

Outline Construction Methodology for Black Pool Wall Repair

1. Site set-up and mobilisation.

Setup secure site compound in carpark and field adjacent to working area, secured with Heras fencing or similar approved and CCTV. Deliver materials to site, loading / unloading of materials and storage of plant.

2. Underpin the existing store building, working in bays.

Excavate north side of store building down to competent material in a 'hit-and-miss' arrangement: approximately 1m alternating bays across 7m length; three bays for first phase. Ensure width and depth are in accordance with design drawings. Setup formwork and pour concrete, using a vibrating poker to prevent voids and ensure concrete flows underneath the store building for adequate underpinning. Once cured, process repeated for remaining four bays.

3. Remove existing rock bags working in an upstream direction and use them to create a temporary cofferdam.

Using a mobile crane positioned in the field adjacent to the store building and a safe distance from the channel edge, lift and reposition rock backs within the watercourse to form a temporary cofferdam. Work from the downstream end of the existing wall when removing rock bags and placing them upstream of the scoured area to deflect flows, moving in a downstream direction when placing subsequent bag. Wrap rock bags in polythene where required to reduce seepage through the cofferdam. All crane operations in accordance with lift plan, and under direction of lift supervisor.

4. De-water cofferdam to create dry working area, using fish friendly pumps and settlement tanks.

Following fish rescue from within the cofferdam, over-pump water using fish-friendly 12" or 6" hydraulic submersible pumps, passing water through a silt settlement tank positioned a safe distance for the riverbank prior to discharge further downstream. Silt curtains to be deployed downstream of the discharge point if required.

5. Demolish collapsed wall and excavate to formation level at bedrock.

Lift a small excavator (circa 1.5T) into the cofferdam dry working area using a mobile crane. Excavator to be removed and stored within the site compound at the end of each working day. Working from within the cofferdam and from the riverbank with a long reach excavator, remove remains of failed wall and other debris. Excavate bank down to formation level, graded and battered to prevent instability. Waste removed from site by licenced carrier.

6. Prepare bedrock prior to construction of the foundation.

Bedrock at formation level inspected prior to pouring concrete. Remove loose material, fill voids with engineered fill and lay polythene separation layer to prevent seepage into watercourse

during concrete pour. Pour blinding concrete layer for subsequent formwork and reinforced concrete foundation.

7. Construct RC foundation, allow time to cure.

Lift reinforcement into cofferdam dry working area using a mobile crane. Working from within the cofferdam, setup formwork and place reinforcement mesh. Pour concrete using mobile boom pump and allow to cure before striking formwork and removing.

8. Construct Redi-Rock, backfill and drainage.

Mobile crane positioned adjacent to store house. Lift Redi-rock blocks into position, building up new retaining wall in rows. Backfill with material as building up wall. Install weep holes and store house drainage as per designs.

9. Construct pedestrian guard railing atop Redi-Rock wall.

Install guard railings atop crest of new retaining wall.

10. Concrete repairs to access steps adjacent to the store building, including installation of pedestrian handrail.

Repair areas of missing concrete on access steps. Rake out and repoint open joints as required and install new handrail.

11. Construct hardstanding area.

Retaining wall backfill to be built up with suitable subbase material and paving slabs laid onto mortar bed to establish hard standing area.

12. Remove temporary cofferdam and demobilisation.

Switch off pumps and remove, allowing bunded area to flood. Deconstruct cofferdam: remove rock bags from watercourse along with any other materials used to construct bund (e.g. polythene). Rock bags to be removed starting at the downstream end, working in an upstream direction. Remove pollution control / mitigation measures removed from watercourse (i.e. downstream, silt mats). All plant / site items off-hired and removed from site. Working areas made good and returned to pre-works condition.