世界自然基金會
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Dr. CHUI Ho Kwong, Samuel, JP
Director of Environmental Protection
16/F, East Wing, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong
(Email: eiaocomment@epd.gov.hk)

By email only

Dear Dr. Chui,

Northern Metropolis Highway – Tin Shui Wai Section
(PP-691/2025)

WWF appreciates the Highway Department's response to our previous recommendations which is now adjusted to minimize encroachment into areas of high ecological value in the captioned Project Profile (PP) on the proposed Northern Metropolis Highway (hereinafter the NM Highway) – Tin Shui Wai Section. Following are our further comments and recommendations.

Impacts to recognised biodiversity hotspot and associated at-risk species

The Project is located within the globally-recognised **Inner Deep Bay and Shenzhen River Catchment Area Key Biodiversity Area (KBA)**[1] and **Important Bird Area (IBA)**[2], which support a wide range of wetland-dependent species, of which many are globally-threatened.

In addition, WWF-Hong Kong, in association with a group of local experts (e.g. the Hong Kong Bird Watching Society, Kadoorie Farm and Botanic Garden, and local researchers), published a report titled "**The State of Hong Kong Biodiversity 2025**" (hereinafter as ***the Report***) in March, together with the "**Hong Kong Terrestrial Biodiversity Hotspot Map 2025**"[3]. The study concluded that 26% (232 out of 886) of the assessed terrestrial and freshwater species in Hong Kong are at risk of local extinction; and identified a total of 27 biodiversity hotspots in Hong Kong.

[1] https://www.keybiodiversityareas.org/site/factsheet/16078
[2] https://datazone.birdlife.org/site/factsheet/inner-deep-bay-and-shenzhen-river-catchment-area
[3] https://www.wwf.org.hk/en/biodiversity/hkbiodiversity2025/

The PP indicates that the Project will interfere directly and indirectly with the KBA and IBA, which is also the "Inner Deep Bay" hotspot identified in our study. With the richest bird diversity and abundance across Hong Kong, and as the only local breeding site for the Eurasian Otter, this hotspot ranks top among all 27 local biodiversity hotspots. Data and information from our expert group have shown that the "Inner Deep Bay" hotspot support at least **158 species of High or Moderate Risk** of local extinction.

In addition, the Project will potentially affect the two hills of Kai Shan and Chu Wong Ling. Although they are outside of the Inner Deep Bay wetland area, these hills are known butterfly hotspots, where over 50% of butterfly species in Hong Kong have been recorded, including at least three species assessed to be at-risk in ***the Report***, namely Spotted Angle *Caprona alida*, Small Three-ring *Ypthima norma*, and Large Branded Swift *Pelopidas subochracea*. Also, according to our field records, a number of protected plant species, including but not limited to the Incense Tree *Aquilaria sinensis*, and two orchids *Pachystoma pubescens* (Plate 1 refers) and *Zeuxine strateumatica* have been recorded on these hills.

We, therefore, recommend that the Project Proponent should pay due attention to the identified hotspots and the at-risk species present in the area during the course of the EIA. Encroachment and disturbance (particularly during the operation phase of the Project) to these important habitats, and direct or indirect impacts on these species, should be avoided as much as possible.

We also urge the Project Proponent and the environmental consultant to carefully consider the location for woodland compensation if such need arise in the later stage of the project. In EIAs of Hong Kong, woodland compensation is often implemented at open habitats such as grassland and shrubland. However, as ***the Report*** suggests, open habitats are declining rapidly in Hong Kong, thus driving many of the associated species towards local extinction. For instance, the three at-risk butterfly species and the two orchids mentioned above all depends on open grassy habitats. If these grassy and shrubby habitats on Kai Shan and Chu Wong Ling are converted to woodland due to compensation purpose, the associated species will face direct habitat loss. As such, we opined that woodland loss should first be minimised through better project design. If woodland loss and the associated compensation is still inevitable, the Project Proponent and the environmental consultant must carefully choose the location for compensation, and duly assess the secondary impacts arising from conversion of the original habitat(s) to compensatory woodland. Impacts to any threatened and/or protected species, such as the ones mentioned above, should be avoided.

Piecemeal approach for the NM Highway

From the website of Highways Department[4], a preliminary alignment of the NM Highway as a whole is already available. It is also stated that "*San Tin section in or before 2036,*

[4] https://www.hyd.gov.hk/en/our_projects/road_projects/895th/index.html (Accessed on 28th April 2025)

with a view to completing the remaining sections in phases in 3 to 4 years after the commissioning of the San Tin section". With the Project's intrinsic nature as an inseparable transport infrastructure designed to link most if not all of the important development nodes across the NM, and that the different in the time of completion of different sections is just merely a few years, the Project Proponent's approach to proceed with the EIA process one section at a time is highly undesirable. This kind of piecemeal approach is likely to underestimate the cumulative environmental impacts of the NM Highway as a whole.

Avoid tunnelling works at peak butterfly seasons and adopt Tunnel Boring Machine

According to the PP, construction methods of Drill & Blast / Drill & Break methods (D&B) and Tunnel Boring Machine (TBM) methods are proposed for tunnelling the Kai Shan and Chu Wong Ling. Since Kai Shan is a butterfly hotspot while Chu Wong Ling is less than 600m east to it, we propose tunnelling construction activities at the 2 areas, no matter of which methods to use, should be avoided during the peak butterfly season generally occurs during spring (April to June) and the fall (October to November) in Hong Kong. We are also concerned that D&B will damage the current butterfly habitat, leading to the loss of nectar plants and host plants for caterpillars. Therefore, we strongly recommend the Project Proponent to utilise TBM for tunnelling work at Kai Shan and Chu Wong Ling, as the two locations are in close proximity to one another, so as to avoid/minimize disruption to the butterfly habitats in the area.

Mitigating the impacts of artificial lighting in relation to biodiversity

In the presence of sensitive ecological resources that are prone to light disturbance such as the bat shelter at Pok Wai, ardeid night roosts, Great Cormorant night roost, firefly hotspot in Tin Shui Wai and breeding ground of Hong Kong Bent-winged Firefly in Nam San Wai within the project boundary and its vicinities, artificial lighting system will disrupt breeding behaviours, alter nocturnal activity, and potentially reduce populations of sensitive species. The Project Proponent shall identify potential light pollution impacts in the area and habitats which host most sensitive species and provide solutions to avoid and mitigate light pollution along the alignment. The EIA report shall provide recommendations on how light pollution can be controlled without reducing the levels of light needed for safety while preventing impacts on biodiversity.

Control of wastewater discharge during construction

Since the proposed development footprint cuts across conservation zonings and watercourses, the discharge points and boundaries for treated construction should be designated carefully. Efficiency of wastewater treatment facilities should be ensured by on-site regular monitoring and random checking, and carry out immediate maintenance whenever necessary, particularly during the wet season and before rainstorms. Any discharge points of surface runoff generated from the works sites and treated wastewater

should not be located at places that are prone to flooding or in the vicinity of any watercourses or conservation zonings identified.

Thank you very much for your kind attention and consideration.

Kind regards,

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Plate 1. *Pachystoma pubescens* found at Kai Shan area in April 2025. (© Tommy Hui / WWF-Hong Kong)