Annex B

EIA report on "Tai Shue Wan Development at Ocean Park"

Summary of issues discussed by the Environmental Impact Assessment Subcommittee at the meeting on 23 June 2014

The Environmental Impact Assessment Subcommittee (EIASC) discussed the EIA report on "Tai Shue Wan Development at Ocean Park" at the meeting on 23 June 2014. The issues discussed were summarized below.

Ecology

2. Members enquired if the Ecological Enhancement Area, i.e. the re-provisioned Flamingo Pond in the south-western part of the project site could be developed to provide an alternative roosting site for ardeids and other wild birds before commencement of construction works of the Tai Shue Wan Development (the Project). They asked if there would be any developments associated with the Flamingo Pond that might cause disturbance to the area. Members noted there was already a drop in the number of birds roosting in the Tai Shue Wan area. They also asked about the possible impact of the Project on the northern and eastern streams in the project site.

3. The project proponent advised that they were willing to consider the practicability of advancing the re-provisioning of the Flamingo Pond, taking into account the schedules of other construction works of the Project. There would not be any water rides or major human activities in the vicinity of the Flamingo Pond. As regards the question on the drop of birds roosting in the area, the Hong Kong Bird Watching Society (HKBWS) had advanced a suggestion that the previous presence of flamingos in the theme park now closed might have provided certain assurance to egrets that the area was safe. Egrets simply sought alternative roosting site when the pond was closed. For the two streams in the project site, they confirmed that the current project design would avoid construction works on the eastern stream completely. Having regard that the northern stream was only a seasonal seepage with slow water flow, any impact arising from the project would be insignificant.

Woodland loss and compensation planting

4. Members sought clarification on the different terminologies used in the EIA report for permanent woodland loss, temporary woodland loss, woodland

compensation and woodland reinstatement. They disagreed with the notion taken by the project proponent that felling trees and planting them back later in situ was regarded as temporary woodland loss. They opined that tree felling already represented a permanent loss of the woodland as the trees newly planted could never be of the exact species and comparable maturity as those which had been felled. They shared the views that the newly planted trees might not re-create the same ecosystem and functions that originally existed in the area. They considered it necessary for the project proponent to differentiate the ecological purpose of woodland reinstatement and compensatory planting as well as to set out the justifications on the species to be selected. In this regard, project proponents in future should be advised on the proper definition of woodland loss and woodland reinstatement when preparing their EIA reports.

5. Members also asked for details of the compensatory tree planting plan including the objectives, species to be selected, as well as management and monitoring of the planted trees. Questions were raised with regards the criteria for selecting the species. Remarks were also made that the proposed three-year monitoring period for the compensated woodland areas was too short in view of the long years required for trees to grow to maturity. It would be difficult for the project proponent to see to the effectiveness of the compensatory measures within a three-year timeframe. Members shared the view that the project proponent should aim to establish better quality and more diversified secondary woodland areas in the project site rather than replicating the young secondary forests in situ.

6. The project proponent informed that they would plant native species in the woodland compensation areas. As the site had a direct marine frontage, they would select species with high tolerance to strong winds and salt sprays. The species would basically be those currently being identified in the local environment that could adapt to the unique site conditions. The tree planting list for the Woodland Compensatory Plan in the EIA report was not meant to be exhaustive, and the four species so named were for general reference purpose. They would submit a detailed Woodland Compensatory Plan to EPD for approval before they developed the woodland compensation areas.

7. Regarding the duration of the monitoring period, the project proponent said that the EIA report had proposed to monitor the woodland compensatory planting for an initial three-year period. They would review and present their findings. AFCD's views would be sought on any extension which might be required when nearing the end of the three-year monitoring period. They would review the situation and consider extension as and when considered necessary. They assured Members of their continued commitment to conserve the plantation in the project site. As almost

half of the species matured from plantation care over the past 30 years since the opening of Ocean Park, they had every intention to maintain the new plantation in the same good condition as before.

8. Mr Y K Chan informed that in general, the major requirement of woodland compensation was a quantitative approach for compensating the loss of woodland in terms of area. The species to be used might not be comprehensively specified except that native species should be opted as far as practicable. He supplemented that the four species named in the EIA report should serve well for Members' reference.

Ardeids

9. Members noted that there was a roosting population of ardeids originally in Wong Chuk Hang, which moved to Tai Shue Wan due to the construction of the South Island Line, and further moved to Ap Lei Chau. It was evident that the birds were sensitive to human disturbance. However, there was no assessment in respect of the cumulative impacts imposed by possible developments in the three localities on the roosting population. Members were concerned that developments in Ap Lei Chau in future might displace ardeids out of Aberdeen altogether after all the three localities were developed. A Member pointed out that the wintering period was the most important roosting period for ardeids. The comprehensiveness of the ecological survey was questioned as the survey findings only showed the data of February to November 2013, and had not covered the two months of December 2013 and January 2014 which were the most important wintering period for roosting.

10. The project proponent explained that the period of the ecological field survey was adopted with reference to the requirements of the Study Brief. Record showed that the number of night-roosting ardeids had dropped to zero for two consecutive months in October and November 2013. It was considered that the survey data collected and other literature review had proved sufficient for forming the basis of the ecological impact assessment. They also recognized the sporadic nature of ardeid roosting patterns along Aberdeen Channel, and had therefore proposed to set up an Ecological Enhancement Area in the Project to provide an alternative roosting site for ardeids and other wild birds. They were committed to provide favourable conditions and settings in the Ecological Enhancement Area for ardeids to roost after completion of the construction works of the Project. They were discussing with HKBWS on the matter. As the Ecological Enhancement Area would serve to create a habitat suitable for night roosting, there would be an opportunity for it developing into an egretry in future.

Landscape and visual impacts

11. Members suggested that native flora species over exotic species should be used for the slope greening works which would allow better integration with the surrounding natural environment. Members were concerned about the design of the swimming pool in using an extensive skylight and the resultant glare impact that would give rise to light pollution. A Member said that the project proponent should further explore the potential of enhancing edge treatment and having vertical planting on buildings to improve the overall visual quality and designing the building terraces to match with the natural landscape. No artificial greening features should be considered for the purpose. Flora species which could grow sustainably on their own without much irrigation and other attention were to be considered for green roof and other green planting as that would involve substantial management costs and extensive maintenance. Clarification was also sought as to whether spot lighting would be used to light up buildings after dusk. On this, the project proponent was requested to provide the revised lighting simulations, an updated roof plan and configuration of the skylight for Members' reference.

12. There was also the concern on the design and colour scheme of the building structures. Suggestion was made to use *Machilus sp* to create a unique scenic spot for visitors to appreciate similar to the popular tourist sites for *Sakura* species that people flocked to visit in Japan and Korea. As regards the choice of lawn grass for roof planting, a Member strongly advised against the use of *Carpet Grass* as the species would wither and stay dormant during the winter months. *Zoysia Japonica* was suggested as the species was fungus- and insect-free, required minimal fertilizer and could grow all year round.

13. The project proponent said that a relaxing, resort-type atmosphere would be created and hence no strong lighting would be used. They would have hanging plants and climbers to soften the edges of the roofs and terraces, but there would not be vertical greening. They had an open mind as to the species to be planted so long as they were of ecological benefits to the surrounding environment. In-principle approval had been obtained from the Planning Department and the Lands Department on the Master Landscape Plan under the Town Planning Ordinance. They had also adopted an earth-tone colour scheme to allow the buildings and facilities to blend well into the surrounding natural environment. Further discussions would be held with the water ride suppliers in this regard as the rides were mainly prepared in rainbow colour.

14. As regards the skylight for the swimming pool, the project proponent advised that they had substantially reduced the size of the skylight from its original

design. A lighting consultant had been engaged to devise measures to avoid reflective lighting. Further, non-reflective, low-e glazing materials would be used on the building bulk to minimize the chance of collision of birds with the reflective structures. The street lighting level was so designed with regard to the pedestrian and vehicular movements in the area. No lighting impact was expected as there were no residential developments nearby.

Transportation of construction materials

15. Members enquired why trucks instead of barges were to be used to transport construction materials. They noted that there was an existing jetty near the project site, and sea transport should be preferred over land transport to better contain dust and noise nuisance. The project proponent informed that they had to abandon the sea transport option in consideration that marine works would be required to modify the existing jetty into a proper barging point which in turn would affect the corals in the area. They remarked that at most 15 construction vehicle movements per hour were expected for transporting the construction materials. The potential impacts on air quality, noise and dust due to the truck movements had been addressed in the EIA report.

Air quality and noise impacts

16. A Member sought clarification on the decrease in the projected background traffic flows at concerned road links in 2015 as shown in the EIA report. He also enquired on the possibility for the project proponent to restrict polluting vehicles commuting to Ocean Park so as to meet the higher emission standard.

17. The project proponent said that some 15 000 visitors had been recorded using Tai Shue Wan as the second entrance to Ocean Park before it was closed in 2011 pending re-development. This figure was adopted as the basis for comparing the traffic impact from construction vehicles. The traffic forecast aimed to show the differences in traffic flows between the two scenarios when the Tai Shue Wan entrance was in operation before 2011 and when the entrance was temporarily closed during construction of the Project. It was estimated that there would be less visitors, i.e. only around 7 000 visitors using the Tai Shue Wan entrance when the new Water Park came into operation. They would likely re-open this former second entrance in order to regulate visitor movement and improve visitor circulation to Ocean Park, even without the new Water Park. The Member questioned the logic of this basis of calculation as it was unrealistic to assume that visitors to Ocean Park would use Tai Shue Wan entrance when there were no amusement facilities thereat without the new Water Park. The Chairperson said that she assumed the projection was based on the

scenario which had the highest traffic volume and that the impact on the traffic flow to nearby roads would drop when the South Island Line Ocean Park Station commenced operation.

18. As regards the use of cleaner vehicles, the project proponent said that they could impose control on vehicles of their own fleet and those commuting within Ocean Park. With the opening of the South Island Line Ocean Park Station, more visitors were expected to take the mass transit, with the resultant drop in traffic volume and air pollution impact in the area. They planned to encourage more use of public transport by providing shuttle service to commute between the Ocean Park main entrance at Wong Chuk Hang and Tai Shue Wan. They also planned to work with the media to give early announcement if their public car park was nearing full occupancy. As for the use of green mode of transport, they targeted to use electric vehicles subject to available technology as well as the costs consideration. A Member referred the project proponent to the case of Kowloon Bay International Trade & Exhibition Centre (KITEC) where they operated half of the shuttle fleet with electric coaches at a lower overall operational cost.

Water conservation

19. Members shared the views that water conservation and wastewater treatment measures should be put in place in the new Water Park, including the permeable pavement design for harvesting rainwater for irrigation or cleaning purposes. They also asked whether there would be any educational facilities on topics such as nature or environmental conservation.

20. The project proponent replied that while details of the educational facilities were beyond the scope of the EIA report, they were developing the programme with themes on conserving water resources. Their consultant team had been liaising with the Water Supplies Department (WSD) and aimed to devise a more sustainable design on water conservation. In this light, a rainwater harvesting system would be set up to collect rainwater for irrigation and flushing. They were also working with WSD and an international firm to come up with a plan on more economic use of water as water charges would account for a major operational cost of the new Water Park.

Recommendation to ACE

21. Having regard to the findings and recommendations of the EIA report and the information provided by the project proponent, Members agreed to recommend to the ACE that the EIA report could be endorsed with the following proposed condition and recommendations –

Condition of endorsement

The Applicant shall develop the Ecological Enhancement Area (i.e. the re-provisioned Flamingo Pond) at the south-western end of the project site in the first phase of the construction for the purpose of establishing an alternative roosting site for ardeids and other wild birds so as to improve the overall ecological benefits of the Tai Shue Wan Development.

Recommendation

(a) Despite there will be a condition requiring submission of the Woodland Compensation Plan for approval by the Director of Environmental Protection (DEP), it is recommended that the Applicant should consult the Director of Agriculture, Fisheries and Conservation (DAFC) and set out the justifications on the flora species to be selected for planting in the Woodland Compensation Plan with the view to providing a better quality and more diversified secondary woodland areas in the project site, and manage the tree planting with respect to the general health condition and survival rate of the plants.

(b) The Applicant should provide favourable conditions and settings in the Ecological Enhancement Area for ardeids to roost after completion of the construction works in the project site.

(c) The Applicant should consider sustainable flora species for green roof and vertical planting to blend in with the surrounding natural environment.

(d) The Applicant should consider enhancing the greening design of the Project including the use of non-reflective materials to reduce glare as well as adoption of an earth-tone colour scheme to allow the buildings and facilities in the site to blend well into the surrounding natural environment.

(e) The Applicant should liaise closely with the Water Supplies Department on water saving measures to be adopted in the project site, including a permeable paving design for harvesting rainwater for irrigation or cleaning purposes.

(f) The Applicant is strongly recommended to pursue the opportunity to incorporate programmes on nature conservation in the overall design of the Project for public education purpose.

(g) The Applicant should introduce green transport including the use of electric vehicles for guest shuttle service subject to available technology at the time of operation.

22. Members also put forth the following general comments and observations

on the EIA report to the project proponent for appropriate improvement –

(a) the photomontages of the building bulk for illustrating the visual impact of the Project before and after the operation phase should be presented with care to match with the information in the EIA report;
(b) due consideration should be given to the selection of the year and data for comparison and analysis when presenting the survey findings on the ecological impact assessment and the traffic flow forecast; and
(c) the objective and approach on woodland reinstatement should be presented with greater clarity.

23. EIASC agreed that the project proponent team would not be required to attend the full Council on the EIA report.

EIA Subcommittee Secretariat
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