>
14 534	4 = BR,	R, PV	1.9.10.7.4	Site Installation	180 days Mon 2/1/2		Mon 2/1/23	Fri 30/6/23	Thu 25/5/23	Mon 20/11/23	0 days 533,501	535	
5 535		C. A. S.	1.9.10.7.5	CLP's meter installation and Final on-grid test with CLP	150 days Sat 1/7/23	The second second	3 Sat 1/7/23	Mon 27/11/23	Tue 21/11/23	Thu 18/4/24	143 days 534	422	
	6 E ME		1.9.11	Access Date for Portion B-SA, MFB No. 2 below 1st floor level Tentative CNII Handover Date, Portion B-SA, MFB No. 2 below 1st	90 edays Mon 20/13 1 day Wed 26/1/			Sun 20/3/22 Wed 26/1/22	Mon 20/12/21 Tue 8/2/22	Sun 20/3/22 Tue 8/2/22	0 edays 255+749 edays 0 days	539,544FS+	54455445
	7 🔟 🤜 M.F.		1.9.12	floorlevel								edays	
18 538	1		1.9.13	Commencement of E&M Installation at MFB No. 2 Lower Part				100 - 1	Sat 26/3/22	Sat 13/4/24 Sat 13/4/24	58 days 749 days 333,537	669	
9 535			1.9.13.1.1	Installation of Lifting Appliances B2 EOT Crane LA-04-01 SWL St	59 days Thu 27/1/2 45 days Thu 27/1/2			Sat 26/3/22 Sat 12/3/22	Thu 15/2/24 Thu 15/2/24	Sat 13/4/24 Sat 30/3/24	749 days 333,537 0 days	542,543	543
11 541			1.9.13.1.7	B2 EOT Crane LA-04-02 SWL 5t	30 days Thu 27/1/2		Thu 27/1/22	Fri 25/2/22	Fri 1/3/24	Sat 30/3/24	15 days	542,543	
2 542		MFS, LA	1.9.13.1.1	82 MR LA-04-03 SWL 5t	14 days Sun 13/3/2		Sun 13/3/22	Sat 26/3/22	Sun 31/3/24	Sat 13/4/24	749 days 540,541		
3 54	3 K MF	MFS, LA	1.9.13.1.4	B1 MR LA-04-04 SWL 3t	14 days Sun 13/3/2	2 Sat 26/3/22		Sat 26/3/22	Sun 31/3/24	Sat 13/4/24	749 days 540,541		
14 544		MFS, Mech	1.9.13.2	Mechanical Installations for E&M Equip. at MFB No. 2 Lower Part			100.000.000.000.000	Fri 10/3/23	Sat 26/3/22	Mon 20/3/23	0 days 537FS+45 edays	55455	
15 545 16 546		MFS, Mech MFS, Mech	1.9.13.2.1	Installation of hollow fibre membrane modules Installation of air scour blowers	90 days Wed 16/3/ 90 days Wed 16/3/			Mon 13/6/22 Mon 13/6/22	Sun 11/12/22 Sat 26/3/22	Fri 10/3/23 Thu 23/6/22	270 days 207 0 days 213	550,547,54	547,548
3 346	mi		***********	CONTRACTOR OF THE STATE OF THE	2275 Tred 20/5/	13,072	111111111111111111111111111111111111111						
Bestwise		Task		Milestone • Milestone	Summary		Project S	ummary I	1 Manual S	Summary 1	Critical	Prog	Progress Manual Progress Slack
	/2018/04	20											

Draina	ge Services Departme	* Captus						S	hek Wu Hui Effluer	nt Polishing Plan	t - Main Works S	Stage 1 E&M W
D	Ta Text1	WBS	Fask Name	Duration Start between Task	Finish	Early Start	Early Finish	Late Start	Late Finish	Free Slack P	AND DESCRIPTIONS AND ADDRESS.	Successors
	n Mil			Start and Finish								
547		1,9,13,2,5	Installation of permeate pumps	90 days Tue 14/6/22	* (***)	Tue 14/6/22	Sun 11/9/22	Fri 24/6/22	Wed 21/9/22	O days 2		550
548	MFS, Mech	1.9.13.2.4	Installation of return activated sludge pumps	90 days Tue 14/6/22		Tue 14/6/22	Sun 11/9/22	Fri 24/6/22	Wed 21/9/22	0 days 2		550 550
549	MFS, Mech	1.9.13.2.5	Installation of membrane tank drain pumps Installation of pipework and valves	120 days Wed 16/3/22 180 days Mon 12/9/22		Wed 16/3/22 Mon 12/9/22	Wed 13/7/22 Fri 10/3/23	Wed 25/5/22 Thu 22/9/22	Wed 21/9/22 Mon 20/3/23	60 days 2	4,546,547,548,549	500
551	MFS, Mech	1.9.13.2.7	Installation of chemical storage tank	30 days Wed 16/3/22		Wed 16/3/22	Thu 14/4/22	Thu 9/2/23	Fri 10/3/23	330 days 2		
552	MFS, Mech	1.9.13.2.5	Installation of chemical dosing pumps	30 days Wed 16/3/22		Wed 16/3/22	Thu 14/4/22	Thu 9/2/23	Fri 10/3/23	330 days 2	43	
553	MFS, Mech	1.9.13.2.9	Installation of plant service water system	45 days Wed 16/3/22	Fri 29/4/22	Wed 16/3/22	Fri 29/4/22	Wed 25/1/23	Fri 10/3/23	315 days 2	61,267	
554	MFS, Elec	1.9.13.3	Electrical Installations for E&M Equip. at MFB No. 2 Lower Part	150 days Wed 16/3/22	Fri 12/8/22	Wed 16/3/22	Fri 12/8/22	Thu 16/11/23	Sat 13/4/24	610 days 5	4455	
555	MFS, Elec	1.9.13.3.1	Installation of cable trays and cable containments	150 days Wed 16/3/22	Fri 12/8/22	Wed 16/3/22	Fri 12/8/22	Thu 16/11/23	Sat 13/4/24	610 days		
	MFS, LA, BS	1.9.14	Access Date for Portion B-SB, MFB No. 2 remaining portion	90 edays Thu 19/5/22		Thu 19/5/22	Wed 17/8/22	Thu 19/5/22	Wed 17/8/22		SS+899 edays	
557	MFS, LA, BS	1.9.15	Tentative Civil Handover Date, Portion 8-58, MFB No. 2 remaining portion	1 day Sat 25/6/22	Sat 25/6/22	Sat 25/6/22	Sat 25/6/22	Tue 20/12/22	Tue 20/12/22	O days		559,567FS+45 edays,586FS+
558	MFS	1.9.16	Commencement of E&M Installation at MFB No. 2 Upper Part	648 days Sun 26/6/22	Wed 3/4/24	Sun 26/6/22	Wed 3/4/24	Tue 21/3/23	Fri 19/4/24	7 days		669
559	MFS, LA	1.9.16.1	Installation of Lifting Appliances	135 days Sun 26/6/22		Sun 26/6/22	Mon 7/11/22	Fri 1/12/23	Sat 13/4/24	523 days 3	33,557	
560	MFS, LA	1.9.16.1.1	GF EOT Crane LA-04-05 SWL St GF Gantry Crane LA-04-05 SWL 6t	45 days Sun 26/6/22		Sun 26/6/22 Sun 26/6/22	Tue 9/8/22 Tue 9/8/22	Fri 1/12/23 Fri 1/12/23	Sun 14/1/24 Sun 14/1/24	O days		562,563 562,563
561	103000000	1.9.16.1.5	1F EOT Crane LA-04-07 SWL 15t	45 days Sun 26/6/22 45 days Wed 10/8/22		Wed 10/8/22	Fri 23/9/22	Mon 15/1/24	Wed 28/2/24	O days 5	60,561	564,565,566
563	MFS, LA	1.9.16.1.4	1F EOT Crane LA-04-08 SWL 15t	45 days Wed 10/8/22		Wed 10/8/22	Fri 23/9/22	Mon 15/1/24	Wed 28/2/24	O days 5		564,565,566
564	MFS, LA	1.9.16.1.5	RF EOT Crane LA-04-09 SWL 2t	45 days Sat 24/9/22	A CONTROL OF	Sat 24/9/22	Mon 7/11/22	Thu 29/2/24	Sat 13/4/24	523 days 5	62,563	PATRA ESWITE
565	MFS, LA	1.9,16,1.6	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	Thu 29/2/24	Sat 13/4/24	523 days 5	62,563	
566	MFS, LA	1.9.16.1.7	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	Sun 7/4/24	Sat 13/4/24	561 days 5		
567	MFS, Mech	1.9.16.2	Mechanical Installations for E&M Equip, at MFB No. 2 Upper Part			Wed 10/8/22	Thu 6/4/23	Sat 1/4/23	Sun 26/11/23		57FS+45 edays	5715S+45 eda
568 569	MFS, Mech	1.9.16.2.1	Installation of air scour blowers	120 days Wed 10/8/22		Wed 10/8/22	Wed 7/12/22	Sat 1/4/23	Sat 29/7/23	0 days 2		569 570
569	MFS, Mech	1.9.16.2.1	Installation of compressed air system Installation of instrumentations	60 days Thu 8/12/22 60 days Mon 6/2/23	Sun 5/2/23 Thu 6/4/23	Thu 8/12/22 Mon 6/2/23	Sun 5/2/23 Thu 6/4/23	Sun 30/7/23 Thu 28/9/23	Wed 27/9/23 Sun 26/11/23	0 days 2 234 days 5		370
571	The property of the second	1.9.16.3	Electrical Installations for E&M Equip. at MFB No. 2 Upper Part		Sun 5/11/23	Sat 11/3/23	Sun 5/11/23	Tue 21/3/23	Sun 26/11/23		675S+45 edays,550	584
572	MFS, Elec	1.9.16.3.1	Installation of LV Switchboards		Thu 8/6/23	Sat 11/3/23	Thu 8/6/23	Tue 21/3/23	Sun 18/6/23	0 days 5		577
573	MFS, Elec, SCADA	1.9.16.3.2	Installation of PLC Panels	90 days Sat 11/3/23	Thu 8/6/23	Sat 11/3/23	Thu 8/6/23	Tue 21/3/23	Sun 18/6/23	O days 5	7	577,580
574	MFS, Elec	1.9.16.3.5	Installation of HV Switchboards	60 days Sat 11/3/23	Tue 9/5/23	Sat 11/3/23	Tue 9/5/23	Thu 20/4/23	Sun 18/6/23	30 days 4	200	577
575	MFS, Elec	1.9.16.3.4	Installation of transformer	45 days Sat 11/3/23	Mon 24/4/23	Sat 11/3/23	Mon 24/4/23	Fri 13/10/23	Sun 26/11/23	216 days 6	3	
576	MFS, Elec	1.9.16.3.5	Installation of cable trays and cable containments	180 days Sat 11/3/23	Wed 6/9/23	Sat 11/3/23	Wed 6/9/23	Wed 31/5/23	Sun 26/11/23	81 days		
577		1.9.16.3.6	Cables laying and terminations Energisation of LV Switchboards	150 days Fri 9/6/23 1 day Wed 30/8/23	Sun 5/11/23	Fri 9/6/23 Wed 30/8/23	Sun 5/11/23 Wed 30/8/23	Mon 19/6/23 Sun 26/11/23	Wed 15/11/23 Sun 26/11/23	O days 3 88 days	149,572,574,573	581
578	MFS, Elec	1.9.16.3.7	SCADA Systems, BR No. 1 & No 2, MFB No. 2	218 days Wed 30/8/23	0.000.000.000.000.000	Wed 30/8/23	Wed 3/4/24	Fri 8/9/23	Sat 13/4/24	9 days		-
580	MFS, SCADA	1.9.16.4.1	Configuration of PLC System for BR No. 1 & No. 2	45 days Wed 30/8/23		Wed 30/8/23	Fri 13/10/23	Fri 8/9/23	Sun 22/10/23	0 days 5	19,573	582
581	MFS, SCADA	1.9.16.4.2	Configuration of PLC System for MFS	60 days Mon 6/11/23	Thu 4/1/24	Mon 6/11/23	Thu 4/1/24	Thu 16/11/23	Sun 14/1/24	O days 5	177	583
582	MFS, SCADA	1,9,16,4,5	Site Acceptance Test for PLC System at BR No. 1 and No. 2	60 days Sat 14/10/23	Tue 12/12/23	Sat 14/10/23	Tue 12/12/23	Mon 23/10/23	Thu 21/12/23	O days 5	80	522,585
583	MFS, SCADA	1.9.16.4.4	Site Acceptance Test for PLC System at MFS	90 days Fri 5/1/24	Wed 3/4/24	Fri 5/1/24	Wed 3/4/24	Mon 15/1/24	Sat 13/4/24	10 days 5	81	
584	MFS,SCADA	1.9.16.5	Site Acceptance Test for E&M Equip at MFB No. 2	45 edays Sun 5/11/23	Wed 20/12/23	Sun 5/11/23	Wed 20/12/23	Mon 27/11/23	Thu 11/1/24	0.63 edays 5		585
585		1.9.16.6	System Commissioning for E&M Equip at MFB No. 2	100 days Thu 21/12/23	21 SAUTHERINGTO	Thu 21/12/23	Fri 29/3/24	Thu 11/1/24	Fri 19/4/24	15 days 5		746
586	BS, MFS, MVAC	1.9.16.7	Building Services Installations for MFB No. 2 Mechanical Ventilation System	330 days Wed 23/11/22 120 days Wed 23/11/22			Wed 18/10/23 Wed 22/3/23	Sat 20/5/23 Fri 18/8/23	Sat 13/4/24 Fri 15/12/23	90 days	157FS+150 edays	592
588		1.9.16.7.2	Lighting and Power Distribution System	210 days Wed 23/11/22		Wed 23/11/22	Tue 20/6/23	Sat 20/5/23	Fri 15/12/23	0 days		592
589	BS, MFS, P&D	1.9.16.7.	Plumbing and Oralnage Installation	180 days Wed 23/11/22	Sun 21/5/23	Wed 23/11/22	Sun 21/5/23	Mon 19/6/23	Fri 15/12/23	30 days 6	666	667,592
590	BS, MFS, CCTV	1.9.16.7.4	CCTV Installation (10 Cameras)	90 days Wed 23/11/22	Mon 20/2/23	Wed 23/11/22	Mon 20/2/23	Sun 17/9/23	Fri 15/12/23	120 days 5	557FS+120 days	745,592
591	BS, MFS, FSI	1.9.16.7.5	Fire Services Installation	120 days Wed 23/11/22	Wed 22/3/23	Wed 23/11/22	Wed 22/3/23	Fri 26/5/23	Fri 22/9/23	90 days		650,662,663,
592		1.9.16.7.6		120 days Wed 21/6/23	A STANTON OF THE STANTON	and Performance of the Performan	Wed 18/10/23	Sat 16/12/23	Sat 13/4/24	100000000000000000000000000000000000000	587,588,589,590,591	
593	: Chem	1.9.17	Access Date for Portion B-7 & 7B, Chemical Dosing, Concrete Plinth for DOs, Chemical Sys 1 & 2, FS & sprinkler pump room, Genset, FS	150 edays Mon 20/12/21	Thu 19/5/22	Mon 20/12/21	Thu 19/5/22	Tue 18/10/22	Fri 17/3/23	0 edays 2	ESS+749 edays	edays,615FS4
	- Francisco de la Contraction	1010	hydrant and booster pump room, flowmeter chambers Tentative Civil Handover Date, Portion B-7 & B-78, temporary	1 day Wed 26/1/22	Wed 25/1/22	Wadashha	Wed 26/1/22	Mon 16/10/23	Mon 16/10/23	48 days		days,620FS+4 days,625FS+9 596
594	Temp Chemical	1.9.18	chemical dosing system, concrete plinth for deodorisation system	2 day wed 20/2/22	1100 20/1/22	1160 20/1/22	1160 20/1/22	mon 10/10/23	Mon 10/10/25	-to days		
595	Temp Chemical	1.9.19	Commencement of E&M Installation at Temporary Chemial Dosing System	334 days Tue 15/3/22	Sun 12/2/23	Tue 15/3/22	Sun 12/2/23	Tue 25/7/23	Sun 14/4/24	423 days 1	147,153,159	669
596	Temp Chemical, M	lech 1.9.19.1	Mechanical Installations for E&M Equip, for Chemical Dosing System	90 edays Tue 15/3/22	Mon 13/6/22	Tue 15/3/22	Mon 13/6/22	Tue 17/10/23	Mon 15/1/24	O edays 5	594	5975S+30 ed
597	Temp Chemical, El	lec 1,9.19.2	Electrical Installations for E&M Equip. for Chemical Dosing System	90 edays Thu 14/4/22	Wed 13/7/22	Thu 14/4/22	Wed 13/7/22	Thu 16/11/23	Wed 14/2/24	0 edays 5	59655+30 edays	598
598	Temp Chemical	1.9.19.3	Site Acceptance Test for E&M Equip for Chemical Dosing System	30 edays Wed 13/7/22		Wed 13/7/22	Fri 12/8/22	Wed 14/2/24	Fri 15/3/24	0 edays 5		599
599	Temp Chemical	1.9.19.4	System Commissioning for E&M Equip for Chemical Dosing System		740000000000000000000000000000000000000	Fri 12/8/22	Sun 11/9/22	Fri 15/3/24	Sun 14/4/24	580.63 edays 5		
600	Temp Chemical Temp Chemical, 8	1.9.19.5	Building Services Installations at Chemical Dosing System areas Lighting and Power Distribution System	180 days Wed 17/8/22 90 days Wed 17/8/22		Wed 17/8/22 Wed 17/8/22	Sun 12/2/23 Mon 14/11/22	Tue 25/7/23 Tue 17/10/23	Sat 13/4/24 Sun 14/1/24	342 days 5 0 days	593FS+90 edays	603
601			Lighting and Power Distribution System Fire Services Installation, DG Stores	90 days Wed 17/8/22	property egone res		Mon 14/11/22	Tue 25/7/23	Sun 22/10/23	O days		662,663,603
602	Temp Chemical, 8			90 days Tue 15/11/22		Tue 15/11/22	Sun 12/2/23	Mon 15/1/24	Sat 13/4/24	426 days 6	501,602	
604	Chemical	1.9.20	Tentative Civil Handover Date, Portion chemical dosing system 1 and	1 day Sat 27/3/21	1	Sat 27/3/21	Sat 27/3/21	Mon 26/12/22	Mon 26/12/22	353 days	STATE ST	606
605	Chemical	1.9.21	system 2 Commencement of E&M Installation at Chemical Dosing System 1	420 days Tue 15/3/22	Tue 9/5/22	Tue 15/3/22	Tue 9/5/23	Tue 27/12/22	Sat 13/4/24	286 days 1	159,153,147	669
			and System 2									
606	Chemical, Mech	1.9.21.1	Mechanical installations for E&M Equip, for Chemical Dosing Syste			Tue 15/3/22	Mon 13/6/22	Tue 27/12/22	Mon 27/3/23	O edays 6		607
607	Chemical, Elec	1.9.21.2	Electrical Installations for E&M Equip. for Chemical Dosing System Site Acceptance Test for E&M Equip for Chemical Dosing System	90 edays Mon 13/6/22		Mon 13/6/22 Mon 12/9/22	Sun 11/9/22 Wed 26/10/22	Mon 27/3/23 Mon 15/1/24	Sun 25/6/23 Wed 28/2/24	0.63 edays 6		608,611,612
608	Chemical, Elec	1.9.21.3	Site Acceptance Test for E&M Equip for Chemical Dosing System System Commissioning for E&M Equip for Chemical Dosing System	45 days Mon 12/9/22 45 days Thu 27/10/22			Wed 26/10/22 Sat 10/12/22	Mon 15/1/24 Thu 29/2/24	Wed 28/2/24 Sat 13/4/24	490 days 6		
610	Chemical Elec	1.9.21.5	Building Services Installations at Chemical Dosing System areas	240 days Mon 12/9/22		Mon 12/9/22	Tue 9/5/23	Sun 25/6/23	Sat 13/4/24		593FS+100 days	-
610	Chemical, BS	1.9.21.5.1	Lighting and Power Distribution System	120 days Mon 12/9/22		Mon 12/9/22	Mon 9/1/23	Fri 18/8/23	Fri 15/12/23	O days 6		613
612	2 CONTROL (C)	1.9.21.5.2	Fire Services Installation, DG Stores	120 days Mon 12/9/22		Mon 12/9/22	Mon 9/1/23	Sun 25/6/23	Sun 22/10/23	O days 6	507	662,663,653,
			Manage A		-	7						
-	Task		Milestone • Milestone •	Summary	1175	Project Su	nmary I	Manual Su	zmmary I	Critical		Progre
vise	018/04											

De parameter se se me de p	ices Department	930							S	hek Wu Hui Effluer			amme for DE/20 Stage 1 E&M W	Vorks for Sewage Treatr	nent Facilities										AEC
ID Ta Text	et1	WBS Task	Name	Duration	Start	Finish	Early Start	Early Finish	Late Start	Late Finish		Predecessors	Successors												
Mc				between Task Start and Finish				1000						Half 1, 2020	Half 2, 20	O Ha	f 1, 2021	Half 2, 2021	Half 1, 2022	A Laul I Half	2, 2022 A S O N	Half 1, 2023	A I M I Half 2, 2	023 S O N D J	IF 1, 2024
613 Cher	emical, BS 1	1.9.21.5.	Testing and Commissioning of Building Services Installations	120 days	Tue 10/1/23	Tue 9/5/23	Tue 10/1/23	Tue 9/5/23	Sat 16/12/23	Sat 13/4/24	340 days	s 611,612		DIJEMIA	MILLIA	SIOINIDII	I F I M I A I M I	I I I I I I I I I I I I I I I I I I I	I VI I F I M I A			Y			
614 - DOL	U 1	1.9.22	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	Thu 26/10/23	Sun 14/4/24	477 days	s 273	669								100				
		1.9.22.1	Mechanical Installations for DOU 1	0.000	Sat 2/7/22	Fri 30/9/22	Sat 2/7/22	Fri 30/9/22	Thu 26/10/23	Wed 24/1/24		s 593FS+45 days,285	- 15	ys.											
616 DOU		1.9.22.3	Electrical Installations for DOU 1 Site Acceptance Test for DOU1			Sun 30/10/22	Mon 1/8/22 Sun 30/10/22	Sun 30/10/22 Tue 29/11/22	Sat 25/11/23 Fri 23/2/24	Fri 23/2/24 Sun 24/3/24		s 61555+30 edays s 615,616	618	4 1							-	5			
617 DOU		1.9.22.4	System Commissioning for DOU 1			Tue 29/11/22 Tue 20/12/22	Tue 29/11/22	Tue 20/12/22	Sun 24/3/24	Sun 14/4/24	480,63 edays		0.00	-							7	Za.			_
619 = DOU		1.9.23	Commencement of E&M Installation at DOU 2A			Tue 20/12/22		Tue 20/12/22	Thu 26/10/23	Sun 14/4/24	477 days		669	4						1					\rightarrow
620 C DOU	U, Mech	1.9.23.1	Mechanical Installations for DOU 2A	90 edays	Sat 2/7/22	Fri 30/9/22	Sat 2/7/22	Fri 30/9/22	Thu 26/10/23	Wed 24/1/24	O edays	s 593FS+45 days,285	62155+30 eday	195											
621 = DOU		1.9.23.2	Electrical Installations for DOU 2A			Sun 30/10/22	Mon 1/8/22	Sun 30/10/22	Sat 25/11/23	Fri 23/2/24		s 6205S+30 edays	622												
622 DOU		1.9.23.3	Site Acceptance Test for E&M Equip for DOU 2A			Tue 29/11/22	Sun 30/10/22	Tue 29/11/22	Fri 23/2/24	Sun 24/3/24		s 620,621	623									1			
623 = DOU		1.9.23.4	System Commissioning Test for DOU 2A Commencement of E&M Installation at DOU 3A		Tue 16/8/22	Tue 20/12/22 Fri 3/2/23	Tue 29/11/22 Tue 16/8/22	Tue 20/12/22 Fri 3/2/23	Sun 24/3/24 Thu 26/10/23	Sun 14/4/24 Sun 14/4/24	480.63 edays		669	-							-				
625 = DOU		1.9.24.1	Mechanical Installations for DOU 3A			Mon 14/11/22	Tue 16/8/22	Mon 14/11/22	Thu 26/10/23	Wed 24/1/24		s 593FS+90 days,285	62655+30 eday	195											
626 = 00U	U, Elec 1	1.9.24.2	Electrical Installations for DOU 3A	90 edays	Thu 15/9/22	Wed 14/12/22	Thu 15/9/22	Wed 14/12/22	Sat 25/11/23	Fri 23/2/24	0 edays	s 6255S+30 edays	627								-	1			
627 CDOU	U 1	1.9.24.3	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	Fri 23/2/24	Sun 24/3/24	0 eday:	s 625,626	628												
628 C DOU		1.9.24.4	System Commissioning Test for DOU 3A			Fri 3/2/23	Fri 13/1/23	Fri 3/2/23	Sun 24/3/24	Sun 14/4/24	435.63 eday:	370									-				
629 DOU		1.9.25	Commencement of E&M Installation at DOU 3B Mechanical Installations for DOU 3B		Tue 16/8/22	Fri 3/2/23 Mon 14/11/22	Tue 16/8/22 Tue 16/8/22	Fri 3/2/23 Mon 14/11/22	Thu 26/10/23 Thu 26/10/23	Sun 14/4/24 Wed 24/1/24	432 days	s 279 s 593FS+90 days,285	669 63155+30 eda	ays								h			
630 R DOU	200,720	1.9.25.1	Mechanical Installations for DOU 38 Electrical Installations for DOU 3B			Mon 14/11/22 Wed 14/12/22	Tue 16/8/22 Thu 15/9/22	Mon 14/11/22 Wed 14/12/22	Sat 25/11/23	Wed 24/1/24 Fri 23/2/24	16100364	s 6305S+30 edays	632								-				
632 DOU		1.9.25.3	Site Acceptance Test for E&M Equip for DOU 3B		Wed 14/12/22		Wed 14/12/22	Fri 13/1/23	Fri 23/2/24	Sun 24/3/24		s 630,631	633									=			
633 = DOU	U 3	1.9.25,4	System Commissioning Test for DOU 3B	21 edays	Fri 13/1/23	Fri 3/2/23	Fri 13/1/23	Fri 3/2/23	Sun 24/3/24	Sun 14/4/24	435.63 eday:	s 632										in_			
634 Char		1.9.26	Commencement of Valves and Flowmeters Installation at Chambers			Sat 15/10/22	Thu 19/5/22	Sat 15/10/22	Thu 16/11/23	Sat 13/4/24	543 day:		669							*					
	CONTRACTOR I	1.9.26.1	Installation of valves and flowmeters			Tue 16/8/22	Thu 19/5/22	Tue 16/8/22	Thu 16/11/23	Tue 13/2/24	0 day:		636												
636 Char		1.9.26.2	cables laying and terminations Commencement of E&M Installation for Genset		Wed 17/8/22 Fri 4/6/21	Sat 15/10/22 Sat 30/12/23	Wed 17/8/22 Fri 4/6/21	Sat 30/12/23	Wed 14/2/24 Wed 24/1/24	Sat 13/4/24 Sat 13/4/24	546 day:		669									1			
638 Cen		1.9.27.1	Application for EPD's Approval			Thu 24/6/21	Fri 4/6/21	Thu 24/6/21	Wed 24/1/24	Tue 13/2/24	100000	s 364,409	639					-							
639 🖭 🚾 Gens		1.9.27.2	Installation of Genset			Sat 30/12/23	Wed 1/11/23	Sat 30/12/23	Wed 14/2/24	Sat 13/4/24	105 days	s 638,593													
640 E Civil		1.9.28	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	Sun 18/2/24	Thu 18/4/24		s 255+1539 edays													27/12
641 🚾 🚾 CIVII		1.9.29	Tentative Civil Handover Date, Portion B-9B	7,000,000	THE PROPERTY OF	Wed 27/12/23	Wed 27/12/23	Wed 27/12/23	Wed 27/12/23	Wed 27/12/23	O day:		643											1 1	•
642 Civil	1	1.9.30	Commencement of underground pipework modification and connection works	20 days	Thu 28/12/23	Tue 16/1/24	Thu 28/12/23	Tue 16/1/24	Thu 28/12/23	Tue 16/1/24	O day:	5												1	
643 Civil		1.9.30,1	Road Excavation	7 days	Thu 28/12/23	Wed 3/1/24	Thu 28/12/23	Wed 3/1/24	Thu 28/12/23	Wed 3/1/24	O day:		644											1 1	
644 Civil		1.9.30.2	Pipe Laying and connection works Pressure Tests		Thu 4/1/24	Wed 10/1/24	Thu 4/1/24	Wed 10/1/24	Thu 4/1/24 Thu 11/1/24	Wed 10/1/24 Sat 13/1/24	O day:		645									1			5
645 Civil		1.9.30.3	Make Good			Sat 13/1/24 Tue 16/1/24	Thu 11/1/24 Sun 14/1/24	Sat 13/1/24 Tue 16/1/24	Sun 14/1/24	Tue 16/1/24	O day		0.00												†
647 = FSI		1.9.31	Commencement of Fire Services Installation		Mon 2/12/19	7.500.000.000	Mon 2/12/19	Tue 9/4/24	Thu 21/4/22	Sat 13/4/24	1 day		669	1	+									-	
648 = FSI	,	1,9.31.1	Design Review of Approved General Building Plan	400 days	Mon 2/12/19	Mon 4/1/21	Mon 2/12/19	Mon 4/1/21	Thu 21/4/22	Thu 25/5/23	O day	5.2	649		-										
649 = FSI	1	1.9.31.2	Submission of WWO542 for WSD's approval	120 days	Tue 5/1/21	Tue 4/5/21	Tue 5/1/21	Tue 4/5/21	Fri 26/5/23	Fri 22/9/23	867 day:	s 648	650			1	_								
650 = FSI		1.9.31.3	Submission of WWO46 for WSD's Inspection			Wed 18/10/23	Tue 19/9/23	Wed 18/10/23	Sat 23/9/23	Sun 22/10/23	525,836	s 460,498,528,591,64	20 0.054												
651 FSI		1.9.31.4	Obtain WWO46 Part V FSD Inspection and Approval for MVAC		Thu 19/10/23 Mon 18/12/23	Sun 17/12/23	Thu 19/10/23 Mon 18/12/23	Sun 17/12/23 Sun 7/1/24	Mon 23/10/23 Fri 22/12/23	Thu 21/12/23 Thu 11/1/24	0 day	s 662,663,651	654,652	_											1
652 A FSI		1.9.31.6	FSD Inspection and Approval for DG Stores			Fri 22/12/23	Sat 2/12/23	Fri 22/12/23	Fri 22/12/23	Thu 11/1/24		s 662,663,612	655	-										1	
654 🛅 🔫 FSI	1	1.9.31.7	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	Fri 29/12/23	Thu 11/1/24	7 day	s 662,663,651	655											月	1 1
655 F SI	1	1.9.31.8	Pre-inspection meeting with FSD	5 days	Mon 8/1/24	Fri 12/1/24	Mon 8/1/24	Fri 12/1/24	Fri 12/1/24	Tue 16/1/24	O day	rs 654,652,653	656												1
656 = FSI		1.9.31.9	Initial Inspection with FSD		Sat 13/1/24		Sat 13/1/24	Sat 27/1/24	Wed 17/1/24	Wed 31/1/24	0 day		657												+
657 FSI		1.9.31.10	Document Checking Re-inspections with FSD		Sun 28/1/24 Wed 13/3/24	Tue 12/3/24	Sun 28/1/24 Wed 13/3/24	Tue 12/3/24 Tue 26/3/24	Thu 1/2/24 Sun 17/3/24	Sat 16/3/24 Sat 30/3/24	O day		658	- 1											
658 FSI		1.9.31.11	Issue of acceptance memo by FSD		Wed 27/3/24	and transfer to the	Wed 27/3/24	Tue 9/4/24	Sun 31/3/24	Sat 30/3/24 Sat 13/4/24	4 day														
660 🛅 🗪 FSI		1.9.31.13	Installation of FS Pumps and Sprinkler Pumps		Mon 3/4/23		Mon 3/4/23	Thu 1/6/23	Thu 24/8/23	Sun 22/10/23	109 day		663												
661 🔟 🔫 FSI	1	1.9.31.14	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	Thu 24/8/23	Sun 22/10/23	109 day		663												
662 FSI		1,9.31.15	SAT for Manual and automatic fire detection and alarm system		Tue 19/9/23		Tue 19/9/23	Fri 17/11/23	Mon 23/10/23	Thu 21/12/23		vs 460,498,528,591,60													
663 = FSI		1.9.31.16	SAT for Fire hydrants, hose reels and street fire hydrant system		Tue 19/9/23		Tue 19/9/23	Fri 17/11/23 Sun 17/12/23	Mon 23/10/23 Wed 21/12/22	Thu 21/12/23 Sat 13/4/24		s 460,498,528,591,60	669											-	
664 P&D		1.9.32	Commencement of Plumbing and Drainage Installation Submission of detail design for acceptance	7010,000,000		Sun 17/12/23 Sun 11/10/20	Tue 14/7/20 Tue 14/7/20	Sun 17/12/23 Sun 11/10/20	Wed 21/12/22 Wed 21/12/22	Sat 13/4/24 Mon 20/3/23	115 day		666		1	h									
666 P&D		1.9.32.2	Submission of WWO542 for WSD's approval		Mon 12/10/20		Mon 12/10/20	Sat 9/1/21	Tue 21/3/23	Sun 18/6/23	682 day		458,496,526,5	,585		+						Ш			
667 P&D	D 1	1.9.32.3	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	Mon 15/1/24	Wed 28/2/24	O day	rs 458,496,526,589	668												17/12
668 Ⅲ ■ P&D		1.9.32.4	Obtain WWO46 Part V			Sun 17/12/23	Fri 3/11/23	Sun 17/12/23	Thu 29/2/24	Sat 13/4/24	118 day														
669 Risk		1.9.33	Risk Allowance for completion of Section 2	10		Mon 15/4/24	Thu 11/4/24	Mon 15/4/24	Sun 14/4/24	Thu 18/4/24		rs 425,464,502,538,55	8,59 422												
670	1		section 3 - Completion of all works for retrofitting of the existing PSTetc	659 days	Mon 2/12/19	Wed 22/9/21	Mon 2/12/19	Wed 22/9/21	Mon 2/12/19	Wed 22/9/21	1 da	72						953							
671 Filte	er Press, Filter Plate 3	1.10.1	Section 3 - Latest Completion Date	O days	Wed 22/9/21	Wed 22/9/21		rs 255+660 edays,739,			1			22/9											
672 exist		1.10.2	Key Date KD3A, E&M Installation works of existing power house			Wed 29/7/20	Wed 29/7/20	Wed 29/7/20	Wed 29/7/20	Wed 29/7/20		y 25S+240 edays,721			1 2 × 2	9/7		₩ 9/6							
	No. 4 & No. 6 1		Key Date KD3B, E&M work for provision of the existing PSTs Access Date for Portion B-3B. Temporary Fiftrate Uffine Well and En			Wed 9/6/21 Mon 2/12/19	Wed 9/6/21 Mon 2/12/19	Wed 9/6/21 Mon 2/12/19	Wed 9/6/21 Mon 2/12/19	Wed 9/6/21 Mon 2/12/19	1 da 0 eday	y 255+555 edays,712, ys 255	675	2/12				1							
		1.10.4	Access Date for Portion B-3B, Temporary Filtrate Lifting Well and Eq. Tank			Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	Mon 2/12/19						1										
675 Ten	mp Filtrate 1	1.10.5	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	Tue 28/4/20	Mon 8/2/21	1 da	y 674	693												
676 Tem	np Filtrate 1	1.10.5.1	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	Tue 28/4/20	Mon 11/5/20	O day	ys 395	677		*										
677 Tem		1.10.5.2	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	Tue 12/5/20	Mon 1/6/20	1000001	ys 676	678		1										
678 Tem	THE STATE OF THE S	1.10.5.3	Civil formation and underground work		Mon 1/6/20		Mon 1/6/20	Sun 21/6/20	Tue 2/6/20	Mon 22/6/20	- 1	ys 677	684,679	691											
679 Tem	np Filtrate 1	1.10.5,4	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	Tue 23/6/20	Sat 19/12/20	O day	/s 6/8	680,683,686,6	20-1											
-	Task		Milestone ♦ Milestone ●		Summary	•	Project Sum	mary I	1 Manual Su	mmary I	1 Critical	(1)	Progre	ess	Manual Progre	55	Slack -				=				
			Acctication																						
ct: DE/2018/04																									

							hak Wir Hiri Efflige	Proposed Work Program t Polishing Plant - Main Works Sta			age Treatment Facilities			AEC
ID Ta Text1 WBS	S Task Name	Duration Start	Finish	Early Start	Early Finish	Late Start	Late Finish		Successors	inks for Sewa	ge Treatment Facilities	· ·		
Mc		Start and Finish		10 2820						Half 1,	2020 Half 2, 2020	Half 1, 2021	area facts	Half 2, 2021
680 Temp Filtrate 1.10.	.5.5 Installation of Lifting Appliances	7 days Mon 18/1/21	Sun 24/1/21	Mon 18/1/21	Sun 24/1/21	Tue 2/2/21	Mon 8/2/21	15 days 679	-	DIJIE	IMIA MIJIJIALS	S O N D J F I	MIAIMITI)
681 Temp Filtrate, LA 1.10.	.5.5.3 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	Tue 2/2/21	Mon 8/2/21	15 days 679				1		
682 Temp Filtrate, LA 1.10.		7 days Mon 18/1/21	10.00	Mon 18/1/21	Sun 24/1/21	Tue 2/2/21	Mon 8/2/21	15 days 679 0 days 679	687FS-30 days			1		× ×
683 Temp Filtrate, Mech 1.10.	1144 CANADA CANA	37 days Sat 19/12/20 30 days Sat 19/12/20		Sat 19/12/20 Sat 19/12/20	Sun 24/1/21 Sun 17/1/21	Sun 20/12/20 Sun 20/12/20	Mon 25/1/21 Mon 18/1/21	0 days 678	685 685	1				
685 Temp Filtrate, Mech 1.10.		7 days Mon 18/1/21		Mon 18/1/21	Sun 24/1/21	Tue 19/1/21	Mon 25/1/21	1 day 684,309	138		1.00	1		
686 Temp Filtrate, Mech 1.10.	.5.6.E Installation of instrumentations	14 days Sat 19/12/20	Fri 1/1/21	Sat 19/12/20	Fri 1/1/21	Tue 12/1/21	Mon 25/1/21	24 days 679		1		*		
687 Temp Fiftrate 1.10.				Sat 26/12/20	Fri 15/1/21	Tue 29/12/20	Mon 18/1/21	0 days 683FS-30 days	690,692FS-7 da	1		4		
688 Temp Filtrate, Elec 1.10.		21 days Sat 26/12/20 21 days Sat 26/12/20		Sat 26/12/20 Sat 26/12/20	Fri 15/1/21 Fri 15/1/21	Tue 29/12/20 Tue 29/12/20	Mon 18/1/21 Mon 18/1/21	3 days		4				
690 Temp Filtrate 1.10.				Mon 25/1/21	Sun 31/1/21	Tue 26/1/21	Mon 1/2/21	O days 683,687	691			_		
691 ■Temp Filtrate 1.10.	Tank 5.9 System Commissioning for E&M Equip at Temp. Filtrate Lifting	7 days Mon 1/2/21	Sun 7/2/21	Mon 1/2/21	Sun 7/2/21	Tue 2/2/21	Mon 8/2/21	1 day 690,692		-				
200	Well and Eq. Tank	23 (250) (100) (200)	100000000			B10510111051005		Court of the court		- 1		Į†		
692 Temp Filtrate 1.10.		21 days Sat 9/1/21 O days Mon 8/2/21	Fri 29/1/21 Mon 8/2/21	Sat 9/1/21 Mon 8/2/21	Fri 29/1/21 Mon 8/2/21	Tue 12/1/21 Mon 8/2/21	Mon 1/2/21 Mon 8/2/21	2 days 687FS-7 days 0 days 675	691	-		8/2	2	Α
694 V PST No. 4 & No. 6 1.10.	P. J. SANDERS STANDARD STANDAR	0 edays Mon 2/12/19	- Contradiction of		Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	0 edays 2		2/12		¥	·	
695 FF PST No. 4 & No. 6 1.10.		1 day Mon 8/2/21		Mon 8/2/21	Mon 8/2/21	Thu 11/2/21	Thu 11/2/21	0 days	697			9 8/	2	
696 PST No. 4 & No. 6 1.10.		117 days Tue 9/2/21	Sat 5/6/21	Tue 9/2/21	Sat 5/6/21	Fri 12/2/21	Tue 8/6/21	3 days				1	· · · · · · · · · · · · · · · · · · ·	1
697 PST No. 4 & No. 6 1.10.		10 days Tue 9/2/21	Thu 18/2/21	Tue 9/2/21	Thu 18/2/21	Fri 12/2/21	Sun 21/2/21 Tue 11/5/21		699			1		
698 PST No. 4 & No. 6, Met 1.10.	704 TO CONTRACTOR DE LA 2020 COL	76 days Fri 19/2/21 7 days Fri 19/2/21	Wed 5/5/21 Thu 25/2/21	Fri 19/2/21 Fri 19/2/21	Wed 5/5/21 Thu 25/2/21	Mon 22/2/21 Mon 22/2/21	Tue 11/5/21 Sun 28/2/21	3 days 0 days 697	700	-		*	•	
700 PST No. 4 & No. 6, Mec 1.10.		7 days Fri 26/2/21	Thu 4/3/21	Fri 26/2/21	Thu 4/3/21	Mon 1/3/21	Sun 7/3/21		701			ils		
701 PST No. 4 & No. 6, Mec 1.10.	.9.2.5 Installation of scum baffle plates	7 days Fri 5/3/21	Thu 11/3/21	Fri 5/3/21	Thu 11/3/21	Mon 8/3/21	Sun 14/3/21	0 days 700	702			1	1	
702 PST No. 4 & No. 6, Mec 1.10.	some and the second	7 days Fri 12/3/21	Thu 18/3/21	Fri 12/3/21	Thu 18/3/21	Mon 15/3/21	Sun 21/3/21	0 days 701	703				5	
703 PST No. 4 & No. 6, Mec 1.10. 704 PST No. 4 & No. 6, 1.10.		10 days Fri 19/3/21 ng 10 days Mon 29/3/21	Sun 28/3/21 Wed 7/4/21	Fri 19/3/21 Mon 29/3/21	Sun 28/3/21 Wed 7/4/21	Mon 22/3/21 Thu 1/4/21	Wed 31/3/21 Sat 10/4/21	0 days 702 0 days 703	704	-			7	
Mech	bridge			1					2.000					
705 PST No. 4 & No. 6, Mec 1.10. 706 PST No. 4 & No. 6, Mec 1.10.			Wed 14/4/21 Wed 21/4/21	Thu 8/4/21 Thu 15/4/21	Wed 14/4/21 Wed 21/4/21	Sun 11/4/21 Wed 21/4/21	Sat 17/4/21 Tue 27/4/21	0 days 704 0 days 705	706,709	- 1			1	
707 PST No. 4 & No. 6, Mec 1.10.		14 days Thu 22/4/21		Thu 22/4/21	Wed 5/5/21	Wed 28/4/21	Tue 11/5/21	3 days 706	711	1				'
708 PST No. 4 & No. 6, Elec 1.10.	.9.3 Electrical Installations of existing PSTs	24 days Thu 15/4/21	Second Comment	Thu 15/4/21	Sat 8/5/21	Sun 18/4/21	Tue 11/5/21	0 days	711	1			-	
709 PST No. 4 & No. 6, Elec 1.10.	.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	Sun 18/4/21	Tue 27/4/21	0 days 705	710				<u> </u>	
710 PST No. 4 & No. 6, Elec 1.10.		14 days Sun 25/4/21		Sun 25/4/21	Sat 8/5/21	Wed 28/4/21	Tue 11/5/21	0 days 709 0 days 708,707,710	711					
711 PST No. 4 & No. 6 1.10. 712 PST No. 4 & No. 6 1.10.			Sat 29/5/21 Sat 5/6/21	Sun 9/5/21 Sun 30/5/21	Sat 29/5/21 Sat 5/6/21	Wed 12/5/21 Wed 2/6/21	Tue 1/6/21 Tue 8/6/21	0 days 711	673,741	-				
713 🗸 = existing genset 1.10.	.10 Access Date for Portion B-7A & 7B, area for modification of existing				Mon 2/12/19	Mon 2/12/19	Mon 2/12/19	0 edays 2		2/12				
714 exexisting genset 1.10.	emergency generator electrical works 11 Tentative Civil Handover Date, Portion 8-7A & 78 area for	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	O days		Al .			/1	
715 existing genset 1.10	modification of existing emergency generator electrical works 1.12 Commencement of Modification of existing emergency	89 days Sat 25/4/20	W-4 22/7/20	F-1 25/4/20	W-4 22/7/20	Fri 1/5/20	Tue 28/7/20	6 days		4 /				
715 existing genset 1.10	generator Electrical Works	89 days Sat 25/4/20	Wed 22/1/20	5at 25/4/20	Wed 22/7/20	FH 1/3/20	Tue 28/7/20	o days						
716 existing genset 1.10.		60 days Sat 25/4/20		Sat 25/4/20	Tue 23/6/20	Frl 1/5/20	Mon 29/6/20	0 days 415	717	1				
717		14 days Wed 24/6/20 10 days Wed 8/7/20		Wed 24/6/20 Wed 8/7/20	Tue 7/7/20 Fri 17/7/20	Tue 30/6/20 Tue 14/7/20	Mon 13/7/20 Thu 23/7/20	0 days 716 0 days 717	718	-				
719 existing genset 1.10.		2 days Sat 18/7/20	100000000000000000000000000000000000000	Sat 18/7/20	Sun 19/7/20	Fri 24/7/20	Sat 25/7/20	0 days 718	720		F.			
720 existing genset 1.10.	.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	Sun 26/7/20	Tue 28/7/20	0 days 719	721		F F			
721 Risk Allowance 1.10.		1 day Thu 23/7/20	- Anna Andrews	Thu 23/7/20	Thu 23/7/20	Wed 29/7/20	Wed 29/7/20	5 days 720	672	1	7			
722 ✓ ■ Filter Press 1.10. 723 ■ Filter Press 1.10		0 edays Mon 2/12/19 103 days Tue 25/5/21		Mon 2/12/19 Tue 25/5/21	Mon 2/12/19 Sat 4/9/21	Mon 2/12/19 Tue 25/5/21	Mon 2/12/19 Tue 21/9/21	0 edays 2 0 days		2/12				<u> </u>
739 Filter Plates 1.10		90 days Tue 25/5/21			Sun 22/8/21	Thu 24/6/21	Tue 21/9/21	30 days	-	-			+	
740 Filter Plates 1.10.		90 days Tue 25/5/21		Tue 25/5/21	Sun 22/8/21	Thu 24/6/21	Tue 21/9/21	30 days 291	671	1			*	
741 Risk Allowance 1.10.	.17 Risk Allowance for meeting Key Date KD3B	1 day 5un 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 712	673				7	7
742 = 1.11	ST TO ANALYSIS AND ASSESSED FOR AN ALL THE STATE OF STATE	61 days Thu 14/3/24	The second second	The state of the s	Tue 14/5/24	Wed 20/3/24	Tue 14/5/24	0 days 2						
743 Tollet Works, PST, BR, W1.11.		0 days Tue 14/5/24 1 day Thu 14/3/24		Tue 14/5/24 Thu 14/3/24	Tue 14/5/24 Thu 14/3/24	Tue 14/5/24 Wed 20/3/24	Tue 14/5/24 Wed 20/3/24	O days 2SS+1625 edays O days	745					•
745 CCTV 1.11.		30 days Fri 15/3/24	200000000000000000000000000000000000000	Fri 15/3/24	Sat 13/4/24	Thu 21/3/24	Fri 19/4/24	0 days 459,497,527,590,744		1				₩
746 SCADA 1.11	 Overall commissioning of Facility Computerised Systems (SCADA, CMMS, PMS, IDMS) 	7 days Sun 14/4/24	Sat 20/4/24	Sun 14/4/24	Sat 20/4/24	Sat 20/4/24	Fri 26/4/24	0 days 454,492,522,585,745	748,747	1				
747 Cohem		10 days Sun 21/4/24	Tue 30/4/24	Sun 21/4/24	Tue 30/4/24	Sat 27/4/24	Mon 6/5/24	0 days 745,746	748		1			
747 Others 1.11.	.6 Risk Allowance for completion of Section 4	2 days Wed 1/5/24	Thu 2/5/24	Wed 1/5/24	Thu 2/5/24	Tue 7/5/24	Wed 8/5/24	6 days 745,746,747	4					