SWC prior to handing back to CR205 or are otherwise agreed to be left in by the Engineer.

7.3.1.17 The Contractor shall convene a joint inspection with CR205 and the Engineer upon completion of the tunnelling works and prior to handing back of worksite to CR205. Any remedial works agreed shall be completed by the Contractor prior to the handover.

7.3.1.18 The Contractor shall coordinate with CR205 on the integration of the bored tunnel lining with the ring beam. The Contractor shall be responsible for the waterproofing between the tunnel lining and the ring beam as shown on the interface drawings.

7.3.1.19 Upon completion of in-situ concrete collar lining, the Contractor shall actively carry out one round of re-injectable grouting. Upon grouting, the Contractor shall also ensure that the grout tubes are properly cleaned and flushed such that it can be activated for subsequent rounds of grouting if necessary.

7.3.2 The above clauses in no way absolve the Contractor of his responsibilities in relation to providing a safe worksite with all necessary temporary provisions. Any additional temporary provisions that the Contractor needs to provide shall be deemed included in the Contract Price.

7.3.3 The Contractor shall coordinate with CR205 Contractor to ensure compliance with Code of Practice for Fire Precautions in Rapid Transit Systems for the tunnel fire escape and obtain approval from Fire Safety and Shelter Department (FSSD) and relevant authorities.

7.3.4 The tunnel alignment at the interface of CR205 will be in close proximity to and under the permanent and temporary ERSS supporting the construction of CR205 entrance subway located directly above CR206 tunnels. CR205 will design and maintain minimum of one tunnel diameter clearance between the tunnels structure and ERSS structure. The Contractor shall coordinate with CR205 for the proposed ERSS scheme and construction sequence. The Contractor shall take into consideration the impact of CR205 works into his tunnelling works and propose relevant mitigation measures prior to his tunnelling works. The Contractor shall coordinate with CR205 on the interface construction sequence to cater for his ground improvement works and CR205 ERSS installation and/or ground improvement works. All time and cost shall be deemed included in the Contract Price.

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7.4 **Interface with Adjacent CRL Contractor: Contract CR207**

7.4.1.1 The completion of ERSS wall at interface is deemed to be in the critical path, the Contractor shall plan and schedule the construction of this interface ERSS wall as one of his early construction activities and demonstrate how he is able to achieve and meet the handing-over interface key date to CR207 contractor timely according to the key dates in **Appendix B** of the Particular Specification. This shall include the concept traffic diversion, the machinery and resources required to complete and handover to CR207 contractor.

7.4.1.2 The Contractor shall coordinate with CR207 for the detailed construction sequence at the interface area and provide access for CR207 ground improvement works at the interface. CR207 shall complete the ground improvement works for a time period of up to four (4) months or a mutually agreed date accepted by the Engineer with due consideration for mobilisation and demobilisation where staged access is provided.

7.4.1.3 In the event that CR207 tunnels reach and dock CR206 end wall before the station excavation reaches the formation level, the Contractor shall ensure

a) Blasting design for the station rock removal account for the consideration of stability and vibration limit of bored tunnels. The Contractor shall obtain the relevant design requirements from CR207.

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b) Impact assessment of the blasting works induced onto the bored tunnels shall be carried out;

c) Coordination with CR207 such that there will be minimal disturbance/disruption to CR207 works prior to commencement of blasting works.

7.4.1.4 The Contractor shall propose on the instrumentation plan, including installation and monitoring of the instruments within CR207 bored tunnels. CR207 shall provide access to facilitate installation and monitoring of the instruments by the Contractor.

7.4.1.5 Corresponding to clause 7.4.1.3, the Contractor shall coordinate with CR207 to allow coring through of the end wall immediately and access into their station once it is practicable and safe to allow CR207 to confirm the wriggle survey of the CR207's bored tunnels.

7.4.1.6 The Contractor shall design and install his ERSS end walls with Glass Fibre Reinforced Polymer (GFRP) soft eyes. The GFRP shall be at least minimum tensile strength of 800MPa and designed to ACI 440 or equivalent. The Contractor shall coordinate with CR207 for the required size of the soft eyes. The Contractor shall also provide recesses of up to 3 m within CR206 base slab as a standard requirement.

7.4.1.7 CR207 TBMs Reach before CR206 Station Completes Base Slab

(a) It is envisaged that CR207 TBMs will reach CR206 station before CR206 completes the base slab. In this case, CR207 contractor will dock at the CR206 Station with his TBM outside the end wall. Subsequent to the docking, the Contractor shall undertake all works necessary to remove the tunnel eyes along the entire thickness of the ERSS and complete the remaining lining including the necessary waterproofing installation up to the Contract Boundary indicated on the Authority's Drawings.

(b) The Contractor shall prepare the interface joints such that the surface is suitable for the installation of hydrophilic strips and re-injectable grout tubes and ensure water tightness has been achieved.

7.4.1.8 CR207 TBMs Reach after CR206 Station Completes Base Slab

7.4.1.8.1 Not in use.

7.4.1.8.2 Notwithstanding the requirements in Clause 7.4.1.7 above, if the station base slab is completed early and ready for CR207 TBMs to break in the

tunnel eye, the Contractor shall coordinate with CR207 to allow access into their station to install the necessary preparation works such as eye seal, probing and grouting etc. before the TBM break-in. CR207 will subsequently complete the tunnel permanent lining including annulus grouting and waterproofing up to the Contract Boundary indicated on the Authority's Drawings. For avoidance of doubt, only the TBM cutterhead is allowed to bore through the tunnel eye but there is no provision for TBM to be removed from CR206 station.

7.4.1.8.3 The Contractor shall complete the remaining ring beam including the necessary waterproofing installation up to the Contract Boundary indicated on the Authority's Drawings.

7.4.1.8.4 The Contractor shall coordinate with CR207 for the access and provide working area required up to 10 m for CR207 contractor to break in the tunnel eye of CR206 ERSS with his TBM. The Contractor shall allow access to the CR207 contractor for tunnel break-in and final connection works on the date as specified in **Appendix B** for a period of up to four (4) months, or a mutually agreed date accepted by the Engineer. CR207 shall be responsible for the clearance of all muck and debris arising from break-in.

7.4.1.8.5 Upon completion of the permanent cast-in-situ lining by CR207, the Contractor shall construct the cast-in-situ reinforced concrete ring beam and first stage concrete, including waterproofing, between the permanent cast-in-situ lining and the permanent end wall of CR206 as shown in Authority's Drawings.

7.4.1.9 The Contractor shall liaise with CR207 when planning and implementing any traffic management scheme at the interface, including but not limited to traffic diversion to ensure the access and diversions are coordinated. The traffic consultant appointed by the Contractor shall plan and design the traffic management schemes to include a reasonable extent within the CR206 contract boundary to ensure the scheme is coordinated and feasible for both contracts.

7.4.1.10 The Contractor shall coordinate the interfacing works and instrumentation limits of buildings and structures within the influence zone of both contractors. The Contractor shall be responsible to:

(a) Carry out the necessary impact assessment incorporating the impact of CR207 works and his Works on each other and the combined impact to the surroundings;

(b) Obtain the instrumentation plan from CR207 and review it together with the instrumentation provision for CR206 to assess the sufficiency of the instrumentation provision;

7.4.1.12 The Contractor shall liaise with CR207 to establish the required working area within CR206 contract boundary (not limited to ground level) and provide access for CR207 contractor to carry out their tunnel interface works. The Contractor shall coordinate with CR207 contractor regarding the actual access dates for the works.

7.4.1.13 Respective contractors shall be fully responsible to provide for themselves all the temporary provisions required, such as, but not limited to, power, ventilation, lighting, access scaffolding, working platforms, drainage pumps, lifting equipment, formwork and falsework to facilitate their own works at the interface.

7.4.1.14 The Contractor shall indemnify the Authority against all costs, charges and expenses resulting from his failure to properly coordinate the Works and the interfaces with CR207.

7.4.1.15 The Contractor shall coordinate with CR207 to ensure the structural finishes levels of the tunnel base slab, structural connections and waterproofing details are consistent at the interface.

7.4.1.16 The Contractor shall coordinate with CR207 for all loading and TBM operating parameters pertaining to TBM docking and/or break-in.

7.4.1.17 The Contractor shall provide his site investigation findings and all geotechnical site investigation information to CR207 within one (1) month of completion of the site investigation.

7.4.1.18 The Contractor shall coordinate with CR207 for the delivery, storage and removal of materials and equipment necessary for the TBM(s) break in.

7.4.1.19 The Contractor shall convene a joint inspection with CR207 and the Engineer upon completion of the tunnelling works and prior to handing back of worksite to CR206.

7.4.1.20 The Contractor shall design and construct the ring beam to enclose the face of the bored tunnel lining. The Contractor shall coordinate with CR207 on the integration of the bored tunnel lining with the ring beam. The Contractor shall be responsible for the waterproofing between the tunnel lining and the ring beam as shown on the interface drawings.

7.4.1.21 Upon completion of in-situ concrete collar lining, the Contractor shall actively carry out one round of re-injectable grouting. Upon grouting, the Contractor shall also ensure that the grout tubes are properly cleaned and flushed such that it can be activated for subsequent rounds of grouting if necessary.

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7.4.2 The above clauses in no way absolve the Contractor of his responsibilities in relation to providing a safe worksite with all necessary temporary provisions. Any additional temporary provisions that the Contractor needs to provide shall be deemed included in the Contract Price.

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7.7.9 **Interface with Ki Residences developer**

7.7.9.1 The Contractor shall note that Ki Residences developer will be carrying out road works for the construction of Brookvale Drive junction. The Contractor shall coordinate with Ki Residences developer on, but not limited to, sharing of site access, access into worksite and road reinstatement interfaces.

7.7.9.2 The Contractor shall ensure smooth interface when tying-in the road levels and furniture between his temporary traffic scheme and Brookvale junction.

7.7.10 **Interface with MINDEF and DSTA Maju Camp**

7.7.10.1 The Contractor shall coordinate and interface with MINDEF and DSTA Maju Camp on the works that affect their premises and amenities. The Contractor shall interface and coordinate with MINDEF and DSTA on the possession of worksite as indicated in the Authority's Drawings. The Contractor shall refer to **Appendix BH** of the Particular Specification for the requirement to carry out of works within Maju Camp.

7.7.10.2 The Contractor shall construct temporary and permanent retaining structure to facilitate the construction of Entrance 3. The Contractor shall relocate and maintain the security fence and all other related amenities affected by Entrance 3 worksite and reinstate the security fence and related amenities upon completion of the Works. The location of the temporary and permanent security fence shall be agreed with the Engineer, MINDEF and DSTA. The Contractor shall ensure that access to and from Maju Drive shall be maintained at all times during construction.

7.7.10.3 Prior to the modification/ temporary diversion affecting Maju Drive, the Contractor shall construct additional access way from Maju Camp carpark towards Brookvale Drive as shown in the Authority's Drawings or any other alternative way to the acceptance of MINDEF, DSTA and the Engineer. The Contractor shall liaise with MINDEF and DSTA on the requirement of the access. The detailed design of the access way shall be submitted to relevant LTA division for review and approval. This access shall be maintained at all times during construction works and reinstated upon completion of the Works. The Contractor shall supply and install double-leaf steel swing gates and side gate to the satisfaction of MINDEF and DSTA for the access way.

7.7.10.4 The Contractor shall coordinate with MINDEF and DSTA for the relocations and reinstatement of all ancillary structures affected by Entrance 3 works including but not limited to bulk water meter chamber, internal sewer inlet chambers (IC), sentry post, carpark lots, drainage, landscaping, lamp post, trees, CCTVs, surveillance and networks equipment, etc. The final locations of the ancillary structures shall be agreed with the Engineer, MINDEF and DSTA. The Contractor shall engage MINDEF and DSTA appointed contractor for the relocation of Maju Camp's security systems (e.g CCTVs, surveillance and networks equipment, etc). The Contractor shall coordinate with and seek approval from MINDEF and DSTA and engage MINDEF and DSTA's appointed contractor to divert and reinstate the affected power cables and Overground (OG) boxes within the existing Maju Camp compound that will be affected by his works. All ancillary structures, facilities, amenities, landscaping, etc, removed for the purpose of the Works shall be fully reinstated to Maju Camp's satisfaction upon the completion of the Works.

7.7.10.5 The Contractor shall liaise with MINDEF and DSTA to obtain information for the existing structures, facilities, utilities, and services that will be affected by his Works. When such information is not available, the Contractor shall plan and conduct suitable site investigations, including but not limited to trial trenches, geophysical surveys to obtain such information.

7.7.10.6 The Contractor shall adhere to the security requirement imposed by MINDEF and DSTA.

7.7.10.7 The Contractor shall coordinate and seek approval from MINDEF and DSTA to confirm the fencing design and any security measures

7.7.10.8 The site hoarding shall be independent from Maju Camp security fence.

7.7.10.9 The Contractor shall obtain NParks' written approval before felling any affected trees within Maju Camp.

7.7.10.10 The Contractor shall ensure that his works will not cause any adverse impact to Maju Camp's camp operations. Construction access via Maju Drive is not allowed.

7.7.10.11 Upon completion of Entrance 3 at Maju Camp, the Contractor shall arrange site inspection with the Engineer, DSTA/MINDEF, SLA and the relevant authorities before commencement and after completion of the reinstatement works. The Contractor shall reinstate the work areas with the following considerations:

- All temporary works shall be removed and the reinstated area shall be free of encumbrances;

- The reinstated driveway, green verge, carpark lots, etc shall tie-in with existing Maju Camp level.

- The reinstated structures and ancillary facilities affected by works shall meet DSTA and MINDEF's requirement for operations and activities; and

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