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For information by circulation

**Environmental Management and
Post-EIA Follow Up Programme of Railway Projects**

This paper encloses an information paper prepared by the MTR Corporation Ltd (MTRC) with a view to update the Advisory Council on the Environment (ACE) on the environmental issues in relation to the construction of the following railway projects –

- (i) Kwun Tong Line Extension (KTE)
- (ii) South Island Line (East) (SIL(E))
- (iii) Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL)
- (iv) Shatin to Central Link (SCL)

2. The ACE was briefed by the MTRC on the key environmental updates of the railway projects at the Council meetings on 22 April 2013 and 13 October 2014 and the MTRC subsequently submitted an information paper in 2015 to further update ACE on the railway projects mentioned above. The relevant minutes of meetings and the ACE Paper 18/2015 are attached at **Appendices A to C** for Members' reference.

ACE Secretariat
February 2017

Information Paper on Environmental Management and Post EIA Follow Up Programme of Railway Projects

INTRODUCTION

This paper serves to provide Members an update on the key environmental issues of the following railway projects:

1. Kwun Tong Line Extension (KTE)
2. South Island Line (East) (SIL(E))
3. Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL)
4. Shatin to Central Link (SCL)

KEY ENVIRONMENTAL UPDATES

Further to the last information paper, two extension railway lines, namely Kwun Tong Line Extension and South Island Line (SIL), came into operation respectively in October and December 2016, leading to an extension of the railway network to cover the Ho Man Tin and Whampoa areas as well as the Southern District.

Based on the current progress, MTR is pursuing to deliver the remaining projects progressively in 2018 (XRL), 2019 (Tai Wai to Hung Hom Section of SCL) and 2021 (Hung Hom to Admiralty Section of SCL).

During the delivery process of our projects, through design innovations and continual proactive efforts in dealing with various environmental challenges, disturbance to the community as well as the surrounding environment were minimized. Environmental monitoring and audit programme has been effectively implemented to check on the environmental performance of the ongoing projects such that necessary environmental mitigations are in place appropriately and timely.

Cultural Heritage and Archaeological Resource Management

Subsequent to the completion of the archaeological field surveys in To Kwa Wan (TKW) station area at the end of September 2014, the post-excavation work such as artefacts processing has also been substantially completed. Regular inspection and monitoring are being carried out to ensure that the preservation of the various Sung-Yuan Dynasty features including wells, building remains and stone structures that have been preserved and backfilled in-situ, are not disturbed by the SCL works.

The archaeological excavation report is being finalized. On the other hand, arrangements are being made with Antiquities and Monuments Office (AMO) for handing over the unearthed artefacts in phases. Extensive coordination between AMO, RDO, MTR, the Contractor and the archaeologists has continued to complete these remaining tasks in accordance with the requirements of the AMO. This is a good demonstration of striking a balance between heritage preservation and railway development, both serving the needs of the Hong Kong community.

Ecology Management

The construction of Shek Kong Stabling Sidings mitigation stream habitat (MSH) commenced in late 2014 and was completed in January 2017. About 2.4 hectares in size, the MSH aims to provide an enhanced stream habitat as a mitigation for key target avifauna species previously recorded from the site.

Habitat compensation and planting work along Wong Chuk Hang Nullah commenced in mid-2015 and completed in January 2016. About 0.4 hectares of tree species was planted. Monitoring commenced in January 2016 and will continue for 3 years during the post-planting and maintenance period.

Noise Impact Management

The SIL is approximately 7 km in total length with about 2 km of viaduct section and 5 km of tunnel section. Operational air-borne and ground-borne noise performance tests for railway noise were conducted for representative NSRs nearby to confirm compliance prior to SIL operation in December 2016. Noise barriers and resilient baseplates for airborne and ground-borne noise mitigation respectively were incorporated into the design to minimize the noise impacts.

Water Quality Management for Immersed Tube Tunnel (IMT) Construction

The SCL cross-harbour tunnel is built by immersed tube tunnel (IMT) method and the immersed tube units are pre-casted at the former Shek O Quarry which was also the casting yard for the Western Harbour Tunnel and the Airport Express cross-harbour rail tunnel. Trench for laying of the IMT units is being formed by dredging in Victoria Harbour in a controlled manner to prevent adverse water quality impact. The dredging rates are controlled in accordance with the requirements in the Environmental Permit (EP). Also, silt curtains are in place to enclose the dredging area and at the nearby seawater intakes along the coasts of Kowloon and Island sides.

The Shek O casting yard was set up at the former Shek O Quarry. A concrete batching plant has been erected within the casting yard for supporting the casting of the IMT units. This reduces the impact on road traffic and also vehicular emission from concrete trucks. The casting of the eleven IMT units is almost completed and the yard will be flooded in March 2017 to enable towing of the units by sea to the works area in Victoria Harbour commencing from approximately mid-2017. The casting yard will be cleaned prior to flooding. Any remaining floating debris will be skimmed after flooding and sufficient time will be allowed for the suspended solids to settle before removal of the dock gates. Subsequent to removal of all of the IMT units, the site will be reinstated.

Innovation for Environmental Management

Our efforts continue to pursue innovative design and methods for minimizing environmental impacts to neighboring sensitive receivers. A recent and significant example is the adoption of high performance noise enclosures in Ma Tau Wai (MTW) station and Hin Keng Portal (HIK) works areas. Both MTW and HIK are located in urban areas where the construction sites are in close proximity to residential buildings. Multiple noise enclosures with special design for ventilation and access openings and proprietary sound absorption panels achieved an insertion

loss performance of about 60dB(A) at MTW. At HIK, 50 dB(A) insertion loss have been achieved for its noise enclosure with automatic door design to facilitate plant delivery during the rock crushing activities within the portal. These extremely high performance noise enclosures helped reduce the noise disturbance to minimal levels in a difficult environment.

The associated Contractors for these innovative designs and implementation have also been recognized by the industry through various award schemes including the Hong Kong Awards for Environmental Excellence (HKAEE) and the Outstanding Environmental Management & Performance Award (OEMPA) under the Considerate Contractor Site Award Scheme.

Continuous Improvement

MTR Corporation has been seeking continuous improvement via contract management, incentive schemes and knowledge sharing. Through robust contract specifications, the contractors carry out their duties with systems of monitoring, independent checking and reporting in place. Environmental awards and incentive payment schemes have continued to be implemented for motivating the contractors and rewarding them for excellent environmental performance. Considerations for award includes site performance, environmental management systems and innovation among other key performance indicators. In addition, maintaining our aim to share knowledge and exchange of views, MTR Corporation has organised an MTR-EPD Joint Environmental Forum under the Continuous Environmental Improvement Programme (CEIP) in 11 August 2016 to openly discuss and deliberate enhancements on the Environmental Monitoring and Audit (EM&A) programme. The event was the third one jointly arranged with EPD. It was well received with over 100 participants from EPD, MTR, IEC, ET, contractors as well as other government departments.

Stakeholder Engagement

Stakeholder engagement has remained an important part of our project implementation. We recognise that the projects will inevitably cause some inconvenience to the neighboring community, thus the Corporation takes a proactive view in engaging the relevant stakeholders in order to provide project updates, enhance mutual understanding, and resolve any concerns where appropriate. Regular meetings have been held, such as Community Liaison Groups, Green Groups and other concern group meetings, as well as various events to promote the projects.

Enquiries and complaints have been handled by dedicated teams in a prompt manner. Under the EM&A mechanism, all environmental monitoring data and EM&A reports have been uploaded onto our website as required under the EP.

Recognising the importance of maintaining communication with our stakeholders, we strive to maintain a balance of minimising disturbance while delivering the project to the wider community.

CONCLUSION

The year 2016 has proven to be one of the most challenging years. While focusing on the EP obligations in preparation for the successful opening of KTE and SIL, XRL and SCL were in full swing of the construction phase. Various environmental issues ranged from operational compliance to ecological compensation. As in the past year, MTR Corporation will continue

to endeavour to achieve EP compliance, environmental impact minimization and to seek continuous improvement going forward.

Prepared by MTR Corporation Ltd
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