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18 CONCLUSION

18.1 Conclusion of EIA Study

18.1.1 This Environmental Impact Assessment (EIA) Report has provided an assessment of the potential environmental impacts associated with the construction and operation of the Project based on the preliminary engineering design information available at this stage.

18.1.2 The assessment, conducted in accordance with the Study Brief No. ESB-363/2023 under the Environmental Impact Assessment Ordinance (EIAO) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), covers the following environmental issues:

- Air Quality;
- Noise;
- Water Quality;
- Sewerage and Sewage Treatment Implications;
- Waste Management Implications;
- Land Contamination;
- Ecological Implication (Terrestrial and Aquatic);
- Fisheries;
- Landscape and Visual;
- Impact on Cultural Heritage;
- Hazard to Life;
- Landfill Gas Hazard; and
- Impact from Electric and Magnetic Field.

18.1.3 The findings of the EIA Study have determined the likely nature and extent of environmental impacts predicted to arise from the construction and operation of the Project. During the EIA process, specific environmental control and mitigation measures have been identified and incorporated into the planning and design of the Project in order to achieve compliance with environmental legislation and standards during both the construction and operational phases. The implementation schedule listing the recommended mitigation measures is presented in **Appendix 16.1**.

18.1.4 Various sections of this EIA Report present the measures to minimise the potential environmental impacts associated with the Project throughout the construction and operational phases. The key measures to minimise the environmental impacts are summarised in **Section 17.5**.

18.1.5 An environmental monitoring and audit (EM&A) programme has also been developed and is presented in a stand-alone EM&A Manual to check on project compliance of environmental legislation and standards.

18.1.6 The summary of key assessment assumptions and limitations of methodologies and summary of environmental impacts are presented in **Appendix 18.1** and **Appendix 18.2**, respectively.

18.2 Air Quality Impact

Construction Phase

18.2.1 Potential air quality impact from the construction works of the Project would mainly be related to the construction activities of excavation, material handling, spoil removal and wind erosion. Construction activities of the concurrent projects within 500 m assessment area would also pose cumulative construction air quality impact. With the implementation of mitigation measures recommended and EM&A programme, no adverse air quality impact on air sensitive receivers (ASRs) in the vicinity of the works sites would be anticipated during the construction phase.

Operational Phase

18.2.2 Cumulative air quality impact arising from the vehicular emissions from the existing and planned open roads, proposed transport facilities including Transport Interchange Hub and Public Transport Terminus, and heavy goods vehicle/coach parking sites, as well as the existing and planned industrial emissions within 500 m assessment area has been assessed. No adverse air quality impact on the existing and planned ASRs is anticipated.

18.2.3 Cumulative odour impact arising from existing odour sources and the proposed sewage pumping station (SPS) has been assessed. With implementation of the proposed mitigation measures, adverse odour impact is not expected.

18.3 Noise Impact

Construction Noise

18.3.1 Assessment on potential construction noise impact arising from the Project has been conducted qualitatively. The assessment results indicate that with the implementation of appropriate mitigation measures, no adverse construction noise impact would be anticipated.

Road Traffic Noise

18.3.2 Road traffic noise impact assessment has been conducted. The predicted overall noise levels would exceed the relevant noise criteria at a number of noise sensitive receivers (NSRs) in the unmitigated scenario. With the implementation of the proposed noise mitigation measures including the provision of low noise road surfacing (LNRS), absorptive type noise barriers, and acoustic windows/balconies or acoustic windows/balconies lined with sound absorptive material, the overall noise levels at all planned NSRs within the Development Area would comply with the traffic noise criteria. For the existing NSRs with the predicted traffic noise levels exceeding the relevant noise criteria, all practicable direct mitigation measures, such as noise barriers and LNRS, have been considered such that the predicted traffic noise levels from Project roads would be below the relevant noise criteria, and the noise contribution from the Project roads to the overall traffic noise levels at all existing NSRs would be less than 1.0 dB(A). Therefore, no further direct mitigation measures are required for these existing NSRs. In addition, these NSRs would not be eligible for indirect technical remedies due to high prevailing noise levels and/or dominant noise contribution from the existing roads.

Fixed Noise Sources

18.3.3 In view of the large separation distance between the existing fixed noise sources and the planned NSRs, and that the impact from the planned fixed noise sources could be effectively mitigated by implementing at-source noise control measures during the detailed design stage, no adverse impact from both the existing and proposed fixed noise sources of the Project would be anticipated.

Rail Noise

18.3.4 No adverse airborne and ground-borne rail noise impact would be anticipated.

18.4 Water Quality

Construction Phase

18.4.1 Water quality impacts from the construction works are associated with the general construction activities, construction site run-off, sewage effluent from construction workforce, accidental spillage of chemicals, construction works in proximity of / in inland waters, removal / diversion of watercourses, removal / filling of ponds, groundwater from contaminated areas, contaminated site run-off and wastewater from land contamination. With the implementation of the recommended mitigation measures including proper site management and good site practices, adverse water quality impact is not anticipated.

Operational Phase

18.4.2 All sewage generated from the Project will be discharged to the public sewerage system and diverted to San Tin Effluent Polishing Plant (EPP), and when necessary, to Yuen Long EPP for proper treatment via the proposed and existing Nam Sang Wai (NSW) SPS. To avoid emergency bypass to the maximum extent as far as practicable, various precautionary measures have been proposed for incorporation in the design of the SPS. Also, a Contingency Plan is recommended to be developed for dealing with the remote occurrence of emergency discharge. Hence, the possibility of sewage overflow would be remote, and the associated adverse water quality impact would be minimised.

18.4.3 Another source of potential impact during the operational phase will be non-point source run-off from impervious areas. Stormwater control measures including adequate stormwater drainage system with suitable pollutant removal devices, blue-green infrastructure and best management practices are recommended for the Project to minimise the non-point source pollution. The removal of watercourses would have minimal impact on hydrology and flow regime. With proper implementation of the recommended mitigation measures, it is anticipated that the water quality impacts associated with the non-point source discharge from road surfaces and developed areas would be minimised.

18.5 Sewerage and Sewage Treatment Implications

18.5.1 There is no existing sewerage system near the Development Area. An on-site SPS with a capacity of 44,875 m^3/day, requiring 0.14 ha land, is proposed to cater for the sewage generated from the Project including the operation of future Northern Link (NOL) Main Line (i.e. 504 m^3/day, with 10% contingency) and the existing villages (i.e. 4,000 m^3/day) in initial stage. The collected sewage would be pumped from the proposed SPS to San Tin EPP, and when necessary, to Yuen Long EPP via the existing NSW SPS for treatment.

18.5.2 The proposed on-site SPS would be further upgraded from 44,875 m^3/day to 55,875 m^3/day to cater for the increased sewage discharge from the nearby existing villages in long term when need arises. Space has been reserved at Site G.1 for the potential upgrade.

18.5.3 With sewage septicity control measures, including consideration of non-dosing solutions prior to dosing solutions, and recommendations for the proposed on-site SPS and the associated sewerage system, no identified insurmountable sewerage and sewage treatment implications arising from the Project are anticipated.

18.6 Waste Management Implications

18.6.1 The main waste types to be generated during the construction phase of the Project will include construction and demolition (C&D) materials, chemical waste, general refuse, excavated sediment, desilted materials and floating refuse. Provided that the waste is handled, stored, transported and disposed of using approved methods, adverse waste management implications, including potential hazards, air and odour emissions, noise, wastewater discharge, ecology and public transport, associated with handling, storage, transportation and disposal of wastes during the construction phase of the Project are not expected.

18.6.2 The main waste types to be generated during the operational phase of the Project will include municipal solid waste, chemical waste, clinical waste and desilted materials. Two new refuse collection points and a Community Recycling Centre will be provided by the Project. The proposed waste infrastructures will provide convenient collection of recyclables from the local community, and to create synergy to achieve better operational efficiency and environmental sustainability. Provided that the waste is handled, stored, transported and disposed of using approved methods, adverse waste management implications, including potential hazards, air and odour emissions, noise, wastewater discharge, ecology and public transport, associated with handling, storage, transportation and disposal of wastes during the operational phase of the Project are not expected.

18.7 Land Contamination

18.7.1 Site appraisals, in the form of desktop review and site walkover, were carried out between December 2021 and July 2025 to identify the past and current potentially contaminating land uses within the Project Site. Based on the site appraisal, 30 potentially contaminated sites and 16 sites suspected to be used for industrial purposes were identified within the Project Site (excluding the works sites / areas under the NOL Main Line project and the development area under the San Tin / Lok Ma Chau Development Node (STLMC DN) project). For the works sites / areas under the NOL Main Line project and the development area under the STLMC DN project, any potential land contamination issues within these areas would be addressed by MTRCL under the NOL Main Line project and Civil Engineering and Development Department (CEDD) under the STLMC DN project prior to the construction of topside development and construction of the proposed road connection to/from San Tin Technopole under this Project respectively. No potential land contamination impact within these areas is therefore anticipated for the Project.

18.7.2 Further land contamination assessments, including further site appraisal and submission of Contamination Assessment Plan(s) (CAP(s)), should be conducted for the whole Project Site at a later stage of the Project when site access is available to confirm the existing land uses / activities, identify the presence of any potential

contamination sources, and address any new contamination issues. The associated site investigation works and any necessary remediation action are recommended to be carried out after operation of concerned site(s) has ceased but prior to the commencement of construction works. The recommended further assessment and remediation works, including the submission of CAP(s), Contamination Assessment Report(s) / Remediation Assessment Plan(s) and Remediation Report(s) would follow the relevant Guidance Manual, Guidance Note and Practice Guide.

18.7.3 With the implementation of the recommended follow up works for the Project, any soil/groundwater contamination would be identified and properly remediated prior to the construction works. No insurmountable land contamination impacts to the Project are therefore anticipated.

18.8 Ecological Implication (Terrestrial and Aquatic)

18.8.1 Direct impacts arising from the construction and operational phases of the Project include direct loss of habitats and vegetation, fragmentation of wooded areas on Ngau Tam Shan, direct impact on species of conservation importance, including flora and fauna species, and bird collision. Avoidance, minimisation, mitigation and compensation measures, such as transplantation and translocation of species of conservation importance, incorporation of wildlife corridor and animal barriers design, pre-construction survey for nest of White-throated Kingfisher and use of non-transparent or non-glazing materials are recommended to avoid, minimise and mitigate the potential direct impacts to the habitats and the associated wildlife within and adjacent to the Project Site.

18.8.2 On the other hand, indirect impacts such as disturbance impact to recognised sites of conservation importance, ecologically sensitive resources, foraging ground as well as associated wildlife, night-time disturbance and potential water quality and hydrodynamics impact may be induced by the construction and operation of the Project. Measures such as provision of screening, use of directional lighting, general good site practice and other noise, air and water quality mitigation measures are recommended. Moreover, the feasibility to adopt the Modular Integrated Construction technology for the construction of connection of cycle track will also be explored in the detailed design stage to minimise on-site construction works within the Wetland Buffer Area and the associated potential disturbance impacts to other ecologically sensitive resources in the vicinity.

18.8.3 In addition to the abovementioned mitigation measures, a wetland compensation site would also be provided to mitigate the unavoidable direct loss of marsh/reed and natural watercourse habitats with low to moderate impact significance under the Project. Further enhancement measures such as the proposed revitalisation works in the Ngau Tam Mei Drainage Channel (NTMDC) would be implemented to enhance the ecological value of the drainage channel in the area.

18.8.4 With the implementation of the proposed mitigation and enhancement measures, no unacceptable residual ecological impacts are anticipated to arise from the construction and operation of the Project.

18.9 Fisheries Impact

18.9.1 Permanent loss of potential fisheries resources would be anticipated under the Project, however, the area involved is considered as small in terms of the overall fishpond areas in Hong Kong (i.e. less than 1% in total) and quite a number of the

active fishponds were utilised for non-edible ornamental fish cultivation. The fisheries impact arising from the Project is therefore considered to be low.

18.9.2 Upon the implementation of recommended mitigation measures, no adverse impact on fisheries resources is anticipated from the construction and operational phases of the Project.

18.10 Landscape and Visual Impacts

18.10.1 Considering the scale and nature of the Project, it would inevitably result in certain levels of landscape and visual impacts in relation to the loss of water bodies, woodlands and the views from hilltop. Efforts have been exhausted to ameliorate the potential visual impact of the Project as far as possible. In addition, among the approximately 19,000 nos. of existing trees within the Project Site, approximately 90% will be inevitably affected by the proposed works and proposed to be removed or transplanted as far as practicable , subject to further review at detailed design stage. Tree compensation strategy would be proposed along the proposed roadside amenity areas, open space sites and amenity sites in accordance with the latest design layout. As stipulated in *DEVB TC(W) No. 4/2020*, tree compensation in a ratio of 1:1 as far as possible is advisable, under the current development proposal under purview of CEDD, areas are mainly public roads and engineering infrastructure works. Future residential/ commercial sites and UniTown which are outside the purview of CEDD and not considered for tree compensation under this assessment. In view of the above, approximately 3,200 new trees are proposed to be compensated within Project Site. The exact number and location are subject to the detailed design and construction stages of this Project, areas within the Project Site and off-site areas for compensatory tree planting should be explored and negotiated with relevant project proponent(s) to achieve 1:1 ratio in compensatory tree planting number as far as practicable. Nevertheless, the residual landscape impacts arising from the revitalisation of the major modified drainage channel (i.e. NTMDC) and rationalisation of the scattered brownfield operations, but the majority of the proposed developments is located within developed/ wasteland / man-made re-creatable landscapes, while the residual visual impact is confined within the visual envelope involving few numbers of public viewers along footbridges, hiking trails and unmaintained paths viewing infrequently and in short durations. With the implementation of the proposed landscape planning and mitigation measures, the overall amenity of the Project should contribute to its surrounding area and complementary to the surrounding proposed developments as an urban fringe landscape, the overall landscape residual landscape impact would be ranging from beneficial to moderate during operational phase, and the overall significance thresholds of visual impact after mitigation measures established would range from slight to moderate, no unacceptable adverse landscape and visual impacts with mitigation measures implemented are expected.

18.11 Impact on Cultural Heritage

Built Heritage Impact Assessment

18.11.1 Baseline study, comprising of desktop research and field evaluation, has identified ten graded historic buildings located within 300 m assessment area but outside the Project Site, while no built heritage is located within the Project Site. Neither direct nor indirect impact is anticipated on the built heritage within the assessment area.

18.11.2 During the construction of the Project, there would be direct impacts on seven other identified items that are located within the Project Site. Cartographic and photographic record, and other documentation means (including 3D scanning) should be conducted prior to the commencement of any construction works by the contractor(s) at the respective locations for record purposes and future use.

18.11.3 On the other hand, potential indirect impacts are anticipated on eight other identified items due to their proximity to the Project Site. Standard control measures on ground-borne vibration, tilting and settlement should be implemented for these other identified items by the future contractor(s) by drawing necessary references from relevant government guidelines.

18.11.4 During operational phase, in response to comments obtained during public engagement, HB1219 will be preserved in situ, while YTMT06 would be either preserved in situ or demolished subject to the future project proponent's consideration at detailed design stage. As Wai Cheung Ancestral Hall (HB1219) is proposed to be preserved in situ within the Project Site, standard measures of condition survey should be conducted for the building before and after the construction works to aid the formation of monitoring proposal and confirm its structural stability respectively. If the former Yau Tam Mei Primary School (YTMT06) is confirmed to be preserved in situ in subsequent stages, the abovementioned monitoring and condition survey should also be conducted for the school during the construction phase.

18.11.5 A buffer zone, where no piling works are allowed, should be reserved according to the results of the pre-construction condition survey in the design layout of the Project for HB1219 and YTMT06 (if preserved in situ) to minimise potential adverse vibration impact from construction works. Furthermore, the contractor(s) should enforce protocol to forbid any direct contact of construction machineries with them and provide physical barriers in order to protect the buildings' fabrics. Moreover, dust suppression measures and good site practice should be adopted by the contractor(s) during the construction phase in order to avoid dust nuisance on HB1219, San Yau Vegetable Marketing Co-operative Society, Ltd. (YTMT05) and YTMT06 (if preserved in situ). A safe access route to HB1219, YTMT05 and YTMT06 (if preserved in situ) should be maintained for conducting mitigation measures. Additionally, project proponent(s), subsequent developer(s) and contractor(s) should be aware of eight other identified items located in proximity of the Project Site when the construction works are carrying out nearby.

18.11.6 During operational phase, it is anticipated that these other identified items (HB1219 YTMT06) would be utilised as part of their proposed land use, therefore, direct impact would be anticipated. However, in the case when YTMT06 would be demolished during the construction phase, impact on YTMT06 is not anticipated during operational phase and no mitigation measure is required.

18.11.7 Upon the preservation in situ of YTMT06, opportunity for potential revitalisation should be explored and mitigation measures will be proposed as appropriate in the detailed design stage. On the other hand, any revitalisation proposed for HB1219 in subsequent stages should be further reviewed.

Archaeological Impact Assessment

18.11.8 Based on the desktop review and the findings of previous archaeological surveys, there are high archaeological potential areas located within the Project Site, namely

Ngau Tam Mei Site of Archaeological Interest (SAI), Ngau Tam Mei Archaeologically Sensitive Area (ASA) and Ngau Tam Mei (North) ASA. Direct impact on archaeological heritage is anticipated during the construction phase.

18.11.9 Archaeological excavation is recommended to be conducted at the Project Site within Ngau Tam Mei SAI to obtain adequate archaeological information of the area, and retrieve the archaeological data, if any, before the commencement of works involving soil disturbance at the respective area, subject to future land resumption status and discussion with Antiquities and Monuments Office (AMO) in later stages.

18.11.10 Archaeological survey-cum-excavation is recommended to be conducted at Ngau Tam Mei ASA and Ngau Tam Mei (North) ASA to obtain adequate archaeological information of these areas for verifying their archaeological potential, and retrieve the archaeological data, if any, before commencement of works involving soil disturbance at the respective areas, subject to future land resumption status and discussion with AMO in later stages.

18.11.11 For the potential direct impact to areas possess moderate-low archaeological potential within the Project Site, archaeological survey should be conducted to obtain adequate archaeological information of these areas for verifying their archaeological potential, and retrieve the archaeological data, if any, before commencement of works involving soil disturbance at the respective areas. It should be subject to future land resumption status and discussion with AMO in later stages.

18.11.12 The low archaeological potential areas identified within the archaeological assessments of the approved EIA reports of NOL and STLMC DN within the Project Site are considered as having acceptable impact, while there would be no impact on archaeological heritage by the Project for the areas that have been disturbed heavily due to modern development and have no archaeological potential. As a precautionary measure and pursuant to the *Antiquities and Monuments Ordinance (Cap. 53)*, the project proponent is required to inform the AMO immediately in case of discovery of antiquities or supposed antiquities in the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with and to the satisfaction of AMO. With the implementation of the recommended mitigation measures, adverse impacts on archaeological heritage, if any, would not be anticipated.

18.12 Hazard to Life

18.12.1 No hazard to life impact is anticipated as there are no existing hazardous facilities with consultation zones encroaching upon the Project Site and no planned hazardous facilities proposed under the Project.

18.13 Landfill Gas Hazard

18.13.1 A small portion of the Project Site lies within the consultation zone of the closed and restored Ngau Tam Mei Landfill. Qualitative landfill gas hazard assessment has been conducted and the risk category is classified as “Very Low” during both construction and operational phases, and thus no mitigation measures are required. However, appropriate precautionary and protective measures should be considered to further minimise the landfill gas hazard.

18.14 Impacts from Electric and Magnetic Fields

18.14.1 According to the Recommended Outline Development Plan, the existing 400 kV overhead cables are situated near/at the southern and eastern portions of the Development Area. Based on the measurement results in previous EIA studies, the electric field (ELF) and electromagnetic field (EMF) generated by the existing 400 kV overhead cables, even at the area directly underneath the overhead cables, were only a few percent of the general public and occupational exposure standards, which are well below the stipulated limits in the International Commission on Non-ionizing Radiation Protection (1998) guideline. Hence, it is expected that the existing 400 kV overhead cables located within/in the vicinity of the Development Area would not pose adverse impact on the proposed developments of the Project.