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Site 10 – Basement Construction Method Statement

The Site 10 basement will be constructed in reclamation fill, adjacent to the harbour edge but inside the existing Seawall. Construction activities will include excavation, removal of existing foundations (from previous structures on the site), piling, Deep-Soil-Mixing [DSM], de-watering and construction of the reinforced concrete basement slab and walls. The following steps outline, in concept, the construction methodology that will be used.

1. Site establishment, fencing, site sheds etc.
2. Storm-water protection/diversion etc. Temporary filters, kerbs etc. to prevent construction and excavation materials entering the storm-water system.
3. Site-wide excavation to approximately 400mm deep. This is to provide a bund against any spills or flooding. The excavated material shall be assessed for contamination, treated if required and disposed to landfill/cleanfill as appropriate.
4. Construction of perimeter DSM wall around the entire building footprint. This will provide a cut-off wall to minimise the likelihood of groundwater flow towards the harbour. It will also act as temporary retaining for excavation inside the perimeter wall.
5. General excavation to expose the existing, remaining foundations and lower general ground surface levels. The excavated material shall be assessed for contamination, treated as required and disposed to landfill/cleanfill as appropriate.
6. Demolition of existing foundations. Debris will be removed to landfill.
7. Additional proof-drilling to determine depths for piles and the internal DSM walls.
8. Drilling and concreting of piles.
9. Construction of the internal DSM grid of walls over the whole building footprint.
10. Localised de-watering down to underside of the proposed new basement. Note that the grid of DSM should minimise groundwater flow from adjacent cells with the grid. Water will be pumped to settling tanks, treated as appropriate and disposed to the storm-water system.
11. Excavation will then continue to the underside of the basement slab. The excavated material shall be assessed for contamination, treated if required and disposed to landfill/cleanfill as appropriate.
12. Construction of a concrete tidy slab across the basement footprint.

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13. Construction of the structural, reinforced-concrete basement slab in a checkerboard, hit-and-miss process.
14. Construction of the basement walls, generally poured directly against the perimeter DSM walls.
15. Progressive construction of the internal basement columns, base-isolators, ground floor slab and building superstructure.
16. De-watering would continue until the building mass exceeds the groundwater uplift pressure.

Note that the sequence described above would be a progressive one starting from one end of the site. I.e. Slabs and walls may be in progress at one end of the site while excavation is still underway at the other end.

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