seabed level, as the exposed tunnel section would then be at risk of damage from ship impact, anchors, etc, the tunnel structure would be more susceptible to degradation in an aggressive marine environment, and the protrusion of the tunnel structure above the seabed would restrict marine access to the shoreline. Also, even where the tunnel lies below seabed level, the soft seabed material would need to be excavated so that the immersed tube units lie in a trench on a firm foundation. Along the Wan Chai shoreline, this would involve excavating a deep trench immediately adjacent to the existing seawalls, which would undermine these seawalls. Use of immersed tube is therefore considered not feasible in this instance, and the most practical and reasonable form of construction for the Trunk Road tunnel along the Wan Chai shoreline is cut-and-cover, constructed through reclaimed land.

4.2.4 Through the PCWA basin and the CBTS, where the Trunk Road tunnel lies below seabed level, immersed tube or cut-and-cover tunnel construction may be considered. In this case, for cut-and-cover tunnel, temporary reclamation formed to facilitate the tunnel construction can be removed on completion of construction, so that the finished product, ie retention of the existing seabed condition, is the same for both methods. Factors to be considered include: whether the tunnel alignment runs wholly through seabed or partly in existing seabed and partly under existing seawalls and land formation, the latter making cut-and-cover construction more practically feasible (more efficient and cost effective construction with less disruption to existing shoreline facilities and infrastructure) than use of precast immersed tunnel sections that need to be placed in open trenches; the depth of the tunnel (where the tunnel lies at a significant depth below the seabed, for example near the CHT crossing, at –30mPD, major deep and wide trenches will need to be excavated, making immersed tube construction more disruptive with greater impacts); or the tunnel length available for immersed tube construction (short lengths will not be cost effective for the precast fabrication of tunnel units). The form of tunnel construction is an important consideration in respect of avoiding conflict with the SCL, as Trunk Road cut-and-cover tunnel can be constructed across the future SCL alignment with much closer separation allowance. Because the Trunk Road tunnel is on diaphragm wall (piled) supports, it will not be structurally adversely affected by the construction of the SCL tunnels.

4.2.5 Where the Trunk Road tunnel rises up above the seabed to ground level, for the connection with the IEC at the eastern end of the CBTS, cut-and-cover tunnel in reclamation will again be the feasible form of construction.

4.2.6 Deep bored tunnel construction has also been examined (see Section 3.4), but is not recommended due to reduced traffic performance and the need for a larger area of reclamation along the North Point shoreline.

4.2.7 In summary, cut-and-cover tunnel construction is considered to be the practical and feasible form of construction for implementation of the Trunk Road through the HKCEC water channel, along the Wan Chai shoreline and through the CBTS. Permanent reclamation will be required at the HKCEC, along the Wan Chai shoreline and at the eastern end of the CBTS, for the cut-and-cover tunnel, where it lies above the seabed level.