TECHNICAL NOTE

DATE:	27 June 2023	**CONFIDENTIALITY:**	Public
SUBJECT:	Site Monitoring Report – Shore Road		
PROJECT:	Swanage Town Council – Shore Road	**AUTHOR:**	Sam Rhodes
REVIEWER:	Ben Ward	**APPROVER:**	David Roy

1 INTRODUCTION

1.1 WSP UK Ltd (WSP) was commissioned by Swanage Town Council (STC), 'the Client', to produce a technical note detailing the findings of a defect walkover survey undertaken in June 2023, where areas of ground and retaining wall instability have been identified over a number of years. It is not known when these defects were first identified by STC.

1.2 A description of the site locale and references to existing geotechnical information are presented within Section 1 of the Ground Stabilisation Feasibility Study [1].

1.3 References to supplementary information relating to buried services, UXO risk and topographical surveys are provided in Table 1 of the Ground Stabilisation Options Refinement Technical Note [2].

2 DEFECT WALKOVER SURVEY

2.1 The defect walkover survey was undertaken on the 7th June 2023, by a WSP Geotechnical Engineer. Weather conditions were dry and clear.

2.2 The purpose of the walkover was to provide a baseline record of identified defects at the site, in order to facilitate comparisons with future surveys and determine the rate of deterioration of assets across the site.

2.3 The walkover survey comprised inspection of the following areas:

- The Spa;
- The Spa Beach Huts;
- Weather Station Field; and
- Sandpit Field.

2.4 Defect areas were categorised by location with the Spa and Spa Beach Hut areas denoted "A", Weather Station Field denoted "B", and Sandpit Field denoted "C", in the defect schedule. The defect schedule is presented as Appendix A of this technical note.

2.5 A total of 40no. defects were identified during the site walkover. These typically related to, but were not limited to the following:

- Retaining walls with vertical and/or horizontal cracking, bulging or bowing, partial failure in bearing/overturning etc.;
- Hummocky areas where surface distress was identified in grassed areas and footways;
- Tension cracking forming in oversteep vegetated slopes;

- Footway and stairway distress in the form of tension cracking, structural cracking, pavement settlement and heave; and
- Dilapidated surface drainage and retaining wall weepholes, blocked or semi-blocked by debris and siltation.

2.6 Of the 40no. defects observed during the walkover survey, 33no. related to retaining walls, four related to pavements and footways, two related to earthwork slopes, and one related to drainage systems.

2.7 Where identified, a characteristic image of each defect has been included within the defect schedule. A link to a repository of images captured during the inspection shall be made available on request.

2.8 A defect risk rating has been assigned to each of the defects identified on the site walkover, presented in the defect schedule (see Appendix A). These values have been assigned based on a qualitative risk assessment (QRA), to give an approximation of risk levels at the time of the survey. The QRA methodology used to derive defect risk ratings is presented as Appendix B.

3 MONITORING DATA

3.1 Ground monitoring data has been made available for the site, with the latest readings taken in May 2023. The monitoring regime at the site comprises, eight inclinometers and eight diver piezometers, with results presented as Appendix C.

3.2 Spikes in GW were identified in all boreholes November 2022 and January 2023. This is likely attributed to periods of high rainfall, and recharging of the groundwater table underlying the site. At monitoring locations where significant near surface movement was identified namely BH03, BH07, BH10 and BH12, a jump in inclinometer readings was identified within this period, consistent with the spike in groundwater levels observed across the site.

3.3 Groundwater (GW) monitoring data indicates there has been no significant change in the groundwater regime underlying the site in the from the period of March to May 2023. If ground movements are related to precipitation rates and the groundwater regime at the site, this would be anticipated due to high temperatures and low rainfall recorded in the months prior.

3.4 Areas where significant wall or slope distress was identified, correlate with inclinometer data, namely BH07 and BH08 in Weather Field Station, and BH10 and BH12 in Sandpit Field. Based on the observations above, further degradation of these assets, are likely only to be observed during periods of wet weather and high GW levels. This shall be confirmed with regular follow up walkovers, to provide an ongoing assessment of active defects.

4 RECOMMENDATIONS

4.1 Following the assessment of site defects and the latest monitoring information, the following steps are recommended:

- Ongoing walkover surveys should be undertaken at regular intervals (i.e. month to two monthly), to assess the condition of defects identified, and any new defects which have since developed;
- After periods of heavy and prolonged rainfall, an inspection of listed defects should be undertaken by a suitability qualified person on behalf of the Client, to ensure all areas are still sufficiently safe to be opened to members of the public;
- Monthly groundwater and surface monitoring locations should continue;

- Areas identified as having high risk (risk rating equal to or greater than 9), should be visually inspected weekly, or after periods of heavy and prolonged rainfall, to ensure no rapid deterioration in the asset has occurred; and
- The retaining wall at the south east corner of Weather Station field (defect ref. B4), should be fenced off using temporary Heras panels (or similar) to reduce the risk of harm to members of the public, in the event failure of the wall occurs.

REFERENCES

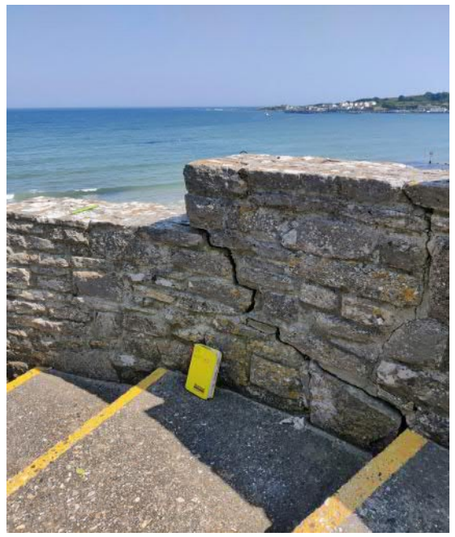
[1] WSP UK Ltd, “Swanage Seafront - Ground Stabilisation Feasibility Study (Report No. 70094760-GEO-REV001),” WSP UK Ltd, Bristol, UK, 2022.

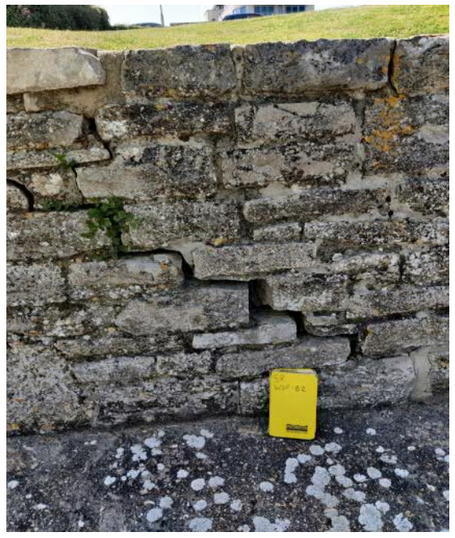
[2] WSP UK Ltd, “Swanage TC - Shore Road - Ground Stabilisation Options Refinement Technical Note – Hybrid Option,” WSP, Bristol, UK, 2023.

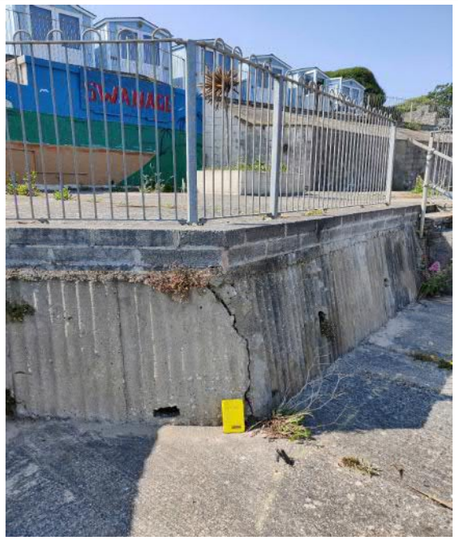
APPENDIX A – DEFECTS SCHEDULE

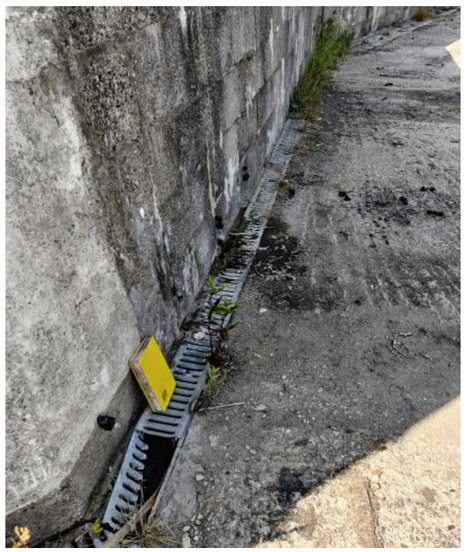
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A1	The Spa	403068	79415	A1		Vertical and horizontal cracking, bulging/horizontal sliding of failing wall section. Crack width 10 - 20mm. Bowing of wall face, up to 40mm. Loose blockwork, missing masonry, loss of mortar between blockwork. Crack length 1.2m wall height 1.2m Retained height 3.0m+.	2	Unlikely	3	High	6	Medium
A2	The Spa	403068	79423	A2		Retaining wall height: 1.3m Retained height: 1.3m Horizontal cracking, crack width up to 10mm. Cracking along failed mortar joint.	2	Unlikely	1	Very Low	2	Low

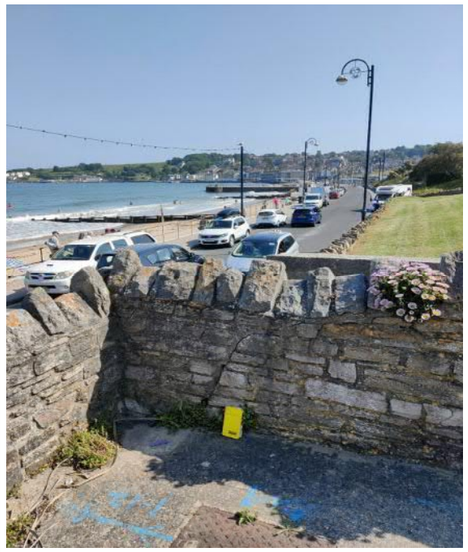
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A3	The Spa	403061	79407	A3		Retaining wall height: 0.8m Retained height: 0.8m Vertical cracking and horizontal displacement of wall. Crack width, 40 - 60mm with loose and missing masonry. Evidence of previous repair attempt with cement mix.	2	Unlikely	1	Very Low	2	Low
A4	The Spa	403060	79395	A4		Retaining wall height: 1.0m Retained height: 1.0m Vertical cracking, width up to 30mm. No bowing/bulging of wall face observed. Pavement cracking at base of retaining wall mirroring cracking in retaining wall face.	1	Negligible	1	Very Low	1	Low

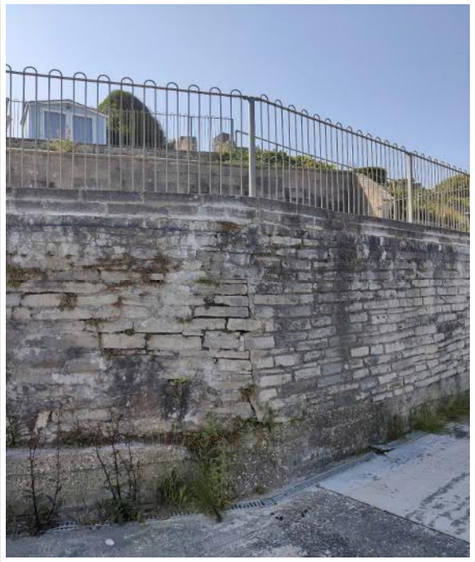
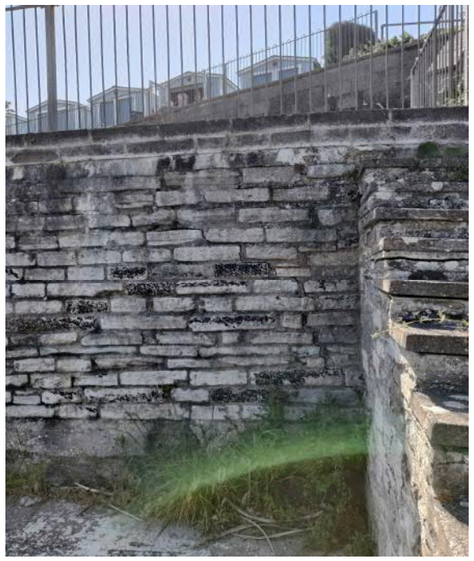
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A5	The Spa	403051	79400	A5		Retaining wall height: 0.9m Retained height: 0.2m Vertical and horizontal cracking, crack width up to 30mm. Appears lower section of wall has settled/rotated away from top section, causing failure of mortar joint and cracking in wall.	2	Unlikely	2	Low	4	Low
A6	The Spa	403060	79402	A6		Retaining wall height: 0.9m Retained height: 0.9m Vertical cracking, crack width up to 20mm. Horizontal displacement of right side of wall 10mm from left side. Evidence of previous mortar joint repair, which has since re-failed.	2	Unlikely	1	Very Low	2	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A7	The Spa	403058	79400	A7		Pavement cracking and uneven ground. Differential settlement/transverse cracking in pavement with height up to 10mm. Longitudinal cracking, with width up to 2mm.	2	Unlikely	1	Very Low	2	Low
A8	The Spa	403052	79390	A8		Retaining wall height: 1.0m Retained height: 1.0m Vertical and horizontal cracking, cracking width 30 - 60mm. Length of defect 0.7m. Evidence of minor previous patch repairs with cement mix.	2	Unlikely	1	Very Low	2	Low

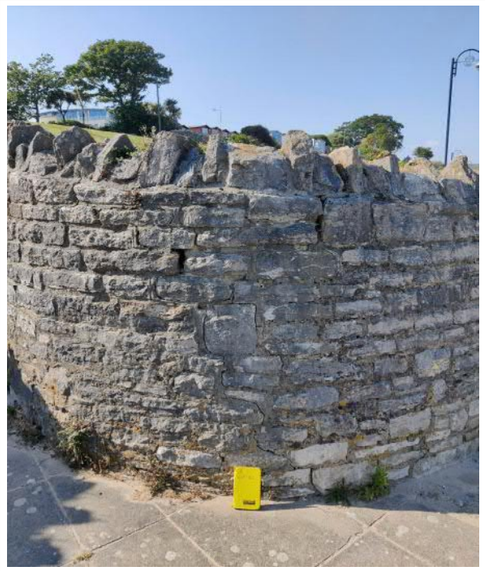
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A9	Spa Beach Huts	403028	79367	A9		Retaining wall height: 0.9m Retained height: 0.9m Minor vertical cracking, missing masonry blocks and silted up and damaged back of wall drainage. Damage potentially due to running services through wall, post wall construction.	2	Unlikely	1	Very Low	2	Low
A10	Spa Beach Huts	403054	79358	A10		Retaining wall height: 1.25m Retained height: 1.25m Vertical cracking, crack height 0.9m, crack width up to 30mm. Damaged weephole / void at the base of the wall (see left of survey book).	2	Unlikely	2	Low	4	Low

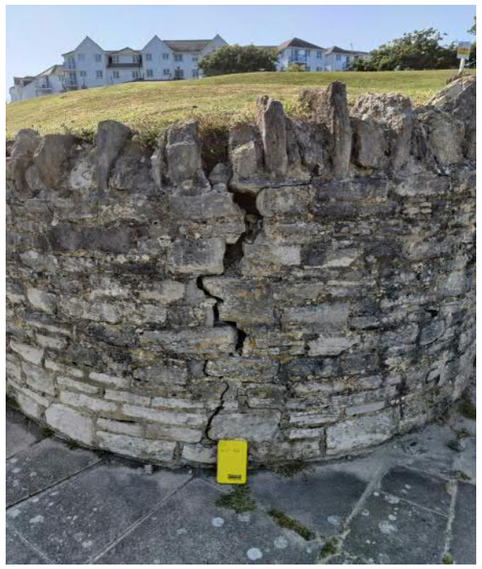
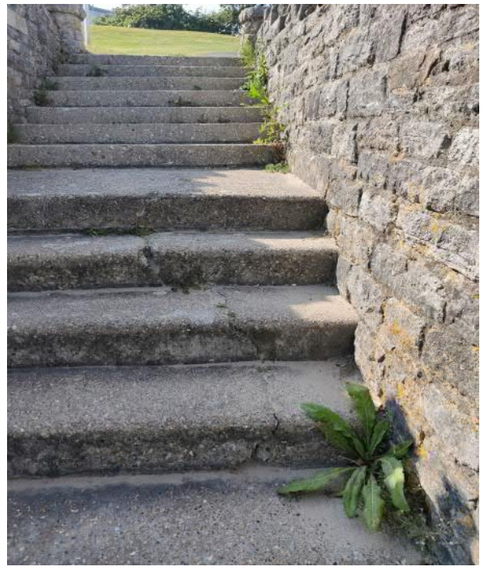
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A11	Spa Beach Huts	403042	79361	A11		Retaining wall height: 2.15m Retained height 2.15m Hairline vertical cracking full height of the wall, crack width ~1mm. Weephole silted up and 2/3 blocked by additional concrete pours, potentiall from previous remedial works.	1	Negligible	3	High	3	Low
A12	Spa Beach Huts	403050	79369	A12		Delapidated aco surface water drainage system. Drainage gratings broken, and invert fully silted up for the full length of the retaining wall.	3	Likely	1	Very Low	3	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A13	Spa Beach Huts	403055	79380	A13		Retaining wall height: 2.15m Retained height: 2.5m Horizontal hairline cracking, crack width 1mm. Cracking located 1.85m from existing ground level. Slight bulging/bowing at the mid span/mid height of retaining wall. Defect length: 8m.	2	Unlikely	1	Very Low	2	Low
A14	Spa Beach Huts	403062	79353	A14		Retaining wall height: 1.2m Retained height: 0m Vertical and horizontal cracking. Crack length 1.1m, crack width up to 3mm. No loose masonry or missing blockwork. No bulging or bowing of the wall structure.	2	Unlikely	1	Very Low	2	Low

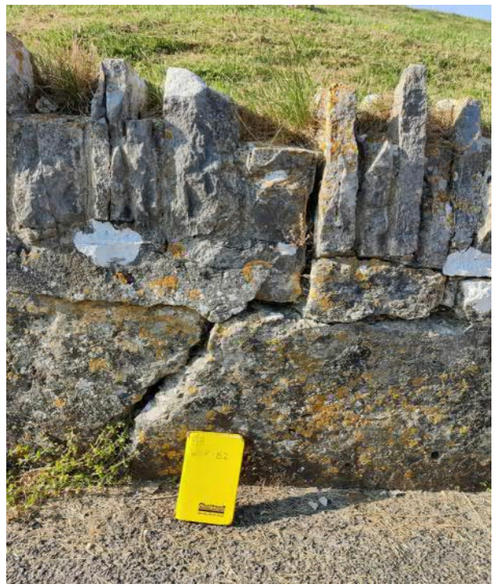
Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A15	Spa Beach Huts	403060	79377	A15		Retaining wall height: 2.55m Retained height: 2.55m Vertical cracking, crack length 1.3m, typical crack width between 3 - 10mm. Bulging/bowing at corner section of masonry wall. Loss of mortar between blockwork.	2	Unlikely	2	Low	4	Low
A16	Spa Beach Huts	403060	79381	A16		Retaining wall height: 2.55m Retained height: 2.55m Horizontal and vertical cracking. Crack length 1.6m. Typical crack width 3 - 10mm. Bulging/bowing at the mid span of masonry wall.	1	Negligible	2	Low	2	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
A17	Spa Beach Huts	403062	79383	A17		Retaining wall height: up to 2.2m Retained height: up to 2.5m. Horizontal cracking. Crack length 1.8m. Crack width 3 - 12mm. Horizontal movement of return wall causing cracking, potentially due to bulging/bowing from the main span.	1	Negligible	1	Very Low	1	Low
B1	Weather Station Field	403050	79339	B1		Pavement tension cracking, surface deformation and partial collapse. 2no. continuous cracks observed, 3.6m and 11m in length respectively. Multiple patch repairs with asphalt and cement/concrete mix. Ground uneven and with numerous cracks. Crack depths ranging between 5 - 10mm where repairs have not been completed.	3	Likely	2	Low	6	Medium

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
B2	Weather Station Field	403042	79330	B2		In the field area to the east of weather station, hummocky ground observed, with tension cracking in slope, bulging of surface.	3	Likely	2	Low	6	Medium
B3	Weather Station Field	403059	79309	B3		Retaining wall height: 1.8m Retained height: 1.8m Vertical and horizontal cracking, crack width between 2 - 20mm, occuring at apex of wall curvature. No bulging or bowing of the wall observed.	2	Unlikely	2	Low	4	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
B4	Weather Station Field	403055	79305	B4		Retaining wall height: 1.8m Retained height: 1.8m Curved wall with 3no. sets of vertical cracking. From south face of retaining wall, cracks are at chainage CH 0, 2.0, and 5.5m. Total length of defect: 5.5m. CH 0m Defect: Vertical cracking, crack width typically 30 - 50mm. Missing blockwork at the head of the wall, with significant voids behind mid span of wall (potentially lost mortar or block work following movement). CH 2.0m Defect: Vertical cracking, max crack width typically 90 - 130mm, increasing with height of wall. Missing blockwork at top of wall. CH 5.5m Defect: Vertical cracking, crack width up to 10mm. Blockwork intact.	3	Likely	3	High	9	High
B5	Weather Station Field	403054	79310	B5		Vertical cracking on footpath/stepped access. Crack length 3m, typical crack width 1 - 2mm.	2	Unlikely	1	Very Low	2	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
B6	Weather Station Field	403045	79304	B6		Retaining wall height: 1.0m. Retained height: 1.5m Vertical and horizontal cracking, crack length 0.8m. Typical crack width 40 - 60mm. Minor bowing of the wall at mid height.	1	Negligible	1	Very Low	1	Low
B7	Weather Station Field	403034	79304	B7		Retaining wall height: 0.9m Retained height: 1.0m. Vertical cracking, from base to top of wall (i.e. 0.9m), crack width between 20 - 40mm.	1	Negligible	1	Very Low	1	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
B8	Weather Station Field	403026	79304	B8		Retaining wall height: 0.85m Retained height: 1m + Vertical and horizontal cracking, the full height of the wall (0.85m), with typical crack width of 20mm. Lower right side (east) of wall translational movement relative to rest of wall.	1	Negligible	1	Very Low	1	Low
B9	Weather Station Field	403017	79304	B9		Retaining wall height: 1.0m Retained height: 1.0m Vertical cracking, running full height of the wall. Right of the crack (east side of the wall), 30mm translational movement of the wall relative to the west side. Pavement cracking adjacent to retaining wall observed from base of retaining wall.	1	Negligible	1	Very Low	1	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C1	Sandpit Field	403000	79294	C1		Retaining wall height: 1.0m. Retained height: 1.0m Vertical cracking, full height of wall, typical crack width 5 - 30mm. Large bushes overhanging back of retaining wall, likely the cause of distress observed in the structure.	2	Unlikely	1	Very Low	2	Low
C2	Sandpit Field	403009	79294	C2		Retaining wall height: 0.8m Retained height: 0.8m Vertical cracking full height of wall, typical crack width 5 - 20mm. Evidence of historic patch repair made previously.	1	Negligible	1	Very Low	1	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C3	Sandpit Field	403024	79295	C3		Retaining wall height: 0.95m Retained height 1.0m Vertical cracking, full height of wall, crack width between 1 - 3mm.	1	Negligible	1	Very Low	1	Low
C4	Sandpit Field	403035	79295	C4		Retaining wall height: 1.0m Retained height: 1.2m Vertical cracking, full height of wall. Crack width 20 - 40mm.	1	Negligible	1	Very Low	1	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C5	Sandpit Field	403058	79290	C5		Retaining wall height: 1.25m Retained height 1.25m Vertical and horizontal cracking, typical crack width 20 - 30mm. Transverse movement of the wall, mortar joint failure from masonry blockwork moving apart.	2	Unlikely	2	Low	4	Low
C6	Sandpit Field	403054	79280	C6		Retaining wall height: 0.6m Retained height: 1.5m+ Vertical cracking full height of the wall. Typical crack width between 10 - 15mm. Overgrown bushes and vegetation acting on the back of the wall the likely cause of deterioration of the retaining structure.	2	Unlikely	2	Low	4	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C7	Sandpit Field	403057	79248	C7		Multiple areas of pavement cracking and surface deformation (one example shown face left). Distress in asphalt behind lower slope retaining walls observed where rotation of lower wall was seen (see defect C13). Additional areas of distress in pavement seen where up slope area is oversteepened and not effectively restrained by retaining structure or otherwise, see defect C12.	3	Likely	2	Low	6	Medium
C8	Sandpit Field	403056	79252	C8		Retaining wall height: 1.3m Retained height 3.0m + 6 lm of terraced masonry blocks which were observed to be overturning with over steepened slope behind. Blocks likely installed to prevent shallow slip failure of material above, however global stability of slope borderline.	2	Unlikely	2	Low	4	Low

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C9	Sandpit Field	403056	79246	C9		Retaining wall height: 0.6m Retained height: 3m + 7.5 lm of retaining wall blocks partially overturned at toe of retaining wall. Insufficient embedment of blocks at toe, and oversteepened slope behind overloading wall.	2	Unlikely	2	Low	4	Low
C10	Sandpit Field	403052	79239	C10		3 lm of tension cracking observed in oversteep section of slope. Width of tension crack approx 200mm, and 250mm depth in areas.	3	Likely	2	Low	6	Medium

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C11	Sandpit Field	403055	79235	C11		Retaining wall height: 0.3m Retained height: 3m+ 2 lm section of retaining wall at the rear of benches, has overturned by 30 degrees from vertical. Large overgrown vegetation acting immediately behind the rear of wall, likely cause of issue.	1	Negligible	1	Very Low	1	Low
C12	Sandpit Field	403055	79202	C12		3no. Failed retaining wall which use to house benches. Retaining wall height: 0.6m Retained height 2.5 - 3.5m + Masonry wall fully overturned and collapse of the main wall span. Partial collapse of the return walls either side of each retaining wall. Bulging and hummocking of stone slab at ground level, and signs of distress in adjacent asphalt where retaining walls have failed, indicating greater/deeper global failure occuring.	3	Likely	2	Low	6	Medium

Defect Ref.	Defect Location	Easting (m)	Northing (m)	Link to Defect Images	Sample Photo of Defect	Defect Description	Likelihood (Number)	Likelihood	Effect (Number)	Effect	Risk Level (Number)	Risk Level
C13	Sandpit Field	403057	79207	C13		Retaining wall height: 1.0m Retained height: 0.3m Minor tilt/overturning observed in section of masonry wall. Area of overturning matches asphalt repairs and scarring work indicating link between the two. Defect length 22 lm.	2	Unlikely	2	Low	4	Low
C14	Sandpit Field	403039	79146	C14		Retaining wall height: 1.25m Retained height: 1.25m Lack of mortar joints connecting this section of wall, therefore potential reconstruction of wall section with dry stone wall technique. Mid height bulging/bowing of the wall likely due to large bushes/trees directly overhanging the back of the wall. Defect length approx 6 lm.	2	Unlikely	2	Low	4	Low

APPENDIX B – QUALITATIVE RISK ASSESSMENT METHODOLOGY

QUALITATIVE RISK ASSESSMENT (QRA) METHODOLOGY

Qualitative risk assessments are a method of measuring relative risk, based on ranking or descriptive categories. It is an industry standard means of determining a level of risk and is therefore considered appropriate and sufficient for use at this site.

LIKELIHOOD OF FAILURE

The likelihood of failure for each defect shall be assessed with consideration to findings defect and walkover surveys, and results from any previous Ground Investigation Reports.

Table 1 – Qualitative Risk Assessment; Likelihood

Score	Likelihood	Chance of occurrence (%)
5	Almost certain	>70
4	Probable	50-70
3	Likely	30-50
2	Unlikely	10-30
1	Negligible	<10

EFFECT OF FAILURE

The effect should a failure occur within a defect has been considered with reference to:

- Wall or slope geometry;
- Volume of failed material;
- Proximity to roads and pedestrian footways; and
- Potential to cause damage to infrastructure or harm to members of the public, within the site boundary.

Effect is commonly categorised based on the impact to cost or time, including damage to property and personnel injury.

Table 2 - Risk Assessment; Effect

Score	Effect	Cost or Time
4	Very High	Multiple fatalities and/or unserviceable damage to property
3	High	Fatality or injury to people or major damage to property
2	Low	Minor injury to people or minor damage to property
1	Very Low	Negligible damage
0	None	No effect

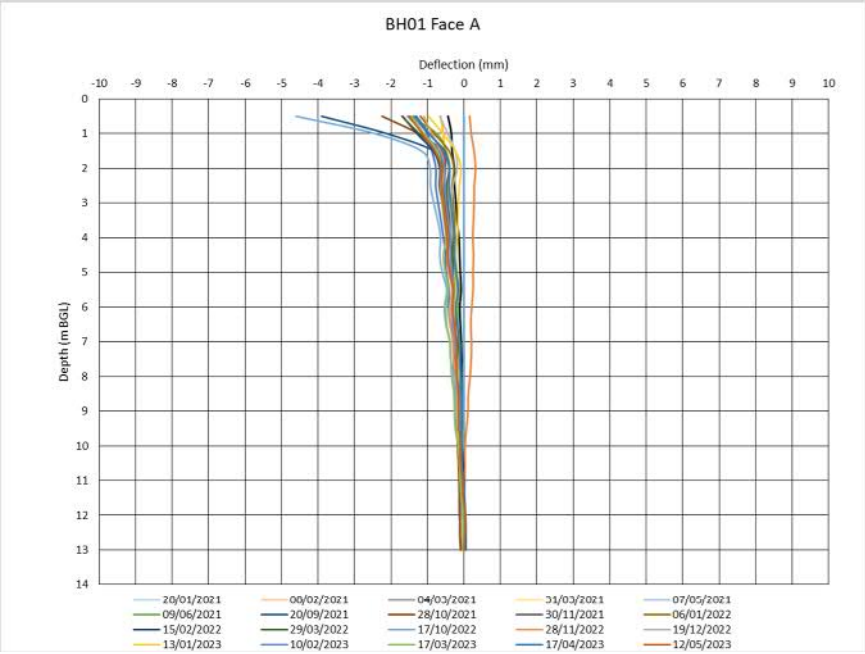
RISK LEVEL

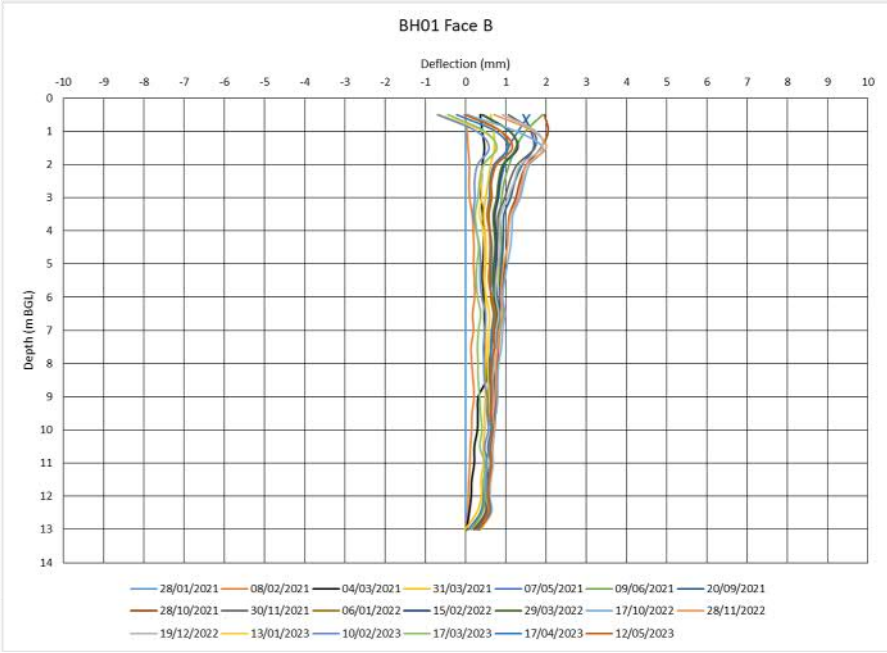
A Risk Rating can subsequently be calculated using the adopted principle of Risk = Likelihood x Effect. Each risk rating corresponds to the respective Risk Level, ranging from low to very high risk.

Table 3 - Risk Assessment; Risk Level

Score	Risk Level
13-20	Very High
9-12	High
5-8	Medium
0-4	Low

APPENDIX C – MONITORING RESULTS



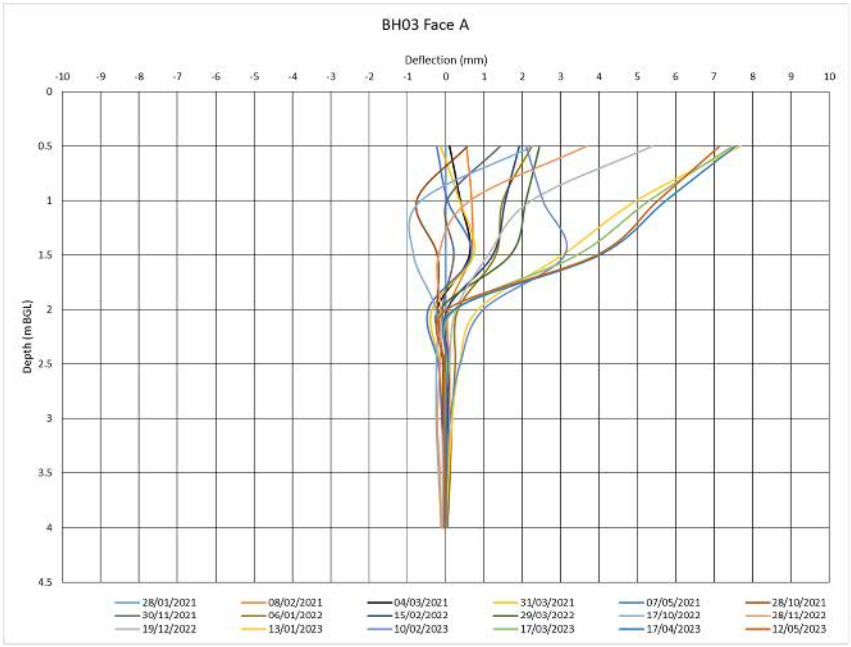


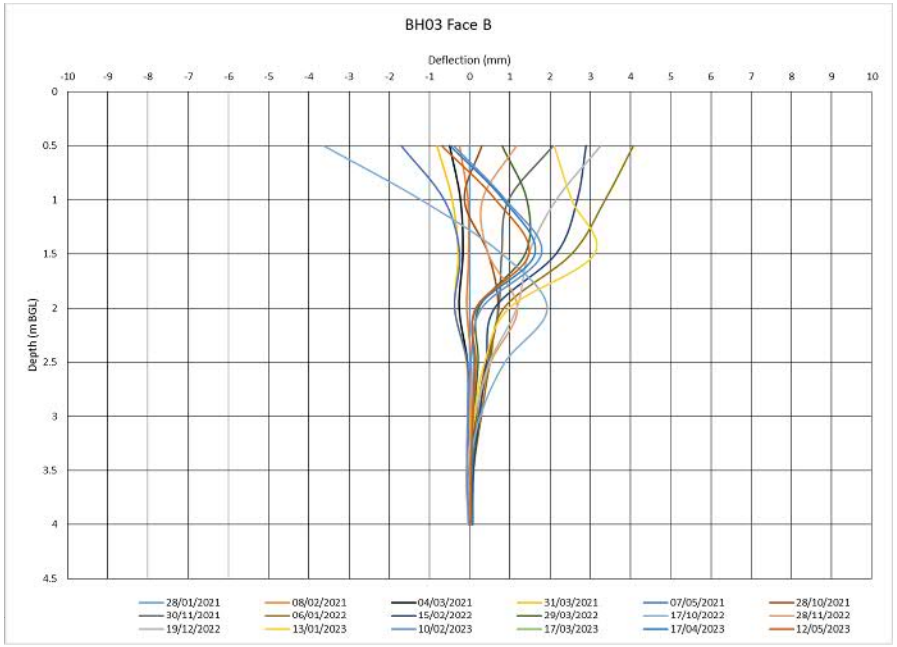
Swanage Seafront

BH01 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



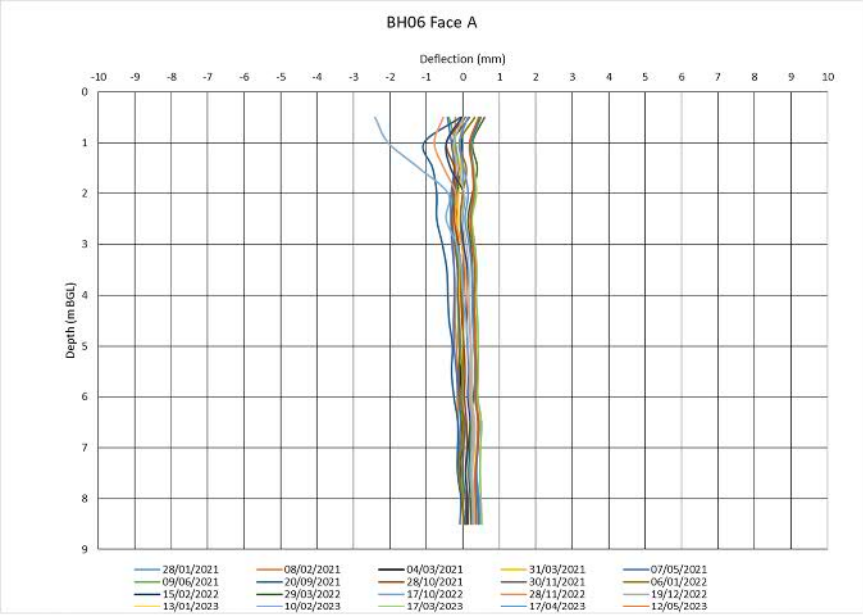


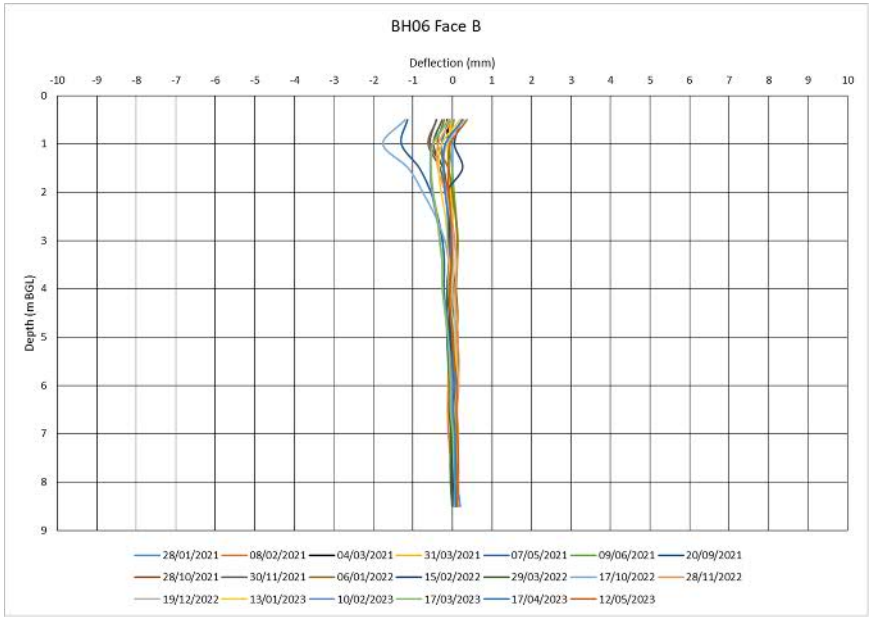
Swanage Seafront

BH03 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



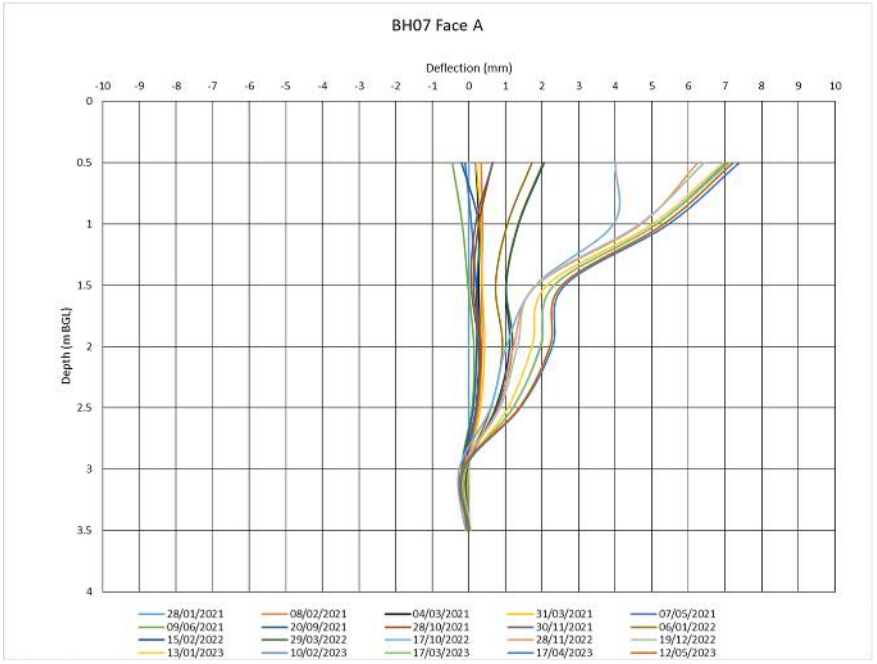


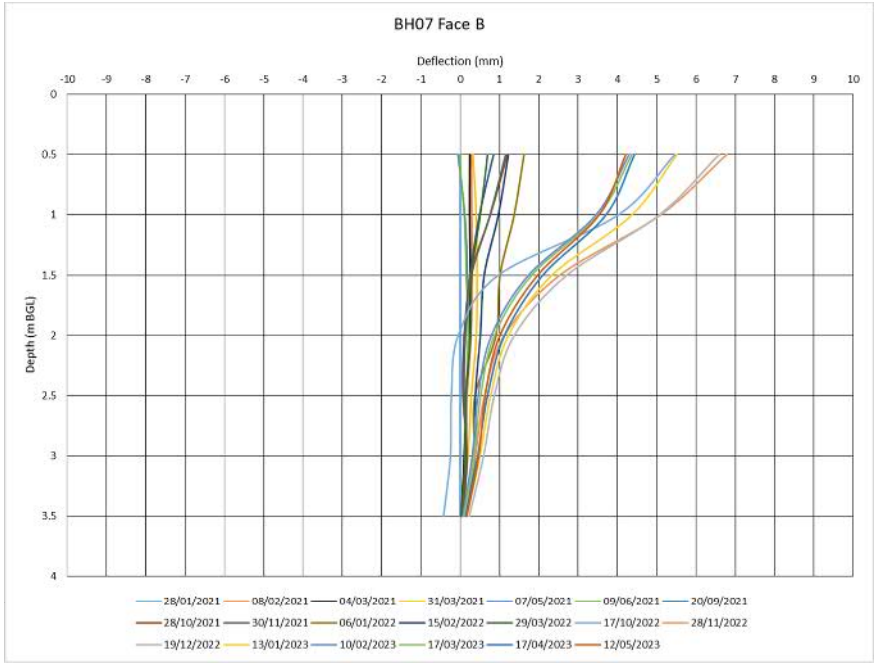
Swanage Seafront

BH06 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



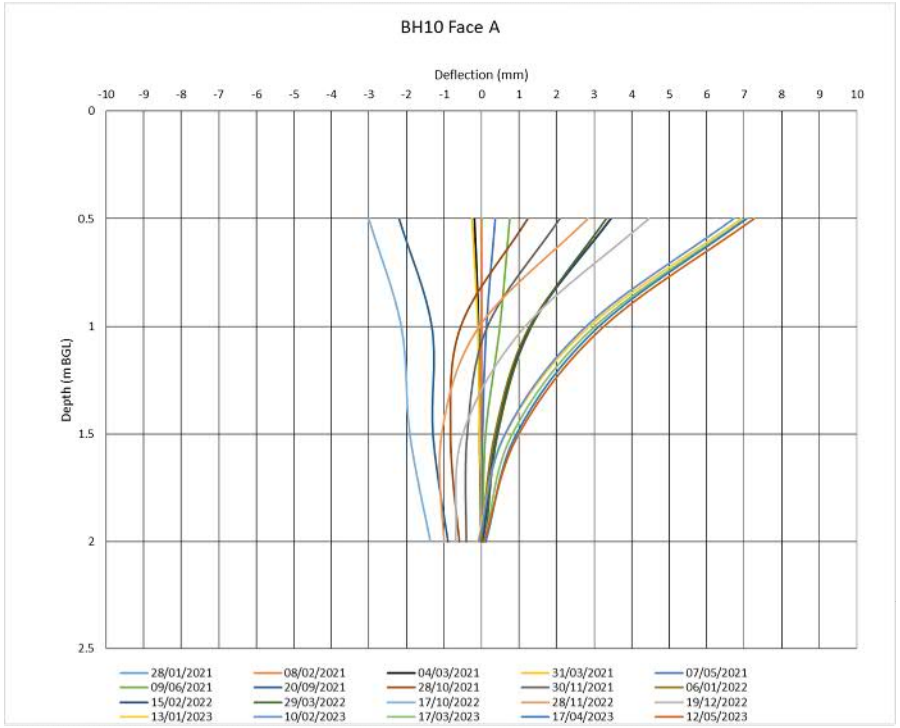


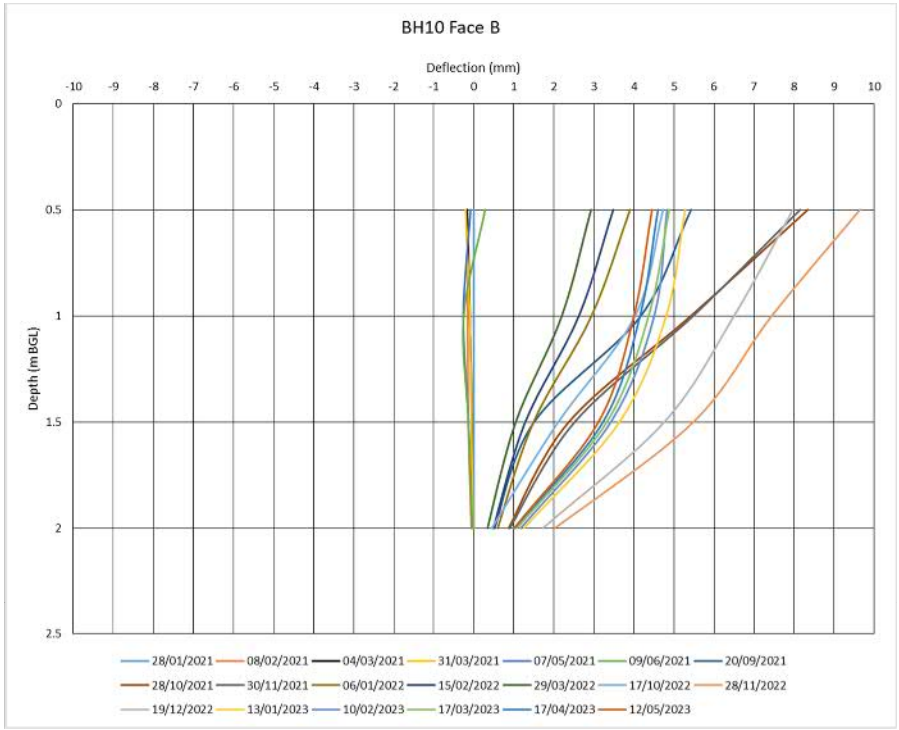
Swanage Seafront

BH07 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



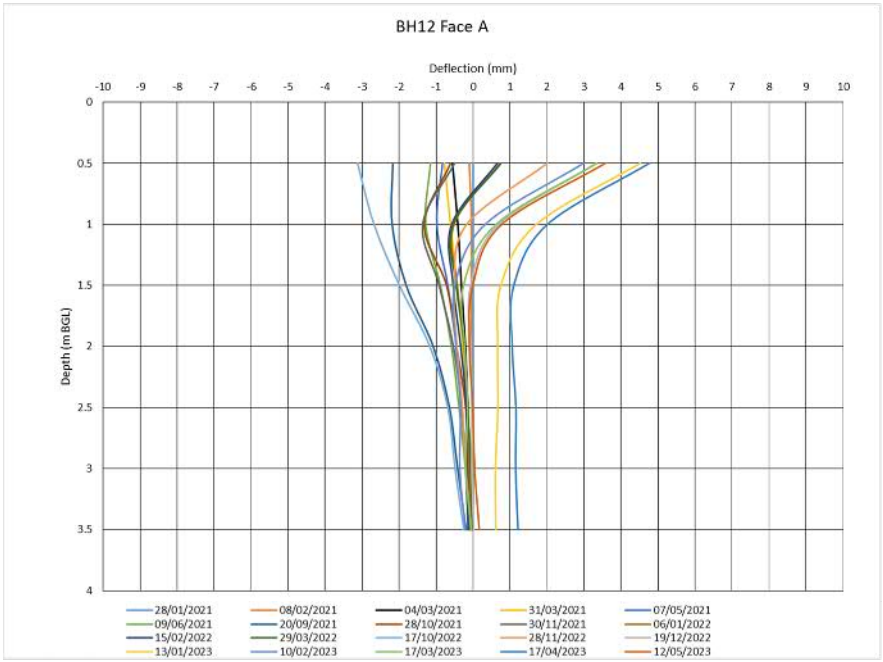


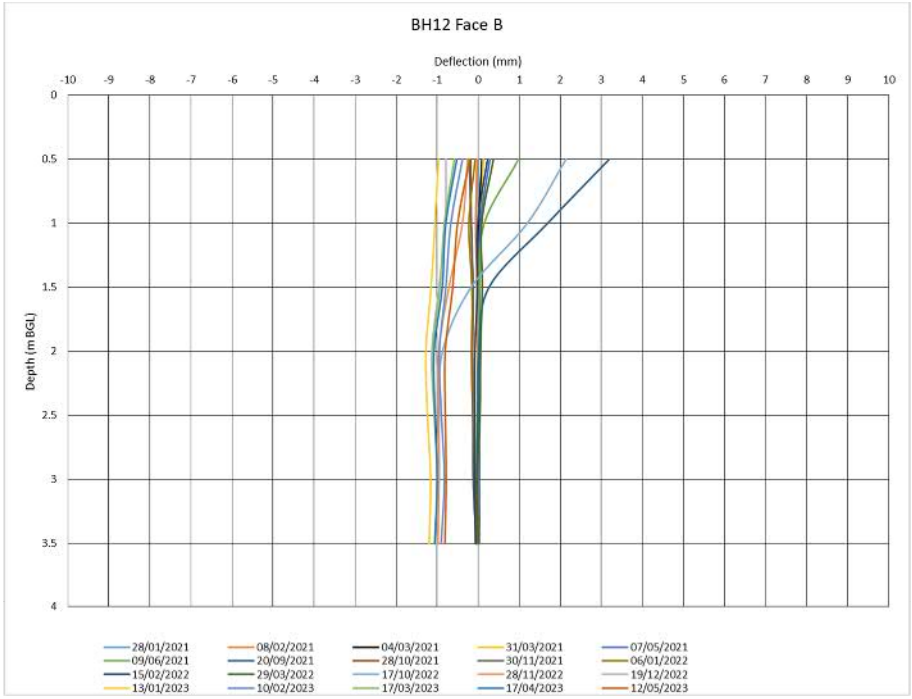
Swanage Seafront

BH10 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



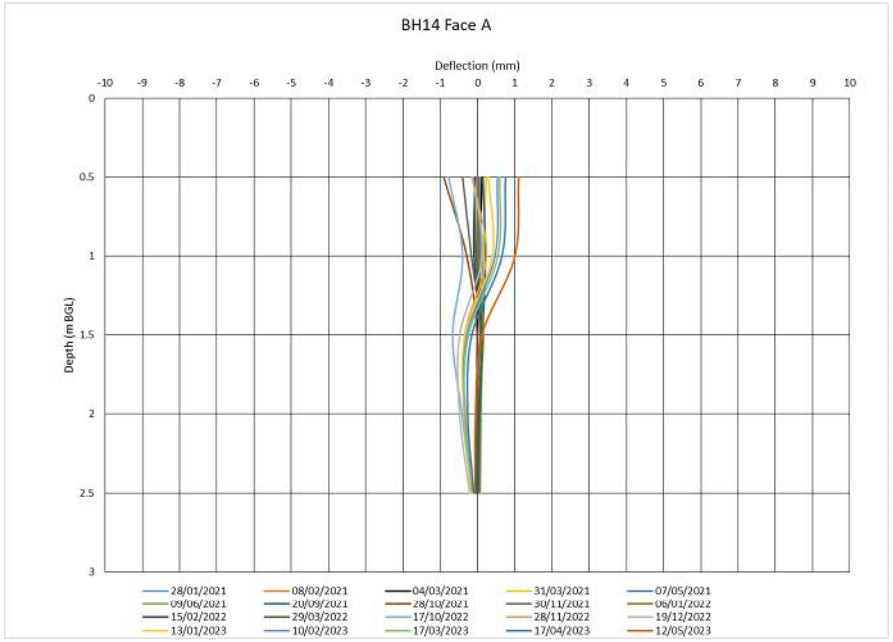


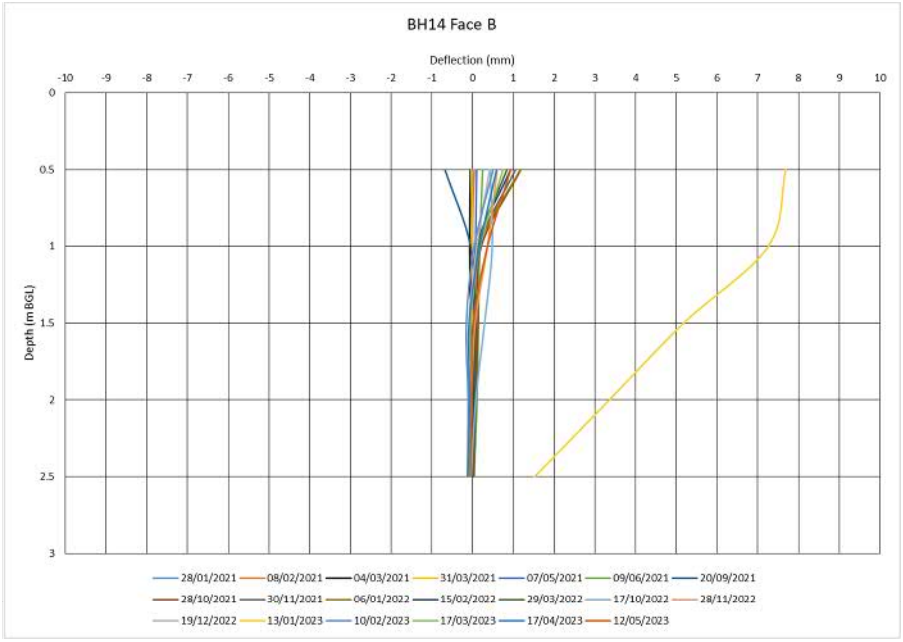
Swanage Seafront

BH12 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



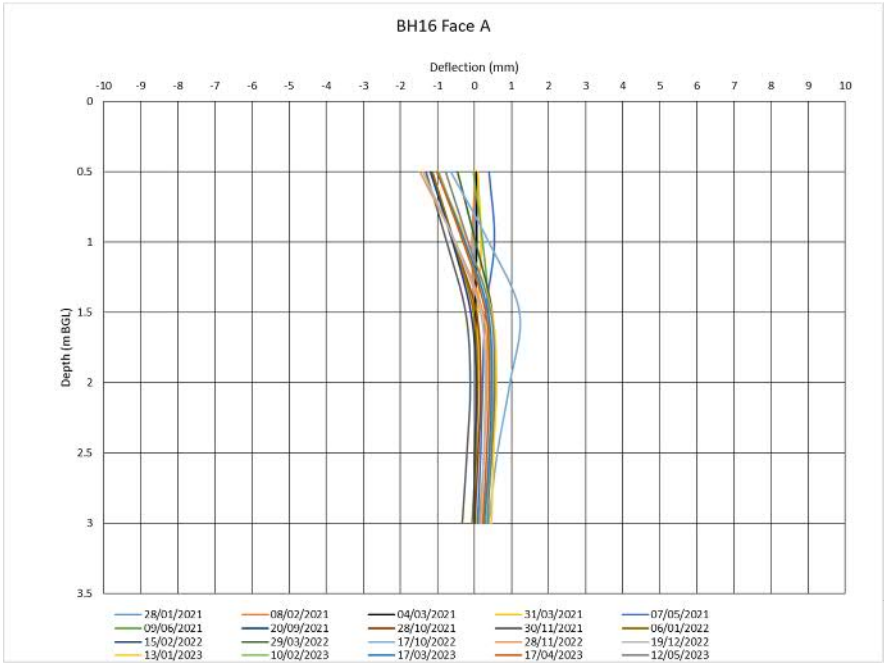


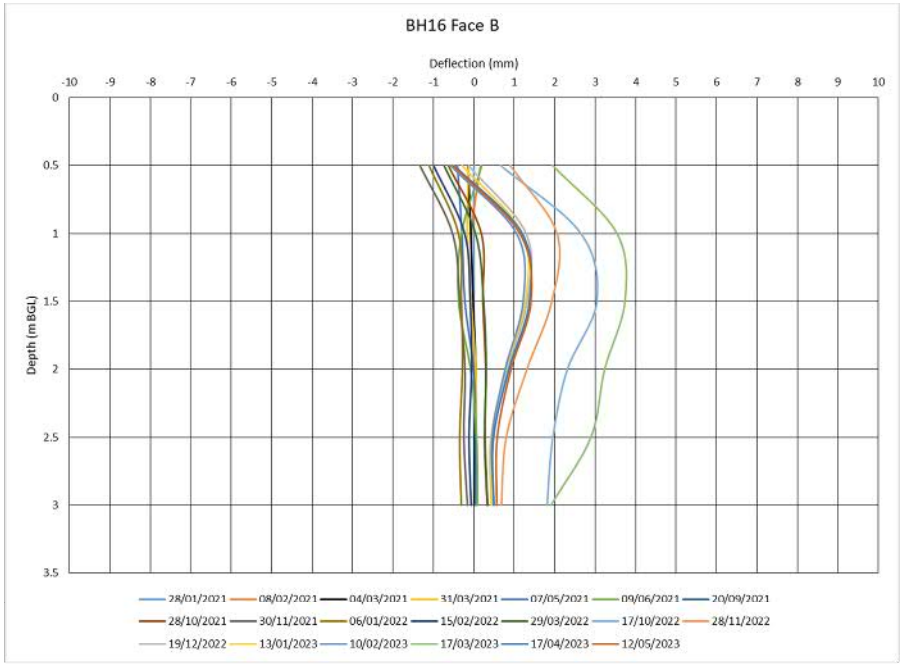
Swanage Seafront

BH14 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



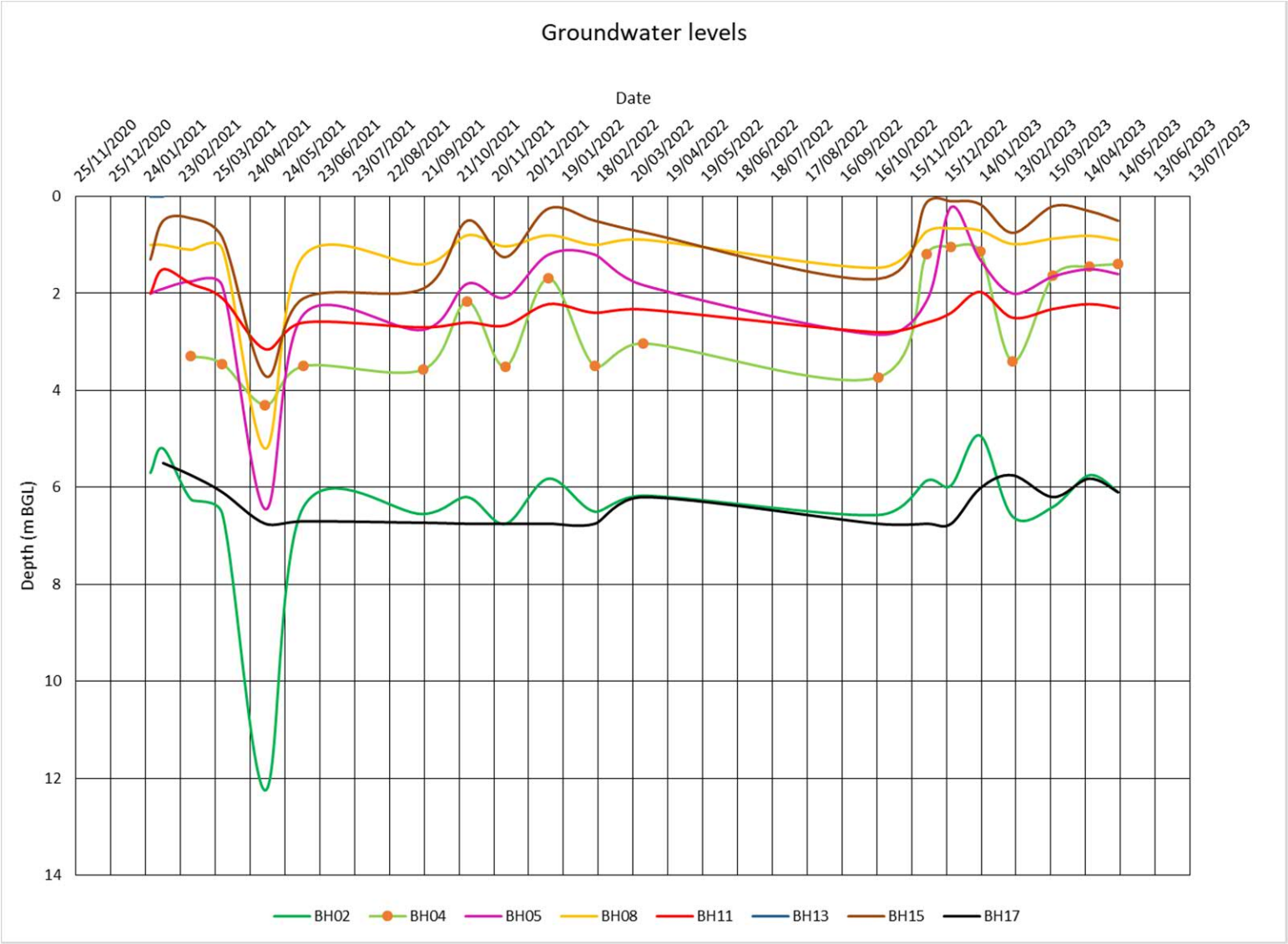


Swanage Seafront

BH16 Inclinometer Results

Job No 12660

SOUTH WEST GEOTECHNICAL



Swanage Seafront

Groundwater Monitoring Results

Job No 12660

SOUTH WEST GEOTECHNICAL