Environmental Impact Assessment Study
Shatin to Central Link – Hung Hom to Admiralty Section
Supplementary Information on the Proposed Access Road at Lo Wu

Introduction

The Access Road at Lo Wu which has been gazetted as part of Shatin to Central Link (SCL) under Railway Ordinance is an extension of the existing Drainage Services Department (DSD)'s maintenance access road adjacent to Ng Tung River. The proposed modification works only include a slight extension of the existing access road by about 10-20m for connecting into the Lo Wu Marshalling Yard which is currently serving the East Rail Line.

The SCL project consists of five EIA Studies. As the SCL – Hung Hom to Admiralty Section will form a part of the north-south corridor connecting the East Rail Line from Lo Wu or Lok Ma Chau to Admiralty, it would be appropriate for the potential environmental impacts of the proposed Access Road at Lo Wu to be addressed in this EIA Report.

Description of the Access Road and its Surroundings

The proposed Access Road at Lo Wu is located right next to the existing East Rail with frequent train pass-bys within the Frontier Closed Area. Sheung Shui Water Treatment Works is located to the east and Sheung Shui Slaughter House is further to the south. Rural surroundings can be found to the west of the channelized Ng Tung River (River Indus) with Ho Sheung Heung Egretry located about 300m away from the proposed works area adjacent to the Lo Wu marshalling yard. Location of the proposed extension of Access Road and its environ is shown in **Figure 1** and **Figure 2**, respectively.

As shown in **Figure 1,** most of the gazetted area (area within SCL scheme boundary) for access to the marshalling yard is on the existing DSD's maintenance access road adjacent to Ng Tung River. No modification works to the existing DSD's maintenance access road would be required, except about 10-20m road extension from the northern end of the existing access road. Works activities for the proposed access road extension would only involve minor construction works such as site clearance, road formation and concrete road slab laying, lasting for a short duration of about one month. It is expected that limited number of vehicles (about 20 trucks/concrete lorries per month) would be required for the construction of the access road extension. Considering that the proposed works would be minor in nature, limited scale and short-term, environmental impacts arising from its construction would not be significant. The likely environmental impacts associated with the construction of the proposed access road extension are discussed below.

During operation phase, the nature of the proposed access road would be similar to the existing DSD's access road and infrequent vehicle usage (about 5 round trips of trucks per week) of the access road would be expected. In view of the nature and limited vehicle usage of the proposed access road, adverse environmental impact during operation phase would not be anticipated.

Potential Environmental Impacts

Ecology

The existing DSD's maintenance access road was paved. The proposed access road extension (about 65m^2) and the temporary works area (about 260m^2) is a disturbed site (**Figure 2** refers) with some exotic trees (i.e. *Leucaena leucocephala* and *Acacia confusa*) and vegetables (i.e. *Lactuca sativa, Brassica alboglabra* and *Brassica parachinensis*) currently growing at the site. Ng Tung River, a channelized watercourse as part of the Flood Prevention Scheme for North District, is situated next to the proposed works area. The proposed works area and its surrounding environment have already been subject to a certain degree of disturbance from the operation of railway facilities and the faunal diversity is low. Photographs showing the current condition of the proposed works area are provided in **Annex 1**.

The areas of ecological importance near the proposed works area are shown in **Figure 2** and summarised as below:

- Conservation Area (about 200m away from the proposed works area);
- Ho Sheung Heung Egretry (about 200m away from the proposed works area) (Anon 2010);
- Long Valley and Ho Sheung Heung Priority Site for Enhanced Conservation (about 300m away from the proposed work area); and
- Mitigation wetlands currently managed by AFCD (about 800m away from the proposed work area).

There would be no direct impact on the identified areas of ecological importance. It is expected that only three exotic trees of *Leucaena leucocephala* and *Acacia confusa* of low ecological value located within the works area would be affected. No significant adverse direct ecological impact is therefore anticipated. Appropriate tree protection measures for the retained trees within the works area should be implemented.

The construction activities would temporarily increase human activities and noise disturbance from traffic and construction in the works area. However, as the construction work would be minor in scale and last for about one month, the increase in disturbance would be insignificant, and impact on wildlife is expected to be low. As a precautionary measure, standard good site practices and setting of hoarding along the site boundary of tentative works area to reduce any potential noise and air quality impact should be implemented.

Situating next to Ng Tung River, surface runoff from the works area would be discharged to the river, if uncontrolled. This would deteriorate the water quality of the river and thereby degrade the nearby associated habitats. Considering its minor scale of works and short duration, potential impact due to site runoff is anticipated to be low. Nevertheless, the following mitigation measures should be properly implemented to further minimise any potential impacts:

- Directing surface runoff into storm drains via adequately designed sand/silt removal facilities, such as sand traps, silt traps and sedimentation basins;
- Covering construction materials and unpaved open works area with tarpaulin or similar fabric during rainstorms; and
- Adopting good site practices to remove rubbish and litter from construction sites in a timely manner.

Water Quality

During the construction, an increase of Suspended Solid (SS) levels may arise from uncontrolled site runoff during road construction. Given the limited scale of construction works and with implementation of standard site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" to minimise surface run-off, no adverse water impact is expected.

Construction Dust

The nearest air sensitive receiver (ASR) is the workers at the Sheung Shui Water Treatment Works. Construction of the small section of access road would require excavation but the quantity of the excavated material would be relatively small to cause dust nuisance. It is anticipated that excavated material would only be stockpiled within the works area. The duration of stockpiling would be as short as possible as they would be disposed of offsite. Given the limited scale of construction works and with implementation of standard dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation, no adverse dust impact is expected.

Construction Noise

The nearest noise sensitive receiver (NSR) is the village at Tsung Yuen which is about 700m from the proposed work site. Due to the long buffer distance between the site and village plus the short construction period, the potential construction noise impact is expected to be insignificant. No mitigation measure is therefore considered necessary.

Landscape and Visual

The proposed work is located at the east bank of Ng Tung River which is forbidden from public and restricted entry for permit user only. There are no residential Visually Sensitive Receivers (VSRs) close to this area and the key VSRs are travelers on the adjacent East Rail who would only have glimpse view to the proposed work. In addition, the existing trees along the railway corridor provide natural visual screening from these VSRs. It is considered that the sensitivity for travelers on East Rail is low. The proposed works are minor road works at low level and would not create any significant visual impact during construction stage. Landscape resources are identified and shown in **Figure 3**. They include LR A1 - Planting along Ng Tung River, LR A2 – Ng Tung River Water Bodies and LR A3 – Shrubland along border or East Rail. Since the proposed works would not encroach to LR A2 and LR A3, there would not be any landscape impact on these resources. There would be some impact on LR A1 at the proposed offsite works area. Based on a broad brush vegetation survey, approximately 12 nos. of trees are found within the proposed offsite works area. Tree species include *Acacia confusa*, *Eucalyptus camaldulensis* and *Leucaena leucocephala*. Trees in this area are 6-12m in height with crown spread of 3-5m and trunk diameter of 100-150mm. Detailed tree survey including removal application will be submitted in accordance with ETWB TC(W) 3/2006 in detailed design stage. Shrubs and grasses are found under the existing trees. They are of low landscape and visual amenity value. The sensitivity of LR A1 is considered as low. Under the proposed works, only three exotic trees of *Leucaena leucocephala* (2 nos.) and *Acacia confusa* (1 no.) of low landscape value located within the works area would be affected. *Leucaena leucocephala* is considered as self-seeded trees of undesirable species in accordance with ETWB TC(W) 3/2006 and they are proposed to be removed. Since the impact is localized and the affected area is small, the

magnitude of impact on LR A1 is small. The unmitigated landscape impact would be slight. Under the Project, approximately 3 heavy standard trees (with 100mm trunk diameter) are proposed to be compensated for the loss of existing trees with average trunk diameter of 100mm. In addition, low maintenance and self sustainable shrubs planting are proposed along the extension of access road and temporarily disturbed areas will be reinstated to the satisfaction of the relevant Government Departments. The agreement and approval of the implementation , management and maintenance agencies of the Project will be sought from relevant parties during detailed design stage of the Project in accordance with ETWB TC(W) No. 2/2004. The landscape proposal is presented in **Figure 4**. With the implementation of proposed mitigation measures, there would be slight residual impact during construction phase and Day 1 in operation phase. The residual impact would be further reduced to insubstantial in Year 10 during operation when the proposed trees planting become mature.

Waste Management

Waste arisings which would be generated during the construction of the proposed access road extension includes general refuse, chemical wastes, and construction and demolition (C&D) materials. In view of the small scale, the quantity of waste arisings from the construction works would be minimal. Provided that these wastes are handled, stored, transported and disposed of with the implementation of recommended mitigation measures and good site practices in Sections 12.74 to 12.85 and 12.96 to 12.102 of the EIA Report, adverse environmental impacts associated with waste management would not be anticipated.

Land Contamination

The proposed works area (including the proposed access road extension and temporary works area) was a disturbed area with some vegetation planted during the time of this EIA Study (**Annex 1**). Immediate adjacent land uses were the existing DSD paved maintenance access road, Lo Wu Marshalling Yard and Ng Tung River. The proposed works area was unpaved with some vegetation planted. No stains and potential contaminated activities were observed. Due to the nature of the land use, chemicals were unlikely to be used and stored on site. Moreover, no underground storage tanks were found in the immediate adjacent land uses.

Available aerial photographs in the period of 1956 to 2010, obtained from the Survey and Mapping Office of Lands Department, have been reviewed. The aim of the review is to identify land within the proposed works area which may have been contaminated through previous land uses. A list of aerial photographs examined under the review is provided in table below. Copies of some representative aerial photographs reviewed are shown in **Annex 2**.

Review of Aerial Photographs

Year	Photograph Reference Number
1956	0109
1961	30
1973	07748
1976	16704
1977	20510
1978	23411
1979	27048
1980	30372

Year	Photograph Reference Number
1984	55873
1988	A11674
1990	A22488
1991	A25874
1995	CN07279
1997	CN16708
1998*	CN19612
1999	CN23759
2000	CN27691
2001	CW33966
2002	CW41534
2003*	CW51254
2004	CW58066
2005	CW65219
2006	CW71042
2007	CS05322
2008	CW83030
2009	CS13148
2010	CW86556

*Copies of aerial photographs are given in **Annex 2**.

Based on the aerial photographs, the proposed works area and surrounding areas were observed to be farmlands in 1956. Railway track in Lo Wu have already existed since 1956. Since 1973, the proposed works area was open vacant green area. Lo Wu Marshalling Yard was under construction in 1978 and no significant changes since then. From 1990 to 1998, river bank of Ng Tung River was under minor modification. Since 1999, construction works in proposed works area and surrounding area were commenced and the major river bank modification works were undertaken. DSD maintenance access road was observed in 2003 and the proposed works area was left open and vacant until 2005. It was observed to be green area since then.

No historical land uses with potential for causing land contamination were observed in the proposed works area from the aerial photographs. As the proposed works include site clearance, road formation and concrete road slab laying which have limited disturbance of surface soil, with the implementation of occupational health and safety guidelines, the potential land contamination impact to the construction workers is expected to be insignificant. Further investigation is considered to be unnecessary.

Cultural Heritage

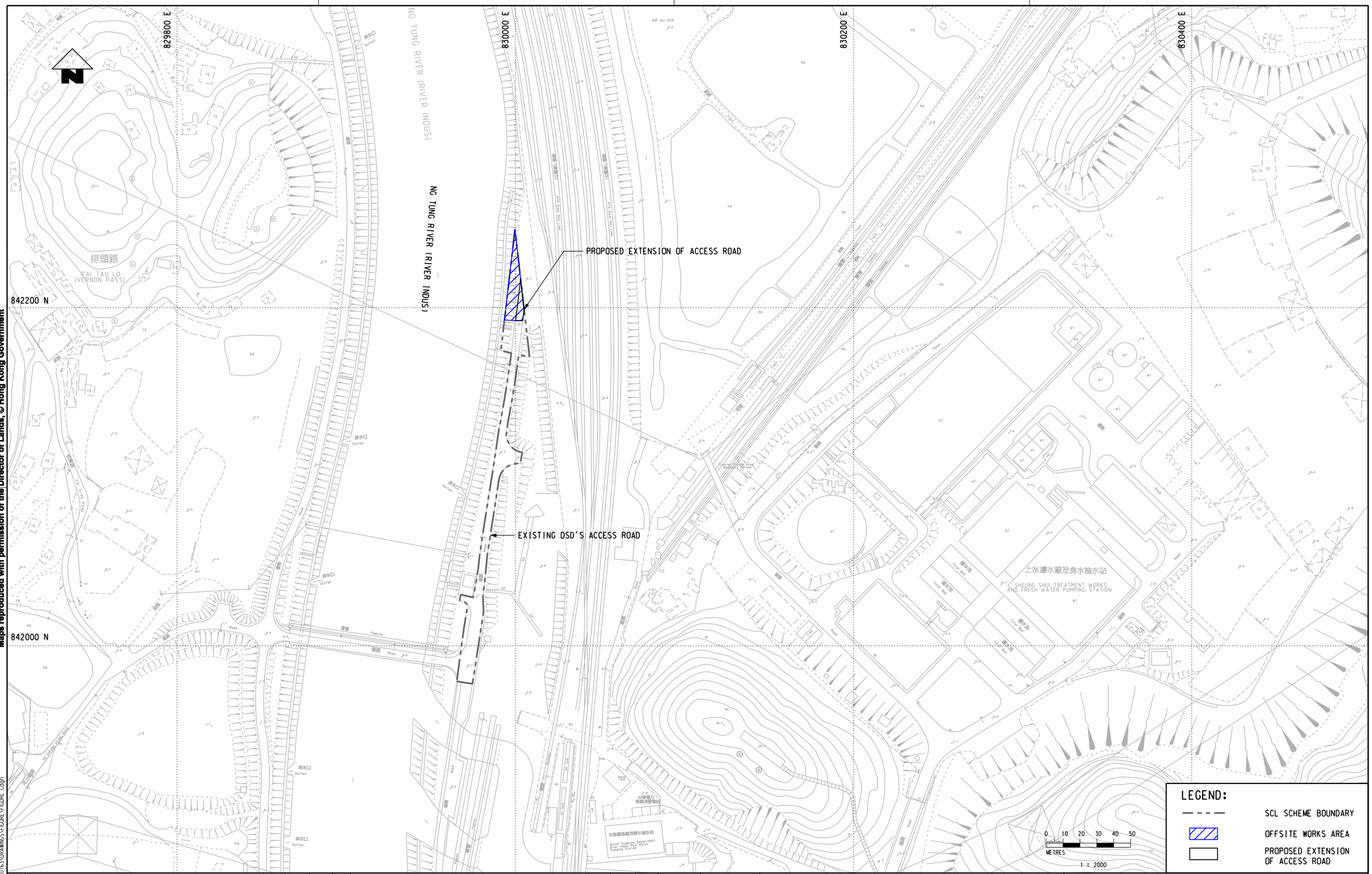
The proposed works area is located at area of being disturbed. The land uses adjacent to the works area are the existing DSD's maintenance access road, Lo Wu Marshalling Yard and Ng Tung River. No known site of archaeological interest, declared monument and built heritage resources were identified within 300m from the proposed works area. As such, adverse impact on cultural heritage is not anticipated. No mitigation measure is considered necessary.

Summary

Given the nature and scale of the works of the proposed access road extension being limited, the environmental issues associated with the works, including ecology, water quality, construction dust, construction noise, landscape and visual, waste management, land contamination and cultural heritage would be minimal with implementation of good site practices. Thus, no adverse environmental impact would be expected.

Reference

Anon (2010). Summer 2010 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.



Maps reproduced with permission of the Director of Lands, © Hong Kong Government

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MODELNAME: Default PRINTED BY: DARL 2011-4-7 11:14:42
FILENAME: M:\projects\60050763\DRAWINGS\FIGURE\FIGURE 1.dgn

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	ZRH
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CHECKED	--
APPROVED	--
DATE	27/JAN/2011

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SHATIN TO CENTRAL LINK

ORIGINATOR

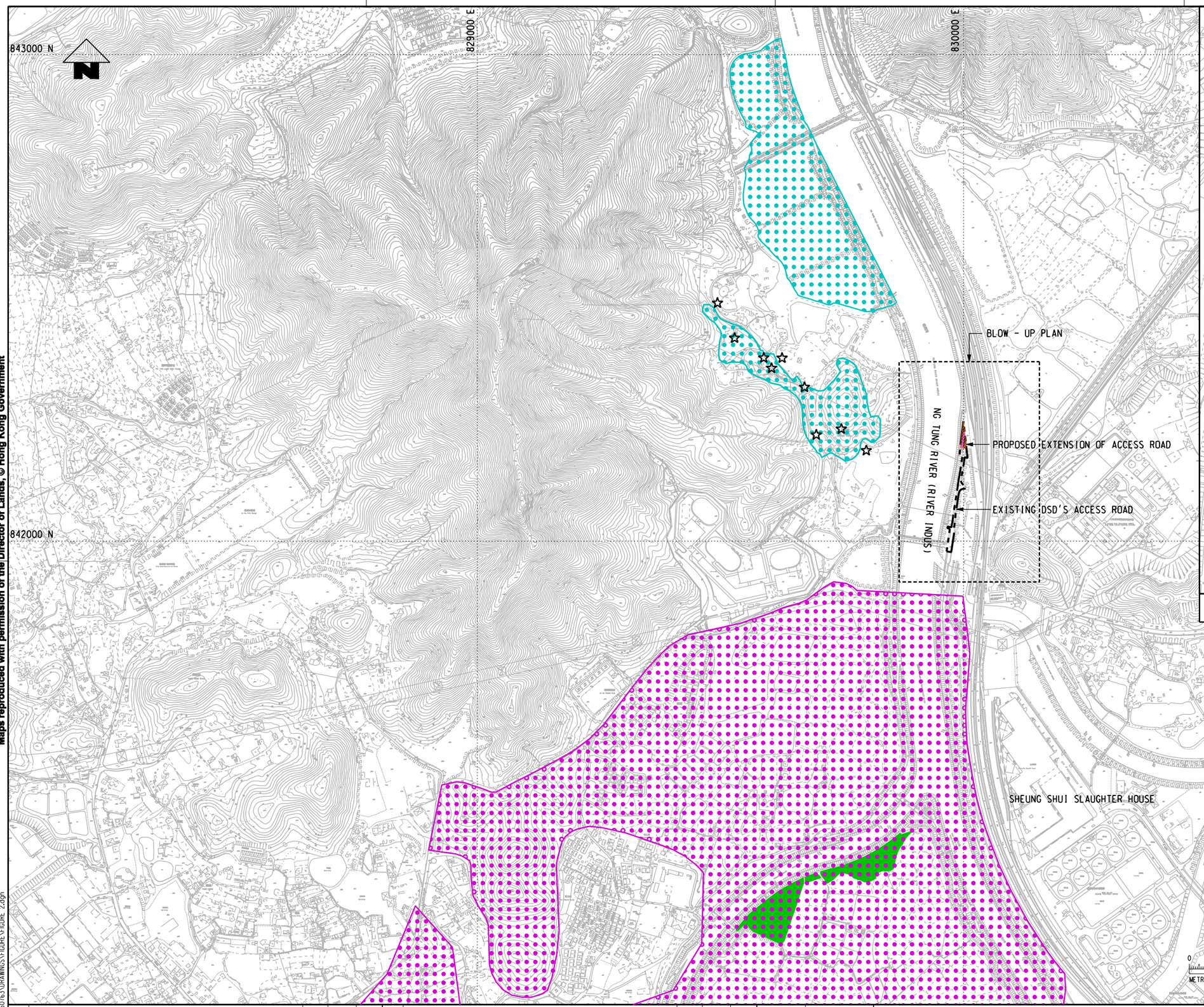
AECOM

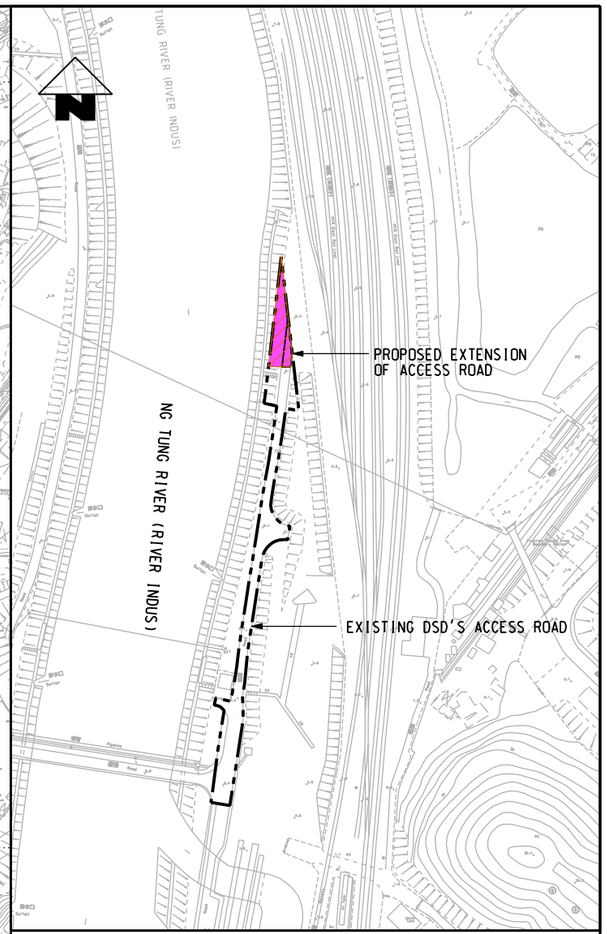
CADD REF. FIGURE 1.dgn

TITLE

NEX/2213
EIA STUDY FOR SCL (HUH - ADM)
OFFSITE WORKS AREA AT LO WU

SCALE	FIGURE NO.	REV.
1 : 2000 (A3)	FIGURE 1	A





BLOW - UP PLAN
SCALE 1 : 3000 (A3)

LEGEND:

- SCL SCHEME BOUNDARY
- OFFSITE WORKS AREA
- PROPOSED EXTENSION OF ACCESS ROAD
- CONSERVATION AREA
- LONG VALLEY AND HO SHEUNG HEUNG PRIORITY SITE
- MITIGATION WETLANDS
- HO SHEUNG HEUNG EGRETRY
- DEVELOPED AREA

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APPROVED	--
DATE	28/MAR/2011

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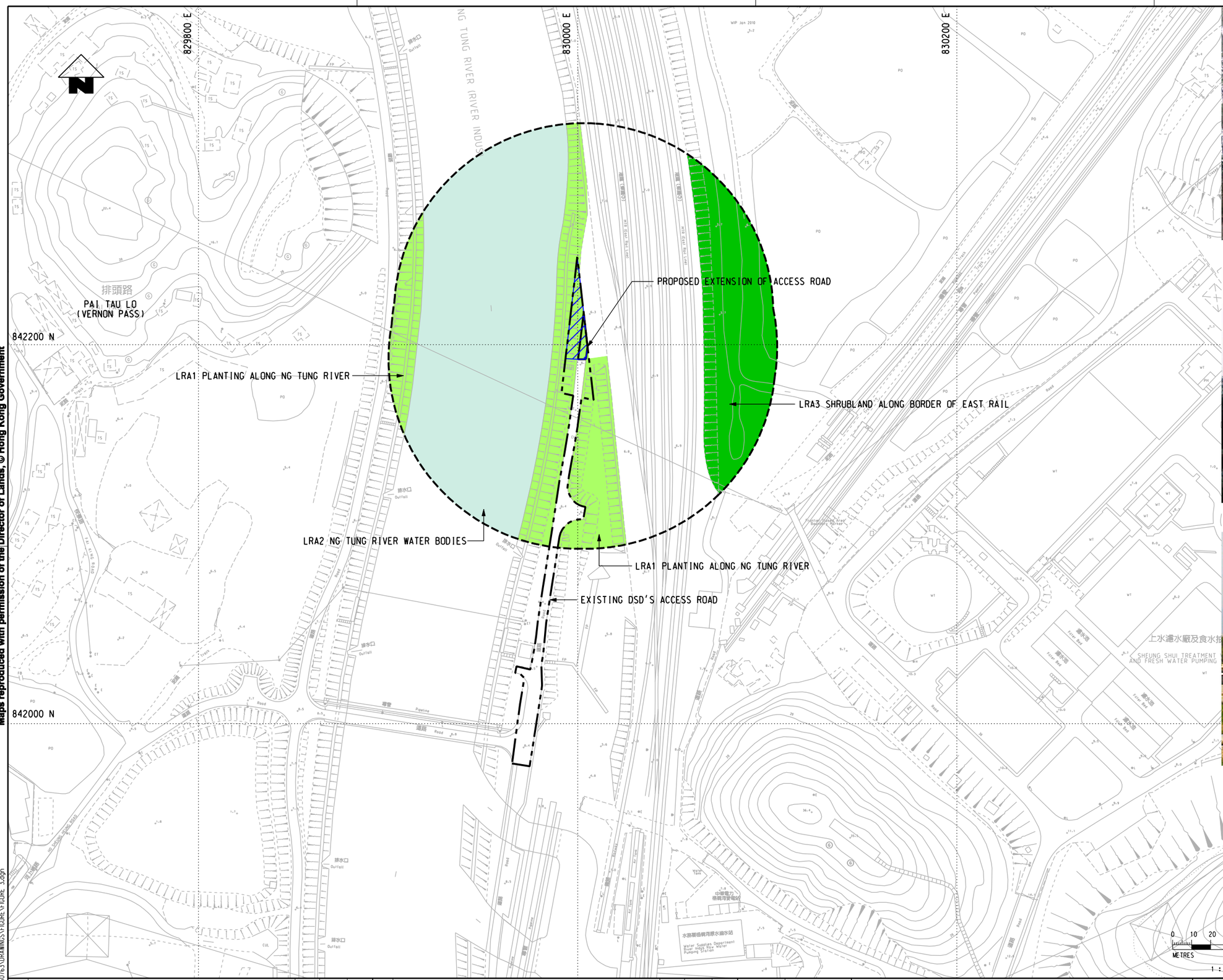
CADD REF. FIGURE 2.dgn

TITLE

NEX/2213
EIA STUDY FOR SCL (HUH - ADM)
AREAS OF ECOLOGICAL IMPORTANCE AND HABITAT WITHIN LO WU WORKS AREA

SCALE	FIGURE NO.	REV.
1 : 8000 (A3)	FIGURE 2	A



LRA1 PLANTING ALONG NG TUNG RIVER

LRA2 NG TUNG RIVER WATER BODIES

LRA3 SCRUBLAND ALONG BORDER OF EAST RAIL

LEGEND:

- SCL SCHEME BOUNDARY
- 100m STUDY BOUNDARY
- OFFSITE WORKS AREA
- PROPOSED EXTENSION OF ACCESS ROAD

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	ZRH
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DATE	25/MAR/2011

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CADD REF. FIGURE 3.dgn

TITLE

NEX/2213
EIA STUDY FOR SCL (HUH - ADM)
LANDSCAPE RESOURCES OF OFFSITE WORKS AREA

SCALE 1 : 2000 (A3) | FIGURE NO. FIGURE 3 | REV. A

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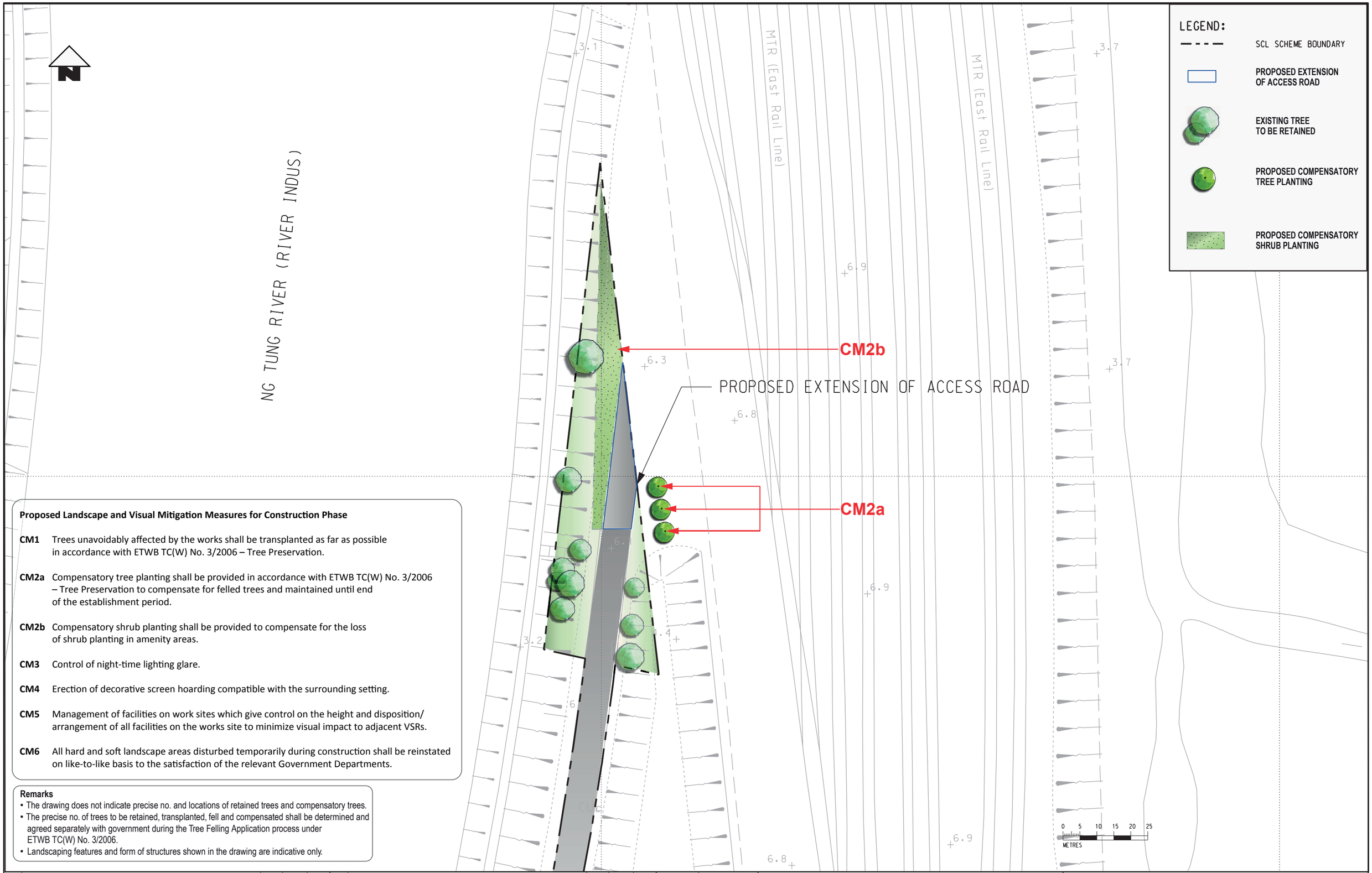

Proposed Landscape and Visual Mitigation Measures for Construction Phase

CM1 Trees unavoidably affected by the works shall be transplanted as far as possible in accordance with ETWB TC(W) No. 3/2006 – Tree Preservation.

CM2a Compensatory tree planting shall be provided in accordance with ETWB TC(W) No. 3/2006 – Tree Preservation to compensate for felled trees and maintained until end of the establishment period.

CM2b Compensatory shrub planting shall be provided to compensate for the loss of shrub planting in amenity areas.

CM3 Control of night-time lighting glare.

CM4 Erection of decorative screen hoarding compatible with the surrounding setting.

CM5 Management of facilities on work sites which give control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.

CM6 All hard and soft landscape areas disturbed temporarily during construction shall be reinstated on like-to-like basis to the satisfaction of the relevant Government Departments.

Remarks

- The drawing does not indicate precise no. and locations of retained trees and compensatory trees.
- The precise no. of trees to be retained, transplanted, fell and compensated shall be determined and agreed separately with government during the Tree Felling Application process under ETWB TC(W) No. 3/2006.
- Landscaping features and form of structures shown in the drawing are indicative only.

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NEX/2213

EIA STUDY FOR SCL (HUH - ADM)

LANDSCAPE MASTER PLAN AT LO WU ACCESS ROAD

SCALE N.T.S.

FIGURE NO. **FIGURE 4**

REV. **B**

Paved Road

Unpaved Area

AECOM	NEX/2213 - EIA Study For SCL (HUH - ADM)	SCALE	N.T.S.	DATE	Mar-11	
	Photographs showing the Site Condition of Lo Wu Works Area	CHECK	GCCL	DRAWN	FHNL	
		JOB NO.	NEX2213	**ANNEX No.** 1		**Rev** -

Annex 2 Aerial Photographs

Location: Lo Wu

Year: 1998

Photo No.: CN19612

Legend:

Approximate Location of Proposed Works Area

Location: Lo Wu

Year: 2003

Photo No.: CW51254

Legend:

Approximate Location of Proposed Works Area