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ACE-EIA Paper 1/2021
For advice on 19 April 2021

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

**Drainage Improvement Works Near Four Villages in Yuen Long –
Sung Shan New Village, Tai Wo, Lin Fa Tei and Ha Che**

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report on “Drainage Improvement Works Near Four Villages in Yuen Long – Sung Shan New Village, Tai Wo, Lin Fa Tei and Ha Che” (“the Project”) submitted under Section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-268/2020). The Drainage Services Department (DSD) (“the Applicant”) and their consultants will present the EIA report at the meeting of EIA Subcommittee.

ADVICE SOUGHT

2. Members’ views are sought on the findings and recommendations of the EIA report. The Director of Environmental Protection (DEP) would take into account 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. In 2008, DSD commissioned the “Review of Drainage Master Plans in Yuen Long and North Districts – Feasibility Study” (DMP Review Study) to take into account the new developments and review the effectiveness of the previously recommended works under the Drainage Master Plan Studies for the Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Basin (YLDMP) conducted in 1998. The DMP Review Study completed in end 2011 proposed drainage improvement works to alleviate the flooding problem in Yuen Long and North Districts, which includes the subject four villages.

4. The Applicant submitted the EIA report for the Project for approval on 27 November 2020. DEP, in conjunction with all relevant authorities, considers that the EIA report has met the requirements of 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. Currently, the four villages are susceptible to flooding in the existing drainage system. The proposed drainage improvement works aim to alleviate the flooding spots in the villages.

ENVIRONMENTAL BENEFITS

6. Apart from alleviation of the flooding problem in the region, the Project will also bring about the following environmental benefits:

- (i) Ecological Enhancement: The reinstatement of the widened channels has provided an opportunity to restore and enhance the ecological functions provided by the original riverine habitat. Moreover, a range of hardscapes and greening designs have been recommended to enhance the ecological quality of the restored habitat, including those suitable for the recolonization of two affected endemic crab species, i.e. *Somanniathelphusa zanklon* and *Cryptopotamon anacoluthon*.

- (ii) Enhance the landscape and visual quality: The proposed landscaping works of the channels will revitalize the channels with visual and landscape treatment for public enjoyment and blending into the environment.

DESCRIPTION OF THE PROJECT

7. The Project covers drainage improvement works to four villages: Sung Shan New Village, Tai Wo, Lin Fa Tei and Ha Che (Figure 1). The Project designs have already taken into account the existing site constraints by optimizing the hydraulic capacity and minimizing the land resumptions. The scope of the Project includes:

Sung Shan New Village

- (i) Upgrading of 610m of the existing stream to a rectangular green channel of 7.5m to 8.0m wide and 3m to 5m high.

Tai Wo

- (i) Construction of a 290m long rectangular green channel of 1m wide and 1.5m to 3.1m high.

Lin Fa Tei

- (i) Construction of a 150m long rectangular green channel of 2m wide and approximately 1.7m high to intercept part of the surface runoff from the hillside and connect to Shui Tsan Tin stream;
- (ii) Upgrading of a 780m long existing Shui Tsan Tin stream to a rectangular green channel of 2.4m to 4.8m wide and 3.7m high along the original alignment;
- (iii) Deepening of a 240m long existing rectangular channel of various height in downstream of Lin Fa Tei along original alignment; and
- (iv) Construction of a 1650mm diameter drainage pipe underneath Kam Sheung Road.

Ha Che

- (i) Upgrading of a 600m long existing stream to a rectangular green channel of 3m to 6.5m wide and 1.8m to 3.1m high along the original alignment;

- (ii) Construction of an additional twin 1500mm diameter drains underneath the Fan Kam Road; and
- (iii) Upgrading of a 170m long existing stream to a rectangular green channel with various width ranging 3.5m to 4.5m.

8. The tentative construction programme is expected to commence in the fourth quarter of 2022 for completion in the fourth quarter of 2025.

CONSIDERATION OF ALTERNATIVES

9. The EIA study has considered alternative options for the Project, including alternative construction methods and sequences of work to avoid or minimise environmental impacts. Key alternative considerations and environmental outcomes in the EIA report are highlighted below:

Alternative Construction Methods for Proposed Underground Drainage Pipes

- (i) By adopting the trenchless method for underground drainage pipes in Lin Fa Tei and Ha Che, excavation is only required at launching and receiving pit locations. Hence construction impacts are confined to areas in the vicinity of the two working pits only;

Construction Methods and Sequence of Works for Proposed Channels

- (ii) To minimize potential impacts on water quality during the channel construction, the excavation would be carried out in dry condition by temporarily diverting the stream flow by a temporary drainage channel with sheet piles, earth bund or barrier;
- (iii) To minimize the potential disturbance to the local communities and ecological impact to the environment, the drainage improvement works will be constructed by sections and the length of each section will be approximately 30m in Sung Shan New Village and Ha Che, 15m in Tai Wo and 25m in Lin Fa Tei, respectively; and

- (iv) To minimize the duration and extent of the ecological impact from the temporary habitat loss, the staged construction program should be commenced from downstream upward, with the reinstatement work such as planting of riparian vegetation to commence as soon as the construction activities are completed.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

Water Quality

10. With proper implementation of the recommended mitigation measures, in particular the establishment of dry condition for excavation works, adverse water quality impacts are not anticipated during the construction stage.

11. During operation of the Project, regular maintenance desilting shall be carried out for the proposed channel to remove excessive silts, vegetation, debris and obstruction.

Ecology

12. A seven-month ecological field survey covering both wet and dry seasons was conducted to identify habitats and species of conservation interest within the 500m Study Area of each work site. Since most of the work site is adjacent to villages and hence bordered by man-made or heavily disturbed habitats, only two species of endemic freshwater crab, i.e. *Somanniathelphusa zanklon* and *Cryptopotamon anacoluthon*, will be directly affected by the Project. It is proposed to translocate the two affected endemic crab species to area protected from anthropogenic disturbance within the Kam Tin Valley before the commencement of the construction work.

13. Furthermore, the reinstatement of the widened channels has provided an opportunity to restore the ecological functions of the disturbed riverine habitat. A “Habitat Creation and Management Plan” will be prepared to detail the restoration process and monitoring strategy of the reinstated riverine habitat during the detailed design stage.

14. With the implementation of the recommended mitigation measures recommended, there will be no residual ecological impact from the Project.

Landscape and Visual

15. A total of 324 numbers of existing trees have been identified within the Project site areas. No Registered Old and Valuable Trees were found. According to the latest design, 292 numbers of trees with poor to fair condition and low to medium amenity value will be felled with compensatory planting not less than 1:1 in terms of number within the sites.

16. Mitigation proposals including the use of natural watercourse bedding in wider channels, embankment greening as well as the provision of tree and shrub planting along the channel edges have been proposed. The works would make visual improvements to some locations in the longer term.

Cultural Heritage

17. It is proposed that an Archaeological Survey by a qualified archaeologist be undertaken for the proposed works near the previous findings of wooden remains within the Lin Fa Tei Site of Archaeological Interest prior to the relevant construction works. With the implementation of the recommended mitigation measures, adverse impacts on cultural heritage are not anticipated.

Other Environmental Impacts

18. Other environmental impacts including air quality, noise, waste management, and land contamination have been satisfactorily addressed in the EIA report. With the implementation of the recommended mitigation measures, the Project would comply with the requirements of the EIA Study Brief and TM.

ENVIRONMENTAL MONITORING AND AUDIT (EM&A)

19. The EIA report includes an EM&A Manual which recommends an EM&A programme during the construction and operational phase of the Project. Key recommended EM&A requirements cover noise, ecology, water quality, waste management, cultural heritage and visual and landscape.

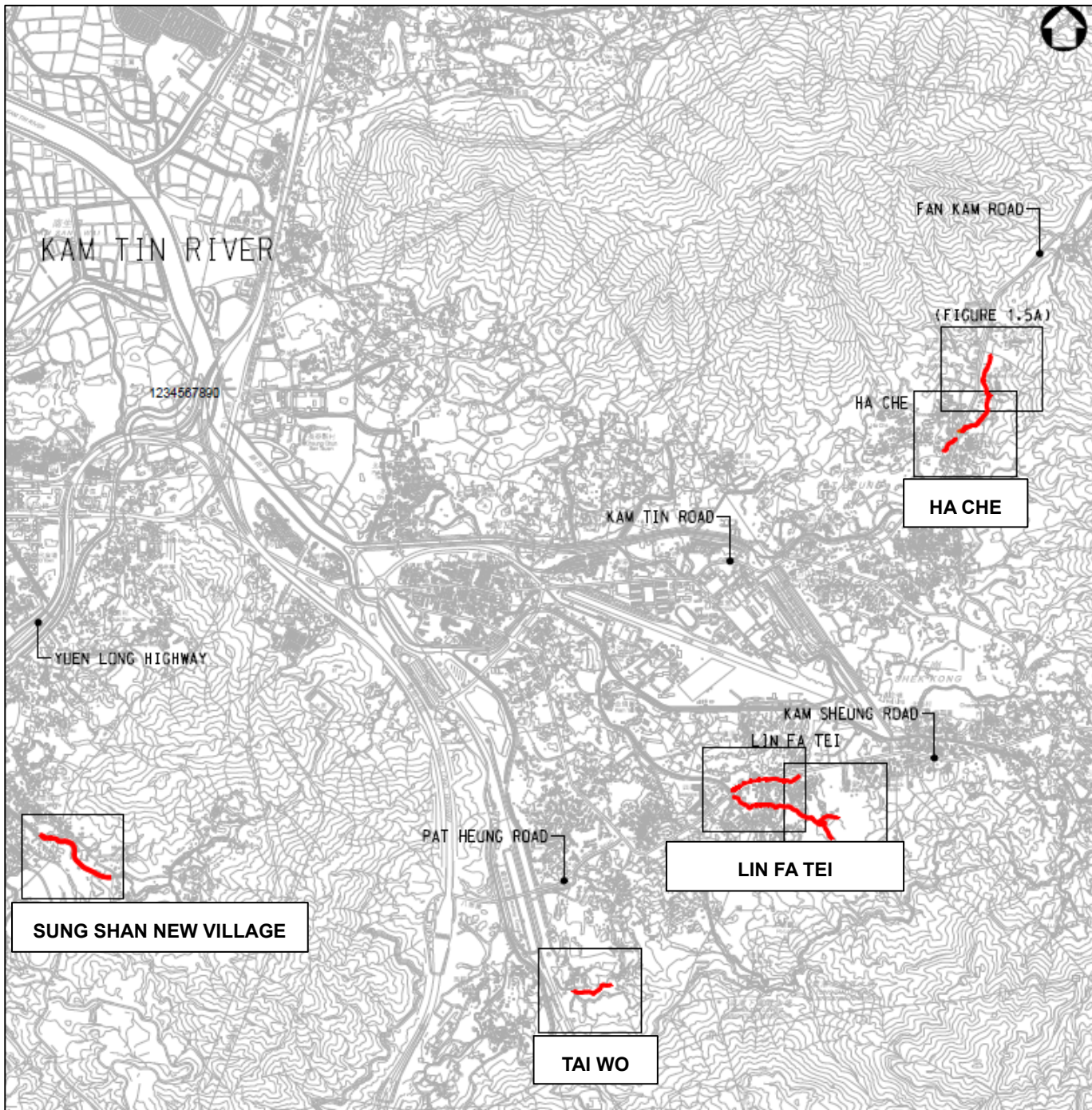
PUBLIC CONSULTATION

20. The Applicant has made the EIA report, EM&A Manual and Executive Summary available for public inspection under the EIAO from 22 February to 23 March 2021. During the inspection period, a total of two sets of public comments were received by EPD. 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 2021

Environmental Assessment Division

Environmental Protection Department



LEGEND:

 PROPOSED DRAINAGE WORKS

Project Title: Drainage Improvement Works Near Four Villages in Yuen Long – Sung Shan New Village, Tai Wo, Lin Fa Tei and Ha Che

Figure 1: Site Location Plan

**Application No.:
EIA-268/2020**

