19-21 High Holborn, London, WC1V 6BS

Submitted to
The Honourable Society of Gray's Inn

Submitted by
AECOM
6-8 Greencoat Place
London
SW1P 1PL
United Kingdom

19-21 High Holborn London WC1V 6BS

Escalator Movement Report

AECOM Job Reference: 60472955

Prepared by: ……
David Cheung
Senior Geotechnical Engineer

Checked by: ……
Mitesh Chandegra
Principal Geotechnical Engineer

Approved by: ……
John Chantler
Technical Director

Rev No	Comments	Checked by	Approved by	Date
Original	First Issue	MC	JC	04.03.16
01	Review of LUL tunnel Up Rail track added	MC	JC	23.03.16

6-8 Greencoat Place, London, SW1P 1PL, United Kingdom
Telephone: 020 7798 5000 Website: http://www.aecom.com

Job No 60472955

Limitations

AECOM Limited ("AECOM") has prepared this Report for the sole use of The Honourable Society of Gray's Inn in accordance with the Agreement under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by AECOM. This Report is confidential and may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of AECOM.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by AECOM has not been independently verified by AECOM, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was undertaken in March 2016 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this Report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

AECOM disclaims any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to AECOM's attention after the date of the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. AECOM specifically does not guarantee or warrant any estimate or projections contained in this Report.

Copyright

Contents

1 Introduction 4

1.1 General Introduction 4
1.2 Objective 4
1.3 Sources of Information 4

2 Review of Pdisp Model 5

2.1 GEA model 5
2.2 AECOM model 5
2.3 Loading sequence 6

3 Interpretation 8
4 Conclusion 9

TABLES

Table 1: Analysis per construction stages to be read in conjunction with Tables 2a, 2b and 2c: Proposed loading sequence.
Table 2: Loading data at end of demolition
Table 3: Loading data at end of construction
Table 4: Loading data for the new basement extension and for the pile equivalent raft
Table 5: Computed Strains of Up-Rail Track

FIGURES

Figure 1: Extract of historic as-built record with annotation and insert of proposed monitoring of displacement lines.
Figure 2: Displacement lines of Escalator Barrel (TOP) Short-term per construction stage
Figure 3: Displacement lines of Escalator Barrel (TOP) Long-term per construction stage
Figure 4: Displacement lines of Escalator Barrel (BOTTOM) Short-term per construction stage
Figure 5: Displacement lines of Escalator Barrel (BOTTOM) Long-term per construction stage
Figure 6: Displacement results along Up-Rail Track

Figure A1: Loading sequence on existing and proposed structural walls on pile, pad and strip footing.
Figure A.2: Model representation of loaded walls on strip footing

Figure B1: Cross section along escalator showing the difference between GEA and AECOM model
Figure B2: Plan location of displacement lines and loaded areas

APPENDICES

APPENDIX A : AECOM model

APPENDIX B: Comparison between GEA and AECOM model

1 Introduction

1.1 General Introduction

AECOM has been commissioned by The Honourable Society of Gray's Inn to investigate the effect of the proposed development on the existing escalators at Chancery Lane Station that run immediately beneath the building footprint and parallel to the site. This report has been prepared to assess the movements imposed on the escalators due to the basement excavation and the subsequent unloading and reloading the building will experience. It follows from the Ground Movement Assessment undertaken by Geotechnical & Environmental Associates (GEA).

It is understood that the project will comprise a new seven storey building extension over a newly built single basement extension at the rear of the property. The existing building footprint will undergo unloading due to limited demolition in preparation for increasing the number of floors. The existing building foundation is assumed to be shallow pad and strip footings. A 3m exclusion zone as defined by LUL has been located from as-built records of the escalator.

The approach has been to review the Ground Movement Assessment report and the PDisp analysis carried out for the escalator chamber, to implement changes and to present an updated interpretation of the potential relative movement of the escalator chamber and the nearest Up Rail Track.

1.2 Objective

The purpose of this report is to address the concerns raised by LUL on 18 September 2015 and more specifically the "restricted differential deflection of the escalator chamber to (less than) 2mm to ensure escalator mechanics are not affected". It is also to provide a commentary to GEA's report.

1.3 Sources of Information

The following information and documents have been reviewed and form the basis of the assessment:

- Ground Movement Assessment Report, 19-21 High Holborn Report -, Geotechnical & Environmental Associates, GEA (Report ref. J15193A, 28 January 2016).
- London Passenger Transport Board, Escalators at Chancery Lane Station, Drawing No. C.L.112A.

2 Review of Pdisp Model

2.1 GEA model

The GEA model with regards to investigating the movement of the existing escalator was a geometrically simplified model. The model assesses the settlements of four lines around the circumference of the escalator barrel, which are considered to be at one constant level along the entire length of the escalator, hence without accounting for the actual extent and shape of the escalator barrel and the upper and lower landings or the changes in level. The level they considered for these four lines corresponded to the escalator upper landing.

GEA modelled the pile loading as an equivalent raft at 2/3 pile depth with a load spread of 1:4. This is a commonly made assumption.

In addition, the Boussinesq method had been employed for the analysis and therefore only settlements have been determined for the escalator.

2.2 AECOM model

AECOM has re-assessed the movements of the escalator by:

1. Amending the model (presented in Appendix A) in order to better reflect the escalator profile with the relevant changes in level from the upper landing down to the lower landing. Refer to Figure 1.
2. Introducing four additional displacement lines between the original four around the circumference of the circular escalator barrel, along the full length of the landings and barrel.
3. Changing the method of analysis to Mindlin so as to calculate both vertical and horizontal deflections of the escalator barrel and its associated landings.
4. Introduced the modelling stages to reflect the proposed construction stages as per Table 1.
5. Introduced a displacement line to represent the Up Rail Track of the LUL running tunnel.

The soil parameters (stiffness) used previously are based on literature review and are considered acceptable. The pile toe level presented in GEA's PDisp has been assumed to be correct, i.e. 20m. The same equivalent raft assumption has been made. The loads and the other displacement lines considered in the analysis as presented in Ground Movement Assessment by GEA have also been assumed to be correct.

The pile design capacity and thus ultimately the determination of the pile length was not presented in the GEA report and it is also outside the scope of this review. The pile length is assumed to be 20m from ground level. Also, referring to Figure 1 (an extract from historical drawing number C.L.112A), the escalator to the east that veers away from the proposed site has not been investigated as this is assumed not to be affected by the proposed development.

If the pile lengths change significantly from those assumed here, this review investigating the potential impact on the escalator will need to be reassessed as the loaded equivalent raft method is a function of 2/3 pile length with a load spread of 4(v):1(h).

Table 1 Analysis per construction stages to be read in conjunction with Tables 2, 3 and 4: Proposed loading sequence.

Filename	Remark
ST-stage1	Short term analysis at end of partial demolition of building
ST-stage2	Short term analysis at end of basement extension construction
ST-stage3	Short term analysis at end of pile shaft construction
ST-stage4	Short-term analysis at end of building construction, i.e. footings and walls are reloaded
LT-stage4	Long-term analysis at end of building construction, i.e. footings and walls are reloaded

GEA's presented results are reviewed in Appendix B. By comparing only the data for the Northern side wall of the escalator barrel between their model and with the AECOM model, i.e. at the same position, the reported difference in results by changing the method from Boussinesq to Mindlin has been identified. The difference is negligible. Thus, by deduction, it is the changed modelling of the escalator's profile that is generating the difference in reported results between GEA and AECOM. See figure B1 in Appendix B.

2.3 Loading sequence

All loadings were taken from Drawing no. 606-12000 and have been identified as either occurring at the end of the demolition stage, Table 2, or at the end of the construction stage, Table 3, with the loading from the new basement extension and the equivalent raft area from the pile lift shaft, Table 4. See also Appendix A. For the loads at the lift shaft, the linear wall loads presented have been redistributed to an equivalent raft load by GEA. These have been verified by AECOM and remain unchanged.

Shallow pad footing of 2.5m square area have been assumed for existing and proposed. For shallow strip footing, a width of 2m has been assumed for all walls that are subject to loading.

Table 2 Loading data at the end of demolition

Legend	Xm	Ym	Wm	Lm	kN/m	Length	Area	kPa	Load type
At end of demolition									
u-Pad-L2	48.5	33.1	3.5	3.5	-1100	3.5	12.25	-89.80	Net Unload
u-Pad-L3	48.5	28.1	3.5	3.5	-1100	3.5	12.25	-89.80	Net Unload
u-Pad-L4	48.6	22.8	3.5	3.5	-1100	3.5	12.25	-89.80	Net Unload
u-Pad-L5	44.7	22.8	3.5	3.5	-900	3.5	12.25	-73.47	Net Unload
u-Pad-L6	42.8	24.8	3.5	3.5	-900	3.5	12.25	-73.47	Net Unload
u-Wall-5	39.9	24.8	2	3	-150	3	6	-75	Net Unload
u-Wall-6	39.9	19.7	2	1.8	-150	1.8	3.6	-75	Net Unload
u-Wall-7	41.5	17.6	3.2	2	-150	3.2	6.4	-75	Net Unload
u-Wall-8	52.6	16.4	4.8	2	-150	4.8	9.6	-75	Net Unload
u-Wall-9	55.1	20.0	2	5.6	-150	5.6	11.2	-75	Net Unload
u-Wall-10	54.6	27.1	2	8.6	-150	8.6	17.2	-75	Net Unload

Table 3 Loading data at the end of construction

Legend	Xm	Ym	Wm	Lm	kN/m	Length	Area	kPa	Load type
At end of construction									
c-Pad-L1	42.5	36.9	3.5	3.5	2800	3.5	12.25	228.57	New Permanent load
c-Pad-L2	48.5	33.1	3.5	3.5	-300	3.5	12.25	-24.49	Net load decrease
c-Pad-L3	48.5	28.1	3.5	3.5	-300	3.5	12.25	-24.49	Net load decrease
c-Pad-L4	48.6	22.8	3.5	3.5	-300	3.5	12.25	-24.49	Net load decrease
c-Pad-L5	44.7	22.8	3.5	3.5	-50	3.5	12.25	-4.08	Net load decrease
c-Pad-L6	42.8	24.8	3.5	3.5	-50	3.5	12.25	-4.08	Net load decrease
c-Pad-L7	42.3	44.5	3.5	3.5	2000	3.5	12.25	163.27	New Permanent load
c-Wall-1	49.7	49.3	2	4	500	4	8	250	New Permanent load
c-Wall-2	43.9	48.1	6	2	500	6	12	250	New Permanent load
c-Wall-3	39.9	44.7	2	4	500	4	8	250	New Permanent load
c-Wall-4	41.4	39.6	3	2	1000	3	6	500	New Permanent load
c-Wall-5	39.9	24.8	2	3	5	3	6	2.5	Net load increase
c-Wall-6	39.9	19.7	2	1.8	5	1.8	3.6	2.5	Net load increase
c-Wall-7	41.5	17.6	3.2	2	5	3.2	6.4	2.5	Net load increase
c-Wall-8	52.6	16.4	4.8	2	5	4.8	9.6	2.5	Net load increase
c-Wall-9	55.1	20.0	2	5.6	5	5.6	11.2	2.5	Net load increase
c-Wall-10	54.6	27.1	2	8.6	5	8.6	17.2	2.5	Net load increase

Table 4 Loading data for the new basement extension and for the pile equivalent raft

Name	Centre of load (global)					Load
	X (m)	Y (m)	Z (m)	Width (m)	Length (m)	kPa
Basement Unloading	44.95	46	-4.6	10.10	12.8	-90
Lift shaft Pile loading (equivalent raft)	42.4	30.9	-15.1	8.6	9.3	114

3 Interpretation

Representations of the cross-sectional movements of the upper and lower escalator landing are presented in Figure 2, 3, 4 and 5. The graphical plots adjacent to the tables are a depiction of relative movement of the displacement lines from start to end of construction. The tabled data shows that the vertical movements are all below 2mm for both short and long term scenarios.

Specifically, for the top of the escalator barrel, a maximum vertical heave of 1.3mm is anticipated to occur at displacement line #8 after demolition and basement excavation. This displacement line represents the area of the barrel above the escalator machinery. The heave seen by the escalator machinery (displacement lines #4, #5 and #6 at the bottom of the barrel) is less than 1mm.

The predicted horizontal movement of the top of the escalator barrel is towards the proposed development at Stage 2 (unloading). It ranges from 0.5mm to 1.3mm. For the escalator machinery in the base of the barrel the horizontal movement is between 0.5mm and 0.7mm. See Figure 2, Appendix A.

At the upper landing (Top) on loading the pile in Stage 3 and in applying the final loadings to footing and walls in Stage 4, the direction of movement for both vertical and horizontal movements of the escalator (top) are reversed. The displacement lines are no longer moving up and towards the proposed works but instead are moving down and away from it. The net result is that the escalator barrel (top) will experience negligible change. At the location of the escalator machinery (lines #4, #5 and #6) the settlement ranges between 0.4mm and 0.5mm.

At the lower landing (Bottom) a maximum vertical heave of 0.9mm is anticipated to occur at displacement line #8 after the demolition and the basement excavation. This displacement line represents the barrel above the escalator machinery. The heave seen by the escalator machinery (displacement lines #4, #5 and #6) is less than 1mm.

Corresponding horizontal movement of the escalator barrel (bottom) are less than 1mm towards proposed development.

On loading the pile in Stage 3 and in applying the final loadings to footing and walls in Stage 4, the direction of movement for both vertical and horizontal movements of the escalator (bottom) are reversed. The displacement lines are no longer moving up and towards the proposed works but instead are moving down and away from it. The net result is that the escalator barrel (bottom, specifically the lower escalator machinery) will experience less than 1mm of settlement. The barrel above the machinery at line #2 shows a net settlement of 1mm.

The potential differential movements between the upper and lower landings are also negligible.

The long term movement of the barrel at both the upper and lower landings was modelled by reducing the soil stiffness and also gives small net movements of less than 2mm.

For the Up-Rail Track where a displacement line has been modelled to represent the nearest track to the proposed works, the models suggest movement of less than 1mm. Refer to Figure 6. The results show the track has the potential to move towards the proposed works horizontally by less than 1mm with negligible track settlement. The distance of the track from the proposed works has been approximated from the As-built record drawing No. C.L.112A with the level the same as displacement lines #3 and #7 of the Escalator lower landing. The resulting track strains are presented in Table 5 where result shows these micro strains to be very small.

Table 5 Computed Strains of Up-Rail Track

	Strains (με)				
Analysis	Short-term				Long-term
Stage	S1	S2	S3	S4	S4
Tension	8	9	7	18	2
Compression	33	43	32	5	9

4 Conclusion

The investigation of the effects of the construction of this development has been improved by refining the PDisp model to better model the escalator barrel and its associated upper and lower landings and to follow the construction sequence of unloading and re-loading. The calculated vertical movements are indicated to be less than 2mm.

During construction, the area between the upper landing connection with the escalator barrel (Top) is indicating a maximum vertical heave of 1.3mm and a horizontal movement between 0.5mm and 1.3mm, towards the proposed works. The location of the escalator machinery in the base of the barrel is shown to have a heave of less than 1mm and a horizontal movement between 0.5mm and 0.7mm.

The area between the lower landing connections with the escalator barrel (Bottom) is indicating a maximum vertical heave of 0.9mm with horizontal movement less than 1mm, towards the proposed works. The location of the escalator machinery in the base of the barrel is shown to have a heave of less than 1mm and a horizontal movement of less than 1mm.

At the end of construction and then long term movement, the upper landing, the escalator barrel and lower landing shows movements of less than 2mm. For the Up-Rail Track, during construction, the track may see less than 1mm horizontal movement, a local shift towards the site with negligible vertical track settlement. At end of construction, the track will revert back to its horizontal position with negligible heave of the track.

It is recommended that if the as constructed pile lengths are significantly changed, then this assessment be reviewed.

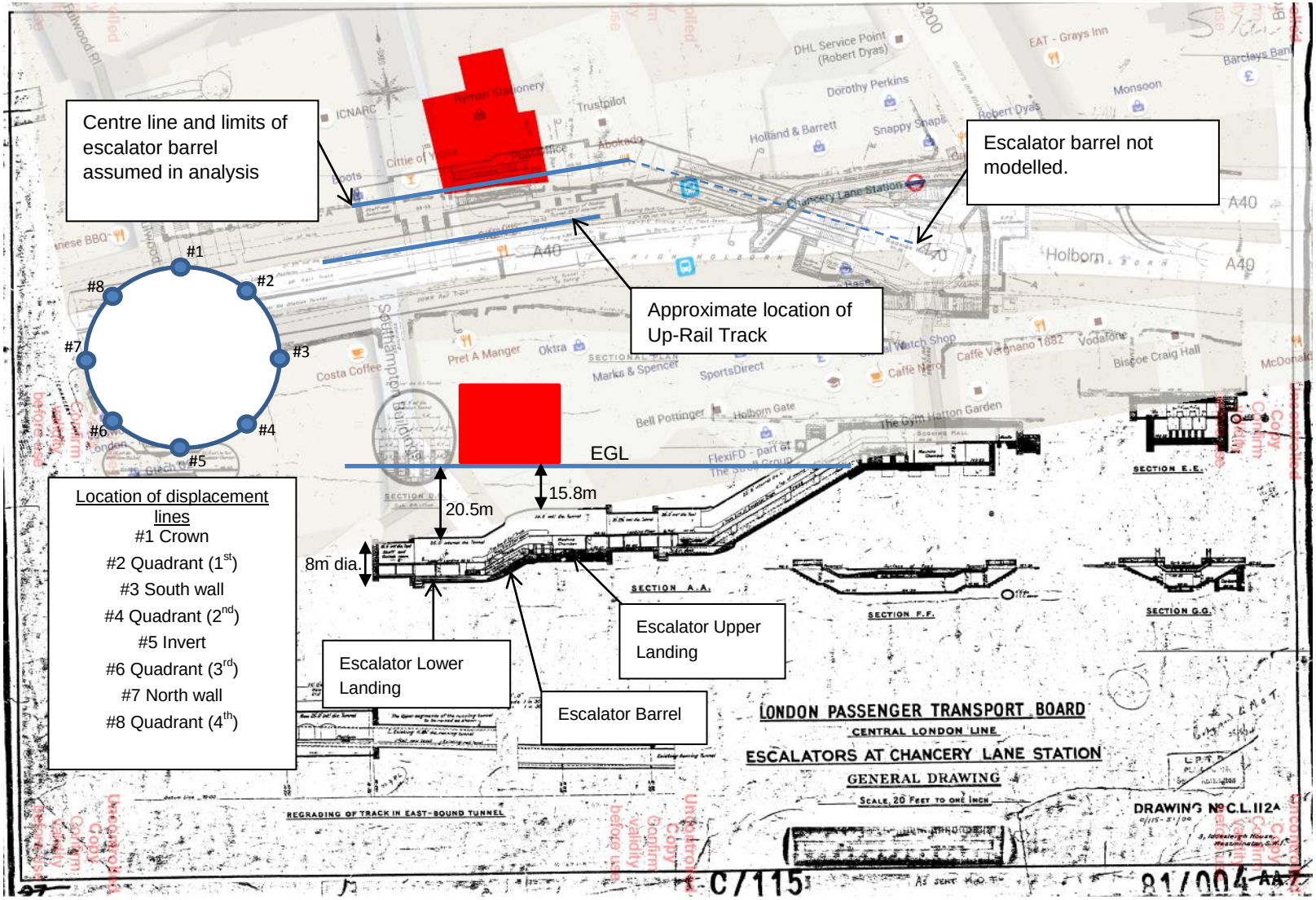


Figure 1: Extract of historic as-built record with annotation and insert of proposed monitoring of displacement lines.

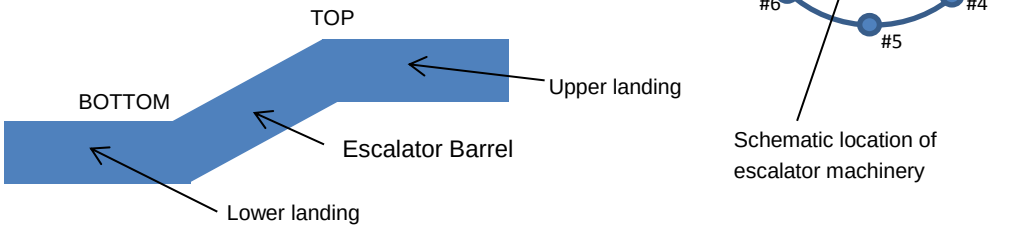
Escalator Barrel TOP (Short-term)								
Line	Stage 1		Stage 2		Stage 3		Stage 4	
No.	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)
#1	-0.6	-1.3	-1.2	-1.3	-1.1	-1.3	0.1	-0.1
#2	-0.3	-1.2	-0.9	-1.3	-0.8	-1.3	0.2	-0.1
#3	-0.1	-0.9	-0.8	-1.0	-0.5	-0.9	0.4	0.0
#4	-0.2	-0.6	-0.8	-0.7	-0.4	-0.6	0.5	0.1
#5	-0.3	-0.5	-0.9	-0.5	-0.5	-0.5	0.5	0.0
#6	-0.5	-0.5	-1.0	-0.5	-0.6	-0.5	0.4	0.0
#7	-0.7	-0.6	-1.2	-0.6	-0.9	-0.7	0.3	-0.1
#8	-0.8	-0.9	-1.3	-0.9	-1.2	-1.0	0.2	-0.1
#1	-0.6	-1.3	-1.2	-1.3	-1.1	-1.3	0.1	-0.1

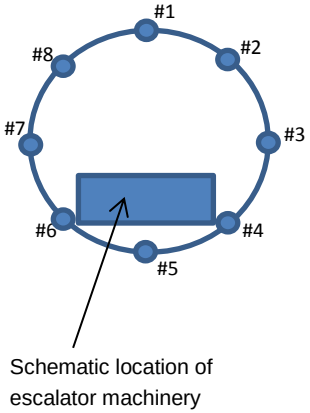
Key:

δy is vertical movement where –ve means heave

δz is horizontal movement where –ve is towards proposed works.

High-lighted cells are values quoted in the report





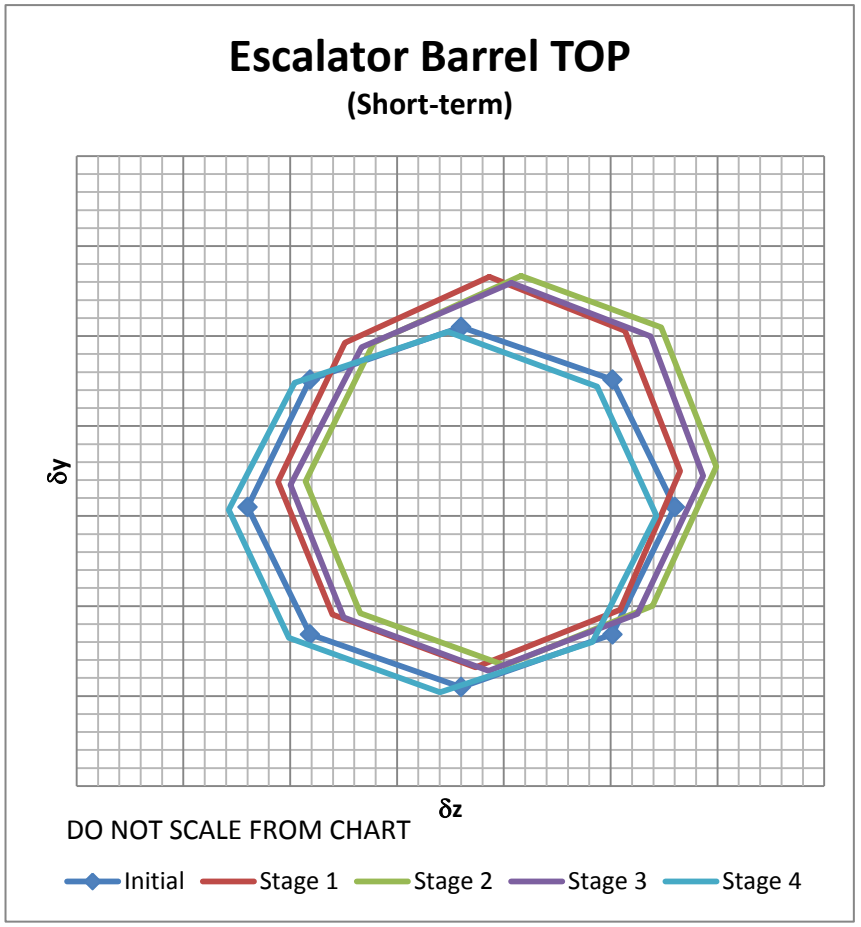


Figure 2: Displacement lines of Escalator Barrel (TOP) Short-term per construction stage

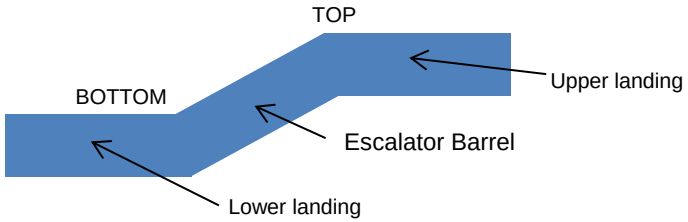
Escalator Barrel TOP (Long-term)								
Line	Stage 1		Stage 2		Stage 3		Stage 4	
No.	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)
#1	-	-	-	-	-	-	-1.1	0.2
#2	-	-	-	-	-	-	-0.7	0.4
#3	-	-	-	-	-	-	-0.2	0.5
#4	-	-	-	-	-	-	0.1	0.5
#5	-	-	-	-	-	-	0.1	0.3
#6	-	-	-	-	-	-	-0.1	0.2
#7	-	-	-	-	-	-	-0.4	0.1
#8	-	-	-	-	-	-	-0.9	0.1
#1	-	-	-	-	-	-	-1.1	0.2

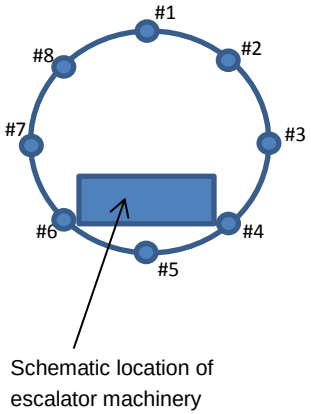
Key:

δy is vertical movement where –ve means heave

δz is horizontal movement where –ve is towards proposed works.

High-lighted cells are values quoted in the report





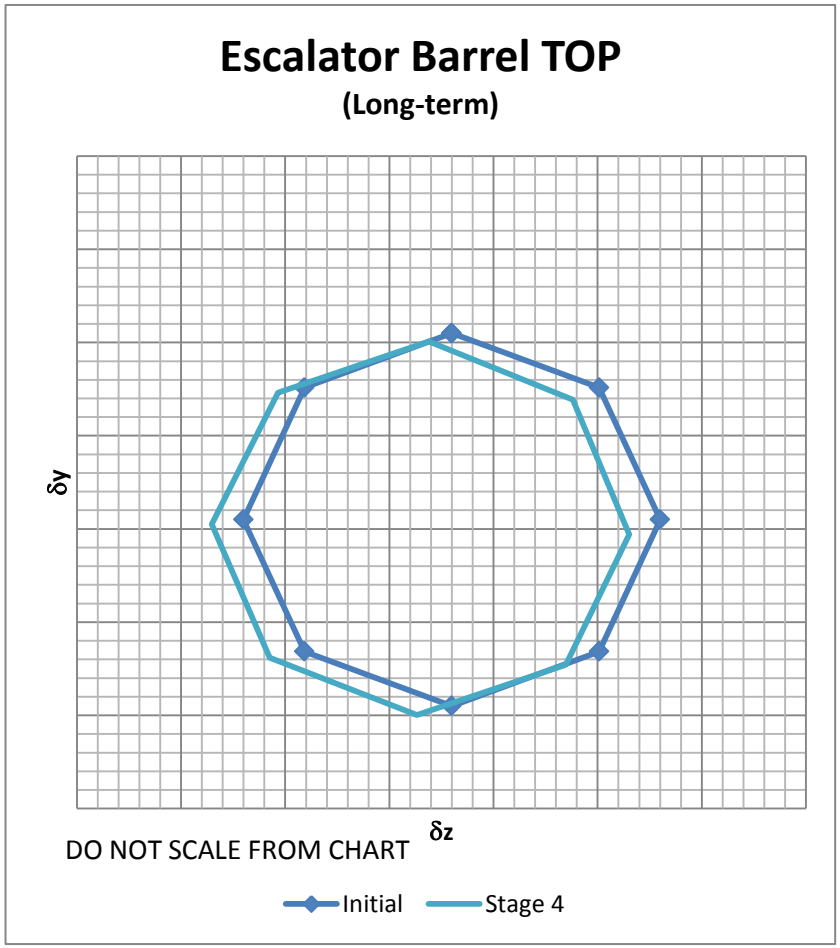


Figure 3: Displacement lines of Escalator Barrel (TOP) Long-term per construction stage

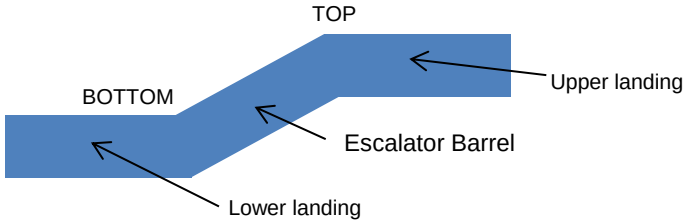
Escalator Barrel BOTTOM								
Line	Stage 1		Stage 2		Stage 3		Stage 4	
No.	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)
#1	-0.3	-0.4	-0.9	-0.4	-0.3	-0.3	0.8	0.2
#2	-0.1	-0.4	-0.8	-0.5	0.0	-0.1	1.0	0.5
#3	0.0	-0.3	-0.6	-0.4	0.0	0.1	0.9	0.5
#4	-0.1	-0.2	-0.6	-0.2	-0.1	0.0	0.7	0.3
#5	-0.2	-0.1	-0.6	-0.2	-0.1	0.0	0.7	0.2
#6	-0.3	-0.2	-0.7	-0.2	-0.2	-0.1	0.7	0.1
#7	-0.3	-0.2	-0.8	-0.2	-0.3	-0.2	0.7	0.1
#8	-0.4	-0.3	-0.9	-0.3	-0.4	-0.3	0.7	0.1
#1	-0.3	-0.4	-0.9	-0.4	-0.3	-0.3	0.8	0.2

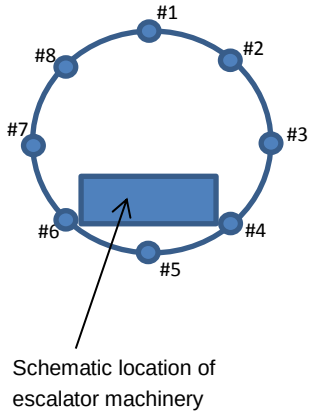
Key:

δy is vertical movement where –ve means heave

δz is horizontal movement where –ve is towards proposed works.

High-lighted cells are values quoted in the report





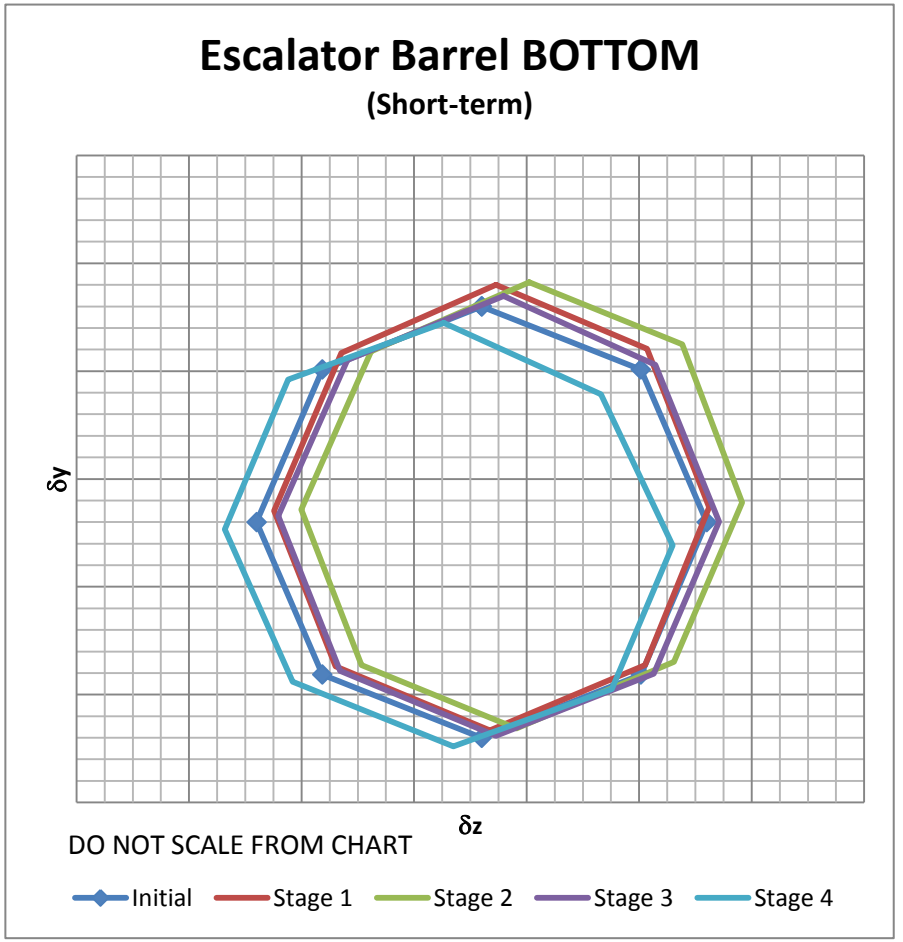


Figure 4: Displacement lines of Escalator Barrel (BOTTOM) Short-term per construction stage

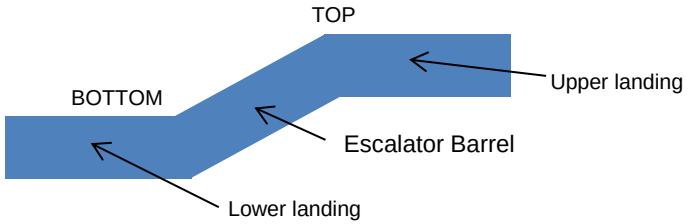
Escalator Barrel BOTTOM (Long-term)								
Line	Stage 1		Stage 2		Stage 3		Stage 4	
No.	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)	δy (mm)	δz (mm)
#1	-	-	-	-	-	-	0.0	0.8
#2	-	-	-	-	-	-	0.4	1.3
#3	-	-	-	-	-	-	0.6	1.2
#4	-	-	-	-	-	-	0.5	0.7
#5	-	-	-	-	-	-	0.5	0.4
#6	-	-	-	-	-	-	0.4	0.3
#7	-	-	-	-	-	-	0.2	0.3
#8	-	-	-	-	-	-	0.0	0.5
#1	-	-	-	-	-	-	0.0	0.8

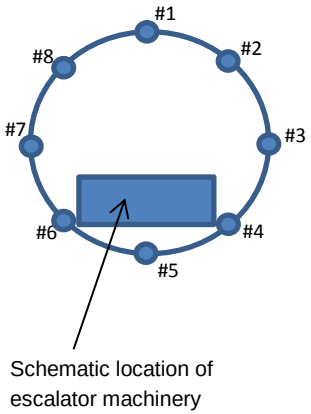
Key:

δy is vertical movement where –ve means heave

δz is horizontal movement where –ve is towards proposed works.

High-lighted cells are values quoted in the report





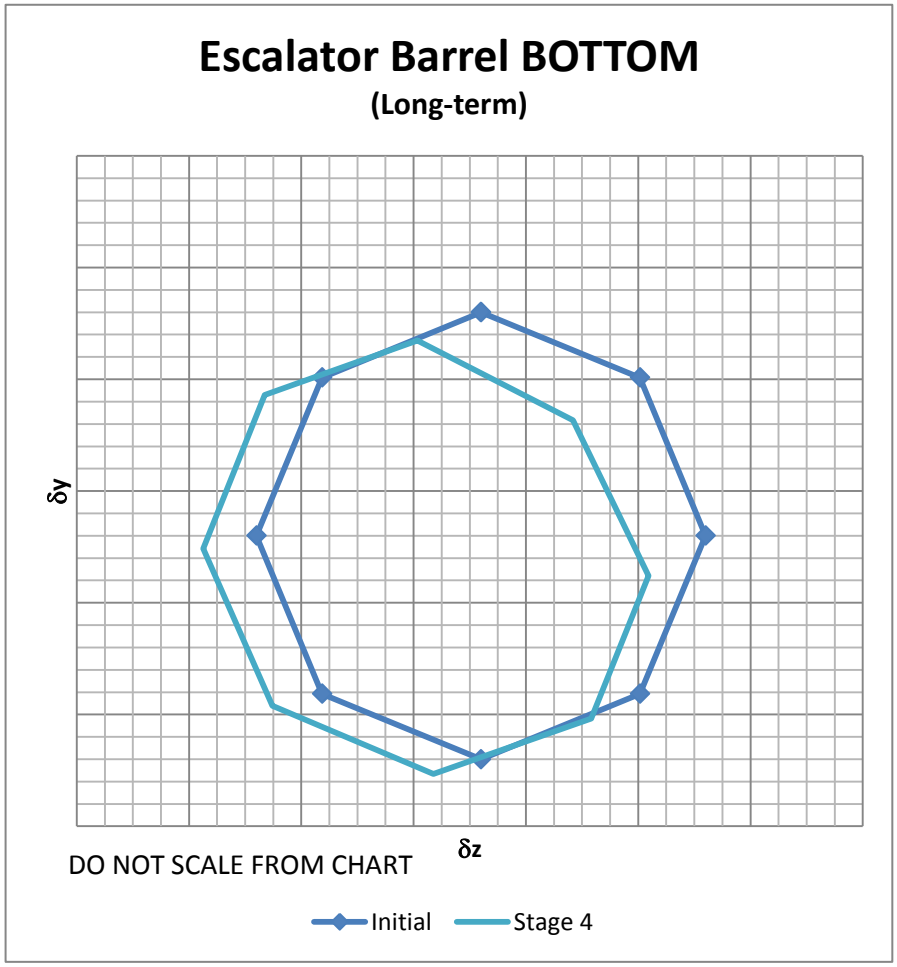
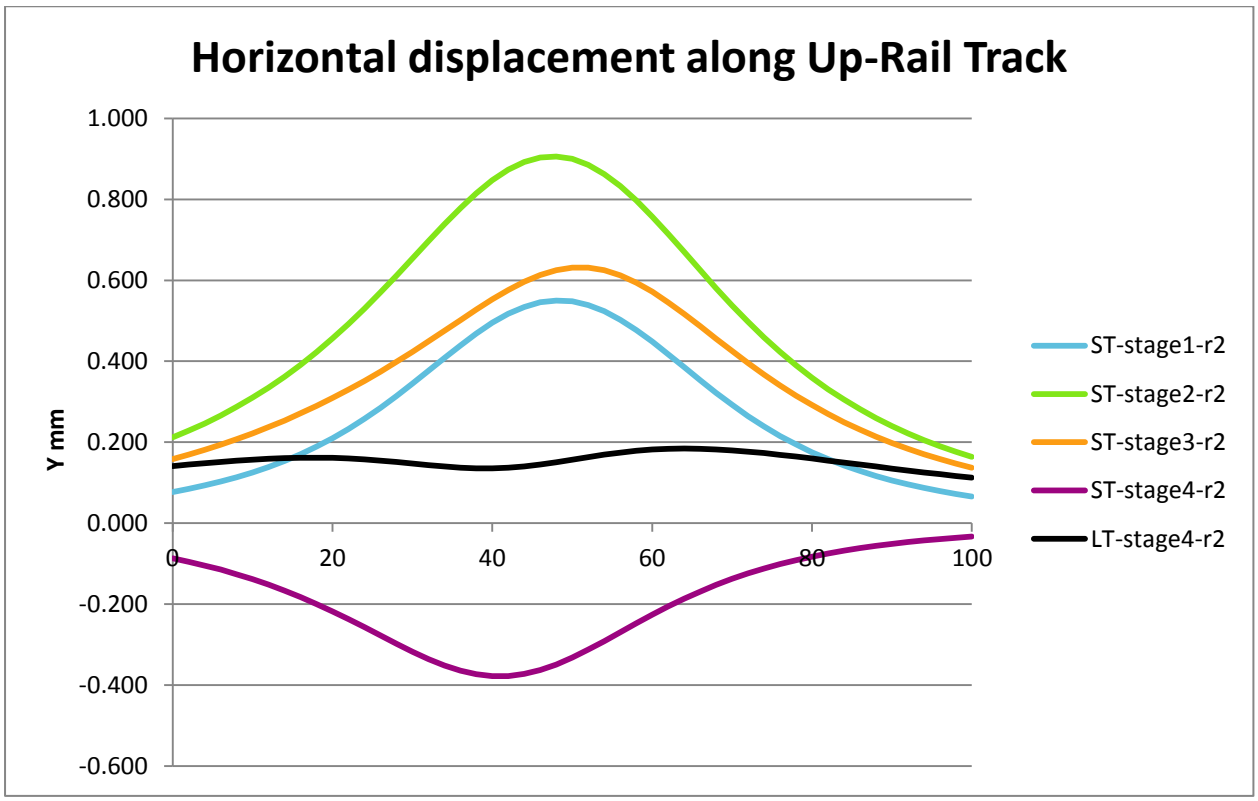


Figure 5: Displacement lines of Escalator Barrel (BOTTOM) Long-term per construction stage



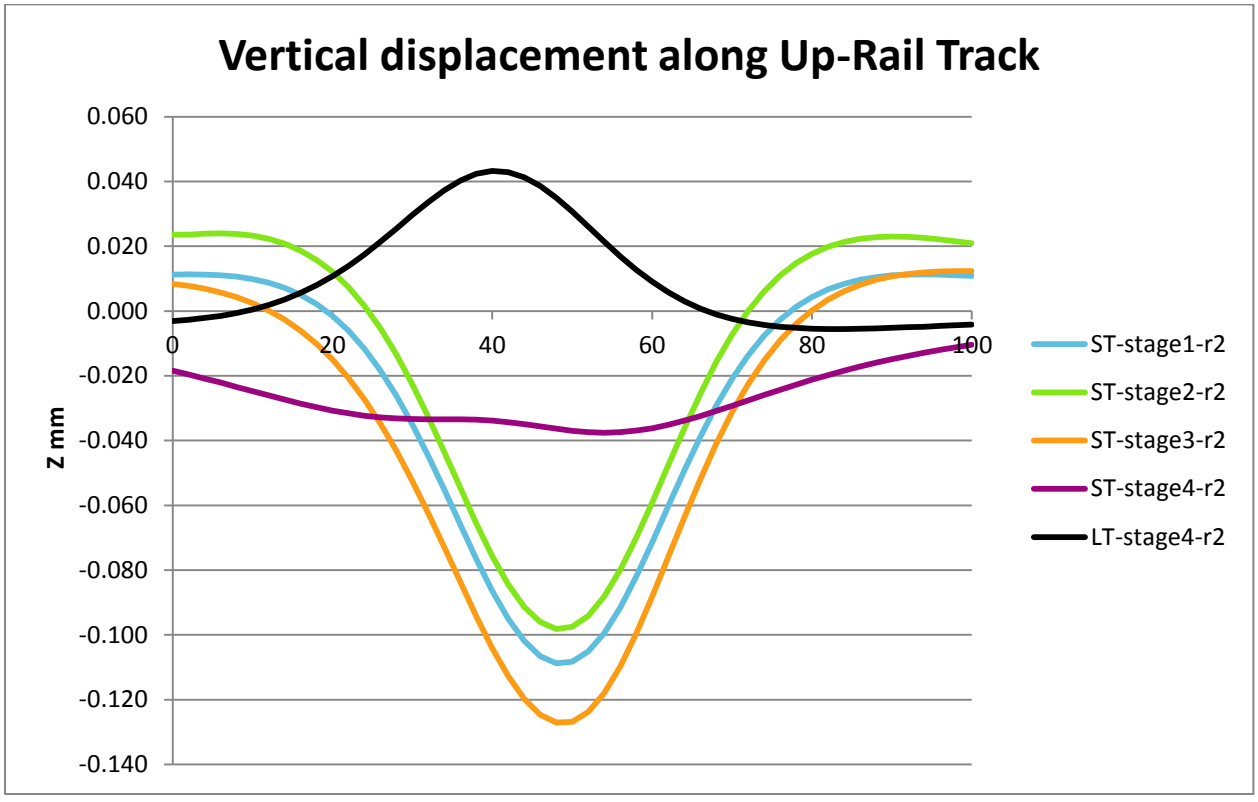


Figure 6: Displacement results along Up-Rail Track

APPENDIX A: AECOM model

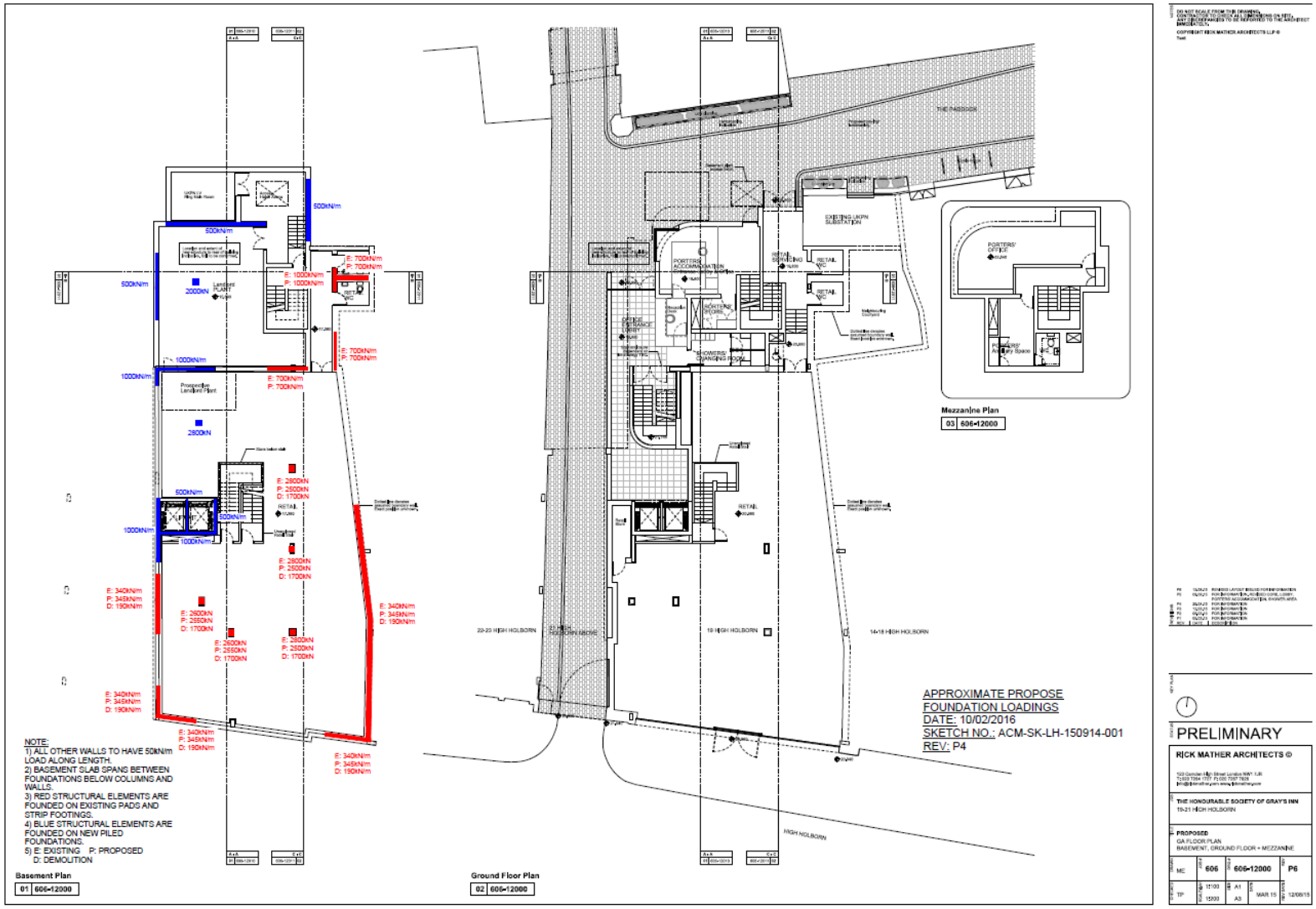


Figure A1: Loading sequence on existing and proposed structural walls on pile, pad and strip footing.

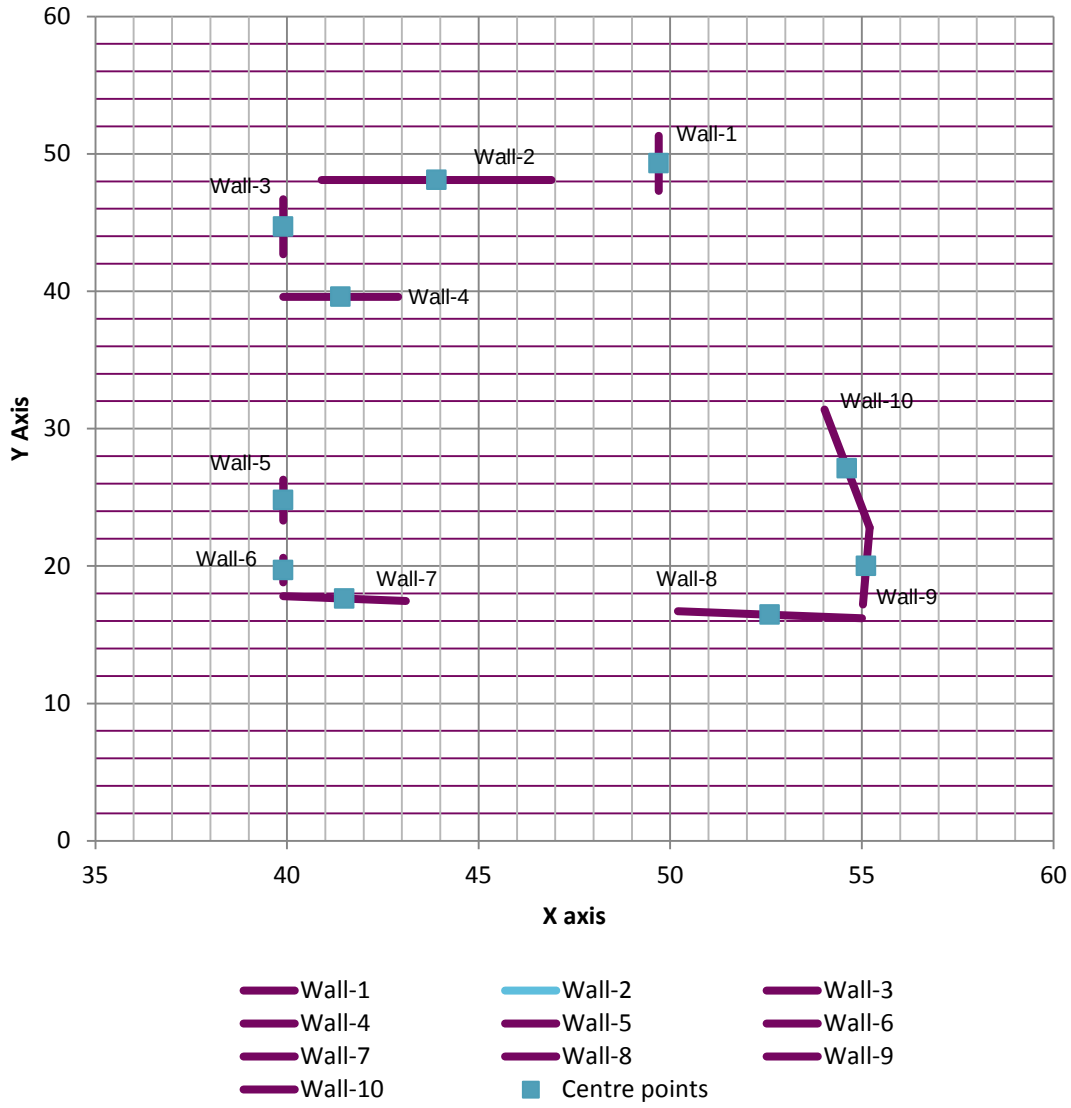


Figure A.2: Model representation of loaded walls on strip footing

Notes

Short-term analysis.

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	0.0	1	10000.	10000.	0.50000	None
2	-2.0000	2	10000.	10000.	0.50000	None
3	-4.0000	3	48000.	48000.	0.50000	None
4	-5.0000	4	48000.	48000.	0.50000	None
5	-7.0000	5	37500.	40000.	0.50000	None
6	-8.0000	7	40000.	42500.	0.50000	None
7	-9.0000	10	42500.	47500.	0.50000	None
8	-10.500	12	47500.	57500.	0.50000	None
9	-13.000	15	57500.	70000.	0.50000	None
10	-17.000	20	70000.	90000.	0.50000	None
11	-23.000	25	90000.	115000.	0.50000	None
12	-30.000	35	115000.	125000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Soil Zone 1	0.0	100.00	0.0	100.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Load position: Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value: Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	(local y) [kN/m²]
1	u-Pad-L2	Rectangular	Horizontal	48.500	33.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
2	u-Pad-L3	Rectangular	Horizontal	48.500	28.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
3	u-Pad-L4	Rectangular	Horizontal	48.600	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
4	u-Pad-L5	Rectangular	Horizontal	44.700	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
5	u-Pad-L6	Rectangular	Horizontal	42.800	24.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
6	u-Wall-5	Rectangular	Horizontal	39.900	24.800	-5.6000	0.0	2.0000	3.0000	N/A	N/A	1	-75.000	0.0	0.0
7	u-Wall-6	Rectangular	Horizontal	39.900	19.700	-5.6000	0.0	2.0000	1.8000	N/A	N/A	1	-75.000	0.0	0.0
8	u-Wall-7	Rectangular	Horizontal	41.500	17.630	-5.6000	0.0	3.2000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
9	u-Wall-8	Rectangular	Horizontal	52.600	16.450	-5.6000	0.0	4.8000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
10	u-Wall-9	Rectangular	Horizontal	55.150	20.000	-5.6000	0.0	2.0000	5.6000	N/A	N/A	1	-75.000	0.0	0.0
11	u-Wall-10	Rectangular	Horizontal	54.610	27.100	-5.6000	0.0	2.0000	8.6000	N/A	N/A	1	-75.000	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion: First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Line	A	N/A	40.100	17.800	-3.3000	55.000	16.200	-3.3000	8	N/A	N/A	No	N/A
2	Line	B	N/A	55.000	16.200	-3.3000	55.200	22.800	-3.3000	7	N/A	N/A	No	N/A
3	Line	C	N/A	55.200	22.800	-3.3000	52.900	39.600	-3.3000	9	N/A	N/A	No	N/A
4	Line	D	N/A	41.400	39.400	-3.3000	41.500	34.900	-3.3000	5	N/A	N/A	No	N/A
5	Line	E	N/A	41.500	34.900	-3.3000	40.100	34.900	-3.3000	2	N/A	N/A	No	N/A
6	Line	F	N/A	40.100	34.900	-3.3000	40.100	17.800	-3.3000	9	N/A	N/A	No	N/A
7	Line	G	N/A	52.900	39.800	-3.3000	52.800	43.400	-3.3000	4	N/A	N/A	No	N/A
8	Line	H	N/A	52.800	43.400	-3.3000	54.200	43.500	-3.3000	2	N/A	N/A	No	N/A
9	Line	I	N/A	41.400	39.500	-3.3000	50.000	39.600	-3.3000	9	N/A	N/A	No	N/A
10	Line	J	N/A	50.000	39.600	-3.3000	50.000	47.600	-3.3000	8	N/A	N/A	No	N/A
11	Line	K	N/A	50.000	47.600	-3.3000	54.100	47.800	-3.3000	5	N/A	N/A	No	N/A
12	Line	L	N/A	54.100	47.800	-3.3000	54.200	43.500	-3.3000	5	N/A	N/A	No	N/A
13	Line	M	N/A	52.900	41.100	-3.3000	59.700	42.300	-3.3000	7	N/A	N/A	No	N/A
14	Line	N	N/A	59.700	42.300	-3.3000	59.500	45.000	-3.3000	3	N/A	N/A	No	N/A
15	Line	O	N/A	59.500	45.000	-3.3000	57.400	48.100	-3.3000	4	N/A	N/A	No	N/A
16	Line	P	N/A	57.400	48.100	-3.3000	52.300	47.700	-3.3000	6	N/A	N/A	No	N/A
17	Line	Q	N/A	52.300	47.700	-3.3000	52.300	50.900	-3.3000	4	N/A	N/A	No	N/A
18	Line	R	N/A	52.300	50.900	-3.3000	67.100	52.500	-3.3000	8	N/A	N/A	No	N/A
19	Line	S	N/A	67.100	52.500	-3.3000	68.400	43.200	-3.3000	5	N/A	N/A	No	N/A
20	Line	T	N/A	68.400	43.200	-3.3000	72.900	44.000	-3.3000	5	N/A	N/A	No	N/A
21	Line	U	N/A	92.800	57.100	-3.3000	71.900	53.000	-3.3000	11	N/A	N/A	No	N/A
22	Line	V	N/A	71.900	53.000	-3.3000	73.400	38.400	-3.3000	8	N/A	N/A	No	N/A
23	Line	W	N/A	73.400	38.400	-3.3000	75.400	27.900	-3.3000	6	N/A	N/A	No	N/A
24	Line	X	N/A	75.400	27.900	-3.3000	73.600	13.900	-3.3000	8	N/A	N/A	No	N/A
25	Line	Y	N/A	73.600	13.900	-3.3000	55.000	16.200	-3.3000	10	N/A	N/A	No	N/A
26	Line	Z	N/A	93.800	65.100	-3.3000	51.200	58.200	-3.3000	22	N/A	N/A	No	N/A
27	Line	AA	N/A	40.800	55.600	-3.3000	51.400	57.300	-3.3000	6	N/A	N/A	No	N/A
28	Line	AB	N/A	51.400	57.300	-3.3000	49.400	70.600	-3.3000	7	N/A	N/A	No	N/A
29	Line	AC	N/A	49.400	70.600	-3.3000	40.600	69.000	-3.3000	9	N/A	N/A	No	N/A
30	Line	AD	N/A	40.600	69.000	-3.3000	40.800	55.600	-3.3000	7	N/A	N/A	No	N/A
31	Line	AE	N/A	32.600	55.100	-3.3000	36.400	55.400	-3.3000	4	N/A	N/A	No	N/A
32	Line	AF	N/A	36.400	55.400	-3.3000	35.800	68.200	-3.3000	7	N/A	N/A	No	N/A
33	Line	AG	N/A	35.800	68.200	-3.3000	26.400	66.500	-3.3000	5	N/A	N/A	No	N/A
34	Line	AH	N/A	26.400	66.500	-3.3000	27.800	59.500	-3.3000	8	N/A	N/A	No	N/A
35	Line	AI	N/A	27.800	59.500	-3.3000	32.000	59.800	-3.3000	5	N/A	N/A	No	N/A
36	Line	AJ	N/A	32.000	59.800	-3.3000	32.600	55.100	-3.3000	5	N/A	N/A	No	N/A
37	Line	AK	N/A	27.800	59.500	-3.3000	27.700	51.800	-3.3000	8	N/A	N/A	No	N/A
38	Line	AL	N/A	27.700	51.800	-3.3000	29.000	37.100	-3.3000	8	N/A	N/A	No	N/A
39	Line	AM	N/A	29.000	37.100	-3.3000	26.800	20.000	-3.3000	9	N/A	N/A	No	N/A
40	Line	AN	N/A	26.800	20.000	-3.3000	36.000	19.000	-3.3000	5	N/A	N/A	No	N/A
41	Line	AO	N/A	36.000	19.000	-3.3000	36.400	55.400	-3.3000	9	N/A	N/A	No	N/A
42	Line	AP	N/A	26.700	20.000	-3.3000	11.200	21.300	-3.3000	8	N/A	N/A	No	N/A
43	Line	AQ	N/A	11.200	21.300	-3.3000	12.600	50.600	-3.3000	15	N/A	N/A	No	N/A
44	Line	AR	N/A	12.600	50.600	-3.3000	27.800	51.800	-3.3000	8	N/A	N/A	No	N/A
45	Grid	Grid 1	Global X	0.0	0.0	0.0	N/A	100.00	0.0	90	100.00	90	No	N/A
46	Line	LUcrest_U	N/A	75.100	19.200	-15.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
47	Line	LUinvert_U	N/A	75.100	19.200	-23.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
48	Line	LUnorthwall_U	N/A	75.100	23.200	-19.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
49	Line	LUsouthwall_U	N/A	75.100	15.200	-19.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
50	Line	LUcrest_B	N/A	35.100	19.200	-20.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
51	Line	LUinvert_B	N/A	35.100	19.200	-28.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
52	Line	LUnorthwall_B	N/A	35.100	23.200	-24.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
53	Line	LUsouthwall_B	N/A	35.100	15.200	-24.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
54	Line	LUcrest_L	N/A	18.100	19.200	-20.800	35.100	19.200	-20.800	20	N/A	N/A	Yes	Yes
55	Line	LUinvert_L	N/A	18.100	19.200	-28.800	35.100	19.200	-28.800	20	N/A	N/A	Yes	Yes
56	Line	LUnorthwall_L	N/A	18.100	23.200	-24.800	35.100	23.200	-24.800	20	N/A	N/A	Yes	Yes
57	Line	LUsouthwall_L	N/A	18.100	15.200	-24.800	35.100	15.200	-24.800	20	N/A	N/A	Yes	Yes
58	Line	LU1st_U	N/A	75.100	22.030	-16.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
59	Line	LU2nd_U	N/A	75.100	22.030	-22.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
60	Line	LU3rd_U	N/A	75.100	16.370	-22.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
61	Line	LU4th_U	N/A	75.100	16.370	-16.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
62	Line	LU1st_B	N/A	35.100	22.030	-21.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
63	Line	LU2nd_B	N/A	35.100	22.030	-27.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
64	Line	LU3rd_B	N/A	35.100	16.370	-27.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
65	Line	LU4th_B	N/A	35.100	16.370	-21.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
66	Line	LU1st_L	N/A	18.100	22.030	-21.970	35.100	22.030	-21.970	20	N/A	N/A	Yes	Yes
67	Line	LU2nd_L	N/A	18.100	22.030	-27.630	35.100	22.030	-27.630	20	N/A	N/A	Yes	Yes
68	Line	LU3rd_L	N/A	18.100	16.370	-27.630	35.100	16.370	-27.630	20	N/A	N/A	Yes	Yes
69	Line	LU4th_L	N/A	18.100	16.370	-21.970	35.100	16.370	-21.970	20	N/A	N/A	Yes	Yes
70	Line	Up-Rail Track	N/A	0.0	3.5000	-24.800	100.00	3.5000	-24.800	50	N/A	N/A	Yes	Yes

Notes

Short-term analysis.

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	0.0	1	10000.	10000.	0.50000	None
2	-2.0000	2	10000.	10000.	0.50000	None
3	-4.0000	3	48000.	48000.	0.50000	None
4	-5.0000	4	48000.	48000.	0.50000	None
5	-7.0000	5	37500.	40000.	0.50000	None
6	-8.0000	7	40000.	42500.	0.50000	None
7	-9.0000	10	42500.	47500.	0.50000	None
8	-10.500	12	47500.	57500.	0.50000	None
9	-13.000	15	57500.	70000.	0.50000	None
10	-17.000	20	70000.	90000.	0.50000	None
11	-23.000	25	90000.	115000.	0.50000	None
12	-30.000	35	115000.	125000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Soil Zone 1	0.0	100.00	0.0	100.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Load position: Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value: Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Basement Unloading	Rectangular	Horizontal	44.950	46.000	-4.6000	0.0	10.100	12.800	N/A	N/A	1	-90.000	0.0	0.0
2	u-Pad-L2	Rectangular	Horizontal	48.500	33.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
3	u-Pad-L3	Rectangular	Horizontal	48.500	28.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
4	u-Pad-L4	Rectangular	Horizontal	48.600	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
5	u-Pad-L5	Rectangular	Horizontal	44.700	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
6	u-Pad-L6	Rectangular	Horizontal	42.800	24.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
7	u-Wall-5	Rectangular	Horizontal	39.900	24.800	-5.6000	0.0	2.0000	3.0000	N/A	N/A	1	-75.000	0.0	0.0
8	u-Wall-6	Rectangular	Horizontal	39.900	19.700	-5.6000	0.0	2.0000	1.8000	N/A	N/A	1	-75.000	0.0	0.0
9	u-Wall-7	Rectangular	Horizontal	41.500	17.630	-5.6000	0.0	3.2000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
10	u-Wall-8	Rectangular	Horizontal	52.600	16.450	-5.6000	0.0	4.8000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
11	u-Wall-9	Rectangular	Horizontal	55.150	20.000	-5.6000	0.0	2.0000	5.6000	N/A	N/A	1	-75.000	0.0	0.0
12	u-Wall-10	Rectangular	Horizontal	54.610	27.100	-5.6000	0.0	2.0000	8.6000	N/A	N/A	1	-75.000	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion: First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Line	A	N/A	40.100	17.800	-3.3000	55.000	16.200	-3.3000	8	N/A	N/A	No	N/A
2	Line	B	N/A	55.000	16.200	-3.3000	55.200	22.800	-3.3000	7	N/A	N/A	No	N/A
3	Line	C	N/A	55.200	22.800	-3.3000	52.900	39.600	-3.3000	9	N/A	N/A	No	N/A
4	Line	D	N/A	41.400	39.400	-3.3000	41.500	34.900	-3.3000	5	N/A	N/A	No	N/A
5	Line	E	N/A	41.500	34.900	-3.3000	40.100	34.900	-3.3000	2	N/A	N/A	No	N/A
6	Line	F	N/A	40.100	34.900	-3.3000	40.100	17.800	-3.3000	9	N/A	N/A	No	N/A
7	Line	G	N/A	52.900	39.800	-3.3000	52.800	43.400	-3.3000	4	N/A	N/A	No	N/A
8	Line	H	N/A	52.800	43.400	-3.3000	54.200	43.500	-3.3000	2	N/A	N/A	No	N/A
9	Line	I	N/A	41.400	39.500	-3.3000	50.000	39.600	-3.3000	9	N/A	N/A	No	N/A
10	Line	J	N/A	50.000	39.600	-3.3000	50.000	47.600	-3.3000	8	N/A	N/A	No	N/A
11	Line	K	N/A	50.000	47.600	-3.3000	54.100	47.800	-3.3000	5	N/A	N/A	No	N/A
12	Line	L	N/A	54.100	47.800	-3.3000	54.200	43.500	-3.3000	5	N/A	N/A	No	N/A
13	Line	M	N/A	52.900	41.100	-3.3000	59.700	42.300	-3.3000	7	N/A	N/A	No	N/A
14	Line	N	N/A	59.700	42.300	-3.3000	59.500	45.000	-3.3000	3	N/A	N/A	No	N/A
15	Line	O	N/A	59.500	45.000	-3.3000	57.400	48.100	-3.3000	4	N/A	N/A	No	N/A
16	Line	P	N/A	57.400	48.100	-3.3000	52.300	47.700	-3.3000	6	N/A	N/A	No	N/A
17	Line	Q	N/A	52.300	47.700	-3.3000	52.300	50.900	-3.3000	4	N/A	N/A	No	N/A
18	Line	R	N/A	52.300	50.900	-3.3000	67.100	52.500	-3.3000	8	N/A	N/A	No	N/A
19	Line	S	N/A	67.100	52.500	-3.3000	68.400	43.200	-3.3000	5	N/A	N/A	No	N/A
20	Line	T	N/A	68.400	43.200	-3.3000	72.900	44.000	-3.3000	5	N/A	N/A	No	N/A
21	Line	U	N/A	92.800	57.100	-3.3000	71.900	53.000	-3.3000	11	N/A	N/A	No	N/A
22	Line	V	N/A	71.900	53.000	-3.3000	73.400	38.400	-3.3000	8	N/A	N/A	No	N/A
23	Line	W	N/A	73.400	38.400	-3.3000	75.400	27.900	-3.3000	6	N/A	N/A	No	N/A
24	Line	X	N/A	75.400	27.900	-3.3000	73.600	13.900	-3.3000	8	N/A	N/A	No	N/A
25	Line	Y	N/A	73.600	13.900	-3.3000	55.000	16.200	-3.3000	10	N/A	N/A	No	N/A
26	Line	Z	N/A	93.800	65.100	-3.3000	51.200	58.200	-3.3000	22	N/A	N/A	No	N/A
27	Line	AA	N/A	40.800	55.600	-3.3000	51.400	57.300	-3.3000	6	N/A	N/A	No	N/A
28	Line	AB	N/A	51.400	57.300	-3.3000	49.400	70.600	-3.3000	7	N/A	N/A	No	N/A
29	Line	AC	N/A	49.400	70.600	-3.3000	40.600	69.000	-3.3000	9	N/A	N/A	No	N/A
30	Line	AD	N/A	40.600	69.000	-3.3000	40.800	55.600	-3.3000	7	N/A	N/A	No	N/A
31	Line	AE	N/A	32.600	55.100	-3.3000	36.400	55.400	-3.3000	4	N/A	N/A	No	N/A
32	Line	AF	N/A	36.400	55.400	-3.3000	35.800	68.200	-3.3000	7	N/A	N/A	No	N/A
33	Line	AG	N/A	35.800	68.200	-3.3000	26.400	66.500	-3.3000	5	N/A	N/A	No	N/A
34	Line	AH	N/A	26.400	66.500	-3.3000	27.800	59.500	-3.3000	8	N/A	N/A	No	N/A
35	Line	AI	N/A	27.800	59.500	-3.3000	32.000	59.800	-3.3000	5	N/A	N/A	No	N/A
36	Line	AJ	N/A	32.000	59.800	-3.3000	32.600	55.100	-3.3000	5	N/A	N/A	No	N/A
37	Line	AK	N/A	27.800	59.500	-3.3000	27.700	51.800	-3.3000	8	N/A	N/A	No	N/A
38	Line	AL	N/A	27.700	51.800	-3.3000	29.000	37.100	-3.3000	8	N/A	N/A	No	N/A
39	Line	AM	N/A	29.000	37.100	-3.3000	26.800	20.000	-3.3000	9	N/A	N/A	No	N/A
40	Line	AN	N/A	26.800	20.000	-3.3000	36.000	19.000	-3.3000	5	N/A	N/A	No	N/A
41	Line	AO	N/A	36.000	19.000	-3.3000	36.400	55.400	-3.3000	9	N/A	N/A	No	N/A
42	Line	AP	N/A	26.700	20.000	-3.3000	11.200	21.300	-3.3000	8	N/A	N/A	No	N/A
43	Line	AQ	N/A	11.200	21.300	-3.3000	12.600	50.600	-3.3000	15	N/A	N/A	No	N/A
44	Line	AR	N/A	12.600	50.600	-3.3000	27.800	51.800	-3.3000	8	N/A	N/A	No	N/A
45	Grid	Grid 1	Global X	0.0	0.0	0.0	N/A	100.00	0.0	90	100.00	90	No	N/A
46	Line	LUcrest_U	N/A	75.100	19.200	-15.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
47	Line	LUinvert_U	N/A	75.100	19.200	-23.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
48	Line	LUnorthwall_U	N/A	75.100	23.200	-19.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
49	Line	LUsouthwall_U	N/A	75.100	15.200	-19.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
50	Line	LUcrest_B	N/A	35.100	19.200	-20.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
51	Line	LUinvert_B	N/A	35.100	19.200	-28.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
52	Line	LUnorthwall_B	N/A	35.100	23.200	-24.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
53	Line	LUsouthwall_B	N/A	35.100	15.200	-24.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
54	Line	LUcrest_L	N/A	18.100	19.200	-20.800	35.100	19.200	-20.800	20	N/A	N/A	Yes	Yes
55	Line	LUinvert_L	N/A	18.100	19.200	-28.800	35.100	19.200	-28.800	20	N/A	N/A	Yes	Yes
56	Line	LUnorthwall_L	N/A	18.100	23.200	-24.800	35.100	23.200	-24.800	20	N/A	N/A	Yes	Yes
57	Line	LUsouthwall_L	N/A	18.100	15.200	-24.800	35.100	15.200	-24.800	20	N/A	N/A	Yes	Yes
58	Line	LUlst_U	N/A	75.100	22.030	-16.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
59	Line	LU2nd_U	N/A	75.100	22.030	-22.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
60	Line	LU3rd_U	N/A	75.100	16.370	-22.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
61	Line	LU4th_U	N/A	75.100	16.370	-16.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
62	Line	LU1st_B	N/A	35.100	22.030	-21.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
63	Line	LU2nd_B	N/A	35.100	22.030	-27.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
64	Line	LU3rd_B	N/A	35.100	16.370	-27.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
65	Line	LU4th_B	N/A	35.100	16.370	-21.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
66	Line	LU1st_L	N/A	18.100	22.030	-21.970	35.100	22.030	-21.970	20	N/A	N/A	Yes	Yes
67	Line	LU2nd_L	N/A	18.100	22.030	-27.630	35.100	22.030	-27.630	20	N/A	N/A	Yes	Yes
68	Line	LU3rd_L	N/A	18.100	16.370	-27.630	35.100	16.370	-27.630	20	N/A	N/A	Yes	Yes
69	Line	LU4th_L	N/A	18.100	16.370	-21.970	35.100	16.370	-21.970	20	N/A	N/A	Yes	Yes
70	Line	Up-Rail Track	N/A	0.0	3.5000	-24.800	100.00	3.5000	-24.800	50	N/A	N/A	Yes	Yes

Notes

Short-term analysis. Piles are 16 in number with pile length of 20m.

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	0.0	1	10000.	10000.	0.50000	None
2	-2.0000	2	10000.	10000.	0.50000	None
3	-4.0000	3	48000.	48000.	0.50000	None
4	-5.0000	4	48000.	48000.	0.50000	None
5	-7.0000	5	37500.	40000.	0.50000	None
6	-8.0000	7	40000.	42500.	0.50000	None
7	-9.0000	10	42500.	47500.	0.50000	None
8	-10.500	12	47500.	57500.	0.50000	None
9	-13.000	15	57500.	70000.	0.50000	None
10	-17.000	20	70000.	90000.	0.50000	None
11	-23.000	25	90000.	115000.	0.50000	None
12	-30.000	35	115000.	125000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Soil Zone 1	0.0	100.00	0.0	100.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	(local y) [kN/m²]
1	Basement Unloading	Rectangular	Horizontal	44.950	46.000	-4.6000	0.0	10.100	12.800	N/A	N/A	1	-90.000	0.0	0.0
2	Lift shaft Pile loading	Rectangular	Horizontal	42.400	30.900	-15.100	0.0	8.6000	9.3000	N/A	N/A	1	114.00	0.0	0.0
3	u-Pad-L2	Rectangular	Horizontal	48.500	33.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
4	u-Pad-L3	Rectangular	Horizontal	48.500	28.100	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
5	u-Pad-L4	Rectangular	Horizontal	48.600	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-89.800	0.0	0.0
6	u-Pad-L5	Rectangular	Horizontal	44.700	22.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
7	u-Pad-L6	Rectangular	Horizontal	42.800	24.800	-5.6000	0.0	3.5000	3.5000	N/A	N/A	1	-73.470	0.0	0.0
8	u-Wall-5	Rectangular	Horizontal	39.900	24.800	-5.6000	0.0	2.0000	3.0000	N/A	N/A	1	-75.000	0.0	0.0
9	u-Wall-6	Rectangular	Horizontal	39.900	19.700	-5.6000	0.0	2.0000	1.8000	N/A	N/A	1	-75.000	0.0	0.0
10	u-Wall-7	Rectangular	Horizontal	41.500	17.630	-5.6000	0.0	3.2000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
11	u-Wall-8	Rectangular	Horizontal	52.600	16.450	-5.6000	0.0	4.8000	2.0000	N/A	N/A	1	-75.000	0.0	0.0
12	u-Wall-9	Rectangular	Horizontal	55.150	20.000	-5.6000	0.0	2.0000	5.6000	N/A	N/A	1	-75.000	0.0	0.0
13	u-Wall-10	Rectangular	Horizontal	54.610	27.100	-5.6000	0.0	2.0000	8.6000	N/A	N/A	1	-75.000	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Line	A	N/A	40.100	17.800	-3.3000	55.000	16.200	-3.3000	8	N/A	N/A	No	N/A
2	Line	B	N/A	55.000	16.200	-3.3000	55.200	22.800	-3.3000	7	N/A	N/A	No	N/A
3	Line	C	N/A	55.200	22.800	-3.3000	52.900	39.600	-3.3000	9	N/A	N/A	No	N/A
4	Line	D	N/A	41.400	39.400	-3.3000	41.500	34.900	-3.3000	5	N/A	N/A	No	N/A
5	Line	E	N/A	41.500	34.900	-3.3000	40.100	34.900	-3.3000	2	N/A	N/A	No	N/A
6	Line	F	N/A	40.100	34.900	-3.3000	40.100	17.800	-3.3000	9	N/A	N/A	No	N/A
7	Line	G	N/A	52.900	39.800	-3.3000	52.800	43.400	-3.3000	4	N/A	N/A	No	N/A
8	Line	H	N/A	52.800	43.400	-3.3000	54.200	43.500	-3.3000	2	N/A	N/A	No	N/A
9	Line	I	N/A	41.400	39.500	-3.3000	50.000	39.600	-3.3000	9	N/A	N/A	No	N/A
10	Line	J	N/A	50.000	39.600	-3.3000	50.000	47.600	-3.3000	8	N/A	N/A	No	N/A
11	Line	K	N/A	50.000	47.600	-3.3000	54.100	47.800	-3.3000	5	N/A	N/A	No	N/A
12	Line	L	N/A	54.100	47.800	-3.3000	54.200	43.500	-3.3000	5	N/A	N/A	No	N/A
13	Line	M	N/A	52.900	41.100	-3.3000	59.700	42.300	-3.3000	7	N/A	N/A	No	N/A
14	Line	N	N/A	59.700	42.300	-3.3000	59.500	45.000	-3.3000	3	N/A	N/A	No	N/A
15	Line	O	N/A	59.500	45.000	-3.3000	57.400	48.100	-3.3000	4	N/A	N/A	No	N/A
16	Line	P	N/A	57.400	48.100	-3.3000	52.300	47.700	-3.3000	6	N/A	N/A	No	N/A
17	Line	Q	N/A	52.300	47.700	-3.3000	52.300	50.900	-3.3000	4	N/A	N/A	No	N/A
18	Line	R	N/A	52.300	50.900	-3.3000	67.100	52.500	-3.3000	8	N/A	N/A	No	N/A
19	Line	S	N/A	67.100	52.500	-3.3000	68.400	43.200	-3.3000	5	N/A	N/A	No	N/A
20	Line	T	N/A	68.400	43.200	-3.3000	72.900	44.000	-3.3000	5	N/A	N/A	No	N/A
21	Line	U	N/A	92.800	57.100	-3.3000	71.900	53.000	-3.3000	11	N/A	N/A	No	N/A
22	Line	V	N/A	71.900	53.000	-3.3000	73.400	38.400	-3.3000	8	N/A	N/A	No	N/A
23	Line	W	N/A	73.400	38.400	-3.3000	75.400	27.900	-3.3000	6	N/A	N/A	No	N/A
24	Line	X	N/A	75.400	27.900	-3.3000	73.600	13.900	-3.3000	8	N/A	N/A	No	N/A
25	Line	Y	N/A	73.600	13.900	-3.3000	55.000	16.200	-3.3000	10	N/A	N/A	No	N/A
26	Line	Z	N/A	93.800	65.100	-3.3000	51.200	58.200	-3.3000	22	N/A	N/A	No	N/A
27	Line	AA	N/A	40.800	55.600	-3.3000	51.400	57.300	-3.3000	6	N/A	N/A	No	N/A
28	Line	AB	N/A	51.400	57.300	-3.3000	49.400	70.600	-3.3000	7	N/A	N/A	No	N/A
29	Line	AC	N/A	49.400	70.600	-3.3000	40.600	69.000	-3.3000	9	N/A	N/A	No	N/A
30	Line	AD	N/A	40.600	69.000	-3.3000	40.800	55.600	-3.3000	7	N/A	N/A	No	N/A
31	Line	AE	N/A	32.600	55.100	-3.3000	36.400	55.400	-3.3000	4	N/A	N/A	No	N/A
32	Line	AF	N/A	36.400	55.400	-3.3000	35.800	68.200	-3.3000	7	N/A	N/A	No	N/A
33	Line	AG	N/A	35.800	68.200	-3.3000	26.400	66.500	-3.3000	5	N/A	N/A	No	N/A
34	Line	AH	N/A	26.400	66.500	-3.3000	27.800	59.500	-3.3000	8	N/A	N/A	No	N/A
35	Line	AI	N/A	27.800	59.500	-3.3000	32.000	59.800	-3.3000	5	N/A	N/A	No	N/A
36	Line	AJ	N/A	32.000	59.800	-3.3000	32.600	55.100	-3.3000	5	N/A	N/A	No	N/A
37	Line	AK	N/A	27.800	59.500	-3.3000	27.700	51.800	-3.3000	8	N/A	N/A	No	N/A
38	Line	AL	N/A	27.700	51.800	-3.3000	29.000	37.100	-3.3000	8	N/A	N/A	No	N/A
39	Line	AM	N/A	29.000	37.100	-3.3000	26.800	20.000	-3.3000	9	N/A	N/A	No	N/A
40	Line	AN	N/A	26.800	20.000	-3.3000	36.000	19.000	-3.3000	5	N/A	N/A	No	N/A
41	Line	AO	N/A	36.000	19.000	-3.3000	36.400	55.400	-3.3000	9	N/A	N/A	No	N/A
42	Line	AP	N/A	26.700	20.000	-3.3000	11.200	21.300	-3.3000	8	N/A	N/A	No	N/A
43	Line	AQ	N/A	11.200	21.300	-3.3000	12.600	50.600	-3.3000	15	N/A	N/A	No	N/A
44	Line	AR	N/A	12.600	50.600	-3.3000	27.800	51.800	-3.3000	8	N/A	N/A	No	N/A
45	Grid	Grid 1	Global X	0.0	0.0	0.0	N/A	100.00	0.0	90	100.00	90	No	N/A
46	Line	LUcrest_U	N/A	75.100	19.200	-15.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
47	Line	LUinvert_U	N/A	75.100	19.200	-23.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
48	Line	LUnorthwall_U	N/A	75.100	23.200	-19.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
49	Line	LUsouthwall_U	N/A	75.100	15.200	-19.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
50	Line	LUcrest_B	N/A	35.100	19.200	-20.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
51	Line	LUinvert_B	N/A	35.100	19.200	-28.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
52	Line	LUnorthwall_B	N/A	35.100	23.200	-24.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
53	Line	LUsouthwall_B	N/A	35.100	15.200	-24.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
54	Line	LUcrest_L	N/A	18.100	19.200	-20.800	35.100	19.200	-20.800	20	N/A	N/A	Yes	Yes
55	Line	LUinvert_L	N/A	18.100	19.200	-28.800	35.100	19.200	-28.800	20	N/A	N/A	Yes	Yes
56	Line	LUnorthwall_L	N/A	18.100	23.200	-24.800	35.100	23.200	-24.800	20	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
57	Line	LUsouthwall_L	N/A	18.100	15.200	-24.800	35.100	15.200	-24.800	20	N/A	N/A	Yes	Yes
58	Line	LU1st_U	N/A	75.100	22.030	-16.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
59	Line	LU2nd_U	N/A	75.100	22.030	-22.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
60	Line	LU3rd_U	N/A	75.100	16.370	-22.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
61	Line	LU4th_U	N/A	75.100	16.370	-16.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
62	Line	LU1st_B	N/A	35.100	22.030	-21.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
63	Line	LU2nd_B	N/A	35.100	22.030	-27.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
64	Line	LU3rd_B	N/A	35.100	16.370	-27.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
65	Line	LU4th_B	N/A	35.100	16.370	-21.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
66	Line	LU1st_L	N/A	18.100	22.030	-21.970	35.100	22.030	-21.970	20	N/A	N/A	Yes	Yes
67	Line	LU2nd_L	N/A	18.100	22.030	-27.630	35.100	22.030	-27.630	20	N/A	N/A	Yes	Yes
68	Line	LU3rd_L	N/A	18.100	16.370	-27.630	35.100	16.370	-27.630	20	N/A	N/A	Yes	Yes
69	Line	LU4th_L	N/A	18.100	16.370	-21.970	35.100	16.370	-21.970	20	N/A	N/A	Yes	Yes
70	Line	Up-Rail Track	N/A	0.0	3.5000	-24.800	100.00	3.5000	-24.800	50	N/A	N/A	Yes	Yes

Notes

Short-term analysis. Piles are 16 in number with pile length of 20m.

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	0.0	1	10000.	10000.	0.50000	None
2	-2.0000	2	10000.	10000.	0.50000	None
3	-4.0000	3	48000.	48000.	0.50000	None
4	-5.0000	4	48000.	48000.	0.50000	None
5	-7.0000	5	37500.	40000.	0.50000	None
6	-8.0000	7	40000.	42500.	0.50000	None
7	-9.0000	10	42500.	47500.	0.50000	None
8	-10.500	12	47500.	57500.	0.50000	None
9	-13.000	15	57500.	70000.	0.50000	None
10	-17.000	20	70000.	90000.	0.50000	None
11	-23.000	25	90000.	115000.	0.50000	None
12	-30.000	35	115000.	125000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Soil Zone 1	0.0	100.00	0.0	100.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]		Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	(local y) [kN/m²]
1	Basement Unloading	Rectangular	Horizontal	44.950	46.000	-4.6000	0.0	10.100	12.800	N/A		N/A	1	-90.000	0.0	0.0
2	Lift shaft Pile loading	Rectangular	Horizontal	42.400	30.900	-15.100	0.0	8.6000	9.3000	N/A		N/A	1	114.00	0.0	0.0
3	c-Pad-L1	Rectangular	Horizontal	42.500	36.900	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	228.57	0.0	0.0
4	c-Pad-L2	Rectangular	Horizontal	48.500	33.100	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
5	c-Pad-L3	Rectangular	Horizontal	48.500	28.100	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
6	c-Pad-L4	Rectangular	Horizontal	48.600	22.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
7	c-Pad-L5	Rectangular	Horizontal	44.700	22.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-4.0800	0.0	0.0
8	c-Pad-L6	Rectangular	Horizontal	42.800	24.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-4.0800	0.0	0.0
9	c-Pad-L7	Rectangular	Horizontal	42.300	44.500	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	163.27	0.0	0.0
10	c-Wall-1	Rectangular	Horizontal	49.700	49.300	-5.6000	0.0	2.0000	4.0000	N/A		N/A	1	250.00	0.0	0.0
11	c-Wall-2	Rectangular	Horizontal	43.900	48.100	-5.6000	0.0	6.0000	2.0000	N/A		N/A	1	250.00	0.0	0.0
12	c-Wall-3	Rectangular	Horizontal	39.900	44.700	-5.6000	0.0	2.0000	4.0000	N/A		N/A	1	250.00	0.0	0.0
13	c-Wall-4	Rectangular	Horizontal	41.400	39.600	-5.6000	0.0	3.0000	2.0000	N/A		N/A	1	500.00	0.0	0.0
14	c-Wall-5	Rectangular	Horizontal	39.900	24.800	-5.6000	0.0	2.0000	3.0000	N/A		N/A	1	2.5000	0.0	0.0
15	c-Wall-6	Rectangular	Horizontal	39.900	19.700	-5.6000	0.0	2.0000	1.8000	N/A		N/A	1	2.5000	0.0	0.0
16	c-Wall-7	Rectangular	Horizontal	41.500	17.630	-5.6000	0.0	3.2000	2.0000	N/A		N/A	1	2.5000	0.0	0.0
17	c-Wall-8	Rectangular	Horizontal	52.600	16.450	-5.6000	0.0	4.8000	2.0000	N/A		N/A	1	2.5000	0.0	0.0
18	c-Wall-9	Rectangular	Horizontal	55.150	20.000	-5.6000	0.0	2.0000	5.6000	N/A		N/A	1	2.5000	0.0	0.0
19	c-Wall-10	Rectangular	Horizontal	54.610	27.100	-5.6000	0.0	2.0000	8.6000	N/A		N/A	1	2.5000	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	No. of intrvls along Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Line	A	N/A	40.100	17.800	-3.3000	55.000	16.200	-3.3000	8	N/A	N/A	No	N/A
2	Line	B	N/A	55.000	16.200	-3.3000	55.200	22.800	-3.3000	7	N/A	N/A	No	N/A
3	Line	C	N/A	55.200	22.800	-3.3000	52.900	39.600	-3.3000	9	N/A	N/A	No	N/A
4	Line	D	N/A	41.400	39.400	-3.3000	41.500	34.900	-3.3000	5	N/A	N/A	No	N/A
5	Line	E	N/A	41.500	34.900	-3.3000	40.100	34.900	-3.3000	2	N/A	N/A	No	N/A
6	Line	F	N/A	40.100	34.900	-3.3000	40.100	17.800	-3.3000	9	N/A	N/A	No	N/A
7	Line	G	N/A	52.900	39.800	-3.3000	52.800	43.400	-3.3000	4	N/A	N/A	No	N/A
8	Line	H	N/A	52.800	43.400	-3.3000	54.200	43.500	-3.3000	2	N/A	N/A	No	N/A
9	Line	I	N/A	41.400	39.500	-3.3000	50.000	39.600	-3.3000	9	N/A	N/A	No	N/A
10	Line	J	N/A	50.000	39.600	-3.3000	50.000	47.600	-3.3000	8	N/A	N/A	No	N/A
11	Line	K	N/A	50.000	47.600	-3.3000	54.100	47.800	-3.3000	5	N/A	N/A	No	N/A
12	Line	L	N/A	54.100	47.800	-3.3000	54.200	43.500	-3.3000	5	N/A	N/A	No	N/A
13	Line	M	N/A	52.900	41.100	-3.3000	59.700	42.300	-3.3000	7	N/A	N/A	No	N/A
14	Line	N	N/A	59.700	42.300	-3.3000	59.500	45.000	-3.3000	3	N/A	N/A	No	N/A
15	Line	O	N/A	59.500	45.000	-3.3000	57.400	48.100	-3.3000	4	N/A	N/A	No	N/A
16	Line	P	N/A	57.400	48.100	-3.3000	52.300	47.700	-3.3000	6	N/A	N/A	No	N/A
17	Line	Q	N/A	52.300	47.700	-3.3000	52.300	50.900	-3.3000	4	N/A	N/A	No	N/A
18	Line	R	N/A	52.300	50.900	-3.3000	67.100	52.500	-3.3000	8	N/A	N/A	No	N/A
19	Line	S	N/A	67.100	52.500	-3.3000	68.400	43.200	-3.3000	5	N/A	N/A	No	N/A
20	Line	T	N/A	68.400	43.200	-3.3000	72.900	44.000	-3.3000	5	N/A	N/A	No	N/A
21	Line	U	N/A	92.800	57.100	-3.3000	71.900	53.000	-3.3000	11	N/A	N/A	No	N/A
22	Line	V	N/A	71.900	53.000	-3.3000	73.400	38.400	-3.3000	8	N/A	N/A	No	N/A
23	Line	W	N/A	73.400	38.400	-3.3000	75.400	27.900	-3.3000	6	N/A	N/A	No	N/A
24	Line	X	N/A	75.400	27.900	-3.3000	73.600	13.900	-3.3000	8	N/A	N/A	No	N/A
25	Line	Y	N/A	73.600	13.900	-3.3000	55.000	16.200	-3.3000	10	N/A	N/A	No	N/A
26	Line	Z	N/A	93.800	65.100	-3.3000	51.200	58.200	-3.3000	22	N/A	N/A	No	N/A
27	Line	AA	N/A	40.800	55.600	-3.3000	51.400	57.300	-3.3000	6	N/A	N/A	No	N/A
28	Line	AB	N/A	51.400	57.300	-3.3000	49.400	70.600	-3.3000	7	N/A	N/A	No	N/A
29	Line	AC	N/A	49.400	70.600	-3.3000	40.600	69.000	-3.3000	9	N/A	N/A	No	N/A
30	Line	AD	N/A	40.600	69.000	-3.3000	40.800	55.600	-3.3000	7	N/A	N/A	No	N/A
31	Line	AE	N/A	32.600	55.100	-3.3000	36.400	55.400	-3.3000	4	N/A	N/A	No	N/A
32	Line	AF	N/A	36.400	55.400	-3.3000	35.800	68.200	-3.3000	7	N/A	N/A	No	N/A
33	Line	AG	N/A	35.800	68.200	-3.3000	26.400	66.500	-3.3000	5	N/A	N/A	No	N/A
34	Line	AH	N/A	26.400	66.500	-3.3000	27.800	59.500	-3.3000	8	N/A	N/A	No	N/A
35	Line	AI	N/A	27.800	59.500	-3.3000	32.000	59.800	-3.3000	5	N/A	N/A	No	N/A
36	Line	AJ	N/A	32.000	59.800	-3.3000	32.600	55.100	-3.3000	5	N/A	N/A	No	N/A
37	Line	AK	N/A	27.800	59.500	-3.3000	27.700	51.800	-3.3000	8	N/A	N/A	No	N/A
38	Line	AL	N/A	27.700	51.800	-3.3000	29.000	37.100	-3.3000	8	N/A	N/A	No	N/A
39	Line	AM	N/A	29.000	37.100	-3.3000	26.800	20.000	-3.3000	9	N/A	N/A	No	N/A
40	Line	AN	N/A	26.800	20.000	-3.3000	36.000	19.000	-3.3000	5	N/A	N/A	No	N/A
41	Line	AO	N/A	36.000	19.000	-3.3000	36.400	55.400	-3.3000	9	N/A	N/A	No	N/A
42	Line	AP	N/A	26.700	20.000	-3.3000	11.200	21.300	-3.3000	8	N/A	N/A	No	N/A
43	Line	AQ	N/A	11.200	21.300	-3.3000	12.600	50.600	-3.3000	15	N/A	N/A	No	N/A
44	Line	AR	N/A	12.600	50.600	-3.3000	27.800	51.800	-3.3000	8	N/A	N/A	No	N/A
45	Grid	Grid 1	Global X	0.0	0.0	0.0	N/A	100.00	0.0	90	100.00	90	No	N/A
46	Line	LUcrest_U	N/A	75.100	19.200	-15.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
47	Line	LUinvert_U	N/A	75.100	19.200	-23.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
48	Line	LUnorthwall_U	N/A	75.100	23.200	-19.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
49	Line	LUsouthwall_U	N/A	75.100	15.200	-19.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
50	Line	LUcrest_B	N/A	35.100	19.200	-20.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
51	Line	LUinvert_B	N/A	35.100	19.200	-28.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
52	Line	LUnorthwall_B	N/A	35.100	23.200	-24.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
53	Line	LUsouthwall_B	N/A	35.100	15.200	-24.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
54	Line	LUcrest_L	N/A	18.100	19.200	-20.800	35.100	19.200	-20.800	20	N/A	N/A	Yes	Yes
55	Line	LUinvert_L	N/A	18.100	19.200	-28.800	35.100	19.200	-28.800	20	N/A	N/A	Yes	Yes
56	Line	LUnorthwall_L	N/A	18.100	23.200	-24.800	35.100	23.200	-24.800	20	N/A	N/A	Yes	Yes
57	Line	LUsouthwall_L	N/A	18.100	15.200	-24.800	35.100	15.200	-24.800	20	N/A	N/A	Yes	Yes
58	Line	LU1st_U	N/A	75.100	22.030	-16.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
59	Line	LU2nd_U	N/A	75.100	22.030	-22.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
60	Line	LU3rd_U	N/A	75.100	16.370	-22.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
61	Line	LU4th_U	N/A	75.100	16.370	-16.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
62	Line	LU1st_B	N/A	35.100	22.030	-21.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
63	Line	LU2nd_B	N/A	35.100	22.030	-27.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
64	Line	LU3rd_B	N/A	35.100	16.370	-27.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
65	Line	LU4th_B	N/A	35.100	16.370	-21.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
66	Line	LU1st_L	N/A	18.100	22.030	-21.970	35.100	22.030	-21.970	20	N/A	N/A	Yes	Yes
67	Line	LU2nd_L	N/A	18.100	22.030	-27.630	35.100	22.030	-27.630	20	N/A	N/A	Yes	Yes
68	Line	LU3rd_L	N/A	18.100	16.370	-27.630	35.100	16.370	-27.630	20	N/A	N/A	Yes	Yes
69	Line	LU4th_L	N/A	18.100	16.370	-21.970	35.100	16.370	-21.970	20	N/A	N/A	Yes	Yes
70	Line	Up-Rail Track	N/A	0.0	3.5000	-24.800	100.00	3.5000	-24.800	50	N/A	N/A	Yes	Yes

19–21 High Holborn, London, WC1V 6BS

Long-term analysis at the end of building construction, i.e. footings and walls are reloaded
Mindlin Method

Notes

Long-term analysis. Piles are 16 in number with pile length of 20m.

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

Soil ProfilesSoil Profile 1

Layer	Level at top [mOD]	Number of intermediate displacement levels	Youngs Modulus Top [kN/m²]	Youngs Modulus Btm [kN/m²]	Poissons ratio	Non-linear curve
1	0.0	1	10000.	10000.	0.20000	None
2	-2.0000	2	10000.	10000.	0.20000	None
3	-4.0000	3	48000.	48000.	0.20000	None
4	-5.0000	4	48000.	48000.	0.20000	None
5	-7.0000	5	22500.	24000.	0.20000	None
6	-8.0000	7	24000.	25500.	0.20000	None
7	-9.0000	10	25500.	28500.	0.20000	None
8	-10.500	12	28500.	34500.	0.20000	None
9	-13.000	15	34500.	42000.	0.20000	None
10	-17.000	20	42000.	54000.	0.20000	None
11	-23.000	25	54000.	69000.	0.20000	None
12	-30.000	35	69000.	75000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	Soil Zone 1	0.0	100.00	0.0	100.00	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]		Polygon Coordinates [m]	Rectangle tolerance	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	(local y) [kN/m²]
1	Basement Unloading	Rectangular	Horizontal	44.950	46.000	-4.6000	0.0	10.100	12.800	N/A		N/A	1	-90.000	0.0	0.0
2	Lift shaft Pile loading	Rectangular	Horizontal	42.400	30.900	-15.100	0.0	8.6000	9.3000	N/A		N/A	1	114.00	0.0	0.0
3	c-Pad-L1	Rectangular	Horizontal	42.500	36.900	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	228.57	0.0	0.0
4	c-Pad-L2	Rectangular	Horizontal	48.500	33.100	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
5	c-Pad-L3	Rectangular	Horizontal	48.500	28.100	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
6	c-Pad-L4	Rectangular	Horizontal	48.600	22.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-24.490	0.0	0.0
7	c-Pad-L5	Rectangular	Horizontal	44.700	22.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-4.0800	0.0	0.0
8	c-Pad-L6	Rectangular	Horizontal	42.800	24.800	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	-4.0800	0.0	0.0
9	c-Pad-L7	Rectangular	Horizontal	42.300	44.500	-5.6000	0.0	3.5000	3.5000	N/A		N/A	1	163.27	0.0	0.0
10	c-Wall-1	Rectangular	Horizontal	49.700	49.300	-5.6000	0.0	2.0000	4.0000	N/A		N/A	1	250.00	0.0	0.0
11	c-Wall-2	Rectangular	Horizontal	43.900	48.100	-5.6000	0.0	6.0000	2.0000	N/A		N/A	1	250.00	0.0	0.0
12	c-Wall-3	Rectangular	Horizontal	39.900	44.700	-5.6000	0.0	2.0000	4.0000	N/A		N/A	1	250.00	0.0	0.0
13	c-Wall-4	Rectangular	Horizontal	41.400	39.600	-5.6000	0.0	3.0000	2.0000	N/A		N/A	1	500.00	0.0	0.0
14	c-Wall-5	Rectangular	Horizontal	39.900	24.800	-5.6000	0.0	2.0000	3.0000	N/A		N/A	1	2.5000	0.0	0.0
15	c-Wall-6	Rectangular	Horizontal	39.900	19.700	-5.6000	0.0	2.0000	1.8000	N/A		N/A	1	2.5000	0.0	0.0
16	c-Wall-7	Rectangular	Horizontal	41.500	17.630	-5.6000	0.0	3.2000	2.0000	N/A		N/A	1	2.5000	0.0	0.0
17	c-Wall-8	Rectangular	Horizontal	52.600	16.450	-5.6000	0.0	4.8000	2.0000	N/A		N/A	1	2.5000	0.0	0.0
18	c-Wall-9	Rectangular	Horizontal	55.150	20.000	-5.6000	0.0	2.0000	5.6000	N/A		N/A	1	2.5000	0.0	0.0
19	c-Wall-10	Rectangular	Horizontal	54.610	27.100	-5.6000	0.0	2.0000	8.6000	N/A		N/A	1	2.5000	0.0	0.0

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	No. of intrvls along Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Line	A	N/A	40.100	17.800	-3.3000	55.000	16.200	-3.3000	8	N/A	N/A	No	N/A
2	Line	B	N/A	55.000	16.200	-3.3000	55.200	22.800	-3.3000	7	N/A	N/A	No	N/A
3	Line	C	N/A	55.200	22.800	-3.3000	52.900	39.600	-3.3000	9	N/A	N/A	No	N/A
4	Line	D	N/A	41.400	39.400	-3.3000	41.500	34.900	-3.3000	5	N/A	N/A	No	N/A
5	Line	E	N/A	41.500	34.900	-3.3000	40.100	34.900	-3.3000	2	N/A	N/A	No	N/A
6	Line	F	N/A	40.100	34.900	-3.3000	40.100	17.800	-3.3000	9	N/A	N/A	No	N/A
7	Line	G	N/A	52.900	39.800	-3.3000	52.800	43.400	-3.3000	4	N/A	N/A	No	N/A
8	Line	H	N/A	52.800	43.400	-3.3000	54.200	43.500	-3.3000	2	N/A	N/A	No	N/A
9	Line	I	N/A	41.400	39.500	-3.3000	50.000	39.600	-3.3000	9	N/A	N/A	No	N/A
10	Line	J	N/A	50.000	39.600	-3.3000	50.000	47.600	-3.3000	8	N/A	N/A	No	N/A
11	Line	K	N/A	50.000	47.600	-3.3000	54.100	47.800	-3.3000	5	N/A	N/A	No	N/A
12	Line	L	N/A	54.100	47.800	-3.3000	54.200	43.500	-3.3000	5	N/A	N/A	No	N/A
13	Line	M	N/A	52.900	41.100	-3.3000	59.700	42.300	-3.3000	7	N/A	N/A	No	N/A
14	Line	N	N/A	59.700	42.300	-3.3000	59.500	45.000	-3.3000	3	N/A	N/A	No	N/A
15	Line	O	N/A	59.500	45.000	-3.3000	57.400	48.100	-3.3000	4	N/A	N/A	No	N/A
16	Line	P	N/A	57.400	48.100	-3.3000	52.300	47.700	-3.3000	6	N/A	N/A	No	N/A
17	Line	Q	N/A	52.300	47.700	-3.3000	52.300	50.900	-3.3000	4	N/A	N/A	No	N/A
18	Line	R	N/A	52.300	50.900	-3.3000	67.100	52.500	-3.3000	8	N/A	N/A	No	N/A
19	Line	S	N/A	67.100	52.500	-3.3000	68.400	43.200	-3.3000	5	N/A	N/A	No	N/A
20	Line	T	N/A	68.400	43.200	-3.3000	72.900	44.000	-3.3000	5	N/A	N/A	No	N/A
21	Line	U	N/A	92.800	57.100	-3.3000	71.900	53.000	-3.3000	11	N/A	N/A	No	N/A
22	Line	V	N/A	71.900	53.000	-3.3000	73.400	38.400	-3.3000	8	N/A	N/A	No	N/A
23	Line	W	N/A	73.400	38.400	-3.3000	75.400	27.900	-3.3000	6	N/A	N/A	No	N/A
24	Line	X	N/A	75.400	27.900	-3.3000	73.600	13.900	-3.3000	8	N/A	N/A	No	N/A
25	Line	Y	N/A	73.600	13.900	-3.3000	55.000	16.200	-3.3000	10	N/A	N/A	No	N/A
26	Line	Z	N/A	93.800	65.100	-3.3000	51.200	58.200	-3.3000	22	N/A	N/A	No	N/A
27	Line	AA	N/A	40.800	55.600	-3.3000	51.400	57.300	-3.3000	6	N/A	N/A	No	N/A
28	Line	AB	N/A	51.400	57.300	-3.3000	49.400	70.600	-3.3000	7	N/A	N/A	No	N/A
29	Line	AC	N/A	49.400	70.600	-3.3000	40.600	69.000	-3.3000	9	N/A	N/A	No	N/A
30	Line	AD	N/A	40.600	69.000	-3.3000	40.800	55.600	-3.3000	7	N/A	N/A	No	N/A
31	Line	AE	N/A	32.600	55.100	-3.3000	36.400	55.400	-3.3000	4	N/A	N/A	No	N/A
32	Line	AF	N/A	36.400	55.400	-3.3000	35.800	68.200	-3.3000	7	N/A	N/A	No	N/A
33	Line	AG	N/A	35.800	68.200	-3.3000	26.400	66.500	-3.3000	5	N/A	N/A	No	N/A
34	Line	AH	N/A	26.400	66.500	-3.3000	27.800	59.500	-3.3000	8	N/A	N/A	No	N/A
35	Line	AI	N/A	27.800	59.500	-3.3000	32.000	59.800	-3.3000	5	N/A	N/A	No	N/A
36	Line	AJ	N/A	32.000	59.800	-3.3000	32.600	55.100	-3.3000	5	N/A	N/A	No	N/A
37	Line	AK	N/A	27.800	59.500	-3.3000	27.700	51.800	-3.3000	8	N/A	N/A	No	N/A
38	Line	AL	N/A	27.700	51.800	-3.3000	29.000	37.100	-3.3000	8	N/A	N/A	No	N/A
39	Line	AM	N/A	29.000	37.100	-3.3000	26.800	20.000	-3.3000	9	N/A	N/A	No	N/A
40	Line	AN	N/A	26.800	20.000	-3.3000	36.000	19.000	-3.3000	5	N/A	N/A	No	N/A
41	Line	AO	N/A	36.000	19.000	-3.3000	36.400	55.400	-3.3000	9	N/A	N/A	No	N/A
42	Line	AP	N/A	26.700	20.000	-3.3000	11.200	21.300	-3.3000	8	N/A	N/A	No	N/A
43	Line	AQ	N/A	11.200	21.300	-3.3000	12.600	50.600	-3.3000	15	N/A	N/A	No	N/A
44	Line	AR	N/A	12.600	50.600	-3.3000	27.800	51.800	-3.3000	8	N/A	N/A	No	N/A
45	Grid	Grid 1	Global X	0.0	0.0	0.0	N/A	100.00	0.0	90	100.00	90	No	N/A
46	Line	LUcrest_U	N/A	75.100	19.200	-15.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes
47	Line	LUinvert_U	N/A	75.100	19.200	-23.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
48	Line	LUnorthwall_U	N/A	75.100	23.200	-19.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
49	Line	LUsouthwall_U	N/A	75.100	15.200	-19.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
50	Line	LUcrest_B	N/A	35.100	19.200	-20.800	55.100	19.200	-15.800	20	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
51	Line	LUinvert_B	N/A	35.100	19.200	-28.800	55.100	19.200	-23.800	20	N/A	N/A	Yes	Yes
52	Line	LUnorthwall_B	N/A	35.100	23.200	-24.800	55.100	23.200	-19.800	20	N/A	N/A	Yes	Yes
53	Line	LUsouthwall_B	N/A	35.100	15.200	-24.800	55.100	15.200	-19.800	20	N/A	N/A	Yes	Yes
54	Line	LUcrest_L	N/A	18.100	19.200	-20.800	35.100	19.200	-20.800	20	N/A	N/A	Yes	Yes
55	Line	LUinvert_L	N/A	18.100	19.200	-28.800	35.100	19.200	-28.800	20	N/A	N/A	Yes	Yes
56	Line	LUnorthwall_L	N/A	18.100	23.200	-24.800	35.100	23.200	-24.800	20	N/A	N/A	Yes	Yes
57	Line	LUsouthwall_L	N/A	18.100	15.200	-24.800	35.100	15.200	-24.800	20	N/A	N/A	Yes	Yes
58	Line	LU1st_U	N/A	75.100	22.030	-16.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
59	Line	LU2nd_U	N/A	75.100	22.030	-22.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
60	Line	LU3rd_U	N/A	75.100	16.370	-22.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
61	Line	LU4th_U	N/A	75.100	16.370	-16.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
62	Line	LU1st_B	N/A	35.100	22.030	-21.970	55.100	22.030	-16.970	20	N/A	N/A	Yes	Yes
63	Line	LU2nd_B	N/A	35.100	22.030	-27.630	55.100	22.030	-22.630	20	N/A	N/A	Yes	Yes
64	Line	LU3rd_B	N/A	35.100	16.370	-27.630	55.100	16.370	-22.630	20	N/A	N/A	Yes	Yes
65	Line	LU4th_B	N/A	35.100	16.370	-21.970	55.100	16.370	-16.970	20	N/A	N/A	Yes	Yes
66	Line	LU1st_L	N/A	18.100	22.030	-21.970	35.100	22.030	-21.970	20	N/A	N/A	Yes	Yes
67	Line	LU2nd_L	N/A	18.100	22.030	-27.630	35.100	22.030	-27.630	20	N/A	N/A	Yes	Yes
68	Line	LU3rd_L	N/A	18.100	16.370	-27.630	35.100	16.370	-27.630	20	N/A	N/A	Yes	Yes
69	Line	LU4th_L	N/A	18.100	16.370	-21.970	35.100	16.370	-21.970	20	N/A	N/A	Yes	Yes
70	Line	Up-Rail Track	N/A	0.0	3.5000	-24.800	100.00	3.5000	-24.800	50	N/A	N/A	Yes	Yes

APPENDIX B: Comparison between GEA and AECOM model

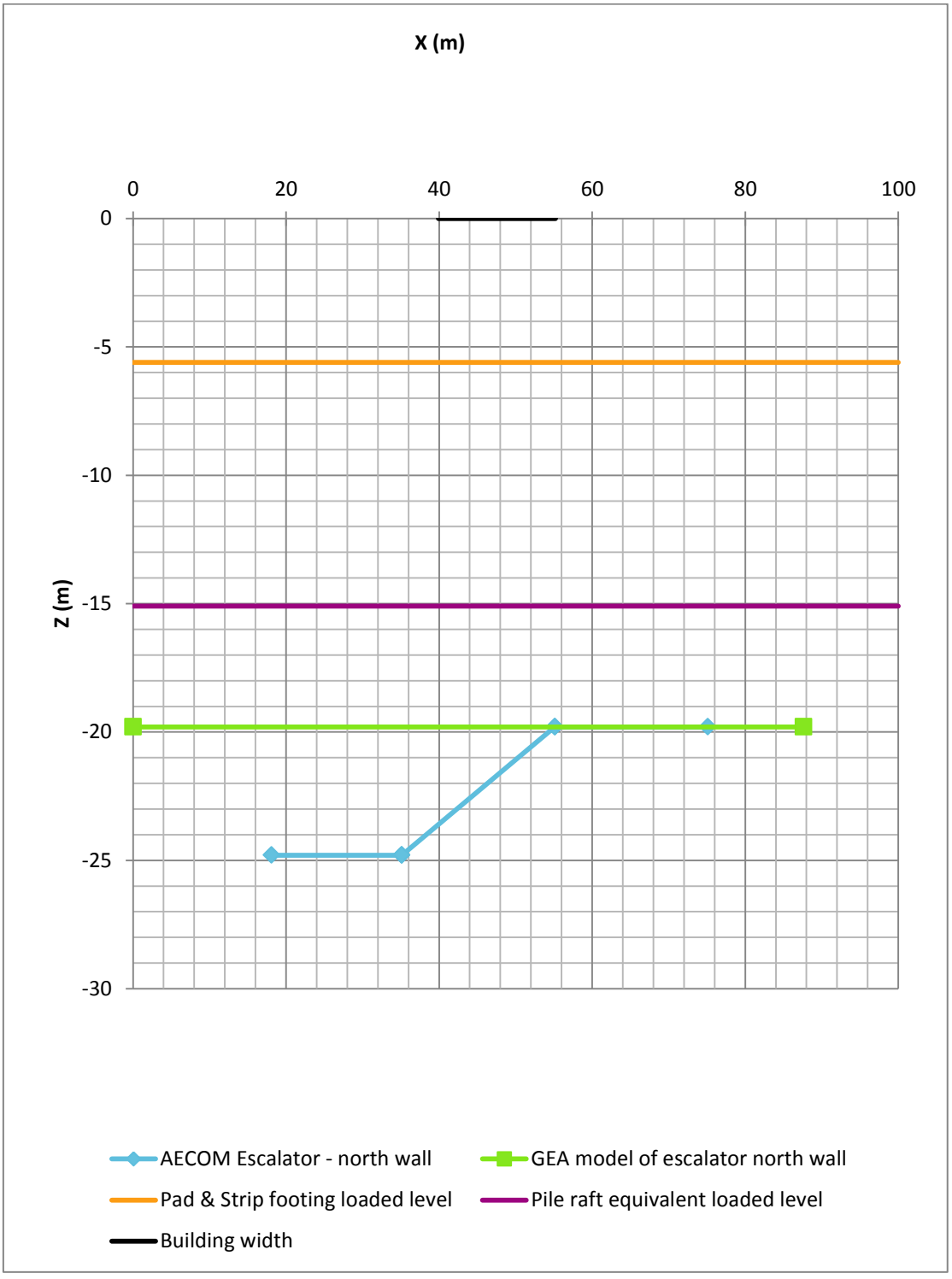


Figure B1: Cross section along escalator showing the difference between GEA and AECOM model

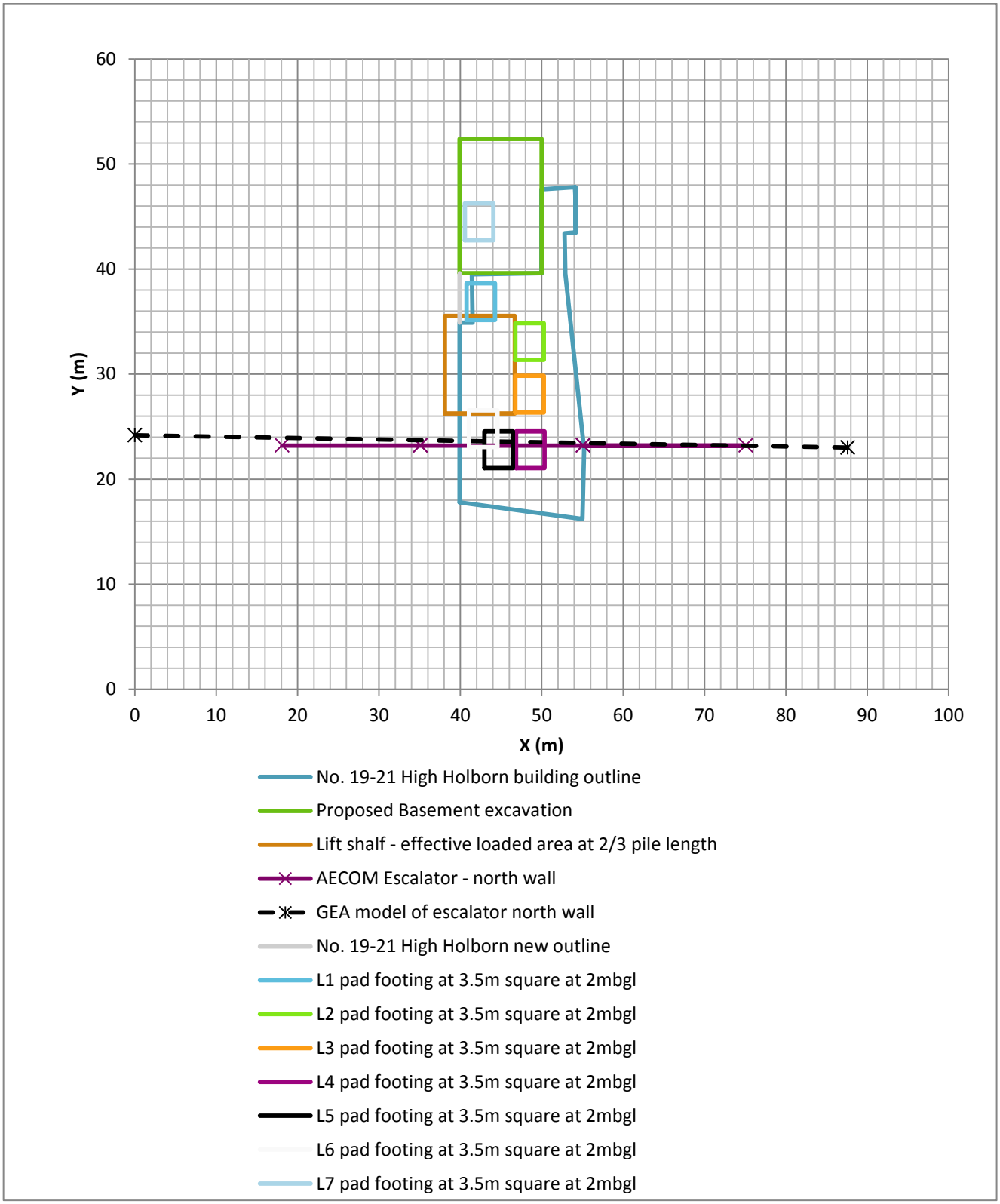


Figure B2: Plan location of displacement lines and loaded areas

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -35.00 [m OD]

The maximum displacement difference between
Boussinesq method = 11.348mm and Mindlin method = 4.8088mm
occurs at point X=41.570m Y=26.580m Level -9.0000mOD and is: 6.5390mm

Name	Location				Stresses			
	X	Y	Z[Level]	Z	Calc Level	Vert Stress	Sum Princ	Vert Strain
	[m]	[m]	[mOD]	[mm]	[mOD]	[kN/m²]	[kN/m²]	[-]
Unloading	44.95000	46.00000	-4.60000	-24.841	-4.7000	-90.000	-212.53	-0.0013644
Pile loading	42.40000	30.90000	-15.10000	16.422	-15.202	110.13	260.00	0.0020752
LUexclusionzone	0.00000	27.20000	-9.00000	-0.0072149	-9.0667	-0.0018461	-0.17206	1.2560E-6
	0.98977	27.18523	-9.00000	-0.0085472	-9.0667	-0.0020300	-0.18206	1.3254E-6
	1.97955	27.17045	-9.00000	-0.010003	-9.0667	-0.0022357	-0.19281	1.3997E-6
	2.96932	27.15568	-9.00000	-0.011587	-9.0667	-0.0024660	-0.20437	1.4792E-6
	3.95909	27.14091	-9.00000	-0.013306	-9.0667	-0.0027243	-0.21684	1.5643E-6
	4.94886	27.12614	-9.00000	-0.015163	-9.0667	-0.0030146	-0.23027	1.6555E-6
	5.93864	27.11136	-9.00000	-0.017160	-9.0667	-0.0033413	-0.24477	1.7534E-6
	6.92841	27.09659	-9.00000	-0.019294	-9.0667	-0.0037097	-0.26043	1.8583E-6
	7.91818	27.08182	-9.00000	-0.021559	-9.0667	-0.0041258	-0.27737	1.9710E-6
	8.90795	27.06705	-9.00000	-0.023943	-9.0667	-0.0045966	-0.29571	2.0920E-6
	9.89773	27.05227	-9.00000	-0.026427	-9.0667	-0.0051303	-0.31557	2.2220E-6
	10.88750	27.03750	-9.00000	-0.028978	-9.0667	-0.0057363	-0.33711	2.3618E-6
	11.87727	27.02273	-9.00000	-0.031555	-9.0667	-0.0064257	-0.36050	2.5119E-6
	12.86705	27.00795	-9.00000	-0.034093	-9.0667	-0.0072112	-0.38590	2.6734E-6
	13.85682	26.99318	-9.00000	-0.036509	-9.0667	-0.0081078	-0.41352	2.8469E-6
	14.84659	26.97841	-9.00000	-0.038687	-9.0667	-0.0091330	-0.44358	3.0334E-6
	15.83636	26.96364	-9.00000	-0.040474	-9.0667	-0.010307	-0.47630	3.2338E-6
	16.82614	26.94886	-9.00000	-0.041666	-9.0667	-0.011654	-0.51196	3.4489E-6
	17.81591	26.93409	-9.00000	-0.041994	-9.0667	-0.013201	-0.55083	3.6798E-6
	18.80568	26.91932	-9.00000	-0.041110	-9.0667	-0.014981	-0.59322	3.9272E-6
	19.79545	26.90454	-9.00000	-0.038558	-9.0667	-0.017030	-0.63946	4.1920E-6
	20.78523	26.88977	-9.00000	-0.033746	-9.0667	-0.019392	-0.68989	4.4750E-6
	21.77500	26.87500	-9.00000	-0.025909	-9.0667	-0.022117	-0.74489	4.7766E-6
	22.76477	26.86023	-9.00000	-0.014058	-9.0667	-0.025261	-0.80485	5.0972E-6
	23.75455	26.84546	-9.00000	0.0030874	-9.0667	-0.028890	-0.87016	5.4369E-6
	24.74432	26.83068	-9.00000	0.027181	-9.0667	-0.033076	-0.94121	5.7953E-6
	25.73409	26.81591	-9.00000	0.060365	-9.0667	-0.037899	-1.0184	6.1716E-6
	26.72386	26.80114	-9.00000	0.10542	-9.0667	-0.043447	-1.1020	6.5644E-6
	27.71364	26.78636	-9.00000	0.16598	-9.0667	-0.049813	-1.1924	6.9716E-6
	28.70341	26.77159	-9.00000	0.24679	-9.0667	-0.057091	-1.2897	7.3902E-6
	29.69318	26.75682	-9.00000	0.35416	-9.0667	-0.065372	-1.3940	7.8165E-6
	30.68295	26.74205	-9.00000	0.49655	-9.0667	-0.074733	-1.5052	8.2456E-6
	31.67273	26.72727	-9.00000	0.68551	-9.0667	-0.085234	-1.6229	8.6721E-6
	32.66250	26.71250	-9.00000	0.93725	-9.0667	-0.096892	-1.7464	9.0898E-6
	33.65227	26.69773	-9.00000	1.2754	-9.0667	-0.10968	-1.8746	9.4919E-6
	34.64204	26.68295	-9.00000	1.7368	-9.0667	-0.12349	-2.0062	9.8718E-6
	35.63182	26.66818	-9.00000	2.3839	-9.0667	-0.13814	-2.1391	10.223E-6
	36.62159	26.65341	-9.00000	3.3450	-9.0667	-0.15334	-2.2711	10.541E-6
	37.61136	26.63864	-9.00000	5.0185	-9.0667	-0.16870	-2.3992	10.822E-6
	38.60114	26.62386	-9.00000	8.7718	-9.0667	-0.18375	-2.5204	11.063E-6
	39.59091	26.60909	-9.00000	10.297	-9.0667	-0.19793	-2.6312	11.264E-6
	40.58068	26.59432	-9.00000	11.028	-9.0667	-0.21066	-2.7282	11.425E-6
	41.57045	26.57955	-9.00000	11.348	-9.0667	-0.22137	-2.8083	11.549E-6
	42.56023	26.56477	-9.00000	11.363	-9.0667	-0.22955	-2.8687	11.637E-6
	43.55000	26.55000	-9.00000	11.096	-9.0667	-0.23479	-2.9071	11.691E-6
	44.53977	26.53523	-9.00000	10.511	-9.0667	-0.23683	-2.9221	11.712E-6
	45.52954	26.52045	-9.00000	9.4735	-9.0667	-0.23557	-2.9131	11.701E-6
	46.51932	26.50568	-9.00000	7.3358	-9.0667	-0.23108	-2.8806	11.658E-6
	47.50909	26.49091	-9.00000	4.0381	-9.0667	-0.22359	-2.8256	11.580E-6
	48.49886	26.47614	-9.00000	2.7259	-9.0667	-0.21347	-2.7504	11.466E-6
	49.48864	26.46136	-9.00000	1.9041	-9.0667	-0.20122	-2.6575	11.315E-6
	50.47841	26.44659	-9.00000	1.3362	-9.0667	-0.18738	-2.5500	11.124E-6
	51.46818	26.43182	-9.00000	0.92805	-9.0667	-0.17255	-2.4313	10.892E-6
	52.45795	26.41705	-9.00000	0.62930	-9.0667	-0.15726	-2.3048	10.621E-6
	53.44773	26.40227	-9.00000	0.40898	-9.0667	-0.14202	-2.1737	10.311E-6
	54.43750	26.38750	-9.00000	0.24641	-9.0667	-0.12724	-2.0409	9.9673E-6
	55.42727	26.37273	-9.00000	0.12703	-9.0667	-0.11322	-1.9088	9.5934E-6
	56.41705	26.35795	-9.00000	0.040224	-9.0667	-0.10017	-1.7796	9.1959E-6
	57.40682	26.34318	-9.00000	-0.021912	-9.0667	-0.088222	-1.6548	8.7813E-6
	58.39659	26.32841	-9.00000	-0.065351	-9.0667	-0.077424	-1.5355	8.3563E-6
	59.38636	26.31364	-9.00000	-0.094653	-9.0667	-0.067769	-1.4226	7.9271E-6
	60.37614	26.29886	-9.00000	-0.11332	-9.0667	-0.059209	-1.3164	7.4995E-6
	61.36591	26.28409	-9.00000	-0.12403	-9.0667	-0.051671	-1.2172	7.0784E-6
	62.35568	26.26932	-9.00000	-0.12887	-9.0667	-0.045069	-1.1250	6.6679E-6
	63.34546	26.25455	-9.00000	-0.12943	-9.0667	-0.039309	-1.0396	6.2711E-6
	64.33523	26.23977	-9.00000	-0.12693	-9.0667	-0.034299	-0.96072	5.8902E-6
	65.32500	26.22500	-9.00000	-0.12231	-9.0667	-0.029948	-0.88807	5.5270E-6
	66.31477	26.21023	-9.00000	-0.11627	-9.0667	-0.026176	-0.82126	5.1824E-6
	67.30454	26.19545	-9.00000	-0.10934	-9.0667	-0.022908	-0.75992	4.8568E-6
	68.29432	26.18068	-9.00000	-0.10193	-9.0667	-0.020075	-0.70363	4.5502E-6
	69.28409	26.16591	-9.00000	-0.094339	-9.0667	-0.017621	-0.65203	4.2625E-6
	70.27386	26.15114	-9.00000	-0.086771	-9.0667	-0.015492	-0.60471	3.9930E-6
	71.26363	26.13636	-9.00000	-0.079383	-9.0667	-0.013644	-0.56134	3.7411E-6
	72.25341	26.12159	-9.00000	-0.072278	-9.0667	-0.012038	-0.52158	3.5060E-6
	73.24318	26.10682	-9.00000	-0.065526	-9.0667	-0.010641	-0.48511	3.2869E-6
	74.23296	26.09204	-9.00000	-0.059168	-9.0667	-0.0094230	-0.45164	3.0827E-6
	75.22272	26.07727	-9.00000	-0.053226	-9.0667	-0.0083604	-0.42091	2.8927E-6
	76.21250	26.06250	-9.00000	-0.047707	-9.0667	-0.0074316	-0.39268	2.7160E-6
	77.20227	26.04773	-9.00000	-0.042606	-9.0667	-0.0066184	-0.36672	2.5515E-6
	78.19205	26.03296	-9.00000	-0.037912	-9.0667	-0.0059051	-0.34284	2.3985E-6
	79.18182	26.01818	-9.00000	-0.033609	-9.0667	-0.0052784	-0.32084	2.2562E-6
	80.17159	26.00341	-9.00000	-0.029677	-9.0667	-0.0047269	-0.30056	2.1238E-6
	81.16136	25.98864	-9.00000	-0.026092	-9.0667	-0.0042405	-0.28184	2.0005E-6
	82.15114	25.97386	-9.00000	-0.022833	-9.0667	-0.0038109	-0.26456	1.8858E-6
	83.14091	25.95909	-9.00000	-0.019876	-9.0667	-0.0034308	-0.24858	1.7789E-6
	84.13068	25.94432	-9.00000	-0.017198	-9.0667	-0.0030938	-0.23379	1.6793E-6
	85.12045	25.92955	-9.00000	-0.014778	-9.0667	-0.0027946	-0.22010	1.5865E-6
	86.11023	25.91477	-9.00000	-0.012594	-9.0667	-0.0025285	-0.20740	1.4998E-6
	87.10000	25.90000	-9.00000	-0.010626	-9.0667	-0.0022914	-0.19561	1.4190E-6
LUcrest	0.00000	19.93000	-15.80000	-0.011537	-15.906	-0.019614	-0.30469	0.0
	0.99568	19.91659	-15.80000	-0.012665	-15.906	-0.021254	-0.31893	0.0
	1.99136	19.90318	-15.80000	-0.013864	-15.906	-0.023049	-0.33392	0.0
	2.98705	19.88977	-15.80000	-0.015131	-15.906	-0.025014	-0.34972	0.0
	3.98273	19.87636	-15.80000	-0.016464	-15.906	-0.027168	-0.36634	1.0180E-6
	4.97841	19.86296	-15.80000	-0.017860	-15.906	-0.029529	-0.38384	1.0347E-6
	5.97409	19.84954	-15.80000	-0.019310	-15.906	-0.032118	-0.40224	1.0490E-6
	6.96977	19.83614	-15.80000	-0.020806	-15.906	-0.034958	-0.42157	1.0605E-6
	7.96545	19.82273	-15.80000	-0.022332	-15.906	-0.038074	-0.44187	1.0685E-6
	8.96114	19.80932	-15.80000	-0.023869	-15.906	-0.041494	-0.46315	1.0723E-6
	9.95682	19.79591	-15.80000	-0.025392	-15.906	-0.045248	-0.48543	1.0711E-6
	10.95250	19.78250	-15.80000	-0.026868	-15.906	-0.049368	-0.50871	1.0639E-6
	11.94818	19.76909	-15.80000	-0.028255	-15.906	-0.053890	-0.53300	1.0496E-6
	12.94386	19.75568	-15.80000	-0.029496	-15.906	-0.058851	-0.55827	1.0271E-6
	13.93955	19.74227	-15.80000	-0.030526	-15.906	-0.064292	-0.58448	0.0
	14.93523	19.72886	-15.80000	-0.031259	-15.906	-0.070257	-0.61157	0.0
	15.93091	19.71545	-15.80000	-0.031589	-15.906	-0.076789	-0.63945	0.0
	16.92659	19.70205	-15.80000	-0.031387	-15.906	-0.083937	-0.66798	0.0
	17.92227	19.68864	-15.80000	-0.030495	-15.906	-0.091748	-0.69698	0.0
	18.91796	19.67523	-15.80000	-0.028720	-15.906	-0.10027	-0.72622	0.0
	19.91364	19.66182	-15.80000	-0.025831	-15.906	-0.10956	-0.75538	0.0
	20.90932	19.64841	-15.80000	-0.021550	-15.906	-0.11965	-0.78408	0.0
	21.90500	19.63500	-15.80000	-0.015548	-15.906	-0.13059	-0.81183	0.0
	22.90068	19.62159	-15.80000	-0.0074367	-15.906	-0.14242	-0.83798	0.0

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Z [mm]	Stresses Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	23.89636	19.60818	-15.80000	0.0032342	-15.906	-0.15516	-0.86179	0.0
	24.89205	19.59477	-15.80000	0.016984	-15.906	-0.16882	-0.88228	0.0
	25.88773	19.58136	-15.80000	0.034397	-15.906	-0.18342	-0.89831	-1.0123E-6
	26.88341	19.56796	-15.80000	0.056124	-15.906	-0.19892	-0.90849	-1.4269E-6
	27.87909	19.55455	-15.80000	0.082862	-15.906	-0.21527	-0.91115	-1.9048E-6
	28.87477	19.54114	-15.80000	0.11533	-15.906	-0.23241	-0.90437	-2.4535E-6
	29.87045	19.52773	-15.80000	0.15423	-15.906	-0.25020	-0.88597	-3.0802E-6
	30.86614	19.51432	-15.80000	0.20016	-15.906	-0.26851	-0.85357	-3.7922E-6
	31.86182	19.50091	-15.80000	0.25354	-15.906	-0.28712	-0.80478	-4.5954E-6
	32.85750	19.48750	-15.80000	0.31443	-15.906	-0.30578	-0.73751	-5.4929E-6
	33.85318	19.47409	-15.80000	0.38236	-15.906	-0.32422	-0.65047	-6.4825E-6
	34.84887	19.46068	-15.80000	0.45613	-15.906	-0.34213	-0.54399	-7.5535E-6
	35.84455	19.44727	-15.80000	0.53358	-15.906	-0.35921	-0.42093	-8.6826E-6
	36.84023	19.43386	-15.80000	0.61154	-15.906	-0.37521	-0.28747	-9.8312E-6
	37.83591	19.42045	-15.80000	0.68588	-15.906	-0.38995	-0.15328	-10.946E-6
	38.83159	19.40705	-15.80000	0.75191	-15.906	-0.40331	-0.030487	-11.962E-6
	39.82727	19.39364	-15.80000	0.80494	-15.906	-0.41522	0.068326	-12.814E-6
	40.82296	19.38023	-15.80000	0.84094	-15.906	-0.42555	0.13239	-13.445E-6
	41.81864	19.36682	-15.80000	0.85706	-15.906	-0.43416	0.15437	-13.814E-6
	42.81432	19.35341	-15.80000	0.85191	-15.906	-0.44087	0.13103	-13.899E-6
	43.81000	19.34000	-15.80000	0.82574	-15.906	-0.44550	0.063298	-13.699E-6
	44.80568	19.32659	-15.80000	0.78037	-15.906	-0.44786	-0.043867	-13.233E-6
	45.80136	19.31318	-15.80000	0.71899	-15.906	-0.44781	-0.18181	-12.541E-6
	46.79705	19.29977	-15.80000	0.64587	-15.906	-0.44518	-0.33900	-11.675E-6
	47.79273	19.28636	-15.80000	0.56574	-15.906	-0.43986	-0.50268	-10.696E-6
	48.78841	19.27295	-15.80000	0.48325	-15.906	-0.43184	-0.66097	-9.6627E-6
	49.78409	19.25955	-15.80000	0.40241	-15.906	-0.42123	-0.80463	-8.6247E-6
	50.77977	19.24614	-15.80000	0.32627	-15.906	-0.40826	-0.92786	-7.6181E-6
	51.77546	19.23273	-15.80000	0.25682	-15.906	-0.39325	-1.0281	-6.6653E-6
	52.77114	19.21932	-15.80000	0.19517	-15.906	-0.37659	-1.1054	-5.7781E-6
	53.76682	19.20591	-15.80000	0.14168	-15.906	-0.35868	-1.1611	-4.9611E-6
	54.76250	19.19250	-15.80000	0.096189	-15.906	-0.33990	-1.1976	-4.2141E-6
	55.75818	19.17909	-15.80000	0.058211	-15.906	-0.32060	-1.2175	-3.5350E-6
	56.75386	19.16568	-15.80000	0.027067	-15.906	-0.30112	-1.2234	-2.9203E-6
	57.74955	19.15227	-15.80000	0.0019902	-15.906	-0.28174	-1.2178	-2.3662E-6
	58.74523	19.13886	-15.80000	-0.017802	-15.906	-0.26268	-1.2028	-1.8687E-6
	59.74091	19.12545	-15.80000	-0.033068	-15.906	-0.24415	-1.1805	-1.4241E-6
	60.73659	19.11205	-15.80000	-0.044509	-15.906	-0.22630	-1.1523	-1.0286E-6
	61.73227	19.09864	-15.80000	-0.052761	-15.906	-0.20924	-1.1199	0.0
	62.72795	19.08523	-15.80000	-0.058385	-15.906	-0.19304	-1.0842	0.0
	63.72364	19.07182	-15.80000	-0.061872	-15.906	-0.17778	-1.0464	0.0
	64.71931	19.05841	-15.80000	-0.063642	-15.906	-0.16346	-1.0073	0.0
	65.71500	19.04500	-15.80000	-0.064054	-15.906	-0.15009	-0.96740	0.0
	66.71068	19.03159	-15.80000	-0.063406	-15.906	-0.13766	-0.92736	0.0
	67.70636	19.01818	-15.80000	-0.061951	-15.906	-0.12615	-0.88758	0.0
	68.70205	19.00477	-15.80000	-0.059893	-15.906	-0.11553	-0.84840	0.0
	69.69773	18.99136	-15.80000	-0.057403	-15.906	-0.10574	-0.81007	0.0
	70.69341	18.97795	-15.80000	-0.054617	-15.906	-0.096752	-0.77280	0.0
	71.68909	18.96455	-15.80000	-0.051645	-15.906	-0.088508	-0.73671	1.0296E-6
	72.68478	18.95114	-15.80000	-0.048575	-15.906	-0.080960	-0.70192	1.0822E-6
	73.68046	18.93773	-15.80000	-0.045475	-15.906	-0.074059	-0.66848	1.1221E-6
	74.67614	18.92432	-15.80000	-0.042397	-15.906	-0.067756	-0.63644	1.1510E-6
	75.67182	18.91091	-15.80000	-0.039383	-15.906	-0.062005	-0.60580	1.1704E-6
	76.66750	18.89750	-15.80000	-0.036461	-15.906	-0.056760	-0.57657	1.1816E-6
	77.66319	18.88409	-15.80000	-0.033652	-15.906	-0.051980	-0.54873	1.1858E-6
	78.65887	18.87068	-15.80000	-0.030973	-15.906	-0.047624	-0.52224	1.1840E-6
	79.65455	18.85727	-15.80000	-0.028431	-15.906	-0.043656	-0.49707	1.1772E-6
	80.65023	18.84386	-15.80000	-0.026031	-15.906	-0.040041	-0.47318	1.1661E-6
	81.64591	18.83045	-15.80000	-0.023776	-15.906	-0.036748	-0.45051	1.1516E-6
	82.64159	18.81705	-15.80000	-0.021664	-15.906	-0.033747	-0.42902	1.1341E-6
	83.63728	18.80364	-15.80000	-0.019693	-15.906	-0.031013	-0.40866	1.1143E-6
	84.63296	18.79023	-15.80000	-0.017858	-15.906	-0.028520	-0.38938	1.0927E-6
	85.62864	18.77682	-15.80000	-0.016153	-15.906	-0.026247	-0.37112	1.0696E-6
	86.62432	18.76341	-15.80000	-0.014574	-15.906	-0.024173	-0.35383	1.0453E-6
	87.62000	18.75000	-15.80000	-0.013114	-15.906	-0.022279	-0.33747	1.0203E-6
LUinvert	0.00000	19.93000	-23.80000	-0.011698	-23.919	-0.061539	-0.16035	0.0
	0.99568	19.91659	-23.80000	-0.012475	-23.919	-0.065573	-0.15997	0.0
	1.99136	19.90318	-23.80000	-0.013273	-23.919	-0.069839	-0.15873	0.0
	2.98705	19.88977	-23.80000	-0.014085	-23.919	-0.074336	-0.15648	-1.0346E-6
	3.98273	19.87636	-23.80000	-0.014903	-23.919	-0.079061	-0.15303	-1.1483E-6
	4.97841	19.86296	-23.80000	-0.015714	-23.919	-0.084001	-0.14815	-1.2716E-6
	5.97409	19.84954	-23.80000	-0.016506	-23.919	-0.089139	-0.14161	-1.4052E-6
	6.96977	19.83614	-23.80000	-0.017259	-23.919	-0.094446	-0.13310	-1.5493E-6
	7.96545	19.82273	-23.80000	-0.017951	-23.919	-0.099880	-0.12228	-1.7045E-6
	8.96114	19.80932	-23.80000	-0.018552	-23.919	-0.10538	-0.10875	-1.8708E-6
	9.95682	19.79591	-23.80000	-0.019027	-23.919	-0.11087	-0.092060	-2.0481E-6
	10.95250	19.78250	-23.80000	-0.019332	-23.919	-0.11624	-0.071665	-2.2362E-6
	11.94818	19.76909	-23.80000	-0.019414	-23.919	-0.12135	-0.046945	-2.4340E-6
	12.94386	19.75568	-23.80000	-0.019206	-23.919	-0.12601	-0.017177	-2.6404E-6
	13.93955	19.74227	-23.80000	-0.018631	-23.919	-0.13000	0.018476	-2.8532E-6
	14.93523	19.72886	-23.80000	-0.017591	-23.919	-0.13298	0.060982	-3.0691E-6
	15.93091	19.71545	-23.80000	-0.015973	-23.919	-0.13459	0.11146	-3.2839E-6
	16.92659	19.70205	-23.80000	-0.013639	-23.919	-0.13431	0.17121	-3.4915E-6
	17.92227	19.68864	-23.80000	-0.010427	-23.919	-0.13153	0.24171	-3.6837E-6
	18.91796	19.67523	-23.80000	-0.0061447	-23.919	-0.12543	0.32467	-3.8495E-6
	19.91364	19.66182	-23.80000	-567.70E-6	-23.919	-0.11504	0.42202	-3.9746E-6
	20.90932	19.64841	-23.80000	0.0065645	-23.919	-0.099112	0.53599	-4.0403E-6
	21.90500	19.63500	-23.80000	0.015551	-23.919	-0.076108	0.66905	-4.0226E-6
	22.90068	19.62159	-23.80000	0.026732	-23.919	-0.044140	0.82398	-3.8908E-6
	23.89636	19.60818	-23.80000	0.040486	-23.919	-901.72E-6	1.0038	-3.6063E-6
	24.89205	19.59477	-23.80000	0.057228	-23.919	0.056392	1.2118	-3.1213E-6
	25.88773	19.58136	-23.80000	0.077400	-23.919	0.13105	1.4515	-2.3770E-6
	26.88341	19.56796	-23.80000	0.10146	-23.919	0.22693	1.7263	-1.3033E-6
	27.87909	19.55455	-23.80000	0.12984	-23.919	0.34842	2.0397	0.0
	28.87477	19.54114	-23.80000	0.16295	-23.919	0.50026	2.3944	2.1697E-6
	29.87045	19.52773	-23.80000	0.20107	-23.919	0.68737	2.7926	4.7584E-6
	30.86614	19.51432	-23.80000	0.24434	-23.919	0.91430	3.2350	8.0431E-6
	31.86182	19.50091	-23.80000	0.29267	-23.919	1.1845	3.7200	12.104E-6
	32.85750	19.48750	-23.80000	0.34562	-23.919	1.4994	4.2433	16.985E-6
	33.85318	19.47409	-23.80000	0.40234	-23.919	1.8571	4.7972	22.675E-6
	34.84887	19.46068	-23.80000	0.46151	-23.919	2.2511	5.3694	29.077E-6
	35.84455	19.44727	-23.80000	0.52130	-23.919	2.6692	5.9432	35.990E-6
	36.84023	19.43386	-23.80000	0.57943	-23.919	3.0934	6.4978	43.105E-6
	37.83591	19.42045	-23.80000	0.63325	-23.919	3.5008	7.0093	50.012E-6
	38.83159	19.40705	-23.80000	0.68000	-23.919	3.8653	7.4524	56.243E-6
	39.82727	19.39364	-23.80000	0.71700	-23.919	4.1607	7.8029	61.324E-6
	40.82296	19.38023	-23.80000	0.74200	-23.919	4.3643	8.0402	64.840E-6
	41.81864	19.36682	-23.80000	0.75335	-23.919	4.4593	8.1495	66.488E-6
	42.81432	19.35341	-23.80000	0.75027	-23.919	4.4378	8.1233	66.120E-6
	43.81000	19.34000	-23.80000	0.73285	-23.919	4.3007	7.9626	63.754E-6
	44.80568	19.32659	-23.80000	0.70211	-23.919	4.0583	7.6765	59.580E-6
	45.80136	19.31318	-23.80000	0.65984	-23.919	3.7289	7.2812	53.929E-6
	46.79705	19.29977	-23.80000	0.60846	-23.919	3.3362	6.7983	47.235E-6
	47.79273	19.28636	-23.80000	0.55068	-23.919	2.9066	6.2527	39.975E-6
	48.78841	19.27295	-23.80000	0.48931	-23.919	2.4660	5.6697	32.611E-6
	49.78409	19.25955	-23.80000	0.42696	-23.919	2.0367	5.0729	25.539E-6
	50.77977	19.24614	-23.80000	0.36589	-23.919	1.6358	4.4828	19.053E-6
	51.77546	19.23273	-23.80000	0.30784	-23.919	1.2746	3.9154	13.336E-6
	52.77114	19.21932	-23.80000	0.25408	-23.919	0.95893	3.3824	8.4733E-6
	53.76682	19.20591	-23.80000	0.20538	-23.919	0.69010	2.8910	4.4654E-6
	54.76250	19.19250	-23.80000	0.16211	-23.919	0.46627	2.4451	1.2597E-6
	55.75818	19.17909	-23.80000	0.12432	-23.919	0.28363	2.0458	-1.2291E-6
	56.75386	19.16568	-23.80000	0.091824	-23.919	0.13738	1.6920	-3.1006E-6
	57.74955	19.15227	-23.80000	0.064278	-23.919	0.022412	1.3814	-4.4557E-6
	58.74523	19.13886	-23.80000	0.041249	-23.919	-0.066213	1.1108	-5.3890E-6
	59.74091	19.12545	-23.80000	0.022258	-23.919	-0.13303	0.87674	-5.9850E-6
	60.73659	19.11205	-23.80000	0.0068203	-23.919	-0.18203	0.67542	-6.3163E-6
	61.73227	19.09864	-23.80000	-0.0055360	-23.919	-0.21666	0.50323	-6.4435E-6
	62.72795	19.08523	-23.80000	-0.015252	-23.919	-0.23984	0.35672	-6.4169E-6
	63.72364	19.07182	-23.80000	-0.022729	-23.919	-0.25397	0.23269	-6.2767E-6

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	64.71931	19.05841	-23.80000	-0.028329	-23.919	-0.26105	0.12824	-6.0553E-6
	65.71500	19.04500	-23.80000	-0.032368	-23.919	-0.26271	0.040760	-5.7782E-6
	66.71068	19.03159	-23.80000	-0.035122	-23.919	-0.26025	-0.032075	-5.4652E-6
	67.70636	19.01818	-23.80000	-0.036830	-23.919	-0.25473	-0.092309	-5.1317E-6
	68.70205	19.00477	-23.80000	-0.037694	-23.919	-0.24699	-0.14173	-4.7892E-6
	69.69773	18.99136	-23.80000	-0.037886	-23.919	-0.23771	-0.18192	-4.4465E-6
	70.69341	18.97795	-23.80000	-0.037550	-23.919	-0.22739	-0.21422	-4.1099E-6
	71.68909	18.96455	-23.80000	-0.036806	-23.919	-0.21646	-0.23981	-3.7841E-6
	72.68478	18.95114	-23.80000	-0.035754	-23.919	-0.20523	-0.25971	-3.4722E-6
	73.68046	18.93773	-23.80000	-0.034476	-23.919	-0.19395	-0.27480	-3.1763E-6
	74.67614	18.92432	-23.80000	-0.033038	-23.919	-0.18278	-0.28583	-2.8975E-6
	75.67182	18.91091	-23.80000	-0.031494	-23.919	-0.17187	-0.29345	-2.6364E-6
	76.66750	18.89750	-23.80000	-0.029889	-23.919	-0.16131	-0.29820	-2.3930E-6
	77.66319	18.88409	-23.80000	-0.028256	-23.919	-0.15118	-0.30058	-2.1672E-6
	78.65887	18.87068	-23.80000	-0.026623	-23.919	-0.14150	-0.30097	-1.9584E-6
	79.65455	18.85727	-23.80000	-0.025010	-23.919	-0.13231	-0.29972	-1.7658E-6
	80.65023	18.84386	-23.80000	-0.023435	-23.919	-0.12363	-0.29714	-1.5888E-6
	81.64591	18.83045	-23.80000	-0.021908	-23.919	-0.11544	-0.29347	-1.4263E-6
	82.64159	18.81705	-23.80000	-0.020438	-23.919	-0.10774	-0.28893	-1.2776E-6
	83.63728	18.80364	-23.80000	-0.019031	-23.919	-0.10053	-0.28368	-1.1416E-6
	84.63296	18.79023	-23.80000	-0.017692	-23.919	-0.093774	-0.27790	-1.0175E-6
	85.62864	18.77682	-23.80000	-0.016420	-23.919	-0.087466	-0.27169	0.0
	86.62432	18.76341	-23.80000	-0.015219	-23.919	-0.081580	-0.26519	0.0
	87.62000	18.75000	-23.80000	-0.014086	-23.919	-0.076093	-0.25846	0.0
LUnorthwall	0.00000	24.18000	-19.80000	-0.016191	-19.913	-0.049676	-0.27161	0.0
	0.99568	24.16659	-19.80000	-0.017583	-19.913	-0.053857	-0.28102	0.0
	1.99136	24.15318	-19.80000	-0.019059	-19.913	-0.058430	-0.29048	0.0
	2.98705	24.13977	-19.80000	-0.020621	-19.913	-0.063432	-0.29992	0.0
	3.98273	24.12636	-19.80000	-0.022263	-19.913	-0.068904	-0.30925	0.0
	4.97841	24.11296	-19.80000	-0.023979	-19.913	-0.074889	-0.31835	0.0
	5.97409	24.09954	-19.80000	-0.025761	-19.913	-0.081436	-0.32706	0.0
	6.96977	24.08614	-19.80000	-0.027593	-19.913	-0.088592	-0.33520	0.0
	7.96545	24.07273	-19.80000	-0.029455	-19.913	-0.096411	-0.34254	0.0
	8.96114	24.05932	-19.80000	-0.031319	-19.913	-0.10494	-0.34878	-1.1746E-6
	9.95682	24.04591	-19.80000	-0.033146	-19.913	-0.11425	-0.35358	-1.3879E-6
	10.95250	24.03250	-19.80000	-0.034888	-19.913	-0.12437	-0.35648	-1.6297E-6
	11.94818	24.01909	-19.80000	-0.036478	-19.913	-0.13535	-0.35695	-1.9035E-6
	12.94386	24.00568	-19.80000	-0.037833	-19.913	-0.14725	-0.35431	-2.2129E-6
	13.93955	23.99227	-19.80000	-0.038843	-19.913	-0.16007	-0.34774	-2.5621E-6
	14.93523	23.97886	-19.80000	-0.039371	-19.913	-0.17383	-0.33619	-2.9555E-6
	15.93091	23.96545	-19.80000	-0.039240	-19.913	-0.18848	-0.31842	-3.3976E-6
	16.92659	23.95205	-19.80000	-0.038228	-19.913	-0.20396	-0.29282	-3.8931E-6
	17.92227	23.93864	-19.80000	-0.036056	-19.913	-0.22012	-0.25746	-4.4463E-6
	18.91796	23.92523	-19.80000	-0.032375	-19.913	-0.23670	-0.20989	-5.0613E-6
	19.91364	23.91182	-19.80000	-0.026745	-19.913	-0.25332	-0.14707	-5.7410E-6
	20.90932	23.89841	-19.80000	-0.018623	-19.913	-0.26937	-0.065189	-6.4862E-6
	21.90500	23.88500	-19.80000	-0.0073317	-19.913	-0.28398	0.040514	-7.2948E-6
	22.90068	23.87159	-19.80000	0.0079664	-19.913	-0.29584	0.17604	-8.1591E-6
	23.89636	23.85818	-19.80000	0.028304	-19.913	-0.30306	0.34897	-9.0634E-6
	24.89205	23.84477	-19.80000	0.054947	-19.913	-0.30288	0.56888	-9.9785E-6
	25.88773	23.83136	-19.80000	0.089447	-19.913	-0.29130	0.84790	-10.855E-6
	26.88341	23.81796	-19.80000	0.13369	-19.913	-0.26248	1.2014	-11.610E-6
	27.87909	23.80455	-19.80000	0.18993	-19.913	-0.20789	1.6491	-12.112E-6
	28.87477	23.79114	-19.80000	0.26089	-19.913	-0.11503	2.2154	-12.151E-6
	29.87045	23.77773	-19.80000	0.34972	-19.913	0.034491	2.9316	-11.394E-6
	30.86614	23.76432	-19.80000	0.46005	-19.913	0.26758	3.8357	-9.3265E-6
	31.86182	23.75091	-19.80000	0.59581	-19.913	0.62316	4.9735	-5.1626E-6
	32.85750	23.73750	-19.80000	0.76098	-19.913	1.1558	6.3963	2.2524E-6
	33.85318	23.72409	-19.80000	0.95883	-19.913	1.9371	8.1550	14.500E-6
	34.84887	23.71068	-19.80000	1.19007	-19.913	3.0482	10.286	33.468E-6
	35.84455	23.69727	-19.80000	1.4539	-19.913	4.5532	12.786	60.778E-6
	36.84023	23.68386	-19.80000	1.7393	-19.913	6.4453	15.576	96.584E-6
	37.83591	23.67045	-19.80000	2.0294	-19.913	8.5869	18.479	138.18E-6
	38.83159	23.65705	-19.80000	2.3004	-19.913	10.708	21.231	179.88E-6
	39.82727	23.64364	-19.80000	2.5262	-19.913	12.502	23.543	215.22E-6
	40.82296	23.63023	-19.80000	2.6853	-19.913	13.747	25.181	239.63E-6
	41.81864	23.61682	-19.80000	2.7639	-19.913	14.348	25.999	251.27E-6
	42.81432	23.60341	-19.80000	2.7559	-19.913	14.285	25.937	249.96E-6
	43.81000	23.59000	-19.80000	2.6619	-19.913	13.571	25.003	235.96E-6
	44.80568	23.57659	-19.80000	2.4892	-19.913	12.244	23.269	209.91E-6
	45.80136	23.56318	-19.80000	2.2523	-19.913	10.409	20.887	173.81E-6
	46.79705	23.54977	-19.80000	1.9725	-19.913	8.2765	18.088	132.02E-6
	47.79273	23.53636	-19.80000	1.6752	-19.913	6.1361	15.151	90.600E-6
	48.78841	23.52295	-19.80000	1.3839	-19.913	4.2439	12.333	54.907E-6
	49.78409	23.50955	-19.80000	1.1157	-19.913	2.7341	9.8086	27.584E-6
	50.77977	23.49614	-19.80000	0.87986	-19.913	1.6163	7.6549	8.5424E-6
	51.77546	23.48273	-19.80000	0.67902	-19.913	0.82947	5.8770	-3.7644E-6
	52.77114	23.46932	-19.80000	0.51190	-19.913	0.29443	4.4396	-11.178E-6
	53.76682	23.45591	-19.80000	0.37519	-19.913	-0.059729	3.2923	-15.266E-6
	54.76250	23.44250	-19.80000	0.26487	-19.913	-0.28764	2.3835	-17.185E-6
	55.75818	23.42909	-19.80000	0.17691	-19.913	-0.42867	1.6675	-17.729E-6
	56.75386	23.41568	-19.80000	0.10756	-19.913	-0.51030	1.1054	-17.426E-6
	57.74955	23.40227	-19.80000	0.053564	-19.913	-0.55151	0.66589	-16.622E-6
	58.74523	23.38886	-19.80000	0.012089	-19.913	-0.56540	0.32358	-15.540E-6
	59.74091	23.37545	-19.80000	-0.019241	-19.913	-0.56104	0.058399	-14.321E-6
	60.73659	23.36205	-19.80000	-0.042412	-19.913	-0.54472	-0.14558	-13.059E-6
	61.73227	23.34864	-19.80000	-0.059067	-19.913	-0.52084	-0.30097	-11.810E-6
	62.72795	23.33523	-19.80000	-0.070559	-19.913	-0.49248	-0.41781	-10.610E-6
	63.72364	23.32182	-19.80000	-0.077990	-19.913	-0.46180	-0.50405	-9.4790E-6
	64.71931	23.30841	-19.80000	-0.082260	-19.913	-0.43028	-0.56603	-8.4290E-6
	65.71500	23.29500	-19.80000	-0.084096	-19.913	-0.39895	-0.60880	-7.4640E-6
	66.71068	23.28159	-19.80000	-0.084081	-19.913	-0.36849	-0.63642	-6.5842E-6
	67.70636	23.26818	-19.80000	-0.082685	-19.913	-0.33934	-0.65212	-5.7873E-6
	68.70205	23.25477	-19.80000	-0.080281	-19.913	-0.31178	-0.65849	-5.0692E-6
	69.69773	23.24136	-19.80000	-0.077165	-19.913	-0.28596	-0.65760	-4.4250E-6
	70.69341	23.22795	-19.80000	-0.073569	-19.913	-0.26192	-0.65114	-3.8489E-6
	71.68909	23.21455	-19.80000	-0.069675	-19.913	-0.23967	-0.64042	-3.3355E-6
	72.68478	23.20114	-19.80000	-0.065621	-19.913	-0.21917	-0.62653	-2.8791E-6
	73.68046	23.18773	-19.80000	-0.061516	-19.913	-0.20033	-0.61031	-2.4742E-6
	74.67614	23.17432	-19.80000	-0.057439	-19.913	-0.18307	-0.59244	-2.1159E-6
	75.67182	23.16091	-19.80000	-0.053450	-19.913	-0.16729	-0.57348	-1.7993E-6
	76.66750	23.14750	-19.80000	-0.049591	-19.913	-0.15289	-0.55385	-1.5200E-6
	77.66319	23.13409	-19.80000	-0.045892	-19.913	-0.13976	-0.53388	-1.2740E-6
	78.65887	23.12068	-19.80000	-0.042373	-19.913	-0.12780	-0.51385	-1.0578E-6
	79.65455	23.10727	-19.80000	-0.039044	-19.913	-0.11691	-0.49396	0.0
	80.65023	23.09386	-19.80000	-0.035911	-19.913	-0.10701	-0.47435	0.0
	81.64591	23.08045	-19.80000	-0.032974	-19.913	-0.098002	-0.45517	0.0
	82.64159	23.06705	-19.80000	-0.030232	-19.913	-0.089809	-0.43648	0.0
	83.63728	23.05364	-19.80000	-0.027678	-19.913	-0.082356	-0.41836	0.0
	84.63296	23.04023	-19.80000	-0.025306	-19.913	-0.075575	-0.40084	0.0
	85.62864	23.02682	-19.80000	-0.023108	-19.913	-0.069405	-0.38396	0.0
	86.62432	23.01341	-19.80000	-0.021074	-19.913	-0.063787	-0.36773	0.0
	87.62000	23.00000	-19.80000	-0.019195	-19.913	-0.058671	-0.35215	0.0
LUsouthwall	0.00000	15.88000	-19.80000	-0.010935	-19.913	-0.034071	-0.20383	0.0
	0.99568	15.86432	-19.80000	-0.011759	-19.913	-0.036493	-0.20879	0.0
	1.99136	15.84864	-19.80000	-0.012617	-19.913	-0.039096	-0.21359	0.0
	2.98705	15.83295	-19.80000	-0.013505	-19.913	-0.041889	-0.21815	0.0
	3.98273	15.81727	-19.80000	-0.014418	-19.913	-0.044887	-0.22240	0.0
	4.97841	15.80159	-19.80000	-0.015350	-19.913	-0.048099	-0.22625	0.0
	5.97409	15.78591	-19.80000	-0.016293	-19.913	-0.051539	-0.22959	0.0
	6.96977	15.77023	-19.80000	-0.017235	-19.913	-0.055218	-0.23229	0.0
	7.96545	15.75455	-19.80000	-0.018162	-19.913	-0.059146	-0.23423	0.0
	8.96114	15.73886	-19.80000	-0.019057	-19.913	-0.063331	-0.23521	0.0
	9.95682	15.72318	-19.80000	-0.019899	-19.913	-0.067782	-0.23506	0.0
	10.95250	15.70750	-19.80000	-0.020661	-19.913	-0.072502	-0.23354	0.0
	11.94818	15.69182	-19.80000	-0.021311	-19.913	-0.077493	-0.23039	0.0
	12.94386	15.67614	-19.80000	-0.021809	-19.913	-0.082749	-0.22530	-1.1341E-6
	13.93955	15.66045	-19.80000	-0.022110	-19.913	-0.088260	-0.21793	-1.3032E-6
	14.93523	15.64477	-19.80000	-0.022158	-19.913	-0.094008	-0.20787	-1.4895E-6
	15.93091	15.62909	-19.80000	-0.021888	-19.913	-0.099964	-0.19465	-1.6942E-6

Name	Location				Stresses			
	X [m]	Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	16.92659	15.61341	-19.80000	-0.021224	-19.913	-0.10608	-0.17777	-1.9184E-6
	17.92227	15.59773	-19.80000	-0.020077	-19.913	-0.11231	-0.15660	-2.1631E-6
	18.91796	15.58205	-19.80000	-0.018346	-19.913	-0.11857	-0.13049	-2.4294E-6
	19.91364	15.56636	-19.80000	-0.015914	-19.913	-0.12476	-0.098680	-2.7178E-6
	20.90932	15.55068	-19.80000	-0.012652	-19.913	-0.13076	-0.060323	-3.0285E-6
	21.90500	15.53500	-19.80000	-0.0084150	-19.913	-0.13639	-0.014501	-3.3615E-6
	22.90068	15.51932	-19.80000	-0.0030460	-19.913	-0.14146	0.039785	-3.7158E-6
	23.89636	15.50364	-19.80000	0.0036219	-19.913	-0.14574	0.10360	-4.0899E-6
	24.89205	15.48795	-19.80000	0.011762	-19.913	-0.14892	0.17804	-4.4811E-6
	25.88773	15.47227	-19.80000	0.021546	-19.913	-0.15068	0.26421	-4.8857E-6
	26.88341	15.45659	-19.80000	0.033134	-19.913	-0.15064	0.36315	-5.2983E-6
	27.87909	15.44091	-19.80000	0.046665	-19.913	-0.14837	0.47576	-5.7123E-6
	28.87477	15.42523	-19.80000	0.062235	-19.913	-0.14344	0.60269	-6.1193E-6
	29.87045	15.40955	-19.80000	0.079878	-19.913	-0.13542	0.74418	-6.5098E-6
	30.86614	15.39386	-19.80000	0.099544	-19.913	-0.12395	0.89992	-6.8732E-6
	31.86182	15.37818	-19.80000	0.12107	-19.913	-0.10877	1.0688	-7.1986E-6
	32.85750	15.36250	-19.80000	0.14416	-19.913	-0.089851	1.2487	-7.4764E-6
	33.85318	15.34682	-19.80000	0.16835	-19.913	-0.067438	1.4365	-7.6991E-6
	34.84887	15.33114	-19.80000	0.19302	-19.913	-0.042156	1.6275	-7.8637E-6
	35.84455	15.31545	-19.80000	0.21740	-19.913	-0.015052	1.8161	-7.9722E-6
	36.84023	15.29977	-19.80000	0.24056	-19.913	0.012412	1.9953	-8.0327E-6
	37.83591	15.28409	-19.80000	0.26152	-19.913	0.038443	2.1577	-8.0583E-6
	38.83159	15.26841	-19.80000	0.27928	-19.913	0.061079	2.2954	-8.0662E-6
	39.82727	15.25273	-19.80000	0.29290	-19.913	0.078412	2.4012	-8.0740E-6
	40.82296	15.23705	-19.80000	0.30163	-19.913	0.088820	2.4693	-8.0974E-6
	41.81864	15.22136	-19.80000	0.30492	-19.913	0.091176	2.4953	-8.1473E-6
	42.81432	15.20568	-19.80000	0.30256	-19.913	0.085000	2.4776	-8.2279E-6
	43.81000	15.19000	-19.80000	0.29460	-19.913	0.070514	2.4165	-8.3360E-6
	44.80568	15.17432	-19.80000	0.28144	-19.913	0.048623	2.3151	-8.4614E-6
	45.80136	15.15864	-19.80000	0.26375	-19.913	0.020806	2.1786	-8.5883E-6
	46.79705	15.14295	-19.80000	0.24237	-19.913	-0.011064	2.0135	-8.6976E-6
	47.79273	15.12727	-19.80000	0.21831	-19.913	-0.044938	1.8275	-8.7699E-6
	48.78841	15.11159	-19.80000	0.19259	-19.913	-0.078823	1.6285	-8.7879E-6
	49.78409	15.09591	-19.80000	0.16621	-19.913	-0.11098	1.4240	-8.7394E-6
	50.77977	15.08023	-19.80000	0.14004	-19.913	-0.14006	1.2205	-8.6179E-6
	51.77546	15.06455	-19.80000	0.11483	-19.913	-0.16514	1.0234	-8.4232E-6
	52.77114	15.04886	-19.80000	0.091138	-19.913	-0.18574	0.83697	-8.1604E-6
	53.76682	15.03318	-19.80000	0.069370	-19.913	-0.20174	0.66393	-7.8383E-6
	54.76250	15.01750	-19.80000	0.049770	-19.913	-0.21330	0.50604	-7.4681E-6
	55.75818	15.00182	-19.80000	0.032450	-19.913	-0.22077	0.36409	-7.0617E-6
	56.75386	14.98614	-19.80000	0.017417	-19.913	-0.22459	0.23813	-6.6310E-6
	57.74955	14.97045	-19.80000	0.0045958	-19.913	-0.22529	0.12767	-6.1866E-6
	58.74523	14.95477	-19.80000	-0.0061447	-19.913	-0.22337	0.031884	-5.7378E-6
	59.74091	14.93909	-19.80000	-0.014972	-19.913	-0.21932	-0.050294	-5.2926E-6
	60.73659	14.92341	-19.80000	-0.022072	-19.913	-0.21358	-0.12005	-4.8570E-6
	61.73227	14.90773	-19.80000	-0.027639	-19.913	-0.20656	-0.17860	-4.4359E-6
	62.72795	14.89205	-19.80000	-0.031866	-19.913	-0.19859	-0.22716	-4.0329E-6
	63.72364	14.87636	-19.80000	-0.034936	-19.913	-0.18997	-0.26689	-3.6504E-6
	64.71931	14.86068	-19.80000	-0.037021	-19.913	-0.18094	-0.29886	-3.2901E-6
	65.71500	14.84500	-19.80000	-0.038277	-19.913	-0.17170	-0.32409	-2.9527E-6
	66.71068	14.82932	-19.80000	-0.038845	-19.913	-0.16241	-0.34347	-2.6386E-6
	67.70636	14.81364	-19.80000	-0.038849	-19.913	-0.15320	-0.35782	-2.3475E-6
	68.70205	14.79795	-19.80000	-0.038398	-19.913	-0.14417	-0.36788	-2.0790E-6
	69.69773	14.78227	-19.80000	-0.037587	-19.913	-0.13540	-0.37427	-1.8323E-6
	70.69341	14.76659	-19.80000	-0.036497	-19.913	-0.12695	-0.37758	-1.6063E-6
	71.68909	14.75091	-19.80000	-0.035196	-19.913	-0.11885	-0.37829	-1.4000E-6
	72.68478	14.73523	-19.80000	-0.033741	-19.913	-0.11112	-0.37684	-1.2123E-6
	73.68046	14.71955	-19.80000	-0.032182	-19.913	-0.10380	-0.37360	-1.0420E-6
	74.67614	14.70386	-19.80000	-0.030558	-19.913	-0.096866	-0.36889	0.0
	75.67182	14.68818	-19.80000	-0.028901	-19.913	-0.090336	-0.36300	0.0
	76.66750	14.67250	-19.80000	-0.027237	-19.913	-0.084199	-0.35617	0.0
	77.66319	14.65682	-19.80000	-0.025588	-19.913	-0.078444	-0.34859	0.0
	78.65887	14.64114	-19.80000	-0.023970	-19.913	-0.073059	-0.34044	0.0
	79.65455	14.62545	-19.80000	-0.022395	-19.913	-0.068029	-0.33187	0.0
	80.65023	14.60977	-19.80000	-0.020873	-19.913	-0.063336	-0.32301	0.0
	81.64591	14.59409	-19.80000	-0.019411	-19.913	-0.058964	-0.31396	0.0
	82.64159	14.57841	-19.80000	-0.018013	-19.913	-0.054895	-0.30480	0.0
	83.63728	14.56273	-19.80000	-0.016682	-19.913	-0.051111	-0.29561	0.0
	84.63296	14.54705	-19.80000	-0.015420	-19.913	-0.047594	-0.28646	0.0
	85.62864	14.53136	-19.80000	-0.014227	-19.913	-0.044328	-0.27738	0.0
	86.62432	14.51568	-19.80000	-0.013103	-19.913	-0.041296	-0.26842	0.0
	87.62000	14.50000	-19.80000	-0.012046	-19.913	-0.038481	-0.25962	0.0

Notes

Use of Mindlin approach instead of Boussinesq

Analysis Options

Analysis: Mindlin - Horizontal dispacements are calculated
Soil above horizontal load on horizontal plane dampens displacements below load : Yes
Soil above vertical load on horizontal plane dampens displacements below load : No
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]
Displacements at area centroids calculated.

RESULTS FOR GRIDS

Analysis: Mindlin
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -35.00 [m OD]

Name	Location			Displacement		
	X	Y	Z[Level]	X	Y	Z
	[m]	[m]	[mOD]	[mm]	[mm]	[mm]
Unloading	44.95000	46.00000	-4.60000	-0.73637	-4.3520	-24.892
Pile loading	42.40000	30.90000	-15.10000	0.093829	0.52598	16.421
LUexclusionzone	0.00000	27.20000	-9.00000	0.53005	-0.12416	-0.0042616
	0.98977	27.18523	-9.00000	0.55639	-0.12588	-0.0053140
	1.97955	27.17045	-9.00000	0.58458	-0.12746	-0.0064349
	2.96932	27.15568	-9.00000	0.61476	-0.12886	-0.0076071
	3.95909	27.14091	-9.00000	0.64713	-0.13005	-0.0087930
	4.94886	27.12614	-9.00000	0.68189	-0.13096	-0.0099078
	5.93864	27.11136	-9.00000	0.71928	-0.13155	-0.010734
	6.92841	27.09659	-9.00000	0.75955	-0.13175	-0.011028
	7.91818	27.08182	-9.00000	0.80298	-0.13147	-0.012390
	8.90795	27.06705	-9.00000	0.84990	-0.13061	-0.041937
	9.89773	27.05227	-9.00000	0.90069	-0.12906	-0.028466
	10.88750	27.03750	-9.00000	0.95573	-0.12667	-0.028019
	11.87727	27.02273	-9.00000	1.0155	-0.12328	-0.029089
	12.86705	27.00795	-9.00000	1.0806	-0.11869	-0.030561
	13.85682	26.99318	-9.00000	1.1515	-0.11266	-0.032073
	14.84659	26.97841	-9.00000	1.2289	-0.10489	-0.033399
	15.83636	26.96364	-9.00000	1.3137	-0.095036	-0.034331
	16.82614	26.94886	-9.00000	1.4067	-0.082661	-0.034632
	17.81591	26.93409	-9.00000	1.5089	-0.067244	-0.034012
	18.80568	26.91932	-9.00000	1.6216	-0.048144	-0.032102
	19.79545	26.90454	-9.00000	1.7460	-0.024573	-0.028432
	20.78523	26.88977	-9.00000	1.8838	0.0044449	-0.022402
	21.77500	26.87500	-9.00000	2.0368	0.040120	-0.013241
	22.76477	26.86023	-9.00000	2.2071	0.083965	33.301E-6
	23.75455	26.84546	-9.00000	2.3971	0.13788	0.018677
	24.74432	26.83068	-9.00000	2.6097	0.20426	0.044289
	25.73409	26.81591	-9.00000	2.8481	0.28615	0.078901
	26.72386	26.80114	-9.00000	3.1159	0.38744	0.12509
	27.71364	26.78636	-9.00000	3.4174	0.51315	0.18610
	28.70341	26.77159	-9.00000	3.7572	0.66973	0.26601
	29.69318	26.75682	-9.00000	4.1401	0.86561	0.36991
	30.68295	26.74205	-9.00000	4.5712	1.1118	0.50406
	31.67273	26.72727	-9.00000	5.0547	1.4227	0.67599
	32.66250	26.71250	-9.00000	5.5939	1.8176	0.89449
	33.65227	26.69773	-9.00000	6.1896	2.3222	1.1693
	34.64204	26.68295	-9.00000	6.8395	2.9726	1.5102
	35.63182	26.66818	-9.00000	7.5398	3.8220	1.9265
	36.62159	26.65341	-9.00000	8.2959	4.9625	2.4277
	37.61136	26.63864	-9.00000	9.1918	6.5993	3.0465
	38.60114	26.62386	-9.00000	8.4323	8.8448	3.8900
	39.59091	26.60909	-9.00000	6.0919	10.399	4.3402
	40.58068	26.59432	-9.00000	3.8859	11.343	4.6438
	41.57045	26.57955	-9.00000	1.7118	11.863	4.8088
	42.56023	26.56477	-9.00000	-0.44814	12.025	4.8291
	43.55000	26.55000	-9.00000	-2.5974	11.839	4.7040
	44.53977	26.53523	-9.00000	-4.7383	11.278	4.4396
	45.52954	26.52045	-9.00000	-6.8869	10.242	4.0455
	46.51932	26.50568	-9.00000	-9.1975	8.4076	3.4836
	47.50909	26.49091	-9.00000	-8.7828	6.0960	2.6175
	48.49886	26.47614	-9.00000	-8.0007	4.6370	2.0378
	49.48864	26.46136	-9.00000	-7.2887	3.5958	1.5611
	50.47841	26.44659	-9.00000	-6.6209	2.8097	1.1695
	51.46818	26.43182	-9.00000	-6.0007	2.2020	0.85355
	52.45795	26.41705	-9.00000	-5.4326	1.7264	0.60326
	53.44773	26.40227	-9.00000	-4.9183	1.3512	0.40813
	54.43750	26.38750	-9.00000	-4.4565	1.0532	0.25820
	55.42727	26.37273	-9.00000	-4.0438	0.81544	0.14466
	56.41705	26.35795	-9.00000	-3.6759	0.62479	0.060020
	57.40682	26.34318	-9.00000	-3.3482	0.47133	-0.0019102
	58.39659	26.32841	-9.00000	-3.0561	0.34739	-0.046156
	59.38636	26.31364	-9.00000	-2.7956	0.24704	-0.076749
	60.37614	26.29886	-9.00000	-2.5629	0.16562	-0.096896
	61.36591	26.28409	-9.00000	-2.3545	0.099494	-0.10913
	62.35568	26.26932	-9.00000	-2.1676	0.045757	-0.11544
	63.34546	26.25455	-9.00000	-1.9996	0.0021124	-0.11738
	64.33523	26.23977	-9.00000	-1.8482	-0.033285	-0.11615
	65.32500	26.22500	-9.00000	-1.7115	-0.061920	-0.11270
	66.31477	26.21023	-9.00000	-1.5878	-0.084995	-0.10773
	67.30454	26.19545	-9.00000	-1.4757	-0.10349	-0.10180
	68.29432	26.18068	-9.00000	-1.3738	-0.11820	-0.095310
	69.28409	26.16591	-9.00000	-1.2810	-0.12978	-0.088586
	70.27386	26.15114	-9.00000	-1.1964	-0.13877	-0.081867
	71.26363	26.13636	-9.00000	-1.1190	-0.14562	-0.075345
	72.25341	26.12159	-9.00000	-1.0482	-0.15069	-0.069199
	73.24318	26.10682	-9.00000	-0.98327	-0.15428	-0.063658
	74.23296	26.09204	-9.00000	-0.92359	-0.15665	-0.059240
	75.22272	26.07727	-9.00000	-0.86867	-0.15801	-0.058421
	76.21250	26.06250	-9.00000	-0.81804	-0.15854	-0.038144
	77.20227	26.04773	-9.00000	-0.77130	-0.15839	-0.033749
	78.19205	26.03296	-9.00000	-0.72808	-0.15767	-0.030547
	79.18182	26.01818	-9.00000	-0.68805	-0.15649	-0.027792
	80.17159	26.00341	-9.00000	-0.65093	-0.15493	-0.024793
	81.16136	25.98864	-9.00000	-0.61646	-0.15308	-0.021840
	82.15114	25.97386	-9.00000	-0.58440	-0.15098	-0.019052
	83.14091	25.95909	-9.00000	-0.55455	-0.14869	-0.016468
	84.13068	25.94432	-9.00000	-0.52672	-0.14626	-0.014098
	85.12045	25.92955	-9.00000	-0.50075	-0.14372	-0.011938
	86.11023	25.91477	-9.00000	-0.47647	-0.14109	-0.0099789
	87.10000	25.90000	-9.00000	-0.45375	-0.13842	-0.0082076
LUcrest	0.00000	19.93000	-15.80000	0.27491	-0.022029	-0.011537
	0.99568	19.91659	-15.80000	0.28833	-0.017939	-0.012665
	1.99136	19.90318	-15.80000	0.30240	-0.013373	-0.013863
	2.98705	19.88977	-15.80000	0.31715	-0.0082803	-0.015130
	3.98273	19.87636	-15.80000	0.33261	-0.0026078	-0.016463
	4.97841	19.86296	-15.80000	0.34880	0.0037053	-0.017859
	5.97409	19.84954	-15.80000	0.36577	0.010726	-0.019309
	6.96977	19.83614	-15.80000	0.38354	0.018528	-0.020804
	7.96545	19.82273	-15.80000	0.40214	0.027194	-0.022330
	8.96114	19.80932	-15.80000	0.42160	0.036815	-0.023868
	9.95682	19.79591	-15.80000	0.44194	0.047491	-0.025391
	10.95250	19.78250	-15.80000	0.46320	0.059335	-0.026866
	11.94818	19.76909	-15.80000	0.48538	0.072471	-0.028252
	12.94386	19.75568	-15.80000	0.50849	0.087037	-0.029494

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement X [mm]	Displacement Y [mm]	Displacement Z [mm]
	13.93955	19.74227	-15.80000	0.53256	0.10318	-0.030523
	14.93523	19.72886	-15.80000	0.55756	0.12109	-0.031255
	15.93091	19.71545	-15.80000	0.58349	0.14093	-0.031585
	16.92659	19.70205	-15.80000	0.61032	0.16291	-0.031382
	17.92227	19.68864	-15.80000	0.63798	0.18728	-0.030489
	18.91796	19.67523	-15.80000	0.66641	0.21428	-0.028714
	19.91364	19.66182	-15.80000	0.69549	0.24419	-0.025824
	20.90932	19.64841	-15.80000	0.72509	0.27733	-0.021542
	21.90500	19.63500	-15.80000	0.75500	0.31402	-0.015539
	22.90068	19.62159	-15.80000	0.78497	0.35463	-0.0074264
	23.89636	19.60818	-15.80000	0.81466	0.39957	0.0032460
	24.89205	19.59477	-15.80000	0.84366	0.44924	0.016997
	25.88773	19.58136	-15.80000	0.87143	0.50409	0.034412
	26.88341	19.56796	-15.80000	0.89728	0.56455	0.056141
	27.87909	19.55455	-15.80000	0.92036	0.63108	0.082880
	28.87477	19.54114	-15.80000	0.93963	0.70404	0.11535
	29.87045	19.52773	-15.80000	0.95378	0.78375	0.15425
	30.86614	19.51432	-15.80000	0.96124	0.87035	0.20019
	31.86182	19.50091	-15.80000	0.96014	0.96374	0.25357
	32.85750	19.48750	-15.80000	0.94834	1.0634	0.31446
	33.85318	19.47409	-15.80000	0.92345	1.1684	0.38239
	34.84887	19.46068	-15.80000	0.88301	1.2769	0.45616
	35.84455	19.44727	-15.80000	0.82470	1.3864	0.53362
	36.84023	19.43386	-15.80000	0.74679	1.4932	0.61158
	37.83591	19.42045	-15.80000	0.64849	1.5932	0.68592
	38.83159	19.40705	-15.80000	0.53043	1.6815	0.75195
	39.82727	19.39364	-15.80000	0.39483	1.7534	0.80499
	40.82296	19.38023	-15.80000	0.24543	1.8048	0.84099
	41.81864	19.36682	-15.80000	0.087211	1.8328	0.85710
	42.81432	19.35341	-15.80000	-0.074127	1.8356	0.85196
	43.81000	19.34000	-15.80000	-0.23264	1.8134	0.82579
	44.80568	19.32659	-15.80000	-0.38267	1.7678	0.78041
	45.80136	19.31318	-15.80000	-0.51933	1.7015	0.71904
	46.79705	19.29977	-15.80000	-0.63896	1.6187	0.64591
	47.79273	19.28636	-15.80000	-0.73940	1.5239	0.56578
	48.78841	19.27295	-15.80000	-0.82002	1.4217	0.48329
	49.78409	19.25955	-15.80000	-0.88151	1.3162	0.40245
	50.77977	19.24614	-15.80000	-0.92550	1.2110	0.32630
	51.77546	19.23273	-15.80000	-0.95416	1.1086	0.25685
	52.77114	19.21932	-15.80000	-0.96980	1.0106	0.19520
	53.76682	19.20591	-15.80000	-0.97468	0.91812	0.14171
	54.76250	19.19250	-15.80000	-0.97083	0.83170	0.096212
	55.75818	19.17909	-15.80000	-0.96002	0.75152	0.058232
	56.75386	19.16568	-15.80000	-0.94377	0.67751	0.027086
	57.74955	19.15227	-15.80000	-0.92332	0.60947	0.0020075
	58.74523	19.13886	-15.80000	-0.89971	0.54708	-0.017787
	59.74091	19.12545	-15.80000	-0.87377	0.49001	-0.033054
	60.73659	19.11205	-15.80000	-0.84620	0.43789	-0.044497
	61.73227	19.09864	-15.80000	-0.81754	0.39034	-0.052750
	62.72795	19.08523	-15.80000	-0.78824	0.34702	-0.058376
	63.72364	19.07182	-15.80000	-0.75867	0.30758	-0.061864
	64.71931	19.05841	-15.80000	-0.72911	0.27170	-0.063635
	65.71500	19.04500	-15.80000	-0.69978	0.23909	-0.064047
	66.71068	19.03159	-15.80000	-0.67088	0.20946	-0.063401
	67.70636	19.01818	-15.80000	-0.64255	0.18256	-0.061946
	68.70205	19.00477	-15.80000	-0.61488	0.15815	-0.059889
	69.69773	18.99136	-15.80000	-0.58797	0.13601	-0.057399
	70.69341	18.97795	-15.80000	-0.56187	0.11595	-0.054614
	71.68909	18.96455	-15.80000	-0.53662	0.097773	-0.051643
	72.68478	18.95114	-15.80000	-0.51225	0.081320	-0.048573
	73.68046	18.93773	-15.80000	-0.48878	0.066433	-0.045473
	74.67614	18.92432	-15.80000	-0.46620	0.052974	-0.042396
	75.67182	18.91091	-15.80000	-0.44452	0.040812	-0.039381
	76.66750	18.89750	-15.80000	-0.42373	0.029832	-0.036459
	77.66319	18.88409	-15.80000	-0.40380	0.019926	-0.033652
	78.65887	18.87068	-15.80000	-0.38472	0.010996	-0.030972
	79.65455	18.85727	-15.80000	-0.36647	0.0029543	-0.028430
	80.65023	18.84386	-15.80000	-0.34902	-0.0042805	-0.026031
	81.64591	18.83045	-15.80000	-0.33235	-0.010782	-0.023776
	82.64159	18.81705	-15.80000	-0.31643	-0.016617	-0.021664
	83.63728	18.80364	-15.80000	-0.30122	-0.021847	-0.019693
	84.63296	18.79023	-15.80000	-0.28671	-0.026527	-0.017857
	85.62864	18.77682	-15.80000	-0.27287	-0.030708	-0.016153
	86.62432	18.76341	-15.80000	-0.25966	-0.034435	-0.014574
	87.62000	18.75000	-15.80000	-0.24706	-0.037750	-0.013114
LUinvert	0.00000	19.93000	-23.80000	0.16217	0.016243	-0.011697
	0.99568	19.91659	-23.80000	0.16696	0.019654	-0.012474
	1.99136	19.90318	-23.80000	0.17172	0.023288	-0.013272
	2.98705	19.88977	-23.80000	0.17642	0.027153	-0.014084
	3.98273	19.87636	-23.80000	0.18102	0.031256	-0.014902
	4.97841	19.86296	-23.80000	0.18550	0.035605	-0.015714
	5.97409	19.84954	-23.80000	0.18981	0.040202	-0.016505
	6.96977	19.83614	-23.80000	0.19391	0.045052	-0.017258
	7.96545	19.82273	-23.80000	0.19773	0.050154	-0.017950
	8.96114	19.80932	-23.80000	0.20124	0.055504	-0.018551
	9.95682	19.79591	-23.80000	0.20434	0.061095	-0.019026
	10.95250	19.78250	-23.80000	0.20698	0.066913	-0.019331
	11.94818	19.76909	-23.80000	0.20907	0.072940	-0.019412
	12.94386	19.75568	-23.80000	0.21051	0.079147	-0.019205
	13.93955	19.74227	-23.80000	0.21120	0.085499	-0.018629
	14.93523	19.72886	-23.80000	0.21103	0.091946	-0.017590
	15.93091	19.71545	-23.80000	0.20988	0.098427	-0.015972
	16.92659	19.70205	-23.80000	0.20762	0.10486	-0.013638
	17.92227	19.68864	-23.80000	0.20411	0.11116	-0.010425
	18.91796	19.67523	-23.80000	0.19920	0.11720	-0.0061431
	19.91364	19.66182	-23.80000	0.19276	0.12283	-566.10E-6
	20.90932	19.64841	-23.80000	0.18463	0.12788	0.0065660
	21.90500	19.63500	-23.80000	0.17468	0.13215	0.015553
	22.90068	19.62159	-23.80000	0.16280	0.13541	0.026733
	23.89636	19.60818	-23.80000	0.14889	0.13736	0.040486
	24.89205	19.59477	-23.80000	0.13292	0.13771	0.057228
	25.88773	19.58136	-23.80000	0.11490	0.13612	0.077399
	26.88341	19.56796	-23.80000	0.094939	0.13220	0.10145
	27.87909	19.55455	-23.80000	0.073268	0.12559	0.12984
	28.87477	19.54114	-23.80000	0.050249	0.11591	0.16294
	29.87045	19.52773	-23.80000	0.026420	0.10283	0.20106
	30.86614	19.51432	-23.80000	0.0025135	0.086109	0.24434
	31.86182	19.50091	-23.80000	-0.020535	0.065656	0.29266
	32.85750	19.48750	-23.80000	-0.041603	0.041580	0.34560
	33.85318	19.47409	-23.80000	-0.059432	0.014272	0.40232
	34.84887	19.46068	-23.80000	-0.072718	-0.015539	0.46149
	35.84455	19.44727	-23.80000	-0.080256	-0.046754	0.52128
	36.84023	19.43386	-23.80000	-0.081107	-0.077925	0.57940
	37.83591	19.42045	-23.80000	-0.074778	-0.10732	0.63323
	38.83159	19.40705	-23.80000	-0.061363	-0.13309	0.67997
	39.82727	19.39364	-23.80000	-0.041618	-0.15341	0.71697
	40.82296	19.38023	-23.80000	-0.016944	-0.16671	0.74197
	41.81864	19.36682	-23.80000	0.010736	-0.17186	0.75332
	42.81432	19.35341	-23.80000	0.039159	-0.16829	0.75024
	43.81000	19.34000	-23.80000	0.065962	-0.15608	0.73282
	44.80568	19.32659	-23.80000	0.088929	-0.13593	0.70207
	45.80136	19.31318	-23.80000	0.10622	-0.10908	0.65981
	46.79705	19.29977	-23.80000	0.11655	-0.077211	0.60843
	47.79273	19.28636	-23.80000	0.11929	-0.042201	0.55065
	48.78841	19.27295	-23.80000	0.11446	-0.0059612	0.48929
	49.78409	19.25955	-23.80000	0.10267	0.029754	0.42694
	50.77977	19.24614	-23.80000	0.084961	0.063481	0.36587
	51.77546	19.23273	-23.80000	0.062609	0.094121	0.30782
	52.77114	19.21932	-23.80000	0.036989	0.12095	0.25407
	53.76682	19.20591	-23.80000	0.0094219	0.14359	0.20537

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement X [mm]	Displacement Y [mm]	Displacement Z [mm]
	54.76250	19.19250	-23.80000	-0.018919	0.16195	0.16210
	55.75818	19.17909	-23.80000	-0.047051	0.17614	0.12432
	56.75386	19.16568	-23.80000	-0.074200	0.18644	0.091822
	57.74955	19.15227	-23.80000	-0.099791	0.19322	0.064277
	58.74523	19.13886	-23.80000	-0.12343	0.19688	0.041248
	59.74091	19.12545	-23.80000	-0.14486	0.19784	0.022259
	60.73659	19.11205	-23.80000	-0.16396	0.19651	0.0068214
	61.73227	19.09864	-23.80000	-0.18070	0.19329	-0.0055345
	62.72795	19.08523	-23.80000	-0.19511	0.18853	-0.015250
	63.72364	19.07182	-23.80000	-0.20729	0.18254	-0.022727
	64.71931	19.05841	-23.80000	-0.21734	0.17560	-0.028327
	65.71500	19.04500	-23.80000	-0.22542	0.16796	-0.032366
	66.71068	19.03159	-23.80000	-0.23169	0.15982	-0.035120
	67.70636	19.01818	-23.80000	-0.23630	0.15135	-0.036828
	68.70205	19.00477	-23.80000	-0.23941	0.14271	-0.037692
	69.69773	18.99136	-23.80000	-0.24118	0.13401	-0.037884
	70.69341	18.97795	-23.80000	-0.24176	0.12536	-0.037548
	71.68909	18.96455	-23.80000	-0.24130	0.11682	-0.036805
	72.68478	18.95114	-23.80000	-0.23991	0.10847	-0.035753
	73.68046	18.93773	-23.80000	-0.23773	0.10035	-0.034475
	74.67614	18.92432	-23.80000	-0.23485	0.092507	-0.033037
	75.67182	18.91091	-23.80000	-0.23140	0.084956	-0.031493
	76.66750	18.89750	-23.80000	-0.22744	0.077719	-0.029888
	77.66319	18.88409	-23.80000	-0.22308	0.070808	-0.028255
	78.65887	18.87068	-23.80000	-0.21837	0.064230	-0.026622
	79.65455	18.85727	-23.80000	-0.21339	0.057984	-0.025010
	80.65023	18.84386	-23.80000	-0.20819	0.052070	-0.023434
	81.64591	18.83045	-23.80000	-0.20283	0.046481	-0.021907
	82.64159	18.81705	-23.80000	-0.19734	0.041210	-0.020438
	83.63728	18.80364	-23.80000	-0.19177	0.036248	-0.019031
	84.63296	18.79023	-23.80000	-0.18615	0.031584	-0.017691
	85.62864	18.77682	-23.80000	-0.18051	0.027206	-0.016420
	86.62432	18.76341	-23.80000	-0.17488	0.023104	-0.015219
	87.62000	18.75000	-23.80000	-0.16928	0.019263	-0.014086
LUnorthwall	0.00000	24.18000	-19.80000	0.22692	-0.019935	-0.016191
	0.99568	24.16659	-19.80000	0.23699	-0.016991	-0.017582
	1.99136	24.15318	-19.80000	0.24742	-0.013729	-0.019059
	2.98705	24.13977	-19.80000	0.25823	-0.010122	-0.020620
	3.98273	24.12636	-19.80000	0.26941	-0.0061386	-0.022262
	4.97841	24.11296	-19.80000	0.28095	-0.0017470	-0.023978
	5.97409	24.09954	-19.80000	0.29285	0.0030877	-0.025760
	6.96977	24.08614	-19.80000	0.30509	0.0084026	-0.027592
	7.96545	24.07273	-19.80000	0.31766	0.014237	-0.029453
	8.96114	24.05932	-19.80000	0.33052	0.020633	-0.031317
	9.95682	24.04591	-19.80000	0.34365	0.027633	-0.033144
	10.95250	24.03250	-19.80000	0.35699	0.035282	-0.034886
	11.94818	24.01909	-19.80000	0.37049	0.043628	-0.036476
	12.94386	24.00568	-19.80000	0.38408	0.052716	-0.037930
	13.93955	23.99227	-19.80000	0.39765	0.062592	-0.038840
	14.93523	23.97886	-19.80000	0.41110	0.073300	-0.039367
	15.93091	23.96545	-19.80000	0.42428	0.084881	-0.039235
	16.92659	23.95205	-19.80000	0.43703	0.097367	-0.038223
	17.92227	23.93864	-19.80000	0.44913	0.11078	-0.036051
	18.91796	23.92523	-19.80000	0.46034	0.12514	-0.032369
	19.91364	23.91182	-19.80000	0.47037	0.14042	-0.026739
	20.90932	23.89841	-19.80000	0.47884	0.15659	-0.018616
	21.90500	23.88500	-19.80000	0.48534	0.17356	-0.0073241
	22.90068	23.87159	-19.80000	0.48935	0.19122	0.0079744
	23.89636	23.85818	-19.80000	0.49030	0.20935	0.028312
	24.89205	23.84477	-19.80000	0.48749	0.22765	0.054956
	25.88773	23.83136	-19.80000	0.48012	0.24572	0.089455
	26.88341	23.81796	-19.80000	0.46729	0.26297	0.13369
	27.87909	23.80455	-19.80000	0.44803	0.27860	0.18993
	28.87477	23.79114	-19.80000	0.42126	0.29155	0.26089
	29.87045	23.77773	-19.80000	0.38599	0.30043	0.34971
	30.86614	23.76432	-19.80000	0.34135	0.30344	0.46003
	31.86182	23.75091	-19.80000	0.28693	0.29837	0.59578
	32.85750	23.73750	-19.80000	0.22315	0.28261	0.76093
	33.85318	23.72409	-19.80000	0.15194	0.25341	0.95876
	34.84887	23.71068	-19.80000	0.077404	0.20843	1.1906
	35.84455	23.69727	-19.80000	0.0064090	0.14681	1.4538
	36.84023	23.68386	-19.80000	-0.051911	0.070615	1.7391
	37.83591	23.67045	-19.80000	-0.088414	-0.014029	2.0293
	38.83159	23.65705	-19.80000	-0.097609	-0.097342	2.3002
	39.82727	23.64364	-19.80000	-0.080224	-0.16840	2.5260
	40.82296	23.63023	-19.80000	-0.042436	-0.21822	2.6851
	41.81864	23.61682	-19.80000	0.0071613	-0.24128	2.7637
	42.81432	23.60341	-19.80000	0.059919	-0.23528	2.7557
	43.81000	23.59000	-19.80000	0.10762	-0.20047	2.6617
	44.80568	23.57659	-19.80000	0.14201	-0.13947	2.4891
	45.80136	23.56318	-19.80000	0.15509	-0.057917	2.2521
	46.79705	23.54977	-19.80000	0.14117	0.035297	1.9724
	47.79273	23.53636	-19.80000	0.099618	0.12938	1.6750
	48.78841	23.52295	-19.80000	0.035706	0.21450	1.3838
	49.78409	23.50955	-19.80000	-0.041625	0.28424	1.1156
	50.77977	23.49614	-19.80000	-0.12324	0.33623	0.87979
	51.77546	23.48273	-19.80000	-0.20211	0.37110	0.67897
	52.77114	23.46932	-19.80000	-0.27385	0.39108	0.51187
	53.76682	23.45591	-19.80000	-0.33628	0.39894	0.37518
	54.76250	23.44250	-19.80000	-0.38872	0.39736	0.26487
	55.75818	23.42909	-19.80000	-0.43140	0.38869	0.17691
	56.75386	23.41568	-19.80000	-0.46502	0.37487	0.10757
	57.74955	23.40227	-19.80000	-0.49052	0.35745	0.053572
	58.74523	23.38886	-19.80000	-0.50887	0.33765	0.012098
	59.74091	23.37545	-19.80000	-0.52103	0.31642	-0.019231
	60.73659	23.36205	-19.80000	-0.52790	0.29448	-0.042402
	61.73227	23.34864	-19.80000	-0.53029	0.27237	-0.059058
	62.72795	23.33523	-19.80000	-0.52894	0.25051	-0.070550
	63.72364	23.32182	-19.80000	-0.52446	0.22918	-0.077982
	64.71931	23.30841	-19.80000	-0.51743	0.20860	-0.082253
	65.71500	23.29500	-19.80000	-0.50833	0.18893	-0.084089
	66.71068	23.28159	-19.80000	-0.49757	0.17024	-0.084075
	67.70636	23.26818	-19.80000	-0.48551	0.15261	-0.082680
	68.70205	23.25477	-19.80000	-0.47245	0.13604	-0.080276
	69.69773	23.24136	-19.80000	-0.45866	0.12055	-0.077161
	70.69341	23.22795	-19.80000	-0.44435	0.10611	-0.073566
	71.68909	23.21455	-19.80000	-0.42971	0.092692	-0.069671
	72.68478	23.20114	-19.80000	-0.41489	0.080265	-0.065618
	73.68046	23.18773	-19.80000	-0.40002	0.068781	-0.061513
	74.67614	23.17432	-19.80000	-0.38521	0.058191	-0.057437
	75.67182	23.16091	-19.80000	-0.37054	0.048446	-0.053448
	76.66750	23.14750	-19.80000	-0.35609	0.039495	-0.049589
	77.66319	23.13409	-19.80000	-0.34190	0.031286	-0.045891
	78.65887	23.12068	-19.80000	-0.32802	0.023770	-0.042371
	79.65455	23.10727	-19.80000	-0.31449	0.016899	-0.039043
	80.65023	23.09386	-19.80000	-0.30133	0.010626	-0.035910
	81.64591	23.08045	-19.80000	-0.28856	0.0049081	-0.032974
	82.64159	23.06705	-19.80000	-0.27619	-297.58E-6	-0.030231
	83.63728	23.05364	-19.80000	-0.26423	-0.0050300	-0.027678
	84.63296	23.04023	-19.80000	-0.25267	-0.0093259	-0.025306
	85.62864	23.02682	-19.80000	-0.24153	-0.013220	-0.023107
	86.62432	23.01341	-19.80000	-0.23080	-0.016744	-0.021074
	87.62000	23.00000	-19.80000	-0.22046	-0.019928	-0.019195
LUsouthwall	0.00000	15.88000	-19.80000	0.19718	0.015568	-0.010935
	0.99568	15.86432	-19.80000	0.20453	0.019990	-0.011759
	1.99136	15.84864	-19.80000	0.21204	0.024755	-0.012616
	2.98705	15.83295	-19.80000	0.21969	0.029887	-0.013504
	3.98273	15.81727	-19.80000	0.22747	0.035409	-0.014417
	4.97841	15.80159	-19.80000	0.23537	0.041344	-0.015349
	5.97409	15.78591	-19.80000	0.24336	0.047718	-0.016292

Name	Location			Displacement		
	X [m]	Y [m]	Z[Level] [mOD]	X [mm]	Y [mm]	Z [mm]
	6.96977	15.77023	-19.80000	0.25142	0.054557	-0.017234
	7.96545	15.75455	-19.80000	0.25953	0.061885	-0.018161
	8.96114	15.73886	-19.80000	0.26764	0.069729	-0.019056
	9.95682	15.72318	-19.80000	0.27571	0.078113	-0.019898
	10.95250	15.70750	-19.80000	0.28370	0.087064	-0.020659
	11.94818	15.69182	-19.80000	0.29157	0.096603	-0.021309
	12.94386	15.67614	-19.80000	0.29923	0.10675	-0.021807
	13.93955	15.66045	-19.80000	0.30663	0.11753	-0.022108
	14.93523	15.64477	-19.80000	0.31368	0.12895	-0.022155
	15.93091	15.62909	-19.80000	0.32031	0.14102	-0.021885
	16.92659	15.61341	-19.80000	0.32639	0.15375	-0.021221
	17.92227	15.59773	-19.80000	0.33184	0.16712	-0.020074
	18.91796	15.58205	-19.80000	0.33652	0.18113	-0.018342
	19.91364	15.56636	-19.80000	0.34030	0.19574	-0.015910
	20.90932	15.55068	-19.80000	0.34303	0.21091	-0.012647
	21.90500	15.53500	-19.80000	0.34458	0.22659	-0.0084100
	22.90068	15.51932	-19.80000	0.34477	0.24269	-0.0030407
	23.89636	15.50364	-19.80000	0.34345	0.25911	0.0036277
	24.89205	15.48795	-19.80000	0.34046	0.27573	0.011768
	25.88773	15.47227	-19.80000	0.33563	0.29239	0.021552
	26.88341	15.45659	-19.80000	0.32883	0.30892	0.033141
	27.87909	15.44091	-19.80000	0.31994	0.32513	0.046672
	28.87477	15.42523	-19.80000	0.30887	0.34079	0.062242
	29.87045	15.40955	-19.80000	0.29560	0.35567	0.079885
	30.86614	15.39386	-19.80000	0.28013	0.36955	0.099551
	31.86182	15.37818	-19.80000	0.26254	0.38223	0.12108
	32.85750	15.36250	-19.80000	0.24299	0.39352	0.14416
	33.85318	15.34682	-19.80000	0.22169	0.40332	0.16835
	34.84887	15.33114	-19.80000	0.19890	0.41160	0.19303
	35.84455	15.31545	-19.80000	0.17493	0.41840	0.21740
	36.84023	15.29977	-19.80000	0.15007	0.42387	0.24056
	37.83591	15.28409	-19.80000	0.12460	0.42824	0.26153
	38.83159	15.26841	-19.80000	0.098737	0.43177	0.27928
	39.82727	15.25273	-19.80000	0.072620	0.43473	0.29290
	40.82296	15.23705	-19.80000	0.046326	0.43738	0.30163
	41.81864	15.22136	-19.80000	0.019867	0.43987	0.30492
	42.81432	15.20568	-19.80000	-0.0067822	0.44226	0.30256
	43.81000	15.19000	-19.80000	-0.033651	0.44451	0.29460
	44.80568	15.17432	-19.80000	-0.060745	0.44644	0.28145
	45.80136	15.15864	-19.80000	-0.088014	0.44780	0.26375
	46.79705	15.14295	-19.80000	-0.11533	0.44827	0.24238
	47.79273	15.12727	-19.80000	-0.14250	0.44753	0.21832
	48.78841	15.11159	-19.80000	-0.16925	0.44527	0.19260
	49.78409	15.09591	-19.80000	-0.19523	0.44125	0.16622
	50.77977	15.08023	-19.80000	-0.22012	0.43534	0.14005
	51.77546	15.06455	-19.80000	-0.24357	0.42748	0.11484
	52.77114	15.04886	-19.80000	-0.26528	0.41773	0.091145
	53.76682	15.03318	-19.80000	-0.28501	0.40622	0.069377
	54.76250	15.01750	-19.80000	-0.30257	0.39314	0.049777
	55.75818	15.00182	-19.80000	-0.31787	0.37871	0.032458
	56.75386	14.98614	-19.80000	-0.33086	0.36320	0.017425
	57.74955	14.97045	-19.80000	-0.34157	0.34685	0.0046029
	58.74523	14.95477	-19.80000	-0.35006	0.32991	-0.0061380
	59.74091	14.93909	-19.80000	-0.35644	0.31260	-0.014965
	60.73659	14.92341	-19.80000	-0.36083	0.29514	-0.022066
	61.73227	14.90773	-19.80000	-0.36339	0.27769	-0.027633
	62.72795	14.89205	-19.80000	-0.36427	0.26042	-0.031861
	63.72364	14.87636	-19.80000	-0.36363	0.24344	-0.034931
	64.71931	14.86068	-19.80000	-0.36163	0.22687	-0.037017
	65.71500	14.84500	-19.80000	-0.35844	0.21079	-0.038273
	66.71068	14.82932	-19.80000	-0.35419	0.19527	-0.038841
	67.70636	14.81364	-19.80000	-0.34903	0.18034	-0.038846
	68.70205	14.79795	-19.80000	-0.34310	0.16605	-0.038396
	69.69773	14.78227	-19.80000	-0.33650	0.15241	-0.037585
	70.69341	14.76659	-19.80000	-0.32936	0.13945	-0.036495
	71.68909	14.75091	-19.80000	-0.32177	0.12714	-0.035194
	72.68478	14.73523	-19.80000	-0.31383	0.11551	-0.033740
	73.68046	14.71955	-19.80000	-0.30561	0.10452	-0.032180
	74.67614	14.70386	-19.80000	-0.29718	0.094175	-0.030556
	75.67182	14.68818	-19.80000	-0.28861	0.084447	-0.028899
	76.66750	14.67250	-19.80000	-0.27996	0.075316	-0.027236
	77.66319	14.65682	-19.80000	-0.27127	0.066760	-0.025587
	78.65887	14.64114	-19.80000	-0.26259	0.058754	-0.023969
	79.65455	14.62545	-19.80000	-0.25395	0.051273	-0.022394
	80.65023	14.60977	-19.80000	-0.24538	0.044291	-0.020872
	81.64591	14.59409	-19.80000	-0.23692	0.037782	-0.019410
	82.64159	14.57841	-19.80000	-0.22858	0.031722	-0.018012
	83.63728	14.56273	-19.80000	-0.22038	0.026085	-0.016682
	84.63296	14.54705	-19.80000	-0.21233	0.020847	-0.015420
	85.62864	14.53136	-19.80000	-0.20446	0.015985	-0.014227
	86.62432	14.51568	-19.80000	-0.19676	0.011476	-0.013103
	87.62000	14.50000	-19.80000	-0.18926	0.0072988	-0.012046

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 100,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and collaborative technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and has annual revenue in excess of $6 billion.

More information on AECOM and its services can be found at www.aecom.com.

6-8 Greencoat Place
London
SW1P 1PL
United Kingdom
+44 (0)20 7798 5000