

Appendix 4

Risk Assessment Report on Water Gathering Ground



S16 Planning Application

Proposed Temporary Public Vehicle Park (for Electric Vehicle Only) with Charging Facilities for a Period of 3 Years at Various Lots in DD7, Kau Lung Hang, Tai Po, NT

Risk Assessment Report on Water Gathering Ground

Prepared for:

Wing Lee (Kong Shum) Transportation Limited

20 August 2025

Proposed Temporary Public Vehicle Park (for Electric Vehicle Only) with Charging Facilities for a Period of 3 Years at Various Lots in DD7, Kau Lung Hang, Tai Po, NT Risk Assessment Report on Water Gathering Ground

Prepared for
Wing Lee (Kong Shum) Transportation Limited

For and on behalf of
EnviroSolutions & Consulting

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CONTENTS

1	PROJECT BACKGROUND	1-1
1.1	Introduction.....	1-1
1.2	Objectives of the Report.....	1-1
2	Site Conditions.....	2-1
2.1	Site Description	2-1
2.2	Stormwater Drainage Conditions	2-1
3	Risk Assessment.....	3-1
3.2	Construction Phase	3-1
3.3	Operation Phase.....	3-2
3.4	Waterworks Risk Management	3-3
4	Conclusion	4-1

FIGURES

Figure 1-1	Site Location and its Environs.....	1-2
Figure 1-2	Part Plan of WSD Gathering Grounds Drawings	1-3
Figure 2-1	Site Photographs with Viewpoints.....	2-1

1 PROJECT BACKGROUND

1.1 Introduction

- 1.1.1 In response to government policy encouraging the adoption of Electric Vehicles (“EVs”) and addressing the shortage of parking spaces in rural areas, a Proposed Temporary Public Vehicle Park (“PVP”) for EVs with Charging Facilities (“the Proposed Development”) with a period of three (3) years is planned. The Proposed Development is to be located at Lot Nos. 237 S.E RP, 237 S.F RP, 237 S.G RP, 237 S.H, 237 S.I, 237 S.J RP, 237 S.K RP, 237 S.L RP, 237 S.M, 237 S.O RP and 237 S.P RP in DD7, Kau Lung Hang, Tai Po, New Territories (“the Site”).
- 1.1.2 The Site falls within an area zoned “Agriculture” (“AGR”) zone on the Approved Kau Lung Hang Outline Zoning Plan (“OZP”) No. S/NE-KLN/11. A planning application under Section 16 of the *Town Planning Ordinance* (“TPO”) is required for the Proposed Development.
- 1.1.3 The Site covers an area of approximately 9,064m². It is bounded by drainage channels to the west and east, Mannes Villa to its north and northwest, and Tai Wo Service Road West to the southeast. The site locations and its environs are shown in **Figure 1-1**.
- 1.1.4 Based on a sketch provided by the Water Services Department (“WSD”) via email on 23 April 2025, the Site is located entirely within the Upper Indirect Water Gathering Grounds (“WGG”). The aforementioned sketch is re-provided in **Figure 1-2** for reference.

1.2 Objectives of the Report

- 1.2.1 With reference to Chapter 10 of the *Hong Kong Planning Standards and Guidelines* (“HKPSG”), WGG are designated areas conserved for use as water catchment. The WSD imposes specific requirements to regulate development and land use within WGG. For proper planning and management within WGG, consultation with the WSD is necessary.
- 1.2.2 As mentioned in **paragraph 1.1.4**, the Site lies entirely within the Upper Indirect WGG. To evaluate and mitigate potential risks associated with the construction and operation phases of Proposed Development within the WGG, EnviroSolutions & Consulting Limited (“ESC” or “the Consultant”) has been appointed by the Applicant to prepare this Risk Assessment Report to support the Section 16 Planning Application.

Figure 1-1 Site Location and its Environs

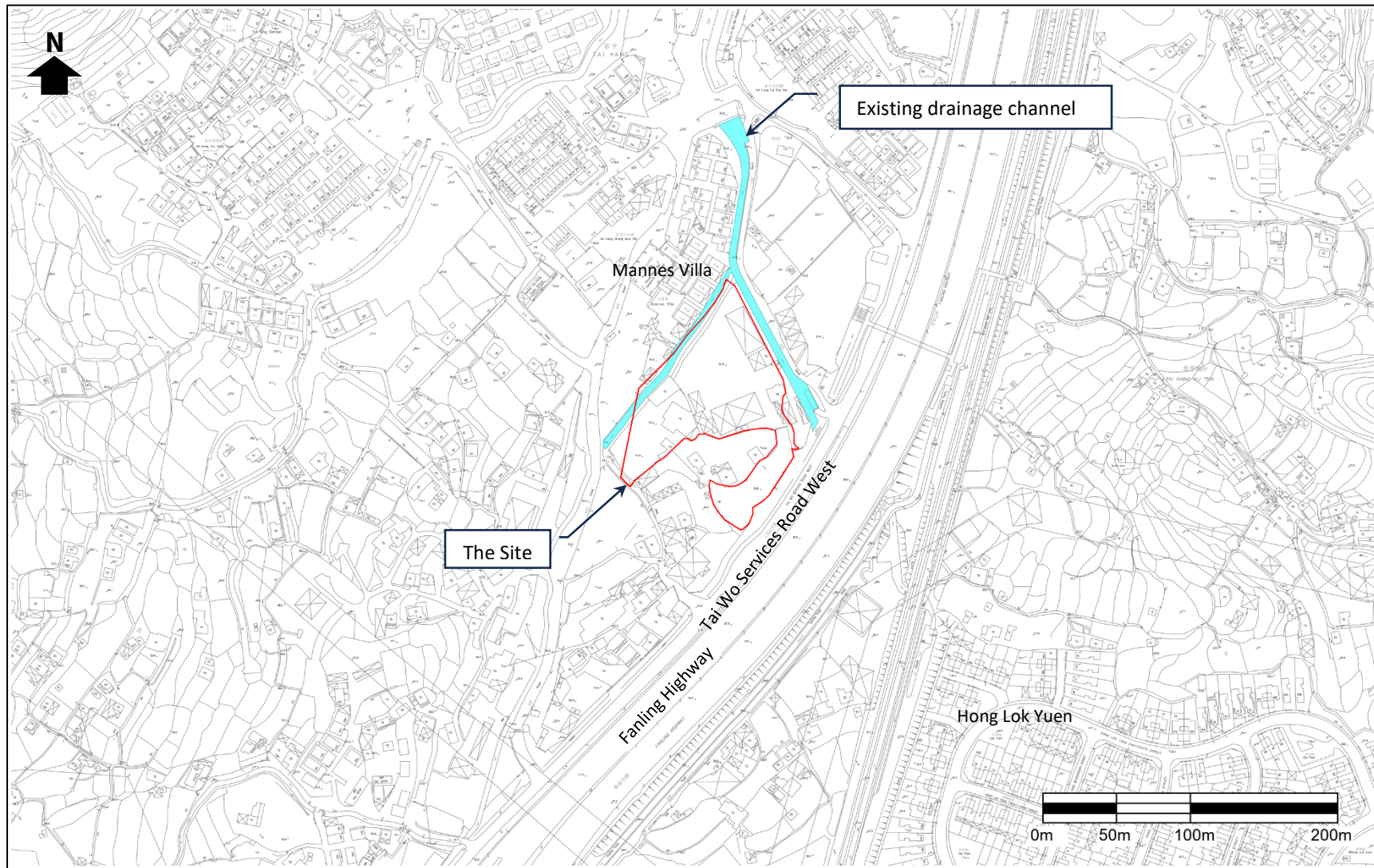
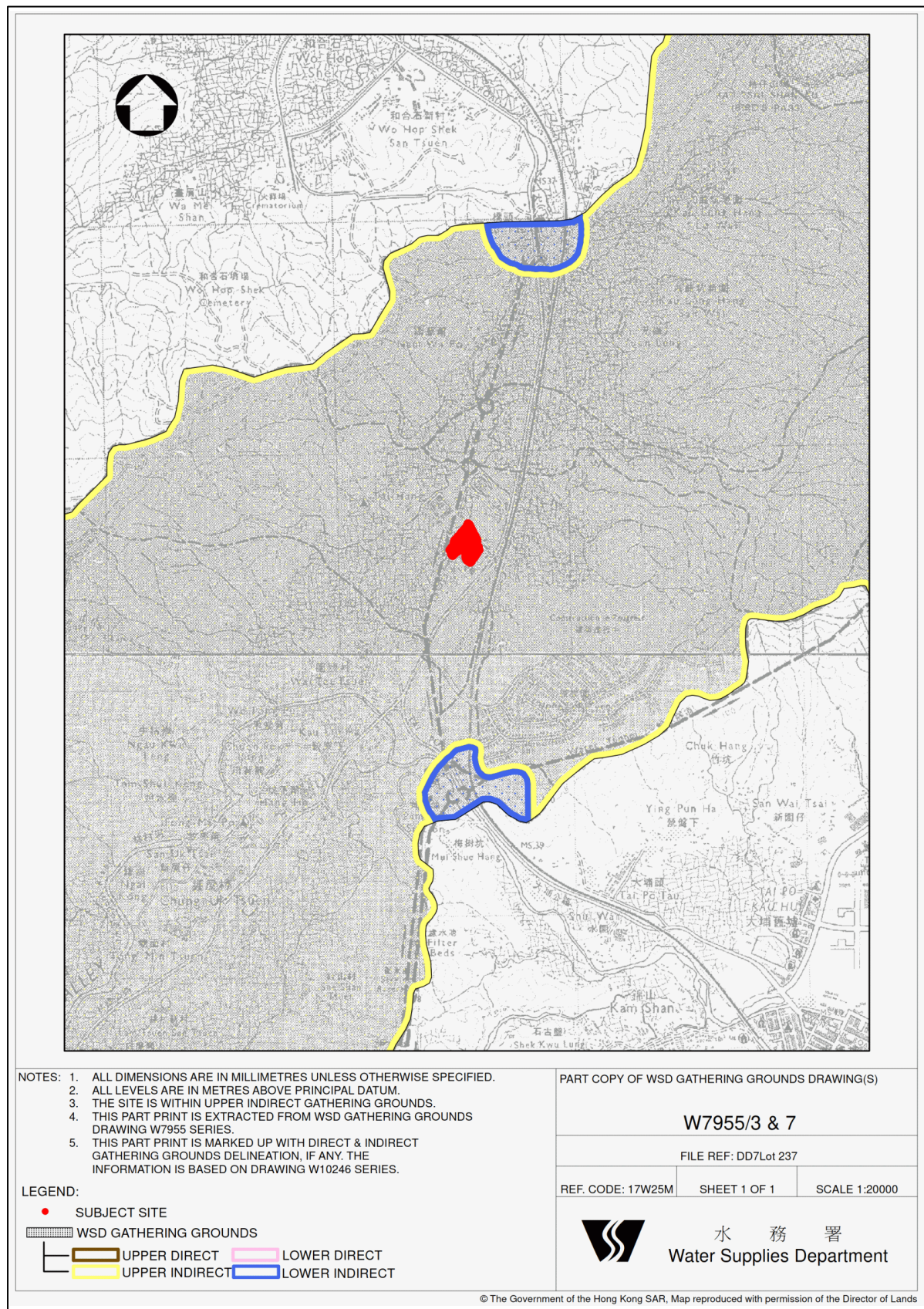


Figure 1-2 Part Plan of WSD Gathering Grounds Drawings



Note: this drawing was provided by WSD via email on 23 April 2025.

2 Site Conditions

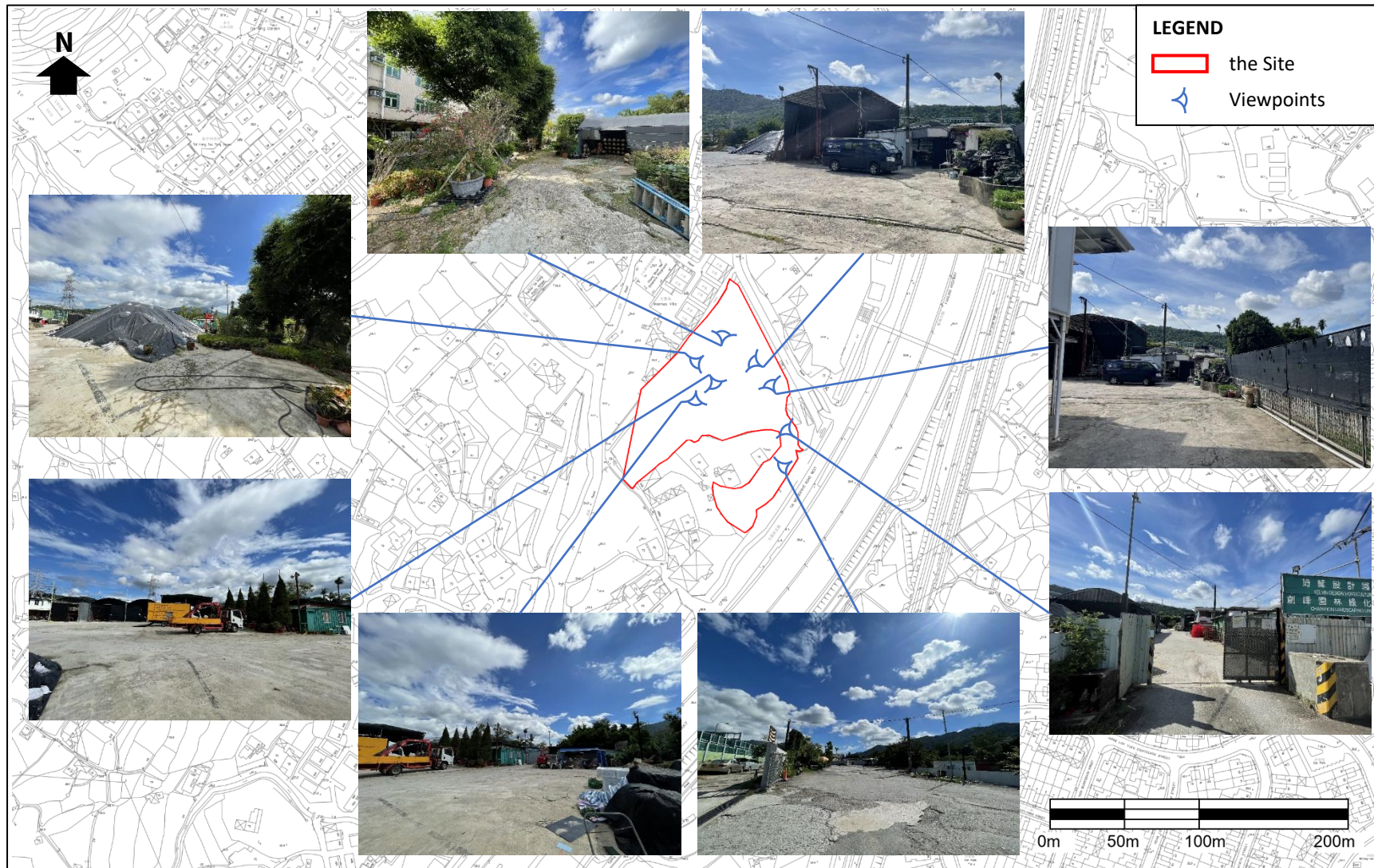
2.1 Site Description

- 2.1.1 The Site is located within a village setting, to the west of Tai Wo Services Road West, where minimal heavy traffic is anticipated. An existing stream course is located in close proximity to the northwest and northeast boundaries of the Site.
- 2.1.2 A site visit was conducted on 10 June 2025 to review the site condition. The Site is located on a flat and concrete paved area which is currently occupied by a landscaping company. Some existing vegetation including trees and shrubs were observed along the northwestern boundary. Site photographs have been provided in **Figure 2-1** for reference.

2.2 Stormwater Drainage Conditions

- 2.2.1 The Site is fully paved with concrete, with some vegetation including trees and shrubs along the northwestern site boundary. As shown on **Figure 1-1**, a portion of the existing drainage channel falls within the northwest lot boundary and no parking spaces will encroach onto the drainage channel. The Proposed Development will not increase the impervious area resulting in any change of the flow pattern and no increase of the surface runoff.
- 2.2.2 Drainage facilities including peripheral surface drains and catchpits will be provided on-site to ensure no adverse drainage impact is anticipated. The surface stormwater runoffs will be collected by the peripheral drainage system. The applicant will maintain such peripheral drainage system properly and rectify the systems throughout the operation.

Figure 2-1 Site Photographs with Viewpoints



3 Risk Assessment

- 3.1.1 This section discusses the potential impact arising from the construction and operation phases of the Proposed Development. Suitable mitigation measures and recommendation have been proposed to refrain from contaminating the WGG and Waterworks.

3.2 Construction Phase

Potential Impact

- 3.2.1 The Site is currently paved with concrete, with some vegetation including trees and shrubs along the northwestern site boundary. No significant excavation works will be anticipated during construction phase. The only construction activities involved in the Proposed Development include erection of associated structures and proposed fence wall along the northwest boundary, and installation of the EV charging facilities, which may involve minor site clearance and excavation works. Muddy runoff generated from the construction activities would be the potential pollution source of water quality.

Proposed Mitigation Measures

- 3.2.2 To minimise the potential adverse impact on the water quality, the construction contractor shall follow good site practices and ensure proper implementation of the mitigation measures as specified in *ProPECC PN 2/24 for Construction Site Drainage*. Key good practices and mitigation measures are summarized below:
- Surface run-off from construction sites should be directed into storm drains via suitable sand/silt removal facilities such as sand traps, silt traps and sediment basins. Temporary construction drainage or earth bunds or sandbag barriers should be provided on site to guide storm water to these silt removal facilities.
 - Construction works should be scheduled so as to minimise soil excavation works during rainy seasons. If soil excavation works could not be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered by tarpaulin.
 - Earthworks final surfaces should be well compacted and the subsequent permanent works or surface protection works should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms.
 - Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar impermeable fabric during rainstorms.
 - Drainage channels (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system.
 - All vehicles and plants should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm water drains.
- 3.2.3 Besides, in order to minimise the potential risk of affecting the WGG, additional mitigation measures will be implemented during the construction phase as follows:

- During erection of the proposed structures and installation of the electrical and charging facilities, no earth and other construction materials which may cause contamination to WGG are allowed to be stockpiled or stored on site.
- All excavated or filled surfaces will be protected from erosion and siltation to any water courses shall be prevented within WGG.
- All construction spoils will be contained and protected; and effluent containing spoils will be disposed of after desilting.

3.3 Operation Phase

Potential Impact

- 3.3.1 During operation phase, the major potential source of impacting on water quality will be runoff from raining. Runoff may cause sources of non-point/diffuse source pollution such as dust, tyre, scraps oil, etc. into the drainage channels. Besides, toilet facilities will be provided for the Proposed Development. Discharge of sewage generated from the visitors will be another potential source of impacting on water quality.

Proposed Mitigation Measures

- 3.3.2 In order to minimise the potential risk arising from the sources identified above, following management mitigation measures will be implemented:
- No discharge of sewage effluent or foul water into adjoining land, storm water drain, channel, stream or river course is allowed. All foul water or sewage effluent will be collected onsite and then disposed of outside the WGG.
 - All solid waste and sludge arising from the Proposed Development will be disposed of properly outside the WGG. A signboard of WSD Standard Drawings WSD 7.66B will be erected at noticeable position for alerting public not to pollute WGG and the management team will provide cleaning to the site on an as-needed basis.
 - The use and storage of pesticides, herbicides, toxicants, chemical solvents, larvicidal oil, rodenticide, tar and petroleum oil are strictly prohibited within the WGG.
 - No chemicals including fertilisers and detergents will be used/stored without the prior approval from the Water Authority.
 - Oil leakage and spillage are not allowed within the WGG at all times. As a contingency measure, oil and grease decontamination kit such as absorbent pads will be made available to decontaminate any possible oil leakage or spillage.
 - Oil tanker will not be allowed to park inside the Proposed Development to avoid oil leakage or spillage in the WGG. A notice will be posted at the entrance of the Site to prohibit oil tanker to enter the Site.
 - The vehicle park, associated facilities and related activities will be located away from any watercourses as far as possible. The toilet facilities will be placed no less than 30m from the nearest watercourse.
 - The generated sewage will be either discharged to the public sewerage system underneath Tai Wo Service Road West, or collected with sewage holding tank for off-site disposal. If the offsite disposal is adopted, the sewage holding tanks will be designed to be leak-proof. Signage for alerting not to pollute WGG should be displayed.

- Fencing will be erected on the sides facing the nearest stream course to trap all wind-blown litters within the Site.
- Site surface should be impermeable to oil and grease as far as practicable. Any soil contaminated with fuel leakage will be immediately removed off site and the voids arising from removal of contaminated soil will be replaced by suitable material to the satisfaction of the Water Authority.
- The Site will be surrounded by kerbs and drains. Drainage traps such as grease traps and petrol interceptors will be installed at each of the drainage outlets and will be under proper maintenance. All such drainage traps will have sufficient capacity to ensure the proper interception and collection of fuel and lubricants in surface run-off for off-site disposal. Proper maintenance and disposal records should be maintained.
- Other than the vehicle parking, any other activities such as on-site vehicle inspection, maintenance, repairing and washing activities will not be allowed in the Proposed Development.
- Operation and maintenance of the vehicle park, associated structures (including switch room, transformer room, control room, tuck shop and toilets) and the charging facilities will not cause any contamination or any leaching of contaminants to the WGG.
- The “*Conditions of Working within Gathering Grounds*” will be complied with.

3.4 Waterworks Risk Management

3.4.1 As the Site is located within the WSD tunnel reserve of Plover Cove Tau Pass Culvert, the following additional conditions should be imposed and followed:

- No blasting, drilling or piling at the Site shall be permitted.
- No well shall be sunk at the Site.
- In prior to carrying out any excavation works, the Purchaser/Grantee shall submit his proposals for such excavation works in writing to the Water Authority for approval in all respects, and shall not carry out any work whatsoever until the Water Authority has given written approval to such excavation work, and shall comply with any requirement of the Water Authority in respect of the said excavation works.
- In the event that as a result or arising out of any development of the Site or any part thereof any subsidence of the ground occurs at any time, the Purchaser/Grantee shall indemnify the Government against all actions, claims and demands arising out of any damage or nuisance to private property caused by such subsidence.

3.4.2 Besides, as part of the Site also encroaches upon the 30m Waterworks Reserve (“WWR”) for Tai Po Tau & Tau Pass, the following conditions shall also be imposed:

- No structure shall be erected over this WWR and such area shall not be used for storage purposes except with the prior written consent of the Water Authority.
- No tree planting shall be permitted within the WWR except with the prior written consent of the Waterworks Authority.
- For the protection of the existing Government water mains, no blasting or pile driving works shall be carried out within the WWR except with the prior written consent of the Water Authority.

- The grantee/applicant shall indemnify and keep indemnified the Government from and against all liability, damages, expenses, claims, costs, demands, charges, actions and proceedings of whatsoever nature the grantee/applicant, his servants, workmen and contractors in connection with any damage to the existing Government water mains.
 - The Water Authority and his officers and contractors, his or their workmen shall have free access at all times to the said area with necessary plant and vehicles for the purpose of laying, repairing and maintenance of water mains. All other services across, through or under the WWR are required to seek authorization from the Water Authority.
 - Government shall not be liable to any damage whatsoever and howsoever caused arising from burst or leakage of the public water mains within and in close vicinity of the site.
- 3.4.3 Besides, as advised by WSD, existing water mains were observed inside the Site and will be affected by the Proposed Development. The applicant will either divert or protect the water mains found on site, where appropriate.
- 3.4.4 If diversion is required, the existing water mains would be diverted outside the site boundary of the Proposed Development and to lie in Government land. A strip of land of minimum 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request will have to be borne by the grantee/applicant; and the applicant shall submit all the relevant proposal to WSD for consideration and agreement before commencement of the works.
- 3.4.5 If diversion is not required, the following conditions shall be met:
- Existing water mains are affected as indicated on the site plan and no development which requires resiting of water mains will be allowed.
 - Details of site formation works shall be submitted to the Director of Water Supplies for approval prior to commencement of works.
 - No structures shall be built or materials stored within 1.5m from the centre line(s) of water main(s) shown on the plan. Free access shall be made available at all times for staff of the Director of Water Supplies or their contractor to carry out construction, inspection, operation, maintenance and repair works.
 - No trees or shrubs with penetrating roots may be planted within the WWR or in the vicinity of the water main(s) shown on the plan. No change of existing site condition may be undertaken within the aforesaid area without the prior agreement of the Director of Water Supplies. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barrier must extend below the invert level of the pipe.
 - No planting or obstruction of any kind except turfing shall be permitted within the space of 1.5 metres around the cover of any valve or within a distance of 1 metre from any hydrant outlet.
 - Tree planting may be prohibited in the event that the Director of Water Supplies considers that there is any likelihood of damage being caused to water mains.

4 Conclusion

- 4.1.1 A risk assessment has been conducted to evaluate potential risk arising from the Proposed Development. To minimize the potential risk to the WGG, appropriate mitigation measures will be implemented to ensure that the Proposed Development will not cause any contamination and leaching of contaminants to the WGG.
- 4.1.2 The assessment concludes that there is no material increase in pollution effect resulting from the Proposed Development. Therefore, no adverse impact on the WGG is anticipated.



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