

3.7.10 Evaluation of Residual Impact

- 3.7.10.1 Provided that mitigation measures are implemented, no residual impact is expected for residual development. All residential developments in SEKD are 100% complied with the traffic noise standard.
- 3.7.10.2 School sites would need a combination of direct and indirect measures in order to achieve full compliance.
- 3.7.10.3 There are some residual impacts to planned NSRs arising from the proposed widening of Sung Wong Toi Road. The residual impact would impose constrains for future application of redevelopment of existing industrial sites. Further consideration in the mitigation measures or alternative alignment design should be explored in the next stage of study when detail assessments of constrains imposed by underground utilities could be examined in full details.
- 3.7.10.4 For Road D1, some mitigation measures are proposed on the railway reserve or tunnel area. Further investigation to assess the feasibility and design details is recommended for the next stage of study.

3.8 Impact from Railway Noise

- 3.8.1.1 The railway network comprising the existing MTR Kwun Tong Line and the proposed Shatin to Central Link (SCL) forms the backbone of public transportation for the future development. The future Kai Tak (KTA) and To Kwa Wan (TKW) Stations of SCL would be at central locations of the SEKD area easily accessible from the Kai Tak North Apron and town centre areas.
- 3.8.1.2 The proposed SCL line would be underground and operational noise impact is therefore controlled and contained. In addition, the railway depot together with the approach rail fan located at Site 2A and Site 1J would be concealed to shield the noise generated from maintenance activities and related train movements. Insurmountable impact is therefore not expected under these circumstances. The proposed railway depot would be located at immediately below the podium of the residential buildings at Site 2A. To summarize, potential noise impact arising from the depots are expected to be minimal provided that the following measures are considered:
- Adopt a complete podium decking over noisy depot facilities and rail tracks;
 - Enclose or screen the approaching rail tracks
- 3.8.1.3 The SCL project itself would be a designated project under the EIAO. Available information in this SEKD study may not be sufficient to cover all the environmental issues particularly those outside SEKD boundary. A separate EIA is recommended to address the environmental impacts under the EIAO.

3.9 Impact from Shuttle System - LRT/Trolley Bus

- 3.9.1.1 The shuttle service provides an environmental friendly and efficient feeder system to the railway network. A number of transport modes have been assessed in a Working Paper by adopting a robust Multi-Criteria Decision Analysis (MCDA) approach. As a result, LRT/Trolley Bus has been identified to be the more preferred options. Given the similar high score for LRT/Trolley Bus System, a provision has been made in the layout for either system. The market force may perhaps determine the ultimate choice. As tendering for the shuttle service would occur close to the time when Shatin to Central Link is scheduled to be commissioned (i.e. between the years 2008 and 2011), the factors prevalent at that time may

be changed, with even possible introduction of new proven types of shuttle service, e.g. electric car, double decker trolley bus, etc.

3.9.1.2 The proposed Trolley Bus/LRT depot would be located at immediately below the podium of the residential buildings at Site 1K1. At this stage, it is premature to carry out quantitative assessment and formulate solid mitigation measures. In general, LRT and trolley bus would have lower noise emissions than bus or other vehicles with similar passenger capacity. There are opportunities for further improvement e.g. careful selection of routing and alignment. In addition, screening structures could also be provided more efficiently compared with conventional road-based transport.

3.9.1.3 Considering the limited information for the shuttle system, a separate EIA study should be carried out at a later stage under the EIAO. Whatever the choice of shuttle system is, the system should not impose any constraints on the nearby developments. Having said that, preliminary noise impact assessment of the shuttle system have been carried out. Mitigation measures where necessary have also been recommended in this study based on the conservative approach discussed in the following sections.

3.9.2 Trolley Bus

3.9.2.1 A preliminary analysis of trolley bus system was carried out at this stage. The methodology was rather conservative which assumed all the trolley bus would have similar noise emissions as heavy vehicles. The trolley bus system, being no difference from normal bus except the defined routing, was considered as a part of the road traffic system. Trolley buses were integrated in the traffic noise model using 2031 traffic prediction. Results are presented together as road traffic noise levels and discussed in the road traffic noise sections.

3.9.3 LRT

3.9.3.1 Preliminary assessment of the LRT system as the shuttle system was conducted with reference to the latest LRT EIA “*EIA-031/1999 - Light Rail Transit (LRT) Extension in Tin Shui Wai Reserve Zone and Grade Separation of the LRT with Pui To Road and Tsing Lung Road in Tuen Mun*”. That EIA involved the Light Rail Transit (LRT) works for Tin Shui Wai Reserve Zone and Grade Separation of the LRT with Pui To Road and Tsing Lun Road in Tuen Mun. The potential environmental impacts arising from the proposed works have been assessed in the EIA report.

3.9.3.2 With reference to the findings of that EIA, there will be no significant noise impacts on NSRs at horizontal distance of 10m to 40m which is similar to the situation in SEKD. Nevertheless, certain operating measures have to be adopted for nighttime operation (after 11 pm) in order to meet the relevant noise standards. The measures would include lowering of train speed at location close to NSRs and reduced the train frequency during nighttime together with some performance criteria.

3.9.3.3 Further, it is anticipated that the future LRT adopted should be more environmental-friendly than the present type which means lower noise emission. Therefore, insurmountable impact is not expected if LRT is chosen for SEKD.

3.9.3.4 In case of choosing LRT or similar rail-based system for the shuttle system, it should be noted that:

- Environmental impacts must be mitigated to acceptable levels at NSRs under the current layout;
- The system must not impose any constraints on the developments nearby;

- The project proponent should also note that the separation distance of 25m under HKPSG for light rail development will not be provided by the development sites since the form of the environmental friendly feeder system was not firmed up in this Study; and
- There would be operational constraints particularly during the late hour's operation at night subject to further demonstration by the separate EIA study.

3.9.3.5 Noise impacts from maintenance could be alleviated assuming the depot at Site 1K for the shuttle system would be located underground or decked to enclose noisy activities as measures in the detailed design stage.

3.10 Impact from Fixed Noise Sources

3.10.0.1 Fixed noise sources in the SEKD area have been allocated for specific sites within SEKD and each of the fixed plant facility and its associated potential noise impact is discussed in the following sections below.

3.10.1 Public Transport Interchange (PTI)

3.10.1.1 The proposed PTI would be situated underneath the podium at Site 1D1, a public housing site north of the stadium and bordering the KTA Station, and another directly adjacent to the western boundary of the SEKD area where the urban renewal strategy recommends a commercial site with pedestrian links to the TKW Station. The other two PTIs would be located at Sites 3T1 and 6A9. These PTIs are suggested to have complete podium decking to reduce noise emission. The podium would provide a screening effect and thus the noise impact due to the PTI would be minimal and acceptable.

3.10.1.2 In addition, the ingress and egress (I/E) of PTIs are arranged with frontage to open space to mitigate their impact on NSRs. For Site 1D1, the I/E is revised to Road D2 which is at the southwestern boundary of the PTI in view of the above. While the I/E at Sites 3T1 and 6A9 should be located at northeastern and southeastern boundary of the PTI in order to reduce the noise impacts on the nearby NSRs. Further considerations should be taken to alleviate the potential impact as follows:

- Locate the facilities so that there is no line-of-sight of noise sources at the NSRs;
- Consider adopting a complete podium decking over noisy facilities;
- Exhaust of the ventilation system should be located away from facing any NSRs;
- Installation of sound absorbent material on the roof and the walls of PTI to avoid reverberation noise within the PTI, adequate noise reduction treatment should be applied; and
- During the detailed design stage, ancillary structure within the PTI namely escalator, lift and stairways should be carefully located to act as natural barrier.

3.10.2 Sewage Pumping Stations

3.10.2.1 A number of sites have been reserved for sewage pumping stations (SPS). **Table 3.21** shows the proposed locations of the SPSs and the required sound power level to achieve noise compliance.

Table 3.21 Noise from Sewage Pumping Stations (SPSs)

Location	Likely Affected NSR	Area Sensitivity Ratings (ASRs)*	Approx. Distance to NSR	Sound Power Level (SWL, dB(A)) required at source in order to meet the criteria**	
				Daytime	Nighttime
1E4	1E1 - Res	B	6m	81	71
	1E9 - Sch	B	28m	94	84
1M8	1P2 - Sch	B	170m	110	100