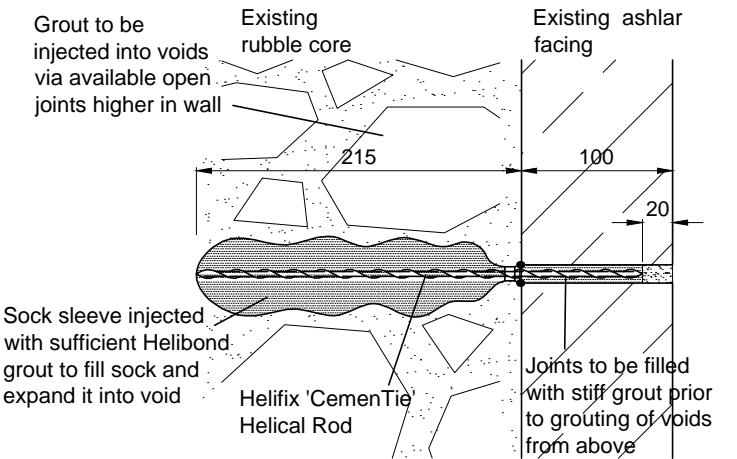
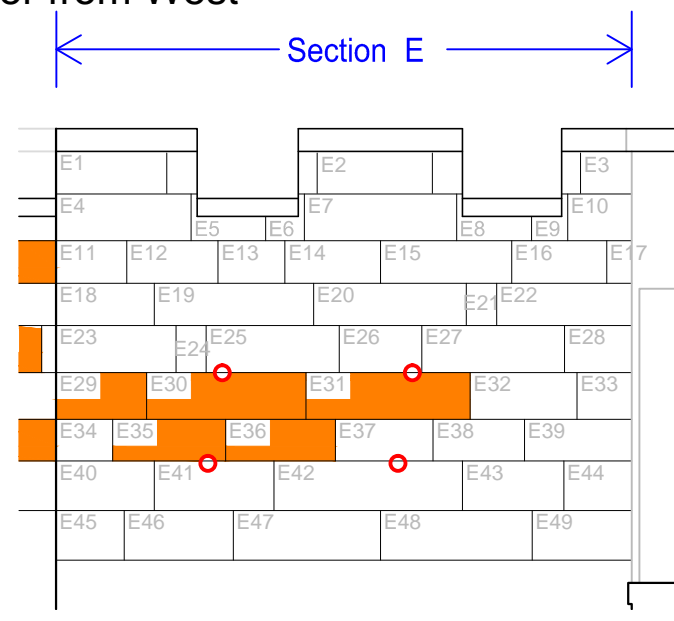
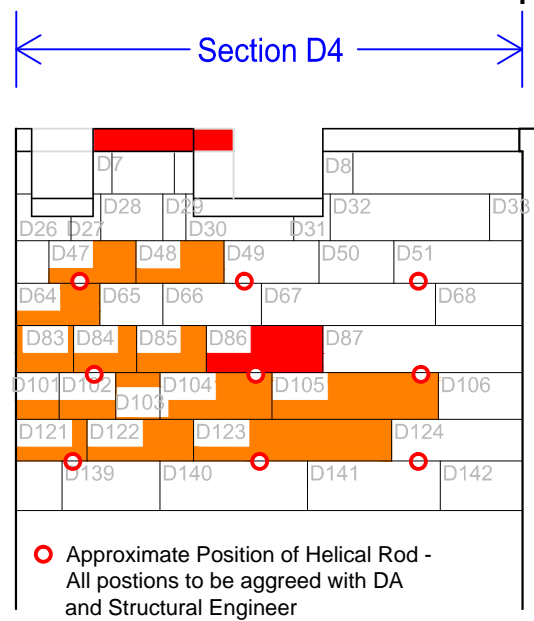
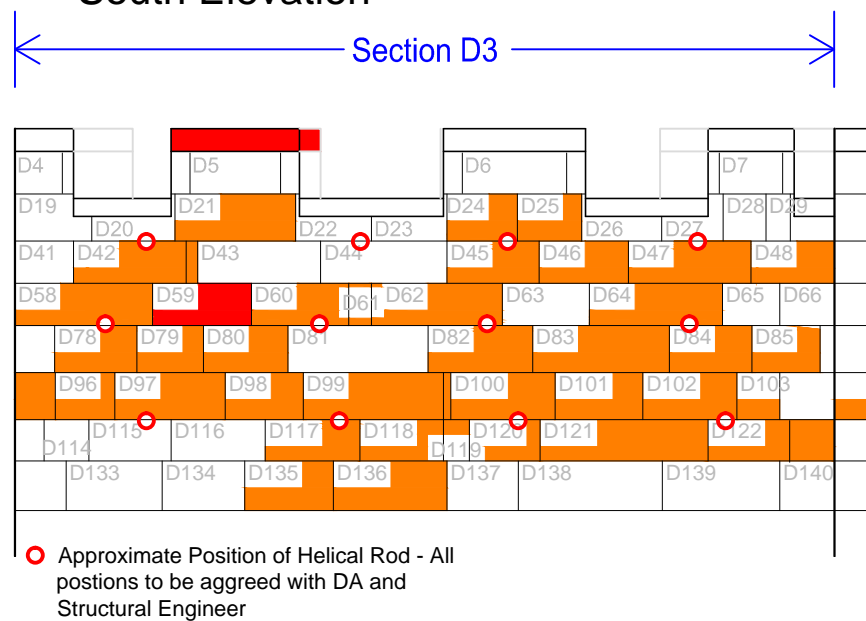


South Elevation

Tower from West

Tower from South



Helical rod detail 1:5

HELICAL ROD SPEC:

6mm dia. Stainless Steel grade 304, Length 295mm
 Clearance hole 12mm dia.
 Bonding agent - Helibond Grout
 Installation to be in accordance with manufacturers guidelines.



Tower from East

Tower from North

East Elevation

KEY:

Indicates: facing-stones now detached from inner rubble core, requiring **immediate** stabilisation. Loose stones to be re-bedded in lime mortar. Stainless Steel Helical Rods to be inserted into available joints at positions indicated and the tie back to the core achieved through injection of Helibond grout as per detail.

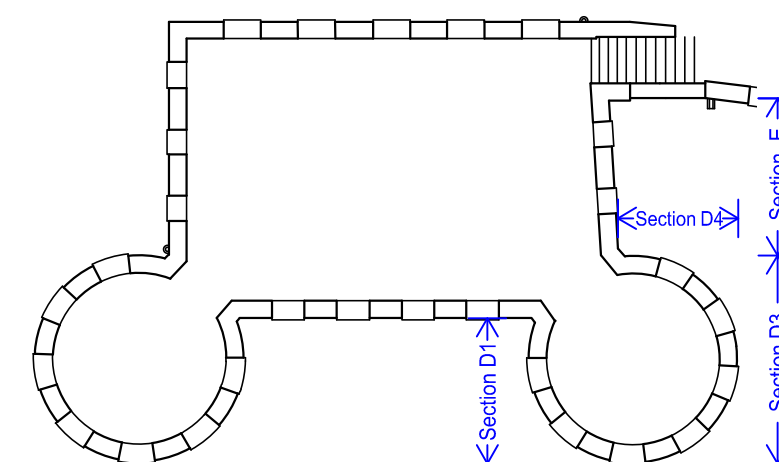
Indicates: facing-stones with apparent loss of bond to inner rubble core, requiring urgent stabilisation to avoid detachment as above. Helical ties to be installed as above through available wider joints and the tie back to the core achieved through injection of Helibond grout as per detail. On completion of ties and pointing, grout in-filling of core to be investigated.

Pinnings: On completion of Helical Ties, all joints indicated to all sections are to be tightened by inserting small slate pinnings into all bedding joints as per existing pointing/pinning arrangement.

Pointing: All joints indicated to be pointed with lime mortar - No lime mortar available for analysis as lime has been lost from all open joints. Test samples to be prepared based on the following comparator specification:

MORTAR SAMPLES: Ashlar Facing Stonework

Background prep.- Dampen substrate as required. Do not kill suction
 Aggregate- To match visual appearance of existing cementitious mortar to lower courses (sample 1) - Cambusmore quarry stirling (Sample 2) - Loanleven Quarry Concrete Sand
 Binder- NHL 5 (complying with BS EN 459:1)
 Basic proportions- Nominally 1 lime: 2.5 sand
 Ingredients- 1 part NHL 5 (complying with BS EN 459:1): 2.5 parts sand



Location Plan

MONUMENT	STIRLING CASTLE
PROJECT	James IV Arch Military Period Stone Coursing



PROJECT DRAWING NUMBER 334/291//E/35 (Drg 2 of 2)	
SCALE 1:50 @ A3	ARCHITECT T Gaze
DATE Febuary 2016	DRAWN BY IDC
ARCHIVE NUMBER	