Upgrading of Tai Po Sewage Treatment Works

ENVIRONMENTAL IMPACT ASSESSMENT – EXECUTIVE SUMMARY

PREPARED FOR

Drainage Services Department

SEPTEMBER 2022

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1 Introduction

1.1 Project Background

1.1.1 The existing Tai Po Sewage Treatment Works (TPSTW) is located within Tai Po Industrial Estate and has undergone various stages of extension since it first commissioned in 1979. Currently, the existing TPSTW is a secondary treatment works with a design capacity of 120,000 m^3 per day, serving Tai Po Industrial Estate, Tai Po, Lam Tsuen and Ting Kok areas. Based on the latest flow records, the existing TPSTW is already operating close to its design capacity. There is a need to upgrade the capacity of TPSTW to meet the future sewage treatment demand.

1.1.2 Drainage Services Department (DSD) appointed Binnies Hong Kong Limited (the consultants) to undertake the consultancy "Agreement No. CE 50/2019 (DS) Upgrading of Tai Po Sewage Treatment Works – Investigation" on 31 March 2020. The scope of this consultancy includes the carrying out of an Environmental Impact Assessment (EIA) study for Upgrading of TPSTW (the Project).

1.2 Designated Projects under EIAO

1.2.1 A Project Profile (No. PP-587/2019) was submitted to the Environmental Protection Department (EPD) on 5 September 2019 for application for an Environmental Impact Assessment (EIA) Study Brief under Section 5(1)(a) of the EIA Ordinance (EIAO) and the EIA Study Brief (No. ESB-321/2019) for the Project was issued on 16 October 2019 under the EIAO.

1.2.2 The Project consists of the following Designated Projects under Schedule 2, Part I of the EIAO:

- Item F.1 - Sewage treatment works with an installed capacity of more than 15,000 m^3 per day;
- Item F.4 - An activity for the reuse of treated sewage effluent from a treatment plant;
- Item D.1 – A public utility electricity power plant; and
- Item D.2 – A public utility gas generation plant.

1.3 Purpose of this Executive Summary

1.3.1 This Executive Summary summarizes the findings, recommendations and conclusions of the EIA Report for the Project.

2 Project Description

2.1 Project Scope

2.1.1 The scope of the Project is to upgrade the existing TPSTW from 120,000 m^3 per day to 160,000 m^3 per day, with a view to meeting the future needs of Tai Po District, and allowing provision to co-digest sludge from TPSTW, other existing and proposed sewage treatment works in New Territories and pre-treated food waste from the adjoining Organic Waste Pre-treatment Centre (New Territories East). Total quantities of sewage sludge and pre-treated food waste to be managed under this Project will be up to 260 dry tonnes per day.

2.1.2 The energy generated from the proposed co-digestion of sewage sludge and pre-treated food waste of the Project will be utilized for electricity supply on site. Any surplus electricity and/or gas generated from the proposed co-digestion process may be supplied to other government facilities such as the adjoining Organic Waste Pre-treatment Centre (New Territories East) as

well as private companies such as the CLP Power Hong Kong Limited and Hong Kong China Gas Company Limited.

2.1.3 The Project mainly comprises the following works:

(a) Construction and operation of new treatment facilities, modification / demolition of existing treatment facilities of TPSTW;

(b) Providing effluent reuse facilities to produce reclaimed water for non-portable use within the Project site; and

(c) Providing co-digestion facilities for sewage sludge and pre-treated food waste.

2.1.4 Owing to the space limitation within the existing TPSTW and in order to maintain the sewage treatment services of the existing TPSTW, which is almost fully utilized, a piece of government land to the south of the existing TPSTW (1.6 hectares) is identified as the proposed expansion site for the Project. The location plan of the Project is shown in **Figure 1.1**.

2.2 Sewage Treatment Level and Effluent Disposal Arrangement

2.2.1 The existing secondary level treatment of sewage with disinfection and treated effluent standards will be maintained for this Project. This Project will follow the same effluent disposal arrangement of the existing TPSTW that effluent will be diverted and discharged to Victoria Harbour via the Tolo Harbour Effluent Export Scheme (THEES).

2.3 Construction Arrangement

2.3.1 In order to maintain normal sewage treatment services of the existing TPSTW during the construction phase, a New West Plant will be built in the proposed expansion site before the existing West Plant of TPSTW is decommissioned. After the New West Plant is fully commissioned, the existing West Plant will be partially demolished to make room for the construction of new facilities. The reconstruction works in the existing TPSTW will be split into stages to maintain continuous plant operation with minimal service interruption.

2.4 Need and Benefit of the Project

2.4.1 The projected average dry weather flow for the TPSTW catchment will nearly reach the existing design capacity by 2031 and the required design average dry weather flow for the TPSTW may reach 160,000 m^3 per day by 2041. There is a need to upgrade the capacity of TPSTW to meet the required sewage treatment demand.

2.4.2 The existing West Plant of TPSTW has been in operation for nearly 40 years. Continuous aging of the existing West Plant is expected, and this may result in increasing maintenance needs. This Project will provide an opportunity to develop a New West Plant with improved sewage treatment technologies and efficiency, minimizing the possibility of emergency sewage discharge, and release of odour due to equipment failure.

2.4.3 The upgrading of TPSTW provides an opportunity to co-locate co-digestion facilities within TPSTW site. The proposed anaerobic co-digestion of sewage sludge and pre-treated food waste will improve biogas yield, and thus increase energy recovery from the process. The recycling of sewage sludge and pre-treated food waste can also preserve precious landfill space and reduce landfill gas generation at landfills. Thus, this Project will contribute to the sustainability and circularity for waste management in Hong Kong.

2.5 Consideration of Alternatives

Sewage Treatment Scheme

Existing Treatment Level for Discharging to the Victoria Harbour (Recommended Option)

2.5.1 This option will require the THEES system to accommodate the additional flow of 40,000 m^3 per day (i.e. increase from 120,000 to 160,000 m^3 per day). The open channel of Victoria Harbour in general has a higher flushing capacity and thus a greater pollutant assimilation capacity as compared to Tolo Harbour. The Project may remain as a secondary treatment works without any change to the effluent discharge standards. Based on the EIA results, no unacceptable water quality impact is predicted for this option. This option is recommended for this Project.

Tertiary Treatment Level for Discharging to the Tolo Harbour (Not Recommended)

2.5.2 Tolo Harbour and Tolo Channel are landlocked with poor self-cleansing capacity. This option may require construction and operation of a new tertiary treatment plant for further polishing the additional flow of 40,000 m^3 per day to Tolo Harbour. The remaining TPSTW secondary effluent (120,000 m^3 per day) will be discharged to the THEES for disposal. Despite the reduced contaminant concentration in the tertiary effluent, this option will permanently increase the pollution load to the sensitive Tolo Harbour, which is not recommended.

Construction Sequence

2.5.3 Phased construction is recommended to maintain continuous sewage treatment services throughout the construction phase and eliminate the chance of temporary sewage bypass into the environment. Phased construction would also reduce the total construction emissions at one time and minimize the environmental impacts.

Demolition Methods

2.5.4 This Project will involve demolition of the existing treatment units in TPSTW for construction of new facilities. Considering environmental benefits and dis-benefits of the alternative demolition methods as well as the specific Project constraints, using breaker mounted on excavator is recommended. There is no noise sensitive receiver located within 300 m from the Project site. Noise mitigation measures (e.g. good site practices) will be adopted to minimize disturbance impact to the environment.

2.5.5 Concrete breaking using quieter equipment such as crushers and saw cutting can reduce the noise emissions as compared to the breakers mounted on excavator. The demolition rates of using these methods are generally longer. Using these slower demolition methods will be infeasible to meet the construction programme and are therefore not selected.

Piling Methods

2.5.6 Non-percussive piling method (e.g. pre-bored steel H piles) is recommended for construction of the foundation for new facilities at the Project site. This quiet pilling method is not applicable for all types of ground conditions. For example, it will require a longer construction time in areas with a very deep bed rock. Based on the preliminary ground investigation data available at the EIA stage, this quiet piling method is considered suitable. It is therefore proposed to use this method as far as practicable to minimize the noise impact.

2.5.7 If any updated ground investigation data (to be collected at the design stage of this Project) reveal that the quiet piling methods are not practical, conventional percussive pilling should be

used as an alternative method and should be undertaken within non-sensitive hours (e.g. close to noon) as far as practicable.

2.6 Construction Programme

2.6.1 The construction works of this Project are tentatively scheduled to commence in 2025 for completion in 2036.

3 Key Findings of the Environmental Impact Assessment

3.1 Air Quality Impact

Construction Phase

3.1.1 During construction phase, fugitive dust impacts may arise from construction activities including site clearance and site formation, demolition works, excavation works, and wind erosion. Mathematical modelling was undertaken to predict the potential fugitive dust impacts for relevant parameters including Total Suspended Particles (TSP), Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP). The modelling has taken into account the cumulative impact caused by other concurrent sources within the assessment area. With implementation of mitigation measures specified in the Air Pollution Control (Construction Dust) Regulation, good site practices, and Environmental Monitoring and Audit (EM&A) programme, no adverse dust impact at Air Sensitive Receivers (ASRs) is anticipated due to the construction activities of the Project.

Operational Phase

3.1.2 During operational phase, odour emission would arise from the treatment processes. All major emitted odourous gases will be treated in the deodourizing units before venting to the atmosphere. Mathematical modelling was carried out to predict the potential odour impact based on the actual odour emission rates measured in existing TPSTW and other similar facilities. With implementation of the proposed odour control measures, full compliances with the odour criterion were predicted at all representative ASRs.

3.1.3 Flue gas will be emitted from combined heat and power (CHP) generating system of the Project. Parameters of concern include RSP, FSP, nitrogen dioxide, sulphur dioxide, volatile organic compounds, hydrogen chloride and hydrogen fluoride. Based on the modelling results and with consideration of the cumulative impact from the vehicular emissions and industrial chimney emissions within the assessment area, full air quality compliances at all representative ASRs were predicted during operation of the proposed CHP unit without mitigation measure.

3.2 Water Quality Impact

Construction Phase

3.2.1 During construction phase, potential sources of water quality impact associated with the Project include general land-based construction activities, construction site run-off, accidental chemical spillage, sewage effluent from construction workforce, contaminated site runoff and demolition works. These impacts could be mitigated and controlled to comply with the relevant standards or assessment criteria by implementing the recommended mitigation measures.

Operational Phase

Project Effluent to Victoria Harbour

3.2.2 The treated sewage effluent of the Project will be discharged to Kai Tak River and subsequently into the Victoria Harbour through the THEES. Mathematical modelling was carried out to predict the potential marine water quality impacts from the Project. Key parameters considered include Dissolved Oxygen (DO), 5-day Biochemical Oxygen Demand (BOD_5), Suspended Solids (SS), Unionized Ammonia (UIA), Total Inorganic Nitrogen (TIN*), E. coli* and sedimentation rates. The model results showed that there would be no unacceptable water quality impacts arising from the Project at all representative Water Sensitive Receivers (WSRs) identified in the assessment area. No adverse water quality impact upon Victoria Harbour would arise from this Project. A river and marine water quality monitoring programme is proposed to verify the EIA prediction and identify follow-up actions or remedial measures as needed.

Project Effluent to Tolo Harbour and Tolo Channel

3.2.3 Maintenance of the THEES is required to ensure proper functioning and integrity of the system. The occurrence of the THEES maintenance would be remote with no more than once in every 5 years. During the inspection or maintenance of the THEES tunnel, temporary suspension of the normal THEES operation with treated sewage effluent bypass into the Tolo Harbour is unavoidable to provide a safe and dry zone within the tunnel. In addition, emergency discharge from the Project would occur in case of pump failure, interruption of the electrical power supply or failure of treatment units.

3.2.4 Mathematical modelling was undertaken to study the water quality impact arising from the THEES maintenance and emergency discharges. Key parameters considered include DO, BOD_5, SS, UIA, TIN, *E. coli*, sedimentation rates and chlorophyll-*a*. The model results indicated that the marine water pollution level would be temporally increased during the THEES maintenance and emergency discharge period. The predicted pollution elevation would be reversible. The baseline water levels would be recovered after termination of the THEES maintenance and emergency discharge.

3.2.5 The THEES maintenance discharge would be scheduled outside the algae blooming season (December to April/ May) to minimize the risk of red tide occurrence. The scheduling of the maintenance discharge would also take into account any ongoing blooming event in the area, which may occur outside the blooming season. Mitigation measures, including dual power supply or ring main supply from CLP, standby pumps, treatment units and equipment, shall be provided to avoid the occurrence of emergency discharge. The DSD's Existing Contingency Plan for Incidents Possibly Encountered in Sewage Treatment Facilities shall be followed to minimize the impact of emergency discharge and facilitate subsequent management of the emergency situation. A marine water quality monitoring programme and an event and action plan including the procedures to be followed in case of the THEES maintenance and emergency discharge has been developed for the Project and shall be properly implemented to minimize the potential water quality impacts.

Other Potential Water Quality Impacts

3.2.6 Other sources of potential water quality impacts associated with the operational phase are identified as handling and transportation of pre-treated food waste, wastewater from the sludge / pre-treated food waste related processes, non-point source surface runoff from paved areas and accidental chemical spillage. These potential impacts can be prevented by implementation

of the recommended mitigation measures.

3.3 Ecological Impact

Terrestrial Ecology

3.3.1 A total of six habitat types, including developed area, plantation, grassland, sea, artificial seawall and semi-natural watercourse, were recorded within the 500m assessment area in recent surveys, with developed area being the only habitat recorded within the Project site. The ecological value of developed area within the Project site is Low to Moderate, with 12 bird species of conservation importance recorded. Within the 500m assessment area, the ecological values of the plantation and grassland within the Shuen Wan Restored Landfill (SWRL) are evaluated as Moderate, whereas the ecological value of the artificial seawall is evaluated as Low to Moderate. The other plantations and the semi-natural watercourse are considered of Low ecological value. Developed area outside the Project site, including the Tai Po Industrial Estate, is evaluated as having Very Low ecological value.

3.3.2 The Project site and the SWRL supported a significant number of Collared Crows in Hong Kong. Surveys from this EIA study revealed that the pre-roosting / roosting sites for Collared Crow are all located outside the Project site. They are located in the existing SWRL. The Project site is about 200m away from the nearest pre-roosting site of Collared Crow, and more than 650m away from the nearest roosting site of Collared Crow. No direct impact to roosting/pre-roosting sites of Collared Crows is expected. The Project works will cause a temporary loss of foraging habitat. It is expected that birds foraging in the TPSTW will become quickly habituated to the upgraded facilities. For the duration of demolition/construction, the eastern portion of the TPSTW and other surrounding areas will be available as foraging/loafing habitats to all bird species currently utilizing this highly disturbed habitat. No unacceptable impact of this temporary habitat loss (developed area) is anticipated.

3.3.3 An occasional night roost of non-breeding ardeids was identified at an existing tree group within the TPSTW. The concerned tree group, with direct conflict with the Project works, would be unavoidably removed. The tree group will be compensated by transplanting or replanting of suitable trees, to provide a potential roosting habitat within the upgraded TPSTW. Noisy construction works should be ceased within 100 m from the existing tree group or transplanted / compensated tree group at least 1 hour before the sunset to prevent any disturbance to the night roosting activities. The removal / felling / transplantation of the concerned tree group should also be avoided at least 1 hour before the sunset. Given the low frequency of occupancy of the night roost and that the trees are proposed to be transplanted/compensated within the Project layout and in view that there are numerous trees in the vicinity that could also be used by night roosting birds, no unacceptable impact on roosting of non-breeding ardeids would be expected.

3.3.4 With implementation of recommended mitigation measures and good site practices, no unacceptable disturbance impacts would be expected. Ecological monitoring should be conducted during construction phase to monitor the effectiveness of proposed mitigation measures and during operational phase to monitor any changes in foraging habitats by the proposed Project and verify the EIA findings.

Marine Ecology

3.3.5 The key marine ecological impact would arise from the changes of water quality due to THEES maintenance and emergency discharge as presented in Section 3.2 above. The occurrence of the THEES maintenance and emergency discharge would be remote and the associated water quality changes would be short-term and reversible. According to water quality impact

assessment results, with implementation of the recommended water quality mitigation measures, no unacceptable water quality impact upon the marine ecological resources is anticipated.

3.4 Fisheries Impact

3.4.1 The Project will only involve land-based construction works in Tai Po Industrial Estate. There will be no direct loss of fishing grounds under this Project.

3.4.2 Only treated and disinfected effluent will be allowed for discharging into the Victoria Harbour. The water quality model predicted that the treated sewage effluent of the Project would not change the overall degree of water quality levels in the assessment area. No unacceptable water quality impact upon the fisheries resources in Victoria Harbour would arise from this Project.

3.4.3 Indirect fisheries impacts due to water quality changes under the THEES maintenance and emergency discharge during the operational phase were assessed to be short term and reversible (see Section 3.2 above). The frequency of such occurrence would be remote. The THEES maintenance discharge would be avoided in the algae blooming season (December to April/May). The scheduling of the THEES maintenance discharge would also take into account any ongoing blooming event in the area, which may occur outside the blooming season. With implementation of mitigation measures recommended for water quality impact (which would also serve for fisheries protection), no unacceptable fisheries impacts are predicted.

3.5 Landscape and Visual Impact

3.5.1 The affected landscape resources would be the amenity planting in the Project site. Approximately 456 nos. of trees in the Project site would be unavoidably affected by the Project. Among the affected trees, 10 nos. of *Ficus microcarpa* or *Ficus benjamina* are mature trees with direct conflict with the proposed works and would be unavoidably removed. The affected trees in the Project site shall be transplanted as far as possible. Any unavoidable tree felling shall be mitigated by compensatory tree planting in accordance with DEVB TCW No. 4/2020. Compensatory planting for the same species of the affected mature trees (*Ficus microcarpa* or *Ficus benjamina*) should be provided with sufficient planting space within the Project site or nearby off-site area. In addition, good site practice, erection of decorative screen hoarding are recommended for the Project construction.

3.5.2 The most affected visual sensitive receivers would be the occupants of Tai Po Industrial Estate and travellers along Dai Kwai Street. Key sources of visual impacts include the construction activities and construction plant during the construction phase as well as the new Project facilities during operational phase. During operational phase, infill planting, tree planting along the site boundary, green roof, vertical greening and responsive design of building will be provided for the Project.

3.5.3 It is considered that no unacceptable landscape and visual impact is anticipated with mitigation measures implemented during construction and operational phases.

3.6 Hazard to Life

3.6.1 Quantitative Risk Assessment (QRA) was carried out to assess the potential hazard to life impact due to generation, storage, utilization, processing and transmission of biogas within the Project site and due to neighbouring hazardous facilities including Tai Po Gas Production Plant, liquefied petroleum gas storage facilities at Apex Print Limited and Zama Industries Limited and dangerous goods storage at Linde HKO Limited.

3.6.2 Overall, the QRA has confirmed that the construction and operation of the proposed Project would not cause significant increase to the existing risk levels of the TPSTW and neighbouring hazardous facilities. Risk mitigation measures are proposed to further minimize the hazard to life impacts.

3.6.3 Upon implementation of all proposed mitigation measures, no unacceptable hazard to life impacts would arise from the Project.

3.7 Landfill Gas Hazard

3.7.1 The landfill gas hazards posed by the Shuen Wan Restored Landfill to the Project site were qualitatively assessed to be Low to Medium during both construction and operational phases. Key mitigation measures recommended include the provision of safety measures and landfill gas monitoring during the construction phase as well as the adoption of building protection design and safety measures for entry into the confined space during the operational phase. Upon implementation of all proposed mitigation measures, no unacceptable landfill gas hazard would arise from the Project.

3.8 Waste Management Implications

3.8.1 Wastes generated by the Project construction activities would include Construction and Demolition (C&D) materials, excavated sediments, general refuse and chemical waste. Approximately 338,770 m^3 of inert C&D materials would be generated of which 50,810 m^3 would be reused on-site and 287,960 m^3 would be disposed of at designated Public Fill Reception Facility. Approximately 25,850 m^3 of non-inert C&D materials would be generated of which 18,090 m^3 would be recycled and 7,760 m^3 would be disposed of at designated landfill. Approximately 26,200 m^3 of excavated sediments would be generated during construction phase. Based on the results of the chemical and biological screening, approximately 21,800 m^3 of sediment is suitable for Type 1 – Open Sea Disposal (Dedicated Sites), and 4,400 m^3 of sediment requires Type 2 – Confined Marine Disposal in accordance with the requirements of the ETWB TCW No. 34/2002. It is estimated that about 50 litres of chemical waste would be generated per month and collected by licensed chemical waste collector for disposal at licensed chemical treatment facilities. About 260 kg of general refuse would be generated per day and collected by waste collector for disposal of at waste transfer/disposal facilities and then to landfill.

3.8.2 During operational phase, 43 m^3 screenings and grits would be generated at the inlet works per day while 586 m^3 dewatered sludge would be generated from sewage treatment and co-digestion per day. The collected screenings and grits would be disposed of at landfill by a reputable waste collector while the dewatered sludge/digestate would be disposed of at T· Park in Tuen Mun.

3.8.3 Provided that these wastes are handled, transported and reused/disposed of using approved methods and that the recommended good site practices are strictly followed, adverse impacts on waste management during construction and operational phases would not be anticipated.

3.9 Land Contamination

3.9.1 As documented in the Contamination Assessment Plan (CAP) prepared under this EIA, based on the site appraisal, there are areas in the existing TPSTW and the proposed expansion site with potential land contamination concerns. As the existing facilities in all the concerned areas are still in operation and will continue to operate during the EIA stage, further assessment and, if required, remediation works are recommended to be carried out after decommissioning of the concerned facilities / areas but prior to the construction works at the concerned facilities /

areas.

3.9.2 After decommissioning of the existing facilities in the concerned areas of the Project and before commencement of the construction work at these areas, site re-appraisal and preparation of a supplementary CAP covering the whole construction works area of the Project should be undertaken for EPD's approval. Land contamination site investigation should be conducted in accordance with the approved supplementary CAP. A Contamination Assessment Report (CAR) shall be prepared to summarize the results of the SI and confirm the extent of land contamination. If land contamination is identified, a Remediation Action Plan (RAP) shall be prepared to provide details of the proposed remediation methods. Remediation action, if necessary, should be carried out according to EPD's approved RAP(s) and Remediation Report(s) (RR(s)) should be submitted after completion of the remediation action. The RR(s) should be endorsed by EPD prior to the commencement of construction works at the respective identified contaminated areas (if any).

3.9.3 With the implementation of the recommended further works for the Project, any soil/groundwater contamination would be identified and properly treated prior to the construction works. No unacceptable land contamination impacts are therefore anticipated.

3.10 Noise Impact

3.10.1 No existing / committed / planned Noise Sensitive Receivers (NSRs) are identified in the noise impact assessment area. Key noise mitigation measures recommended in the EIA include the adoption of good construction site practices, quieter construction methods (where practicable), quieter and more environmentally friendly construction equipment listed in the EPD website as well as enclosing noise emitting plants (pumps, air blowers, etc.) within building structures during the operational phase. With the implementation of the recommended mitigation measures, no unacceptable noise impacts are anticipated.

4 Environmental Monitoring and Audit (EM&A)

Environmental Monitoring and Audit (EM&A) requirements for air quality impact, water quality impact, ecological impact, fisheries impact, landscape and visual impact, hazard to life, landfill gas hazard, waste management implications, land contamination and noise impact have been recommended. The recommended EM&A programme comprises baseline and impact monitoring for construction and operational phases of the Project to verify the EIA predictions and effectiveness of the recommended mitigation measures. The programme also includes regular environmental site inspections and audits to ensure that the recommended mitigation measures and good site practices are properly implemented. The EM&A requirements are specified and detailed in the separate EM&A Manual.

5 Conclusion

5.1.1 The EIA has identified and assessed the potential environmental impacts during the construction and operation of the Project in accordance with the guidelines of the EIAO-TM and the EIA Study Brief. The EIA has, where appropriate, identified mitigation measures to ensure compliance with environmental legislation and standards. The EIA has concluded that with the implementation of the recommended mitigation measures, no unacceptable residual environmental impacts are envisaged as a result of the construction and operation of the Project.

5.1.2 An EM&A programme has been recommended to monitor the environmental performance of the Project and ensure the mitigation measures recommended would be properly implemented.

大埔工業邨
TAI PO INDUSTRIAL ESTATE

汀角路
TING KOK ROAD

工地範圍
THE SITE

TAI PO

TOLO HARBOUR

索引圖 KEY PLAN
比例 SCALE A1 1 : 25000
A3 1 : 50000

837 500 E

838 000 E

835 500 N

835 000 N

北面閘門
NORTH GATE

南面閘門
SOUTH GATE

大貴街
DAI KWAI STREET

大埔工業邨
TAI PO INDUSTRIAL ESTATE

滲濾污水預先處理廠
Leachate Pre-treatment Works

大埔污水處理廠
TAI PO SEWAGE TREATMENT WORKS

修復後的船灣堆填區
SHUEN WAN RESTORED LANDFILL
Golf Park, Golf Driving Range

大埔海濱公園
Tai Po Waterfront Park

LEGEND:

- PROJECT BOUNDARY
- EXISTING SITE BOUNDARY OF TAI PO SEWAGE TREATMENT WORKS
- PROPOSED UPGRADING WORKS WITHIN EXISTING TAI PO SEWAGE TREATMENT WORKS
- PROPOSED EXPANSION SITE

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Checked
Initial	–	–	–	–
Date	05/20	05/20	05/20	05/20

Approved

Agreement no.
CE 50/2019 (DS)

Project title
UPGRADING OF TAI PO SEWAGE TREATMENT WORKS – INVESTIGATION

Drawing title
PROJECT LOCATION PLAN

Drawing no.
FIGURE 1.1

Revision
–

Scale
A1 1 : 2000
A3 1 : 4000

香港特別行政區政府渠務署
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION DRAINAGE SERVICES DEPARTMENT

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

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