Housing Sites in Yuen Long South

Project Profile

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

May 2012

Civil Engineering and Development Department

Project Profile

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List of Drawings

1. BASIC INFORMATION

1.1 Project Title

1.1.1 Housing Sites in Yuen Long South

1.2 Purpose and Nature of Project

1.2.1 The Project comprises housing sites in Yuen Long south (YLS) and the associated infrastructure works. Housing sites for public and private housing developments would be identified in the Potential Development Areas (PDAs) in YLS as shown on Drawing No NTWZ1465. The associated infrastructure works would include the necessary slope works, road works, sewerage works, drainage works, waterworks, utility works, etc. within or outside the PDAs for serving the proposed public and private housing developments.

1.3 Name of Project Proponent

1.3.1 New Territories North and West Development Office (NTN&WDevO), Civil Engineering and Development Department (CEDD) of the Government of HKSAR.

1.4 Location and Scale of Project and History of Site

1.4.1 At present, YLS, comprising the rural land south of Yuen Long Highway, is generally characterised by haphazard low-density housing, informal industrial activities and open storage. Being located in proximity to Yuen Long, Tuen Mun and Tin Shui Wai new towns and the future new development area in Hung Shui Kiu, as well as connected with the urban areas by strategic road links, including Route 3 and Yuen Long Highway, the area has the potential to accommodate more housing developments with higher development intensity. More intensive housing development in the area, however, is constrained by inadequate supporting infrastructure, including roads, drainage, sewerage, water supply and utilities.

1.4.2 The 2011-12 Policy Address announced that the Administration would explore the possibility of converting into housing land some 150 hectares of agricultural land in North District and Yuen Long currently used mainly for industrial purposes or temporary storage, or which is deserted. We therefore propose to carry out a planning and engineering study (P&E Study) to review the development potential of the area in YLS, mainly the PDAs shown on Drawing No. NTWZ1465, with a view to identifying housing sites in the PDAs for private and public housing purposes with associated infrastructure works. The total area of

the PDAs shown on the drawing is about 200 hectares. The location and extent of the PDAs and study area shown on the drawing are tentative. During the course of the study, the consultants would take into account all public comments received and adjust/revise the location and/or extent of the PDAs and study area as necessary.

1.4.3 The works for the Project include site formation works and building works within the PDAs and the associated infrastructure works, which would include the necessary slope works, road works, sewerage works, drainage works, waterworks, utility works, etc. within or outside the PDAs for serving the proposed public and private housing developments . The scope and details of the associated infrastructure works would be identified and confirmed in the P&E Study.

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

1.5.1 A P&E Study will be carried out for the housing sites in YLS. As the total area of the PDAs is about 200 hectares , the P&E Study will be a Designated Project under Schedule 3 of the Environmental Impact Assessment Ordinance (EIAO), i.e. "Engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100,000".

1.5.2 Moreover, the following elements of the Project, which are/may be proposed under the P&E Study and are classified as Designated Projects under Schedule 2 of the EIAO, are also included in this Project Profile :-

(i) New district distributor roads and/or major improvements to existing roads [under Schedule 2, Part I, A.1];

(ii) Road bridges more than 100 m in length between abutments [under Schedule 2, Part I, A.8];

(iii) Fully enclosed roads more than 100 m in length [under Schedule 2, Part I, A.9];

(iv) Sewage Treatment Works with capacity of more than 5,000 m^3/d [under Schedule 2, Part I, F.2];

(v) Sewage Pumping Stations with capacity of more than 2000m^3/d [under Schedule 2, Part I, F.3]; and

(vi) A drainage channel or river training and diversion works less than 300 m from the nearest boundary of an existing or planned site of cultural heritage and/or conservation area [under Schedule 2, Part I, I.1].

1.6 Name and Telephone Number of Contact Person

1.6.1 All queries regarding the Project can be addressed to :

Mr TANG Kam-fai (Chief Engineer/NT2)
New Territories North and West Development Office,
Civil Engineering and Development Department,
26/F Tsuen Wan Government Offices,
38 Sai Lau Kok Road,
Tsuen Wan, New Territories.
Tel : 2417 6332
Fax : 2412 0358

2. OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

2.1 Project Implementation

2.1.1 A P&E Study will be carried out to review the development potential of the area in YLS, mainly the PDAs shown on Drawing No. NTWZ1465, with a view to identifying housing sites in the PDAs for private and public housing purposes with associated infrastructure works. Different development options will be formulated and evaluated and a preferred option will be recommended. The feasibility of implementing the preferred option and necessary infrastructure will be confirmed by carrying out feasibility assessments on all relevant aspects of environment, traffic, landscape and visual, etc. Preliminary engineering design and site investigation will be carried out and the implementation strategies and programme will be formulated. The environmental impact assessment (EIA) to be carried out for the preferred option under the P&E Study is the subject EIA of this Project Profile.

2.1.2 The Project Proponent NTN&WDevO of CEDD or other parties, which will be subject to the final recommendations of the P&E Study, will be responsible for implementing the proposed works, together with all the environmental mitigation measures, the environmental monitoring and audit requirements as specified in the approved Environmental Impact Assessment (EIA) Report of this Project.

2.1.3 Specialist Environmental Consultants will be employed by CEDD through the main Consultants of the P&E Study for undertaking the EIA study according to the Study Brief to be issued by the Director of Environmental Protection and to respond on behalf of the Project Proponent on issues related to the EIA.

2.1.4 Subject to the findings of the P&E Study, the construction works of the proposed site formation, public housing development, government, institution and community facilities and the associated infrastructure works for serving the housing developments may be carried out in phases by contractors to be appointed by the Government under various works contracts.

2.2 Project Time Table

2.2.1 The P&E Study, including the EIA study, is anticipated to commence in late 2012 for completion within a study period of approximately 30 months. Outline implementation programme will be formulated under the P&E Study.

2.3 Interactions with Other Projects

2.3.1 The Project may have interaction with the following projects. This list should be re-visited during the EIA study to ensure all the latest projects available from the respective stakeholders are incorporated.

(i) Review Studies on Hung Shui Kiu New Development Area;

(ii) Land Use Review for Kam Tin South;

(iii) Study on Greening Master Plans for New Territories North West;

(iv) Yuen Long and Kam Tin Sewerage and Sewage Disposal;

(v) Yuen Long and Kam Tin Sewerage Treatment Upgrade - Upgrading of San Wai Sewage Treatment Works;

(vi) Yuen Long South Sewerage and Expansion of Ha Tsuen Sewage Treatment Works;

(vii) Review of Drainage Master Plans in Yuen Long and North Districts – Feasibility Study;

(viii) River Flood Risk Study - Stage 1; and

(ix) Pressure Management and District Metering for the Fresh Water Distribution Systems of the Kowloon East, Sha Tin, Yuen Long, Sheung Shui & Fanling and Islands Major Supply Zones – Investigation.

2.3.2 The EIA study of the Project will consider the cumulative environmental effects of these projects on the proposed housing developments the associated infrastructure.

3. POSSIBLE IMPACTS ON THE ENVIRONMENT

3.1 General

3.1.1 The works for the Project will include site formation, building works and the associated infrastructure works, such as the necessary slope works, road works, sewerage works, drainage works, waterworks, utility works, etc. It is anticipated that the surrounding sensitive receivers may be affected during the construction and operational stages of the Project.

3.2 Air Quality

Construction Impacts

3.2.1 Construction works include site clearance, site formation, building works and infrastructure works, etc. During construction, dust is the potential air quality impact which would be generated from construction activities such as material handling, excavation, vehicular movements and erosion of unpaved areas and stockpiles. The potential air quality impact, however, is anticipated to be short-term and be controlled through appropriate design and good site practice stipulated in the Air Pollution Control (Construction Dust) Regulation.

Operational Impacts

3.2.2 The major permanent sources of air pollutants will be the vehicular emissions from traffic generated by the housing developments on existing and new roads. Odour from the proposed sewage pumping station and sewage treatment plant (if any), expansion of existing sewage treatment plant (if necessary), refuse transfer station and refuse collection points as well as the drainage channels and nullahs will be other potential sources of air pollution. Also, the potential air quality impacts associated with the proposed public transport interchanges (if any) and carparks should also be addressed.

3.3 Noise

Construction Impacts

3.3.1 The noise generated from construction activities, such as piling works, operation of construction plant and equipment and construction traffic along site access roads will have the potential to pose adverse noise impacts on the surrounding sensitive receivers.

Operational Impacts

3.3.2 The main operational noise sources will be from road traffic generated by the housing developments on existing and new roads, and fixed noise sources such as new sewage pumping station and treatment facilities (if any), public transport interchanges (if any), electricity substations, etc.

3.4 Water Quality

3.4.1 There are no significant fisheries resources and activities within the PDAs. However, a detailed review will be conducted in the EIA.

Construction Impacts

3.4.2 The Project will involve various construction activities undertaken at various time durations. The activities which may have impact on water quality include site formation, sediment removal, re-alignment of streams and rivers, concrete washings, bore piling, construction of bridges/underpasses/buildings, construction and upgrading of road network, site workshop or depot and sewage effluent from the workforce. The adverse impacts may include additional runoff, increase of suspended solids, pH value and turbidity levels, spillage of waste oils and generation of additional sewage and wastewater. The potential impacts on the nearby surface water should be addressed.

Operational Impacts

3.4.3 The operation of the proposed housing developments will result in increases of sewage and surface runoff and changes to the hydrological regime of the drainage basins. The possible impact on the nearby environment should be addressed.

3.5 Solid Waste

Construction Phase

3.5.1 Solid wastes will mainly be generated from a wide range of construction activities such as site formation, construction of roads and drains, and construction of the proposed developments and infrastructure. The wastes arising from construction will largely consist of excavated and demolished construction and demolition (C&D) materials during earthworks and demolition works, chemical waste, and general refuse. The quantities of wastes to be generated during construction of the Project will largely depend on the extent of the proposed housing developments and infrastructure.

Operational Phase

3.5.2 The operation of the proposed housing developments and associated infrastructure will generate municipal solid waste. The storage, handling and disposal of the waste, if not carried out properly, may have the potential to cause adverse environmental impact.

3.6 Landfill Gas

3.6.1 There is no landfill within or in the vicinity of YLS. Therefore, no qualitative assessment of landfill gas hazard will be necessary.

3.7 Ecology

3.7.1 Most of the areas within the PDAs are man-made or highly modified areas. The watercourses, grassland, wasteland and developed areas within the PDAs are of low overall ecological value due to the fragmentation infillings and heavy disturbance prevalent in the area. The land to the southwest of Shan Ha Tsuen comprises a large piece of active farmland, some wooded areas and streams of potential ecological value. Besides, some ecological sensitive areas such as Tai Lam Country Park, "Conservation Area" zone, Ecological Important Stream (EIS) at Yeung Ka Tsuen and an active egretry at Tai Tong are also found in the study area as shown in Drawing No. NTWZ1465. A detailed ecological assessment will be carried out in the EIA.

3.7.2 The potential terrestrial ecological impact arising from the Project may be associated with :-

Construction Phase

(i) Direct habitat loss and habitat fragmentation;
(ii) Disturbance to habitats and wildlife due to increase of noise, glare, traffic, human activities, etc;
(iii) Air pollution to vegetation; and
(iv) Increased sediment load.

Operational Phase

(i) Ecological barriers;
(ii) Disturbance to habitats and wildlife due to increase of noise, glare, traffic, human activities, etc.
(iii) Bird collision with noise barriers;
(iv) Deterioration of water quality in streams/watercourses due to sewage and effluent discharge; and
(v) Air pollution to vegetation.

3.8 Cultural Heritage

3.8.1 A Grade 3 historic building – Yeung Hau Temple in Tong Yan San Tsuen, Ping Shan, but no other declared monuments, graded buildings or Sites of Archaeological Interest, is within the PDAs of the Project. A Cultural Heritage Impact Assessment will be conducted under the EIA study.

3.8.2 Potential impacts, if any, on cultural heritage resources, including built heritages, to be affected by the Project may arise from the following:

(i) Land take for both temporary and permanent facilities which may result in damage to, or loss of, archaeological remains and deposits, culturally significant features and changes to the physical coherence of historic landscape; and

(ii) Construction works which may result in damage to or loss of buried archaeological remains.

3.9 Land Contamination

3.9.1 While there are no extensive areas of contaminated land such as landfills, chemical stores, etc in the PDAs, there is potential for the presence of residues from small industries, including small-scale vehicle repair workshops, metal scrap yards, waste recycling yards and storage sites, to create an adverse impact that will need to be cleaned up during the site formation phase.

3.9.2 The contaminated land impacts are likely to be related to the following : health risks to site workers; disposal of contaminated soils, where encountered; and potential health risks to future users of the sites. The land contamination issue and its impact within the PDAs will be identified and assessed.

3.10 Landscape and Visual

3.10.1 The potential landscape and visual impacts, if any, arising from the proposed housing developments and the associated infrastructure works may be as follows:-

<u>Construction Phase</u>

(i) Loss of landscape elements, e.g. trees and natural topography;

(ii) Loss of visual amenity through removal of landscape elements, e.g. trees;

(iii) Visual appearance of any temporary use prior to full development;

(iv) Changes or disturbance to the existing landscape character due to new developments;

(v) Construction activities on newly formed areas and existing available land; and

(vi) Obstruction of, or intrusion into, views by the developments.

Operational Phase

(i) Visual intrusion and obstruction created by the developments; and

(ii) Visual quality of the new developments.

4. MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

4.1 Surrounding Environment including Existing and Planned Sensitive Receivers

4.1.1 Sensitive receivers and sensitive parts of the surrounding environment which might be affected by the Project include the following:

a) Existing villages on both sides of Kung Um Road and around Tong Yan San Tsuen, including Tin Liu Tsuen, Muk Kiu Tau Tsuen, Shui Tsiu San Tsuen, Pak Sha Tsuen, Wong Nai Tun Tsuen, Lam Hau Tsuen, Shan Ha Tsuen, Sham Chung Tsuen, Tai Tong Tsuen, etc;
b) Existing residential developments in Tong Yan San Tsuen;
c) Tai Lam Country Park to the south of the PDAs;
d) Existing stream courses and open nullahs within/in the vicinity of the PDAs;
e) A large piece of active farmland, some wooded areas and streams of potential ecological value to the southwest of Shan Ha Tsuen;
f) "Conservation Area" zone in the vicinity of the PDAs;
g) Ecological Important Stream (EIS) at Yeung Ka Tsuen; and
h) An active egretry at Tai Tong.

4.1.2 The present land uses of YLS will change and the future land uses will depend on the findings of the P&E Study of the Project. Existing and future sensitive receivers and sensitive parts of the natural environment would be identified for environmental impact assessments.

4.2 Air Quality

4.2.1 The PDAs are mainly flat land at the south of Yuen Long Plain. Existing and future sensitive receivers of air quality may include the villages on both sides of Kung Um Road and around Tong Yan San Tsuen, residential developments in Tong Yan San Tsuen and the proposed housing developments of the Project. The EIA study would assess the air quality impact on the sensitive receivers.

4.3 Noise

4.3.1 The existing noise sources in the vicinity of the PDAs are mainly from traffic on Yuen Long Highway, Long Hon Road, Shan Ha Road, Kung Um Road and Kiu Hing Road, etc. Rural

industrial operations, such as open storage facilities and car stripping/repair workshops, on both sides of Kung Um Road and around Tong Yan San Tsuen also contribute to the overall ambient noise levels.

4.3.2 Future noise sources in the vicinity of the PDAs will likely be from traffic on existing and new roads and rural industrial operations.

4.3.3 Existing and future sensitive receivers of noise may include the villages on both sides of Kung Um Road and around Tong Yan San Tsuen, residential developments in Tong Yan San Tsuen and the proposed housing developments of the Project. The EIA study would assess the noise impact on the sensitive receivers.

4.4 Water Quality

4.4.1 The PDAs are located in the Yuen Long Nullah catchment, which begins at Tai Lam Country Park. Currently, the surface runoff in the areas is collected by the open nullahs along Kung Um Road, Lam Tei West Road and Long Hon Road, and passes through the Yuen Long Nullah before discharging into Deep Bay. There is an emergency bypass through the nullah along Long Ho Road. The open nullahs are engineered channels. The EIA study would fully assess the water quality impact due to the proposed housing developments of the Project.

4.5 Solid Waste

4.5.1 The existing solid waste arising from the area within the PDAs include domestic waste from village houses, agricultural waste, commercial/industrial waste generated from open storage and informal industrial uses.

4.6 Ecology

4.6.1 Most areas within the PDAs are developed areas. The ecological resources within the PDAs are limited due to fragmentation and disturbance from existing villages and rural industrial operations. The land to the southwest of Shan Ha Tsuen comprises a large piece of active farmland, some wooded areas and streams of potential ecological value. Besides, some ecological sensitive areas such as Tai Lam Country Park, “Conservation Area” zone, Ecological Important Stream (EIS) at Yeung Ka Tsuen and an active egretry at Tai Tong are also found in the study area as shown on Drawing No. NTWZ1465. Ecological impact assessment will be carried out to address the possible ecological impacts on the environment due to the implementation of the Project.

4.7 Cultural Heritage

4.7.1 There is a Yeung Hau Temple at Tong Yan San Tsuen, Ping Shan, which is within the proposed PDAs and is a Grade 3 historic building. Cultural and heritage resources affected by the Project will be identified in a Cultural Heritage Impact Assessment to be conducted under the EIA study.

4.8 Land Contamination

4.8.1 The existing environment in the PDAs is mainly rural in character and comprises village and industrial land uses. The main expected contaminants from the land uses in the PDAs are from by-products from small industries, open storage areas, vehicles and equipment storage and vehicle repair workshops.

4.8.2 Based upon the rural nature of the PDAs, the number of sensitive receivers likely to be impacted by the possible contaminants is expected to be limited to current land users and future site workers employed during the construction phase of the Project. Land contamination assessment will be carried out under the EIA study to formulate appropriate contamination assessment plans and remediation action plans, if necessary.

4.9 Landscape and Visual

4.9.1 The composition of landscape elements within the study area consists of urban/ rural land uses, which include existing villages, rural industrial areas, new residential areas, road and drainage infrastructure, open storage areas, scrubland, grassland, woodland, farmland, stream courses, mountains, valleys and rock outcrops, etc.

4.9.2 A series of receiver group areas can be identified within the visual envelope of the PDAs based on existing land use and physical conditions. Subject to the landscape and visual impact assessment, the following areas are covered by the visual envelope :-

(i) Shap Pat Heung/Ping Shan/Tai Tong Areas;

(ii) Future Hung Shui Kiu New Development Area;

(iii) Tong Yan San Tsuen;

(iv) Tai Lam Country Park; and

(v) Yuen Long Town Centre.

4.9.3 Visual sensitive receivers (VSRs) can be located within the above receiver group areas and they may be classified into residential buildings, non-residential buildings, and public in external areas, including travellers on transport routes.

4.9.4 Landscape and visual impact of the Project will be addressed in the EIA study.

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

5.1 General

5.1.1 The EIA study will investigate those environmental impacts and propose the appropriate mitigation measures with the intention that all proposals would be environmentally acceptable and cost effective. The residual impacts, if any, would be confined within the allowable limits. Environmental monitoring and auditing of potential impacts that may arise from the works of the Project would be provided for the construction and operational phases. Subject to the findings of the EIA study, the following mitigation measures will be incorporated in the design and construction of the Project, where appropriate.

5.2 Air quality

Construction Phase

5.2.1 In order to prevent adverse impacts on air quality, the control measures stipulated in the Air Pollution Control (Construction Dust) Regulations should be implemented, wherever applicable, to limit the dust emissions from the site. Mitigation measures, including but not limited to the following, will be put in place:

- Stockpiles of dusty materials should not extend beyond site boundaries.
- In the process of material handling, any material which has the potential to create dust should 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 should be properly fitted with side and tail boards and cover.
- Stockpiles of sand and aggregate should be enclosed on three sides and water sprays should be used to dampen stored materials.
- The site should be frequently cleaned and watered to minimise fugitive dust emissions.
- Motorised vehicles on site shall be confined to designated haul routes which should be paved or surfaced with hardcore.

Operational Phase

5.2.2 The following mitigation measures within the study area to mitigate the impact on air quality due to the works of the Project will be considered, where appropriate :-

(i) Vehicle Emissions from Open Roads

- Adequate buffer distance, tree planting and dense shrub plantation should be provided, where appropriate, to separate the pedestrians and heavily trafficked roads.

(ii) Odour Impact from Sewage Pumping Station/Sewage Treatment Plant (if any)

- Design should be in accordance with DSD's Standard Design on Sewage Pumping Station, with all pumps located underground and enclosed within a structure/building, where appropriate.
- Deodorization system should be installed and good housekeeping practice should be adopted.

(iii) Impact from Public Transport Interchanges (PTIs)(if any)

- The design of the PTIs should follow the design consideration recommended in the Control of Air Pollution in Semi-Confined Public Transport Interchanges (ProPECC PN 1/98).
- Adequate ventilation and dilution of vehicle exhaust should be provided.
- Ventilation exhaust, if any, should be directed away from the nearest sensitive receivers.

(iv) Odour Impact from Refuse Collection Points (RCPs)

- Odour removal system should be provided for the RCPs to reduce odour nuisance in the vicinity.

5.3 Noise

Construction Phase

5.3.1 In order to mitigate adverse noise impacts, the following general mitigation measures will be put in place where appropriate:

- Quiet plant should be used to reduce noise generated.
- Movable and temporary barriers should be provided, if necessary, to screen Noise Sensitive Receivers (NSRs) from particular items of plant or noisy operations.
- Noise screening structures or purpose-built noise barriers should be provided, if necessary, along the site boundary to provide additional protection to NSRs nearby.
- Good site practices should be implemented as effective noise mitigation measures. These should include, but not limited to, locating noisy equipment and activities as far

from NSRs as practical, scheduling noisy activities to minimise exposure of nearby NSRs to high levels of construction noise, proper maintenance of construction plant and devising methods of working to minimise noise impacts on the surrounding environment.

Operational Phase

5.3.2 For road traffic noise, noise mitigation measures, including friendly layout design and noise barriers/enclosures, would be provided where appropriate.

5.3.3 Environmentally friendly layout designs may include locating buildings to avoid exposure to traffic noise, and providing pedestrian network within and connecting to the PDAs to minimize the generation of road traffic. Other designs may include the use of non-noise sensitive structures, such as podium to shield traffic noise, and adequate setback distance away from noisy roads.

5.3.4 Should residual impacts be identified at the existing NSRs where the use of direct mitigation measures on the roads has been exhausted, these NSRs would then be eligible for indirect technical remedies.

5.4 Water Quality

Construction Phase

5.4.1 In order to prevent adverse impacts on water quality, the following general mitigation measures will be put in place:

- Site run-off should be reduced and directed into temporary sand traps or other silt removal facilities before discharging into the outlets.
- Silt removal facilities should be maintained regularly.
- Open stockpiles of materials on site should be avoided or, where unavoidable, covered with tarpaulin or similar fabric during rainstorms.
- Sand bag barriers should be used to confine the disturbed areas during sediment removal activities.
- Where possible, works entailing soil excavation should be minimised during the rainy season.
- Oil interceptors should be provided and properly maintained for collecting spillage or leakages from site workshops. The waste oil removed should be collected by licensed collectors.

- Mobile toilets or other appropriate means should be provided to store sewage before disposal through licensed collection agents or discharging to main sewerage system.
- For bore piling operations, the resulting suspension should be settled in sedimentation/infiltration pit and the bentonite solids should be disposed of appropriately.

Operational Phase

5.4.2 The following general mitigation measures are to be considered:

- Proper drainage and sewerage works should be provided for serving the housing developments.
- Silt and oil traps should be provided at suitable locations to prevent ingress of pollutants to the storm water system.

5.5 Solid Waste

Construction Phase

5.5.1 Solid waste arising from construction will largely consist of spoil generated during earthworks. The following measures will be implemented, where appropriate, to reduce the quantities of C&D materials for disposal off site:

- All C&D materials should be sorted and re-used wherever possible.
- 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 to be responsible for collection and effective disposal of solid waste should be arranged.
- Separation of chemical wastes for special handling and appropriate treatment at a licensed facility should be arranged.
- A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be provided.
- In order to monitor the disposal of C&D materials and solid wastes at public filling facilities and landfills, a trip-ticket system shall be implemented by the Contractor.
- A Waste Management Plan (WMP) shall be prepared and this WMP shall be submitted to the Engineer for approval.

- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse of materials and their proper disposal should be arranged where practicable.
- Any unused chemicals or those with remaining functional capacity should be recycled.
- Use of reusable non-timber formwork to reduce the amount of C&D materials should be adopted.
- Proper storage and site practice to minimize the potential for damage to or contamination of construction materials should be implemented.

Operational Phase

5.5.2 The following mitigation measures are to be considered:

- The Refuse Collection Points (RCPs) should be enclosed to minimize noise, odour and visual nuisance, and it should be fitted with a deodorizing unit and ventilation system to remove odour. Each RCP should be fitted with a water point and high pressure hose for cleansing operations.

5.6 Ecology

5.6.1 Subject to the recommendations of the ecological impact assessment under the EIA study, appropriate mitigation measures will be provided to mitigate the ecological impact, if any, of the Project.

5.7 Cultural Heritage

5.7.1 A Cultural Heritage Impact Assessment will be carried out under the EIA study. Impacts on cultural heritage sites, if any, will be avoided as far as practicable. If unavoidable, possible mitigation measures specific to the impacts identified will be proposed.

5.7.2 In case adverse impacts on archaeological resources is identified, appropriate mitigation measures will be designed and implemented.

5.8 Land Contamination

5.8.1 Subject to the identification of any contaminated land, mitigation measures will be determined with reference to EPD's documents such as "The Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (Dec 2007)", "The

Guidance Notes for Contaminated Land Assessment Remediation (Aug 2007)", and "The Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops (May 1999)".

5.9 Landscape and Visual

Mitigation Measures to be Incorporated in the Development Layout Plan

5.9.1 The following measures will be adopted to minimize the landscape and visual impacts during the design stage:

- urban design principles, such as controlling the density of the development;
- controlling building height profiles and providing stepped building heights;
- controlling the walling effect;
- preserving and establishing visual and open space links, including the provision of view and breeze corridors;
- preserving existing trees by incorporating them into the development layout as far as possible; and
- preparing comprehensive landscape master plans, including tree preservation proposals.

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Construction Phase

5.9.2 The following general mitigation measures will be implemented, where appropriate, to alleviate the impacts during the construction phase:

- Erosion control measures should be implemented for protection of construction works and the landscape against heavy rain.
- Measures should be taken to store construction equipment and building materials in places which are not visually intrusive.
- Damaged vegetation and trees, not earmarked for removal, should be rectified, repaired or replaced as far as possible.
- Techniques to minimize light pollution should be implemented where appropriate.
- Exposed slopes should be hydroseeded as soon as possible to prevent erosion.
- Haul roads should be rehabilitated at the earliest opportunity to make them compatible with their existing surrounding landscape or planned surrounding landscape.

- Tree protection measures for retained trees and tree transplanting should be undertaken to prevent damage by construction works.

Operational Phase

5.9.3 The following general mitigation measures are to be considered for the operational phase:

- Trees should be planted as visual barriers where appropriate.
- Amenity strips should be provided to roads, wherever practicable, to mitigate their visual appearance.
- Road structures, such as vehicular and pedestrian bridges, should be designed to enhance the visual appearance of the road corridor.
- The visual impact of noise barriers, if any, should be mitigated by appropriate aesthetic design.
- Landscape treatment should be provided to road embankments and soil slopes to enhance their visual appearance.
- Colour, texture and shape of retaining walls should blend in with the character of the surrounding landscape.
- Landscape planting should be provided along road structures and pedestrian bridges.

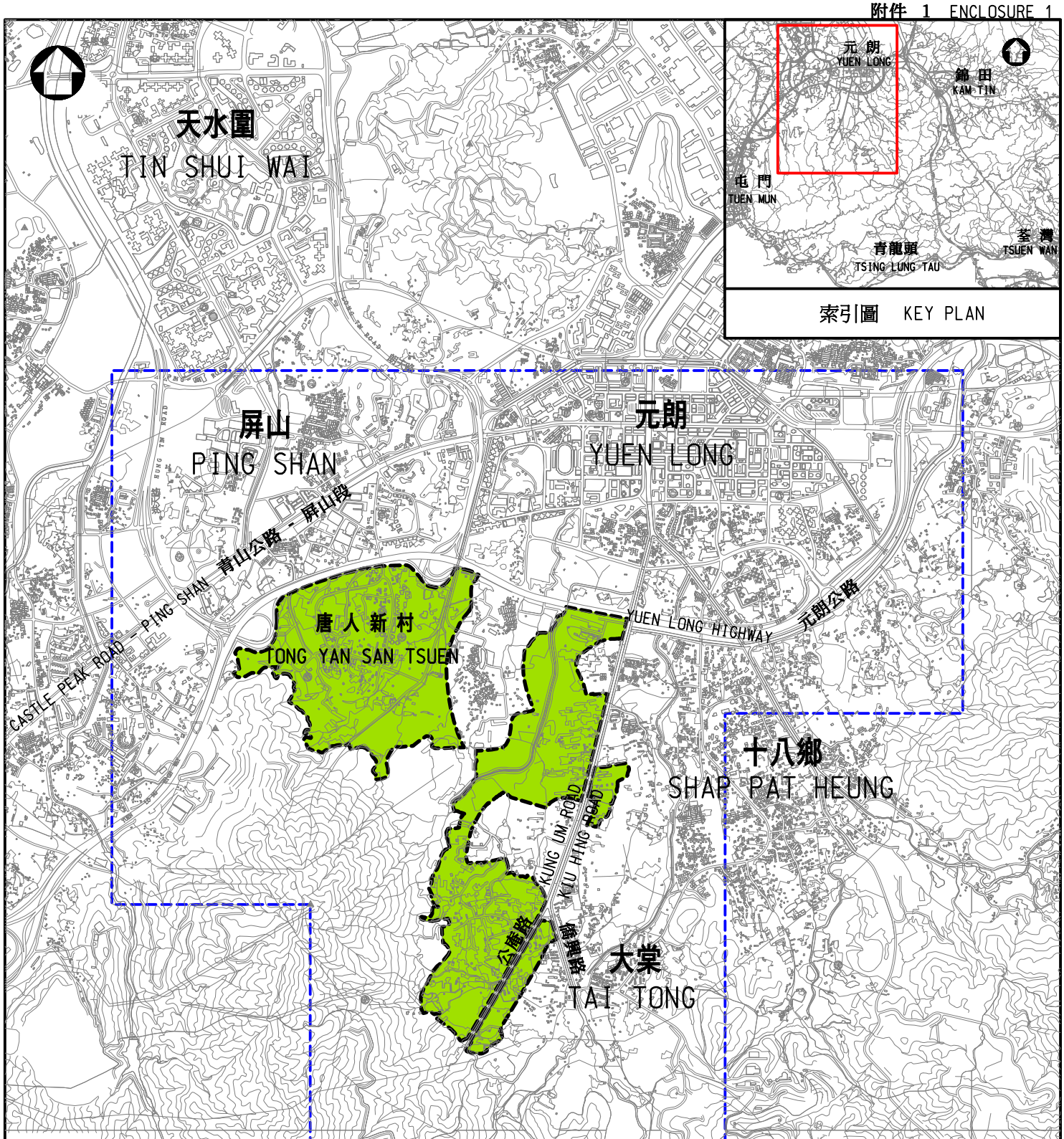
6. USE OF PREVIOUSLY APPROVED EIA REPORTS

6.1.1 There is no previously approved EIA report applicable to this Project. Reference may be made to the following previously approved EIA reports for projects in Yuen Long and San Wai:

- EIA Report on Yuen Long and Kam Tin Sewerage and Sewage Disposal Stage 2 (2004)
- EIA Report of Widening of Yuen Long Highway between Lam Tei and Shap Pat Heung Interchange (2002)
- Yuen Long Bypass Floodway - Feasibility Study (1998)
- EIA Report of Yuen Long South Development – Engineering Works in Areas 13 and 14, Yuen Long (1997)
- EIA Report on Upgrading and Expansion of San Wai Sewage Treatment Works and Expansion of Ha Tsuen Pumping Station (2003)

-END-

附件 1 ENCLOSURE 1



圖例
LEGEND:

擬議具發展潛力區初步位置及範圍
TENTATIVE LOCATION AND EXTENT OF THE PROPOSED POTENTIAL DEVELOPMENT AREAS

研究範圍初步界線
TENTATIVE STUDY AREA BOUNDARY

0 400 800 1200 1600 2000m

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

圖則名稱 drawing title
元朗南房屋用地規劃及工程研究
- 具發展潛力區位置圖
PLANNING AND ENGINEERING STUDY FOR HOUSING SITES IN YUEN LONG SOUTH - POTENTIAL DEVELOPMENT AREAS LOCATION PLAN

繪圖 drawn	P.K. SO	簽署 initial	SIGNED	日期 date	30.04.2012
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