Annex C

EIA reports on
"Pier Improvement at Lai Chi Wo" and "Pier Improvement at Tung Ping Chau"

Relevant Extract of the draft minutes of
the Environmental Impact Assessment Subcommittee meeting
held on 16 November 2020

Present:

Professor TAM Fung-yee, Nora, BBS, JP (Chairperson)
Ir MA Lee-tak, SBS (Deputy Chairman)
Ir Cary CHAN, JP
Ir Samantha KONG
Ms Julia LAU
Dr Michael LAU
Dr Winnie LAW
Professor Albert LEE
Professor Kenneth LEUNG, JP
Ir Professor Irene LO, JP
Dr SUNG Yik-hei
Ms LAM Chung-yan
Ms Becky LAM (Secretary)

Absent with Apologies:

Mr Simon WONG, JP
Professor WONG Sze-chun, BBS, JP
Ms Christina TANG

In Attendance:

Mr Owin FUNG	Deputy Director of Environmental Protection (3), Environmental Protection Department (EPD)
Mr Terence TSANG	Assistant Director (Environmental Assessment), EPD
Mr Stanley LAU	Principal Environmental Protection Officer (Strategic Assessment) (Acting), EPD
Mr Lawrence LIU	Senior Environmental Protection Officer (Strategic Assessment) 6 (Acting), EPD
Mr Felix TAI	Environmental Protection Officer (Strategic Assessment) 63, EPD
Mr Simon CHAN	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr CHOW Wing-kuen	Senior Marine Conservation Officer (East), AFCD
Dr Alvin HO	Marine Conservation Officer (East 1), AFCD
Miss Dora CHU	Executive Officer (CBD) 1, EPD

Miss Sally SHEK	Executive Officer (CBD) 1 designate, EPD
Miss Ingrid SUEN	Executive Officer (CBD) 2, EPD

In Attendance for Item 3:

Project Proponent Team	
Civil Engineering and Development Department	Mr Ricky WONG, Deputy Head of CEO (Port & Land) Mr Francis LEE, Project Team Leader / Pier Improvement Mr Thomas YUNG, Deputy Project Team Leader / Pier Improvement Mr CHIK Kan-to, Project Coordinator /Projects 3A
Ove Arup & Partners Hong Kong Limited	Mr James SZE, Project Director Mr Terence LEUNG, Deputy Project Manager Mr Franki CHIU, Project Environmental Team Leader Mr Jason WONG, Project Coordinator Miss Sabrina LAI, Project Public Relations Officer Mr Anthony FONG, Environmental Consultant
Ecosystems Limited	Mr Vincent LAI, Ecological Specialist Dr Klinsmann CHEUNG, Senior Ecologist

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Action

Item 3 : Discussion on EIA reports on "Pier Improvement at Lai Chi Wo" and "Pier Improvement at Tung Ping Chau"
(ACE-EIA Papers 3/2020 and 4/2020)

Question-and-Answer Session (Open Session)

Environmental Sustainability

2. A Member suggested prioritizing the use of locally manufactured/recycled eco-materials such as eco-tiles and eco-concrete in order to support the local industry. Another Member supported and enquired about the extent of use of eco-tiles or eco-concrete in the proposed construction of the projects. Mr Ricky Wong mentioned that under a government-funded eco-shoreline project led by Professor Kenneth Leung, the technique for recycling local materials for the production of eco-tiles and eco-blocks was being developed. Subject to the development of the technique, he aspired that the use of locally manufactured eco-tiles or eco-concrete in the projects could be prioritised and maximized as far as possible and the extent of use would be considered during the detailed design stage.

3. A Member suggested the project proponent incorporate sustainability

elements in the design of the projects with a view to achieving environmental sustainability and carbon neutrality. He considered that the use of renewable energy and eco-friendly materials such as low/zero-emission concrete should be promoted.

4. Mr Ricky Wong advised that the use of renewable energy was encouraged for all ten public piers covered under the first phase of the Pier Improvement Programme. Drawing reference to the Pak Kok Pier which was under reconstruction, it was planned that photovoltaic panels would be installed on the roof structures of the piers as far as possible to promote the use of renewable energy and to generate electricity for the operation of the piers.

5. A Member suggested CEDD consider the use of more advanced technologies as well as the deployment of flexible photovoltaic devices instead of conventional ones for better aesthetics.

6. A Member appreciated that photovoltaic panels would be installed and remarked that this could serve for educational purposes. In reply to the Member's enquiry regarding the electricity supply on the island, Mr Ricky Wong advised that the local residents relied on their own electricity generators as there was no electricity supply to the island. As there were spatial limitations for the installation of photovoltaic panels, he anticipated that the electricity generated could only support the operation of the pier.

Visual and Landscape Design

7. A Member mentioned that both Lai Chi Wo (LCW) and TPC were part of the Hong Kong UNESCO (United Nations Educational, Scientific and Cultural Organization) Global Geopark and suggested that unique features should be incorporated into the new design of the piers to reflect the geological significance of the respective areas. She highlighted that TPC was made up of the youngest sedimentary rock in Hong Kong's geological history, whereas LCW was characterised by its volcanic rocks formed about 164 million years ago. In response to Mr Ricky Wong's proposal to place educational display boards on the piers, the Member clarified that unique features to reflect the geological significance should be incorporated in the design of the pier, such as through the colour scheme and/or material texture.

8. A Member showed concern about the vetting procedures for the design of the piers. Mr Ricky Wong advised that architects and landscape architects would be engaged in the design process and the final design would be submitted to the District Council for comments before seeking funding approval from the Finance Committee.

9. A Member suggested using light-penetrating materials, such as glass blocks, in the walkways of the improved piers to provide the necessary energy source for the growth of corals and other marine organisms with a view to

sustaining the ecological connectivity underneath the pier structures.

Ecological Impacts

Potential Impacts on Green Turtles

10. A Member remarked that Green Turtles were spotted and photographed by villagers at the LCW Beach, which was a Site of Special Scientific Interest (SSSI), and near the LCW pier in November 2016 and December 2017. A few sightings were reported by villagers in the following years but without photo record. As for TPC, a conservation group had recorded Green Turtle activities at the TPC pier on 19 October 2019. She sought for the record of Green Turtles in the concerned sites for the past ten to twenty years. Mr Vincent Lai advised that while there were occasional sightings of Green Turtles in TPC as reported by villagers and conservation groups, no Green Turtles were recorded within the project site during the ecological survey of the present study. Considering that there would be no dredging works and silt curtains would not be used for the TPC Project, it was considered that the construction works would not pose significant impact on Green Turtles. He added that contractors would be required to suspend the marine works upon spotting any Green Turtles in the vicinity of the works area.

11. In reply to a Member's enquiry regarding proposed precautionary measures in the event of storms/typhoons to minimise any adverse ecological impacts on the project sites, Mr James Sze said that the contractor would keep in view of the weather forecasts issued by the Hong Kong Observatory (HKO) and remove the working barge from the site in the event of Typhoon Signal No. 3 being hoisted. There would be no suspended solids (SS) release during storms/typhoons as construction work would be suspended. He added that the silt curtains would be properly anchored for the LCW Project to prevent SS release. The contractor would closely monitor the condition of the silt curtains and perform maintenance works as necessary, especially after storms/typhoons.

Coral Translocation in TPC

12. A Member sought details of the coral translocation plan and the post-translocation monitoring programme at TPC. Mr Vincent Lai said that in accordance with the EIA requirements, experienced marine ecologists would be engaged prior to the commencement of construction to conduct a pre-translocation coral baseline survey within the area of the proposed pier extension and the temporary pier. Based on the results of the survey, a coral translocation plan with details on the baseline survey results, translocation methodology, proposed coral recipient site(s) and post-translocation monitoring methodology would be devised and submitted to the Agriculture, Fisheries and Conservation Department (AFCD) for consideration. With reference to the coral mapping survey, he advised that some coral colonies were found to be readily movable and could be translocated with the substrates, and those attached on larger boulders or the bedrock might have to be moved or isolated by tools to facilitate translocation. Mr Lai supplemented

that such translocation techniques had been used in previous projects with positive results. For instance, the coral translocation conducted in TPC in 2006 had a 100% survival rate. He further advised that the translocated corals would be monitored throughout the construction phase and for one year into the operational phase. Weekly monitoring would be conducted when the construction of piles and downstand wall was underway, and the monitoring frequency would be conducted on a monthly basis when no such works were conducted. The monitoring reports would be submitted to AFCD for verification.

13. In reply to a Member's question on whether recreational water activities, such as diving or snorkeling, would be suspended at the proposed recipient sites of the translocated corals during the construction phase, Mr Vincent Lai said that these sites were located at a certain distance from the works areas, and there would not be any restriction on recreational water activities outside the works areas. Addressing the Chairperson's concern on the fragility of the newly translocated corals, Mr Lai advised that visitors were required to comply with the Marine Parks Visitor Codes and avoid any physical contact with the corals. Given that there was no report on the damage of corals at the concerned area which was a reef check site, he considered that risk of damage of the translocated corals by visitors was low.

14. A Member expressed appreciation that all coral colonies recorded within the area of the proposed pier extension and temporary pier would be translocated. He suggested deploying artificial reefs at the coral donor sites, subsequent to the translocation of the coral colonies, to promote coral restoration and enhance the biodiversity and ecosystem functions of TPC Marine Park.

15. The Chairperson enquired whether the 100% survival rate for 41 translocated coral colonies in TPC in 2006 could accurately reflect the success of the translocation exercise. She mentioned that according to a study on coral recruitment led by Professor Ang Put Jr. in 2017, the recruitment rate of the coral colonies under monitoring was 0.19 per metre square per year, which was on the low side.

16. Mr Vincent Lai clarified that the recruitment rate measured the growth rate of coral colonies, which was different from the survival rate. Apart from the coral translocation conducted in TPC in 2006, he mentioned that coral translocation was also conducted under the projects "Tseung Kwan O – Lam Tin Tunnel and Associated Works" and "Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung", with 89 and 43 coral colonies translocated respectively. Excluding those corals that were lost possibly due to strong waves during typhoon, the translocated coral colonies recorded a 100% survival rate.

17. The Chairperson enquired whether the corals to be translocated were readily movable, i.e. could be easily moved underwater together with the substrates, such as small boulders. Mr Vincent Lai said that among the 90 coral colonies to be translocated, around 49 were regarded as not readily movable, and the rest were readily movable.

Water Quality Impacts

18. A Member suggested designating a buffer zone to restrict recreational activities in the vicinity of the works area to protect visitors from physical harm or water quality impacts.

19. Mr Franki Chiu said that mitigation/precautionary measures were proposed to avoid and minimise any potential water quality impacts. Water quality monitoring would also be conducted during the construction phase, and actions would be taken promptly if the water quality parameter(s) exceeded the action or limit levels. He mentioned that monitoring stations would be set up near the piling works sites for sensitive detection of any water quality impacts.

20. A Member enquired about the projected elevation in SS level upon each grab. Mr Franki Chiu said that as only one or two piles would be constructed at the same time and pile casing would be used to confine SS release, unacceptable residual impacts were not anticipated. Additional precautionary measures, including the use of silt curtains for the LCW Project, and the use of closed grab, double casing and Y-shaped funnel for the TPC Project, would further minimise the risks of SS release into the surrounding water body. With reference to other projects with similar mitigation/precautionary measures, the water quality impacts were anticipated to be insignificant.

Fisheries

21. A Member remarked that the Marine Parks and Marine Reserves (Amendment) Regulation 2019 came into effect in April 2020 for implementation of the new fisheries management strategy in marine parks. Under the new strategy, commercial fishing would be banned in marine protected areas in the northeastern waters of Hong Kong, and the piers fell into these areas. New fishing permits would not be granted and existing fishing permits would not be extended beyond the transitional period of two years.

Accessibility to the Piers

22. Acknowledging that the piers would be widened to improve accessibility, a Member enquired about the conditions of the footpaths for accessing the piers. Mr Ricky Wong advised that it was an established Government policy to provide barrier-free environment for persons with disabilities therein enabling them to access and make use of the facilities. The project proponent, in collaboration with the Home Affairs Department, would improve and widen the footpaths connecting to the piers as necessary.

23. A Member was concerned that the increase in capacity of the piers might attract more visitors which would increase man-made pollution and cause disruptions to the environment, especially for TPC which was an island with

limited facilities. Mr Ricky Wong said that the number of visitors to TPC was controlled via the provision of Kaito ferry services to and from Ma Liu Shui. The need to change the frequency and passenger load of the ferries would be reviewed by the Transport Department, and subject to the scrutiny of the Country and Marine Parks Board (CMPB). Mr Wong explained that the objective of the projects was to improve the operational and safety conditions of the piers.

24. In reply to a Member's question regarding the berthing capacities of the improved piers, Mr Terence Leung confirmed that vessels could be berthed at both the floating platform and the landing steps of the piers.

25. With reference to the preliminary design photomontages of the piers, a Member observed that the proposed pier roof coverage was rather small and asked whether all-weather walkways with extensive roof coverage would be considered. Mr Terence Leung replied that the extent of coverage of the pier roof would be subject to the passenger load of Kaito ferries and the number of photovoltaic panels to be deployed depending on the electricity consumption for operating the piers.

Construction Methodology

26. A Member commended the efforts made by the project proponent to strike a good balance between ecological conservation and operational and safety needs for the piers. He considered that the projects provided a good opportunity to improve and incorporate new features in the piers, such as the integration of biodiversity into the design through the use of eco-tiles. He expressed concern regarding the structural integrity of the existing piers, especially for that in LCW where piling works at the existing pier would be conducted for the construction of new pier structures. He suggested that the project proponent should assess the need for stabilising the existing pier structure before conducting the improvement works during the detailed design stage.

27. Mr Terence Leung informed that cracks and bulging were found on the existing LCW pier, and frequent maintenance was required to stabilise the structure and sustain the operation of the pier. He mentioned that improvement works had been completed on the TPC pier in 2007 which resulted in a relatively more stable structure, and it was anticipated that the proposed improvement works would help enhance the structural integrity of the existing LCW and TPC piers. For the integration of new pier structures with the existing LCW pier, Mr Leung advised that the preliminary plan was to install mini piles in order to avoid destabilising the existing pier structure. Mr James Sze added that the construction of new structures on top of the existing pier could help reduce the water quality impacts. Mr Ricky Wong explained that the sea level could rise above the existing LCW pier which had a top level of about +3.0 metres above the Hong Kong Principal Datum (mPD), which posed safety concerns for existing pier users and vessels. As such, concrete decks supported by piled foundation on top of the existing LCW pier were proposed.

Action

28. In reply to the Chairperson's question regarding the different precautionary measures proposed for the marine piling works of the two projects, Mr Terence Leung explained that both projects would make use of pile casing with a view to minimising the water quality and ecological impacts. Silt curtains would be deployed for the LCW Project which was a proven method to effectively reduce the dispersion of SS and minimise the water quality impacts. As for the TPC Project, the deployment of silt curtains might cause damage and injury to the coral colonies nearby and thus would not be used for this project. The use of double casing and Y-shaped funnel was proposed as an alternative to confine SS inside the pile casing. Mr Franki Chiu supplemented that the Y-shaped funnel could avoid grabbed materials from accidentally being released into the surrounding water body. This technique was also used in the construction of the Hong Kong-Shenzhen Western Corridor and the Hong Kong Link Road and was proven to be effective.

Conclusion

29. There being no further questions from Members, the Chairperson thanked the project proponent team for their presentation and detailed clarification on the project.

[The project proponent team left the meeting at this juncture.]

Internal Discussion Session (Closed-door session)

30. The Chairperson advised that the EIA Subcommittee should make recommendations to ACE on the EIA reports with the following consideration:

(i) endorse the EIA report(s) without condition; or
(ii) endorse the EIA report(s) with conditions and / or recommendations; or
(iii) defer the decision to the full Council for further consideration, where issues or reasons for not reaching a consensus or issues to be further considered by the full Council would need to be highlighted; or
(iv) reject the EIA report(s) and inform the project proponent of the right to go to the full Council.

31. The Chairperson proposed and Members agreed to endorse the two EIA reports with conditions and recommendations.

Visual and Landscape Design

32. While the projects mainly aimed to enhance the operational and safety conditions of the piers, a Member considered that this was a good opportunity to improve the aesthetics and design of the piers, and suggested that the design of the pier should incorporate unique features to reflect the respective geological significance of LCW and TPC.

Action

33. A Member opined that a condition should be imposed to require the project proponent to meet various design principles, such as the incorporation of sustainability elements and unique features to reflect the geological significance of the respective areas.

34. A Member opined that the minimal design of the existing LCW pier should be retained in order to match with the surrounding rustic environment. With reference to the information boards that introduced the history of Sha Tau Kok along the Sha Tau Kok Public Pier, she considered that this design might not be suitable for LCW and opined that electronic display panels installed near the LCW pier could serve the purpose. Given that design concept was subjective, she considered that the imposition of a condition might restrict the flexibility of the design and suggested involving experts and/or professional bodies in the design such as by holding competitions.

35. A Member agreed that a simple design should be adopted for the piers to reduce visual impacts on the environment, and he remarked that the prevailing handy electronic information sharing platforms had reduced the need for physical notice and information boards.

36. Mr Terence Tsang reminded that project proponent would be required to comply with the conditions stipulated in an Environmental Permit (EP), and thus any imposed conditions should be enforceable without ambiguity. Considering that design was subjective and members had different opinions on the design, Mr Tsang suggested making a recommendation to the project proponent on the broad principles of design. He informed Members that it was not uncommon to impose an EP condition requiring the project proponent to deposit with DEP the design of the project for review by the relevant departments such as the Planning Department before commencement of the construction of the project.

37. A Member invited EPD to convey the relevant discussions and strong concerns of EIASC on the design of the projects to the project proponent.

38. With the understanding that the design would be vetted by the relevant departments, the Chairperson suggested and Members agreed to strongly recommend the project proponent to devise a schematic layout plan of design, subject to the consultation with the Director of Planning, to ensure that the final pier designs could feature the uniqueness and natural setting of LCW and TPC, and enhance the landscape quality and the geological significance of the Hong Kong UNESCO Global Geopark. The selection of colour scheme and material texture should harmonize and be compatible with the natural setting of LCW and TPC.

Environmental Sustainability

39. The Chairperson suggested recommending the project proponent to prioritise the use of locally manufactured eco-materials such as eco-tiles and eco-concrete as far as possible.

40. A Member was concerned that locally manufactured eco-materials might not be able to compete with non-local markets due to the higher manufacturing costs, and considered that a condition should be imposed instead to require the project proponent to procure locally manufactured eco-materials.

41. The Chairperson pointed out that for the proposed condition to be enforceable, clear benchmarks or quantifiable requirements were necessary. While acknowledging a Member's remark that the local market should be able to cater for the low usage of the projects, the Chairperson and Mr Terence Tsang warned that favouritism in the procurement should be avoided.

42. A Member suggested and another Member agreed that the project proponent should prioritise the procurement of locally manufactured eco-materials, but if such procurement was against public interest due to inhibiting costs or other reasons, the project proponent would be allowed to source the materials from non-local markets.

43. Mr Terence Tsang suggested and Members supported to impose a condition to require the project proponent to use locally manufactured/recycled eco-materials, such as eco-tiles and eco-concrete, in the design and construction of the pier with a view to enhancing ecological functions of the pier and minimizing the carbon footprint of the Project, or provide justifications to DEP when procurement of eco-materials manufactured by non-local markets was deemed necessary.

44. A Member opined that light-penetrating surfaces for the walkways should be used to enhance the ecological connectivity of the piers, and at the same time serve for educational purpose. He suggested drawing reference from the Seattle Waterfront which had deployed glass blocks in the sidewalk above the seawall to allow light penetration and preserve the eco-corridor for migrating salmon and other species.

45. The Chairperson suggested and Members supported recommending the project proponent to consider light-penetrating surfaces for the walkways to enhance the visual permeability and improve and sustain the ecological connectivity of the piers.

46. Given that this recommendation was related to the design of the piers, the meeting had no objection to include it under the schematic layout plan of design to be submitted by the project proponent.

47. Members also agreed not to include any conditions or recommendations regarding the deployment of photovoltaic panels in the piers given that this was already proposed in the EIA reports of the projects.

Ecological Impacts

Action

Coral Translocation in TPC

48. A Member proposed and other Members supported recommending the project proponent to prepare a post-translocation monitoring programme of the translocated coral colonies, subject to the consultation with the Director of Agriculture, Fisheries and Conservation, for evaluation of effectiveness and successfulness of coral translocation. The programme should include parameters including recruitment rate, growth rate and survival rate of the translocated corals.

49. The Chairperson echoed the views of a Member that the quality of water and substrate of the donor site should be improved to promote coral restoration subsequent to the translocation of the coral colonies.

50. A Member informed that there had been encouraging results in the coral restoration trials conducted by AFCD in Hoi Ha Wan Marine Park, and there were also successful examples in Taiwan. He suggested a condition be imposed to require the project proponent to improve the habitat quality of the donor site, such as by the deployment of artificial reefs.

51. Mr Chow Wing-kuen echoed that there had been rapid developments in the techniques used for coral restoration in Hong Kong, with positive results in the on-going study conducted in collaboration with the Swire Institute of Marine Science of the University of Hong Kong. He advised that the techniques used in artificial coral restoration were still under development, and the procedures involved were complex. Given that the project proponent had already proposed coral translocation as a mitigation measure and natural recolonization of coral at the donor site was possible, he considered that it might not be necessary to conduct artificial coral restoration given the time and costs involved, and the imposition of such a condition might not be justified.

52. The Chairperson suggested and Members agreed to recommend the project proponent to enhance the habitat quality subsequent to the translocation of the affected coral colonies, such as deploying artificial reefs at the coral donor sites to enhance the biodiversity and ecosystem functions of TPC Marine Park.

Potential Impacts on Green Turtle

53. Given that there were reported sightings of Green Turtles at LCW and TPC by villagers and conservation groups almost every year, a Member was concerned that the proposed works might affect the Green Turtles. Mr Simon Chan advised that it was difficult to detect Green Turtles other than when they were nesting. In view of the low number of sightings, he considered that there should be minimal Green Turtle activity at LCW and TPC, especially at the works areas which were near the shore, and thus there were no anticipated adverse impacts to Green Turtles during the construction phase.

Action

54. A Member informed that during the CMPB meeting held in October 2020, the project proponent said that the contractor would be required to cease all marine works upon spotting any Green Turtles in the vicinity of the works area.

55. The Chairperson proposed and Members supported to recommend the project proponent to stay vigilant of any signs of Green Turtles before and during marine works, and adopt necessary precautionary measures to minimise any potential impact/disturbance to Green Turtles as far as possible.

Water quality impacts

56. A Member enquired whether the project proponent should be required to provide the baseline data as well as the action and limit levels for SS and dissolved oxygen levels to ensure no unacceptable water quality impacts from piling works. The Chairperson advised that the relevant data was included in the Environmental Monitoring and Audit (EM&A) Manuals of the projects.

57. Based on past experience, Mr Terence Tsang advised that the use of silt curtains for the LCW Project, and the use of closed grab, double casing and Y-shaped funnel for the TPC Project, were proven effective methods to confine the SS inside the pile casings. Members were satisfied that the marine piling construction method could effectively prevent the release of SS into the surrounding water body and no adverse water quality impacts were anticipated, and it was agreed that no condition or recommendation should be proposed on this aspect.

58. The Chairperson asked EPD to remind project proponents to consolidate the relevant data to facilitate future reference.

Conclusion

59. There being no other comments from Members, the meeting agreed that the EIA report for the LCW Project could be endorsed with one condition and two recommendations, and the EIA report for the TPC Project could be endorsed with one condition and four recommendations. The project proponent team would not be required to attend the full Council meeting scheduled for 7 December 2020.

[Post meeting note: The list of proposed conditions and recommendations was circulated to Members for comments on 23 November 2020.]

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EIA Subcommittee Secretariat
December 2020