



Photo - 13 Additionally wall construction and services on north face of wall



Photo - 14 Pavements on retained north face



Photo - 15 Pavements on retained north face

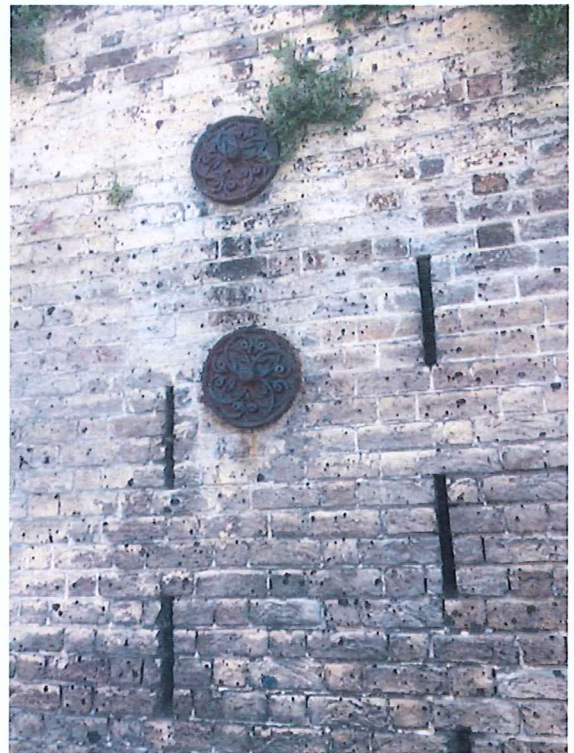
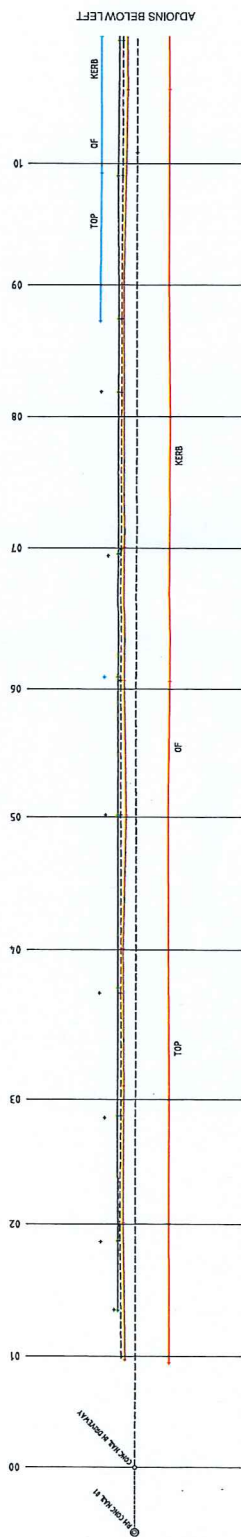


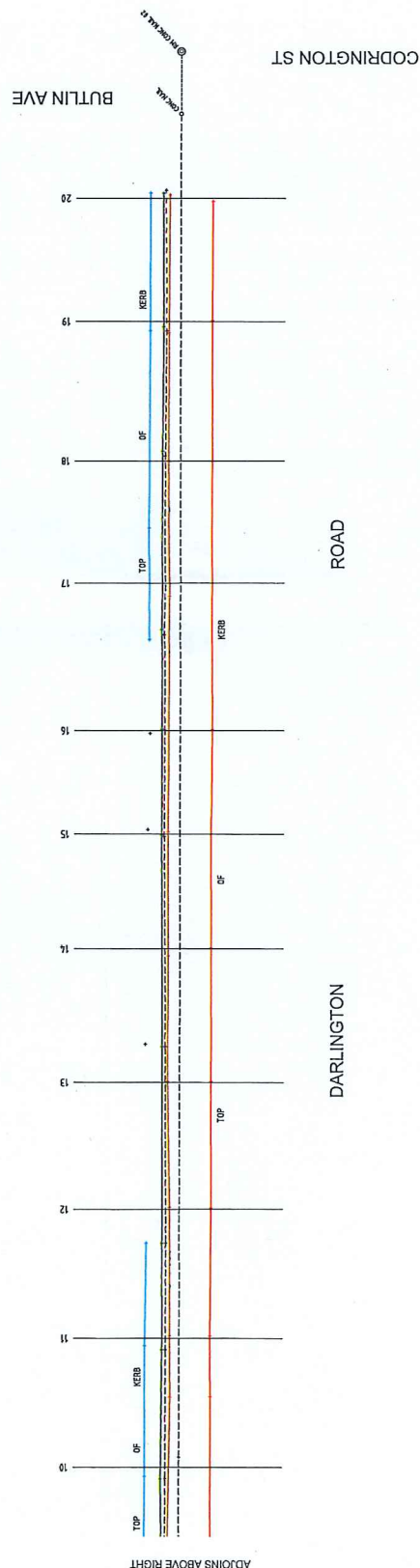
Photo - 16 Existing anchor plates and weep holes.

APPENDIX B

WALL MOVEMENT SURVEY



GOLDEN GROVE ST



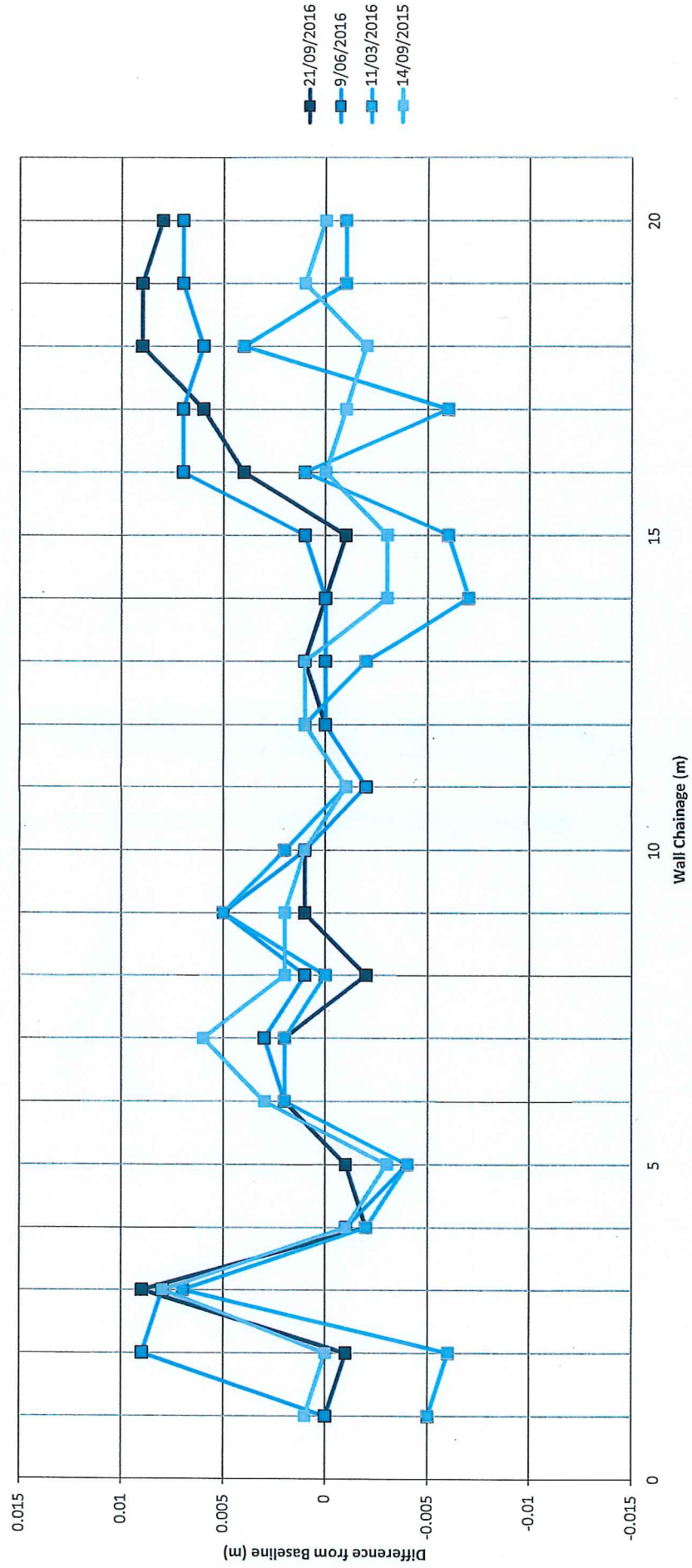
LEGEND

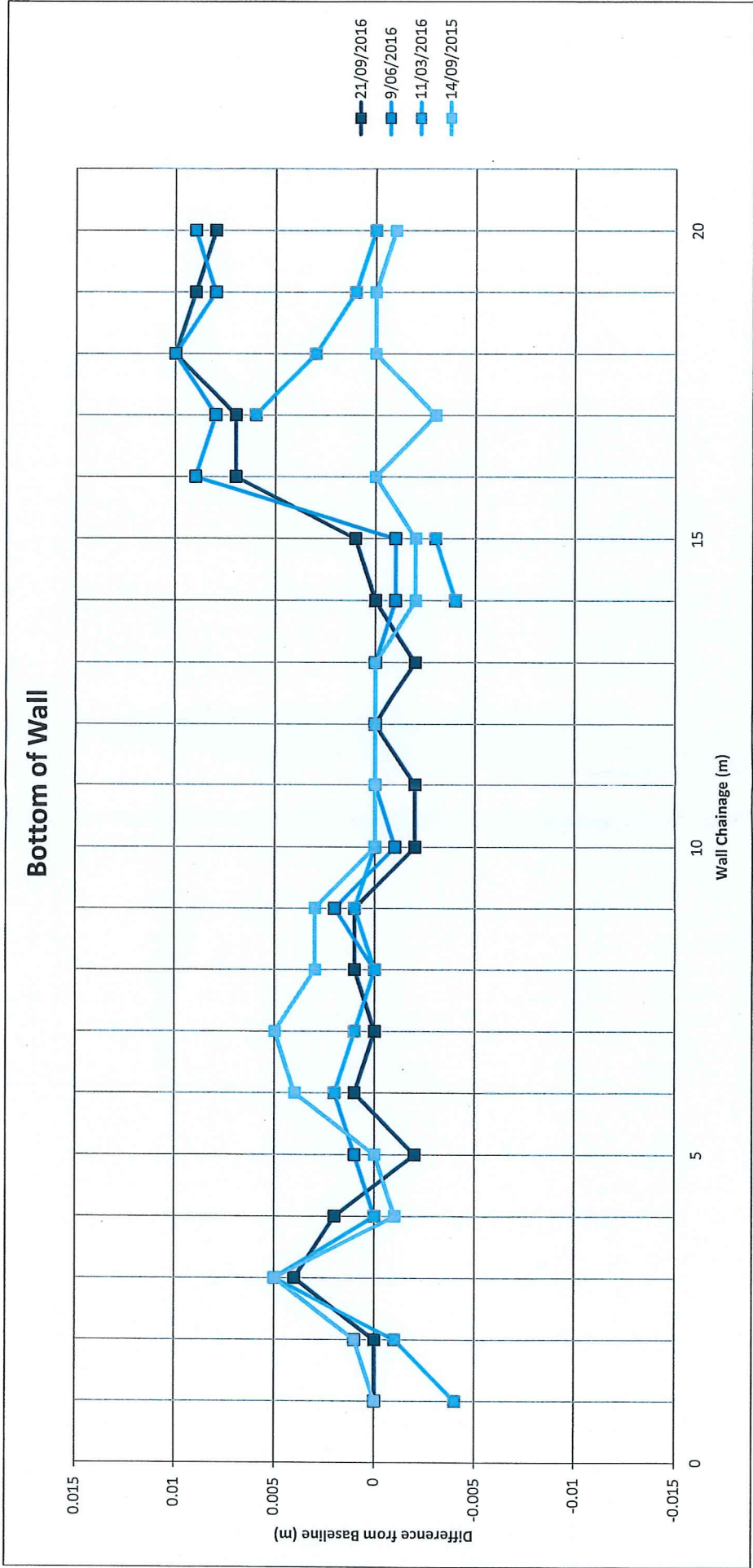
- TOP OF KERB
BASELINE
BASE WALL (SOUTH)
TOP OF WALL
BASE OF WALL (NORTH)
TOP OF KERB (BACK)



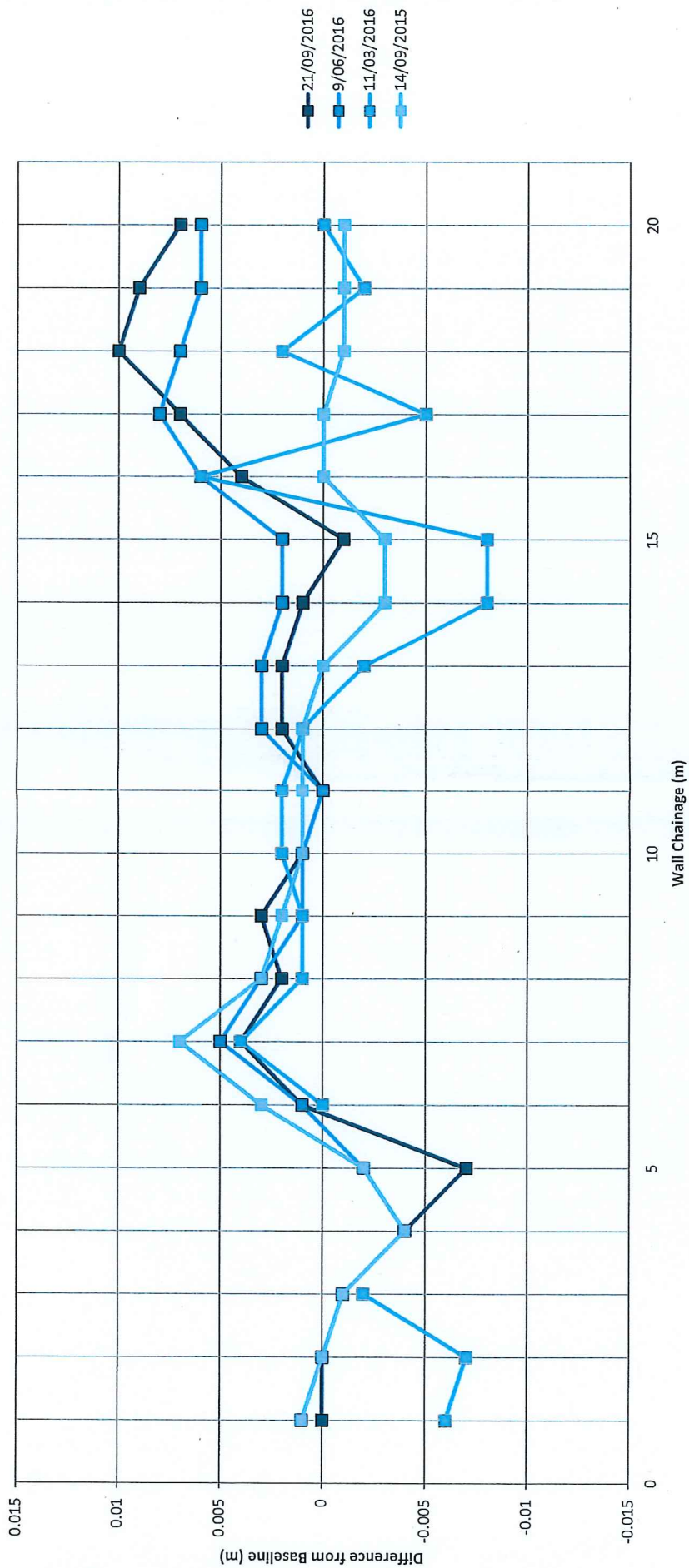
NOTES THIS PLAN SHOWS THE POSITION OF CROSS SECTIONS MEASURED DURING MONITORING OF WALL ALONG THE NORTHERN SIDE OF DARLINGTON ROAD, DARLINGTON. THE MONITORING MEASUREMENTS SHOULD BE READ TOGETHER WITH A COPY OF THIS PLAN.										CLIENT: The University of Sydney SURVEY: E.C. DRAWN: N.E.C. CHECKED: E.C. APPROVED: M.D.I.										DATE OF SURVEY: 05.05.2015 DATE OF PLAN: 30.08.2015 DATE LAST REVISED: 14.07.2015 DATE APPROVED: 13.07.2015										TITLE: PLAN SHOWING LOCATION OF CROSS SECTIONS MEASURED DURING MONITORING OF WALL ALONG THE NORTHERN SIDE OF DARLINGTON ROAD, DARLINGTON PROJECT: PRI27716 DATE: 30/08/2015 SCALE: 1:100 DATE OF SURVEY: 05.05.2015 DATE OF PLAN: 30.08.2015 DATE LAST REVISED: 14.07.2015 DATE APPROVED: 13.07.2015										CLIENT: The University of Sydney SURVEY: E.C. DRAWN: N.E.C. CHECKED: E.C. APPROVED: M.D.I.										DATE OF SURVEY: 05.05.2015 DATE OF PLAN: 30.08.2015 DATE LAST REVISED: 14.07.2015 DATE APPROVED: 13.07.2015										TITLE: PLAN SHOWING LOCATION OF CROSS SECTIONS MEASURED DURING MONITORING OF WALL ALONG THE NORTHERN SIDE OF DARLINGTON ROAD, DARLINGTON PROJECT: PRI27716 DATE: 30/08/2015 SCALE: 1:100 DATE OF SURVEY: 05.05.2015 DATE OF PLAN: 30.08.2015 DATE LAST REVISED: 14.07.2015 DATE APPROVED: 13.07.2015									
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1m Above Ground Level

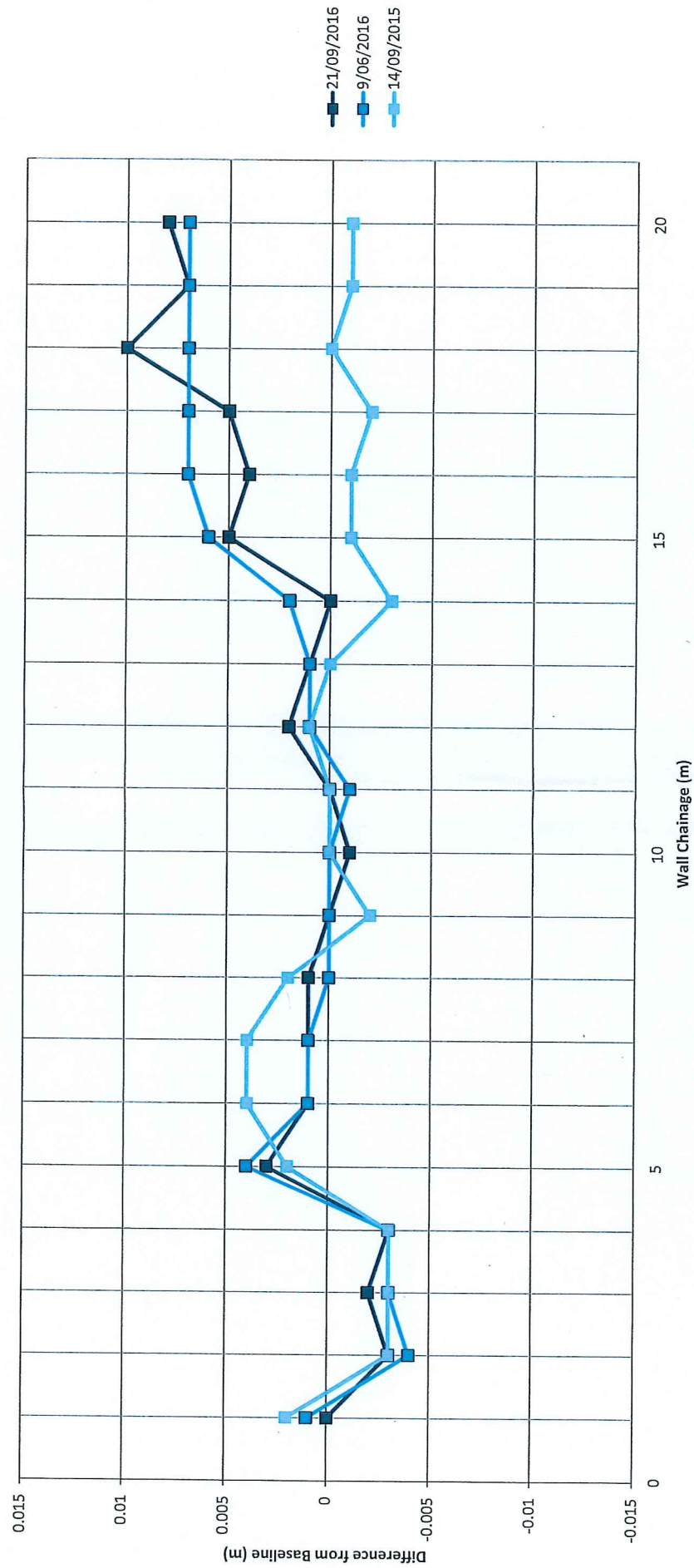




2m Above Ground Level



3m Above Ground Level



Survey: SET 1		5/06/2015	to	9/06/2015																
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.967	0.988	0.954	0.982	0.913	0.957	0.988	1.002	0.976	0.757	0.759	1.000	1.009	0.975	0.969	0.981	0.984	0.991	0.969	0.962
1m	1.065	1.036	1.035	1.019	0.948	1.012	1.054	1.056	1.057	0.852	0.848	1.064	1.044	1.045	1.063	1.070	1.059	1.047	1.021	1.012
2m	1.059	1.028	1.015	0.988	0.885	0.967	1.043	1.043	1.035	0.844	0.844	1.037	1.018	1.024	1.052	1.069	1.063	1.043	0.990	0.981
3m	1.055	1.021	0.999	0.965	0.826	0.917	1.020	1.026	1.004	0.835	0.840	1.020	0.991	0.998	1.058	1.066	1.045	1.034	0.965	0.961
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL03

All BW measurements on the southern face are from the bottom Sandstone layer

Survey: SET 2		14/09/2015																			
X-Section		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
BW		0.950	0.949	0.983	0.913	0.953	0.983	0.999	0.973	0.757	0.759	1.000	1.009	0.977	0.971	0.981	0.987	0.991	0.969	0.963	
1m		1.036	1.027	1.020	0.951	1.009	1.048	1.054	1.055	0.851	0.849	1.063	1.043	1.048	1.066	1.070	1.060	1.049	1.020	1.012	
2m		1.028	1.016	0.992	0.887	0.964	1.036	1.040	1.033	0.843	0.843	1.036	1.018	1.027	1.055	1.069	1.063	1.044	0.991	0.982	
3m		1.024	1.002	0.968	0.824	0.913	1.016	1.024	1.006	0.835	0.840	1.019	0.991	1.001	1.059	1.067	1.047	1.034	0.966	0.962	
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW	
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05	

All BW measurements on the southern face are from the bottom Sandstone layer

Survey: SET 3		11/03/2016																			
X-Section BW		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
		0.952	0.949	0.982	N/A	0.955	0.987	1.002	0.975	0.757	0.759	N/A	N/A	0.979	0.972	N/A	0.978	0.988	0.968	0.962	
	1m	1.042	1.028	1.021	0.952	1.010	1.052	1.056	1.052	0.850	0.849	1.063	1.046	1.052	1.069	1.069	1.065	1.043	1.022	1.013	
	2m		1.035	1.017	N/A	0.967	1.039	1.042	1.034	0.842	0.842	1.036	1.020	1.032	1.060	1.063	1.068	1.041	0.992	0.981	
	3m																				
TW ≤ 3m															2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW	
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL03	

All BW measurements on the southern face are from the bottom Sandstone layer

Survey: SET 4		9/06/2016																			
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
X-Section	BW	0.950	0.949	0.982	0.912	0.955	0.987	1.002	0.974	0.758	0.759	1.000	1.009	0.976	0.970	0.972	0.976	0.981	0.961	0.953	
	1m	1.027	1.027	1.020	0.952	1.010	1.051	1.055	1.052	0.851	0.850	1.064	1.044	1.045	1.062	1.063	1.052	1.041	1.014	1.005	
	2m	1.028	1.016	0.992	0.887	0.966	1.038	1.040	1.034	0.843	0.844	1.034	1.015	1.022	1.050	1.063	1.055	1.036	0.984	0.975	
	3m	1.025	1.002	0.968	0.822	0.916	1.019	1.026	1.004	0.835	0.841	1.019	0.990	0.996	1.052	1.059	1.038	1.027	0.958	0.954	
	TW ≤ 3m														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW	
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05	

All BW measurements on the southern face are from the bottom Sandstone layer

Survey: SET 5		21/09/2016																			
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
X-Section	BW	0.951	0.950	0.980	0.915	0.956	0.988	1.001	0.975	0.759	0.761	1.000	1.011	0.975	0.968	0.974	0.977	0.981	0.960	0.954	
	1m	1.037	1.026	1.021	0.949	1.010	1.052	1.058	1.056	0.851	0.850	1.064	1.043	1.045	1.064	1.066	1.053	1.038	1.012	1.004	
	2m	1.028	1.016	0.992	0.892	0.966	1.039	1.041	1.032	0.843	0.844	1.035	1.016	1.023	1.053	1.065	1.056	1.033	0.981	0.974	
	3m	1.024	1.001	0.968	0.823	0.916	1.019	1.025	1.004	0.836	0.840	1.018	0.990	0.998	1.033	1.062	1.040	1.024	0.958	0.953	
	TW ≤ 3m														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW	
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05	

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison	1st and 2nd Set																			
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
BW	0.000	0.001	0.005	-0.001	0.000	0.004	0.005	0.003	0.003	0.000	0.000	0.000	0.000	-0.002	-0.002	0.000	-0.003	0.000	0.000	-0.001	
1m	0.001	0.000	0.008	-0.001	-0.003	0.003	0.006	0.002	0.002	0.001	-0.001	0.001	0.001	-0.003	-0.003	0.000	-0.001	-0.002	0.001	0.000	
2m	0.001	0.000	-0.001	-0.004	-0.002	0.003	0.007	0.003	0.002	0.001	0.001	0.001	0.000	-0.003	-0.003	0.000	0.000	-0.001	-0.001	-0.001	
3m	0.002	-0.003	-0.003	-0.003	0.002	0.004	0.004	0.002	-0.002	0.000	0.000	0.001	0.000	-0.003	-0.001	-0.001	-0.002	0.000	-0.001	-0.001	
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW	
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05	

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison		1st and 3rd Set																	
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	-0.004	-0.001	0.005	0.000	N/A	0.002	0.001	0.000	0.001	0.000	0.000	N/A		-0.004	-0.003	N/A	0.006	0.003	0.001	0.000
1m	-0.005	-0.006	0.007	-0.002	-0.004	0.002	0.002	0.000	0.005	0.002	-0.001	0.001	-0.002	-0.007	-0.006	0.001	-0.006	0.004	-0.001	-0.001
2m	-0.006	-0.007	-0.002	N/A	N/A	0.000	0.004	0.001	0.001	0.002	0.002	0.001	-0.002	-0.008	-0.008	0.006	-0.005	0.002	-0.002	0.000
3m																				
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison	1st and 4th Set																		
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.000	0.001	0.005	0.000	0.001	0.002	0.001	0.000	0.002	-0.001	0.000	0.000	0.000	-0.001	-0.001	0.009	0.008	0.010	0.008	0.009
1m	0.000	0.009	0.008	-0.001	-0.004	0.002	0.003	0.001	0.005	0.001	-0.002	0.000	0.000	0.000	0.001	0.007	0.007	0.006	0.007	0.007
2m	0.001	0.000	-0.001	-0.004	-0.002	0.001	0.005	0.003	0.001	0.001	0.000	0.003	0.003	0.002	0.002	0.006	0.008	0.007	0.006	0.006
3m	0.001	-0.004	-0.003	-0.003	0.004	0.001	0.001	0.000	0.000	0.000	-0.001	0.001	0.001	0.002	0.006	0.007	0.007	0.007	0.007	0.007
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison		2nd and 4th Set																	
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.000	0.000	0.000	0.001	0.001	-0.002	-0.004	-0.003	-0.001	-0.001	0.000	0.000	0.000	0.001	0.001	0.009	0.011	0.010	0.008	0.010
1m	-0.001	0.009	0.000	0.000	-0.001	-0.001	-0.003	-0.001	0.003	0.000	-0.001	-0.001	-0.001	0.003	0.004	0.007	0.008	0.008	0.006	0.007
2m	0.000	0.000	0.000	0.000	0.000	-0.002	-0.002	0.000	-0.001	0.000	-0.001	0.002	0.003	0.005	0.005	0.006	0.008	0.008	0.007	0.007
3m	-0.001	-0.001	0.000	0.000	0.002	-0.003	-0.003	-0.002	0.002	0.000	-0.001	0.000	0.001	0.005	0.007	0.008	0.009	0.007	0.008	0.008
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison		3rd and 4th Set																	
X-Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.004	0.002	0.000	0.000	N/A	0.000	0.000	0.000	0.001	-0.001	0.000	N/A	N/A	0.003	0.002	N/A	0.002	0.007	0.007	0.009
1m	0.005	0.015	0.001	0.001	0.000	0.000	0.001	0.001	0.000	-0.001	-0.001	-0.001	0.002	0.007	0.007	0.006	0.013	0.002	0.008	0.008
2m	0.007	0.007	0.001	N/A	N/A	0.001	0.001	0.002	0.000	-0.001	-0.002	0.002	0.005	0.010	0.010	0.000	0.013	0.005	0.008	0.006
3m	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW ≤ 3m	2.8m TW														2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL02	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison	4th Set and 5th Set																			
X-Section		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.000		-0.001		0.002	-0.003	-0.001	-0.001	0.001	-0.001	-0.001	-0.002	0.000	-0.002	0.001	0.002	-0.002	-0.001	0.000	0.001	-0.001
1m	0.000		-0.010	0.001	-0.001	0.003	0.000	-0.001	-0.003	-0.004	0.000	0.000	0.000	0.001	0.000	-0.002	-0.003	-0.001	0.003	0.002	0.001
2m	-0.001		0.000	0.000	0.000	-0.005	0.000	-0.001	-0.001	0.002	0.000	0.000	-0.001	-0.001	-0.001	-0.002	-0.002	-0.001	0.003	0.003	0.001
3m	-0.001		0.001	0.001	0.000	-0.001	0.000	0.000	0.001	0.000	-0.001	0.001	0.001	0.000	-0.002	-0.001	-0.003	-0.002	0.003	0.000	0.001
TW ≤ 3m	2.8m TW															2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL05	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

Survey:	Comparison	1st Set and 5th Set																			
X-Section		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BW	0.000	0.000	-0.004	-0.002	0.002	-0.001	0.000	0.000	-0.001	-0.001	0.002	0.002	0.000	0.002	0.000	-0.001	-0.007	-0.007	-0.010	-0.009	-0.008
1m	0.000	0.000	-0.009	0.002	0.001	-0.002	-0.002	-0.002	0.002	-0.001	-0.001	0.002	0.000	-0.001	0.000	0.001	-0.004	-0.006	-0.009	-0.009	-0.008
2m	0.000	0.000	0.001	0.004	0.007	-0.001	-0.004	-0.002	-0.002	-0.003	-0.001	0.000	-0.002	-0.002	-0.001	0.001	-0.004	-0.007	-0.010	-0.009	-0.007
3m	0.000	0.003	0.002	0.003	-0.003	-0.001	-0.001	-0.001	0.000	0.000	0.001	0.000	-0.002	-0.001	0.000	-0.004	-0.004	-0.005	-0.010	0.000	0.003
TW ≤ 3m	2.8m TW															2.7m TW	2.4m TW	3.0m TW	2.9m TW	2.7m TW	2.6m TW
Ob STN	BL01	BL01	BL01	BL01	BL01	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL03	BL02	BL02	BL02	BL05

All BW measurements on the southern face are from the bottom Sandstone layer

APPENDIX C
PROPOSED WALL STABILISATION
DETAIL



CONSULTING PTY LTD
CIVIL AND STRUCTURAL
ENGINEERS

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PO BOX A2002 SYDNEY SOUTH NSW 1235 AUSTRALIA
EMAIL ADDRESS - mail@scpconsult.com.au
TEL (02)9267 9312 FAX (02)9261 5871

PROJECT

JOB NO

SECTION OF WORK

SUBJECT

REFERENCE

PAGE

DESIGNED

DATE

CHECKED

DATE

