








		NETWORK RAIL											
Retaining Wall Detailed Examination Report													
ELR: WYS				Contract Mileage: 009m 1232yds 56.00chs						Struc. Ref: 200/550			
Examination Type: Retaining Wall Detailed								NR ID: 11017877			Exam Date: 11-Jan-2018		
Area: Scotland West								BRS: 0			OS Ref: NS19396910		
Structure Name: Wemyss Bay Sidings								Type: WD			Exam ID: 2718933		
Route: Wemyss Bay Jn - Wemyss Bay											Complete Exam: Yes		
Section A: To Be Completed By The Examining Organisation													
HIDDEN PARTS NOT EXAMINED (EXCLUDING FOUNDATIONS)				Part				Reason					
ITEM	DESCRIPTION	LOCATION	Est. Cost £ +/- 20%	Priority Within	Quantity	Severity	Probability	Risk Score	Works Category				
1	Undertake stabilisation/protection work to areas of erosion/undermining, voiding and washout.	Section 3.				3	3	E9	Brickwork/Stone Repairs				
2	Pointing repairs to open fractures & masonry repairs to areas of missing stonework.	Section 3 at 9m 1412y & 9m 1485y.				2	3	M6	Hand Pointing				
3	Remove soil and vegetation to prevent additional surcharge.	Behind crest of wall at HM end				2	4	M8	Vegetation				
History of Live Significant Defects													
No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for Closure	Engineer Comments	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	19/10/11	Y	D	Y	10	N	Baseline	N	N	Safety issue	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	23/10/12	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	10/01/14	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	13/03/15	Y	D	N	4	Y	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	22/06/15	Y	U.WA T	N	4	Y	N/A	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	18/01/16	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	04/02/17	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	

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No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deterioration	Repaired	Flagged for Closure	Engineer Comments	
1	Install grillage to culvert outfalls	9m 1474y (217m from LM) and 9m1805y (520m from LM)	11/01/18	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination.	
3	Erosion/undermining, voiding and washout.	Section 3	10/01/14	Y	D	Y	9	Y	Baseline	N	N	repair areas of erosion and washout along section 3	
3	Erosion/undermining, voiding and washout.	Section 3	13/03/15	Y	D	Y	8	Y	N	N	N	partial repair	
3	Erosion/undermining, voiding and washout.	Section 3	22/06/15	Y	U.W.A.T	Y	8	Y	Y	N	N	Repair	
3	Erosion/undermining, voiding and washout.	Section 3	18/01/16	Y	D	Y	8	N	Y	N	N	Repair.	
3	Erosion/undermining, voiding and washout.	Section 3	04/02/17	Y	D	Y	8	N	Y	N	N	Repair.	
3	Erosion/undermining, voiding and washout.	Section 3	11/01/18	Y	D	Y	9	N	Y	N	N	Repair.	
4	Constant stream of water and bulging	Section 3	10/01/14	Y	D	Y	6	N	Baseline	N	N	investigate back of wall drainage and bulging	
4	Constant stream of water and bulging	Section 3	13/03/15	Y	D	N	4	Y	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
4	Constant stream of water and bulging	Section 3	22/06/15	Y	U.W.A.T	N	4	Y	N	N	N	No bulge noted - Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
4	Constant stream of water and bulging	Section 3	18/01/16	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination.	
4	Constant stream of water and bulging	Section 3	04/02/17	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination.	
4	Constant stream of water and bulging	Section 3	11/01/18	Y	D	N	4	N	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination.	
5	Cracking and missing stones	Section 3 retaining wall above structure	10/01/14	Y	D	Y	9	Y	Baseline	N	N	replace missing stones and repair cracking	
5	Cracking and missing stones	Section 3 retaining wall above structure	13/03/15	Y	D	N	4	Y	N	N	N	Defects are not considered significant enough to make any recommendations or instigate repairs before next examination	
5	Cracking and missing stones	Section 3 retaining wall above structure	22/06/15	N	U.W.A.T	N	4	Y	NV	N/A	N	Outwith remit of U.Wat	

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No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for Closure	Engineer Comments			
5	Cracking and missing stones	Section 3 retaining wall above structure	18/01/16	Y	D	Y	6	N	N	N	N	Point.			
5	Cracking and missing stones	Section 3 retaining wall above structure	04/02/17	Y	D	Y	6	N	N	N	N	Point.			
5	Cracking and missing stones	Section 3 retaining wall above structure	11/01/18	Y	D	Y	6	N	N	N	N	Masonry repairs.			
7	Defective concrete repair exposing voiding	9m 1400y	04/02/17	Y	D	Y	8	Y	Baseline	N	N	Defect 6 (relating to UD/615) closed out at 2016 DE, however repair shows deterioration. Carry out further remedial works.			
7	Defective concrete repair exposing voiding	9m 1400y	11/01/18	Y	D	Y	9	Y	Y	N	N	Slight deterioration noted - See Rec 1.			
8	Soil and vegetation dumped behind crest of wall.	HM End	04/02/17	Y	D	Y	8	Y	Baseline	N	N	Remove soil and vegetation.			
8	Soil and vegetation dumped behind crest of wall.	HM End	11/01/18	Y	D	Y	8	Y	N	N	N	Remove soil and vegetation.			
Engineers Notes															
<table border="1"> <tr> <td> Signed <small>For Employer</small> </td> <td> [Redacted] </td> <td> Name Chris OHare </td> <td> Date 7-Mar-2018 </td> </tr> </table>												Signed <small>For Employer</small>	[Redacted]	Name Chris OHare	Date 7-Mar-2018
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Struc. Ref: 200/550

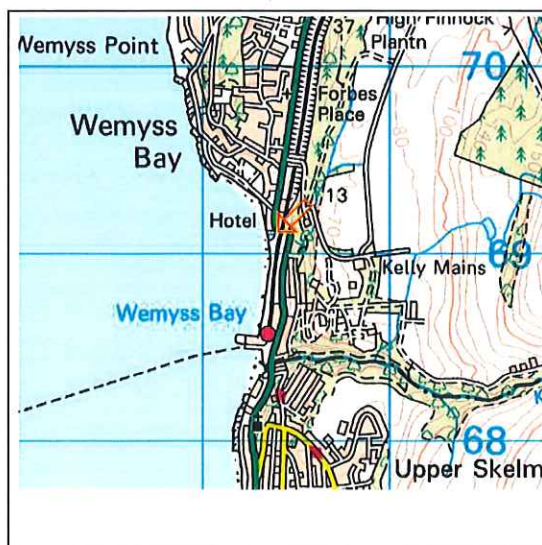
Retaining Wall Detailed Examination Report

ELR: WYS	Contract Mileage: 009m 1232yds 56.00chs			Struc. Ref: 200/550	
Struc. Type WCE RD	NR ID 11017877	Rpt ID 6248	OS Ref NS19396910	Exam ID	2718933
Dimensions	Max Height 5.00m	Max Length 724.00m		Exam Date	11/01/18
Side of Line				Last Detailed	04/02/17
Min dist. from Track	2.00			Last Visual	26/03/10
Line	Wemyss Bay Jn - Wemyss Bay				
Name:	Wemyss Bay Sidings				

Photo 1 : Elevation Photograph



Map Extract





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Retaining Wall Detailed Examination Report

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Struc. Ref: 200/550

The 2016/2017 detailed examination report was reviewed prior to carrying out the 2017/2018 detailed examination.

The defence comprises a masonry wall which is mainly considered to be in good condition.

CURRENT EXAMINER RECOMMENDATIONS

- 1 – Install section markers over the full length of the defence.
- 2 – Repair voiding at toe of wall in Section 3 at 9M 1400Y.
- 3 – Repair other voids along the toe of the wall throughout Section 3.
- 4 – Remove dumped soil from crest of the wall.

Has all the structure been examined? Yes (if no, see report for details)



EXAMINERS NAME Luke O'Donnell



DATE 9-Feb-2018



SIGNED



[Redacted]

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<p>ELR: WYS Contract Mileage: 009m 1232yds 56.00chs Struc. Ref: 200/550</p>			
<p>Element Status Table</p>			
Element Name	Status	Condition	
Arch Ring	N/A	N/A	
Ballast Plates and Boards	N/A	N/A	
Bearing	N/A	N/A	
Cross Girders	N/A	N/A	
Floor / Deck	N/A	N/A	
Longitudinal Timbers	N/A	N/A	
Main Girders	N/A	N/A	
Parapets and Pilasters	N/A	N/A	
Rail Bearers	N/A	N/A	
Spandrels	N/A	N/A	
Water Proofing	N/A	N/A	
Abutments	N/A	N/A	
Bedstones and Cills	N/A	N/A	
Columns and Cylinders	N/A	N/A	
Piers	N/A	N/A	
Trestles and Crossheads	N/A	N/A	
Wing and Retaining Walls	N/A	N/A	
Debris	N/A	N/A	
Drainage	N/A	N/A	
Gutters And Downpipes	N/A	N/A	
Handrails	N/A	N/A	
Painting	N/A	N/A	
Pointing	N/A	N/A	
Revetment Walls	N/A	N/A	
Rivets and Bolts	N/A	N/A	
Track/Road	N/A	N/A	
Vegetation	N/A	N/A	
<p>Record of Observations Under Load</p>			
Load Type	Deck	General Area Observed	<div> <div>Result Of Observation</div> <div>Date & Time</div> </div>
<p>1.0 GENERAL</p> <p>Coastal and estuarine defence 200/550 (Wemyss Bay Sidings) is situated in the west of Wemyss Bay. The defence can be accessed from the A78 trunk road, access through the steel gates, adjacent to the rail bridge over the A78. Parking is available opposite the access gates in the Wemyss Bay Hotel car park.</p> <p>The defence is approximately 792 yards (724m) in length starting at 9M 1232Y (NS 19370 69110) and ending at 10M 264Y (NS 19340 68530). This defence has been considered in three sections.</p>			

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<p>The defence comprises a good condition masonry wall which protects the former sidings area. The height of the wall ranges from approximately 3m at the start of the defence to approximately 5m at the ferry terminal. A short section of masonry revetment is located between two sections of vertical wall, presumed to be the location of a historic collapse in the wall. The defence terminates under the ferry pier where it adjoins a concrete wall.</p> <p>There have been 2 rapid response call outs for this defence, recorded on 16th of October and the 31st December undertaken during periods of stormy weather.</p> <p>During the examination the weather was mild and overcast. The Firth of Clyde was calm. The examination was undertaken at 1130hrs with low tide at 1348hrs.</p> <p>No tab markers / number plates were visible over the length of the defence.</p> <p>All track mileages were obtained using Omnicom Track Locator.</p> <p>PREVIOUSLY RECORDED SIGNIFICANT DEFECTS</p> <p>DEFECT NUMBER 1: Originally identified at a detailed examination on 19/10/11. Defect location: 9M 1474Y and 9M 1805Y. Defect description: Install grillage to culvert outfall Dimensions: 1.2m high x 0.9m wide arch (9M 1474Y) Urgent: No Status: No deterioration. See Photograph: 26</p> <p>DEFECT NUMBER 3: Originally identified at a detailed examination on 10/01/14 Defect location: Section 3 Defect description: Erosion and washout Dimensions: Not provided Urgent: No Status: Slight deterioration. See Photograph: 17, 18 and 28</p> <p>DEFECT NUMBER 4: Originally identified at a detailed examination on 10/01/14 Defect location: Section 3 Defect description: Constant stream of water and bulging Dimensions: Not provided Urgent: No Status: No deterioration (stream of water) unable to view (bulging in upper defence wall) See Photograph: 27</p> <p>DEFECT NUMBER 5: Originally identified at a detailed examination on 10/01/14 Defect location: Section 3 retaining wall above structure Defect description: Cracking and missing stones Dimensions: Not provided Urgent: No Status: No deterioration. See Photograph: 33 & 34</p> <p>DEFECT NUMBER 7: Originally identified at a detailed examination on 04/02/17 Defect Location: Section 3 at toe of defence Defect description: Defective concrete repair exposing voiding Dimensions: 2.5m x 1m x 1.5m Urgent: No Status: Slight deterioration See Photograph: 17, 18 & 19</p> <p>DEFECT NUMBER 8: Originally identified at a detailed examination on 04/02/17 Defect Location: High mileage end of defence</p>		

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<p>Defect description: Soil and vegetation dumped behind crest of wall Dimensions: n/a Urgent: No Status: No deterioration See Photograph: 38</p>		
<p>PREVIOUS RECOMMENDATIONS AND STATUS</p>		
<p>The following Engineers recommendations were made in the 2016/2017 detailed examination report:</p>		
<ol style="list-style-type: none"> 1. Undertake stabilisation/protection work to areas of erosion/undermining voiding and washout. 2. Pointing repairs to open fractures. 3. Carry out further remedial works to defective concrete repair to prevent possibility of washout occurring again. 4. Remove of soil and vegetation to prevent additional surcharge. 		
<p>2.0 DETAILED EXAMINATION</p>		
<p>Section 1 - 9M 1232Y (NS 19370 69110) to 9M 1308Y (NS 19365 69037)</p>		
<p>The distance from running edge of track to top of defence is in the region of 25m to 30m.</p>		
<p>This section of the defence comprises a curved masonry wall approximately 3m in height. A high mileage view of the defence wall from the start of defence can be seen in Photograph 1. At the crest of the wall, a flat area of unused ground of approximately 25m to 30m wide is present (the old sidings). Beyond this, a secondary masonry wall is present which supports the railway tracks.</p>		
<p>There is some erosion to the blockwork along with areas of missing pointing throughout the sea defence wall as seen in Photograph 2 (typical). The area previously noted to be issuing minor seepage at the toe of the defence wall at 9M 1240Y was recorded to be issuing a low flow during this examination (see Photograph 3).</p>		
<p>There are several weep holes throughout this section of the defence (see Photograph 4), a trickle flow was noted from one weephole (top right in Photograph 4). The others were found to be dry at the time of inspection.</p>		
<p>The wall is showing evidence of undermining at the base where the interface meets the natural rock head (shown in Photograph 5).</p>		
<p>There is a small area of washout behind the crest of the defence at the end of section 1 (see Photograph 6).</p>		
<p>Photograph 7 is a view looking to low mileage, of the railway bridge crossing the A78 trunk road at the start of the upper defence wall.</p>		
<p>Photograph 8 is from the end of section 1 looking back towards low mileage.</p>		
<p>There has been no significant deterioration in this section since last year's examination.</p>		
<p>Section 2 – 9M 1308Y (NS 19365 69037) to 9M 1313Y (NS 19373 69022)</p>		
<p>Distance from running edge of track to top of defence is in the region of 15m to 25m.</p>		
<p>This section of the defence consists of masonry revetment, which is approximately 4m in height. A high mileage view of the masonry revetment can be seen in Photograph 9.</p>		
<p>A small void at the toe of the revetment was noted and can be seen in Photograph 10. The void was approximately 200mm deep and 100mm by 300mm wide.</p>		
<p>A small void noted in the toe of the defence at the end of section is now filled with shingle (Photograph 11).</p>		

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<p>A general view from the end of the section to low miles can be seen in Photograph 12.</p> <p>Section 3 – 9M 1313Y (NS 19373 69022) to 10M 264Y (NS 19340 68530)</p> <p>Distance from running edge of track to edge of defence is approximately 5m to 10m.</p> <p>This section is similar in construction to section 1 and comprises a curved masonry wall approximately 5m in height as shown in Photograph 13.</p> <p>The masonry wall is in good condition with localised poor areas. The unused area (old sidings) between the sea defence wall and the upper wall is approximately 10m wide at the start of section 3 and varies between 5m and 10m wide throughout the length of the section.</p> <p>There is a section of missing blockwork and coping stones at the top of the upper defence wall at 9M 1350 (see Photograph 14). No deterioration was noted since last year's examination.</p> <p>There is evidence of further erosion / washout at the toe of the defence wall at mileages 9M 1345Y (see Photograph 15, and 9M 1359Y (see Photograph 16). Void was measured as approximately 250mm x 600mm x 100mm.</p> <p>At 9M 1395Y undermining of the toe, adjacent to the void, had previously been masked by the foreshore (see Photograph 17).</p> <p>At mileage 9M 1400Y, an area of blockwork (600mm x 250mm) has detached from the structure of the sea defence wall worsening the void since last year's examination. Rock armour had been sparsely placed at the toe in previous year's examinations, but has now been washed away as shown in Photograph 18. A close up view of the void (3.5m x 2m x 1.5m) can be seen in Photograph 19. There is undermining of this concrete repair as highlighted in Photograph 20.</p> <p>There are coping stones missing from the lower sea defence wall between mileages 9M 1402Y and 9M 1415Y as illustrated in Photograph 21 taken from the upper defence wall.</p> <p>There are areas of washout at the toe of the wall from 9M 1400Y to 9M 1412Y (typically shown in Photograph 22).</p> <p>At 9M 1411Y, a 1000mm deep void is evident at the toe of the wall (see Photograph 23). There has been a slight deterioration since the previous examination. At 9M 1416Y, a small 500mm deep void is evident in an existing concrete repair (Photograph 24).</p> <p>Water was noted to be issuing from the toe of the wall and flowing towards high mileage at 9M 1440Y and 9M 1455Y a typical example can be seen in Photograph 25.</p> <p>At 9M 1474Y there is a 1.2m high x 0.9m wide masonry arch culvert with the non-return flap missing (see Photograph 26). There were no previous culvert examination reports available to review but the culvert was observed to be free flowing. A steady stream of water was issuing through a small gap between the stonework in the wall and undermining was noted at 9M 1480Y as seen in Photograph 27.</p> <p>At 9M 1490Y, undermining of the toe of the sea defence wall was evident (see Photograph 28).</p> <p>At 9M 1515Y water was noted to be issuing from the wall as seen in Photograph 29.</p> <p>The examination could not be continued from the foreshore from approximately 9M 1562Y due to the return of the tide. A general view of the defence wall from 9M 1562Y, looking to low and high mileage can be seen in Photographs 30 and 31, respectively. The examination was continued from the crest of the defence. Photograph 32 shows an area of undermining (100mm deep) which was observed at 9M 1550Y.</p> <p>At 9M 1414Y and 9M 1485Y, there are vertical cracks in the upper defence wall as shown in Photograph 33 (from previous year's examination due to accidental deletion) and Photograph 34. The cracks showed no visible signs of deterioration since last year's examination.</p>		

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<p>Damage noted to the handrail in the upper defence wall has been repaired. A wooden pallet fence has been constructed as well as a wire fence attached (Photograph 35). There are areas of washout behind the crest of the lower defence wall from 9M 1600Y to 9M 1680Y (see Photographs 37).</p>		
<p>A view from the end of the defence to low mileage shows large amounts of soil and vegetation have been dumped behind the crest of the wall at the end of the defence. This should be removed as the additional surcharge may cause failure of the wall. (Photograph 38)</p>		
Record of Condition by Element		
Element Name	Status	Condition
Avongards		
Are Avongards Present?	No	
Date Tabs		
Are Date Tabs Present?	No	
Plumbing Points		
Are Plumbing Points Present?	No	
Environmental Factors Present: No		
Item number	Description	Location
0		

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Overall Length:

724.00m

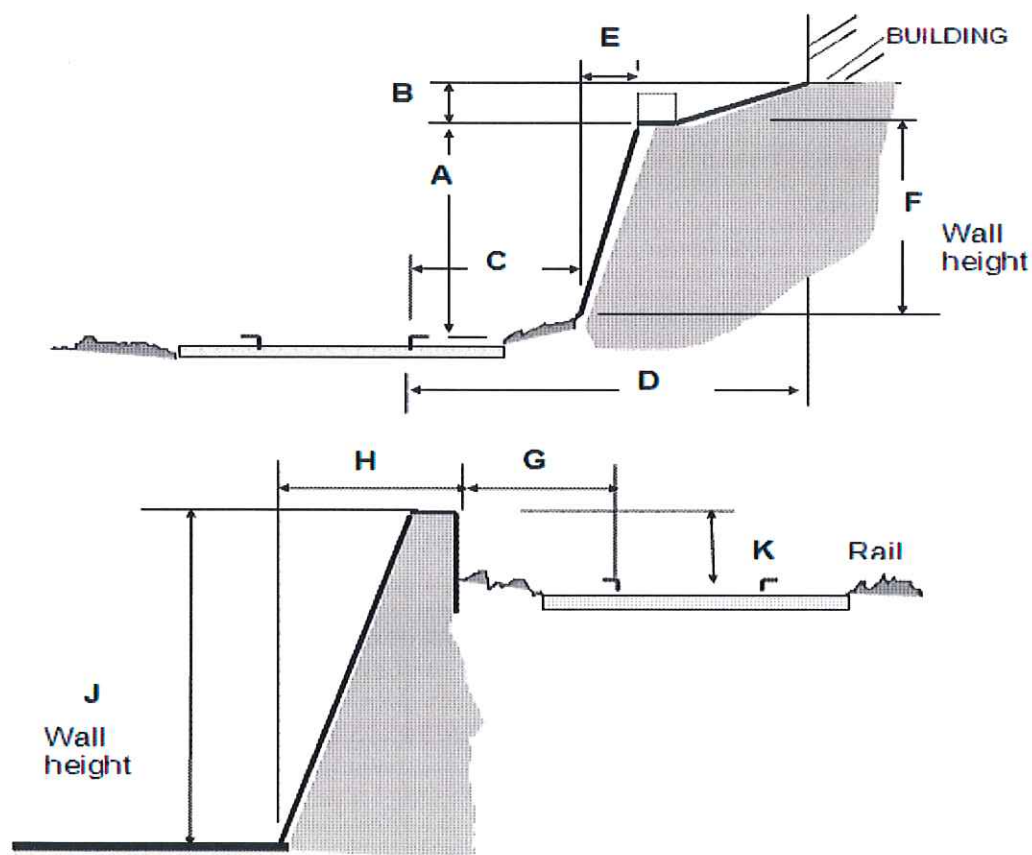
Height:

5.00

Side Of Line:

DIMENSIONS - To be quoted in metres

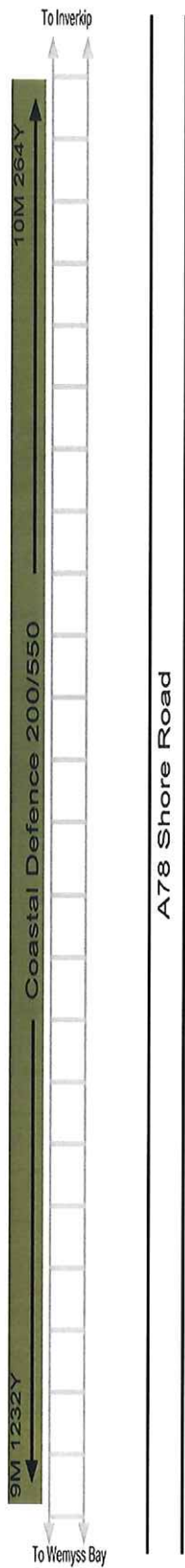
	A +/- 100mm	B +/- 1m	C +/- 100mm	D +/- 1m	E +/- 100mm	F +/- 100mm	G +/- 100mm	H +/- 100mm	J +/- 100mm	K +/- 100mm
Maximum	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m
Minimum	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m	0.00m



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A78 Shore Road

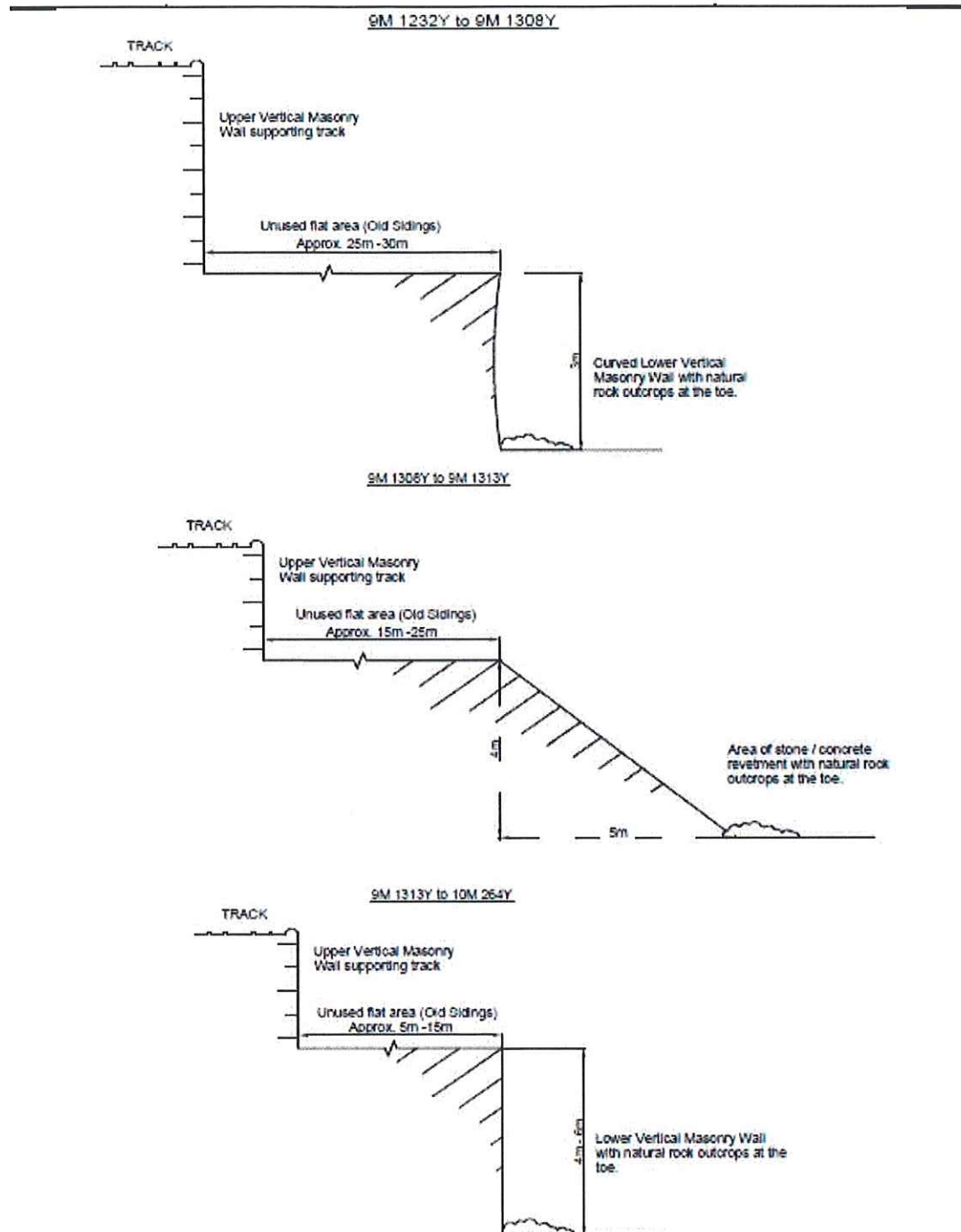


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Cross Section Sketches

Not to Scale

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Condition Ratings	N/A N/E G-Good F-Fair P-Poor	Condition Ratings	N/A N/E G-Good F-Fair P-Poor	Present?	Yes No
Sea Defence Elements		River / Sea Wall Elements		Miscellaneous Elements	
Access Road / Tracks	N/A	Buttress	N/A	Beach Level Changes	No
Access Steps	N/A	Copings and Caps	N/A	Brick Panels	No
Aprons	N/A	Drainage	N/A	Cast Iron Adornments	No
Armour Stone	N/A	Expansion Joints	N/A	C. Iron Live Members	No
Boundary Walls	F	Foundations	N/A	Change of Construction	No
Breakwaters	N/A	Handrails / Fencing	P	Changes since previous report	No
Clay / Earth Cliffs	N/A	Painting	N/A	Concrete Panels	No
Culverts	G	Parapets / Pilasters	N/A	CWR	No
Dunes	N/A	Pointing	G	Fissures	No
Embankments	N/A	Relieving Arches	N/A	Inaccessible Parts	Yes
Fencing	P	String Course	N/A	Limited Clearance Plates	No
Gabions	N/A	Weep Holes	G	Masonry Panels	No
Groynes	N/A			Out of Use/Closed Line	No
Marsh Land	N/A			Tell Tales / Monitoring Points	No
Number Plate/Tab Mrkr	N/A			Rail Joints	No
Piling	N/A	N/A = Not Applicable N/E = Not Examined		Referred to Last Report	Yes
Pitching	G			Running Water Adjacent / Under	Yes
Reno Mattress	N/A			Sediments / Debris	No
Revetments	N/A			Soft Seams	No
Rock Cliffs	N/A			Washout	No
Salt Marsh	N/A			Works included with exam	No
Sea Walls	N/A				
Tetrapods	N/A				
Track / Road Condition	N/A				
Vegetation	N/A				
Principal Dimensions					
Viaduct	N/A	Overall Length	762	yds	
Wave Return Walls	N/A	No. of Sections	3	No.	
Tidal Flap	N/A	Length of Sections	5-681	yds	
Footbridge	N/A	OS Reference Start	NS19376911	(10 Characters)	
		OS Reference End	NS19346853	(10 Characters)	
Type of Construction / Construction Details					
<p>The defence consists of 762 yards of masonry wall, the height of the wall ranges from approximately 3 metres at the start of the defence to approximately 5 metres at the ferry terminal. A short section of masonry revetment is located between two sections of vertical wall, presumed to be the location of a collapse of the wall.</p>					
Structure Crossing (Give Brief Description)					
Carrying:	WYS				
Above:	Firth of Clyde				

Coastal Defence Elements Sheet.doc



Photograph 1 - Section 1 - 9M 1327Y - General view at start of defence looking to high miles - 11.01.18.JPG



Photograph 2 - Section 1 - Erosion to stonework typical throughout - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 3 - Section 1 - 9M 1240Y - Seepage at toe of defence (low flow) - 11.01.18



Photograph 4 - Section 1 - Typical view of weep holes (no flow during exam) - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 5 - Section 1 - Typical undermining at toe of defence - 11.01.18



Photograph 6 - Section 1 - Washout of crest at end of section 1 - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 7 - Section 1 - View of railway bridge from crest of defence - 11.01.18



Photograph 8 - Section 1 - End of section to low miles - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 9 - Section 2 - Start of section to high miles - 11.01.18



Photograph 10 - Section 2 - Small void at start of section (200x100x300mm) - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 11 - Section 2 - Small void filled with shingle - 11.01.18



Photograph 12 - Section 2 - End of section to low miles - 11.01.18



Photograph 13 - Section 3 - General view from start of section to high miles - 11.01.18



Photograph 14 - Section 3 - 9M 1350Y - Cope stone missing (approx 6m) - 11.01.18

Retaining Wall Detailed Examination Report

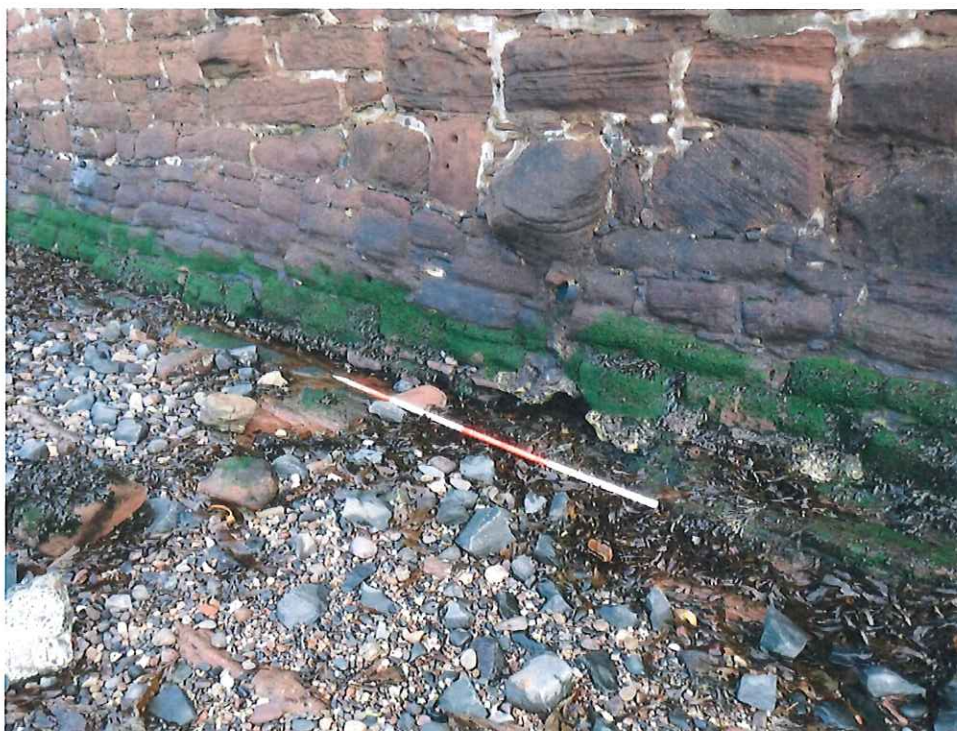
ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 15 - Section 3 - 9M 1345Y - Undermining at toe (200mm deep) - 11.01.18



Photograph 16 - Section 3 - 9M 1359Y - Undermining at toe of wall (250mm x 600mm x 100mm) - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 17 - Section 3 - 9M 1395Y - Voids at toe of concrete repair (300mm x 400mm) - 11.01.18



Photograph 18 - Section 3 - 9M 1400Y - Void at toe of defence (2.5m x 1m x 1.5m) loss of blockwork (approx 0.6m x 0.25m) - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 19 - Section 3 - 3x2x1.5m void loss of finer stones slight deterioration - 11.01.18



Photograph 20 - Section 3 - 9M 1400Y - Undermining at toe of wall - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 21 - Section 3 - 9M 1402Y to 1415Y - View of missing cope stones from upper wall - 11.01.18



Photograph 22 - Section 3 - 9M 1400Y to 1412Y - Undermining at toe - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 23 - Section 3 - 9M 1411Y - Void at toe of wall, slight deterioration - 11.01.18



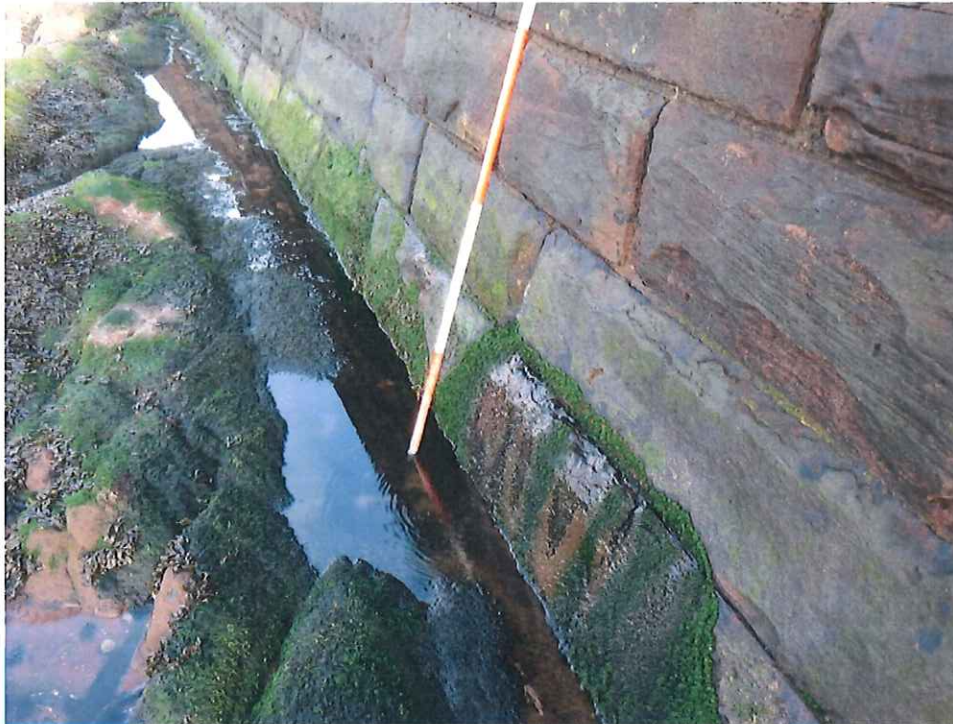
Photograph 24 - Section 3 - 9M 1416Y - Small void in concrete repair at toe 500mm deep - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 25 - Section 3 - 9M 1440Y - Water issuing from wall and flowing towards high miles - 11.01.18



Photograph 26 - Section 3 - 9M 1474Y - Culvert with high flow issuing from wall - 11.01.18

Retaining Wall Detailed Examination Report

ELR: WYS

Contract Mileage: 009m 1232yds 56.00chs

Struc. Ref: 200/550



Photograph 27 - Section 3 - 9M 1490Y - Water issuing from wall and undermining - 11.01.18



Photograph 28 - Section 3 - 9M 1490Y - Undermining at toe of wall no change - 11.01.18



Photograph 29 - Section 3 - 9M 1515Y - Water issuing from toe of wall low flow - 11.01.18



Photograph 30 - Section 3 - 9M 1550Y - General view of defence to low miles - 11.01.18



Photograph 31 - Section 3 - General view to high miles - 11.01.18



Photograph 32 - Section 3 - 9M 1550Y - Undermining (100mm deep) - 11.01.18



Photograph 33 - Section 3 - 9M 1485Y - Vertical crack in upper defence wall - 11.01.18



Photograph 34 - Section 3 - 9M 1414Y - Stepped crack in wall no change -04.02.17



Photograph 35 - Section 3 - 9M 1565Y - General view of handrail - 11.01.18



Photograph 36 - Section 3 - 9M 1485Y - Vertical Crack in upper defence wall - 11.01.18



Photograph 37 - Section 3 - 9M 1600Y to 1680Y - Typical washout behind defence wall - 11.01.18



Photograph 38 - Section 3 - Typical view of vegetation from end of defence to low miles - 11.01.18