

**Confirmed Minutes of the 109th Meeting of
the Environmental Impact Assessment Subcommittee
held on 3 August 2009 at 2:00 pm**

Present:

Prof Paul LAM, JP (Chairman)
Mr TSANG Kam-lam (Deputy Chairman)
Ms Teresa AU
Dr Dorothy CHAN, BBS
Ms Betty HO
Mr Edwin LAU, MH
Dr MAN Chi-sum, JP
Prof LAM Kin-che, SBS, JP (ACE Chairman and non-EIASC Member)
Ms Josephine CHEUNG (Secretary)

Absent with Apologies:

Prof Joseph LEE
Mr Michael LEE
Mr Simon WONG, JP
Dr YAU Wing-kwong

In Attendance:

Mr C C LAY	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Mr C W TSE, JP	Assistant Director (Environmental Assessment), Environmental Protection Department (EPD)
Ms Loletta LAU	Executive Officer (CBD), EPD

In Attendance for Agenda Item 3:

Mr H M WONG	Principal Environmental Protection Officer (Strategic Assessment), EPD
Mr C C CHIU	Senior Environmental Protection Officer (Strategic Assessment) 4, EPD
Mr Y K CHAN	Senior Nature Conservation Officer (North), AFCD
Mr S H LAM	Chief Engineer/Railway Development 2-3, Highways Department (HyD)
Mr K H WAN	Senior Engineer/Express Rail Link (5), HyD
Dr Glenn FROMMER	Head of Sustainability Development, MTR Corporation Ltd. (MTRC)
Mr Richard KWAN	Manager – Environmental, MTRC
Mr Henry LEUNG	Senior Environmental Engineer, MTRC

Ms Natalie IP	Environmental Engineer I, MTRC
Ms Jennifer TSANG	Environmental Engineer I, MTRC
Mr Alan MORRIS	Construction Manager, MTRC
Mr Augustine LI	Senior Design Management Engineer, MTRC
Mr H H LEE	Senior Design Management Engineer, MTRC
Mr William MAK	Senior Construction Engineer, MTRC
Mr Francis LI	Senior Liaison Engineer, MTRC
Mr W C FUNG	Senior Liaison Engineer, MTRC
Ms Jenny TAM	Public Relations Manager, MTRC
Mr Thomas CHUNG	Engineering Geologist, MTRC/Atkins China Ltd.
Mr Josh LAM	Executive Director, AECOM Asia Co. Ltd. (AECOM)
Ms Gigi LAM	Principal Environmental Consultant, AECOM
Ms Angela TONG	Senior Environmental Consultant, AECOM
Mr Steven NG	Senior Environmental Consultant, AECOM
Ms Louise LO	Environmental Consultant, AECOM
Mr Barry MURRAY	Ground-borne Noise Specialist, AECOM
Mr Herve BONNEL	Principal Consultant, Environmental Resources Management Ltd.

Action

Agenda Item 1 : Confirmation of the draft minutes of the 108th meeting held on 15 June 2009

The draft minutes of the last meeting were confirmed without amendments.

Agenda Item 2 : Matters arising from the minutes of the 108th meeting held on 15 June 2009

2. There were no matters arising from the minutes of the last meeting.

Agenda Item 3 : EIA report on Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (ACE-EIA Paper 7/2009)

Internal Discussion Session

3. The Chairman informed Members that agenda item 3 would be divided into the following four sessions –

- (a) Internal Discussion Session
- (b) Presentation Session
- (c) Question-and-Answer Session
- (d) Internal Discussion Session

The Presentation Session and Question-and-Answer Session would be opened to the public. Internal Discussion Sessions of agenda item 3 and all other sessions of the meeting would remain closed.

4. A Member declared interest as her company was involved in the public engagement study of another rail project to be constructed by the project proponent. The meeting agreed that she could stay and continue to take part in the discussion in view of the indirect relationship with the project under consideration.

5. The Chairman informed Members that the EIA report on “Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link” (XRL) was a designated project under “Schedule 2” of the EIA Ordinance. The public inspection period of the EIA report was from 21 July to 19 August 2009. The Environmental Protection Department (EPD) received one set of public comment before the meeting. Separately, a submission directly addressed to the EIA Subcommittee regarding the EIA report was received shortly before the Subcommittee meeting. Some Members had also raised some questions and made some comments on the EIA report. The set of public comment, the submission as well as the response from the project proponent to Members’ questions and comments had been circulated to Members for reference before the meeting.

6. The Chairman reminded Members that the recommendation of the Subcommittee would have to be reported to the full Council for final decision. It was important for Members to keep the confidentiality of recommendations of the Subcommittee at this stage so as to avoid unnecessary confusion or misunderstanding. As agreed by the Subcommittee, in case there was any enquiry directed at the discussion and/or decision of the Subcommittee, Members could refer the enquiry to the secretariat for coordination and follow up.

7. Members agreed that the discussion should focus on alternative alignments, footprint of the facilities, ecological impacts, landscape and visual impacts, noise impacts, hydrogeological impacts, waste management and cumulative impacts.

(The project proponent team joined the meeting at this juncture.)

Presentation Session (Open Session)

8. Dr Glenn Frommer introduced the background and purpose of the project. Mr Josh Lam briefed Members on the findings of the EIA study.

Question-and-Answer Session (Open Session)

Alternative alignments

9. A Member enquired about the possibility of combining the alignment of XRL with that of West Rail and sharing some infrastructure facilities. Dr Glenn Frommer explained that this alternative had been seriously considered but was found not feasible. With heavy demand on both rails serving different client groups, there were operational difficulties in combining the two rail systems without seriously compromising the service level. The type, size and speed of trains as well as service requirements of the two rail systems were very different. In view that XRL would be a high-speed rail system, very stringent requirements would be required to ensure safety, such as the minimum radius of curvature of 2,000 m and a bigger tunnel size. If the train had to reduce its speed substantially when entering the Hong Kong territory, it would defeat the purpose of having an express railway. Thus, it would not be feasible for the existing West Rail to accommodate the requirements of the XRL.

10. The Chairman enquired about the design of the alignment and infrastructure facilities. Dr Glenn Frommer explained that safety was the most important consideration in the design of the railway. One of the most critical safety considerations was the identification of the most suitable location for emergency access to ensure rapid evacuation of passengers in the event of accident. To meet the safety and operational requirements, an Emergency Rescue Station (ERS) was required to be located approximately in the mid-way of the alignment. The proposed ERS at Shek Kong was considered to be the optimal location which was connected with nearby road networks including Kam Sheung Road and Kam Tin Road for rescue and evacuation purposes. If the ERS was moved to another location, additional access road connections had to be built thus bringing additional impacts to the surrounding. Other considerations in the design stage included the requirement of meeting the alignment geometry, feasibility of constructing the

tunnel, land resumption, disruption to ecological resources, cultural heritage, trees and community. In the planning stage, a number of alignment options had been studied. The selection of the alignment option was based on a variety of criteria such as operational, safety, technical, engineering, environmental and social considerations. The current proposed alignment was considered as the preferred option.

Footprint of the facilities

11. A Member enquired about the possibility of reducing the footprint of the permanent above-ground facilities at Shek Kong and alternative location for the facilities, in particular the Stabling Sidings (SSS) and ERS. Dr Glenn Frommer explained that efforts had been made in reducing the footprint of the above-ground facilities at Shek Kong. The layouts of the SSS, ERS and related facilities had been critically reviewed in order to minimize land resumption and impact on the local community. There were constraints of further reducing the footprint of facilities at Shek Kong. The length of the long haul train would be as long as 427 m, which was about twice of that for the West Rail. There were operational requirements for the proposed size of the SSS in order to maintain the high-speed rail service standards as required by the Ministry of Railways. Mr H H Lee added that a long linear dimension of the SSS would be required for stabling. Routine cleaning, maintenance checks and inspections would be carried out at the SSS. As regards the ERS, it would be essential to facilitate access by rescue personnel, and safe and quick evacuation of passengers in the event of fire or accident.

12. A Member enquired about the possibility of using the facilities in the West Kowloon Terminus (WKT) in order to further reduce the footprint of the SSS. Mr H H Lee explained that the proposal already included the arrangement of having some trains stabling at the WKT in order to reduce the size of the SSS. The project was planned to cope with train service up to 2031 with about 170 trains per direction departing from and arriving at Hong Kong daily. To meet the requirement, nine long haul tracks (for trains travelling between Hong Kong and locations outside Guangzhou – Hong Kong Corridor) and six shuttle tracks (for trains travelling between Hong Kong, Shenzhen and Guangzhou) were planned at WKT. The current design would allow a certain number of both types of trains to be stabled at SSS and WKT so as to meet the daily operational needs.

13. A Member asked whether the sites would be used for administration,

commercial or residential purposes. Dr Glenn Frommer said that apart from operational facilities, there would be some supporting offices and related facilities at the depots but there would not be any planning for commercial or residential development within the sites of SSS, ERS and related facilities at Shek Kong. They noted the concern of Members about the footprint of the facilities and efforts would continue to be made to explore the possibility of further reducing the footprint.

Ecological impacts

14. A Member enquired about the compensation for the loss of 53 ha of habitats. Mr Josh Lam explained that the principle of avoidance had been adopted by avoiding areas with significant resources and above-ground works were minimized through tunnelling construction methods. Having regard to the large scale of the project, only 53 ha of habitats would be affected. The affected habitats were generally of low ecological value and 60% of which were developed area or wasteground. The flora and fauna recorded were predominately common species in Hong Kong. The EIA report concluded that the direct ecological impact from the project was low.

15. A Member noted that about 4.1 ha out of the 53 ha of habitats being affected was land for active agriculture. Mr S H Lam advised that the Government, together with the project proponent and concerned parties, were exploring the possibility of providing areas in the project site to allow farming activities as compensation. Some Members were concerned about the impacts on the farmers if no suitable areas could be identified. Dr Glenn Frommer explained that the farmland involved mainly small-scale agricultural activities. They would continue the effort to identify areas for compensatory farmland. A Member suggested identifying suitable areas, even outside the project site, for compensating the farmland loss. Mr S H Lam undertook to explore the option.

16. The Chairman enquired about the criteria to define the ecological value of a site or habitat. Mr Josh Lam explained that the evaluation of the ecological value of a site or habitat was based on the relevant criteria specified in the Technical Memorandum on EIA Process (TM), such as naturalness, size, diversity, potential value of the site or habitat, etc.

17. The Chairman enquired about measures to be taken if species of

special interests were found in the study area but outside the project area. Mr Josh Lam explained that both direct and indirect ecological impacts to the surrounding or off-site habitats or associated species were taken into account in the EIA study. For example, a bird of special interest, the Greater Painted-snipe, was found along a stretch of drainage channel outside the project area. To avoid disturbance to the birds, mitigation measure of erecting hoardings along the channel access road before the construction works was recommended.

18. A Member enquired about the ecological survey for butterfly. Mr Josh Lam indicated that a total of 93 species of butterflies were recorded in the study area. Among them, seven species were of conservation interest. The survey for butterfly was conducted from July to November 2008 and from April to June 2009.

19. The Chairman asked about the duration of ecological survey conducted. Mr Josh Lam explained that the minimum requirement of the Study Brief for conducting ecological survey was a period of six months covering wet and dry seasons. Based on a comprehensive literature review, ecological surveys were conducted to fill in the identified data gaps identified, covering July to December 2008. Based on the findings, supplementary surveys were conducted in some areas that might have special ecological interest. Thus, the ecological survey for some areas took longer than six months.

Landscape and visual impacts

20. A Member enquired about the loss of trees and compensatory planting plans. Mr Josh Lam explained that a total of about 5,200 trees would be retained on-site, about 1,100 trees would be transplanted and about 5,500 trees would be felled. The affected trees were mainly exotic species used for roadside landscape planting and none of them was Champion Trees or Registered Old and Valuable Trees maintained by the Leisure and Cultural Services Department. There would be compensatory planting for the 5,500 trees to be felled. On the landscaping, there would be vertical and roof greening at some of the infrastructure facilities with aesthetic design.

21. A Member enquired about the compensatory tree planting plan. Dr Glenn Frommer explained that trees mainly of native species would be planted at a compensatory ratio of 1 to 1 in accordance with the requirement of relevant

Technical Circular. Mr Josh Lam added that potential areas for replanting of trees would include WKT, SSS, public transport interchange, ventilation buildings and Tai Shu Ha Road West Magazine Site.

22. A Member suggested adopting a higher ratio of compensatory planting. Mr Josh Lam explained that in view of the need to reduce the footprint of the infrastructure facilities, there would be constraints in achieving a higher ratio of compensatory planting. Dr Glenn Frommer said that Members' concern was noted and they would explore the possibility of planting more trees. The detailed landscape plan and compensatory planting proposal would be worked out in the detailed design stage and comments of relevant parties would be sought.

Noise impacts

23. A Member expressed concern about the impact of noise and vibration during the construction and operation phases. Dr Glenn Frommer explained that the worst-case scenario on noise generated during the construction phase had been assessed in the EIA study. With the use of mitigation measures, such as movable noise barriers and quieter plants, the noise level would be kept to an acceptable level. With the rich experience of constructing rails in densely populated areas, suitable mitigation measures would be employed to minimize nuisance caused to sensitive receivers. Regarding the impact of ground-borne noise and vibration generated by train movement during the operation phase, assessments based on mathematical models were conducted. Mr Barry Murray added that in order to minimize the impact of noise and vibration, special low noise trackform at source would be provided to attenuate noise and vibration. The low noise trackform of isolated slab track with concrete slab sitting on rubber mat was a well-recognized method in reducing noise and vibration effectively. It was predicted that the vibration would not be felt in any building near the rail line.

24. A Member was concerned about the possible impact of noise and vibration on wildlife. Dr Glenn Frommer explained that noise impact to wildlife had been taken into account at the design stage of the project. For example, one of the possible alignments in the initial proposal was close to an egret habitat. To avoid the possible impact on egrets, the alignment was moved away from the habitat. It should be noted that the depth of the tunnel in Mai Po area was at least 20 m below ground and the anticipated impact of noise and vibration would be minimal.

25. A Member enquired about the potential impact of vibration from train movement on small insects as shown in the event of earthquake. Dr Glenn Frommer pointed out that the kind of vibration from train movement was very different from that caused by earthquake in terms of several orders of magnitude. The vibration from the train movement could hardly be felt by people living near the railway and the anticipated impact on small insects or reptiles would be insignificant.

26. A Member enquired about literature review regarding impact of noise and vibration from railways on the ecology. Mr Richard Kwan said that the subject of ground-borne noise and vibration affecting wildlife and insects had been one of the hot issues in the international environmental forum a decade ago. There had been some researches on the subject in the US and Europe. However, no conclusive evidence was found to substantiate any adverse impact of noise or vibration on wildlife and insects. It was noted that discussion had died down substantially over the past few years. Regarding the XRL project, Mr Josh Lam said that the EIA study included assessment of noise impact on sensitive receivers. The noise sensitive receivers were people near the project site. There was no standard or requirement under the EIA Ordinance for assessing the impact of noise and vibration on wildlife or insects. It should be noted that the current alignment had avoided significant ecological resources. The habitats along the railway alignment were mainly areas with low ecological value and the associated wildlife were common species. The tunnel in Mai Po area would be built about 20 m below ground level and the tunnel under Tai Mo Shan would be about 600 m below ground level. The potential impact of noise and vibration on wildlife would not be significant.

27. The Chairman asked about overseas examples with similar design. Mr Alan Morris said that reference could be made to a railway project (Groene Hart between town of Leiderdorp and the village of Hazerswoude) running through a wetland area in the Netherlands. The project was similar to the XRL in terms of scale and depth of tunnels. There was no information to show that the wildlife in the area was affected. Mr Barry Murray added that there was little evidence, including overseas experience, to show that the noise and vibration from railways had affected the wildlife.

28. A Member asked about the comparison of potential impact of ground-borne noise and vibration to wildlife between the Lok Ma Chau Spur Line

(Spur Line) and XRL. Mr Richard Kwan explained that the Spur Line passed underneath the Long Valley which was an ecologically sensitive area. After the completion of construction of the Long Valley section of the Spur Line, some monitoring and spot checks of key elements were carried out in the area, including the spotting of certain insects. There was no abnormality detected in comparison with the situation before the construction works and there was no evidence to show that the operation of the Spur Line had caused any adverse impact on the wildlife and insects. Dr Glenn Frommer added that some of the tunnel sections in the XRL project were even deeper than that in the Spur Line project.

Hydrogeological impacts

29. A Member enquired about the hydrogeological impact of the project and expressed concern about ground water drawdown during the construction phase. Mr Alan Morris explained that three types of tunnelling construction techniques would be used for different ground conditions. Firstly, the bored tunnelling construction method, by using a tunnel boring machine (TBM), would be adopted for shallower sections in Ngau Tam Mei, Mai Po to Shek Kong Valley. The TBM technique was the same as that used in the Long Valley for the Spur Line project. It was a water-tight tunnelling method and all sections were sealed both during and after construction. There would be a series of steel grease-filled “tail seals” to prevent water leakage into the linings. The lining segments had radial and longitudinal rubber joints all along to hold back substantial water pressure (seals were designed up to 9 bar, but only 2-3 bar was anticipated in XRL tunnels). This water-proof system was very robust and had been used worldwide. There would be no impact on the water table and thus farmland, vegetation or insects would not be affected. Secondly, the drill-and-blast construction method would be used for sections underneath rock mountains and it had been proved to be an effective tunnelling method with no impact on surface water and groundwater systems. This method had been used in the vicinity for the West Rail and Route 3 tunnels under similar conditions. As shown in the experience of the West Rail, the water inflow to the tunnel was confined to the local isolated area around the tunnel and there was no substantial change in water level between the dry and wet seasons. Thirdly, the cut-and-cover construction method would be used for areas such as the ERS and associated approach tunnels. Diaphragm walls would be installed before excavation which could effectively stop water from entering into the shaft and thus the water level would not be affected.

30. Regarding the drill-and-blast construction method, Mr Augustine Li further explained that the XRL tunnel underneath the Tai Mo Shan would be excavated through geology similar to the West Rail Tai Lam Tunnel. Measurements had been taken for water inflow into the Tai Lam section of the West Rail in the past few years. It was found that water inflow to the tunnel was very consistent and independent of seasonal and rainfall changes outside. It also demonstrated that water inflow at such a depth had no significant impact on the near surface or surface water. The hydrogeological impact assessment including the above findings were passed to the Water Supplies Department as the tunnel passed underneath the catchment area of Shing Mun Reservoir and was close to the reservoir. The Water Supplies Department was satisfied with the findings.

31. A Member asked about the geological profile of the project area and existence of limestone. Mr Alan Morris explained that about 500 bore holes were drilled along the alignment totalling about 24 km in length where they could have access. As the tunnel would be constructed at about 20 to 35 m below ground level, the bore holes were drilled to a depth at least one diameter deeper than the tunnel alignment. The bore holes in some locations, such as the SSS and ERS areas, were as deep as 50 to 60 m to the bedrocks as diaphragm walls would be built. They had also studied the historical data on geology of the area. For areas which they could not have access from the surface, such as the Tolo Harbour faults, horizontal directional drilling method was used for finding more information on the geological condition and supplementing the information by previous bore hole drilling. Based on the findings, they were not aware of any limestone in the project area. Nonetheless, marble intrusions were found in the Mai Po area. Based on the findings of the bore hole drilling in Mai Po area at an interval of about 50 to 75 m, a section of marble of 200 to 250 m wide was found. To better understand the extent of the marble, micro-gravity surveys were also conducted in addition to the bore hole drilling. The proposed tunnel would skirt the top of the marble in some areas.

32. A Member enquired about the possibility that caverns in the marble might provide short circuits for underground water in the tunnelling process. Mr Alan Morris explained that the TBM construction method to be used in Mai Po area had been used for the Long Valley. It was a water-tight fully closed tunnel boring system. In the event that cavities were found when carrying out systematic probe drilling, suitable measures such as void grouting would be used to allow the TBMs to cross the void. It was envisaged that there would be insignificant impact

on the ground water table by using the TBM construction method. Contingency plan on leakage of water to the tunnel or change in ground water level had yet to be developed. A well-designed and managed ground water monitoring programme would be developed to monitor the ground water level all along the alignment before and after the tunnelling works. In Shanghai, there was a recent project of similar system with a tunnel constructed by TBM construction method passing underneath a river and extremely wet ground with large water pressures. The experience showed that there was no leakage of water into the tunnel. They were of a 99.8% confident level that the project would not have impacts on the groundwater level.

Waste management

33. A Member noted that about 9.8 Mm³ of construction and demolition (C&D) materials would be generated from the project and part of them would be transported to Tai Shan in the Mainland. Mr Alan Morris explained that the C&D materials would be reused as far as possible. For surplus C&D materials, they would be used in other possible outlets such as the Hong Kong-Zhuhai-Macao Bridge project, Central-Wanchai Bypass project and as aggregates for concrete batching plant. In the event that there was no possible outlet in Hong Kong, the C&D materials would be transported to the Mainland for beneficial reuse. At this stage, Tai Shan would be the only location in the Mainland receiving surplus C&D materials. The C&D material disposal and management programme would be updated subject to confirmation with relevant parties. Mr S H Lam advised that waste disposal was one of the core issues for the project with extensive tunnelling works. The 3-R principle in reducing, reusing and recycling the C&D materials would be adopted. There was ongoing dialogue among relevant government departments and project proponents of large-scale projects on the beneficial reuse of the excavated materials from the XRL project. Disposal of the materials to Tai Shan in the Mainland would only be considered as the last resort.

34. A Member asked about the use of C&D materials in Tai Shan. Mr S H Lam advised that there was an agreement reached between the Mainland Authorities and Hong Kong SAR Government for transporting some of the surplus C&D materials from Hong Kong to Tai Shan for beneficial reuse.

35. A Member enquired about the temporary storage of the C&D materials. Mr Alan Morris said that excavated materials by drill-and-blast method

would be temporarily stored underground and there were above ground storage areas for excavated materials by TBM method. They would also explore possible sites for temporary storage of the excavated materials to be transported through barges in the event of typhoons or Mainland festival holidays.

36. A Member enquired about the disposal of the C&D materials in landfills. Mr S H Lam advised that they learnt from the Civil Engineering and Development Department (CEDD) that the demand from Tai Shan would be able to accommodate all surplus C&D materials from the XRL project. Disposal to the landfill would be minimal. Upon the Member's request, Mr S H Lam agreed to provide information after the meeting about the payment mechanism for disposing the C&D materials to Tai Shan.

(Post-meeting note: The Highways Department advised that for the disposal of C&D materials generated from the XRL project to the public reception facilities, a charge of \$27 per tonne would have to be paid to the EPD, which was the same as the disposal arrangement of C&D materials from other construction projects. As for the payment for delivery to Tai Shan of Mainland, it was understood that CEDD had a delivery contract for the handling and delivery of surplus public fill to Mainland for beneficial reuse. Under the current delivery contract, a sum of \$735 million was involved which included all costs payable to the contractor for the operation of public fill reception facilities and cross-boundary delivery of public fill to Mainland for 13 months starting from 1 December 2008. During this service period, CEDD estimated that about 17 million tonnes of public fill would be received at the public fill reception facilities, and about 10 million tonnes of surplus public fill would be delivered to the Mainland for beneficial reuse, and about 18 million tonnes of public fill stockpiled at the public fill reception facilities would need to be managed.)

37. A Member enquired about the possible problem of fly-tipping by contractors in farmland or fishpond. Mr Alan Morris explained that they would follow the electronic trip-ticketing system closely in monitoring the disposal of waste which had proved to be an effective method. Close on-site supervision and monitoring would be provided. There would not be payment to the contractors being prosecuted for fly-tipping. Dr Glenn Frommer added that as shown in previous projects, they had adopted a very stringent environment monitoring and audit system on contractors, including weekly, monthly and quarterly on-site audit and penalty system. They would liaise with local people, including farmers, fish

pond owners and green groups, to help keep an eye on any fly-tipping activities. They noted a Member's concern that there were cases where private land owners were willing to pay for dumping of waste to their land for site formation. In the event of fly-tipping activities by the contractors, they undertook to take action to restore the fly-tipping site at their costs as soon as possible. They would also consider not using the contractor who failed to meet the requirement again.

38. A Member enquired about the disposal of excavated sediment. Mr Josh Lam explained that it was estimated that about 120,800 m³ of Type 1 (Open Sea Disposal) sediment would be disposed to the open sea at east of Ninepin Group or south of Cheung Chau; about 184,800 m³ of Type 2 (Confined Marine Disposal) sediment would be disposed of at designated sites at East Sha Chau Mud Pit; and about 2,600 m³ Type 3 (Special Treatment/Disposal) sediment would require special treatment, such as mixing with cement and disposed of at landfills or other possible disposal options. The disposal of sediment would follow the requirements of relevant Technical Circulars.

39. A Member enquired about the disposal of wastewater effluents. Mr Alan Morris explained that all construction sites would have toilets and the sewage would be tankered away or discharged to public sewerage systems if available. As for the trains, each train carriage would have two waste tanks and each tank could carry about 750 litres. The train could run for two days before the wastewater being discharged. The wastewater from the trains would be collected in a holding tank at the SSS and the sewage would be tankered away. The sewage would be discharged through the public sewage system along the Kam Tin Road when it was completed. Upon the Member's request, Dr Glenn Frommer agreed to provide information after the meeting about the amount of wastewater and sewage to be generated in the SSS.

(Post-meeting note: The project proponent advised that the estimated total wastewater and sewage that would be generated within the SSS during the future operation was provided in Section 4.2.4 of Appendix 11.9b of the EIA report. The estimated daily discharge was 428 m³. This included wastewater from the depot buildings, the train wash plant and emptying of the train toilets. The train toilets contributed the majority of the discharge from the SSS. A design flow of 25.1 L/s had been adopted for pipe sizing purpose. This had included allowance for peak flow in accordance with normal design practice. For the ERS, discharges were expected only in case of an emergency (i.e. fire) with a design discharge flow rate

of 22.5 L/s.)

40. A Member urged the project proponent to closely monitor the contractors in the proper disposal of wastewater effluents in view of the large scale of the project and geological conditions of the site. Dr Glenn Frommer explained that it was a requirement for all contractors to obtain a wastewater discharge license. The contractors who failed to meet the requirements would not get payment and this had been a very effective system. They would not expect difficulties in ensuring the proper disposal of effluents as there were adequate information, training and expertise, effective on-site management and payment system.

Cumulative impacts

41. The Chairman enquired about the assessment of cumulative impacts from the concurrent projects. Mr Josh Kam explained that the EIA study had identified several major designated projects in the vicinity of the project area as summarized in Table 2.14 of the EIA report. For the five projects, namely proposed comprehensive development at Wo Shang Wai in Yuen Long, road works at West Kowloon, construction of cycle tracks and the associated supporting facilities from Sha Po Tsuen to Shek Sheung River, the upgrading of remaining sections of Kam Tin Road and Lam Kam Road, and Yuen Long and Kam Tin sewerage and sewage disposal, information based on respective EIA reports had been taken into account in the EIA study for the XRL. For the Central Kowloon Route and Kowloon Cultural District projects, no detailed information was available at the time of the EIA study. These two EIA studies would have to take into account the impacts brought about by the XRL in their assessment of the cumulative impacts.

(The project proponent team left the meeting at this juncture.)

Internal Discussion Session

42. A Member asked whether assessment of other alignment options had been conducted. Mr C W Tse advised that they had reviewed the alignment evaluation provided by the project proponent. On balance, the proposed alignment option was considered acceptable. Other proposed alignment options had the drawbacks of intruding into cultural heritage zones and conservation areas such as

fung shui wood or egret.

43. On the proposed alignment, a Member considered that as a major part of the alignment would be built underground, it would minimize the environmental impacts on the ground level. There would not be economic benefit for XRL to share the alignment with the West Rail as it would have to slow down substantially when entering the Hong Kong territory.

44. On the issue of ecological surveys, the Chairman noted some concerns about the approach of ecological surveys conducted by the project proponent and the scope of species covered in the surveys. Mr Y K Chan advised that some endangered or rare species were quoted in the EIA report. Based on the EIA findings, these species were found in the study area but outside the project boundary. For example, the Chinese Bull Frog, a species declining in number, was found in a channel outside the works area and they would not be affected by the project. The project proponent had adopted the precautionary approach and followed the criteria for evaluating the ecological impact of the project in accordance with the TM. Regarding the six-month survey period, the ecological surveys conducted by the project proponent included desk-top literature review of available information as well as field surveys. The six-month survey period, which was set as a minimum requirement in the Study Brief, was considered adequate as the study area was mainly dry agricultural land, developed areas or degraded land. Regarding the collection of data, the purpose of the ecological surveys was to reveal the general ecological profile of the site instead of identifying an exhaustive list of species, and the EIA study had made reference to relevant Guidance Notes of the EIA Ordinance. Mr C C Lay considered that the EIA report met the requirements of the Study Brief and the TM in the aspect of ecological impact assessment of the project.

45. On the issue of tree felling, some Members were concerned about the tree loss. Mr C C Lay advised that according to the EIA report, majority of the trees affected was related to landscaping and greening. Many of the trees were common roadside species including *Leucaena* which were exotic and weedy. Only a small plantation of 0.3 ha in Tai Tong with some ecological value would be affected and on-site compensation was required on ecological ground. The affected plantation was a young woodland of less than 10 years. Against this background, the compensatory planting ratio of 1 to 1 was considered reasonable. On the compensatory replanting for landscaping and greening purposes, the

increase of compensatory planting ratio and use of native species might not necessarily be the best option. However, the provision of a tree planting and landscape plan at a later stage would be useful.

46. On the issue of hydrogeological impacts, a Member was concerned about the impact of the large-scale tunnelling works on the ecology of the area. Mr C C Lay advised that the project had minimized environmental impacts on the ground surface as a large part of the railway alignment would be constructed underground. Based on the EIA study, a large section of the underground tunnel was underneath dried up grassland or degraded land. For wetland areas with underground tunnel construction, they were mostly fish ponds and no adverse impact of tunnelling construction on these wetland areas would be anticipated with the implementation of the proposed mitigation measures.

47. Having regard to the findings and recommendations of the EIA report and information provided by the project proponent, the meeting agreed to recommend to the full Council that the EIA report could be endorsed with the following proposed conditions –

- (a) the project proponent should submit a tree planting and landscape plan, including the compensatory woodland, in consultation with the Planning Department and Agriculture, Fisheries and Conservation Department, for approval by the Director of Environmental Protection (DEP);
- (b) the project proponent should submit a contingency plan to deal with any unforeseeable incidents which might affect the ground water level;
- (c) the project proponent should prohibit the disposal of any construction and demolition (C&D) materials generated by the project at the landfills, with the exception of the non-inert C&D wastes and the small amount of properly treated contaminated wastes;
- (d) the project proponent should take action to restore any fly-tipping sites found to be dumped with C&D materials generated by the project;

- (e) the project proponent should submit an updated C&D material management plan to the DEP within three months of the commencement of the construction works; and
- (f) the project proponent should set up community liaison groups comprising representatives of concerned and affected parties, including local committees, residents and schools in the affected areas along the railway alignment, to facilitate communications, enquiries and complaints handling on all environmental issues. A designated complaint hotline should also be set up for the project to address such concerns and complaints in an efficient manner.

48. The meeting agreed that there was no need to invite the project proponent team to attend the full Council meeting.

Agenda Item 4 : Monthly updates of applications under the Environmental Impact Assessment Ordinance

49. Members noted the updates.

Agenda Item 5 : Any other business

Tentative item for discussion at the next meeting

50. The Chairman informed Members that the EIA report on “Provision of a Poultry Slaughtering Centre in Sheung Shui” (PSC) had been sent to Members for consideration. The Subcommittee agreed that the EIA report on PSC could be considered by circulation and there was no need to invite the project proponent to attend the Subcommittee meeting scheduled for 10 August 2009 and the full Council meeting scheduled for 14 September 2009.

Agenda Item 6 : Date of next meeting

51. The next meeting was scheduled for 21 September 2009.

**EIA Subcommittee Secretariat
September 2009**