

**Construction of Cycle Tracks
and the associated Supporting Facilities
at Nam Sang Wai, Yuen Long**

Project Profile

(prepared in accordance with
the Environmental Impact Assessment Ordinance (Cap. 499))

January 2008

Civil Engineering and Development Department

Project Profile

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Nam Sang Wai, Yuen Long

1. BASIC INFORMATION

1.1 *Project Title*

1.1.1 The project is entitled “Construction of Cycle Tracks and the associated Supporting Facilities at Nam Sang Wai, Yuen Long” which forms part of the PWP no. 265RS of title “Cycle Tracks connecting North West New Territories with North East New Territories - extension”.

1.2 *Purpose and Nature of Project*

1.2.1 The purpose of the project is to construct cycle track at Nam Sang Wai, Yuen Long with provision of supporting and recreation facilities. The cycle track is intended primarily for recreational use and is thus considered as a recreational development. The proposed cycle tracks are 8.5 kilometres long with minimum width 3.5 m.

1.3 *Name of Project Proponent*

1.3.1 The project proponent is the New Territories North and West Development Office of Civil Engineering and Development Department, Government of the Hong Kong Special Administrative Region.

1.4 *Location and Scale of Project and History of Site*

1.4.1 The location and scope of the Project includes the following:

1.4.2 Construction of new cycle track sections at Nam Sang Wai, Yuen Long.

1.4.3 Construction of associated supporting facilities which include 1 Resting Place.

1.4.4 Associated streetscape, landscape, utilities diversions, traffic aids installation, street lighting, water, sewerage and drainage works.

1.4.5 Provision of environmental mitigation measures.

1.4.6 The alignment of the proposed cycle track with associated supporting facilities is shown in Figure 1.

1.5 Number and Types of Designated Projects to be Covered by the Project Profile

- 1.5.1 This Project Profile covers a single Designated Project (DP).
- 1.5.2 The project is a Designated Project under Items P.1 and Q.1 of Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO), since it is a recreational development and a portion of the construction works falls within the Deep Bay Buffer Zone 2, and also within a Conservation Area defined in the Nam Sang Wai Outline Zoning Plan (OZP) S/YL-NSW/8.
- 1.5.3 The relevant items from Schedule 2 of the EIAO are as follows:
- “P.1: A residential or recreational development, other than New Territories exempted houses within Deep Bay Buffer Zone 1 or 2.”
- “Q.1: All projects including new access roads, railways, sewers, sewage treatment facilities, earthworks, dredging works and other building works partly or wholly in an existing or gazetted proposed country park or special area, a conservation area, an existing or gazetted proposed marine park or marine reserve, a site of cultural heritage, and a site of special scientific interest, ...”
- 1.5.4 The section which is classified as a Designated Project, as highlighted on Figure 1, is therefore considered under this Project Profile.

1.6 Name and Telephone Number of Contact Person

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2. OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

2.1 *Project Implementation*

2.1.1 The project will be implemented under the public works programme by CEDD. The investigation (I), design and construction supervision (DC) will be carried out under two Consultancy Agreements, one to undertake the I including environmental impact assessment (EIA) and the other to undertake the DC. The works will be carried out by CEDD's appointed contractor.

2.2 *Project Programme*

2.2.1 The works are scheduled to commence in mid 2011 and will be completed by mid 2015.

2.3 *Interactions with Other Projects*

2.3.1 The project will not interface with any other project which is classified as a Designated Project.

3. POSSIBLE IMPACTS ON THE ENVIRONMENT

3.1 Construction Phase

Air Quality

- 3.1.1 Any construction air quality impacts would be primarily due to dust generated by earthworks and vehicle movement. The magnitude of the impacts depend on the type of works to be carried out, and the distance to the sensitive receiver. The duration of the impacts would be relatively short, and likely to be in the region of several months only.

Noise

- 3.1.2 Noise impacts during construction would be primarily due to the use of powered mechanical equipment (PME). The magnitude of the impacts depends on the type of works (and hence type of plant required), and the distance to the sensitive receiver.

Water Quality

- 3.1.3 Water quality impacts during construction may occur due to run-off from site, or from other releases to the aquatic environment. Any such impacts are likely to be of short duration, but have the potential to be of significant magnitude.

Waste Management

- 3.1.4 Waste arising from construction will largely consist of spoil generated during earthworks, and general construction waste/surplus materials from the formation of structures and pavements. Due to the limited scale of the construction works, such impacts are unlikely to be significant.

Ecology and Fisheries

- 3.1.5 Construction works have the potential to generate some noise, dust and releases to water. Mitigation measures will be put in place to minimise these impacts. The most potentially significant impact would be disturbance to nesting, feeding and roosting birds at Nam Sang Wai, and alongside Kam Tin River and Shan Pui River. These impacts will be addressed in detail in the EIA report.
- 3.1.6 Potential impacts caused by excavation and formation of the section of cycle track from Fung Ka Wai to Tin Shui Wai.

Landscape and Visual Impacts

- 3.1.7 The works associated with the cycle track formation are relatively minor, and hence the landscape and visual impacts are not expected to be of a high magnitude. Earthworks and construction of retaining structures will be confined to those areas adjacent to existing roads, and hence the landscape and visual impacts will be small in scale and of short duration.
- 3.1.8 In many places, the cycle track runs alongside roads where there are many trees. These trees vary from recently planted landscaping works, to relatively large mature specimens. A detailed tree survey and felling plan will be prepared as part of the Environmental Impact Assessment.

Cultural Heritage

- 3.1.9 No impacts on cultural heritage resources during construction are predicted.

Hazard to Life

- 3.1.10 None of the portions of the cycle track pass within the Consultation Zone of any potentially hazardous installation, and hence no significant hazard to life is predicted.

3.2 **Operational Phase**

Air Quality

- 3.2.1 The project has no source of air emission. However, a resting place will be located close to Nam Sang Wai Road. The associated local air quality impacts upon cyclists staying there due to vehicular emissions should be addressed in the Environmental Impact Assessment.

Noise

- 3.2.2 Since cycles are not significant generators of noise, operation noise is therefore not considered to be significant. However, a resting place will be located close to Nam Sang Wai Road. The associated local noise impacts upon cyclists staying there due to vehicular noise emissions should be addressed in the Environmental Impact Assessment.

Water Quality

- 3.2.3 Operational impacts may include permanent impacts due to, for example, changes in surface run-off resulting from the works. However, due to the limited scale of the construction works, such impacts are unlikely to be significant.

Waste Management

- 3.2.4 Relatively small quantities of municipal waste will be generated by users of the cycle track. This will be similar in composition to domestic waste, and will likely comprise mainly food waste and packaging. The waste will be concentrated in areas where cyclists are encouraged to stop, i.e. at the supporting facilities.

Ecology and Fisheries

- 3.2.5 Where the cycle track runs alongside Kam Tin River and Shan Pui River, the route follows the existing access road. The cycle track will be 3.5m in width and constructed adjacent to the existing access road. The vegetation in this area comprises a recent landscaping planting belt, of up to 10m width. This habitat is man-made, of recent origin, and readily recreatable. It is considered likely to be of low ecological value. No filling of fish ponds is required.
- 3.2.6 Potential impacts include those on the ecology of the Deep Bay wetlands, on the sensitive water resources within the Deep Bay Area.

Landscape and Visual Impacts

- 3.2.7 The cycle track itself is not a visually intrusive feature, since it is constructed at ground level and will not include massive structures or tall vertical elements.
- 3.2.8 Potential impacts on plantation area provided under PWP Item 7060CD Main Drainage Channels for Yuen Long and Kam Tin, Stage I.
- 3.2.9 In many places, the cycle track runs alongside roads where there are many trees. These trees vary from recently planted landscaping works, to relatively large mature specimens. A detailed tree survey and felling plan will be prepared as part of the Environmental Impact Assessment.

Cultural Heritage

- 3.2.10 No operational impacts on cultural heritage resources are expected.

Hazard to Life

- 3.2.11 None of the portions of the cycle track pass within the Consultation Zone of any potentially hazardous installation, and hence no significant hazard to life is predicted.

4. MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

Surrounding Environment including Existing and Planned Sensitive Receivers

4.1 *Air Quality*

4.1.1 Air quality sensitive receivers (ASR) include domestic premises, hotels, hostels, hospitals, clinics, nurseries, temporary housing, schools and other educational institutions, factories, shops, places of worship, libraries, law courts, sports stadiums and performing arts centres. There are few air quality sensitive receivers in the surrounding environment.

4.2 *Noise*

4.2.1 Noise sensitive receivers (NSR) include domestic premises, educational institutions, hospitals and other medical institutions, places of worship, libraries, law courts, performing arts centres and auditoria. There are few noise quality sensitive receivers in the surrounding environment.

4.3 *Water Quality*

4.3.1 The main water quality sensitive receivers in the vicinity of the section which is classified as a Designated Project are:

- Kam Tin River and Shan Pui River;
- Fishponds and bodies of open water, collectively forming a Wetland Conservation Area;

4.3.2 The main rivers are channelised and highly engineered. According to EPD's Annual River Water Quality Report for 2004, the annual average water quality in these rivers as indicated at the nearest monitoring station is as follows:

Watercourse	Water Quality (2004)
Kam Tin River	Station KT1: Bad; Station KT2: Very Bad

4.3.3 Water quality data is not readily available for the fishponds and other open water habitats within the Wetland Conservation Area. However, previous EIA report¹ has indicated that the water quality in these fishponds is likely to be reasonably good.

4.4 *Ecology and Fisheries*

4.4.1 The following ecological sensitive receiver have been identified in proximity to the cycle track and supporting facilities along the section.

Sensitive Receiver
Fishponds and other water bodies within Deep Bay Buffer Zone

4.4.2 The high ecological value of wetlands adjacent to the Mai Po Ramsar site in the Northwest and Northern New Territories was highlighted in a study and subsequent report on the Ecological Value of Fish Ponds in Deep Bay Area (The Fishpond Study. Aspinwall, 1997). The Fishpond Study recommended an area of fishponds and other wetlands in the North New Territories be designated as a Wetland Conservation Area (WCA). A buffer zone (the Wetland Buffer Area, WBA) of 500m was recommended to be established around the conservation area. These recommendations were incorporated into town planning board guidelines (TPB PG-No. 12B). The purpose of these two zones can be summarised as follows:

4.4.3 Wetland Conservation Area: Aside from essential infrastructure works, no development detrimental to wetland habitats should be permitted within the WCA. Any

essential works carried out in the WCA must comply with a “no net loss of wetland” policy. Any loss of wetland area or function will require compensatory habitat creation/enhancement.

- 4.4.4 Wetland Buffer Area: Although development is allowed in the WBA, ecological impact assessments should be conducted for any proposal to demonstrate the development would not result in loss of ecological function of WCA (i.e., the development would not disturb avifauna and other wildlife utilising fishponds in WCA).
- 4.4.5 Conservation Area: Part of the alignment falls within a Conservation Area which attracts a number of birds, especially during the winter. The construction and operation of the cycle track in the Conservation Area may cause disturbance effects, for example construction noise and noise caused by cyclists during operation. The likely magnitude of such impacts and possible mitigation measures will be considered as part of the EIA Study, in accordance with Section 5.4.1 Annex 16 of the Technical Memorandum on Environmental Impact Assessment Process.

4.5 Landscape and Visual

- 4.5.1 One of the attractions of the cycle track is that it offers the opportunity for cyclists to experience the many different types of landscape within the New Territories.
- 4.5.2 The section of cycle track may fall within the landscape works established by PWP Item 7060CD Main Drainage Channels for Yuen Long and Kam Tin, Stage I, in particular along Nam Sang Wai Road and Yau Pok Road.

Sensitive Receivers

- 4.5.3 Certain landscapes are particularly sensitive to change and may be degraded by the intrusion of features which are not in keeping with the existing character. Other landscape types are less liable to degradation, since they may already comprise a wide mixture of features of differing types. Within the area covered by this project, the following landscapes are judged to be particularly sensitive to change.

Rural Coastal Plain - Deep Bay Wetlands

- 4.5.4 The presence of numerous fishponds with only small areas of land between them, and the absence of significant vertical elements gives this landscape a unique value within Hong Kong. This landscape is sensitive to change, and any changes such as filling in fishponds or construction of large vertical structures would rapidly diminish the character of this area.

4.6 Cultural Heritage

- 4.6.1 This section of the Cycle Tracks which is classified as a Designated Project does not pass directly through any known archaeological site, and will not have any direct impacts on any designated monuments or graded historical buildings.

4.7 Hazard to Life

- 4.7.1 This portion of the Cycle Tracks does not pass within the Consultation Zone of any potentially hazardous installations, nor does it lie within the Consultation Zone of any closed or active landfill site.

¹ EIA-014/1999: Main Drainage Channels and Poldered Village Protection Schemes for San Tin, NWNT EIA Study

5. ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED IN THE DESIGN AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS

5.1 *Construction Phase*

Air Quality

5.1.1 In order to prevent adverse impacts on air quality, the following mitigation measures will be put in place.

- Stockpiles of dusty material will not extend beyond site boundaries.
- In the process of material handling, any material which has the potential to create dust will be treated with water or sprayed with a wetting agent where practicable.
- Any vehicle with an open load compartment used for transferring dusty materials off-site will have properly fitted side and tail boards.
- Stockpiles of sand and aggregate will be enclosed on three sides and water sprays will be used to dampen stored materials and when receiving raw material.
- The site will be frequently cleaned and watered to minimise fugitive dust emissions.
- Motorised vehicles will be restricted to a maximum speed of 8km/hr and shall be confined to designated haul roads which will be surfaced with hardcore.

Noise

5.1.2 If construction works are to be carried out during restricted hours (i.e. between 1900 – 0700 hours on weekdays and Saturdays, or at any time during Sundays and Public Holidays), the contractor will be required to apply for a Construction Noise Permit (CNP) under the Noise Control Ordinance, prior to execution of construction works.

5.1.3 In order to prevent adverse noise impacts, the following general mitigation measures will be put in place.

- Plant operated on site should be well maintained and serviced regularly.
- Subject to such working constraints as power supply, safety and obstruction of proposed works, mobile plant will be sited as far away from the nearby NSRs as practicable.
- Noisy activities will be planned and scheduled to be undertaken during appropriate time periods to minimise potential noise impacts at nearby NSRs. Noisy construction activities will be scheduled to take place at noise-tolerant time periods (e.g. lunch time).
- Materials stockpiles and other massive structures (such as temporary site offices) will be effectively utilised, where possible, to screen noise from construction activities.
- Noisy plant or processes will be replaced by quieter alternatives where possible. For instance, silenced diesel and gasoline generators and power units, as well as silenced and super-silenced air compressors will be selected for use, also, dump trucks may be replaced by quieter lorries.
- Where necessary, noise barriers and enclosures will be employed to minimise noise impact to NSRs.

Water Quality

- 5.1.4 In order to prevent adverse impacts on water quality, the following general mitigation measures will be put in place.
- Surface run-off from the construction sites will be directed into storm drains via adequately designed wastewater treatment facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers will be provided on site to properly direct stormwater to such facilities.
 - Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
 - Open stockpiles of materials on site will be avoided or where unavoidable covered with tarpaulin or similar fabric during rainstorms. Measures will be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
 - Manholes (including any newly constructed ones) will always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system.
 - Where possible, works entailing soil excavation will be minimised during the rainy season (April to September).
 - Final earthworks surfaces will be well compacted and hydroseeded following completion to prevent erosion.
 - All vehicles and plant will be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads.
 - During construction works, chemical toilets will be provided for the use of site staff. These will be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of the effluent.
 - All fuel tanks and chemical storage shall be sited on sealed areas and provided with locks. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. Drainage from oil filling points and any areas where fuels and lubricants are used will be connected to storm drains via a petrol interceptor.

Waste Management

- 5.1.5 Waste arising from construction will largely consist of spoil generated during earthworks, and general construction waste/surplus materials.
- 5.1.6 As the overall volume of excavation is low, it is intended that the majority of excavated material would be reused in site formation works.
- 5.1.7 Inert construction and demolition (C&D) waste will be stored separately. Any part which cannot be reused in the works will be transported to a Public Fill Bank or Barging Point for other beneficial reuses.
- 5.1.8 The following specific measures will be implemented to reduce the quantities of C&D waste material that will require landfill disposal:
- Use waste haulier authorised or licensed to collect specific category of waste;

- Waste haulier should obtain the necessary registration and licences under the Waste Disposal Ordinance and the Waste Disposal (Chemical Waste) (General) Regulation from the Environmental Protection Department;
- Nomination of an approved person, such as a site manager, to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;
- Training of site personnel in proper waste management and chemical waste handling procedures;
- Provision of sufficient waste disposal points and regular collection for disposal;
- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Separation of chemical wastes for special handling and appropriate treatment at a licensed facility;
- Regular cleaning with maintenance programme for drainage systems, sumps and oil interceptors;
- A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites);
- In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills, and control fly-tipping, a trip-ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material".
- A Waste Management Plan (WMP) shall be prepared and this WMP shall be submitted to the Engineer for approval. The WMP will be in accordance with WBTC No. 19/2005.
- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- To encourage collection of aluminium cans, paper waste and plastic bottles by individual collectors, separate labelled bins shall be provided to segregate this wastes from other general refuse generated by the work force;
- Any unused chemicals or those with remaining functional capacity shall be recycled;
- Use of reusable non-timber formwork to reduce the amount of C&D material; and
- Proper storage and site practices to minimise the potential for damage or contamination of construction materials.

Ecology and Fisheries

- 5.1.9 The mitigation measures that are to be put in place to minimise the impacts on air quality, noise and water quality will also help to minimise any impacts on ecology and fisheries resources. Potential impacts will be evaluated under the detailed EIA Study.

Landscape and Visual Impacts

- 5.1.10 A detailed tree survey will be carried out as part of the detailed design and EIA. The design will be modified to include or avoid existing trees where feasible. Landscape planting will be incorporated.

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- 5.1.11 The design will be modified to avoid affecting the plantation area completed under PWP Item 7060CD Main Drainage Channels for Yuen Long and Kam Tin, otherwise compensation will be incorporated.

Cultural Heritage

- 5.1.12 No impacts are predicted and hence no specific mitigation measures are required.

Hazard to Life

- 5.1.13 No impacts are predicted and hence no specific mitigation measures are required.

5.2 Operational Phase

Air Quality

- 5.2.1 No air quality impacts are predicted during the operation phase and hence no specific mitigation measures are required. No significant increase in road traffic is anticipated.

Noise

- 5.2.2 No noise impacts are predicted during the operation phase and hence no specific mitigation measures are required. No significant increase in road traffic noise is predicted.

Water Quality

- 5.2.3 No water quality impacts are predicted during the operation phase and hence no specific mitigation measures are required.

Waste Management

- 5.2.4 Waste collection facilities (e.g. litter bins) will be included in the design of the supporting facilities, and at regular intervals along the route. The Government Department responsible for managing the facilities will be responsible for arranging for regular collection of litter from these facilities. Due to the nature of the activities, it is likely that a significant proportion of the waste generated may be drinks containers. Separate collection bins will be provided for plastic drinks bottles and drinks cans, which will facilitate recycling of these waste streams.

Ecology and Fisheries

- 5.2.5 Further measures to enhance habitats within the Deep Bay Buffer Zone as part of the development will be examined under the detailed EIA Study.

Landscape and Visual Impacts

- 5.2.6 A detailed tree survey will be carried out as part of the detailed design and EIA. The design will be modified to include or avoid existing trees where feasible. Landscape planting will be incorporated.

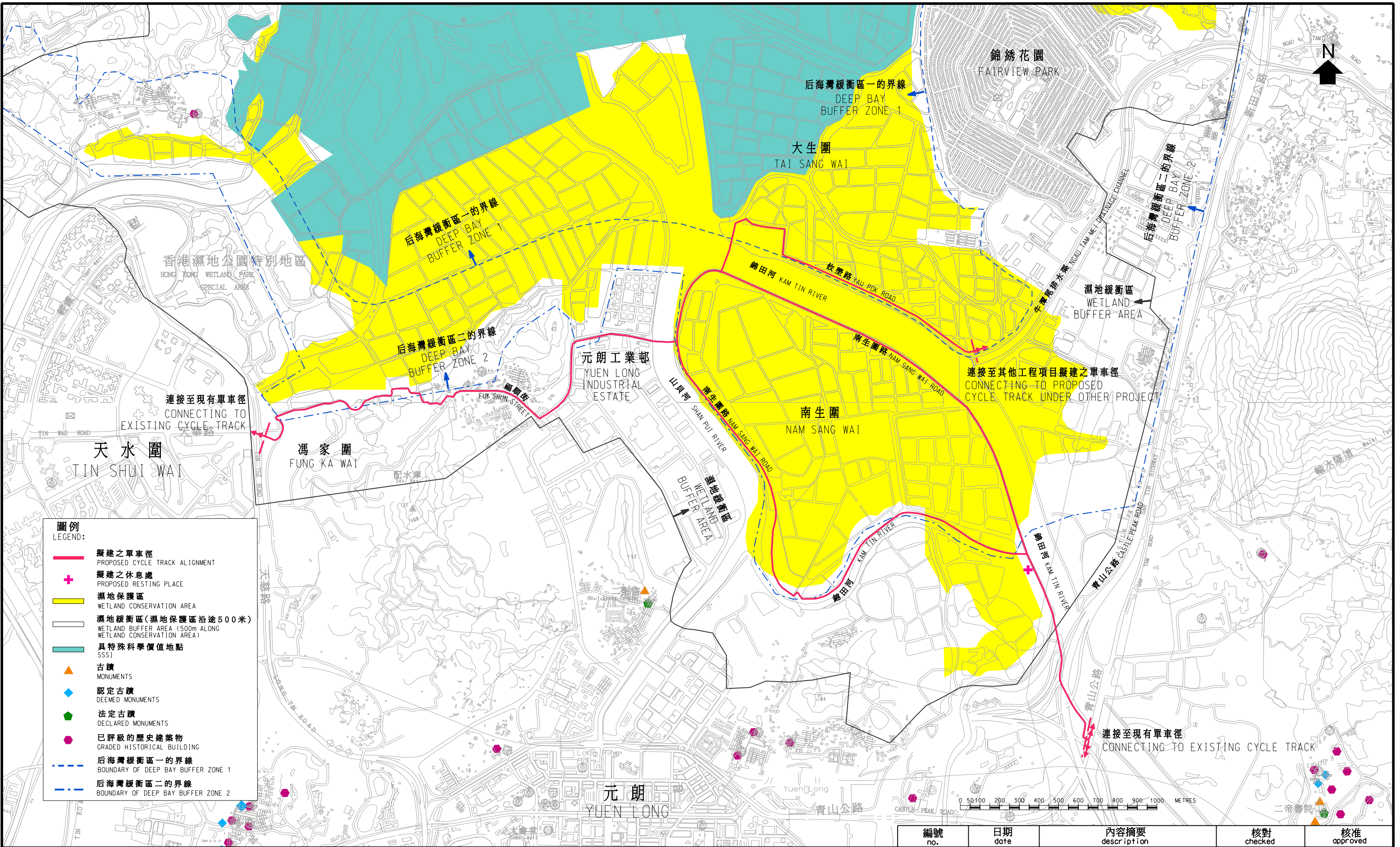
- 5.2.7 The design will be modified to avoid affecting the plantation area completed under PWP Item 7060 CD Main Drainage Channels for Yuen Long and Kam Tin, otherwise compensation will be incorporated.

Cultural Heritage

- 5.2.8 No impacts are predicted and hence no specific mitigation measures are required.

Hazard to Life

- 5.2.9 No impacts are predicted and hence no specific mitigation measures are required.



編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
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修訂 REVISION

繪圖 drawn	簽署 initial	日期 date	項目編號 item no.
Y C LAM		01 11 2007	
核對 checked	簽署 initial	日期 date	比例 scale
K W DOO		01 11 2007	
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.
			圖一 FIGURE 1

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圖則名稱 drawing title
元朗南生圍單車徑及相關輔助設施的建造工程
 CONSTRUCTION OF CYCLE TRACKS AND THE ASSOCIATED SUPPORTING FACILITIES AT NAM SANG WAI, YUEN LONG