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ACE-EIA Paper 1/2020
For advice on 20 April 2020

Environmental Impact Assessment Ordinance (Cap. 499)
Environmental Impact Assessment Report

Upgrading of Remaining Sections of Kam Tin Road and Lam Kam Road

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report on “Upgrading of Remaining Sections of Kam Tin Road and Lam Kam Road” (“the Project”) submitted under Section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-261/2019). The Highways Department (HyD) (“the Applicant”) and its consultants will present the report at the meeting of the EIA Subcommittee.

ADVICE SOUGHT

2. Members’ views are sought on the findings and recommendations of the EIA report. The Director of Environmental Protection (DEP) will take into account the comments from the public and the Advisory Council on the Environment (ACE) in deciding whether or not to approve the EIA report under Section 8(3) of the EIAO.

BACKGROUND

3. The Civil Engineering and Development Department conducted a traffic impact assessment in 2015 and Transport Department agreed with the assessment findings that there was a need to upgrade sections of Kam Tin Road and Lam Kam Road. The road sections are single two-lane carriageways with substandard width which cause road safety concerns. The Project involves local widening of the road sections to standard width with associated improvement of pedestrian facilities and provision of public transport laybys in order to enhance road safety and to cater for the

traffic demand of the planned Kam Tin South Development in 2030s. The Project will not increase the number of lanes of the road and hence no increase in traffic is expected.

4. The Applicant submitted the EIA report for the Project for approval. DEP, in consultation with relevant authorities, considered that the EIA report has met the requirements in the EIA Study Brief and the Technical Memorandum on EIA Process (TM), for the purpose of its exhibition for public inspection under Section 7(4) of the EIAO.

NEED FOR THE PROJECT

5. With the implementation of the Project, the current substandard conditions of the carriageways will be rectified and road safety enhanced. The Project will also improve the associated pedestrian facilities, public transport laybys, roadside slopes, road drainage, traffic aids, street lighting and roadside landscape. The Project is supported by the Rural Committees of Kam Tin and Pat Heung and District Councils of Yuen Long and Tai Po.

ENVIRONMENTAL BENEFITS

6. Apart from enhancing road safety, the Project will also bring about the following environmental benefits :

- (i) **Traffic noise improvement** : Though no increase in traffic is expected, direct noise mitigation measures in the form of road side noise barriers and low noise road surfacing have been recommended for the Project to alleviate the existing traffic noise impact on some nearby sensitive receivers alongside the Kam Tin Road and Lam Kam Road; and
- (ii) **Ecological, landscape and visual quality enhancement** : The Project will provide compensatory planting and landscaping works along Kam Tin Road and Lam Kam Road to enhance the visual quality along the road sections. Native tree species will be planted as far as practicable to compensate for the felled trees which are mostly ornamental plants and exotic species, in order to promote habitat complexity and enhance ecological value.

DESCRIPTION OF THE PROJECT

7. The Project will upgrade a total length of approximately 5.3km of Kam Tin Road and Lam Kam Road. The location plan of the Project in Figure 1 shows that three locations of the Kam Tin Road and Lam Kam Road is immediately adjacent to Conservation Areas (CA) and the road upgrading work will encroach upon the CA. Therefore, the Project constitutes a Designated Project under Item Q.1, Part I, Schedule 2 of the EIAO.

8. The scope of the Project includes in the following:

- (i) upgrading of the road section of Kam Tin Road between Tung Wui Road and Fan Kam Road to a 10.3m wide carriageway (single two-lane carriageway with right-turning lane);
- (ii) upgrading of the road sections of Kam Tin Road between Fan Kam Road and Lam Kam Road and Lam Kam Road from a substandard single two-lane carriageway to a standard carriageway of at least 7.3m wide;
- (iii) provision of 2m wide footpaths and improvement of the associated pedestrian facilities and public transport laybys; and
- (iv) implementation of the associated slope and drainage works, traffic aids, street lighting and landscaping works, etc.

CONSIDERATION OF ALTERNATIVE OPTIONS

9. The EIA report has considered alternative options for the development of the Project, including alignment, design, construction method and construction sequence to avoid and minimize environmental impacts. The key alternative considerations and outcomes in the EIA report are highlighted below:

Alignment and Design

- (i) The Project is largely aligned and designed to follow closely with the existing road in order to minimize land resumption and environmental impacts to the existing roadside developments and secondary woodland;
- (ii) Some particular sections of the Lam Kam Road have been shifted northward to minimize encroachment of the Conservation Area at the south;

- (iii) Footpath is carefully designed to minimize environmental impact. A footpath at a section of the Lam Kam Road is designed by shifting southward to preserve the existing roadside trees;

Construction Method and Sequence

- (iv) The Project will be carried out section by section, with each active construction workfront restricted to not more than 50m in length at only one lane and any two concurrent active workfronts will be separated by not less than 600m, in order to minimize cumulative environmental impact and traffic diversion for long road sections; and
- (v) Conventional construction method of open-cut excavation will be adopted, in order to avoid complicated traffic diversion scheme, minimize disturbance to road users and roadside developments, and minimize number of affected trees for temporary traffic diversion.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

Noise

10. The EIA study has assessed the road traffic noise during operational phase of the Project. It is estimated that approximately 600 of existing residential dwellings alongside the Kam Tin Road and Lam Kam Road are currently subject to excessive traffic noise impact. A package of direct noise mitigation measures, comprising 17 sections of roadside vertical noise barriers (840m) and low noise road surfacing (2.1km), is recommended in the EIA study to mitigate the traffic noise impact. With the direct noise mitigation measures in place, it is estimated that some 106 existing residential dwellings alongside the roads will be protected and will meet the relevant traffic noise criteria; while some 565 existing residential dwellings will be benefitted by reduced traffic noise impact from 1 to 10 dB(A).

11. For construction phase of the Project, the EIA study has recommended a series of noise mitigation measures, including the use of quality powered mechanical equipment, temporary noise barrier, enclosure and quieter construction methods, to mitigate the construction noise to meet the relevant criteria.

Ecology

12. The EIA study has assessed the potential ecological impacts during construction and operation phases of the Project on the key ecological sensitive receivers.

13. Recognized sites of conservation importance within the assessment area include Conservation Area (CA), the Lam Tsuen Country Park and Pat Heung Temple Fung Shui Woodland (FSW). The parts of CA encroached by the Project (about 9800 m²) comprise shotcreted slopes with common roadside trees, mixed woodland edge, and slopes covered with herbaceous plants with a few common trees and shrubs, which have relatively low ecological values. The ecological impacts to CA are assessed to be minor. The Project area will not encroach upon the Country Park and FSW and no direct impact is anticipated due to the Project.

14. Majority of the construction works of the Project will be carried out along existing roads and will cause loss of roadside plantation within urbanized / disturbed area. There will be small areas of habitat loss in nearby secondary woodland edge (about 3,840 m²) and agricultural land (about 600m²) and the ecological impact from the loss is considered as minor. The Project will involve construction works at two semi-natural watercourses for extension of existing box culvert and at a meander for temporarily removal of the existing gabion wall. The watercourses affected will be about 90m which are of low to moderate ecological value. The temporarily removed gabion wall will be rehabilitated after completion of the Project. The EIA report concluded that ecological impact on the watercourses and some riparian vegetation of the meander would be minor. As a precautionary measure, all construction works for the watercourses will be scheduled in dry season to further minimize the impact..

15. A 9-month ecological field survey covering wet and dry seasons had been carried out for both terrestrial and aquatic habitats. Some flora and fauna species of conservation importance were identified within the assessment area (500m from the Project boundary) but most of them were outside the Project area and will not be affected. A flora species of conservation importance, *Aquilaria sinensis*, is within Project boundary and it will be preserved in-situ. Appropriate protective measures have been recommended to avoid direct impact to this species during the construction phase.

16. Ecological impact during operation phase is considered insignificant as road traffic noise will not be changed significantly from the existing condition. Bird-friendly designs for the noise barriers (e.g. minimize the use of transparent or

reflective materials) will be adopted to avoid bird collisions.

Water Quality

17. The EIA study identified that key water sensitive receivers include the water gathering ground located at the eastern end of the Project, several semi-natural watercourses adjacent to or across the existing roads and the channelized Kam Tin River. With proper implementation of construction runoff control practices and mitigation measures, including *inter alia* the measures to protect rivers and streams from adverse impacts arising from construction works¹, conditions of working within water gathering ground during project construction², programming of excavation works in dry season, use of precast concrete unit, erection of cofferdam with silt curtain and proper arrangement of site drainage system using tarpaulin sheets and physical barriers to prevent construction runoff from directly discharging into watercourses, no adverse water quality impacts are anticipated from the Project.

Landscape and Visual Quality

18. A broad-brush vegetation survey was conducted, which identified 2,049 numbers of trees within the boundary of the Project. Among these trees, 1,250 numbers (61%) of trees are recommended to be retained, 43 numbers (2%) transplanted and 756 numbers (37%) felled. No listed or Old and Valuable Trees was found and most of the trees are ornamental plants and fast-growing exotic species. A compensatory planting ratio of at least 1:1 is recommended by planting of not less than 756 heavy standard trees.

19. The proposed mitigation measures such as roadside planting, compensatory planting, an integrated design approach of the road alignment and structures, and treatment of retaining wall and slopes will allow for landscape and visual integration of the Project within a largely rural / semi-rural landscape. The landscape and visual impacts of the Project are considered acceptable with the implementation of mitigation measures.

¹ Environment, Transport and Works Bureau Technical Circular (Works) No. 5/2005 “Protection of natural streams/rivers from adverse impacts arising from construction works” (<https://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/38/1/C-2005-5-0-1.pdf>)

² “Conditions of Working within Water Gathering Ground” promulgated by the Water Supplies Department

Other Environmental Impacts

20. Other environmental impacts including air quality, waste management, land contamination are relatively minor and have also been addressed in the EIA report. With the implementation of the recommended mitigation measures, the Project will comply with the relevant requirements under the TM.

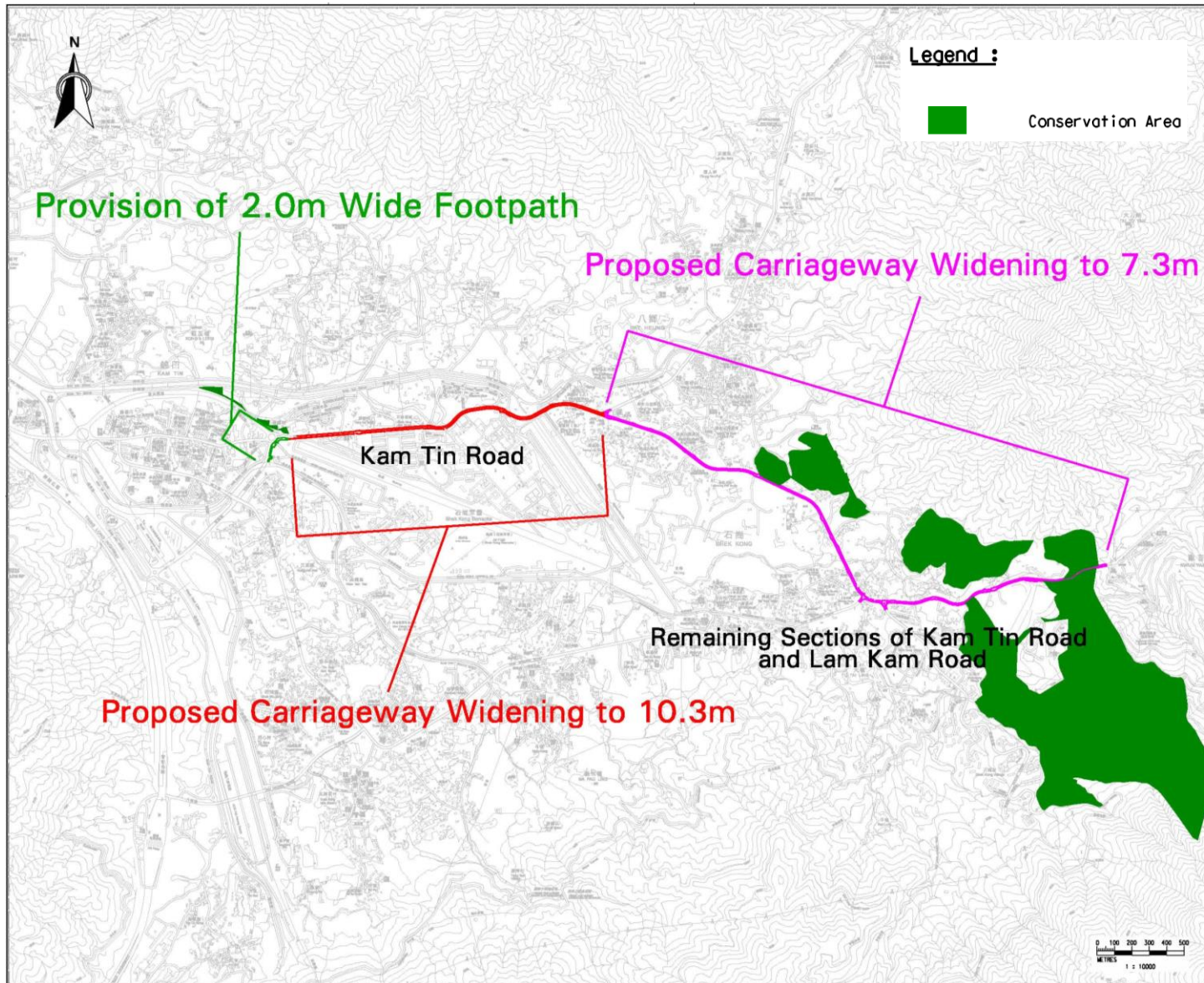
ENVIRONMENTAL MONITORING AND AUDIT


21. The EIA report has included an Environmental Monitoring and Audit (EM&A) Manual, which recommends an EM&A programme during the construction and operation phases of the Project. Key recommended EM&A requirements cover ecology, water quality, landscape, noise and construction dust issues.

PUBLIC CONSULTATION

22. The applicant has made the EIA report, EM&A Manual and Executive Summary available for public inspection under the EIAO from 14 February 2020 to 14 March 2020. A summary of all public comments received by EPD during the public inspection period and a gist of the main concerns raised in the public comments will be provided separately.

April 2020
Environmental Assessment Division
Environmental Protection Department



Project Title:	Upgrading of Remaining Sections of Kam Tin Road and Lam Kam Road	EIA Application No.:	
Figure 1	Project Location Plan [Remarks: This figure is prepared based on Figure 1.1 of the EIA Report]	EIA - 261/2019	