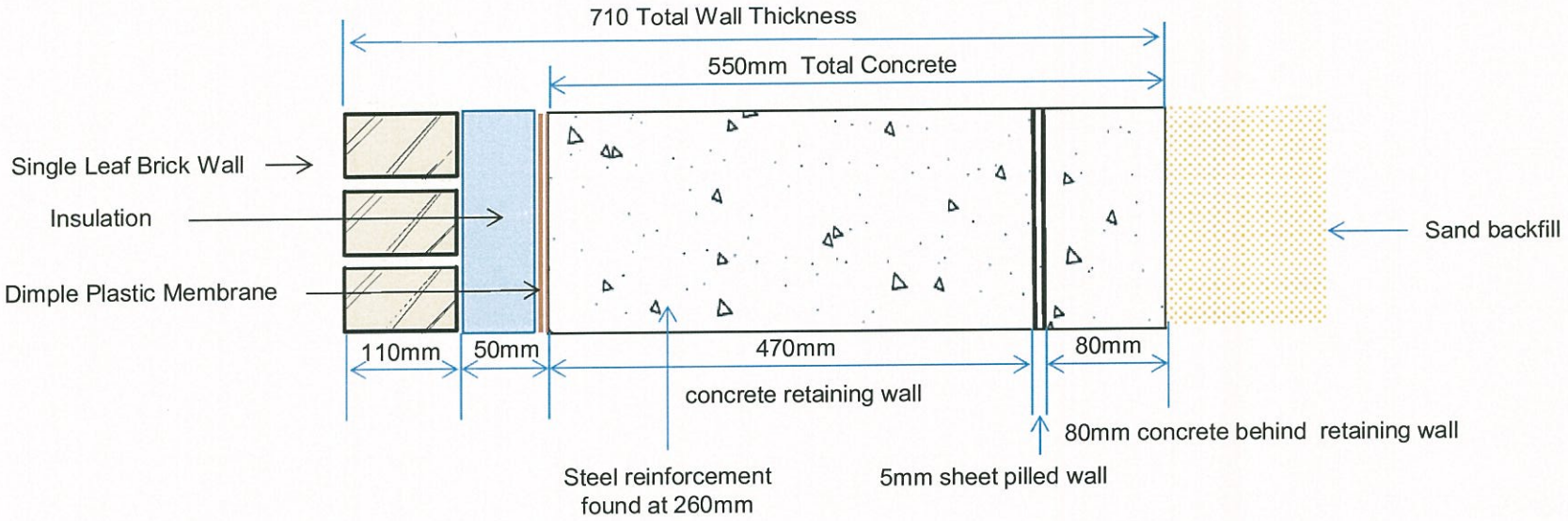


Figure 7: Core 3 - Location 2 High

SANDBERG
CONSULTING ENGINEERS

INVESTIGATION INSPECTION
MATERIALS TESTING

Where our involvement consists exclusively of testing samples, the results and our conclusions relate only to the samples tested.

APPLICANT'S STRUCTURAL ENGINEERS ADDITIONAL INVESTIGATION NOTE

Project:	7 Branch Hill	**Project No.**	7922
Application No.	2013/4187/P		
Date prepared:	8 January 2014		
By:	Thomas Musson BEng CEng MIStructE		

1. BACKGROUND

The following note records the findings of the additional intrusive investigation undertaken at 7 Branch Hill.

The investigation was undertaken to assess if any significant ground water is present behind the existing 6.5m high boundary retaining wall in response to Card Geotechnics Limited's (CGL) 'Independent Review of Basement Impact Assessment' report ref. CG/08649 and dated 5 December 2013.

2. DESCRIPTION OF INVESTIGATION WORKS

Holes, at 150mm, 1150mm and 2250mm above ground floor level were core drilled through the existing retaining wall, and into the ground beyond.

Core holes were initially 100mm diameter reducing to 50mm diameter beyond the line of the sheet piling.

The investigations were undertaken by Sandberg LLP on the 7 January 2014 under the supervision of Sinclair Johnston BSc CEng FICE FIStructE FCONSE (Sinclair Johnston & Partners).

3. WEATHER

The investigations were undertaken during a period of severe storms with prolonged periods of heavy rainfall having occurred since mid-December.

4. FINDINGS OF INVESTIGATION

4.1 On drilling through to the Bagshot Formation (natural ground) inflows of ground water did not occurred. Refer to photographic evidence in Section 5.

4.2 The existing wall comprised a single brick lining wall / 40mm cavity / 50mm polystyrene insulation board / cavity drain membrane / 500mm reinforced concrete retaining wall / 5mm steel sheet pile / concrete back fill / sandy ground (Bagshot Formation) beyond.

5. CONCLUSION

As no inflows of ground water were recorded in any of the cores, significant levels of ground water behind the existing retaining wall do not appear to be present, despite the period of heavy rainfall experience since mid-December.

6. PHOTOGRAPHIC RECORD

Photo 01 – Typical Core through Existing Wall

Photo 02 – Typical Cores (Low Level top & High Level bottom)

Thomas Musson BEng CEng MIStructE

APPENDIX E - GROUND MOVEMENT ASSESSMENT REPORT

GROUND MOVEMENT ASSESSMENT REPORT

7 Branch Hill
Hampstead
London NW3

Client: Mrs Cheryl Plaza

Engineer: Sinclair Johnston (SJ&P)

J13022A

April 2018




GEA

Document Control

Project title	7 Branch Hill, London, NW3 7LT		**Project ref**	J13022A
Report prepared by				
	Martin Cooper BEng CEng MICE FGS Technical Director			
Report checked and approved for issue by				
	Steve Branch BSc MSc CGeol FGS FRGS Managing Director			
Issue No	**Status**	**Date**	**Approved for Issue**	
1	Final	17 March 2016		
2	Final – amended scheme	3 April 2018		
3	Final – depths adjusted	10 April 2018		

This report has been issued by the GEA office indicated below. Any enquiries regarding the report should be directed to the office indicated or to Steve Branch in our Herts office.

☐	Hertfordshire	tel 01727 824666	mail@gea-ltd.co.uk
☑	Nottinghamshire	tel 01509 674888	midlands@gea-ltd.co.uk

Geotechnical & Environmental Associates Limited (GEA) disclaims any responsibility to the Client and others in respect of any matters outside the scope of this work. This report has been prepared with reasonable skill, care and diligence within the terms of the contract with the Client and taking account of the manpower, resources, investigation and testing devoted to it in agreement with the Client. This report is confidential to the Client and GEA accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known, unless formally agreed beforehand. Any such party relies upon the report at their own risk. This report may provide advice based on an interpretation of legislation, guidance notes and codes of practice. GEA does not however provide legal advice and if specific legal advice is required a lawyer should be consulted.

CONTENTS

1.0 INTRODUCTION

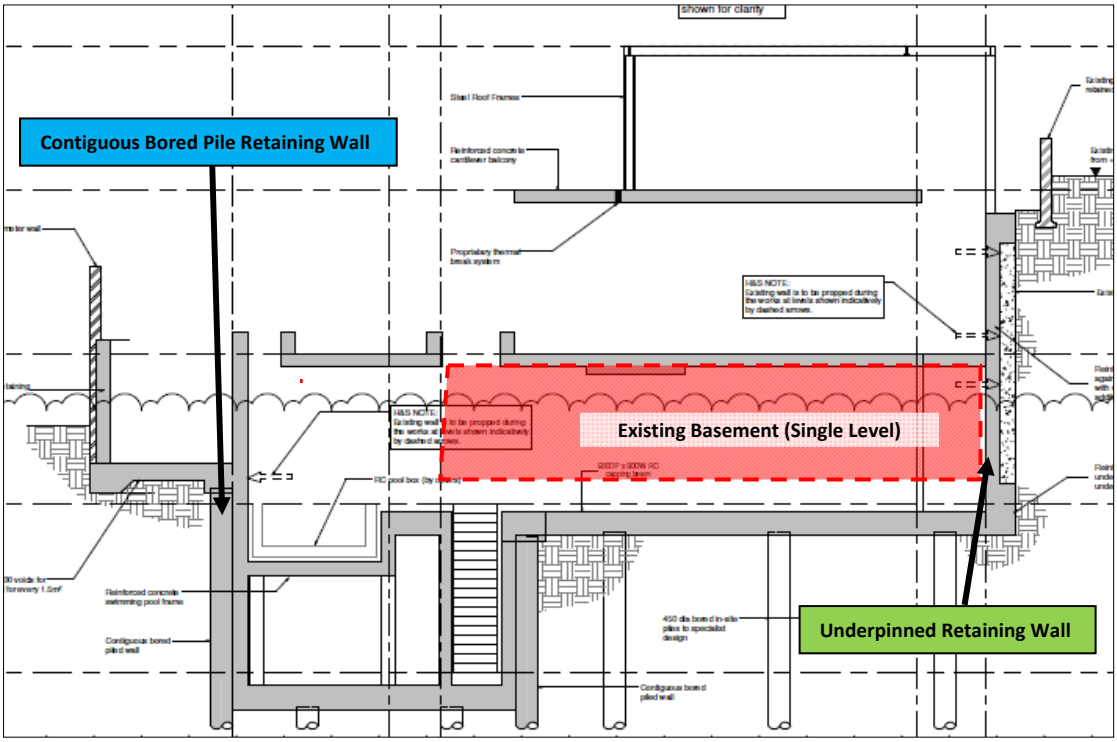
Geotechnical and Environmental Associates (GEA) has been commissioned by Sinclair Johnston (SJ&P), on behalf of Mrs Cheryl Plaza, to complete a ground movement assessment for the proposed redevelopment of 7 Branch Hill in Hampstead, London, NW3 7LT, which is to include the construction of a new house with the deepening of the existing single level basement.

A Site Investigation and Basement Impact Assessment Report has previously been carried out by GEA (report ref J13022, dated April 2013), the findings of which were used to inform a Basement Impact Assessment (BIA) by Sinclair Johnston & Partners (SJ&P). The BIA included an initial ground movement assessment but further work was deemed to be required following an independent review of the BIA by Card Geotechnics Limited (CGL). A ground movement analysis was carried out by GEA (report J13022A, dated 17 March 2106). The scheme has subsequently been amended and the basement size reduced in plan area along with a reduction in the general depth of excavation.

The purpose of this assessment has been to determine the effects of the proposed amended basement construction upon the neighbouring structures.

1.1 Proposed Development

It is understood that it is proposed to demolish the existing building and construct a new three-storey building with a deepening of the existing single-storey basement. The site is essentially cut into the hillside and ground level at the site entrance is equivalent to the basement level at the rear (east) of the site. The existing basement walls will be retained and underpinned to form the walls of the new basement with piled walls to provide earth retention at the site entrance. The extent of the works is shown on the drawing section below.



The new basement will measure roughly 15.0 m by 6.0 m in maximum plan dimension and will extend to a depth of roughly 8.0 m from the existing upper ground level of roughly 128 m OD. The site levels hereafter in this report are referenced to a site datum (SD) level where the existing ground level at the site entrance from Branch Hill is designated a level of 20.0 m SD. On this basis, the existing basement is at 19.7 m SD and the floor of the existing swimming pool is at 17.3 m SD.

The proposed excavation will extend to around 14.6 m SD across the front part of the site and therefore represents an overall basement depth of around 5.0 m below existing ground level. However, with an existing basement in place already, the effect of the new excavation across the majority of the site is to lower the existing levels by 1.25 m.

The existing basement is reported by SJ&P to have been constructed within a temporary sheet pile retaining wall in the 1980s. The sheet piles effectively became redundant on completion of construction because all loads were thereafter transferred into the reinforced concrete frame of the current building.

This report is specific to the proposed development and the advice herein should be reviewed if the proposals are amended.

1.2 Limitations

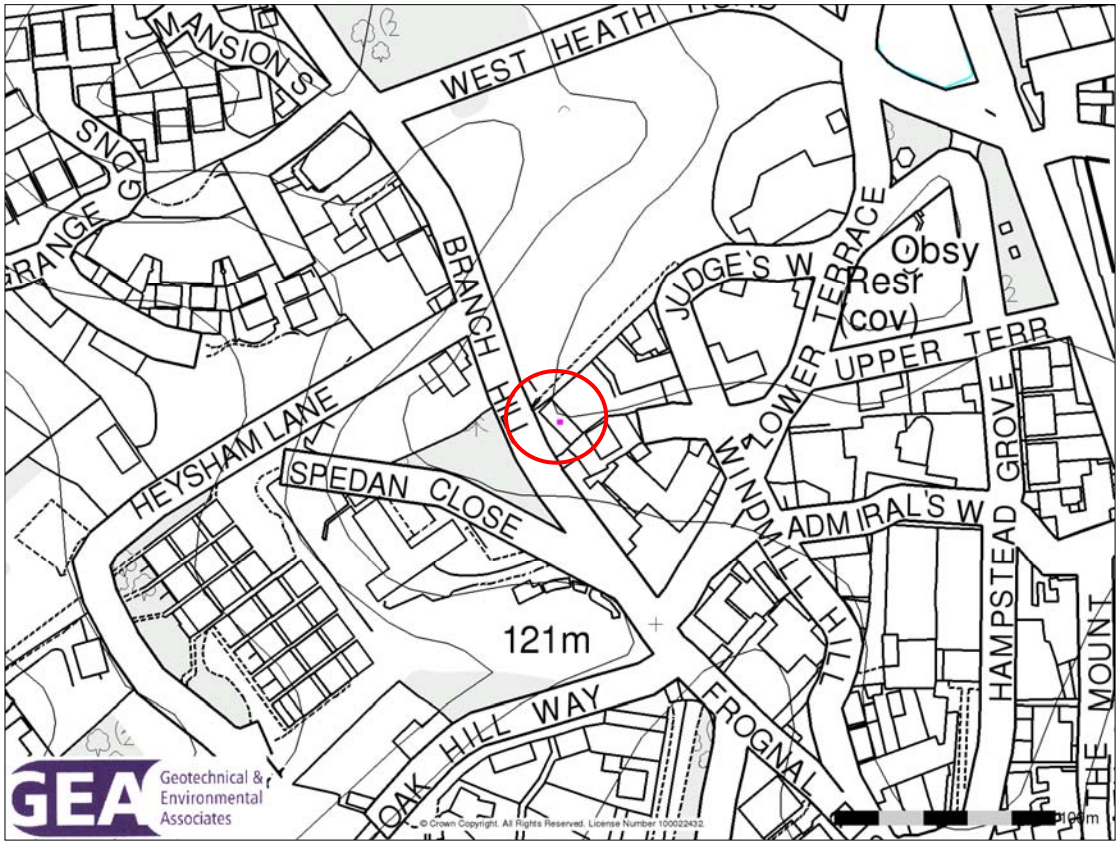
The conclusions and recommendations made in this report are limited to those that can be made on the basis of the investigation. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled and the number of soil, gas or groundwater samples tested; no liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by GEA.

2.0 THE SITE

2.1 Site Description

The site is located approximately 400 m to the northwest of Hampstead London Underground Station and is roughly rectangular in shape, with maximum dimensions of approximately 20 m southwest to northeast by 22 m northwest to southeast. It fronts onto Branch Hill to the southwest and is bordered by houses with associated private gardens to the east and south, the communal garden of Upper Terrace Lodge to the northeast and by open heathland to the north. The site may be additionally located by National Grid Reference 526100, 186125 and is shown on the map overleaf.

Ground level in the area generally slopes up towards the northeast such that the site has been built into the hillside and is at a number of different levels. The site is currently occupied by a detached three-storey house that is cut into the slope, with a pool at ground floor level, a paved forecourt in the southern corner of the site and brick retaining walls on all sides. Steps lead up from the forecourt to a terrace and garden area at first floor level that is laid to lawn with planted borders. The borders are planted with small shrubs and bushes along with three semi-mature and mature silver birch trees of up to 15 m in height. A water feature and small pond measuring approximately 0.5 m by 1.0 m are present in the north of the site.



The centre of the forecourt is at a level of approximately 20.0 m SD and the raised garden area is at a level of about 22.0 m SD and is essentially level.

3.0 SUMMARY OF GROUND CONDITIONS

The GEA site investigation confirmed the expected ground conditions in that, below a variable thickness of made ground, the Bagshot Formation was proved to the full depth investigated.

The topsoil / made ground extended to depths of 0.35 m (19.65 m SD) beneath the driveway and 2.81 m (19.2 m SD) from garden level. The underlying Bagshot Formation initially comprised medium dense dark greenish grey and brown silty clayey fine sand to a depth of 4.30 m (15.7 m SD) or orange-brown silty clayey sandy gravel. Below the initial horizon, medium dense orange-brown mottled pale greenish-grey clayey silty sand with bands of orange-brown mottled greenish-grey sand extended to the maximum depth investigated, of 16.00 m (4.0 m SD).

Groundwater was not encountered during drilling. A groundwater monitoring standpipe was installed to a depth of 16.00 m in Borehole No 1 and monitoring approximately one week and three weeks after installation recorded water at depths of 11.30 m (8.70 m SD) and 11.28 m (8.72 m SD) respectively.

The ground conditions are also shown alongside the proposed structure on the appended SJ&P Drawing No 7922 / SK14.

4.0 CONSTRUCTION SEQUENCE

The following sequence of operations has been provided by SJ&P to enable analysis of the ground movements around the basement both during and after construction.

Essentially the sequence may be considered as four groups of activities, the first three comprising the short and medium term temporary works whilst the fourth represents the construction of the permanent works.

4.1 Temporary Support to the Existing Structure

SJ&P Drawing Nos 7922/P005 and P006 show that prior to demolition, the existing reinforced concrete structure will be propped at two levels using flying shores that rake back to sections of the existing basement slab. The existing retaining walls will, therefore, no longer need to rely on the walls and floors of the current building to provide lateral support, which will allow demolition to proceed. It is understood that these props may be preloaded to allow for relaxation of the structure during demolition but both vertical and horizontal components of the load will be supported and little or no deflection is anticipated.

4.2 Installation of Underpinning

Following demolition, the retained sections of the existing boundary walls will be underpinned using reinforced concrete underpins. The pins will be installed using a standard 'hit and miss' five-pin sequence as indicated in SJ&P Drawing No 7922/009 rev P011. The underpins will be approximately 1.2 m deep beneath the eastern and southeastern walls and will be propped at two levels at the deeper sections required beneath the existing northern stepped garden wall.

4.3 Installation of Bored Pile Walls

In the western part of the site, the basement walls will be formed by a contiguous bored pile wall, which will be propped at two levels to act as temporary support during excavation of the basement.

4.4 Permanent Works

When the final excavation depths have been reached the permanent works will be formed, which will comprise a 0.5 m thick piled basement slab cast upon 50 mm of blinding concrete. The basement walls are to be cast from the 'bottom- up' and will be formed of reinforced concrete lining walls. Reinforced concrete will be used for floor slabs which will be cast on top of sections of lining wall. Following the curing of the ground floor slab, the temporary steel props will be released and removed. The combination of basement slabs and lining walls will form a complete reinforced concrete basement box.

5.0 OUTLINE RETAINING WALL DESIGN

At this stage, a piling contractor has not been appointed so there is no detailed design on which to base a ground movement assessment. However, the SJ&P drawings indicate that the bored pile walls will be installed from a level of approximately 20.0 m with excavations in front of the walls extending to between and 14.6 m SD (5.4 m of dig) and note that pile lengths of 10.0 m have been assumed for 450 mm diameter piles at 600 mm centre to centre spacings.

In our experience these pile lengths and diameters should be suitable for the proposed excavation on the basis that the piles are propped at capping beam level as well as at a lower level during the excavation and that the lining wall and slabs will provide long term propping.

The formal pile design will be undertaken by the piling contractor in due course and will set out more accurate predictions of ground movements. However, at this stage there is considered to be sufficient detail in the SJ&P documents to make certain assumptions upon which the ground movement predictions can be based.

The wall is proposed to be a contiguous bored pile wall and justification for the choice of wall is provided in Section 8.1.1 of the GEA Site Investigation Report. CIRIA report C760[1]only provides installation movements for contiguous bored pile walls in stiff clay and these curves have been adopted for this wall in the absence of alternative data. With the temporary and permanent propping arrangements in mind, a piled wall of high stiffness is considered and the ground movements for excavation in front of a wall embedded in sand are considered the most appropriate ground movement curves for the excavation phase of the development.

6.0 GROUND MOVEMENTS

The assessment of ground movements within and surrounding the excavation is not straightforward for this site due to the different levels on and around the site, the retention of the existing basement retaining walls and the combination of bored pile walls and underpinning to support the new excavation.

There are, however certain principles in the design of the new building that provide fixity to parts of the structure and remove certain mechanisms by which stress changes would lead to ground movement.

The site is underlain by a significant thickness (in excess of 16 m) of the essentially granular Bagshot Deposits with the London Clay anticipated to be present at a depth of about 20 m (2 m SD) below the existing ground level. In addition, the new structure has been designed with a 500 mm thick reinforced concrete basement raft slab. The weight of the new structure will offset the greater part of the unloading but any net unloading will be transferred from the basement slab into the reinforced concrete piles which will be integral to the slab. These piles are predominantly designed to resist the out of balance horizontal forces from the retaining walls and will be designed to resist lateral loads in combination with tensile forces. Any potential for heave is therefore deemed to be locked into the structure but in any case the stress change that would lead to heave of the London Clay would be limited due to the thickness of granular material above. Further consideration of heave movements is therefore deemed unnecessary.

[1] Gaba, A, Hardy, S, Powrie, W, Doughty, L and Selemetas, D (2017) *Embedded retaining walls – guidance for economic design.* CIRIA Report C760

As discussed earlier in this report and within the SJ&P Design and Construction Statement, the existing building is a reinforced concrete box that was cast against a temporary steel sheet pile wall. Given the age of the existing building at over 30 years and given that the ground conditions comprise the Bagshot Formation, it is considered that ground movements from that building would have taken place almost immediately after construction and certainly would have, by now, ceased. The existing retaining walls will be propped using flying shores and waling beams prior to and during the demolition of the existing building thus not allowing movement into the site.

It is however considered that ground movements may occur as a result of the installation of the underpinning and piling and then by the subsequent excavation of the basement to its formation level. These two mechanisms are assessed in the following sections.

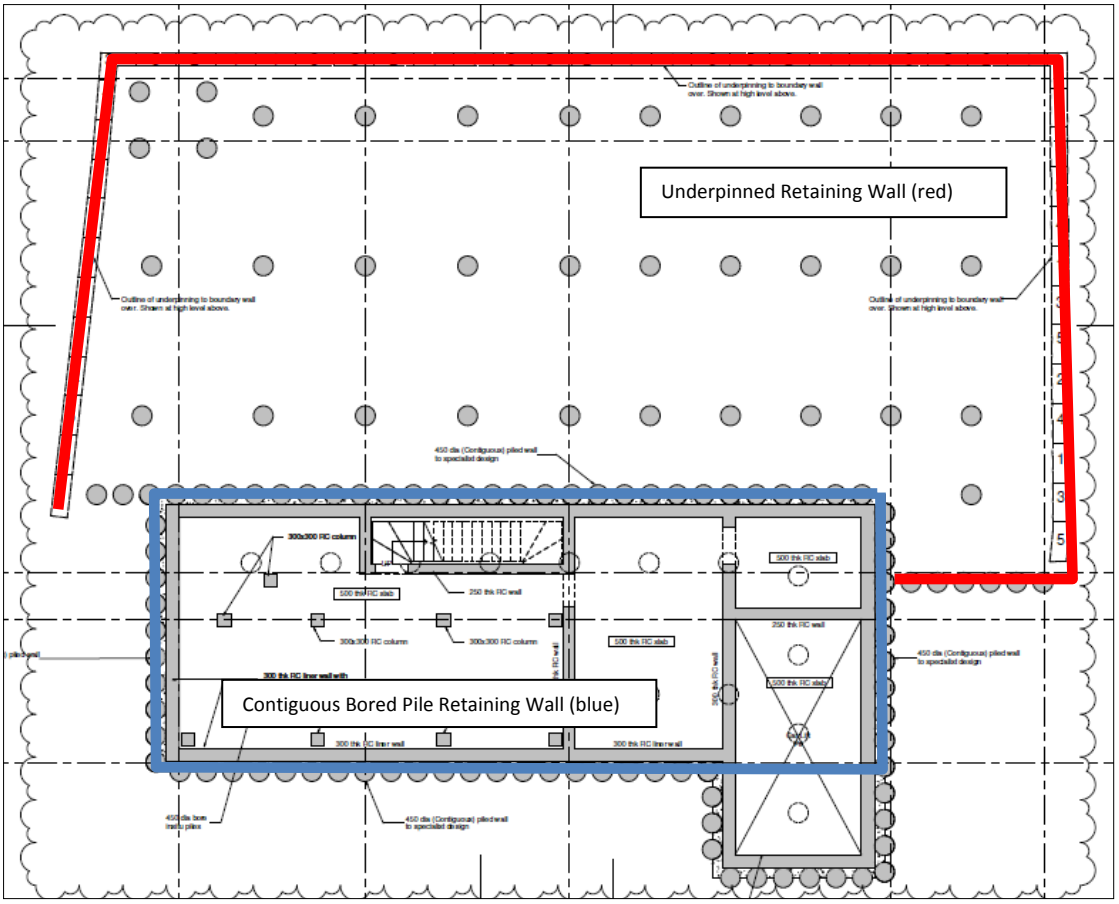
CGL, in their independent review of the SJ&P BIA, suggest that the CIRIA C580 methods of ground movement analysis may not be entirely appropriate for this site whilst SJ&P in their response consider the methods appropriate.

For this analysis GEA consider that the methods in C760 may cautiously be used to model the wall installation and excavation phases. The analysis has been undertaken using the X-Disp computer program licensed from the OASYS suite of geotechnical modelling software from Arup and which is commonly used within the ground engineering industry.

The X-Disp program has been used to predict ground movements likely to arise from the construction of the proposed basement. This includes the settlement of the ground (vertical movement) and the lateral movement of soil behind the proposed retaining walls (horizontal movement).

For the purpose of these analyses, the corners have been defined by x and y coordinates, with the x-direction parallel with the orientation north-south, whilst the y-direction is parallel with the orientation of east-west. Vertical movement is in the z-direction.

X-Disp effectively takes a series of two-dimensional planes and builds them into a pseudo three-dimensional model. It is limited in that re-entrant corners cannot be modelled due to the complexity of interaction at such corners and as such this basement profile has been modelled as a pentagon for the underpinned sections and a rectangular box for the piled wall as shown below.



X-Disp is also slightly limited in that only movements at or below the installation level of the wall can be calculated. This is because the movements are derived from movement curves in the aforementioned CIRIA documents that only refer to measurements at or below the surface of installation.

The underpinning installation level varies, especially at the northern boundary, but for the purpose of this analysis has been taken as 19.45 m SD and the underpins will extend to a level of 17.7 m SD. Similarly, the contiguous bored pile wall will be installed from a level of 20.0 m SD and the piles will extend to a depth of 10 m and found at a level of 10 m SD. The excavation level in front of the underpinning will be 18.2 m and for the piled basement wall will be 14.6 m SD from the same drawing.

The full outputs of all the analyses along with samples of the output movement contour plots are included within the appendix.

6.1 Ground Movements – Surrounding the Basement

6.1.1 Model Used

For the X-Disp analysis, the soil movement relationships used for the embedded retaining walls are based on the default values within CIRIA report C760. The C760 movements were derived from a number of historic case studies of the short term movements that result from wall installation and basement excavation. The ground movement curves for 'installation of contiguous bored pile wall in stiff clay' have been adopted as most appropriate for the contiguous wall at the western part of the site.

The drawings provided by SJ&P indicate that the reinforced concrete underpinning to form

the new basement structure will be supported or propped in the temporary condition to maintain its stability during the excavation and that reinforced concrete retaining walls will be cast at a later stage in the appropriate areas. It would seem reasonable to adopt the ground movement curves for 'no horizontal and vertical movement' for this analysis but in practice there will always be a potential for a small degree of movement to take place, typically 2 mm to 5 mm, and a more conservative approach using the ground movement curves for the panel-like installation of a diaphragm wall have been adopted.

Following wall installation, the excavation phase has been modelled and the movement curves for excavation in front of a wall in sand have been adopted.

6.1.2 Results

The X-Disp analysis has been used to estimate the movements behind the walls resulting from pile installation and basement excavation. This includes the settlement of the ground (vertical movement) and the lateral movement of soil behind the wall (horizontal movement). The contour graphs of these movement predictions are appended for the piling and underpinning phase together with the total movement prediction which combined the effects.

The predicted movements are summarised in the table below; the results are presented to the degree of accuracy required to allow predicted variations in ground movements around the structure to be illustrated, but may not reflect the anticipated accuracy of the predictions.

Phase of Works	Maximum Movement at 19.5 m SD	
	Vertical Settlement (mm)	Horizontal Movement (mm)
Piling / Underpinning	Up to 5	Up to 5
Combined Piling / Underpinning and Basement Excavation	5 to 10	10 to 15

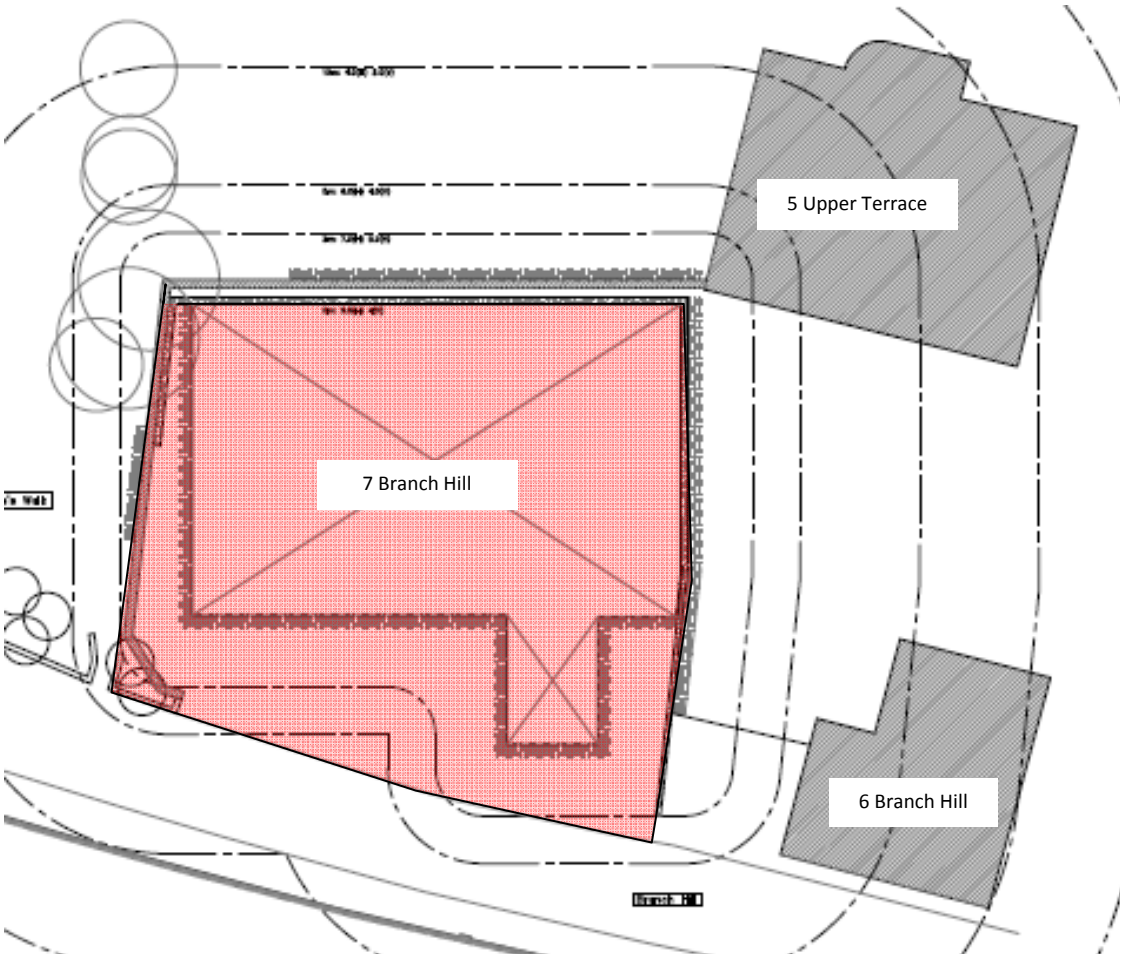
The movements set out in the table above are the maximum movements and generally occur immediately or just outside the line of the basement walls; the effects of the excavation reduce with distance away from these walls.

7.0 DAMAGE ASSESSMENT

In addition to the above assessment of the likely movements that will result from the proposed development, some of the neighbouring structures have been considered as sensitive structures, requiring Building Damage Assessments, on the basis of the 'Burland' classification given in C760. These include:

- No 5 Upper Terrace which is just to the southeast adjacent to the site boundary. The foundation depth of this building has been provided as 19.5 m SD;
- No 6 Branch Hill which is south of the site and with the ground level being sensibly level between the two, is assumed to be supported upon spread foundations bearing at 1.0 m depth, ie 19.0 m SD.

The sensitive structures outlined above have been modelled as lines in the analysis and are those along which the damage assessment has been undertaken, as shown on the annotated SJ&P drawing below.



7.1 Damage to Neighbouring Structures

The combined movements resulting from both pile installation and basement excavation calculated using the X-Disp modelling software have been used to carry out an assessment of the likely damage to adjacent properties and the results are summarised in the table below.

Building Damage Assessment		
Sensitive Structure	**Elevation**	**Category of Damage***
5 Upper Terrace	North (Wall 1)	Category 0 (Negligible)
	East (Wall 2)	Category 0 (Negligible)
	South (Wall 3)	Category 0 (Negligible)
	West (Wall 4)	Category 0 (Negligible)

Building Damage Assessment		
Sensitive Structure	**Elevation**	**Category of Damage***
6 Branch Hill	North (Wall 5)	Category 0 (Negligible)
	East (Wall 6)	Category 0 (Negligible)
	North (Wall 7)	Category 0 (Negligible)
	East (Wall 8)	Category 0 (Negligible)
	South (Wall 9)	Category 0 (Negligible)
	West (Wall 10)	Category 0 (Negligible)

**From Table 2.5 of C580[1]: Classification of visible damage to walls.*

The building damage reports for sensitive structures highlighted in the above table and shown graphically on the appended plan predict that the damage to the adjoining and nearby structures would be Category 0 (negligible).

On this basis, the damage that would inevitably occur as a result of the excavation will fall within acceptable limits.

7.2 Monitoring of Ground Movements

The predictions of ground movement based on the ground movement analysis should be checked by monitoring of adjacent properties and structures. The structures to be monitored during the construction stages include:

- the existing structure during demolition as the ground movement analysis has been based largely on there being little or no movement from the existing concrete lined sheet piled wall;
- The elevations of 5 Upper Terrace and 6 Branch Hill.

Condition surveys of the above existing structures are likely to be carried out before and after the proposed works.

The precise monitoring strategy will be developed at a later stage but SJ&P have indicated the potential target locations on their Drawing No 7922 / P007 whilst remaining subject to discussions and agreements with the owners of the adjacent properties and structures before construction takes place. It is, however, expected that monthly monitoring would take place throughout the construction and that the frequency would increase to at least weekly during the groundworks elements and daily where excavation against critical areas is underway.

7.3 Mitigation

Reference to the detailed results indicates that the predicted damage to the existing structures is within Category 0.

8.0 CONCLUSIONS

The analysis has concluded that the predicted damage to the neighbouring properties would be 'Negligible'; on this basis, the damage that would inevitably occur as a result of such an excavation would fall within the acceptable limits.

The separate phases of work, including piling / underpinning and subsequent excavation of the proposed basement structures will in practice be separated by a number of weeks during which time construction of capping beams and pile curing will take place. This will provide an opportunity for the ground movements during and immediately after piling to be measured and the data acquired can be fed back into the design and compared with the predicted values. Such a comparison will allow the ground model to be reviewed and the predicted wall movements to be reassessed prior to the main excavation taking place so that propping arrangements can be adjusted if required.

APPENDICES

Ground Conditions Section Summary

SOIL DISPLACEMENT MODEL RESULTS

X-DISP ANALYSIS

Pile Installation

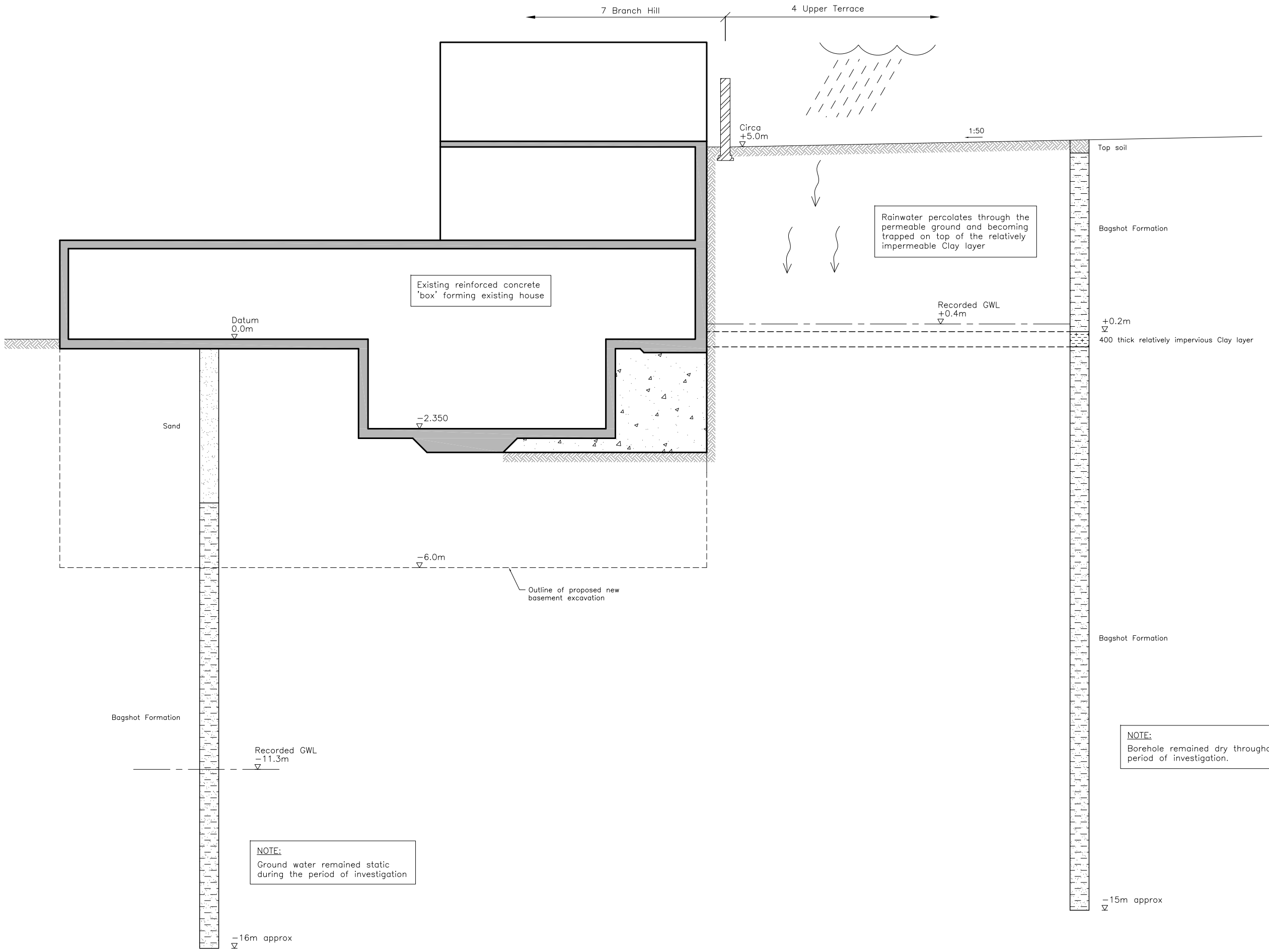
Contour Plots of Vertical Movements and Horizontal Movements

Pile Installation and Basement Excavation

Contour Plots of Combined Vertical Movements and Horizontal Movements

BUILDING DAMAGE ASSESSMENT (X-DISP)

Tabular Output of Results



NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.

Rev	Date	Issued	Amendment
–	18.12.13	TJM	Issued for planning.

Status

PLANNING

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

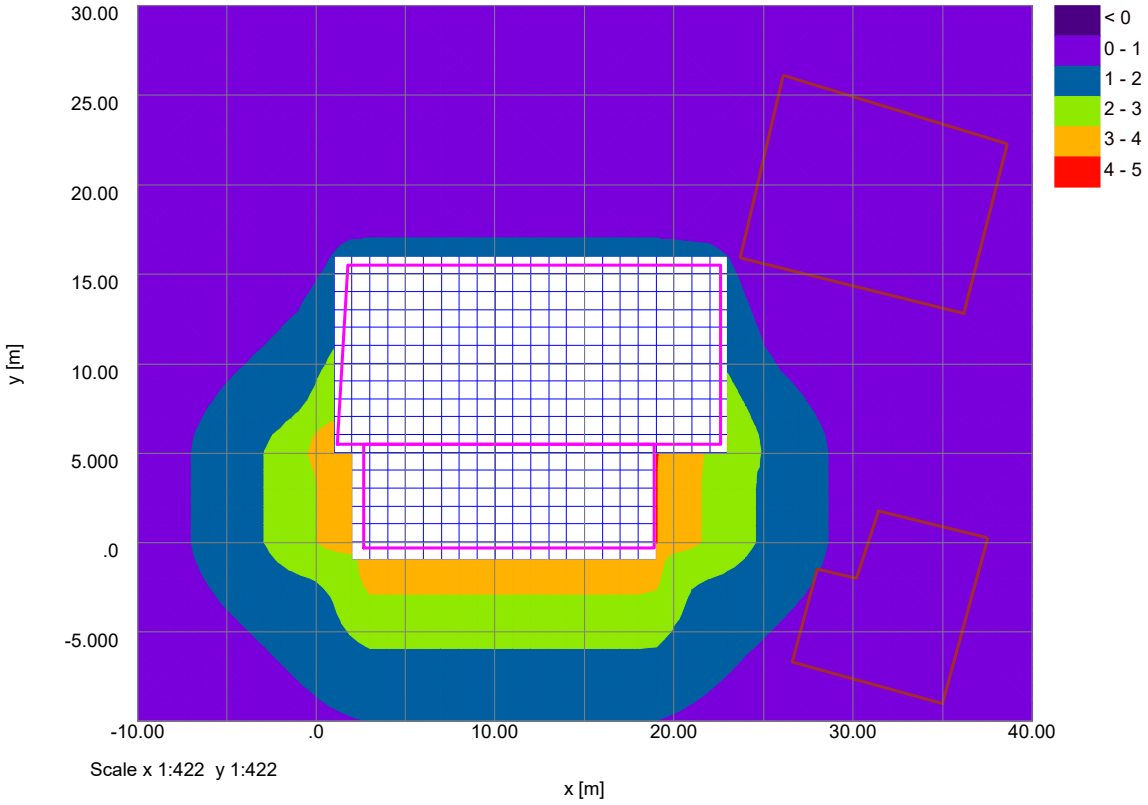
GROUND CONDITIONS

Drawn T Musson Scale 1:100 at A3

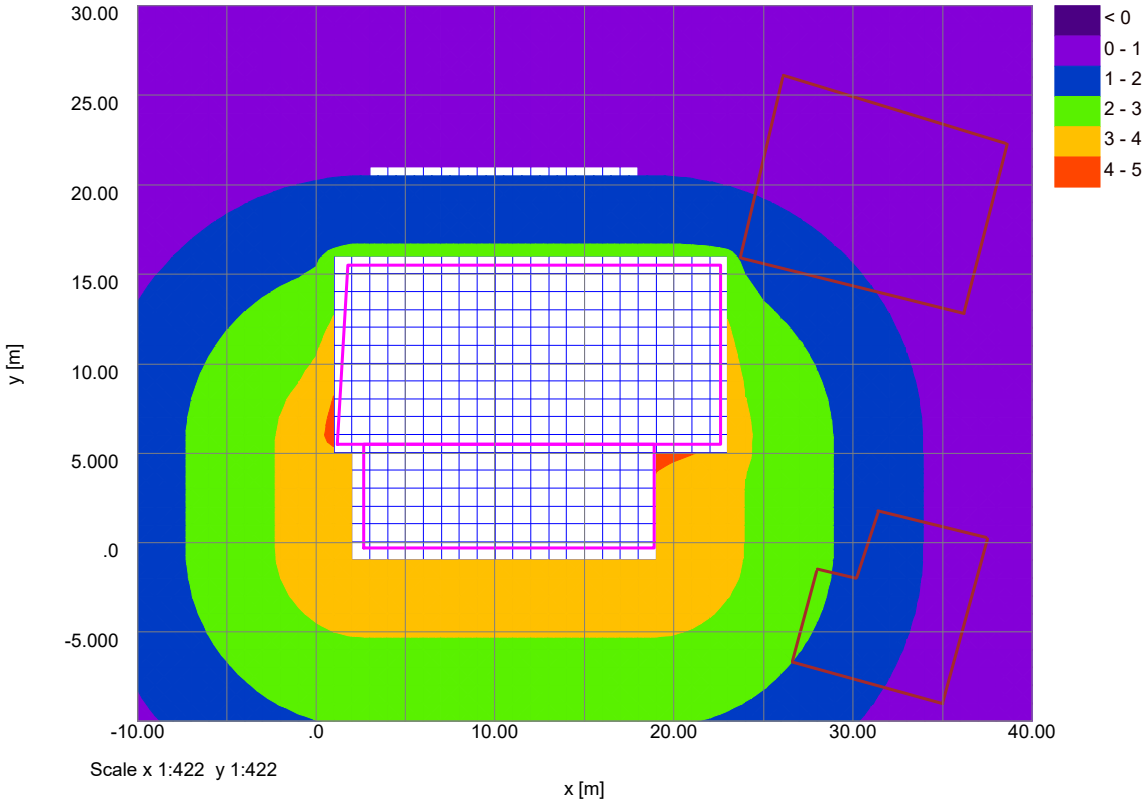
Project No./Drawing No. 7922/SK014

Rev –

Horizontal Displacement Contours: Grid 1 (level 19.450m) Interval 1mm



Vertical Settlement Contours: Grid 1 (level 19.450m) (Interval 1mm)



Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Type	Name	Direction of extrusion	Point/Line/Line for extrusion						No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate	Surface type for tunnels
			First point			Second point							
			X [m]	Y [m]	Z(level) [m]	X [m]	Y [m]	Z(level) [m]		[m]			
Grid	Grid 1	Global X	-10.00000	-10.00000	19.45000	-	30.00000	19.45000	40	50.00000	50	Yes	Surface
Line	Line 1	-	23.70000	15.95000	19.45000	26.10000	26.05000	19.45000	10	-	-	Yes	Surface
Line	Line 2	-	26.10000	26.10000	19.45000	38.60000	22.30000	19.45000	10	-	-	Yes	Surface
Line	Line 3	-	38.60000	22.25000	19.45000	36.20000	12.85000	19.45000	10	-	-	Yes	Surface
Line	Line 4	-	36.20000	12.80000	19.45000	23.70000	15.90000	19.45000	10	-	-	Yes	Surface
Line	Line 5	-	26.60000	-6.65000	19.00000	28.00000	-1.55000	19.00000	5	-	-	Yes	Surface
Line	Line 6	-	28.00000	-1.50000	19.00000	30.20000	-2.00000	19.00000	5	-	-	Yes	Surface
Line	Line 7	-	30.20000	-1.95000	19.00000	31.40000	1.75000	19.00000	5	-	-	Yes	Surface
Line	Line 8	-	31.40000	1.80000	19.00000	37.50000	0.30000	19.00000	10	-	-	Yes	Surface
Line	Line 9	-	37.50000	0.25000	19.00000	35.00000	-8.95000	19.00000	10	-	-	Yes	Surface
Line	Line 10	-	35.00000	-9.00000	19.00000	26.60000	-6.70000	19.00000	10	-	-	Yes	Surface

Vertical Ground Movement Curves (Excavations)

Curve Name: **No vertical ground movement**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of Determination: -2147483648.E+2147483647

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.040][2.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of Determination: 1.0

Curve Name: **Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.050][0.050,0.000,0.047][0.100,0.000,0.043][0.150,0.000,0.040]
[0.200,0.000,0.037][0.250,0.000,0.034][0.300,0.000,0.031][0.350,0.000,0.028]
[0.400,0.000,0.025][0.450,0.000,0.022][0.500,0.000,0.020][0.550,0.000,0.018]
[0.600,0.000,0.016][0.650,0.000,0.014][0.700,0.000,0.012][0.750,0.000,0.010]
[0.800,0.000,0.008][0.850,0.000,0.007][0.900,0.000,0.006][0.950,0.000,0.005]
[1.000,0.000,0.004][1.050,0.000,0.003][1.100,0.000,0.003][1.150,0.000,0.002]
[1.200,0.000,0.002][1.250,0.000,0.001][1.300,0.000,0.001][1.350,0.000,0.001]
[1.400,0.000,0.001][1.450,0.000,0.000][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = $-1.2355E\text{-}2x^4 + 3.4814E\text{-}2x^3 - 2.8885E\text{-}3x^2 - 6.5618E\text{-}2x + 4.9987E\text{-}2$
Coeff. of Determination: 1.0000

Horizontal Ground Movement Curves (Excavations)

Curve Name: **No horizontal ground movement**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 0
y Order: 0
Polynomial: z = 0.0
Coeff. of Determination: -2147483648.E+2147483647

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034]
[0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027]
[0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020]
[0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015]
[0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010]
[1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006]
[1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003]
[1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = $-4.2486E\text{-}3x^3 + 1.9096E\text{-}2x^2 - 4.6221E\text{-}2x + 4.0729E\text{-}2$
Coeff. of Determination: 1.0000

Curve Name: **Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.050][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.33E-2x + 5.00E-2
Coeff. of Determination: 1.00

Polygonal Excavations

Excavation Name: **Piling**
Surface level [m]: 20.000
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: 10.000

Corner	x	y	Base	Stiffened	Previous Side	Next Side

			Level		d	p1	p2*	d	p1	p2*
	[m]	[m]	[m]		[m]	[%]	[%]	[m]	[%]	[%]
1	2.7000	-0.30000	10.000	No	-	-	-	-	-	-
2	2.7000	5.5000	10.000	No	-	-	-	-	-	-
3	18.900	5.5000	10.000	No	-	-	-	-	-	-
4	18.900	-0.30000	10.000	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Horizontal
1	2.7000	-0.30000	2.7000	5.5000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	2.7000	5.5000	18.900	5.5000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	18.900	5.5000	18.900	-0.30000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	18.900	-0.30000	2.7000	-0.30000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))

Excavation Name:	**Underpinning**
Surface level [m]:	19.450
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	17.700

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	Previous Side p1 [%]	Previous Side p2* [%]	Next Side d [m]	Next Side p1 [%]	Next Side p2* [%]
1	1.2000	5.5000	17.700	No	-	-	-	-	-	-
2	1.8000	15.500	17.700	No	-	-	-	-	-	-
3	22.600	15.500	17.700	No	-	-	-	-	-	-
4	22.600	5.5000	17.700	No	-	-	-	-	-	-
5	18.900	5.5000	18.200	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Horizontal
1	1.2000	5.5000	1.8000	15.500	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
2	1.8000	15.500	22.600	15.500	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
3	22.600	15.500	22.600	5.5000	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
4	22.600	5.5000	18.900	5.5000	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
5	18.900	5.5000	1.2000	5.5000	No vertical ground movement	No horizontal ground movement

Damage Category Strains

Name	0 (Negligible) to 1 (Very Slight)	1 (Very Slight) to 2 (Slight)	2 (Slight) to 3 (Moderate)	3 (Moderate) to 4 (Severe)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000

Specific Structures - Geometry

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line [m]	End Distance Along Line [m]	Vertical Offsets from Line for Vertical Movement Calculations [m]	Vertical Displacement Limit Sensitivity [mm]	Damage Category Strains	Poisson's Ratio	E/G
5 Upper Terrace	North Wall	Line 1	0.00000	10.30000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	East Wall	Line 2	0.00000	13.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	South Wall	Line 3	0.00000	9.65000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	West Wall	Line 4	0.00000	12.80000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	North 1	Line 5	0.00000	5.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	East 1	Line 6	0.00000	2.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	North 2	Line 7	0.00000	3.80000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	East 2	Line 8	0.00000	6.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	South	Line 9	0.00000	9.50000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	West	Line 10	0.00000	8.70000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Specific Structures - Bending Parameters

Structure Name	Sub-Structure Name	Height [m]	Default Properties	Hogging 2nd Moment of Area (per unit width) [m³]	Hogging Distance of Bending Strain from N.A. [m]	Hogging Distance of N.A. from Edge of Beam in Tension [m]	Sagging 2nd Moment of Area (per unit width) [m³]	Sagging Distance of Bending Strain from N.A. [m]	Sagging Distance of N.A. from Edge of Beam in Tension [m]
5 Upper Terrace	North Wall	12.000	Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	East Wall	12.000	Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	South Wall	12.000	Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	West Wall	12.000	Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
6 Branch Hill	North 1	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	East 1	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	North 2	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	East 2	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	South	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	West	13.000	Yes	732.33	13.000	13.000	183.08	6.5000	6.5000

Building Segment Combinations

Structure Name	Sub-Structure Name	Vertical Offset from Line for Vertical Movement Calculations [m]	Segment Start [m]	Length [m]	Curvature	Combined Segment

No structures have segments combined.

Utility Strain Calculation Options

Neglect beneficial contribution of axial strains : No

Warnings

1 Multiple excavations have been specified. The displacements resulting from these excavations are calculated by summing the displacements resulting from each individual excavation. No account has been taken of the interactions between excavations (e.g. overlapping zones of influence or 'shielding' of one excavation by another).
2 Embedded Wall Excavation PE1 : Piling intersects PE2 : Underpinning.
3 Embedded Wall Excavation PE2 : Underpinning intersects PE1 : Piling.

Structure Name	Sub-Structure Name	Vertical Offset from Line for Vertical	Segment Start Length	Curvature	Combined Segment

Errors

None

Displacement and Strain Results

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement along Line	Horizontal displacement perpendicular to Line	
	[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]
Grid 1	Grid 1	-10.00000	-10.00000	19.45000	0.0	0.0	0.80388	-	-	-
		-9.00000	-10.00000	19.45000	0.0	0.0	0.96039	-	-	-
		-8.00000	-10.00000	19.45000	0.053472	0.047194	1.1115	-	-	-
		-7.00000	-10.00000	19.45000	0.11452	0.11452	1.2564	-	-	-
		-6.00000	-10.00000	19.45000	0.16406	0.18843	1.3940	-	-	-
		-5.00000	-10.00000	19.45000	0.20094	0.26949	1.5231	-	-	-
		-4.00000	-10.00000	19.45000	0.22386	0.35787	1.6422	-	-	-
		-3.00000	-10.00000	19.45000	0.23160	0.45316	1.7498	-	-	-
		-2.00000	-10.00000	19.45000	0.22330	0.55408	1.8443	-	-	-
		-1.00000	-10.00000	19.45000	0.19884	0.65826	1.9237	-	-	-
		0.00000	-10.00000	19.45000	0.15922	0.76203	1.9862	-	-	-
		1.00000	-10.00000	19.45000	0.10683	0.86043	2.0304	-	-	-
		2.00000	-10.00000	19.45000	0.045545	0.94753	2.0550	-	-	-
		3.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		4.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		5.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		6.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		7.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		8.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		9.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		10.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		11.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		12.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		13.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		14.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		15.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		16.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		17.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		18.00000	-10.00000	19.45000	0.0	0.99841	2.0600	-	-	-
		19.00000	-10.00000	19.45000	-0.0065517	0.99175	2.0599	-	-	-
		20.00000	-10.00000	19.45000	-0.070828	0.91445	2.0476	-	-	-
		21.00000	-10.00000	19.45000	-0.12910	0.82207	2.0151	-	-	-
		22.00000	-10.00000	19.45000	-0.17677	0.72086	1.9633	-	-	-
		23.00000	-10.00000	19.45000	-0.21053	0.61641	1.8938	-	-	-
		24.00000	-10.00000	19.45000	-0.22857	0.51316	1.8082	-	-	-
		25.00000	-10.00000	19.45000	-0.23039	0.41427	1.7083	-	-	-
		26.00000	-10.00000	19.45000	-0.21645	0.32165	1.5958	-	-	-
		27.00000	-10.00000	19.45000	-0.18779	0.23619	1.4726	-	-	-
		28.00000	-10.00000	19.45000	-0.14570	0.15804	1.3399	-	-	-
		29.00000	-10.00000	19.45000	-0.091425	0.088840	1.1993	-	-	-
		30.00000	-10.00000	19.45000	-0.026044	0.021938	1.0518	-	-	-
		31.00000	-10.00000	19.45000	0.0	0.0	0.89839	-	-	-
		32.00000	-10.00000	19.45000	0.0	0.0	0.73994	-	-	-
		33.00000	-10.00000	19.45000	0.0	0.0	0.57714	-	-	-
		34.00000	-10.00000	19.45000	0.0	0.0	0.41057	-	-	-
		35.00000	-10.00000	19.45000	0.0	0.0	0.24074	-	-	-
		36.00000	-10.00000	19.45000	0.0	0.0	0.068079	-	-	-
		37.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-9.00000	19.45000	0.0	0.0	0.92117	-	-	-
		-9.00000	-9.00000	19.45000	0.045274	0.031079	1.0840	-	-	-
		-8.00000	-9.00000	19.45000	0.12218	0.093916	1.2419	-	-	-
		-7.00000	-9.00000	19.45000	0.18843	0.16406	1.3940	-	-	-
		-6.00000	-9.00000	19.45000	0.24271	0.24271	1.5393	-	-	-
		-5.00000	-9.00000	19.45000	0.28327	0.33089	1.6764	-	-	-
		-4.00000	-9.00000	19.45000	0.30808	0.42934	1.8038	-	-	-
		-3.00000	-9.00000	19.45000	0.31503	0.53816	1.9198	-	-	-
		-2.00000	-9.00000	19.45000	0.30232	0.65645	2.0223	-	-	-
		-1.00000	-9.00000	19.45000	0.26902	0.78186	2.1092	-	-	-
		0.00000	-9.00000	19.45000	0.21569	0.91019	2.1781	-	-	-
		1.00000	-9.00000	19.45000	0.14499	1.0352	2.2271	-	-	-
		2.00000	-9.00000	19.45000	0.061891	1.1490	2.2544	-	-	-
		3.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		4.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		5.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		6.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		7.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		8.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		9.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		10.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		11.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		12.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		13.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		14.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		15.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		16.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		17.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		18.00000	-9.00000	19.45000	0.0	1.2172	2.2600	-	-	-
		19.00000	-9.00000	19.45000	-0.0089058	1.2082	2.2599	-	-	-
		20.00000	-9.00000	19.45000	-0.096209	1.1054	2.2461	-	-	-
		21.00000	-9.00000	19.45000	-0.17508	0.98608	2.2100	-	-	-
		22.00000	-9.00000	19.45000	-0.23930	0.85886	2.1528	-	-	-
		23.00000	-9.00000	19.45000	-0.28482	0.73106	2.0765	-	-	-
		24.00000	-9.00000	19.45000	-0.30985	0.60811	1.9831	-	-	-
		25.00000	-9.00000	19.45000	-0.31453	0.49342	1.8749	-	-	-
		26.00000	-9.00000	19.45000	-0.30019	0.38871	1.7541	-	-	-
		27.00000	-9.00000	19.45000	-0.26882	0.29442	1.6226	-	-	-
		28.00000	-9.00000	19.45000	-0.22254	0.21016	1.4821	-	-	-
		29.00000	-9.00000	19.45000	-0.16329	0.13505	1.3339	-	-	-
		30.00000	-9.00000	19.45000	-0.092639	0.067972	1.1794	-	-	-
		31.00000	-9.00000	19.45000	-0.011736	0.0077221	1.0194	-	-	-
		32.00000	-9.00000	19.45000	0.0	0.0	0.85484	-	-	-
		33.00000	-9.00000	19.45000	0.0	0.0	0.68639	-	-	-
		34.00000	-9.00000	19.45000	0.0	0.0	0.51460	-	-	-
		35.00000	-9.00000	19.45000	0.0	0.0	0.33995	-	-	-
		36.00000	-9.00000	19.45000	0.0	0.0	0.16281	-	-	-
		37.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-8.00000	19.45000	0.018582	0.0098738	1.0296	-	-	-
		-9.00000	-8.00000	19.45000	0.11189	0.065869	1.1987	-	-	-
		-8.00000	-8.00000	19.45000	0.19590	0.12904	1.3635	-	-	-
		-7.00000	-8.00000	19.45000	0.26949	0.20094	1.5231	-	-	-
		-6.00000	-8.00000	19.45000	0.33089	0.28327	1.6764	-	-	-
		-5.00000	-8.00000	19.45000	0.37772	0.37772	1.8221	-	-	-
		-4.00000	-8.00000	19.45000	0.40699	0.48580	1.9586	-	-	-
		-3.00000	-8.00000	19.45000	0.41536	0.60051	2.0840	-	-	-
		-2.00000	-8.00000	19.45000	0.39960	0.74576	2.1958	-	-	-
		-1.00000	-8.00000	19.45000	0.35732	0.89570	2.2914	-	-	-
		0.00000	-8.00000	19.45000	0.28813	1.0539	2.3681	-	-	-
		1.00000	-8.00000	19.45000	0.19467	1.2126	2.4229	-	-	-
		2.00000	-8.00000	19.45000	0.083363	1.3610	2.4536	-	-	-
		3.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		4.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		5.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		6.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		7.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		8.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		9.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		10.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		11.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		12.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		13.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		14.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		15.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		16.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		17.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		18.00000	-8.00000	19.45000	0.0	1.4521	2.4600	-	-	-
		19.00000	-8.00000	19.45000	-0.012004	1.4399	2.4599	-	-	-
		20.00000	-8.00000	19.45000	-0.12946	1.3036	2.4444	-	-	-
		21.00000	-8.00000	19.45000	-0.23464	1.1496	2.4038	-	-	-
		22.00000	-8.00000	19.45000	-0.31895	0.99003	2.3399	-	-	-
		23.00000	-8.00000	19.45000	-0.37750	0.83442	2.2553	-	-	-
		24.00000	-8.00000	19.45000	-0.40898	0.68918	2.1528	-	-	-
		25.00000	-8.00000	19.45000	-0.41474	0.55764	2.0353	-	-	-
		26.00000	-8.00000	19.45000	-0.39760	0.44085	1.9052	-	-	-
		27.00000	-8.00000	19.45000	-0.36092	0.33838	1.7648	-	-	-
		28.00000	-8.00000	19.45000	-0.30793	0.24898	1.6159	-	-	-
		29.00000	-8.00000	19.45000	-0.24140	0.17102	1.4599	-	-	-
		30.00000	-8.00000	19.45000	-0.16347	0.10281	1.2981	-	-	-
		31.00000	-8.00000	19.45000	-0.075639	0.042693	1.1316	-	-	-
		32.00000	-8.00000	19.45000	0.0	0.0	0.96092	-	-	-
		33.00000	-8.00000	19.45000	0.0	0.0	0.78690	-	-	-
		34.00000	-8.00000	19.45000	0.0	0.0	0.61001	-	-	-
		35.00000	-8.00000	19.45000	0.0	0.0	0.43069	-	-	-
		36.00000	-8.00000	19.45000	0.0	0.0	0.24927	-	-	-
		37.00000	-8.00000	19.45000	0.0	0.0	0.066045	-	-	-
		38.00000	-8.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	-8.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-8.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-7.00000	19.45000	0.079721	0.035657	1.1282	-	-	-
		-9.00000	-7.00000	19.45000	0.18131	0.089742	1.3035	-	-	-
		-8.00000	-7.00000	19.45000	0.27447	0.15183	1.4751	-	-	-
		-7.00000	-7.00000	19.45000	0.35787	0.22386	1.6422	-	-	-
		-6.00000	-7.00000	19.45000	0.42934	0.30808	1.8038	-	-	-
		-5.00000	-7.00000	19.45000	0.48580	0.40699	1.9586	-	-	-
		-4.00000	-7.00000	19.45000	0.52317	0.52317	2.1050	-	-	-
		-3.00000	-7.00000	19.45000	0.53648	0.65897	2.2407	-	-	-
		-2.00000	-7.00000	19.45000	0.52038	0.81586	2.3632	-	-	-
		-1.00000	-7.00000	19.45000	0.47006	0.99332	2.4692	-	-	-
		0.00000	-7.00000	19.45000	0.38297	1.1874	2.5553	-	-	-
		1.00000	-7.00000	19.45000	0.26102	1.3890	2.6175	-	-	-
		2.00000	-7.00000	19.45000	0.11239	1.5835	2.6527	-	-	-
		3.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		4.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		5.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		6.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		7.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		8.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		9.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		10.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		11.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		12.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		13.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		14.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		15.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		16.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		17.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		18.00000	-7.00000	19.45000	0.0	1.7055	2.6600	-	-	-
		19.00000	-7.00000	19.45000	-0.016202	1.6891	2.6599	-	-	-
		20.00000	-7.00000	19.45000	-0.17424	1.5077	2.6421	-	-	-
		21.00000	-7.00000	19.45000	-0.31361	1.3083	2.5957	-	-	-
		22.00000	-7.00000	19.45000	-0.42222	1.1082	2.5235	-	-	-
		23.00000	-7.00000	19.45000	-0.49453	0.92002	2.4290	-	-	-
		24.00000	-7.00000	19.45000	-0.53069	0.75054	2.3160	-	-	-
		25.00000	-7.00000	19.45000	-0.53438	0.60217	2.1878	-	-	-
		26.00000	-7.00000	19.45000	-0.51081	0.47446	2.0476	-	-	-
		27.00000	-7.00000	19.45000	-0.46526	0.36550	1.8976	-	-	-
		28.00000	-7.00000	19.45000	-0.40236	0.27278	1.7399	-	-	-
		29.00000	-7.00000	19.45000	-0.32580	0.19372	1.5760	-	-	-
		30.00000	-7.00000	19.45000	-0.23829	0.12591	1.4069	-	-	-
		31.00000	-7.00000	19.45000	-0.14164	0.067248	1.2338	-	-	-
		32.00000	-7.00000	19.45000	-0.036886	0.015881	1.0572	-	-	-
		33.00000	-7.00000	19.45000	0.0	0.0	0.87782	-	-	-
		34.00000	-7.00000	19.45000	0.0	0.0	0.69606	-	-	-
		35.00000	-7.00000	19.45000	0.0	0.0	0.51231	-	-	-
		36.00000	-7.00000	19.45000	0.0	0.0	0.32685	-	-	-
		37.00000	-7.00000	19.45000	0.0	0.0	0.13995	-	-	-
		38.00000	-7.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	-7.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-7.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-6.00000	19.45000	0.14117	0.051836	1.2159	-	-	-
		-9.00000	-6.00000	19.45000	0.25274	0.10253	1.3971	-	-	-
		-8.00000	-6.00000	19.45000	0.35721	0.16169	1.5753	-	-	-
		-7.00000	-6.00000	19.45000	0.45316	0.23160	1.7498	-	-	-
		-6.00000	-6.00000	19.45000	0.53816	0.31503	1.9198	-	-	-
		-5.00000	-6.00000	19.45000	0.60851	0.41536	2.0840	-	-	-
		-4.00000	-6.00000	19.45000	0.65897	0.53648	2.2407	-	-	-
		-3.00000	-6.00000	19.45000	0.68265	0.68265	2.3878	-	-	-
		-2.00000	-6.00000	19.45000	0.67123	0.85786	2.5224	-	-	-
		-1.00000	-6.00000	19.45000	0.61594	1.0645	2.6409	-	-	-
		0.00000	-6.00000	19.45000	0.50994	1.3008	2.7386	-	-	-
		1.00000	-6.00000	19.45000	0.35240	1.5574	2.8104	-	-	-
		2.00000	-6.00000	19.45000	0.15308	1.8147	2.8514	-	-	-
		3.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		4.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		5.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		6.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		7.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		8.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		9.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		10.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		11.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		12.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		13.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		14.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		15.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		16.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		17.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		18.00000	-6.00000	19.45000	0.0	1.9800	2.8600	-	-	-
		19.00000	-6.00000	19.45000	-0.022109	1.9577	2.8598	-	-	-
		20.00000	-6.00000	19.45000	-0.23667	1.7134	2.8390	-	-	-
		21.00000	-6.00000	19.45000	-0.42126	1.4533	2.7851	-	-	-
		22.00000	-6.00000	19.45000	-0.55866	1.2031	2.7023	-	-	-
		23.00000	-6.00000	19.45000	-0.64384	0.97804	2.5957	-	-	-
		24.00000	-6.00000	19.45000	-0.68058	0.78408	2.4703	-	-	-
		25.00000	-6.00000	19.45000	-0.67690	0.62090	2.3303	-	-	-
		26.00000	-6.00000	19.45000	-0.64157	0.48527	2.1790	-	-	-
		27.00000	-6.00000	19.45000	-0.58243	0.37297	2.0191	-	-	-
		28.00000	-6.00000	19.45000	-0.50568	0.27983	1.8524	-	-	-
		29.00000	-6.00000	19.45000	-0.41593	0.20218	1.6805	-	-	-
		30.00000	-6.00000	19.45000	-0.31634	0.13688	1.5044	-	-	-
		31.00000	-6.00000	19.45000	-0.20892	0.081353	1.3249	-	-	-
		32.00000	-6.00000	19.45000	-0.094710	0.033497	1.1427	-	-	-
		33.00000	-6.00000	19.45000	0.0	0.0	0.95829	-	-	-
		34.00000	-6.00000	19.45000	0.0	0.0	0.77200	-	-	-
		35.00000	-6.00000	19.45000	0.0	0.0	0.58415	-	-	-
		36.00000	-6.00000	19.45000	0.0	0.0	0.39500	-	-	-
		37.00000	-6.00000	19.45000	0.0	0.0	0.20474	-	-	-
		38.00000	-6.00000	19.45000	0.0	0.0	0.013523	-	-	-
		39.00000	-6.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-6.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-5.00000	19.45000	0.20169	0.058774	1.2916	-	-	-
		-9.00000	-5.00000	19.45000	0.32483	0.10437	1.4783	-	-	-
		-8.00000	-5.00000	19.45000	0.44272	0.15838	1.6627	-	-	-
		-7.00000	-5.00000	19.45000	0.55408	0.22330	1.8443	-	-	-
		-6.00000	-5.00000	19.45000	0.65645	0.30232	2.0223	-	-	-
		-5.00000	-5.00000	19.45000	0.74576	0.39960	2.1958	-	-	-
		-4.00000	-5.00000	19.45000	0.81586	0.52038	2.3632	-	-	-
		-3.00000	-5.00000	19.45000	0.85786	0.67123	2.5224	-	-	-
		-2.00000	-5.00000	19.45000	0.85978	0.85978	2.6706	-	-	-
		-1.00000	-5.00000	19.45000	0.80686	1.0936	2.8037	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		0.00000	-5.00000	19.45000	0.68414	1.3768	2.9159	-	-	-
		1.00000	-5.00000	19.45000	0.48315	1.7036	3.0004	-	-	-
		2.00000	-5.00000	19.45000	0.21292	2.0492	3.0496	-	-	-
		3.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		4.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		5.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		6.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		7.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		8.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		9.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		10.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		11.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		12.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		13.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		14.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		15.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		16.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		17.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		18.00000	-5.00000	19.45000	0.0	2.2782	3.0600	-	-	-
		19.00000	-5.00000	19.45000	-0.030849	2.2470	3.0598	-	-	-
		20.00000	-5.00000	19.45000	-0.32769	1.9112	3.0346	-	-	-
		21.00000	-5.00000	19.45000	-0.57289	1.5687	2.9704	-	-	-
		22.00000	-5.00000	19.45000	-0.74240	1.2576	2.8739	-	-	-
		23.00000	-5.00000	19.45000	-0.83561	0.99422	2.7526	-	-	-
		24.00000	-5.00000	19.45000	-0.86472	0.77932	2.6129	-	-	-
		25.00000	-5.00000	19.45000	-0.84512	0.60681	2.4599	-	-	-
		26.00000	-5.00000	19.45000	-0.79062	0.46885	2.2971	-	-	-
		27.00000	-5.00000	19.45000	-0.71194	0.35819	2.1270	-	-	-
		28.00000	-5.00000	19.45000	-0.61680	0.26878	1.9516	-	-	-
		29.00000	-5.00000	19.45000	-0.51045	0.19583	1.7720	-	-	-
		30.00000	-5.00000	19.45000	-0.39626	0.13562	1.5892	-	-	-
		31.00000	-5.00000	19.45000	-0.27617	0.085243	1.4038	-	-	-
		32.00000	-5.00000	19.45000	-0.15108	0.042438	1.2165	-	-	-
		33.00000	-5.00000	19.45000	-0.021119	0.0054402	1.0275	-	-	-
		34.00000	-5.00000	19.45000	0.0	0.0	0.83769	-	-	-
		35.00000	-5.00000	19.45000	0.0	0.0	0.64560	-	-	-
		36.00000	-5.00000	19.45000	0.0	0.0	0.45317	-	-	-
		37.00000	-5.00000	19.45000	0.0	0.0	0.25995	-	-	-
		38.00000	-5.00000	19.45000	0.0	0.0	0.066045	-	-	-
		39.00000	-5.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-5.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-4.00000	19.45000	0.25959	0.057166	1.3544	-	-	-
		-9.00000	-4.00000	19.45000	0.39562	0.095827	1.5458	-	-	-
		-8.00000	-4.00000	19.45000	0.52881	0.14222	1.7357	-	-	-
		-7.00000	-4.00000	19.45000	0.65826	0.19884	1.9237	-	-	-
		-6.00000	-4.00000	19.45000	0.78186	0.26902	2.1092	-	-	-
		-5.00000	-4.00000	19.45000	0.89570	0.35732	2.2914	-	-	-
		-4.00000	-4.00000	19.45000	0.99332	0.47006	2.4692	-	-	-
		-3.00000	-4.00000	19.45000	1.0645	0.61594	2.6409	-	-	-
		-2.00000	-4.00000	19.45000	1.0936	0.80686	2.8037	-	-	-
		-1.00000	-4.00000	19.45000	1.0582	1.0582	2.9535	-	-	-
		0.00000	-4.00000	19.45000	0.92930	1.3863	3.0839	-	-	-
		1.00000	-4.00000	19.45000	0.67964	1.7991	3.1856	-	-	-
		2.00000	-4.00000	19.45000	0.30716	2.2733	3.2469	-	-	-
		3.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		4.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		5.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		6.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		7.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		8.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		9.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		10.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		11.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		12.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		13.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		14.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		15.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		16.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		17.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		18.00000	-4.00000	19.45000	0.0	2.6026	3.2600	-	-	-
		19.00000	-4.00000	19.45000	-0.044762	2.5574	3.2597	-	-	-
		20.00000	-4.00000	19.45000	-0.46890	2.0799	3.2280	-	-	-
		21.00000	-4.00000	19.45000	-0.79511	1.6243	3.1491	-	-	-
		22.00000	-4.00000	19.45000	-0.99403	1.2449	3.0346	-	-	-
		23.00000	-4.00000	19.45000	-1.0818	0.94930	2.8955	-	-	-
		24.00000	-4.00000	19.45000	-1.0882	0.72417	2.7398	-	-	-
		25.00000	-4.00000	19.45000	-1.0400	0.55292	2.5731	-	-	-
		26.00000	-4.00000	19.45000	-0.95678	0.42154	2.3988	-	-	-
		27.00000	-4.00000	19.45000	-0.85168	0.31947	2.2190	-	-	-
		28.00000	-4.00000	19.45000	-0.73332	0.23906	2.0353	-	-	-
		29.00000	-4.00000	19.45000	-0.60703	0.17477	1.8487	-	-	-
		30.00000	-4.00000	19.45000	-0.47591	0.12259	1.6599	-	-	-
		31.00000	-4.00000	19.45000	-0.34153	0.079551	1.4694	-	-	-
		32.00000	-4.00000	19.45000	-0.20440	0.043431	1.2775	-	-	-
		33.00000	-4.00000	19.45000	-0.064284	0.012553	1.0845	-	-	-
		34.00000	-4.00000	19.45000	0.0	0.0	0.89066	-	-	-
		35.00000	-4.00000	19.45000	0.0	0.0	0.69606	-	-	-
		36.00000	-4.00000	19.45000	0.0	0.0	0.50086	-	-	-
		37.00000	-4.00000	19.45000	0.0	0.0	0.30514	-	-	-
		38.00000	-4.00000	19.45000	0.0	0.0	0.10898	-	-	-
		39.00000	-4.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-4.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-3.00000	19.45000	0.31273	0.048123	1.4032	-	-	-
		-9.00000	-3.00000	19.45000	0.46254	0.078053	1.5985	-	-	-
		-8.00000	-3.00000	19.45000	0.61237	0.11436	1.7929	-	-	-
		-7.00000	-3.00000	19.45000	0.76203	0.15922	1.9862	-	-	-
		-6.00000	-3.00000	19.45000	0.91019	0.21569	2.1781	-	-	-
		-5.00000	-3.00000	19.45000	1.0539	0.28813	2.3681	-	-	-
		-4.00000	-3.00000	19.45000	1.1874	0.38297	2.5553	-	-	-
		-3.00000	-3.00000	19.45000	1.3008	0.50994	2.7386	-	-	-
		-2.00000	-3.00000	19.45000	1.3768	0.68414	2.9159	-	-	-
		-1.00000	-3.00000	19.45000	1.3863	0.92930	3.0839	-	-	-
		0.00000	-3.00000	19.45000	1.2814	1.2814	3.2363	-	-	-
		1.00000	-3.00000	19.45000	0.99404	1.7847	3.3619	-	-	-
		2.00000	-3.00000	19.45000	0.47205	2.4510	3.4421	-	-	-
		3.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		4.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		5.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		6.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		7.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		8.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		9.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		10.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		11.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		12.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		13.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		14.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		15.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		16.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		17.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		18.00000	-3.00000	19.45000	0.0	2.9558	3.4600	-	-	-
		19.00000	-3.00000	19.45000	-0.069644	2.8854	3.4596	-	-	-
		20.00000	-3.00000	19.45000	-0.70861	2.1685	3.4169	-	-	-
		21.00000	-3.00000	19.45000	-1.1355	1.5628	3.3159	-	-	-
		22.00000	-3.00000	19.45000	-1.3411	1.1249	3.1778	-	-	-
		23.00000	-3.00000	19.45000	-1.3930	0.82072	3.0182	-	-	-
		24.00000	-3.00000	19.45000	-1.3524	0.60751	2.8459	-	-	-
		25.00000	-3.00000	19.45000	-1.2587	0.45448	2.6658	-	-	-
		26.00000	-3.00000	19.45000	-1.1357	0.34182	2.4808	-	-	-
		27.00000	-3.00000	19.45000	-0.99722	0.25688	2.2924	-	-	-
		28.00000	-3.00000	19.45000	-0.85125	0.19146	2.1016	-	-	-
		29.00000	-3.00000	19.45000	-0.70224	0.14007	1.9091	-	-	-
		30.00000	-3.00000	19.45000	-0.55243	0.098946	1.7153	-	-	-
		31.00000	-3.00000	19.45000	-0.40263	0.065417	1.5205	-	-	-
		32.00000	-3.00000	19.45000	-0.25271	0.037561	1.3249	-	-	-
		33.00000	-3.00000	19.45000	-0.10191	0.013956	1.1288	-	-	-
		34.00000	-3.00000	19.45000	0.0	0.0	0.93210	-	-	-
		35.00000	-3.00000	19.45000	0.0	0.0	0.73503	-	-	-
		36.00000	-3.00000	19.45000	0.0	0.0	0.53763	-	-	-
		37.00000	-3.00000	19.45000	0.0	0.0	0.33995	-	-	-
		38.00000	-3.00000	19.45000	0.0	0.0	0.14202	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		39.00000	-3.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-3.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-2.00000	19.45000	0.35864	0.033193	1.4373	-	-	-
		-9.00000	-2.00000	19.45000	0.52248	0.052848	1.6354	-	-	-
		-8.00000	-2.00000	19.45000	0.68949	0.076872	1.8332	-	-	-
		-7.00000	-2.00000	19.45000	0.86043	0.10683	2.0304	-	-	-
		-6.00000	-2.00000	19.45000	1.0352	0.14499	2.2271	-	-	-
		-5.00000	-2.00000	19.45000	1.2126	0.19467	2.4229	-	-	-
		-4.00000	-2.00000	19.45000	1.3890	0.26102	2.6175	-	-	-
		-3.00000	-2.00000	19.45000	1.5574	0.35240	2.8104	-	-	-
		-2.00000	-2.00000	19.45000	1.7036	0.48315	3.0004	-	-	-
		-1.00000	-2.00000	19.45000	1.7991	0.67964	3.1856	-	-	-
		0.00000	-2.00000	19.45000	1.7847	0.99404	3.3619	-	-	-
		1.00000	-2.00000	19.45000	1.5331	1.5331	3.5192	-	-	-
		2.00000	-2.00000	19.45000	0.81688	2.4681	3.6323	-	-	-
		3.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		4.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		5.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		6.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		7.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		8.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		9.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		10.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		11.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		12.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		13.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		14.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		15.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		16.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		17.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		18.00000	-2.00000	19.45000	0.0	3.3402	3.6600	-	-	-
		19.00000	-2.00000	19.45000	-0.12490	3.2141	3.6594	-	-	-
		20.00000	-2.00000	19.45000	-1.1743	2.0375	3.5950	-	-	-
		21.00000	-2.00000	19.45000	-1.6748	1.2802	3.4596	-	-	-
		22.00000	-2.00000	19.45000	-1.8097	0.84899	3.2929	-	-	-
		23.00000	-2.00000	19.45000	-1.7698	0.59064	3.1123	-	-	-
		24.00000	-2.00000	19.45000	-1.6491	0.42482	2.9248	-	-	-
		25.00000	-2.00000	19.45000	-1.4917	0.31211	2.7335	-	-	-
		26.00000	-2.00000	19.45000	-1.3189	0.23204	2.5399	-	-	-
		27.00000	-2.00000	19.45000	-1.1415	0.17313	2.3447	-	-	-
		28.00000	-2.00000	19.45000	-0.96489	0.12856	2.1485	-	-	-
		29.00000	-2.00000	19.45000	-0.79157	0.094012	1.9516	-	-	-
		30.00000	-2.00000	19.45000	-0.62224	0.066649	1.7541	-	-	-
		31.00000	-2.00000	19.45000	-0.45662	0.044533	1.5562	-	-	-
		32.00000	-2.00000	19.45000	-0.29373	0.026292	1.3580	-	-	-
		33.00000	-2.00000	19.45000	-0.13217	0.010931	1.1596	-	-	-
		34.00000	-2.00000	19.45000	0.0	0.0	0.96092	-	-	-
		35.00000	-2.00000	19.45000	0.0	0.0	0.76210	-	-	-
		36.00000	-2.00000	19.45000	0.0	0.0	0.56314	-	-	-
		37.00000	-2.00000	19.45000	0.0	0.0	0.36407	-	-	-
		38.00000	-2.00000	19.45000	0.0	0.0	0.16490	-	-	-
		39.00000	-2.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-2.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-1.00000	19.45000	0.39464	0.014336	1.4561	-	-	-
		-9.00000	-1.00000	19.45000	0.57200	0.022621	1.6558	-	-	-
		-8.00000	-1.00000	19.45000	0.75569	0.032792	1.8554	-	-	-
		-7.00000	-1.00000	19.45000	0.94753	0.045545	2.0550	-	-	-
		-6.00000	-1.00000	19.45000	1.1490	0.061891	2.2544	-	-	-
		-5.00000	-1.00000	19.45000	1.3610	0.083363	2.4536	-	-	-
		-4.00000	-1.00000	19.45000	1.5835	0.11239	2.6527	-	-	-
		-3.00000	-1.00000	19.45000	1.8147	0.15308	2.8514	-	-	-
		-2.00000	-1.00000	19.45000	2.0492	0.21292	3.0496	-	-	-
		-1.00000	-1.00000	19.45000	2.2733	0.30716	3.2469	-	-	-
		0.00000	-1.00000	19.45000	2.4510	0.47205	3.4421	-	-	-
		1.00000	-1.00000	19.45000	2.4681	0.81688	3.6323	-	-	-
		2.00000	-1.00000	19.45000	1.8168	1.8168	3.8020	-	-	-
		3.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		4.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		5.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		6.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		7.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		8.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		9.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		10.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		11.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		12.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		13.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		14.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		15.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		16.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		17.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		18.00000	-1.00000	19.45000	0.0	3.7585	3.8600	-	-	-
		19.00000	-1.00000	19.45000	-0.33925	3.4162	3.8586	-	-	-
		20.00000	-1.00000	19.45000	-2.2384	1.2634	3.7392	-	-	-
		21.00000	-1.00000	19.45000	-2.4958	0.64291	3.5573	-	-	-
		22.00000	-1.00000	19.45000	-2.3897	0.39349	3.3644	-	-	-
		23.00000	-1.00000	19.45000	-2.1864	0.26377	3.1681	-	-	-
		24.00000	-1.00000	19.45000	-1.9556	0.18597	2.9704	-	-	-
		25.00000	-1.00000	19.45000	-1.7214	0.13503	2.7720	-	-	-
		26.00000	-1.00000	19.45000	-1.4933	0.099661	2.5731	-	-	-
		27.00000	-1.00000	19.45000	-1.2749	0.074030	2.3740	-	-	-
		28.00000	-1.00000	19.45000	-1.0672	0.054838	2.1746	-	-	-
		29.00000	-1.00000	19.45000	-0.86971	0.040078	1.9752	-	-	-
		30.00000	-1.00000	19.45000	-0.68133	0.028458	1.7756	-	-	-
		31.00000	-1.00000	19.45000	-0.50040	0.019112	1.5760	-	-	-
		32.00000	-1.00000	19.45000	-0.32502	0.011435	1.3763	-	-	-
		33.00000	-1.00000	19.45000	-0.15311	0.0049927	1.1765	-	-	-
		34.00000	-1.00000	19.45000	0.0	0.0	0.97676	-	-	-
		35.00000	-1.00000	19.45000	0.0	0.0	0.77696	-	-	-
		36.00000	-1.00000	19.45000	0.0	0.0	0.57714	-	-	-
		37.00000	-1.00000	19.45000	0.0	0.0	0.37729	-	-	-
		38.00000	-1.00000	19.45000	0.0	0.0	0.17744	-	-	-
		39.00000	-1.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-1.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	0.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	0.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	0.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	0.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	0.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	0.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	0.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	0.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	0.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	0.00000	19.45000	2.6026	0.0	3.2600	-	-	-
		0.00000	0.00000	19.45000	2.9558	0.0	3.4600	-	-	-
		1.00000	0.00000	19.45000	3.3402	0.0	3.6600	-	-	-
		2.00000	0.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	0.00000	19.45000			Point lies within an excavation.			
		4.00000	0.00000	19.45000			Point lies within an excavation.			
		5.00000	0.00000	19.45000			Point lies within an excavation.			
		6.00000	0.00000	19.45000			Point lies within an excavation.			
		7.00000	0.00000	19.45000			Point lies within an excavation.			
		8.00000	0.00000	19.45000			Point lies within an excavation.			
		9.00000	0.00000	19.45000			Point lies within an excavation.			
		10.00000	0.00000	19.45000			Point lies within an excavation.			
		11.00000	0.00000	19.45000			Point lies within an excavation.			
		12.00000	0.00000	19.45000			Point lies within an excavation.			
		13.00000	0.00000	19.45000			Point lies within an excavation.			
		14.00000	0.00000	19.45000			Point lies within an excavation.			
		15.00000	0.00000	19.45000			Point lies within an excavation.			
		16.00000	0.00000	19.45000			Point lies within an excavation.			
		17.00000	0.00000	19.45000			Point lies within an excavation.			
		18.00000	0.00000	19.45000			Point lies within an excavation.			
		19.00000	0.00000	19.45000	-4.0268	0.0	3.9800	-	-	-
		20.00000	0.00000	19.45000	-3.5870	0.0	3.7800	-	-	-
		21.00000	0.00000	19.45000	-3.1825	0.0	3.5800	-	-	-
		22.00000	0.00000	19.45000	-2.8109	0.0	3.3800	-	-	-
		23.00000	0.00000	19.45000	-2.4695	0.0	3.1800	-	-	-
		24.00000	0.00000	19.45000	-2.1559	0.0	2.9800	-	-	-
		25.00000	0.00000	19.45000	-1.8675	0.0	2.7800	-	-	-
		26.00000	0.00000	19.45000	-1.6017	0.0	2.5800	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		27.00000	0.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	0.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	0.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	0.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	0.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	0.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	0.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	0.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	0.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	0.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	0.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	0.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	0.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	0.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	1.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	1.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	1.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	1.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	1.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	1.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	1.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	1.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	1.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	1.00000	19.45000	2.6026	0.0	3.2600	-	-	-
		0.00000	1.00000	19.45000	2.9558	0.0	3.4600	-	-	-
		1.00000	1.00000	19.45000	3.3402	0.0	3.6600	-	-	-
		2.00000	1.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	1.00000	19.45000			Point lies within an excavation.			
		4.00000	1.00000	19.45000			Point lies within an excavation.			
		5.00000	1.00000	19.45000			Point lies within an excavation.			
		6.00000	1.00000	19.45000			Point lies within an excavation.			
		7.00000	1.00000	19.45000			Point lies within an excavation.			
		8.00000	1.00000	19.45000			Point lies within an excavation.			
		9.00000	1.00000	19.45000			Point lies within an excavation.			
		10.00000	1.00000	19.45000			Point lies within an excavation.			
		11.00000	1.00000	19.45000			Point lies within an excavation.			
		12.00000	1.00000	19.45000			Point lies within an excavation.			
		13.00000	1.00000	19.45000			Point lies within an excavation.			
		14.00000	1.00000	19.45000			Point lies within an excavation.			
		15.00000	1.00000	19.45000			Point lies within an excavation.			
		16.00000	1.00000	19.45000			Point lies within an excavation.			
		17.00000	1.00000	19.45000			Point lies within an excavation.			
		18.00000	1.00000	19.45000			Point lies within an excavation.			
		19.00000	1.00000	19.45000	-4.0268	0.0	3.9800	-	-	-
		20.00000	1.00000	19.45000	-3.5870	0.0	3.7800	-	-	-
		21.00000	1.00000	19.45000	-3.1825	0.0	3.5800	-	-	-
		22.00000	1.00000	19.45000	-2.8109	0.0	3.3800	-	-	-
		23.00000	1.00000	19.45000	-2.4695	0.0	3.1800	-	-	-
		24.00000	1.00000	19.45000	-2.1559	0.0	2.9800	-	-	-
		25.00000	1.00000	19.45000	-1.8675	0.0	2.7800	-	-	-
		26.00000	1.00000	19.45000	-1.6017	0.0	2.5800	-	-	-
		27.00000	1.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	1.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	1.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	1.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	1.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	1.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	1.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	1.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	1.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	1.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	1.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	1.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	1.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	1.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	2.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	2.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	2.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	2.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	2.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	2.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	2.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	2.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	2.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	2.00000	19.45000	2.6026	0.0	3.2600	-	-	-
		0.00000	2.00000	19.45000	2.9558	0.0	3.4600	-	-	-
		1.00000	2.00000	19.45000	3.3402	0.0	3.6600	-	-	-
		2.00000	2.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	2.00000	19.45000			Point lies within an excavation.			
		4.00000	2.00000	19.45000			Point lies within an excavation.			
		5.00000	2.00000	19.45000			Point lies within an excavation.			
		6.00000	2.00000	19.45000			Point lies within an excavation.			
		7.00000	2.00000	19.45000			Point lies within an excavation.			
		8.00000	2.00000	19.45000			Point lies within an excavation.			
		9.00000	2.00000	19.45000			Point lies within an excavation.			
		10.00000	2.00000	19.45000			Point lies within an excavation.			
		11.00000	2.00000	19.45000			Point lies within an excavation.			
		12.00000	2.00000	19.45000			Point lies within an excavation.			
		13.00000	2.00000	19.45000			Point lies within an excavation.			
		14.00000	2.00000	19.45000			Point lies within an excavation.			
		15.00000	2.00000	19.45000			Point lies within an excavation.			
		16.00000	2.00000	19.45000			Point lies within an excavation.			
		17.00000	2.00000	19.45000			Point lies within an excavation.			
		18.00000	2.00000	19.45000			Point lies within an excavation.			
		19.00000	2.00000	19.45000	-4.0268	0.0	3.9800	-	-	-
		20.00000	2.00000	19.45000	-3.5870	0.0	3.7800	-	-	-
		21.00000	2.00000	19.45000	-3.1825	0.0	3.5800	-	-	-
		22.00000	2.00000	19.45000	-2.8109	0.0	3.3800	-	-	-
		23.00000	2.00000	19.45000	-2.4695	0.0	3.1800	-	-	-
		24.00000	2.00000	19.45000	-2.1559	0.0	2.9800	-	-	-
		25.00000	2.00000	19.45000	-1.8675	0.0	2.7800	-	-	-
		26.00000	2.00000	19.45000	-1.6017	0.0	2.5800	-	-	-
		27.00000	2.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	2.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	2.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	2.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	2.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	2.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	2.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	2.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	2.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	2.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	2.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	2.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	2.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	2.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	3.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	3.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	3.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	3.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	3.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	3.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	3.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	3.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	3.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	3.00000	19.45000	2.6026	0.0	3.2600	-	-	-
		0.00000	3.00000	19.45000	2.9558	0.0	3.4600	-	-	-
		1.00000	3.00000	19.45000	3.3421	-114.36E-6	3.6603	-	-	-
		2.00000	3.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	3.00000	19.45000			Point lies within an excavation.			
		4.00000	3.00000	19.45000			Point lies within an excavation.			
		5.00000	3.00000	19.45000			Point lies within an excavation.			
		6.00000	3.00000	19.45000			Point lies within an excavation.			
		7.00000	3.00000	19.45000			Point lies within an excavation.			
		8.00000	3.00000	19.45000			Point lies within an excavation.			
		9.00000	3.00000	19.45000			Point lies within an excavation.			
		10.00000	3.00000	19.45000			Point lies within an excavation.			
		11.00000	3.00000	19.45000			Point lies within an excavation.			
		12.00000	3.00000	19.45000			Point lies within an excavation.			
		13.00000	3.00000	19.45000			Point lies within an excavation.			
		14.00000	3.00000	19.45000			Point lies within an excavation.			

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		15.00000	3.00000	19.45000		Point lies within an excavation.				
		16.00000	3.00000	19.45000		Point lies within an excavation.				
		17.00000	3.00000	19.45000		Point lies within an excavation.				
		18.00000	3.00000	19.45000		Point lies within an excavation.				
		19.00000	3.00000	19.45000	-4.0268	0.0	3.9800	-	-	-
		20.00000	3.00000	19.45000	-3.5870	0.0	3.7800	-	-	-
		21.00000	3.00000	19.45000	-3.1825	0.0	3.5800	-	-	-
		22.00000	3.00000	19.45000	-2.8109	0.0011261	3.3804	-	-	-
		23.00000	3.00000	19.45000	-2.4727	0.027930	3.1853	-	-	-
		24.00000	3.00000	19.45000	-2.1559	0.0	2.9800	-	-	-
		25.00000	3.00000	19.45000	-1.8675	0.0	2.7800	-	-	-
		26.00000	3.00000	19.45000	-1.6017	0.0	2.5800	-	-	-
		27.00000	3.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	3.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	3.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	3.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	3.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	3.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	3.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	3.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	3.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	3.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	3.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	3.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	3.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	3.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	4.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	4.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	4.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	4.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	4.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	4.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	4.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	4.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	4.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	4.00000	19.45000	2.6026	0.0	3.2600	-	-	-
		0.00000	4.00000	19.45000	3.0527	-0.0058159	3.4787	-	-	-
		1.00000	4.00000	19.45000	3.3703	-0.0018041	3.6695	-	-	-
		2.00000	4.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	4.00000	19.45000		Point lies within an excavation.				
		4.00000	4.00000	19.45000		Point lies within an excavation.				
		5.00000	4.00000	19.45000		Point lies within an excavation.				
		6.00000	4.00000	19.45000		Point lies within an excavation.				
		7.00000	4.00000	19.45000		Point lies within an excavation.				
		8.00000	4.00000	19.45000		Point lies within an excavation.				
		9.00000	4.00000	19.45000		Point lies within an excavation.				
		10.00000	4.00000	19.45000		Point lies within an excavation.				
		11.00000	4.00000	19.45000		Point lies within an excavation.				
		12.00000	4.00000	19.45000		Point lies within an excavation.				
		13.00000	4.00000	19.45000		Point lies within an excavation.				
		14.00000	4.00000	19.45000		Point lies within an excavation.				
		15.00000	4.00000	19.45000		Point lies within an excavation.				
		16.00000	4.00000	19.45000		Point lies within an excavation.				
		17.00000	4.00000	19.45000		Point lies within an excavation.				
		18.00000	4.00000	19.45000		Point lies within an excavation.				
		19.00000	4.00000	19.45000	-4.0268	0.13176	4.0018	-	-	-
		20.00000	4.00000	19.45000	-3.5870	0.19932	3.8204	-	-	-
		21.00000	4.00000	19.45000	-3.1825	0.26689	3.6462	-	-	-
		22.00000	4.00000	19.45000	-2.8109	0.33446	3.4783	-	-	-
		23.00000	4.00000	19.45000	-2.5289	0.29821	3.2877	-	-	-
		24.00000	4.00000	19.45000	-2.2473	0.099721	3.0123	-	-	-
		25.00000	4.00000	19.45000	-1.8675	0.0	2.7800	-	-	-
		26.00000	4.00000	19.45000	-1.6017	0.0	2.5800	-	-	-
		27.00000	4.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	4.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	4.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	4.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	4.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	4.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	4.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	4.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	4.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	4.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	4.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	4.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	4.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	4.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	5.00000	19.45000	0.41250	0.0	1.4600	-	-	-
		-9.00000	5.00000	19.45000	0.59859	0.0	1.6600	-	-	-
		-8.00000	5.00000	19.45000	0.79304	0.0	1.8600	-	-	-
		-7.00000	5.00000	19.45000	0.99841	0.0	2.0600	-	-	-
		-6.00000	5.00000	19.45000	1.2172	0.0	2.2600	-	-	-
		-5.00000	5.00000	19.45000	1.4521	0.0	2.4600	-	-	-
		-4.00000	5.00000	19.45000	1.7055	0.0	2.6600	-	-	-
		-3.00000	5.00000	19.45000	1.9800	0.0	2.8600	-	-	-
		-2.00000	5.00000	19.45000	2.2782	0.0	3.0600	-	-	-
		-1.00000	5.00000	19.45000	2.7040	-0.0060848	3.2753	-	-	-
		0.00000	5.00000	19.45000	3.2737	-0.019076	3.5882	-	-	-
		1.00000	5.00000	19.45000	3.5022	-0.0097195	3.7842	-	-	-
		2.00000	5.00000	19.45000	3.7585	0.0	3.8600	-	-	-
		3.00000	5.00000	19.45000		Point lies within an excavation.				
		4.00000	5.00000	19.45000		Point lies within an excavation.				
		5.00000	5.00000	19.45000		Point lies within an excavation.				
		6.00000	5.00000	19.45000		Point lies within an excavation.				
		7.00000	5.00000	19.45000		Point lies within an excavation.				
		8.00000	5.00000	19.45000		Point lies within an excavation.				
		9.00000	5.00000	19.45000		Point lies within an excavation.				
		10.00000	5.00000	19.45000		Point lies within an excavation.				
		11.00000	5.00000	19.45000		Point lies within an excavation.				
		12.00000	5.00000	19.45000		Point lies within an excavation.				
		13.00000	5.00000	19.45000		Point lies within an excavation.				
		14.00000	5.00000	19.45000		Point lies within an excavation.				
		15.00000	5.00000	19.45000		Point lies within an excavation.				
		16.00000	5.00000	19.45000		Point lies within an excavation.				
		17.00000	5.00000	19.45000		Point lies within an excavation.				
		18.00000	5.00000	19.45000		Point lies within an excavation.				
		19.00000	5.00000	19.45000	-4.0268	0.46509	4.3012	-	-	-
		20.00000	5.00000	19.45000	-3.5870	0.53266	4.1653	-	-	-
		21.00000	5.00000	19.45000	-3.1825	0.60023	4.0302	-	-	-
		22.00000	5.00000	19.45000	-2.8109	0.66779	3.8958	-	-	-
		23.00000	5.00000	19.45000	-2.7537	0.37739	3.6538	-	-	-
		24.00000	5.00000	19.45000	-2.4525	0.082866	3.1037	-	-	-
		25.00000	5.00000	19.45000	-1.9178	0.0075609	2.7891	-	-	-
		26.00000	5.00000	19.45000	-1.6017	0.0	2.5800	-	-	-
		27.00000	5.00000	19.45000	-1.3561	0.0	2.3800	-	-	-
		28.00000	5.00000	19.45000	-1.1279	0.0	2.1800	-	-	-
		29.00000	5.00000	19.45000	-0.91479	0.0	1.9800	-	-	-
		30.00000	5.00000	19.45000	-0.71409	0.0	1.7800	-	-	-
		31.00000	5.00000	19.45000	-0.52329	0.0	1.5800	-	-	-
		32.00000	5.00000	19.45000	-0.33983	0.0	1.3800	-	-	-
		33.00000	5.00000	19.45000	-0.16118	0.0	1.1800	-	-	-
		34.00000	5.00000	19.45000	0.0	0.0	0.98000	-	-	-
		35.00000	5.00000	19.45000	0.0	0.0	0.78000	-	-	-
		36.00000	5.00000	19.45000	0.0	0.0	0.58000	-	-	-
		37.00000	5.00000	19.45000	0.0	0.0	0.38000	-	-	-
		38.00000	5.00000	19.45000	0.0	0.0	0.18000	-	-	-
		39.00000	5.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	5.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	6.00000	19.45000	0.40041	-0.010288	1.4580	-	-	-
		-9.00000	6.00000	19.45000	0.58034	-0.016220	1.6579	-	-	-
		-8.00000	6.00000	19.45000	0.76721	-0.023505	1.8577	-	-	-
		-7.00000	6.00000	19.45000	0.96304	-0.032645	2.0574	-	-	-
		-6.00000	6.00000	19.45000	1.1696	-0.044368	2.2571	-	-	-
		-5.00000	6.00000	19.45000	1.3884	-0.059781	2.4568	-	-	-
		-4.00000	6.00000	19.45000	1.6200	-0.080644	2.6563	-	-	-
		-3.00000	6.00000	19.45000	1.8638	-0.10994	2.8556	-	-	-
		-2.00000	6.00000	19.45000	2.1168	-0.15316	3.0547	-	-	-
		-1.00000	6.00000	19.45000	2.5024	-0.22955	3.2735	-	-	-
		0.00000	6.00000	19.45000	3.0612	-0.37049	3.6531	-	-	-
		1.00000	6.00000	19.45000	3.5054	-0.65086	4.3702	-	-	-
		2.00000	6.00000	19.45000		Point lies within an excavation.				

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	to x Axis
		3.00000	6.00000	19.45000			Point lies within an excavation.			
		4.00000	6.00000	19.45000			Point lies within an excavation.			
		5.00000	6.00000	19.45000			Point lies within an excavation.			
		6.00000	6.00000	19.45000			Point lies within an excavation.			
		7.00000	6.00000	19.45000			Point lies within an excavation.			
		8.00000	6.00000	19.45000			Point lies within an excavation.			
		9.00000	6.00000	19.45000			Point lies within an excavation.			
		10.00000	6.00000	19.45000			Point lies within an excavation.			
		11.00000	6.00000	19.45000			Point lies within an excavation.			
		12.00000	6.00000	19.45000			Point lies within an excavation.			
		13.00000	6.00000	19.45000			Point lies within an excavation.			
		14.00000	6.00000	19.45000			Point lies within an excavation.			
		15.00000	6.00000	19.45000			Point lies within an excavation.			
		16.00000	6.00000	19.45000			Point lies within an excavation.			
		17.00000	6.00000	19.45000			Point lies within an excavation.			
		18.00000	6.00000	19.45000			Point lies within an excavation.			
		19.00000	6.00000	19.45000			Point lies within an excavation.			
		20.00000	6.00000	19.45000			Point lies within an excavation.			
		21.00000	6.00000	19.45000			Point lies within an excavation.			
		22.00000	6.00000	19.45000			Point lies within an excavation.			
		23.00000	6.00000	19.45000	-3.0113	-0.19002	3.7903	-	-	-
		24.00000	6.00000	19.45000	-2.4233	-0.13367	3.1222	-	-	-
		25.00000	6.00000	19.45000	-1.8399	-0.096939	2.7874	-	-	-
		26.00000	6.00000	19.45000	-1.5258	-0.071491	2.5765	-	-	-
		27.00000	6.00000	19.45000	-1.2993	-0.053080	2.3769	-	-	-
		28.00000	6.00000	19.45000	-1.0856	-0.039309	2.1773	-	-	-
		29.00000	6.00000	19.45000	-0.88351	-0.028726	1.9775	-	-	-
		30.00000	6.00000	19.45000	-0.69149	-0.020401	1.7777	-	-	-
		31.00000	6.00000	19.45000	-0.50765	-0.013707	1.5779	-	-	-
		32.00000	6.00000	19.45000	-0.32990	-0.0082116	1.3781	-	-	-
		33.00000	6.00000	19.45000	-0.15600	-0.0036016	1.1782	-	-	-
		34.00000	6.00000	19.45000	0.0	0.0	0.97834	-	-	-
		35.00000	6.00000	19.45000	0.0	0.0	0.77845	-	-	-
		36.00000	6.00000	19.45000	0.0	0.0	0.57854	-	-	-
		37.00000	6.00000	19.45000	0.0	0.0	0.37862	-	-	-
		38.00000	6.00000	19.45000	0.0	0.0	0.17869	-	-	-
		39.00000	6.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	6.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	7.00000	19.45000	0.36672	-0.029667	1.4423	-	-	-
		-9.00000	7.00000	19.45000	0.53333	-0.047118	1.6408	-	-	-
		-8.00000	7.00000	19.45000	0.70376	-0.068472	1.8391	-	-	-
		-7.00000	7.00000	19.45000	0.87895	-0.095142	2.0369	-	-	-
		-6.00000	7.00000	19.45000	1.0592	-0.12916	2.2343	-	-	-
		-5.00000	7.00000	19.45000	1.2435	-0.17356	2.4311	-	-	-
		-4.00000	7.00000	19.45000	1.4290	-0.23305	2.6268	-	-	-
		-3.00000	7.00000	19.45000	1.6096	-0.31535	2.8212	-	-	-
		-2.00000	7.00000	19.45000	1.7724	-0.43392	3.0133	-	-	-
		-1.00000	7.00000	19.45000	2.0035	-0.62096	3.2185	-	-	-
		0.00000	7.00000	19.45000	2.3511	-0.93543	3.5640	-	-	-
		1.00000	7.00000	19.45000	2.4601	-1.4818	4.2326	-	-	-
		2.00000	7.00000	19.45000			Point lies within an excavation.			
		3.00000	7.00000	19.45000			Point lies within an excavation.			
		4.00000	7.00000	19.45000			Point lies within an excavation.			
		5.00000	7.00000	19.45000			Point lies within an excavation.			
		6.00000	7.00000	19.45000			Point lies within an excavation.			
		7.00000	7.00000	19.45000			Point lies within an excavation.			
		8.00000	7.00000	19.45000			Point lies within an excavation.			
		9.00000	7.00000	19.45000			Point lies within an excavation.			
		10.00000	7.00000	19.45000			Point lies within an excavation.			
		11.00000	7.00000	19.45000			Point lies within an excavation.			
		12.00000	7.00000	19.45000			Point lies within an excavation.			
		13.00000	7.00000	19.45000			Point lies within an excavation.			
		14.00000	7.00000	19.45000			Point lies within an excavation.			
		15.00000	7.00000	19.45000			Point lies within an excavation.			
		16.00000	7.00000	19.45000			Point lies within an excavation.			
		17.00000	7.00000	19.45000			Point lies within an excavation.			
		18.00000	7.00000	19.45000			Point lies within an excavation.			
		19.00000	7.00000	19.45000			Point lies within an excavation.			
		20.00000	7.00000	19.45000			Point lies within an excavation.			
		21.00000	7.00000	19.45000			Point lies within an excavation.			
		22.00000	7.00000	19.45000			Point lies within an excavation.			
		23.00000	7.00000	19.45000	-2.5930	-0.53221	3.7432	-	-	-
		24.00000	7.00000	19.45000	-2.1190	-0.38089	3.0839	-	-	-
		25.00000	7.00000	19.45000	-1.6136	-0.27900	2.7552	-	-	-
		26.00000	7.00000	19.45000	-1.3549	-0.20704	2.5487	-	-	-
		27.00000	7.00000	19.45000	-1.1694	-0.15430	2.3525	-	-	-
		28.00000	7.00000	19.45000	-0.98650	-0.11451	2.1554	-	-	-
		29.00000	7.00000	19.45000	-0.80827	-0.083723	1.9578	-	-	-
		30.00000	7.00000	19.45000	-0.63505	-0.059382	1.7598	-	-	-
		31.00000	7.00000	19.45000	-0.46630	-0.039733	1.5615	-	-	-
		32.00000	7.00000	19.45000	-0.30085	-0.023544	1.3629	-	-	-
		33.00000	7.00000	19.45000	-0.13717	-0.0099245	1.1641	-	-	-
		34.00000	7.00000	19.45000	0.0	0.0	0.96514	-	-	-
		35.00000	7.00000	19.45000	0.0	0.0	0.76606	-	-	-
		36.00000	7.00000	19.45000	0.0	0.0	0.56687	-	-	-
		37.00000	7.00000	19.45000	0.0	0.0	0.36759	-	-	-
		38.00000	7.00000	19.45000	0.0	0.0	0.16824	-	-	-
		39.00000	7.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	7.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	8.00000	19.45000	0.32257	-0.045550	1.4113	-	-	-
		-9.00000	8.00000	19.45000	0.47519	-0.073538	1.6072	-	-	-
		-8.00000	8.00000	19.45000	0.62845	-0.10755	1.8024	-	-	-
		-7.00000	8.00000	19.45000	0.78232	-0.14966	1.9966	-	-	-
		-6.00000	8.00000	19.45000	0.93569	-0.20281	2.1896	-	-	-
		-5.00000	8.00000	19.45000	1.0859	-0.27123	2.3809	-	-	-
		-4.00000	8.00000	19.45000	1.2275	-0.36120	2.5698	-	-	-
		-3.00000	8.00000	19.45000	1.3509	-0.48242	2.7552	-	-	-
		-2.00000	8.00000	19.45000	1.4391	-0.65024	2.9353	-	-	-
		-1.00000	8.00000	19.45000	1.5551	-0.89525	3.1209	-	-	-
		0.00000	8.00000	19.45000	1.7937	-1.2664	3.4268	-	-	-
		1.00000	8.00000	19.45000	1.8362	-1.8047	4.0434	-	-	-
		2.00000	8.00000	19.45000			Point lies within an excavation.			
		3.00000	8.00000	19.45000			Point lies within an excavation.			
		4.00000	8.00000	19.45000			Point lies within an excavation.			
		5.00000	8.00000	19.45000			Point lies within an excavation.			
		6.00000	8.00000	19.45000			Point lies within an excavation.			
		7.00000	8.00000	19.45000			Point lies within an excavation.			
		8.00000	8.00000	19.45000			Point lies within an excavation.			
		9.00000	8.00000	19.45000			Point lies within an excavation.			
		10.00000	8.00000	19.45000			Point lies within an excavation.			
		11.00000	8.00000	19.45000			Point lies within an excavation.			
		12.00000	8.00000	19.45000			Point lies within an excavation.			
		13.00000	8.00000	19.45000			Point lies within an excavation.			
		14.00000	8.00000	19.45000			Point lies within an excavation.			
		15.00000	8.00000	19.45000			Point lies within an excavation.			
		16.00000	8.00000	19.45000			Point lies within an excavation.			
		17.00000	8.00000	19.45000			Point lies within an excavation.			
		18.00000	8.00000	19.45000			Point lies within an excavation.			
		19.00000	8.00000	19.45000			Point lies within an excavation.			
		20.00000	8.00000	19.45000			Point lies within an excavation.			
		21.00000	8.00000	19.45000			Point lies within an excavation.			
		22.00000	8.00000	19.45000			Point lies within an excavation.			
		23.00000	8.00000	19.45000	-2.2051	-0.78314	3.6559	-	-	-
		24.00000	8.00000	19.45000	-1.8180	-0.57619	3.0112	-	-	-
		25.00000	8.00000	19.45000	-1.3796	-0.42936	2.6930	-	-	-
		26.00000	8.00000	19.45000	-1.1724	-0.32210	2.4945	-	-	-
		27.00000	8.00000	19.45000	-1.0264	-0.24168	2.3046	-	-	-
		28.00000	8.00000	19.45000	-0.87453	-0.17999	2.1126	-	-	-
		29.00000	8.00000	19.45000	-0.72074	-0.13168	1.9190	-	-	-
		30.00000	8.00000	19.45000	-0.56705	-0.093101	1.7244	-	-	-
		31.00000	8.00000	19.45000	-0.41409	-0.061716	1.5289	-	-	-
		32.00000	8.00000	19.45000	-0.26157	-0.035686	1.3327	-	-	-
		33.00000	8.00000	19.45000	-0.10862	-0.013660	1.1360	-	-	-
		34.00000	8.00000	19.45000	0.0	0.0	0.93889	-	-	-
		35.00000	8.00000	19.45000	0.0	0.0	0.74141	-	-	-
		36.00000	8.00000	19.45000	0.0	0.0	0.54364	-	-	-
		37.00000	8.00000	19.45000	0.0	0.0	0.34563	-	-	-
		38.00000	8.00000	19.45000	0.0	0.0	0.14742	-	-	-
		39.00000	8.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	8.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	9.00000	19.45000	0.27067	-0.055909	1.3653	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		-9.00000	9.00000	19.45000	0.40941	-0.092963	1.5575	-	-	-
		-8.00000	9.00000	19.45000	0.54584	-0.13753	1.7484	-	-	-
		-7.00000	9.00000	19.45000	0.67919	-0.19207	1.9376	-	-	-
		-6.00000	9.00000	19.45000	0.80746	-0.25990	2.1245	-	-	-
		-5.00000	9.00000	19.45000	0.92688	-0.34561	2.3084	-	-	-
		-4.00000	9.00000	19.45000	1.0310	-0.45560	2.4882	-	-	-
		-3.00000	9.00000	19.45000	1.1095	-0.59894	2.6622	-	-	-
		-2.00000	9.00000	19.45000	1.1462	-0.78832	2.8280	-	-	-
		-1.00000	9.00000	19.45000	1.1901	-1.0452	2.9926	-	-	-
		0.00000	9.00000	19.45000	1.3949	-1.4007	3.2609	-	-	-
		1.00000	9.00000	19.45000	1.4680	-1.8520	3.8324	-	-	-
		2.00000	9.00000	19.45000	Point lies within an excavation.					
		3.00000	9.00000	19.45000	Point lies within an excavation.					
		4.00000	9.00000	19.45000	Point lies within an excavation.					
		5.00000	9.00000	19.45000	Point lies within an excavation.					
		6.00000	9.00000	19.45000	Point lies within an excavation.					
		7.00000	9.00000	19.45000	Point lies within an excavation.					
		8.00000	9.00000	19.45000	Point lies within an excavation.					
		9.00000	9.00000	19.45000	Point lies within an excavation.					
		10.00000	9.00000	19.45000	Point lies within an excavation.					
		11.00000	9.00000	19.45000	Point lies within an excavation.					
		12.00000	9.00000	19.45000	Point lies within an excavation.					
		13.00000	9.00000	19.45000	Point lies within an excavation.					
		14.00000	9.00000	19.45000	Point lies within an excavation.					
		15.00000	9.00000	19.45000	Point lies within an excavation.					
		16.00000	9.00000	19.45000	Point lies within an excavation.					
		17.00000	9.00000	19.45000	Point lies within an excavation.					
		18.00000	9.00000	19.45000	Point lies within an excavation.					
		19.00000	9.00000	19.45000	Point lies within an excavation.					
		20.00000	9.00000	19.45000	Point lies within an excavation.					
		21.00000	9.00000	19.45000	Point lies within an excavation.					
		22.00000	9.00000	19.45000	Point lies within an excavation.					
		23.00000	9.00000	19.45000	-1.8803	-0.93100	3.5382	-	-	-
		24.00000	9.00000	19.45000	-1.5462	-0.70605	2.9100	-	-	-
		25.00000	9.00000	19.45000	-1.1571	-0.53688	2.6050	-	-	-
		26.00000	9.00000	19.45000	-0.99175	-0.40818	2.4168	-	-	-
		27.00000	9.00000	19.45000	-0.88051	-0.30882	2.2352	-	-	-
		28.00000	9.00000	19.45000	-0.75696	-0.23091	2.0500	-	-	-
		29.00000	9.00000	19.45000	-0.62632	-0.16887	1.8622	-	-	-
		30.00000	9.00000	19.45000	-0.49157	-0.11866	1.6723	-	-	-
		31.00000	9.00000	19.45000	-0.35418	-0.077354	1.4808	-	-	-
		32.00000	9.00000	19.45000	-0.21453	-0.042765	1.2881	-	-	-
		33.00000	9.00000	19.45000	-0.072309	-0.013253	1.0944	-	-	-
		34.00000	9.00000	19.45000	0.0	0.0	0.89994	-	-	-
		35.00000	9.00000	19.45000	0.0	0.0	0.70479	-	-	-
		36.00000	9.00000	19.45000	0.0	0.0	0.50910	-	-	-
		37.00000	9.00000	19.45000	0.0	0.0	0.31294	-	-	-
		38.00000	9.00000	19.45000	0.0	0.0	0.11639	-	-	-
		39.00000	9.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	9.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	10.00000	19.45000	0.21354	-0.059107	1.3053	-	-	-
		-9.00000	10.00000	19.45000	0.33917	-0.10347	1.4929	-	-	-
		-8.00000	10.00000	19.45000	0.45998	-0.15615	1.6784	-	-	-
		-7.00000	10.00000	19.45000	0.57476	-0.21968	1.8614	-	-	-
		-6.00000	10.00000	19.45000	0.68106	-0.29732	2.0410	-	-	-
		-5.00000	10.00000	19.45000	0.77484	-0.39331	2.2163	-	-	-
		-4.00000	10.00000	19.45000	0.84977	-0.51318	2.3858	-	-	-
		-3.00000	10.00000	19.45000	0.89664	-0.66395	2.5476	-	-	-
		-2.00000	10.00000	19.45000	0.90270	-0.85408	2.6986	-	-	-
		-1.00000	10.00000	19.45000	0.90480	-1.0957	2.8433	-	-	-
		0.00000	10.00000	19.45000	1.1117	-1.4083	3.0791	-	-	-
		1.00000	10.00000	19.45000	1.2333	-1.7711	3.6118	-	-	-
		2.00000	10.00000	19.45000	Point lies within an excavation.					
		3.00000	10.00000	19.45000	Point lies within an excavation.					
		4.00000	10.00000	19.45000	Point lies within an excavation.					
		5.00000	10.00000	19.45000	Point lies within an excavation.					
		6.00000	10.00000	19.45000	Point lies within an excavation.					
		7.00000	10.00000	19.45000	Point lies within an excavation.					
		8.00000	10.00000	19.45000	Point lies within an excavation.					
		9.00000	10.00000	19.45000	Point lies within an excavation.					
		10.00000	10.00000	19.45000	Point lies within an excavation.					
		11.00000	10.00000	19.45000	Point lies within an excavation.					
		12.00000	10.00000	19.45000	Point lies within an excavation.					
		13.00000	10.00000	19.45000	Point lies within an excavation.					
		14.00000	10.00000	19.45000	Point lies within an excavation.					
		15.00000	10.00000	19.45000	Point lies within an excavation.					
		16.00000	10.00000	19.45000	Point lies within an excavation.					
		17.00000	10.00000	19.45000	Point lies within an excavation.					
		18.00000	10.00000	19.45000	Point lies within an excavation.					
		19.00000	10.00000	19.45000	Point lies within an excavation.					
		20.00000	10.00000	19.45000	Point lies within an excavation.					
		21.00000	10.00000	19.45000	Point lies within an excavation.					
		22.00000	10.00000	19.45000	Point lies within an excavation.					
		23.00000	10.00000	19.45000	-1.6218	-0.99082	3.3988	-	-	-
		24.00000	10.00000	19.45000	-1.3145	-0.77272	2.7868	-	-	-
		25.00000	10.00000	19.45000	-0.95699	-0.59942	2.4955	-	-	-
		26.00000	10.00000	19.45000	-0.82257	-0.46195	2.3188	-	-	-
		27.00000	10.00000	19.45000	-0.73918	-0.35239	2.1468	-	-	-
		28.00000	10.00000	19.45000	-0.63977	-0.26433	1.9696	-	-	-
		29.00000	10.00000	19.45000	-0.52969	-0.19278	1.7886	-	-	-
		30.00000	10.00000	19.45000	-0.41229	-0.13393	1.6045	-	-	-
		31.00000	10.00000	19.45000	-0.28946	-0.084842	1.4181	-	-	-
		32.00000	10.00000	19.45000	-0.16205	-0.043244	1.2297	-	-	-
		33.00000	10.00000	19.45000	-0.030113	-0.0073723	1.0399	-	-	-
		34.00000	10.00000	19.45000	0.0	0.0	0.84875	-	-	-
		35.00000	10.00000	19.45000	0.0	0.0	0.65659	-	-	-
		36.00000	10.00000	19.45000	0.0	0.0	0.46356	-	-	-
		37.00000	10.00000	19.45000	0.0	0.0	0.26980	-	-	-
		38.00000	10.00000	19.45000	0.0	0.0	0.075411	-	-	-
		39.00000	10.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	10.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	11.00000	19.45000	0.15340	-0.053946	1.2320	-	-	-
		-9.00000	11.00000	19.45000	0.26716	-0.10377	1.4143	-	-	-
		-8.00000	11.00000	19.45000	0.37414	-0.16208	1.5938	-	-	-
		-7.00000	11.00000	19.45000	0.47295	-0.23124	1.7698	-	-	-
		-6.00000	11.00000	19.45000	0.56111	-0.31411	1.9415	-	-	-
		-5.00000	11.00000	19.45000	0.63482	-0.41423	2.1075	-	-	-
		-4.00000	11.00000	19.45000	0.68864	-0.53579	2.2663	-	-	-
		-3.00000	11.00000	19.45000	0.71526	-0.68346	2.4158	-	-	-
		-2.00000	11.00000	19.45000	0.70567	-0.86189	2.5531	-	-	-
		-1.00000	11.00000	19.45000	0.68319	-1.0763	2.6799	-	-	-
		0.00000	11.00000	19.45000	0.90564	-1.3416	2.8883	-	-	-
		1.00000	11.00000	19.45000	1.0722	-1.6309	3.3867	-	-	-
		2.00000	11.00000	19.45000	Point lies within an excavation.					
		3.00000	11.00000	19.45000	Point lies within an excavation.					
		4.00000	11.00000	19.45000	Point lies within an excavation.					
		5.00000	11.00000	19.45000	Point lies within an excavation.					
		6.00000	11.00000	19.45000	Point lies within an excavation.					
		7.00000	11.00000	19.45000	Point lies within an excavation.					
		8.00000	11.00000	19.45000	Point lies within an excavation.					
		9.00000	11.00000	19.45000	Point lies within an excavation.					
		10.00000	11.00000	19.45000	Point lies within an excavation.					
		11.00000	11.00000	19.45000	Point lies within an excavation.					
		12.00000	11.00000	19.45000	Point lies within an excavation.					
		13.00000	11.00000	19.45000	Point lies within an excavation.					
		14.00000	11.00000	19.45000	Point lies within an excavation.					
		15.00000	11.00000	19.45000	Point lies within an excavation.					
		16.00000	11.00000	19.45000	Point lies within an excavation.					
		17.00000	11.00000	19.45000	Point lies within an excavation.					
		18.00000	11.00000	19.45000	Point lies within an excavation.					
		19.00000	11.00000	19.45000	Point lies within an excavation.					
		20.00000	11.00000	19.45000	Point lies within an excavation.					
		21.00000	11.00000	19.45000	Point lies within an excavation.					
		22.00000	11.00000	19.45000	Point lies within an excavation.					
		23.00000	11.00000	19.45000	-1.4201	-0.98517	3.2443	-	-	-
		24.00000	11.00000	19.45000	-1.1228	-0.78656	2.6470	-	-	-
		25.00000	11.00000	19.45000	-0.78342	-0.62095	2.3688	-	-	-
		26.00000	11.00000	19.45000	-0.66992	-0.48430	2.2038	-	-	-
		27.00000	11.00000	19.45000	-0.60738	-0.37186	2.0418	-	-	-
		28.00000	11.00000	19.45000	-0.52733	-0.27910	1.8734	-	-	-
		29.00000	11.00000	19.45000	-0.43454	-0.20210	1.6999	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		30.00000	11.00000	19.45000	-0.33223	-0.13760	1.5224	-	-	-
		31.00000	11.00000	19.45000	-0.22242	-0.082934	1.3417	-	-	-
		32.00000	11.00000	19.45000	-0.10615	-0.035961	1.1585	-	-	-
		33.00000	11.00000	19.45000	0.0	0.0	0.97305	-	-	-
		34.00000	11.00000	19.45000	0.0	0.0	0.78591	-	-	-
		35.00000	11.00000	19.45000	0.0	0.0	0.59730	-	-	-
		36.00000	11.00000	19.45000	0.0	0.0	0.40745	-	-	-
		37.00000	11.00000	19.45000	0.0	0.0	0.21656	-	-	-
		38.00000	11.00000	19.45000	0.0	0.0	0.024777	-	-	-
		39.00000	11.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	11.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	12.00000	19.45000	0.092019	-0.039654	1.1467	-	-	-
		-9.00000	12.00000	19.45000	0.19547	-0.093188	1.3231	-	-	-
		-8.00000	12.00000	19.45000	0.29072	-0.15485	1.4961	-	-	-
		-7.00000	12.00000	19.45000	0.37640	-0.22666	1.6647	-	-	-
		-6.00000	12.00000	19.45000	0.45029	-0.31097	1.8280	-	-	-
		-5.00000	12.00000	19.45000	0.50916	-0.41045	1.9847	-	-	-
		-4.00000	12.00000	19.45000	0.54869	-0.52792	2.1330	-	-	-
		-3.00000	12.00000	19.45000	0.56358	-0.66609	2.2710	-	-	-
		-2.00000	12.00000	19.45000	0.54791	-0.82684	2.3958	-	-	-
		-1.00000	12.00000	19.45000	0.50944	-1.0109	2.5066	-	-	-
		0.00000	12.00000	19.45000	0.75073	-1.2328	2.6923	-	-	-
		1.00000	12.00000	19.45000	0.95442	-1.4643	3.1593	-	-	-
		2.00000	12.00000	19.45000	Point lies within an excavation.					
		3.00000	12.00000	19.45000	Point lies within an excavation.					
		4.00000	12.00000	19.45000	Point lies within an excavation.					
		5.00000	12.00000	19.45000	Point lies within an excavation.					
		6.00000	12.00000	19.45000	Point lies within an excavation.					
		7.00000	12.00000	19.45000	Point lies within an excavation.					
		8.00000	12.00000	19.45000	Point lies within an excavation.					
		9.00000	12.00000	19.45000	Point lies within an excavation.					
		10.00000	12.00000	19.45000	Point lies within an excavation.					
		11.00000	12.00000	19.45000	Point lies within an excavation.					
		12.00000	12.00000	19.45000	Point lies within an excavation.					
		13.00000	12.00000	19.45000	Point lies within an excavation.					
		14.00000	12.00000	19.45000	Point lies within an excavation.					
		15.00000	12.00000	19.45000	Point lies within an excavation.					
		16.00000	12.00000	19.45000	Point lies within an excavation.					
		17.00000	12.00000	19.45000	Point lies within an excavation.					
		18.00000	12.00000	19.45000	Point lies within an excavation.					
		19.00000	12.00000	19.45000	Point lies within an excavation.					
		20.00000	12.00000	19.45000	Point lies within an excavation.					
		21.00000	12.00000	19.45000	Point lies within an excavation.					
		22.00000	12.00000	19.45000	Point lies within an excavation.					
		23.00000	12.00000	19.45000	-1.2632	-0.93422	3.0793	-	-	-
		24.00000	12.00000	19.45000	-0.96655	-0.75978	2.4947	-	-	-
		25.00000	12.00000	19.45000	-0.63595	-0.60819	2.2287	-	-	-
		26.00000	12.00000	19.45000	-0.53552	-0.47859	2.0748	-	-	-
		27.00000	12.00000	19.45000	-0.48766	-0.36865	1.9229	-	-	-
		28.00000	12.00000	19.45000	-0.42233	-0.27558	1.7634	-	-	-
		29.00000	12.00000	19.45000	-0.34340	-0.19657	1.5978	-	-	-
		30.00000	12.00000	19.45000	-0.25367	-0.12909	1.4274	-	-	-
		31.00000	12.00000	19.45000	-0.15503	-0.070902	1.2529	-	-	-
		32.00000	12.00000	19.45000	-0.048504	-0.020123	1.0752	-	-	-
		33.00000	12.00000	19.45000	0.0	0.0	0.89478	-	-	-
		34.00000	12.00000	19.45000	0.0	0.0	0.71208	-	-	-
		35.00000	12.00000	19.45000	0.0	0.0	0.52748	-	-	-
		36.00000	12.00000	19.45000	0.0	0.0	0.34126	-	-	-
		37.00000	12.00000	19.45000	0.0	0.0	0.15365	-	-	-
		38.00000	12.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	12.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	12.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	13.00000	19.45000	0.030740	-0.015808	1.0502	-	-	-
		-9.00000	13.00000	19.45000	0.12557	-0.071525	1.2205	-	-	-
		-8.00000	13.00000	19.45000	0.21124	-0.13460	1.3866	-	-	-
		-7.00000	13.00000	19.45000	0.28658	-0.20668	1.5477	-	-	-
		-6.00000	13.00000	19.45000	0.34975	-0.28956	1.7027	-	-	-
		-5.00000	13.00000	19.45000	0.39821	-0.38508	1.8502	-	-	-
		-4.00000	13.00000	19.45000	0.42876	-0.49495	1.9886	-	-	-
		-3.00000	13.00000	19.45000	0.43779	-0.62039	2.1160	-	-	-
		-2.00000	13.00000	19.45000	0.42188	-0.76156	2.2298	-	-	-
		-1.00000	13.00000	19.45000	0.37768	-0.91679	2.3274	-	-	-
		0.00000	13.00000	19.45000	0.63045	-1.1011	2.4933	-	-	-
		1.00000	13.00000	19.45000	0.86393	-1.2875	2.9310	-	-	-
		2.00000	13.00000	19.45000	Point lies within an excavation.					
		3.00000	13.00000	19.45000	Point lies within an excavation.					
		4.00000	13.00000	19.45000	Point lies within an excavation.					
		5.00000	13.00000	19.45000	Point lies within an excavation.					
		6.00000	13.00000	19.45000	Point lies within an excavation.					
		7.00000	13.00000	19.45000	Point lies within an excavation.					
		8.00000	13.00000	19.45000	Point lies within an excavation.					
		9.00000	13.00000	19.45000	Point lies within an excavation.					
		10.00000	13.00000	19.45000	Point lies within an excavation.					
		11.00000	13.00000	19.45000	Point lies within an excavation.					
		12.00000	13.00000	19.45000	Point lies within an excavation.					
		13.00000	13.00000	19.45000	Point lies within an excavation.					
		14.00000	13.00000	19.45000	Point lies within an excavation.					
		15.00000	13.00000	19.45000	Point lies within an excavation.					
		16.00000	13.00000	19.45000	Point lies within an excavation.					
		17.00000	13.00000	19.45000	Point lies within an excavation.					
		18.00000	13.00000	19.45000	Point lies within an excavation.					
		19.00000	13.00000	19.45000	Point lies within an excavation.					
		20.00000	13.00000	19.45000	Point lies within an excavation.					
		21.00000	13.00000	19.45000	Point lies within an excavation.					
		22.00000	13.00000	19.45000	Point lies within an excavation.					
		23.00000	13.00000	19.45000	-1.1404	-0.85322	2.9068	-	-	-
		24.00000	13.00000	19.45000	-0.83968	-0.70326	2.3332	-	-	-
		25.00000	13.00000	19.45000	-0.51200	-0.56830	2.0780	-	-	-
		26.00000	13.00000	19.45000	-0.41891	-0.44919	1.9345	-	-	-
		27.00000	13.00000	19.45000	-0.38078	-0.34524	1.7922	-	-	-
		28.00000	13.00000	19.45000	-0.32609	-0.25500	1.6415	-	-	-
		29.00000	13.00000	19.45000	-0.25779	-0.17666	1.4840	-	-	-
		30.00000	13.00000	19.45000	-0.17813	-0.10839	1.3207	-	-	-
		31.00000	13.00000	19.45000	-0.088691	-0.048441	1.1528	-	-	-
		32.00000	13.00000	19.45000	0.0	0.0	0.98099	-	-	-
		33.00000	13.00000	19.45000	0.0	0.0	0.80588	-	-	-
		34.00000	13.00000	19.45000	0.0	0.0	0.62800	-	-	-
		35.00000	13.00000	19.45000	0.0	0.0	0.44776	-	-	-
		36.00000	13.00000	19.45000	0.0	0.0	0.26551	-	-	-
		37.00000	13.00000	19.45000	0.0	0.0	0.081531	-	-	-
		38.00000	13.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	13.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	13.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	14.00000	19.45000	0.0	0.0	0.94360	-	-	-
		-9.00000	14.00000	19.45000	0.058350	-0.038897	1.1077	-	-	-
		-8.00000	14.00000	19.45000	0.13652	-0.10189	1.2669	-	-	-
		-7.00000	14.00000	19.45000	0.20406	-0.17249	1.4205	-	-	-
		-6.00000	14.00000	19.45000	0.25955	-0.25198	1.5674	-	-	-
		-5.00000	14.00000	19.45000	0.30114	-0.34151	1.7062	-	-	-
		-4.00000	14.00000	19.45000	0.32661	-0.44195	1.8354	-	-	-
		-3.00000	14.00000	19.45000	0.33363	-0.55355	1.9531	-	-	-
		-2.00000	14.00000	19.45000	0.32017	-0.67552	2.0574	-	-	-
		-1.00000	14.00000	19.45000	0.28506	-0.80557	2.1459	-	-	-
		0.00000	14.00000	19.45000	0.53420	-0.95775	2.2926	-	-	-
		1.00000	14.00000	19.45000	0.79148	-1.1088	2.7024	-	-	-
		2.00000	14.00000	19.45000	Point lies within an excavation.					
		3.00000	14.00000	19.45000	Point lies within an excavation.					
		4.00000	14.00000	19.45000	Point lies within an excavation.					
		5.00000	14.00000	19.45000	Point lies within an excavation.					
		6.00000	14.00000	19.45000	Point lies within an excavation.					
		7.00000	14.00000	19.45000	Point lies within an excavation.					
		8.00000	14.00000	19.45000	Point lies within an excavation.					
		9.00000	14.00000	19.45000	Point lies within an excavation.					
		10.00000	14.00000	19.45000	Point lies within an excavation.					
		11.00000	14.00000	19.45000	Point lies within an excavation.					
		12.00000	14.00000	19.45000	Point lies within an excavation.					
		13.00000	14.00000	19.45000	Point lies within an excavation.					
		14.00000	14.00000	19.45000	Point lies within an excavation.					
		15.00000	14.00000	19.45000	Point lies within an excavation.					
		16.00000	14.00000	19.45000	Point lies within an excavation.					
		17.00000	14.00000	19.45000	Point lies within an excavation.					

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		18.00000	14.00000	19.45000		Point lies within an excavation.				
		19.00000	14.00000	19.45000		Point lies within an excavation.				
		20.00000	14.00000	19.45000		Point lies within an excavation.				
		21.00000	14.00000	19.45000		Point lies within an excavation.				
		22.00000	14.00000	19.45000		Point lies within an excavation.				
		23.00000	14.00000	19.45000	-1.0434	-0.75280	2.7289	-	-	-
		24.00000	14.00000	19.45000	-0.73645	-0.62559	2.1646	-	-	-
		25.00000	14.00000	19.45000	-0.40818	-0.50759	1.9190	-	-	-
		26.00000	14.00000	19.45000	-0.31850	-0.40043	1.7850	-	-	-
		27.00000	14.00000	19.45000	-0.28631	-0.30443	1.6517	-	-	-
		28.00000	14.00000	19.45000	-0.23891	-0.21904	1.5095	-	-	-
		29.00000	14.00000	19.45000	-0.17840	-0.14326	1.3598	-	-	-
		30.00000	14.00000	19.45000	-0.10647	-0.075853	1.2039	-	-	-
		31.00000	14.00000	19.45000	-0.024325	-0.015543	1.0426	-	-	-
		32.00000	14.00000	19.45000	0.0	0.0	0.87680	-	-	-
		33.00000	14.00000	19.45000	0.0	0.0	0.70722	-	-	-
		34.00000	14.00000	19.45000	0.0	0.0	0.53440	-	-	-
		35.00000	14.00000	19.45000	0.0	0.0	0.35879	-	-	-
		36.00000	14.00000	19.45000	0.0	0.0	0.18079	-	-	-
		37.00000	14.00000	19.45000	0.0	0.0	700.06E-6	-	-	-
		38.00000	14.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	14.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	14.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	15.00000	19.45000	0.0	0.0	0.82800	-	-	-
		-9.00000	15.00000	19.45000	0.0	0.0	0.98577	-	-	-
		-8.00000	15.00000	19.45000	0.066819	-0.057432	1.1383	-	-	-
		-7.00000	15.00000	19.45000	0.12875	-0.12538	1.2846	-	-	-
		-6.00000	15.00000	19.45000	0.17908	-0.20030	1.4236	-	-	-
		-5.00000	15.00000	19.45000	0.21652	-0.28281	1.5543	-	-	-
		-4.00000	15.00000	19.45000	0.23965	-0.37320	1.6750	-	-	-
		-3.00000	15.00000	19.45000	0.24710	-0.47113	1.7842	-	-	-
		-2.00000	15.00000	19.45000	0.23786	-0.57538	1.8802	-	-	-
		-1.00000	15.00000	19.45000	0.21166	-0.68355	1.9610	-	-	-
		0.00000	15.00000	19.45000	0.45501	-0.80898	2.0910	-	-	-
		1.00000	15.00000	19.45000	0.73141	-0.93216	2.4741	-	-	-
		2.00000	15.00000	19.45000		Point lies within an excavation.				
		3.00000	15.00000	19.45000		Point lies within an excavation.				
		4.00000	15.00000	19.45000		Point lies within an excavation.				
		5.00000	15.00000	19.45000		Point lies within an excavation.				
		6.00000	15.00000	19.45000		Point lies within an excavation.				
		7.00000	15.00000	19.45000		Point lies within an excavation.				
		8.00000	15.00000	19.45000		Point lies within an excavation.				
		9.00000	15.00000	19.45000		Point lies within an excavation.				
		10.00000	15.00000	19.45000		Point lies within an excavation.				
		11.00000	15.00000	19.45000		Point lies within an excavation.				
		12.00000	15.00000	19.45000		Point lies within an excavation.				
		13.00000	15.00000	19.45000		Point lies within an excavation.				
		14.00000	15.00000	19.45000		Point lies within an excavation.				
		15.00000	15.00000	19.45000		Point lies within an excavation.				
		16.00000	15.00000	19.45000		Point lies within an excavation.				
		17.00000	15.00000	19.45000		Point lies within an excavation.				
		18.00000	15.00000	19.45000		Point lies within an excavation.				
		19.00000	15.00000	19.45000		Point lies within an excavation.				
		20.00000	15.00000	19.45000		Point lies within an excavation.				
		21.00000	15.00000	19.45000		Point lies within an excavation.				
		22.00000	15.00000	19.45000		Point lies within an excavation.				
		23.00000	15.00000	19.45000	-0.96581	-0.64002	2.5469	-	-	-
		24.00000	15.00000	19.45000	-0.65193	-0.53305	1.9907	-	-	-
		25.00000	15.00000	19.45000	-0.32108	-0.43111	1.7535	-	-	-
		26.00000	15.00000	19.45000	-0.23221	-0.33610	1.6280	-	-	-
		27.00000	15.00000	19.45000	-0.20318	-0.24886	1.5031	-	-	-
		28.00000	15.00000	19.45000	-0.16042	-0.16945	1.3690	-	-	-
		29.00000	15.00000	19.45000	-0.10531	-0.097413	1.2268	-	-	-
		30.00000	15.00000	19.45000	-0.039025	-0.032014	1.0779	-	-	-
		31.00000	15.00000	19.45000	0.0	0.0	0.92325	-	-	-
		32.00000	15.00000	19.45000	0.0	0.0	0.76358	-	-	-
		33.00000	15.00000	19.45000	0.0	0.0	0.59965	-	-	-
		34.00000	15.00000	19.45000	0.0	0.0	0.43203	-	-	-
		35.00000	15.00000	19.45000	0.0	0.0	0.26123	-	-	-
		36.00000	15.00000	19.45000	0.0	0.0	0.087661	-	-	-
		37.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	16.00000	19.45000	0.0	0.0	0.70431	-	-	-
		-9.00000	16.00000	19.45000	0.0	0.0	0.85586	-	-	-
		-8.00000	16.00000	19.45000	0.0019760	-0.0019291	1.0017	-	-	-
		-7.00000	16.00000	19.45000	0.060168	-0.066555	1.1410	-	-	-
		-6.00000	16.00000	19.45000	0.10732	-0.13632	1.2728	-	-	-
		-5.00000	16.00000	19.45000	0.14266	-0.21150	1.3958	-	-	-
		-4.00000	16.00000	19.45000	0.16537	-0.29199	1.5089	-	-	-
		-3.00000	16.00000	19.45000	0.17473	-0.37714	1.6105	-	-	-
		-2.00000	16.00000	19.45000	0.17040	-0.46558	1.6992	-	-	-
		-1.00000	16.00000	19.45000	0.15264	-0.55505	1.7734	-	-	-
		0.00000	16.00000	19.45000	0.33922	-0.69058	1.8834	-	-	-
		1.00000	16.00000	19.45000	0.45718	-0.93085	2.1909	-	-	-
		2.00000	16.00000	19.45000	0.035109	-1.5017	2.4507	-	-	-
		3.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		4.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		5.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		6.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		7.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		8.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		9.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		10.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		11.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		12.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		13.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		14.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		15.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		16.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		17.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		18.00000	16.00000	19.45000	0.0	-1.5415	2.4553	-	-	-
		19.00000	16.00000	19.45000	-0.0050508	-1.5363	2.4552	-	-	-
		20.00000	16.00000	19.45000	-0.054595	-1.4753	2.4438	-	-	-
		21.00000	16.00000	19.45000	-0.099459	-1.4003	2.4137	-	-	-
		22.00000	16.00000	19.45000	-0.13595	-1.3163	2.3657	-	-	-
		23.00000	16.00000	19.45000	-0.44548	-0.89671	2.2194	-	-	-
		24.00000	16.00000	19.45000	-0.47038	-0.51280	1.7891	-	-	-
		25.00000	16.00000	19.45000	-0.22288	-0.35015	1.5805	-	-	-
		26.00000	16.00000	19.45000	-0.15785	-0.25918	1.4650	-	-	-
		27.00000	16.00000	19.45000	-0.13000	-0.18077	1.3478	-	-	-
		28.00000	16.00000	19.45000	-0.089832	-0.10777	1.2211	-	-	-
		29.00000	16.00000	19.45000	-0.038177	-0.040112	1.0862	-	-	-
		30.00000	16.00000	19.45000	0.0	0.0	0.94412	-	-	-
		31.00000	16.00000	19.45000	0.0	0.0	0.79588	-	-	-
		32.00000	16.00000	19.45000	0.0	0.0	0.64226	-	-	-
		33.00000	16.00000	19.45000	0.0	0.0	0.48398	-	-	-
		34.00000	16.00000	19.45000	0.0	0.0	0.32163	-	-	-
		35.00000	16.00000	19.45000	0.0	0.0	0.15573	-	-	-
		36.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	17.00000	19.45000	0.0	0.0	0.57340	-	-	-
		-9.00000	17.00000	19.45000	0.0	0.0	0.71890	-	-	-
		-8.00000	17.00000	19.45000	0.0	0.0	0.85841	-	-	-
		-7.00000	17.00000	19.45000	0.0	0.0	0.99108	-	-	-
		-6.00000	17.00000	19.45000	0.0431120	-0.061460	1.1160	-	-	-
		-5.00000	17.00000	19.45000	0.077880	-0.12946	1.2320	-	-	-
		-4.00000	17.00000	19.45000	0.10146	-0.20065	1.3381	-	-	-
		-3.00000	17.00000	19.45000	0.11362	-0.27424	1.4330	-	-	-
		-2.00000	17.00000	19.45000	0.11443	-0.34886	1.5153	-	-	-
		-1.00000	17.00000	19.45000	0.10442	-0.42250	1.5839	-	-	-
		0.00000	17.00000	19.45000	0.13914	-0.53525	1.6516	-	-	-
		1.00000	17.00000	19.45000	0.15707	-0.76993	1.7525	-	-	-
		2.00000	17.00000	19.45000	0.024485	-0.98317	1.8161	-	-	-
		3.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		4.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		5.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		6.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		7.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		8.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		9.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		10.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		11.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		12.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		13.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		14.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		15.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		16.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		17.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		18.00000	17.00000	19.45000	0.0	-1.0117	1.8203	-	-	-
		19.00000	17.00000	19.45000	-0.0035243	-1.0081	1.8202	-	-	-
		20.00000	17.00000	19.45000	-0.038046	-0.96364	1.8098	-	-	-
		21.00000	17.00000	19.45000	-0.069043	-0.90641	1.7823	-	-	-
		22.00000	17.00000	19.45000	-0.093670	-0.84013	1.7382	-	-	-
		23.00000	17.00000	19.45000	-0.16898	-0.69153	1.6659	-	-	-
		24.00000	17.00000	19.45000	-0.20678	-0.41872	1.5163	-	-	-
		25.00000	17.00000	19.45000	-0.11013	-0.24459	1.3965	-	-	-
		26.00000	17.00000	19.45000	-0.093390	-0.17183	1.2970	-	-	-
		27.00000	17.00000	19.45000	-0.065298	-0.10185	1.1867	-	-	-
		28.00000	17.00000	19.45000	-0.026168	-0.035236	1.0670	-	-	-
		29.00000	17.00000	19.45000	0.0	0.0	0.93889	-	-	-
		30.00000	17.00000	19.45000	0.0	0.0	0.80338	-	-	-
		31.00000	17.00000	19.45000	0.0	0.0	0.66138	-	-	-
		32.00000	17.00000	19.45000	0.0	0.0	0.51368	-	-	-
		33.00000	17.00000	19.45000	0.0	0.0	0.36099	-	-	-
		34.00000	17.00000	19.45000	0.0	0.0	0.20390	-	-	-
		35.00000	17.00000	19.45000	0.0	0.0	0.042930	-	-	-
		36.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	18.00000	19.45000	0.0	0.0	0.43607	-	-	-
		-9.00000	18.00000	19.45000	0.0	0.0	0.57573	-	-	-
		-8.00000	18.00000	19.45000	0.0	0.0	0.70916	-	-	-
		-7.00000	18.00000	19.45000	0.0	0.0	0.83557	-	-	-
		-6.00000	18.00000	19.45000	0.0	0.0	0.95408	-	-	-
		-5.00000	18.00000	19.45000	0.020569	-0.037953	1.0637	-	-	-
		-4.00000	18.00000	19.45000	0.045918	-0.10067	1.1635	-	-	-
		-3.00000	18.00000	19.45000	0.061394	-0.16402	1.2523	-	-	-
		-2.00000	18.00000	19.45000	0.067321	-0.22671	1.3291	-	-	-
		-1.00000	18.00000	19.45000	0.064377	-0.28701	1.3928	-	-	-
		0.00000	18.00000	19.45000	0.053682	-0.34271	1.4423	-	-	-
		1.00000	18.00000	19.45000	0.036842	-0.39124	1.4772	-	-	-
		2.00000	18.00000	19.45000	0.015868	-0.47137	1.5030	-	-	-
		3.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		4.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		5.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		6.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		7.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		8.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		9.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		10.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		11.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		12.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		13.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		14.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		15.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		16.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		17.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		18.00000	18.00000	19.45000	0.0	-0.49084	1.5069	-	-	-
		19.00000	18.00000	19.45000	-0.0022872	-0.48847	1.5068	-	-	-
		20.00000	18.00000	19.45000	-0.024603	-0.45735	1.4972	-	-	-
		21.00000	18.00000	19.45000	-0.044190	-0.41451	1.4718	-	-	-
		22.00000	18.00000	19.45000	-0.058799	-0.36280	1.4311	-	-	-
		23.00000	18.00000	19.45000	-0.069696	-0.29124	1.3743	-	-	-
		24.00000	18.00000	19.45000	-0.066062	-0.20181	1.2999	-	-	-
		25.00000	18.00000	19.45000	-0.056375	-0.13868	1.2182	-	-	-
		26.00000	18.00000	19.45000	-0.036972	-0.075456	1.1249	-	-	-
		27.00000	18.00000	19.45000	-0.0076418	-0.013235	1.0210	-	-	-
		28.00000	18.00000	19.45000	0.0	0.0	0.90769	-	-	-
		29.00000	18.00000	19.45000	0.0	0.0	0.78591	-	-	-
		30.00000	18.00000	19.45000	0.0	0.0	0.65659	-	-	-
		31.00000	18.00000	19.45000	0.0	0.0	0.52057	-	-	-
		32.00000	18.00000	19.45000	0.0	0.0	0.37862	-	-	-
		33.00000	18.00000	19.45000	0.0	0.0	0.23139	-	-	-
		34.00000	18.00000	19.45000	0.0	0.0	0.079490	-	-	-
		35.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	19.00000	19.45000	0.0	0.0	0.29303	-	-	-
		-9.00000	19.00000	19.45000	0.0	0.0	0.42710	-	-	-
		-8.00000	19.00000	19.45000	0.0	0.0	0.55477	-	-	-
		-7.00000	19.00000	19.45000	0.0	0.0	0.67530	-	-	-
		-6.00000	19.00000	19.45000	0.0	0.0	0.78790	-	-	-
		-5.00000	19.00000	19.45000	0.0	0.0	0.89169	-	-	-
		-4.00000	19.00000	19.45000	0.0	0.0	0.98577	-	-	-
		-3.00000	19.00000	19.45000	0.016107	-0.047222	1.0692	-	-	-
		-2.00000	19.00000	19.45000	0.027028	-0.099695	1.1410	-	-	-
		-1.00000	19.00000	19.45000	0.030531	-0.14875	1.2004	-	-	-
		0.00000	19.00000	19.45000	0.027676	-0.19256	1.2465	-	-	-
		1.00000	19.00000	19.45000	0.019848	-0.22904	1.2787	-	-	-
		2.00000	19.00000	19.45000	0.0087297	-0.25596	1.2964	-	-	-
		3.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		4.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		5.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		6.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		7.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		8.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		9.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		10.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		11.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		12.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		13.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		14.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		15.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		16.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		17.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		18.00000	19.00000	19.45000	0.0	-0.26794	1.3000	-	-	-
		19.00000	19.00000	19.45000	-0.0012632	-0.26661	1.2999	-	-	-
		20.00000	19.00000	19.45000	-0.013454	-0.24648	1.2911	-	-	-
		21.00000	19.00000	19.45000	-0.023474	-0.21546	1.2675	-	-	-
		22.00000	19.00000	19.45000	-0.029499	-0.17579	1.2297	-	-	-
		23.00000	19.00000	19.45000	-0.029959	-0.12965	1.1782	-	-	-
		24.00000	19.00000	19.45000	-0.023598	-0.079024	1.1138	-	-	-
		25.00000	19.00000	19.45000	-0.0094849	-0.025621	1.0372	-	-	-
		26.00000	19.00000	19.45000	0.0	0.0	0.94936	-	-	-
		27.00000	19.00000	19.45000	0.0	0.0	0.85129	-	-	-
		28.00000	19.00000	19.45000	0.0	0.0	0.74387	-	-	-
		29.00000	19.00000	19.45000	0.0	0.0	0.62800	-	-	-
		30.00000	19.00000	19.45000	0.0	0.0	0.50452	-	-	-
		31.00000	19.00000	19.45000	0.0	0.0	0.37420	-	-	-
		32.00000	19.00000	19.45000	0.0	0.0	0.23777	-	-	-
		33.00000	19.00000	19.45000	0.0	0.0	0.095848	-	-	-
		34.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	20.00000	19.45000	0.0	0.0	0.14493	-	-	-
		-9.00000	20.00000	19.45000	0.0	0.0	0.27366	-	-	-
		-8.00000	20.00000	19.45000	0.0	0.0	0.39589	-	-	-
		-7.00000	20.00000	19.45000	0.0	0.0	0.51093	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		-6.00000	20.00000	19.45000	0.0	0.0	0.61805	-	-	-
		-5.00000	20.00000	19.45000	0.0	0.0	0.71647	-	-	-
		-4.00000	20.00000	19.45000	0.0	0.0	0.80538	-	-	-
		-3.00000	20.00000	19.45000	0.0	0.0	0.88398	-	-	-
		-2.00000	20.00000	19.45000	0.0	0.0	0.95146	-	-	-
		-1.00000	20.00000	19.45000	0.0013692	-0.0072393	1.0071	-	-	-
		0.00000	20.00000	19.45000	0.0054554	-0.041092	1.0502	-	-	-
		1.00000	20.00000	19.45000	0.0054216	-0.067548	1.0801	-	-	-
		2.00000	20.00000	19.45000	0.0026873	-0.084819	1.0966	-	-	-
		3.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		4.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		5.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		6.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		7.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		8.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		9.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		10.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		11.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		12.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		13.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		14.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		15.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		16.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		17.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		18.00000	20.00000	19.45000	0.0	-0.090485	1.1000	-	-	-
		19.00000	20.00000	19.45000	-397.00E-6	-0.090027	1.0999	-	-	-
		20.00000	20.00000	19.45000	-0.0040074	-0.079128	1.0917	-	-	-
		21.00000	20.00000	19.45000	-0.0058426	-0.057967	1.0697	-	-	-
		22.00000	20.00000	19.45000	-0.0043885	-0.028341	1.0345	-	-	-
		23.00000	20.00000	19.45000	0.0	0.0	0.98630	-	-	-
		24.00000	20.00000	19.45000	0.0	0.0	0.92585	-	-	-
		25.00000	20.00000	19.45000	0.0	0.0	0.85383	-	-	-
		26.00000	20.00000	19.45000	0.0	0.0	0.77101	-	-	-
		27.00000	20.00000	19.45000	0.0	0.0	0.67819	-	-	-
		28.00000	20.00000	19.45000	0.0	0.0	0.57620	-	-	-
		29.00000	20.00000	19.45000	0.0	0.0	0.46582	-	-	-
		30.00000	20.00000	19.45000	0.0	0.0	0.34782	-	-	-
		31.00000	20.00000	19.45000	0.0	0.0	0.22291	-	-	-
		32.00000	20.00000	19.45000	0.0	0.0	0.091752	-	-	-
		33.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	21.00000	19.45000	0.0	0.0	0.11598	-	-	-
		-8.00000	21.00000	19.45000	0.0	0.0	0.23309	-	-	-
		-7.00000	21.00000	19.45000	0.0	0.0	0.34301	-	-	-
		-6.00000	21.00000	19.45000	0.0	0.0	0.44506	-	-	-
		-5.00000	21.00000	19.45000	0.0	0.0	0.53856	-	-	-
		-4.00000	21.00000	19.45000	0.0	0.0	0.62278	-	-	-
		-3.00000	21.00000	19.45000	0.0	0.0	0.69703	-	-	-
		-2.00000	21.00000	19.45000	0.0	0.0	0.76062	-	-	-
		-1.00000	21.00000	19.45000	0.0	0.0	0.81290	-	-	-
		0.00000	21.00000	19.45000	0.0	0.0	0.85332	-	-	-
		1.00000	21.00000	19.45000	0.0	0.0	0.88141	-	-	-
		2.00000	21.00000	19.45000	0.0	0.0	0.89684	-	-	-
		3.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		4.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		5.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		6.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		7.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		8.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		9.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		10.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		11.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		12.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		13.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		14.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		15.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		16.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		17.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		18.00000	21.00000	19.45000	0.0	0.0	0.90000	-	-	-
		19.00000	21.00000	19.45000	0.0	0.0	0.89994	-	-	-
		20.00000	21.00000	19.45000	0.0	0.0	0.89220	-	-	-
		21.00000	21.00000	19.45000	0.0	0.0	0.87168	-	-	-
		22.00000	21.00000	19.45000	0.0	0.0	0.83861	-	-	-
		23.00000	21.00000	19.45000	0.0	0.0	0.79338	-	-	-
		24.00000	21.00000	19.45000	0.0	0.0	0.73650	-	-	-
		25.00000	21.00000	19.45000	0.0	0.0	0.66857	-	-	-
		26.00000	21.00000	19.45000	0.0	0.0	0.59025	-	-	-
		27.00000	21.00000	19.45000	0.0	0.0	0.50223	-	-	-
		28.00000	21.00000	19.45000	0.0	0.0	0.40523	-	-	-
		29.00000	21.00000	19.45000	0.0	0.0	0.29995	-	-	-
		30.00000	21.00000	19.45000	0.0	0.0	0.18707	-	-	-
		31.00000	21.00000	19.45000	0.0	0.0	0.067266	-	-	-
		32.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	22.00000	19.45000	0.0	0.0	0.066859	-	-	-
		-7.00000	22.00000	19.45000	0.0	0.0	0.17200	-	-	-
		-6.00000	22.00000	19.45000	0.0	0.0	0.26937	-	-	-
		-5.00000	22.00000	19.45000	0.0	0.0	0.35835	-	-	-
		-4.00000	22.00000	19.45000	0.0	0.0	0.43832	-	-	-
		-3.00000	22.00000	19.45000	0.0	0.0	0.50864	-	-	-
		-2.00000	22.00000	19.45000	0.0	0.0	0.56873	-	-	-
		-1.00000	22.00000	19.45000	0.0	0.0	0.61805	-	-	-
		0.00000	22.00000	19.45000	0.0	0.0	0.65611	-	-	-
		1.00000	22.00000	19.45000	0.0	0.0	0.68253	-	-	-
		2.00000	22.00000	19.45000	0.0	0.0	0.69703	-	-	-
		3.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		4.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		5.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		6.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		7.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		8.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		9.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		10.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		11.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		12.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		13.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		14.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		15.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		16.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		17.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		18.00000	22.00000	19.45000	0.0	0.0	0.70000	-	-	-
		19.00000	22.00000	19.45000	0.0	0.0	0.69994	-	-	-
		20.00000	22.00000	19.45000	0.0	0.0	0.69267	-	-	-
		21.00000	22.00000	19.45000	0.0	0.0	0.67338	-	-	-
		22.00000	22.00000	19.45000	0.0	0.0	0.64226	-	-	-
		23.00000	22.00000	19.45000	0.0	0.0	0.59965	-	-	-
		24.00000	22.00000	19.45000	0.0	0.0	0.54596	-	-	-
		25.00000	22.00000	19.45000	0.0	0.0	0.48170	-	-	-
		26.00000	22.00000	19.45000	0.0	0.0	0.40745	-	-	-
		27.00000	22.00000	19.45000	0.0	0.0	0.32381	-	-	-
		28.00000	22.00000	19.45000	0.0	0.0	0.23139	-	-	-
		29.00000	22.00000	19.45000	0.0	0.0	0.13084	-	-	-
		30.00000	22.00000	19.45000	0.0	0.0	0.022765	-	-	-
		31.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		33.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	23.00000	19.45000	0.0	0.0	0.091343	-	-	-
		-5.00000	23.00000	19.45000	0.0	0.0	0.17618	-	-	-
		-4.00000	23.00000	19.45000	0.0	0.0	0.25225	-	-	-
		-3.00000	23.00000	19.45000	0.0	0.0	0.31902	-	-	-
		-2.00000	23.00000	19.45000	0.0	0.0	0.37597	-	-	-
		-1.00000	23.00000	19.45000	0.0	0.0	0.42263	-	-	-
		0.00000	23.00000	19.45000	0.0	0.0	0.45859	-	-	-
		1.00000	23.00000	19.45000	0.0	0.0	0.48352	-	-	-
		2.00000	23.00000	19.45000	0.0	0.0	0.49720	-	-	-
		3.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		4.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		5.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		6.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		7.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		8.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		9.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		10.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		11.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		12.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		13.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		14.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		15.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		16.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		17.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		18.00000	23.00000	19.45000	0.0	0.0	0.50000	-	-	-
		19.00000	23.00000	19.45000	0.0	0.0	0.49994	-	-	-
		20.00000	23.00000	19.45000	0.0	0.0	0.49309	-	-	-
		21.00000	23.00000	19.45000	0.0	0.0	0.47489	-	-	-
		22.00000	23.00000	19.45000	0.0	0.0	0.44551	-	-	-
		23.00000	23.00000	19.45000	0.0	0.0	0.40523	-	-	-
		24.00000	23.00000	19.45000	0.0	0.0	0.35440	-	-	-
		25.00000	23.00000	19.45000	0.0	0.0	0.29347	-	-	-
		26.00000	23.00000	19.45000	0.0	0.0	0.22291	-	-	-
		27.00000	23.00000	19.45000	0.0	0.0	0.14327	-	-	-
		28.00000	23.00000	19.45000	0.0	0.0	0.055079	-	-	-
		29.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	24.00000	19.45000	0.0	0.0	0.064825	-	-	-
		-3.00000	24.00000	19.45000	0.0	0.0	0.12836	-	-	-
		-2.00000	24.00000	19.45000	0.0	0.0	0.18246	-	-	-
		-1.00000	24.00000	19.45000	0.0	0.0	0.22673	-	-	-
		0.00000	24.00000	19.45000	0.0	0.0	0.26080	-	-	-
		1.00000	24.00000	19.45000	0.0	0.0	0.28441	-	-	-
		2.00000	24.00000	19.45000	0.0	0.0	0.29735	-	-	-
		3.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		4.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		5.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		6.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		7.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		8.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		9.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		10.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		11.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		12.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		13.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		14.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		15.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		16.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		17.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		18.00000	24.00000	19.45000	0.0	0.0	0.30000	-	-	-
		19.00000	24.00000	19.45000	0.0	0.0	0.29995	-	-	-
		20.00000	24.00000	19.45000	0.0	0.0	0.29347	-	-	-
		21.00000	24.00000	19.45000	0.0	0.0	0.27624	-	-	-
		22.00000	24.00000	19.45000	0.0	0.0	0.24841	-	-	-
		23.00000	24.00000	19.45000	0.0	0.0	0.21022	-	-	-
		24.00000	24.00000	19.45000	0.0	0.0	0.16198	-	-	-
		25.00000	24.00000	19.45000	0.0	0.0	0.10405	-	-	-
		26.00000	24.00000	19.45000	0.0	0.0	0.036870	-	-	-
		27.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	25.00000	19.45000	0.0	0.0	0.030416	-	-	-
		0.00000	25.00000	19.45000	0.0	0.0	0.062793	-	-	-
		1.00000	25.00000	19.45000	0.0	0.0	0.085208	-	-	-
		2.00000	25.00000	19.45000	0.0	0.0	0.097488	-	-	-
		3.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		4.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		5.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		6.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		7.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		8.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		9.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		10.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		11.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		12.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		13.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		14.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		15.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		16.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		17.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		18.00000	25.00000	19.45000	0.0	0.0	0.10000	-	-	-
		19.00000	25.00000	19.45000	0.0	0.0	0.099949	-	-	-
		20.00000	25.00000	19.45000	0.0	0.0	0.093800	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	to x Axis
		21.00000	25.00000	19.45000	0.0	0.0	0.077450	-	-	-
		22.00000	25.00000	19.45000	0.0	0.0	0.051025	-	-	-
		23.00000	25.00000	19.45000	0.0	0.0	0.014727	-	-	-
		24.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		9.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		10.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		11.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		12.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		13.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		14.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		15.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		16.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		17.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		18.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		19.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		20.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		21.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		9.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		10.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		11.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		12.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		13.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		14.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		15.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		16.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		17.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		18.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		19.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		20.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		21.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
	9.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	10.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	11.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	12.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	13.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	14.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	15.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	16.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	17.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	18.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	19.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	20.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	21.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	22.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	23.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	24.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	25.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	26.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	27.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	28.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	29.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	30.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	31.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	32.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	33.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	34.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	35.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	36.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	37.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	38.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	39.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	40.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-10.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-9.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-8.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-7.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-6.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-5.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-4.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-3.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-2.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-1.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	0.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	1.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	2.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	3.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	4.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	5.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	6.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	7.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	8.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	9.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	10.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	11.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	12.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	13.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	14.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	15.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	16.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	17.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	18.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	19.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	20.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	21.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	22.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	23.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	24.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	25.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	26.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	27.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	28.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	29.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	30.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	31.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	32.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	33.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	34.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	35.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	36.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	37.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	38.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	39.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	40.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-10.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-9.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-8.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-7.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-6.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-5.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-4.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-3.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-2.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	-1.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	0.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	1.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	2.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	3.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	4.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	5.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	6.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	7.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	8.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	9.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	10.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	11.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	12.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	13.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	14.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	15.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	16.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	17.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	18.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	19.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	20.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	21.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	22.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	23.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	24.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	25.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	26.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	27.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	28.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	29.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	30.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	31.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	32.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	33.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	34.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	35.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	36.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	37.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	38.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	39.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
	40.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-	
Line 1	Line 1	23.70000	15.95000	19.45000	-0.53502	-0.58061	1.9165	-0.68857	0.38630	76.633
	1.0381	23.94000	16.96000	19.45000	-0.21891	-0.44114	1.5349	-0.47979	0.11099	76.633
	2.0762	24.18000	17.97000	19.45000	-0.066416	-0.19405	1.2916	-0.20415	0.019754	76.633
	3.1144	24.42000	18.98000	19.45000	-0.019490	-0.059279	1.0867	-0.062179	0.0052575	76.633
	4.1525	24.66000	19.99000	19.45000	0.0	0.0	0.88143	0.0	0.0	76.633
	5.1906	24.90000	21.00000	19.45000	0.0	0.0	0.67585	0.0	0.0	76.633
	6.2287	25.14000	22.01000	19.45000	0.0	0.0	0.47003	0.0	0.0	76.633

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	7.2669	25.38000	23.02000	19.45000	0.0	0.0	0.26401	0.0	0.0	76.633
	8.3050	25.62000	24.03000	19.45000	0.0	0.0	0.057821	0.0	0.0	76.633
	9.3431	25.86000	25.04000	19.45000	0.0	0.0	0.0	0.0	0.0	76.633
	10.381	26.10000	26.05000	19.45000	0.0	0.0	0.0	0.0	0.0	76.633
Line 2	Line 2	26.10000	26.10000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	1.3065	27.35000	25.72000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	2.6130	28.60000	25.34000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	3.9195	29.85000	24.96000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	5.2259	31.10000	24.58000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	6.5324	32.35000	24.20000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	7.8389	33.60000	23.82000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	9.1454	34.85000	23.44000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	10.452	36.10000	23.06000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	11.758	37.35000	22.68000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	13.065	38.60000	22.30000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
Line 3	Line 3	38.60000	22.25000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	0.97015	38.36000	21.31000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	1.9403	38.12000	20.37000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	2.9105	37.88000	19.43000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	3.8806	37.64000	18.49000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	4.8508	37.40000	17.55000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	5.8209	37.16000	16.61000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	6.7911	36.92000	15.67000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	7.7612	36.68000	14.73000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	8.7314	36.44000	13.79000	19.45000	0.0	0.0	0.11992	0.0	0.0	255.68
	9.7015	36.20000	12.85000	19.45000	0.0	0.0	0.24068	0.0	0.0	255.68
Line 4	Line 4	36.20000	12.80000	19.45000	0.0	0.0	0.24458	0.0	0.0	166.07
	1.2879	34.95000	13.11000	19.45000	0.0	0.0	0.44745	0.0	0.0	166.07
	2.5757	33.70000	13.42000	19.45000	0.0	0.0	0.64282	0.0	0.0	166.07
	3.8636	32.45000	13.73000	19.45000	0.0	0.0	0.82929	0.0	0.0	166.07
	5.1515	31.20000	14.04000	19.45000	-0.0042660	-0.0026860	1.0052	0.0034941	0.0036339	166.07
	6.4393	29.95000	14.35000	19.45000	-0.086117	-0.064940	1.1686	0.067953	0.083760	166.07
	7.7272	28.70000	14.66000	19.45000	-0.14772	-0.13555	1.3171	0.11075	0.16712	166.07
	9.0151	27.45000	14.97000	19.45000	-0.18785	-0.21394	1.4483	0.13083	0.25287	166.07
	10.303	26.20000	15.28000	19.45000	-0.20570	-0.29821	1.5592	0.12787	0.33895	166.07
	11.591	24.95000	15.59000	19.45000	-0.20048	-0.38692	1.6608	0.18880	0.44546	166.07
	12.879	23.70000	15.90000	19.45000	-0.55488	-0.57546	1.9323	0.40005	0.69210	166.07
Line 5	Line 5	26.60000	-6.65000	19.00000	-0.52706	0.41247	2.0039	0.25823	0.61745	74.650
	1.0577	26.88000	-5.63000	19.00000	-0.63789	0.38255	2.0807	0.20004	0.71640	74.650
	2.1155	27.16000	-4.61000	19.00000	-0.74970	0.33082	2.1366	0.12056	0.81053	74.650
	3.1732	27.44000	-3.59000	19.00000	-0.85516	0.26138	2.1696	0.025682	0.89385	74.650
	4.2309	27.72000	-2.57000	19.00000	-0.94568	0.18062	2.1785	-0.076160	0.95975	74.650
	5.2887	28.00000	-1.55000	19.00000	-1.0128	0.096391	2.1629	-0.17515	1.0022	74.650
Line 6	Line 6	28.00000	-1.50000	19.00000	-1.0179	0.092702	2.1642	-1.0132	-0.13520	347.20
	0.45122	28.44000	-1.60000	19.00000	-0.92625	0.087397	2.0744	-0.92259	-0.12005	347.20
	0.90244	28.88000	-1.70000	19.00000	-0.83782	0.081575	1.9845	-0.83506	-0.10613	347.20
	1.3537	29.32000	-1.80000	19.00000	-0.75230	0.075330	1.8945	-0.75029	-0.093270	347.20
	1.8049	29.76000	-1.90000	19.00000	-0.66941	0.068739	1.8046	-0.66800	-0.081326	347.20
	2.2561	30.20000	-2.00000	19.00000	-0.58885	0.061857	1.7146	-0.58791	-0.070182	347.20
Line 7	Line 7	30.20000	-1.95000	19.00000	-0.59192	0.060194	1.7160	-0.12535	0.58162	72.031
	0.77795	30.44000	-1.21000	19.00000	-0.59105	0.031172	1.6848	-0.15269	0.57184	72.031
	1.5559	30.68000	-0.47000	19.00000	-0.57784	0.0053575	1.6438	-0.17317	0.55130	72.031
	2.3338	30.92000	0.27000	19.00000	-0.53825	0.0	1.5960	-0.16605	0.51200	72.031
	3.1118	31.16000	1.01000	19.00000	-0.49351	0.0	1.5480	-0.15225	0.46944	72.031
	3.8897	31.40000	1.75000	19.00000	-0.44917	0.0	1.5000	-0.13857	0.42726	72.031
Line 8	Line 8	31.40000	1.80000	19.00000	-0.44917	0.0	1.5000	-0.43618	-0.10726	346.18
	0.62817	32.01000	1.65000	19.00000	-0.33803	0.0	1.3780	-0.32825	-0.080717	346.18
	1.2563	32.62000	1.50000	19.00000	-0.22866	0.0	1.2560	-0.22205	-0.054602	346.18
	1.8845	33.23000	1.35000	19.00000	-0.12050	0.0	1.1340	-0.11701	-0.028773	346.18
	2.5127	33.84000	1.20000	19.00000	-0.012946	0.0	1.0120	-0.012571	-0.0030912	346.18
	3.1409	34.45000	1.05000	19.00000	0.0	0.0	0.89000	0.0	0.0	346.18
	3.7690	35.06000	0.90000	19.00000	0.0	0.0	0.76800	0.0	0.0	346.18
	4.3972	35.67000	0.75000	19.00000	0.0	0.0	0.64600	0.0	0.0	346.18
	5.0254	36.28000	0.60000	19.00000	0.0	0.0	0.52400	0.0	0.0	346.18
	5.6535	36.89000	0.45000	19.00000	0.0	0.0	0.40200	0.0	0.0	346.18
	6.2817	37.50000	0.30000	19.00000	0.0	0.0	0.28000	0.0	0.0	346.18
Line 9	Line 9	37.50000	0.25000	19.00000	0.0	0.0	0.28000	0.0	0.0	254.80
	0.95336	37.25000	-0.67000	19.00000	0.0	0.0	0.32925	0.0	0.0	254.80
	1.9067	37.00000	-1.59000	19.00000	0.0	0.0	0.37082	0.0	0.0	254.80
	2.8601	36.75000	-2.51000	19.00000	0.0	0.0	0.40274	0.0	0.0	254.80
	3.8134	36.50000	-3.43000	19.00000	0.0	0.0	0.42477	0.0	0.0	254.80
	4.7668	36.25000	-4.35000	19.00000	0.0	0.0	0.43671	0.0	0.0	254.80
	5.7202	36.00000	-5.27000	19.00000	0.0	0.0	0.43848	0.0	0.0	254.80
	6.6735	35.75000	-6.19000	19.00000	0.0	0.0	0.43004	0.0	0.0	254.80
	7.6269	35.50000	-7.11000	19.00000	0.0	0.0	0.41148	0.0	0.0	254.80
	8.5803	35.25000	-8.03000	19.00000	0.0	0.0	0.38295	0.0	0.0	254.80
	9.5336	35.00000	-8.95000	19.00000	0.0	0.0	0.34469	0.0	0.0	254.80
Line 10	Line 10	35.00000	-9.00000	19.00000	0.0	0.0	0.33995	0.0	0.0	164.69
	0.87092	34.16000	-8.77000	19.00000	0.0	0.0	0.50939	0.0	0.0	164.69
	1.7418	33.32000	-8.54000	19.00000	0.0	0.0	0.67835	0.0	0.0	164.69
	2.6128	32.48000	-8.31000	19.00000	0.0	0.0	0.84674	0.0	0.0	164.69
	3.4837	31.64000	-8.08000	19.00000	-0.0098384	0.0052747	1.0145	0.010882	-0.0024892	164.69
	4.3546	30.80000	-7.85000	19.00000	-0.10396	0.058458	1.1814	0.11571	-0.028928	164.69
	5.2255	29.96000	-7.62000	19.00000	-0.19491	0.11555	1.3474	0.21850	-0.059980	164.69
	6.0964	29.12000	-7.39000	19.00000	-0.28269	0.17780	1.5123	0.31961	-0.096837	164.69
	6.9674	28.28000	-7.16000	19.00000	-0.36696	0.24668	1.6758	0.41908	-0.14101	164.69
	7.8383	27.44000	-6.93000	19.00000	-0.44690	0.32397	1.8377	0.51659	-0.19445	164.69
	8.7092	26.60000	-6.70000	19.00000	-0.52106	0.41185	1.9975	0.61132	-0.25962	164.69

Specific Building Damage Results - Horizontal Displacements

Structure: 5 Upper Terrace | Sub-structure: North Wall

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	23.70000	15.95000	19.45000	-0.53502	-0.58061	-0.68857	0.38630
1.0381	23.94000	16.96000	19.45000	-0.21891	-0.44114	-0.47979	0.11099
2.0762	24.18000	17.97000	19.45000	-0.066416	-0.19405	-0.20415	0.019754
3.1144	24.42000	18.98000	19.45000	-0.019490	-0.059279	-0.062179	0.0052575
4.1525	24.66000	19.99000	19.45000	0.0	0.0	0.0	0.0
5.1906	24.90000	21.00000	19.45000	0.0	0.0	0.0	0.0
6.2287	25.14000	22.01000	19.45000	0.0	0.0	0.0	0.0
7.2669	25.38000	23.02000	19.45000	0.0	0.0	0.0	0.0
8.3050	25.62000	24.03000	19.45000	0.0	0.0	0.0	0.0
9.3431	25.86000	25.04000	19.45000	0.0	0.0	0.0	0.0
10.381	26.10000	26.05000	19.45000	0.0	0.0	0.0	0.0

Structure: 5 Upper Terrace | Sub-structure: East Wall

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.10000	26.10000	19.45000	0.0	0.0	0.0	0.0
1.3065	27.35000	25.72000	19.45000	0.0	0.0	0.0	0.0
2.6130	28.60000	25.34000	19.45000	0.0	0.0	0.0	0.0
3.9195	29.85000	24.96000	19.45000	0.0	0.0	0.0	0.0
5.2259	31.10000	24.58000	19.45000	0.0	0.0	0.0	0.0
6.5324	32.35000	24.20000	19.45000	0.0	0.0	0.0	0.0
7.8389	33.60000	23.82000	19.45000	0.0	0.0	0.0	0.0
9.1454	34.85000	23.44000	19.45000	0.0	0.0	0.0	0.0
10.452	36.10000	23.06000	19.45000	0.0	0.0	0.0	0.0
11.758	37.35000	22.68000	19.45000	0.0	0.0	0.0	0.0
13.065	38.60000	22.30000	19.45000	0.0	0.0	0.0	0.0

Structure: 5 Upper Terrace | Sub-structure: South Wall

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal	Horizontal

							displacement along the Line [mm]	displacement perpendicular to Line [mm]
[m]	[m]	[m]	[m]	[mm]	[mm]			
0.0	38.60000	22.25000	19.45000	0.0	0.0		0.0	0.0
0.97015	38.36000	21.31000	19.45000	0.0	0.0		0.0	0.0
1.9403	38.12000	20.37000	19.45000	0.0	0.0		0.0	0.0
2.9105	37.88000	19.43000	19.45000	0.0	0.0		0.0	0.0
3.8806	37.64000	18.49000	19.45000	0.0	0.0		0.0	0.0
4.8508	37.40000	17.55000	19.45000	0.0	0.0		0.0	0.0
5.8209	37.16000	16.61000	19.45000	0.0	0.0		0.0	0.0
6.7911	36.92000	15.67000	19.45000	0.0	0.0		0.0	0.0
7.7612	36.68000	14.73000	19.45000	0.0	0.0		0.0	0.0
8.7314	36.44000	13.79000	19.45000	0.0	0.0		0.0	0.0
9.7015	36.20000	12.85000	19.45000	0.0	0.0		0.0	0.0

Structure: 5 Upper Terrace | Sub-structure: West Wall

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	36.20000	12.80000	19.45000	0.0	0.0		0.0	0.0
1.2879	34.95000	13.11000	19.45000	0.0	0.0		0.0	0.0
2.5757	33.70000	13.42000	19.45000	0.0	0.0		0.0	0.0
3.8636	32.45000	13.73000	19.45000	0.0	0.0		0.0	0.0
5.1515	31.20000	14.04000	19.45000	-0.0042660	-0.0026860		0.0034941	0.0036339
6.4393	29.95000	14.35000	19.45000	-0.086117	-0.064940		0.067953	0.083760
7.7272	28.70000	14.66000	19.45000	-0.14772	-0.13555		0.11075	0.16712
9.0151	27.45000	14.97000	19.45000	-0.18785	-0.21394		0.13083	0.25287
10.303	26.20000	15.28000	19.45000	-0.20570	-0.29821		0.12787	0.33895
11.591	24.95000	15.59000	19.45000	-0.29048	-0.38692		0.18880	0.44546
12.879	23.70000	15.90000	19.45000	-0.55488	-0.57546		0.40005	0.69210

Structure: 6 Branch Hill | Sub-structure: North 1

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	26.60000	-6.65000	19.00000	-0.52706	0.41247		0.25823	0.61745
1.0577	26.88000	-5.63000	19.00000	-0.63789	0.38255		0.20004	0.71640
2.1155	27.16000	-4.61000	19.00000	-0.74970	0.33082		0.12056	0.81053
3.1732	27.44000	-3.59000	19.00000	-0.85516	0.26138		0.025682	0.89385
4.2309	27.72000	-2.57000	19.00000	-0.94568	0.18062		-0.076160	0.95975
5.2887	28.00000	-1.55000	19.00000	-1.0128	0.096391		-0.17515	1.0022

Structure: 6 Branch Hill | Sub-structure: East 1

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	28.00000	-1.50000	19.00000	-1.0179	0.092702		-1.0132	-0.13520
0.45122	28.44000	-1.60000	19.00000	-0.92625	0.087397		-0.92259	-0.12005
0.90244	28.88000	-1.70000	19.00000	-0.83782	0.081575		-0.83506	-0.10613
1.3537	29.32000	-1.80000	19.00000	-0.75230	0.075330		-0.75029	-0.093270
1.8049	29.76000	-1.90000	19.00000	-0.66941	0.068739		-0.66800	-0.081326
2.2561	30.20000	-2.00000	19.00000	-0.58885	0.061857		-0.58791	-0.070182

Structure: 6 Branch Hill | Sub-structure: North 2

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	30.20000	-1.95000	19.00000	-0.59192	0.060194		-0.12535	0.58162
0.77795	30.44000	-1.21000	19.00000	-0.59105	0.031172		-0.15269	0.57184
1.5559	30.68000	-0.47000	19.00000	-0.57784	0.0053575		-0.17317	0.55130
2.3338	30.92000	0.27000	19.00000	-0.53825	0.0		-0.16605	0.51200
3.1118	31.16000	1.01000	19.00000	-0.49351	0.0		-0.15225	0.46944
3.8897	31.40000	1.75000	19.00000	-0.44917	0.0		-0.13857	0.42726

Structure: 6 Branch Hill | Sub-structure: East 2

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	31.40000	1.80000	19.00000	-0.44917	0.0		-0.43618	-0.10726
0.62817	32.01000	1.65000	19.00000	-0.33803	0.0		-0.32825	-0.080717
1.2563	32.62000	1.50000	19.00000	-0.22866	0.0		-0.22205	-0.054602
1.8845	33.23000	1.35000	19.00000	-0.12050	0.0		-0.11701	-0.028773
2.5127	33.84000	1.20000	19.00000	-0.012946	0.0		-0.012571	-0.0030912
3.1409	34.45000	1.05000	19.00000	0.0	0.0		0.0	0.0
3.7690	35.06000	0.90000	19.00000	0.0	0.0		0.0	0.0
4.3972	35.67000	0.75000	19.00000	0.0	0.0		0.0	0.0
5.0254	36.28000	0.60000	19.00000	0.0	0.0		0.0	0.0
5.6535	36.89000	0.45000	19.00000	0.0	0.0		0.0	0.0
6.2817	37.50000	0.30000	19.00000	0.0	0.0		0.0	0.0

Structure: 6 Branch Hill | Sub-structure: South

Dist.	Coordinates					Displacements		
	x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	37.50000	0.25000	19.00000	0.0	0.0	0.0	0.0	
0.95336	37.25000	-0.67000	19.00000	0.0	0.0	0.0	0.0	
1.9067	37.00000	-1.59000	19.00000	0.0	0.0	0.0	0.0	
2.8601	36.75000	-2.51000	19.00000	0.0	0.0	0.0	0.0	
3.8134	36.50000	-3.43000	19.00000	0.0	0.0	0.0	0.0	
4.7668	36.25000	-4.35000	19.00000	0.0	0.0	0.0	0.0	
5.7202	36.00000	-5.27000	19.00000	0.0	0.0	0.0	0.0	
6.6735	35.75000	-6.19000	19.00000	0.0	0.0	0.0	0.0	
7.6269	35.50000	-7.11000	19.00000	0.0	0.0	0.0	0.0	
8.5803	35.25000	-8.03000	19.00000	0.0	0.0	0.0	0.0	
9.5336	35.00000	-8.95000	19.00000	0.0	0.0	0.0	0.0	

Structure: 6 Branch Hill | Sub-structure: West

Dist.	Coordinates			Displacements				
	x	y	z	x	y		Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]		[mm]	[mm]
0.0	35.00000	-9.00000	19.00000	0.0	0.0		0.0	0.0
0.87092	34.16000	-8.77000	19.00000	0.0	0.0		0.0	0.0
1.7418	33.32000	-8.54000	19.00000	0.0	0.0		0.0	0.0

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the	Horizontal displacement perpendicular
2.6128	32.48000	-8.31000	19.00000	0.0	0.0	0.0	0.0
3.4837	31.64000	-8.08000	19.00000	-0.0098384	0.0052747	0.010882	-0.0024892
4.3546	30.80000	-7.85000	19.00000	-0.10396	0.058458	0.11571	-0.028928
5.2255	29.96000	-7.62000	19.00000	-0.19491	0.11555	0.21850	-0.059980
6.0964	29.12000	-7.39000	19.00000	-0.28269	0.17780	0.31961	-0.096837
6.9674	28.28000	-7.16000	19.00000	-0.36696	0.24668	0.41908	-0.14101
7.8383	27.44000	-6.93000	19.00000	-0.44690	0.32397	0.51659	-0.19445
8.7092	26.60000	-6.70000	19.00000	-0.52106	0.41185	0.61132	-0.25962

Specific Building Damage Results - Vertical Displacements

Structure: 5 Upper Terrace | Sub-structure: North Wall

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	23.70000	15.95000	19.45000	1.9165
1.0381	23.94000	16.96000	19.45000	1.5349
2.0762	24.18000	17.97000	19.45000	1.2916
3.1144	24.42000	18.98000	19.45000	1.0867
4.1525	24.66000	19.99000	19.45000	0.88143
5.1906	24.90000	21.00000	19.45000	0.67585
6.2287	25.14000	22.01000	19.45000	0.47003
7.2669	25.38000	23.02000	19.45000	0.26401
8.3050	25.62000	24.03000	19.45000	0.057821
9.3431	25.86000	25.04000	19.45000	0.0
10.381	26.10000	26.05000	19.45000	0.0

Structure: 5 Upper Terrace | Sub-structure: East Wall

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	26.10000	26.10000	19.45000	0.0
1.3065	27.35000	25.72000	19.45000	0.0
2.6130	28.60000	25.34000	19.45000	0.0
3.9195	29.85000	24.96000	19.45000	0.0
5.2259	31.10000	24.58000	19.45000	0.0
6.5324	32.35000	24.20000	19.45000	0.0
7.8389	33.60000	23.82000	19.45000	0.0
9.1454	34.85000	23.44000	19.45000	0.0
10.452	36.10000	23.06000	19.45000	0.0
11.758	37.35000	22.68000	19.45000	0.0
13.065	38.60000	22.30000	19.45000	0.0

Structure: 5 Upper Terrace | Sub-structure: South Wall

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	38.60000	22.25000	19.45000	0.0
0.97015	38.36000	21.31000	19.45000	0.0
1.9403	38.12000	20.37000	19.45000	0.0
2.9105	37.88000	19.43000	19.45000	0.0
3.8806	37.64000	18.49000	19.45000	0.0
4.8508	37.40000	17.55000	19.45000	0.0
5.8209	37.16000	16.61000	19.45000	0.0
6.7911	36.92000	15.67000	19.45000	0.0
7.7612	36.68000	14.73000	19.45000	0.0
8.7314	36.44000	13.79000	19.45000	0.11992
9.7015	36.20000	12.85000	19.45000	0.24068

Structure: 5 Upper Terrace | Sub-structure: West Wall

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	36.20000	12.80000	19.45000	0.24458
1.2879	34.95000	13.11000	19.45000	0.44745
2.5757	33.70000	13.42000	19.45000	0.64282
3.8636	32.45000	13.73000	19.45000	0.82929
5.1515	31.20000	14.04000	19.45000	1.0052
6.4393	29.95000	14.35000	19.45000	1.1686
7.7272	28.70000	14.66000	19.45000	1.3171
9.0151	27.45000	14.97000	19.45000	1.4483
10.303	26.20000	15.28000	19.45000	1.5592
11.591	24.95000	15.59000	19.45000	1.6608
12.879	23.70000	15.90000	19.45000	1.9323

Structure: 6 Branch Hill | Sub-structure: North 1

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	26.60000	-6.65000	19.00000	2.0039
1.0577	26.88000	-5.63000	19.00000	2.0807
2.1155	27.16000	-4.61000	19.00000	2.1366
3.1732	27.44000	-3.59000	19.00000	2.1696
4.2309	27.72000	-2.57000	19.00000	2.1785
5.2887	28.00000	-1.55000	19.00000	2.1629

Structure: 6 Branch Hill | Sub-structure: East 1

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	28.00000	-1.50000	19.00000	2.1642
0.45122	28.44000	-1.60000	19.00000	2.0744
0.90244	28.88000	-1.70000	19.00000	1.9845
1.3537	29.32000	-1.80000	19.00000	1.8945
1.8049	29.76000	-1.90000	19.00000	1.8046
2.2561	30.20000	-2.00000	19.00000	1.7146

Structure: 6 Branch Hill | Sub-structure: North 2

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	30.20000	-1.95000	19.00000	1.7160
0.77795	30.44000	-1.21000	19.00000	1.6848
1.5559	30.68000	-0.47000	19.00000	1.6438
2.3338	30.92000	0.27000	19.00000	1.5960
3.1118	31.16000	1.01000	19.00000	1.5480
3.8897	31.40000	1.75000	19.00000	1.5000

Structure: 6 Branch Hill | Sub-structure: East 2

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	31.40000	1.80000	19.00000	1.5000
0.62817	32.01000	1.65000	19.00000	1.3780
1.2563	32.62000	1.50000	19.00000	1.2560
1.8845	33.23000	1.35000	19.00000	1.1340
2.5127	33.84000	1.20000	19.00000	1.0120
3.1409	34.45000	1.05000	19.00000	0.89000
3.7690	35.06000	0.90000	19.00000	0.76800
4.3972	35.67000	0.75000	19.00000	0.64600
5.0254	36.28000	0.60000	19.00000	0.52400
5.6535	36.89000	0.45000	19.00000	0.40200
6.2817	37.50000	0.30000	19.00000	0.28000

Structure: 6 Branch Hill | Sub-structure: South

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	37.50000	0.25000	19.00000	0.28000
0.95336	37.25000	-0.67000	19.00000	0.32925
1.9067	37.00000	-1.59000	19.00000	0.37082
2.8601	36.75000	-2.51000	19.00000	0.40274
3.8134	36.50000	-3.43000	19.00000	0.42477
4.7668	36.25000	-4.35000	19.00000	0.43671
5.7202	36.00000	-5.27000	19.00000	0.43848
6.6735	35.75000	-6.19000	19.00000	0.43004
7.6269	35.50000	-7.11000	19.00000	0.41148
8.5803	35.25000	-8.03000	19.00000	0.38295
9.5336	35.00000	-8.95000	19.00000	0.34469

Structure: 6 Branch Hill | Sub-structure: West

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	35.00000	-9.00000	19.00000	0.33995
0.87092	34.16000	-8.77000	19.00000	0.50939
1.7418	33.32000	-8.54000	19.00000	0.67835
2.6128	32.48000	-8.31000	19.00000	0.84674
3.4837	31.64000	-8.08000	19.00000	1.0145
4.3546	30.80000	-7.85000	19.00000	1.1814
5.2255	29.96000	-7.62000	19.00000	1.3474
6.0964	29.12000	-7.39000	19.00000	1.5123
6.9674	28.28000	-7.16000	19.00000	1.6758
7.8383	27.44000	-6.93000	19.00000	1.8377
8.7092	26.60000	-6.70000	19.00000	1.9975

Specific Building Damage Results - All Segments

Structure: 5 Upper Terrace | Sub-structure: North Wall

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0.0	1	0.0	4.1196	Hogging	0.0029700	0.016666	0.017445	-265.45E-6	367.52E-6	6597.9	0 (Negligible)
	2	4.1196	2.1147	Sagging	5.9990E-6	93.032E-6	94.664E-6	-59.892E-6	198.45E-6	3.5516E+6	0 (Negligible)
	3	6.2344	1.0325	None	0.0	0.0	0.0	0.0	198.62E-6	29161.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: East Wall

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: South Wall

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0.0	1	8.7314	0.47300	Sagging	0.0	0.0	0.0	0.0	-124.47E-6	31568.	0 (Negligible)
	2	9.2044	0.44561	Hogging	0.0	0.0	0.0	0.0	-124.47E-6	33508.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: West Wall

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0.0	1	0.0	9.4403	Sagging	887.53E-6	0.0013755	0.0023025	-50.049E-6	-157.53E-6	95020.	0 (Negligible)
	2	9.4403	3.3597	Hogging	0.0029536	0.0076583	0.0085177	-164.00E-6	-210.78E-6	7542.6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: North 1

Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature [%]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0.0	1	0.0	5.2000	Sagging	0.0013060	-0.0081747	0.0017928	96.293E-6	-72.667E-6	43203.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: East 1

Vertical Offset from Line for	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal	Max Gradient of Vertical	Min Radius of	Damage Category

Vertical Movement Calculations					Strain	Strain	Horizontal Displacement Curve	Displacement Curve	Curvature		
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.2000	Sagging	3.7129E-6	0.018877	0.018878	-200.68E-6	199.39E-6	5.9159E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: North 2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection	Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]		[%]	[%]			[m]	
0.0	1	0.0	3.4559	Sagging	372.98E-6		-603.20E-6	273.69E-6	35.143E-6	61.700E-6	56645.	0 (Negligible)
	2	3.4559	0.34407	Sagging	0.0		0.0017584	0.0017584	-17.584E-6	61.700E-6	10.530E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: East 2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection	Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]		[%]	[%]			[m]	
0.0	1	0.0	4.3972	Sagging	0.0		0.0099194	0.0099198	-171.78E-6	194.21E-6	41.783E+6	0 (Negligible)
	2	4.3972	1.8028	Hogging	0.0		0.0	0.0	0.0	194.21E-6	-	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: South

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection	Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]		[%]	[%]			[m]	
0.0	1	0.0	9.5000	Sagging	0.0012992		0.0	0.0012847	0.0	-51.663E-6	89328.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: West

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection	Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]		[%]	[%]			[m]	
0.0	1	0.0	8.7000	Sagging	148.37E-6		0.0070152	0.0071522	-120.35E-6	-194.56E-6	347810.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: 5 Upper Terrace | Sub-structure: North Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0029700	0.016666	367.52E-6	1.9165	0.017445	-265.45E-6	367.52E-6	6597.9	3.5516E+6	0 (Negligible)

Structure: 5 Upper Terrace | Sub-structure: East Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: 5 Upper Terrace | Sub-structure: South Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	-124.47E-6	0.23426	0.0	0.0	-124.47E-6	33508.	31568.	0 (Negligible)

Structure: 5 Upper Terrace | Sub-structure: West Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0029536	0.0076583	-210.78E-6	1.9157	0.0085177	-164.00E-6	-210.78E-6	7542.6	95020.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: North 1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0013060	-0.0081747	-72.667E-6	2.1783	0.0017928	96.293E-6	-72.667E-6	-	43203.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: East 1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	3.7129E-6	0.018877	199.39E-6	2.1642	0.018878	-200.68E-6	199.39E-6	-	5.9159E+6	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: North 2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	372.98E-6	0.0017584	61.700E-6	1.7160	0.0017584	35.143E-6	61.700E-6	-	56645.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: East 2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0099194	194.21E-6	1.5000	0.0099198	-171.78E-6	194.21E-6	-	41.783E+6	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: South

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0012992	0.0	-51.663E-6	0.43837	0.0012847	0.0	-51.663E-6	-	89328.	0 (Negligible)

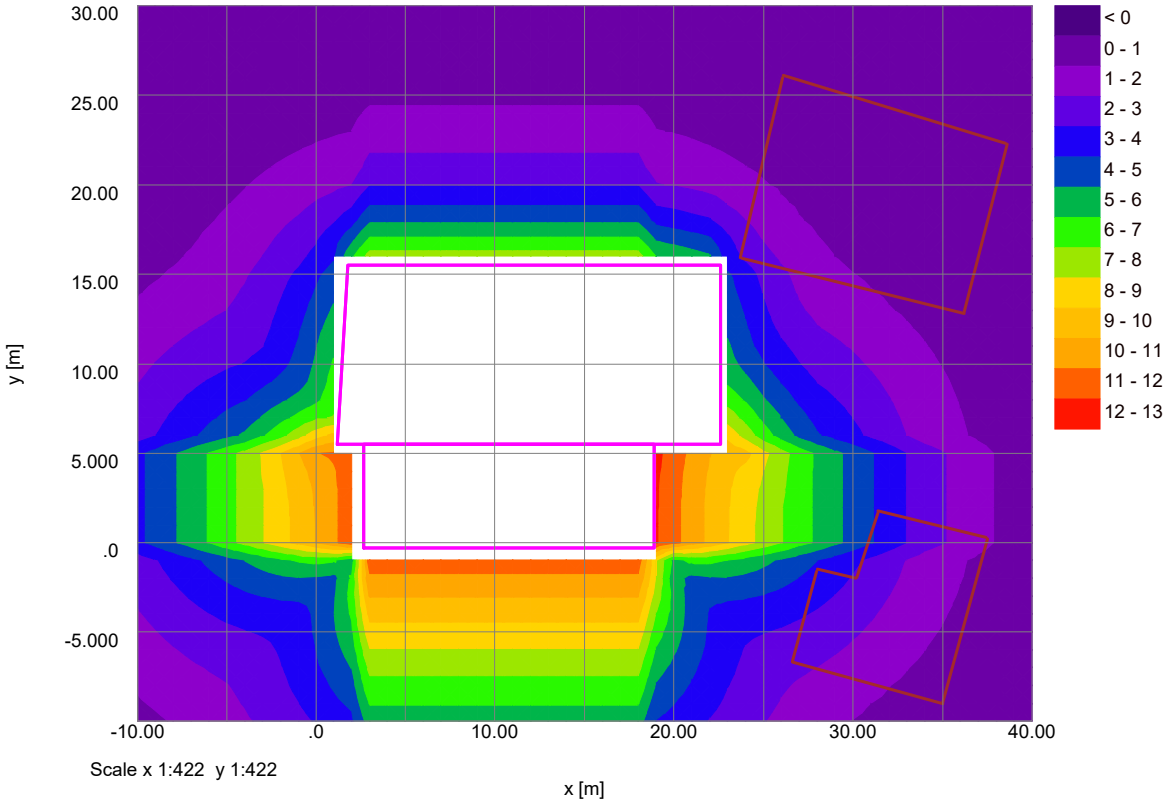
Structure: 6 Branch Hill | Sub-structure: West

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	148.37E-6	0.0070152	-194.56E-6	1.9958	0.0071522	-120.35E-6	-194.56E-6	-	347810.	0 (Negligible)

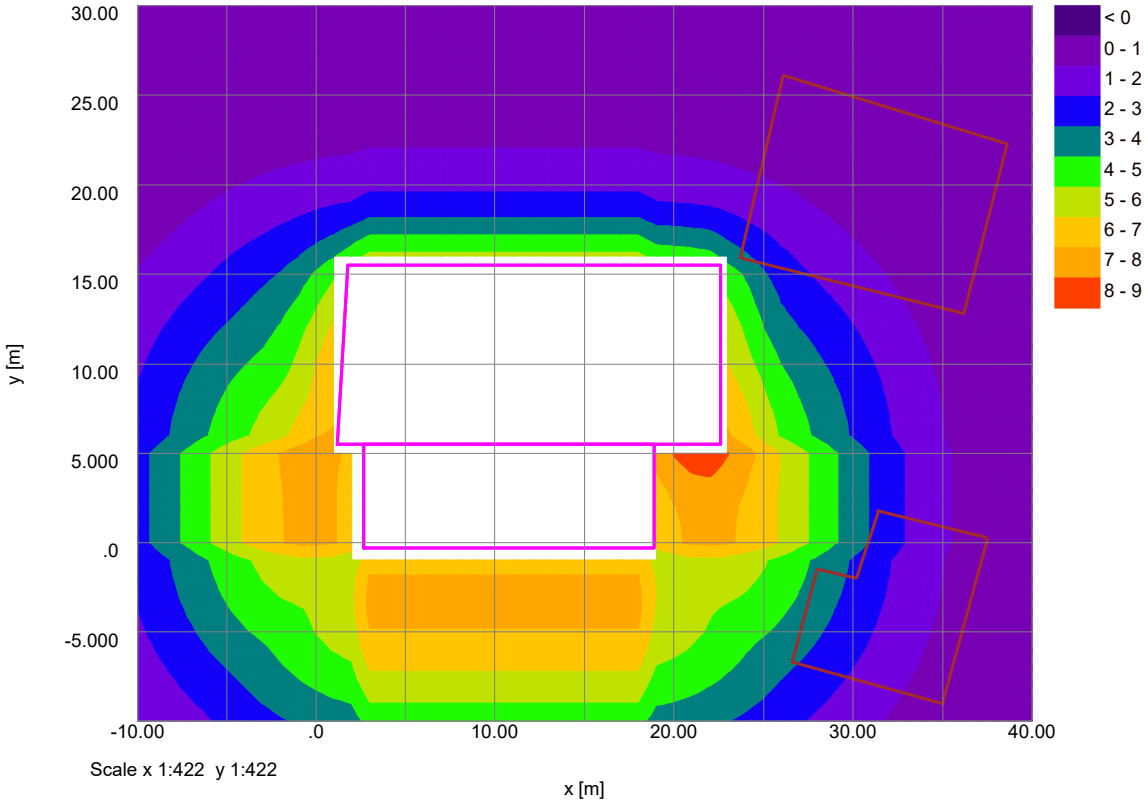
Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start [m]	End [m]	Curvature	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category
5 Upper Terrace	Max Slope	North Wall	1	0.0	4.1196	Hogging	**367.52E-6**	1.9165	0.017445	6597.9	-	0 (Negligible)
	Max Settlement	North Wall	1	0.0	4.1196	Hogging	367.52E-6	**1.9165**	0.017445	6597.9	-	0 (Negligible)
	Max Tensile Strain	North Wall	1	0.0	4.1196	Hogging	367.52E-6	1.9165	**0.017445**	6597.9	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	North Wall	1	0.0	4.1196	Hogging	367.52E-6	1.9165	0.017445	**6597.9**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	South Wall	1	8.7314	9.2044	Sagging	124.47E-6	0.17879	0.0	-	**31568.**	0 (Negligible)
6 Branch Hill	Max Slope	East 1	1	0.0	2.2000	Sagging	**199.39E-6**	2.1642	0.018878	-	5.9159E+6	0 (Negligible)
	Max Settlement	North 1	1	0.0	5.2000	Sagging	72.667E-6	**2.1783**	0.0017928	-	43203.	0 (Negligible)
	Max Tensile Strain	East 1	1	0.0	2.2000	Sagging	199.39E-6	2.1642	**0.018878**	-	5.9159E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	North 1	1	0.0	5.2000	Sagging	72.667E-6	2.1783	0.0017928	-	**43203.**	0 (Negligible)

Horizontal Displacement Contours: Grid 1 (level 19.450m) Interval 1mm



Vertical Settlement Contours: Grid 1 (level 19.450m) (Interval 1mm)



Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Type	Name	Direction of extrusion	Point/Line/Line for extrusion						No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate	Surface type for tunnels
			First point			Second point							
			X [m]	Y [m]	Z(level) [m]	X [m]	Y [m]	Z(level) [m]		[m]			
Grid	Grid 1	Global X	-10.00000	-10.00000	19.45000	-	30.00000	19.45000	40	50.00000	50	Yes	Surface
Line	Line 1	-	23.70000	15.95000	19.45000	26.10000	26.05000	19.45000	10	-	-	Yes	Surface
Line	Line 2	-	26.10000	26.10000	19.45000	38.60000	22.30000	19.45000	10	-	-	Yes	Surface
Line	Line 3	-	38.60000	22.25000	19.45000	36.20000	12.85000	19.45000	10	-	-	Yes	Surface
Line	Line 4	-	36.20000	12.80000	19.45000	23.70000	15.90000	19.45000	10	-	-	Yes	Surface
Line	Line 5	-	26.60000	-6.65000	19.00000	28.00000	-1.55000	19.00000	5	-	-	Yes	Surface
Line	Line 6	-	28.00000	-1.50000	19.00000	30.20000	-2.00000	19.00000	5	-	-	Yes	Surface
Line	Line 7	-	30.20000	-1.95000	19.00000	31.40000	1.75000	19.00000	5	-	-	Yes	Surface
Line	Line 8	-	31.40000	1.80000	19.00000	37.50000	0.30000	19.00000	10	-	-	Yes	Surface
Line	Line 9	-	37.50000	0.25000	19.00000	35.00000	-8.95000	19.00000	10	-	-	Yes	Surface
Line	Line 10	-	35.00000	-9.00000	19.00000	26.60000	-6.70000	19.00000	10	-	-	Yes	Surface

Vertical Ground Movement Curves (Excavations)

Curve Name: **No vertical ground movement**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of Determination: -2147483648.E+2147483647

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.040][2.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of Determination: 1.0

Curve Name: **Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.050][0.050,0.000,0.047][0.100,0.000,0.043][0.150,0.000,0.040]
[0.200,0.000,0.037][0.250,0.000,0.034][0.300,0.000,0.031][0.350,0.000,0.028]
[0.400,0.000,0.025][0.450,0.000,0.022][0.500,0.000,0.020][0.550,0.000,0.018]
[0.600,0.000,0.016][0.650,0.000,0.014][0.700,0.000,0.012][0.750,0.000,0.010]
[0.800,0.000,0.008][0.850,0.000,0.007][0.900,0.000,0.006][0.950,0.000,0.005]
[1.000,0.000,0.004][1.050,0.000,0.003][1.100,0.000,0.003][1.150,0.000,0.002]
[1.200,0.000,0.002][1.250,0.000,0.001][1.300,0.000,0.001][1.350,0.000,0.001]
[1.400,0.000,0.001][1.450,0.000,0.000][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = $-1.2355E\text{-}2x^4 + 3.4814E\text{-}2x^3 - 2.8885E\text{-}3x^2 - 6.5618E\text{-}2x + 4.9987E\text{-}2$
Coeff. of Determination: 1.0000

Curve Name: **Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.039][0.100,0.000,0.049][0.200,0.000,0.056][0.300,0.000,0.062]
[0.400,0.000,0.067][0.500,0.000,0.070][0.600,0.000,0.072][0.700,0.000,0.073]
[0.800,0.000,0.073][0.900,0.000,0.072][1.000,0.000,0.070][1.100,0.000,0.068]
[1.200,0.000,0.065][1.300,0.000,0.061][1.400,0.000,0.058][1.500,0.000,0.054]
[1.600,0.000,0.050][1.700,0.000,0.046][1.800,0.000,0.042][1.900,0.000,0.038]
[2.000,0.000,0.034][2.100,0.000,0.030][2.200,0.000,0.027][2.300,0.000,0.023]
[2.400,0.000,0.020][2.500,0.000,0.017][2.600,0.000,0.014][2.700,0.000,0.012]
[2.800,0.000,0.010][2.900,0.000,0.008][3.000,0.000,0.007][3.100,0.000,0.005]
[3.200,0.000,0.004][3.300,0.000,0.004][3.400,0.000,0.003][3.500,0.000,0.002]
[3.600,0.000,0.002][3.700,0.000,0.002][3.800,0.000,0.001][3.900,0.000,0.001]
[4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = $-2.6455E\text{-}3x^4 + 2.8495E\text{-}2x^3 - 1.0051E\text{-}1x^2 + 1.0569E\text{-}1x + 3.8990E\text{-}2$
Coeff. of Determination: 9.9991E-1

Horizontal Ground Movement Curves (Excavations)

Curve Name: **No horizontal ground movement**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 0
y Order: 0
Polynomial: z = 0.0
Coeff. of Determination: -2147483648.E+2147483647

Curve Name: **Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034]
[0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027]
[0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020]
[0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015]
[0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010]
[1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006]
[1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003]
[1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = $-4.2486E\text{-}3x^3 + 1.9096E\text{-}2x^2 - 4.6221E\text{-}2x + 4.0729E\text{-}2$
Coeff. of Determination: 1.0000

Curve Name: **Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))**
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall

Type	Name	Direction of extrusion	Point/Line/Line for extrusion	No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate Surface type for tunnels

depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.050][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.33E-2x + 5.00E-2
Coeff. of Determination: 1.00

Curve Name: Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)(%)]
[0.000,0.000,0.150][4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.75E-2x + 1.50E-1
Coeff. of Determination: 1.00

Polygonal Excavations

Excavation Name: Piling
Surface level [m]: 20.000
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: 10.000

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	p1 [%]	p2* [%]	Next Side d [m]	p1 [%]	p2* [%]
1	2.7000	-0.30000	10.000	No	-	-	-	-	-	-
2	2.7000	5.5000	10.000	No	-	-	-	-	-	-
3	18.900	5.5000	10.000	No	-	-	-	-	-	-
4	18.900	-0.30000	10.000	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Horizontal
1	2.7000	-0.30000	2.7000	5.5000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	2.7000	5.5000	18.900	5.5000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	18.900	5.5000	18.900	-0.30000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	18.900	-0.30000	2.7000	-0.30000	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))

Excavation Name: Underpinning
Surface level [m]: 19.450
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: 17.700

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	p1 [%]	p2* [%]	Next Side d [m]	p1 [%]	p2* [%]
1	1.2000	5.5000	17.700	No	-	-	-	-	-	-
2	1.8000	15.500	17.700	No	-	-	-	-	-	-
3	22.600	15.500	17.700	No	-	-	-	-	-	-
4	22.600	5.5000	17.700	No	-	-	-	-	-	-
5	18.900	5.5000	18.200	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Horizontal
1	1.2000	5.5000	1.8000	15.500	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
2	1.8000	15.500	22.600	15.500	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
3	22.600	15.500	22.600	5.5000	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
4	22.600	5.5000	18.900	5.5000	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
5	18.900	5.5000	1.2000	5.5000	No vertical ground movement	No horizontal ground movement

Excavation Name: Excavation in front of Piling
Surface level [m]: 20.000
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: 14.600

Corner	x [m]	y [m]	Base Level [m]	Stiffened	Previous Side d [m]	p1 [%]	p2* [%]	Next Side d [m]	p1 [%]	p2* [%]
1	2.7000	-0.30000	14.600	Yes	0.0	67.000	25.000	0.0	67.000	25.000
2	2.7000	5.5000	14.600	Yes	0.0	67.000	25.000	0.0	67.000	25.000
3	18.900	5.5000	14.600	Yes	0.0	67.000	25.000	0.0	67.000	25.000
4	18.900	-0.30000	14.600	Yes	0.0	67.000	25.000	0.0	67.000	25.000

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Horizontal
1	2.7000	-0.30000	2.7000	5.5000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
2	2.7000	5.5000	18.900	5.5000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
3	18.900	5.5000	18.900	-0.30000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
4	18.900	-0.30000	2.7000	-0.30000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))

Excavation Name: Excavation in front of Underpinning
Surface level [m]: 19.450
Contribution: Positive
Enabled: Yes
Surface movement curves which are selected are applied between surface and [m]: 18.200

Corner	x	y	Base Level	Stiffened	Previous Side d	p1	p2*	Next Side d	p1	p2*

	[m]	[m]	[m]		[m]	[%]	[%]	[m]	[%]	[%]
1	1.2000	5.5000	18.200	Yes	0.0	67.000	25.000	0.0	67.000	25.000
2	1.8000	15.500	18.200	Yes	0.0	67.000	25.000	0.0	67.000	25.000
3	22.600	15.500	18.200	Yes	0.0	67.000	25.000	0.0	67.000	25.000
4	22.600	5.5000	18.200	Yes	0.0	67.000	25.000	0.0	67.000	25.000
5	18.900	5.5000	18.200	No	-	-	-	-	-	-

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]		
1	1.2000	5.5000	1.8000	15.500	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
2	1.8000	15.500	22.600	15.500	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
3	22.600	15.500	22.600	5.5000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
4	22.600	5.5000	18.900	5.5000	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b)	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
5	18.900	5.5000	1.2000	5.5000	No vertical ground movement	No horizontal ground movement

Damage Category Strains

Name	0 (Negligible) to 1 (Very Slight)	1 (Very Slight) to 2 (Slight)	2 (Slight) to 3 (Moderate)	3 (Moderate) to 4 (Severe)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000

Specific Structures - Geometry

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line	End Distance Along Line	Vertical Offsets from Line for Vertical Movement Calculations	Vertical Displacement Limit Sensitivity	Damage Category Strains	Poisson's Ratio	E/G
			[m]	[m]	[m]	[mm]			
5 Upper Terrace	North Wall	Line 1	0.00000	10.30000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	East Wall	Line 2	0.00000	13.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	South Wall	Line 3	0.00000	9.65000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
5 Upper Terrace	West Wall	Line 4	0.00000	12.80000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	North 1	Line 5	0.00000	5.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	East 1	Line 6	0.00000	2.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	North 2	Line 7	0.00000	3.80000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	East 2	Line 8	0.00000	6.20000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	South	Line 9	0.00000	9.50000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
6 Branch Hill	West	Line 10	0.00000	8.70000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Specific Structures - Bending Parameters

Structure Name	Sub-Structure Name	Height Default Properties	Hogging			Sagging		
			2nd Moment of Area (per unit width)	Distance of Bending Strain from N.A.	Distance of N.A. from Edge of Beam in Tension	2nd Moment of Area (per unit width)	Distance of Bending Strain from N.A.	Distance of N.A. from Edge of Beam in Tension
		[m]	[m³]	[m]	[m]	[m³]	[m]	[m]
5 Upper Terrace	North Wall	12.000 Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	East Wall	12.000 Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	South Wall	12.000 Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
5 Upper Terrace	West Wall	12.000 Yes	576.00	12.000	12.000	144.00	6.0000	6.0000
6 Branch Hill	North 1	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	East 1	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	North 2	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	East 2	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	South	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000
6 Branch Hill	West	13.000 Yes	732.33	13.000	13.000	183.08	6.5000	6.5000

Building Segment Combinations

Structure Name	Sub-Structure Name	Vertical Offset from Line for Vertical Movement Calculations	Segment Start	Length	Curvature	Combined Segment
		[m]	[m]	[m]		

No structures have segments combined.

Utility Strain Calculation Options

Neglect beneficial contribution of axial strains : No

Warnings

1 Multiple excavations have been specified. The displacements resulting from these excavations are calculated by summing the displacements resulting from each individual excavation. No account has been taken of the interactions between excavations (e.g. overlapping zones of influence or 'shielding' of one excavation by another).

2 Embedded Wall Excavation PE1 : Piling intersects PE2 : Underpinning, and PE4 : Excavation in front of Underpinning.

3 Embedded Wall Excavation PE2 : Underpinning intersects PE1 : Piling, and PE3 : Excavation in front of Piling.

4 Embedded Wall Excavation PE3 : Excavation in front of Piling intersects PE2 : Underpinning, and PE4 : Excavation in front of Underpinning.

5 Embedded Wall Excavation PE4 : Excavation in front of Underpinning intersects PE1 : Piling, and PE3 : Excavation in front of Piling.

Errors

None

Displacement and Strain Results

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement along Line	Horizontal displacement perpendicular to Line	to x Axis
	[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]
Grid 1	Grid 1	-10.00000	-10.00000	19.45000	0.67685	0.43751	1.0085	-	-	-
		-9.00000	-10.00000	19.45000	0.71982	0.52897	1.2300	-	-	-
		-8.00000	-10.00000	19.45000	0.79481	0.67638	1.4566	-	-	-
		-7.00000	-10.00000	19.45000	0.85347	0.85347	1.6843	-	-	-
		-6.00000	-10.00000	19.45000	0.91196	1.0852	1.9324	-	-	-
		-5.00000	-10.00000	19.45000	0.93899	1.3449	2.1830	-	-	-
		-4.00000	-10.00000	19.45000	0.93176	1.6336	2.4314	-	-	-
		-3.00000	-10.00000	19.45000	0.88790	1.9508	2.6721	-	-	-
		-2.00000	-10.00000	19.45000	0.80611	2.2938	2.8992	-	-	-
		-1.00000	-10.00000	19.45000	0.68681	2.6571	3.1061	-	-	-
		0.00000	-10.00000	19.45000	0.53289	3.0315	3.2860	-	-	-
		1.00000	-10.00000	19.45000	0.35022	3.4043	3.4320	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		2.00000	-10.00000	19.45000	0.14766	3.7595	3.5380	-	-	-
		3.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		4.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		5.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		6.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		7.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		8.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		9.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		10.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		11.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		12.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		13.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		14.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		15.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		16.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		17.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		18.00000	-10.00000	19.45000	0.0	5.4609	4.3365	-	-	-
		19.00000	-10.00000	19.45000	-0.021194	3.9569	3.5800	-	-	-
		20.00000	-10.00000	19.45000	-0.23039	3.6206	3.5008	-	-	-
		21.00000	-10.00000	19.45000	-0.42623	3.2563	3.3781	-	-	-
		22.00000	-10.00000	19.45000	-0.59831	2.8811	3.2177	-	-	-
		23.00000	-10.00000	19.45000	-0.73891	2.5098	3.0262	-	-	-
		24.00000	-10.00000	19.45000	-0.84340	2.1538	2.8105	-	-	-
		25.00000	-10.00000	19.45000	-0.90996	1.8206	2.5771	-	-	-
		26.00000	-10.00000	19.45000	-0.93893	1.5146	2.3326	-	-	-
		27.00000	-10.00000	19.45000	-0.93214	1.2376	2.0827	-	-	-
		28.00000	-10.00000	19.45000	-0.89218	0.98923	1.8326	-	-	-
		29.00000	-10.00000	19.45000	-0.83436	0.78069	1.5934	-	-	-
		30.00000	-10.00000	19.45000	-0.76150	0.60994	1.3656	-	-	-
		31.00000	-10.00000	19.45000	-0.70507	0.49138	1.1406	-	-	-
		32.00000	-10.00000	19.45000	-0.65417	0.40320	0.92202	-	-	-
		33.00000	-10.00000	19.45000	-0.58498	0.32265	0.71191	-	-	-
		34.00000	-10.00000	19.45000	-0.49951	0.24897	0.51052	-	-	-
		35.00000	-10.00000	19.45000	-0.39956	0.18147	0.31612	-	-	-
		36.00000	-10.00000	19.45000	-0.28674	0.11951	0.12492	-	-	-
		37.00000	-10.00000	19.45000	-0.16246	0.062521	0.037978	-	-	-
		38.00000	-10.00000	19.45000	-0.027957	0.0099870	0.010173	-	-	-
		39.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-10.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-9.00000	19.45000	0.81176	0.44492	1.1816	-	-	-
		-9.00000	-9.00000	19.45000	0.90893	0.56684	1.4267	-	-	-
		-8.00000	-9.00000	19.45000	1.0152	0.73029	1.6787	-	-	-
		-7.00000	-9.00000	19.45000	1.0852	0.91196	1.9324	-	-	-
		-6.00000	-9.00000	19.45000	1.1142	1.1142	2.1816	-	-	-
		-5.00000	-9.00000	19.45000	1.1465	1.3886	2.4592	-	-	-
		-4.00000	-9.00000	19.45000	1.1399	1.6999	2.7355	-	-	-
		-3.00000	-9.00000	19.45000	1.0904	2.0493	3.0047	-	-	-
		-2.00000	-9.00000	19.45000	0.99476	2.4357	3.2603	-	-	-
		-1.00000	-9.00000	19.45000	0.85201	2.8541	3.4950	-	-	-
		0.00000	-9.00000	19.45000	0.66435	3.2947	3.7015	-	-	-
		1.00000	-9.00000	19.45000	0.43834	3.7422	3.8721	-	-	-
		2.00000	-9.00000	19.45000	0.18525	4.1758	3.9995	-	-	-
		3.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		4.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		5.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		6.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		7.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		8.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		9.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		10.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		11.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		12.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		13.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		14.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		15.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		16.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		17.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		18.00000	-9.00000	19.45000	0.0	6.0547	4.9454	-	-	-
		19.00000	-9.00000	19.45000	-0.026603	4.4195	4.0523	-	-	-
		20.00000	-9.00000	19.45000	-0.28883	4.0055	3.9542	-	-	-
		21.00000	-9.00000	19.45000	-0.53273	3.5636	3.8087	-	-	-
		22.00000	-9.00000	19.45000	-0.74449	3.1167	3.6228	-	-	-
		23.00000	-9.00000	19.45000	-0.91471	2.6834	3.4041	-	-	-
		24.00000	-9.00000	19.45000	-1.0387	2.2769	3.1601	-	-	-
		25.00000	-9.00000	19.45000	-1.1156	1.9050	2.8983	-	-	-
		26.00000	-9.00000	19.45000	-1.1475	1.5708	2.6255	-	-	-
		27.00000	-9.00000	19.45000	-1.1380	1.2745	2.3480	-	-	-
		28.00000	-9.00000	19.45000	-1.1079	1.0307	2.0829	-	-	-
		29.00000	-9.00000	19.45000	-1.0618	0.83695	1.8311	-	-	-
		30.00000	-9.00000	19.45000	-0.97681	0.66286	1.5774	-	-	-
		31.00000	-9.00000	19.45000	-0.85718	0.50604	1.3277	-	-	-
		32.00000	-9.00000	19.45000	-0.78532	0.41106	1.0863	-	-	-
		33.00000	-9.00000	19.45000	-0.70642	0.33206	0.85619	-	-	-
		34.00000	-9.00000	19.45000	-0.61105	0.26037	0.63807	-	-	-
		35.00000	-9.00000	19.45000	-0.50123	0.19513	0.43078	-	-	-
		36.00000	-9.00000	19.45000	-0.37869	0.13562	0.23091	-	-	-
		37.00000	-9.00000	19.45000	-0.24495	0.081170	0.049267	-	-	-
		38.00000	-9.00000	19.45000	-0.10129	0.031219	0.026007	-	-	-
		39.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	-9.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-8.00000	19.45000	0.97647	0.44890	1.3534	-	-	-
		-9.00000	-8.00000	19.45000	1.1334	0.59346	1.6234	-	-	-
		-8.00000	-8.00000	19.45000	1.2579	0.75578	1.9019	-	-	-
		-7.00000	-8.00000	19.45000	1.3449	0.93899	2.1830	-	-	-
		-6.00000	-8.00000	19.45000	1.3886	1.1465	2.4592	-	-	-
		-5.00000	-8.00000	19.45000	1.3818	1.3818	2.7222	-	-	-
		-4.00000	-8.00000	19.45000	1.3808	1.7123	3.0250	-	-	-
		-3.00000	-8.00000	19.45000	1.3296	2.0925	3.3213	-	-	-
		-2.00000	-8.00000	19.45000	1.2225	2.5238	3.6044	-	-	-
		-1.00000	-8.00000	19.45000	1.0555	3.0034	3.8667	-	-	-
		0.00000	-8.00000	19.45000	0.82919	3.5218	4.1003	-	-	-
		1.00000	-8.00000	19.45000	0.55039	4.0607	4.2970	-	-	-
		2.00000	-8.00000	19.45000	0.23344	4.5933	4.4484	-	-	-
		3.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		4.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		5.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		6.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		7.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		8.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		9.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		10.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		11.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		12.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		13.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		14.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		15.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		16.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		17.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		18.00000	-8.00000	19.45000	0.0	6.6646	5.5392	-	-	-
		19.00000	-8.00000	19.45000	-0.033549	4.8959	4.5141	-	-	-
		20.00000	-8.00000	19.45000	-0.36357	4.3831	4.3939	-	-	-
		21.00000	-8.00000	19.45000	-0.66746	3.8442	4.2233	-	-	-
		22.00000	-8.00000	19.45000	-0.92655	3.3107	4.0108	-	-	-
		23.00000	-8.00000	19.45000	-1.1295	2.8062	3.7647	-	-	-
		24.00000	-8.00000	19.45000	-1.2724	2.3452	3.4932	-	-	-
		25.00000	-8.00000	19.45000	-1.3565	1.9343	3.2040	-	-	-
		26.00000	-8.00000	19.45000	-1.3869	1.5743	2.9043	-	-	-
		27.00000	-8.00000	19.45000	-1.3911	1.2842	2.6192	-	-	-
		28.00000	-8.00000	19.45000	-1.3768	1.0604	2.3498	-	-	-
		29.00000	-8.00000	19.45000	-1.3149	0.86299	2.0707	-	-	-
		30.00000	-8.00000	19.45000	-1.2123	0.68853	1.7898	-	-	-
		31.00000	-8.00000	19.45000	-1.0743	0.53367	1.5141	-	-	-
		32.00000	-8.00000	19.45000	-0.92667	0.40624	1.2488	-	-	-
		33.00000	-8.00000	19.45000	-0.83579	0.33021	0.99735	-	-	-
		34.00000	-8.00000	19.45000	-0.72860	0.26175	0.76115	-	-	-
		35.00000	-8.00000	19.45000	-0.60727	0.19987	0.53948	-	-	-
		36.00000	-8.00000	19.45000	-0.47364	0.14375	0.32929	-	-	-
		37.00000	-8.00000	19.45000	-0.32928	0.092673	0.12517	-	-	-
		38.00000	-8.00000	19.45000	-0.17550	0.046031	0.038025	-	-	-
		39.00000	-8.00000	19.45000	-0.013447	0.0033012	0.0061678	-	-	-
		40.00000	-8.00000	19.45000	0.0	0.0	0.0	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		-10.00000	-7.00000	19.45000	1.1941	0.45525	1.5209	-	-	-
		-9.00000	-7.00000	19.45000	1.3742	0.59366	1.8164	-	-	-
		-8.00000	-7.00000	19.45000	1.5226	0.75119	2.1222	-	-	-
		-7.00000	-7.00000	19.45000	1.6336	0.93176	2.4314	-	-	-
		-6.00000	-7.00000	19.45000	1.6999	1.1399	2.7355	-	-	-
		-5.00000	-7.00000	19.45000	1.7123	1.3808	3.0250	-	-	-
		-4.00000	-7.00000	19.45000	1.6599	1.6599	3.2892	-	-	-
		-3.00000	-7.00000	19.45000	1.6138	2.0659	3.6099	-	-	-
		-2.00000	-7.00000	19.45000	1.5000	2.5408	3.9178	-	-	-
		-1.00000	-7.00000	19.45000	1.3100	3.0862	4.2058	-	-	-
		0.00000	-7.00000	19.45000	1.0404	3.6951	4.4658	-	-	-
		1.00000	-7.00000	19.45000	0.69667	4.3474	4.6893	-	-	-
		2.00000	-7.00000	19.45000	0.29709	5.0077	4.8673	-	-	-
		3.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		4.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		5.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		6.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		7.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		8.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		9.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		10.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		11.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		12.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		13.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		14.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		15.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		16.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		17.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		18.00000	-7.00000	19.45000	0.0	7.2930	6.0923	-	-	-
		19.00000	-7.00000	19.45000	-0.042745	5.3880	4.9482	-	-	-
		20.00000	-7.00000	19.45000	-0.46192	4.7455	4.8022	-	-	-
		21.00000	-7.00000	19.45000	-0.84217	4.0832	4.6048	-	-	-
		22.00000	-7.00000	19.45000	-1.1577	3.4448	4.3657	-	-	-
		23.00000	-7.00000	19.45000	-1.3955	2.8598	4.0935	-	-	-
		24.00000	-7.00000	19.45000	-1.5543	2.3423	3.7966	-	-	-
		25.00000	-7.00000	19.45000	-1.6398	1.8955	3.4827	-	-	-
		26.00000	-7.00000	19.45000	-1.6894	1.5433	3.1873	-	-	-
		27.00000	-7.00000	19.45000	-1.7145	1.2802	2.9116	-	-	-
		28.00000	-7.00000	19.45000	-1.6793	1.0530	2.6151	-	-	-
		29.00000	-7.00000	19.45000	-1.5941	0.85649	2.3078	-	-	-
		30.00000	-7.00000	19.45000	-1.4674	0.68564	1.9990	-	-	-
		31.00000	-7.00000	19.45000	-1.3057	0.53620	1.6966	-	-	-
		32.00000	-7.00000	19.45000	-1.1142	0.40448	1.4067	-	-	-
		33.00000	-7.00000	19.45000	-0.97200	0.31712	1.1333	-	-	-
		34.00000	-7.00000	19.45000	-0.85098	0.25325	0.87828	-	-	-
		35.00000	-7.00000	19.45000	-0.71649	0.19589	0.64138	-	-	-
		36.00000	-7.00000	19.45000	-0.57041	0.14417	0.41981	-	-	-
		37.00000	-7.00000	19.45000	-0.41431	0.097321	0.208339	-	-	-
		38.00000	-7.00000	19.45000	-0.24950	0.054727	0.047615	-	-	-
		39.00000	-7.00000	19.45000	-0.077070	0.015852	0.020055	-	-	-
		40.00000	-7.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-6.00000	19.45000	1.4210	0.43855	1.6803	-	-	-
		-9.00000	-6.00000	19.45000	1.6293	0.56712	2.0014	-	-	-
		-8.00000	-6.00000	19.45000	1.8080	0.71537	2.3345	-	-	-
		-7.00000	-6.00000	19.45000	1.9508	0.88790	2.6721	-	-	-
		-6.00000	-6.00000	19.45000	2.0493	1.0904	3.0047	-	-	-
		-5.00000	-6.00000	19.45000	2.0925	1.3296	3.3213	-	-	-
		-4.00000	-6.00000	19.45000	2.0659	1.6138	3.6099	-	-	-
		-3.00000	-6.00000	19.45000	1.9519	1.9519	3.8579	-	-	-
		-2.00000	-6.00000	19.45000	1.8410	2.4635	4.1863	-	-	-
		-1.00000	-6.00000	19.45000	1.6334	3.0748	4.4957	-	-	-
		0.00000	-6.00000	19.45000	1.3175	3.7864	4.7792	-	-	-
		1.00000	-6.00000	19.45000	0.89392	4.5802	5.0289	-	-	-
		2.00000	-6.00000	19.45000	0.38437	5.4103	5.2357	-	-	-
		3.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		4.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		5.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		6.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		7.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		8.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		9.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		10.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		11.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		12.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		13.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		14.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		15.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		16.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		17.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		18.00000	-6.00000	19.45000	0.0	7.9425	6.5751	-	-	-
		19.00000	-6.00000	19.45000	-0.055401	5.8964	5.3347	-	-	-
		20.00000	-6.00000	19.45000	-0.59610	5.0780	5.1588	-	-	-
		21.00000	-6.00000	19.45000	-1.0754	4.2551	4.9336	-	-	-
		22.00000	-6.00000	19.45000	-1.4572	3.4904	4.6694	-	-	-
		23.00000	-6.00000	19.45000	-1.7290	2.8179	4.3747	-	-	-
		24.00000	-6.00000	19.45000	-1.8961	2.2473	4.0568	-	-	-
		25.00000	-6.00000	19.45000	-2.0093	1.8096	3.7643	-	-	-
		26.00000	-6.00000	19.45000	-2.0860	1.4942	3.4986	-	-	-
		27.00000	-6.00000	19.45000	-2.0827	1.2290	3.1974	-	-	-
		28.00000	-6.00000	19.45000	-2.0159	1.0054	2.8730	-	-	-
		29.00000	-6.00000	19.45000	-1.8985	0.81564	2.5371	-	-	-
		30.00000	-6.00000	19.45000	-1.7404	0.65343	2.2003	-	-	-
		31.00000	-6.00000	19.45000	-1.5493	0.51356	1.8712	-	-	-
		32.00000	-6.00000	19.45000	-1.3303	0.39178	1.5566	-	-	-
		33.00000	-6.00000	19.45000	-1.1135	0.29309	1.2613	-	-	-
		34.00000	-6.00000	19.45000	-0.97661	0.23524	0.98746	-	-	-
		35.00000	-6.00000	19.45000	-0.82737	0.18362	0.73514	-	-	-
		36.00000	-6.00000	19.45000	-0.66755	0.13730	0.50179	-	-	-
		37.00000	-6.00000	19.45000	-0.49869	0.095547	0.28234	-	-	-
		38.00000	-6.00000	19.45000	-0.32200	0.057729	0.069187	-	-	-
		39.00000	-6.00000	19.45000	-0.13854	0.023334	0.030619	-	-	-
		40.00000	-6.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-5.00000	19.45000	1.6535	0.39971	1.8278	-	-	-
		-9.00000	-5.00000	19.45000	1.8952	0.51433	2.1736	-	-	-
		-8.00000	-5.00000	19.45000	2.1107	0.64813	2.5336	-	-	-
		-7.00000	-5.00000	19.45000	2.2938	0.80611	2.8992	-	-	-
		-6.00000	-5.00000	19.45000	2.4357	0.99476	3.2603	-	-	-
		-5.00000	-5.00000	19.45000	2.5238	1.2225	3.6044	-	-	-
		-4.00000	-5.00000	19.45000	2.5408	1.5000	3.9178	-	-	-
		-3.00000	-5.00000	19.45000	2.4635	1.8410	4.1863	-	-	-
		-2.00000	-5.00000	19.45000	2.2616	2.2616	4.3953	-	-	-
		-1.00000	-5.00000	19.45000	2.0502	2.9289	4.7194	-	-	-
		0.00000	-5.00000	19.45000	1.6912	3.7501	5.0203	-	-	-
		1.00000	-5.00000	19.45000	1.1709	4.7194	5.2929	-	-	-
		2.00000	-5.00000	19.45000	0.51026	5.7828	5.5302	-	-	-
		3.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		4.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		5.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		6.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		7.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		8.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		9.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		10.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		11.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		12.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		13.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		14.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		15.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		16.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		17.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		18.00000	-5.00000	19.45000	0.0	8.6157	6.9541	-	-	-
		19.00000	-5.00000	19.45000	-0.073761	6.4208	5.6508	-	-	-
		20.00000	-5.00000	19.45000	-0.78799	5.3522	5.4401	-	-	-
		21.00000	-5.00000	19.45000	-1.3981	4.3160	5.1877	-	-	-
		22.00000	-5.00000	19.45000	-1.8539	3.4027	4.9031	-	-	-
		23.00000	-5.00000	19.45000	-2.1511	2.6442	4.5922	-	-	-
		24.00000	-5.00000	19.45000	-2.3595	2.0827	4.3197	-	-	-
		25.00000	-5.00000	19.45000	-2.5075	1.6960	4.0852	-	-	-
		26.00000	-5.00000	19.45000	-2.5439	1.3822	3.7970	-	-	-
		27.00000	-5.00000	19.45000	-2.4960	1.1261	3.4696	-	-	-
		28.00000	-5.00000	19.45000	-2.3846	0.91513	3.1172	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		29.00000	-5.00000	19.45000	-2.2249	0.73964	2.7529	-	-	-
		30.00000	-5.00000	19.45000	-2.0279	0.59202	2.3884	-	-	-
		31.00000	-5.00000	19.45000	-1.8014	0.46642	2.0332	-	-	-
		32.00000	-5.00000	19.45000	-1.5506	0.35833	1.6948	-	-	-
		33.00000	-5.00000	19.45000	-1.2792	0.26419	1.3783	-	-	-
		34.00000	-5.00000	19.45000	-1.1035	0.20839	1.0863	-	-	-
		35.00000	-5.00000	19.45000	-0.93804	0.16369	0.81908	-	-	-
		36.00000	-5.00000	19.45000	-0.76335	0.12378	0.57415	-	-	-
		37.00000	-5.00000	19.45000	-0.58082	0.087937	0.34656	-	-	-
		38.00000	-5.00000	19.45000	-0.39158	0.055592	0.12871	-	-	-
		39.00000	-5.00000	19.45000	-0.19653	0.026262	0.038794	-	-	-
		40.00000	-5.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	-4.00000	19.45000	1.8871	0.34047	1.9588	-	-	-
		-9.00000	-4.00000	19.45000	2.1665	0.43690	2.3280	-	-	-
		-8.00000	-4.00000	19.45000	2.4250	0.55068	2.7134	-	-	-
		-7.00000	-4.00000	19.45000	2.6571	0.68681	3.1061	-	-	-
		-6.00000	-4.00000	19.45000	2.8541	0.85201	3.4950	-	-	-
		-5.00000	-4.00000	19.45000	3.0034	1.0555	3.8667	-	-	-
		-4.00000	-4.00000	19.45000	3.0862	1.3100	4.2058	-	-	-
		-3.00000	-4.00000	19.45000	3.0748	1.6334	4.4957	-	-	-
		-2.00000	-4.00000	19.45000	2.9289	2.0502	4.7194	-	-	-
		-1.00000	-4.00000	19.45000	2.5926	2.5926	4.8604	-	-	-
		0.00000	-4.00000	19.45000	2.2100	3.5109	5.1684	-	-	-
		1.00000	-4.00000	19.45000	1.5808	4.6892	5.4562	-	-	-
		2.00000	-4.00000	19.45000	0.70521	6.0855	5.7236	-	-	-
		3.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		4.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		5.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		6.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		7.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		8.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		9.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		10.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		11.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		12.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		13.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		14.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		15.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		16.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		17.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		18.00000	-4.00000	19.45000	0.0	9.3151	7.1915	-	-	-
		19.00000	-4.00000	19.45000	-0.10249	6.9574	5.8709	-	-	-
		20.00000	-4.00000	19.45000	-1.0808	5.5091	5.6194	-	-	-
		21.00000	-4.00000	19.45000	-1.8640	4.1867	5.3435	-	-	-
		22.00000	-4.00000	19.45000	-2.3903	3.1134	5.0477	-	-	-
		23.00000	-4.00000	19.45000	-2.7542	2.3582	4.8149	-	-	-
		24.00000	-4.00000	19.45000	-3.0066	1.8704	4.6390	-	-	-
		25.00000	-4.00000	19.45000	-3.0929	1.4944	4.3868	-	-	-
		26.00000	-4.00000	19.45000	-3.0626	1.2011	4.0751	-	-	-
		27.00000	-4.00000	19.45000	-2.9505	0.96878	3.7210	-	-	-
		28.00000	-4.00000	19.45000	-2.7802	0.78192	3.3407	-	-	-
		29.00000	-4.00000	19.45000	-2.5679	0.62929	2.9488	-	-	-
		30.00000	-4.00000	19.45000	-2.3244	0.50280	2.5578	-	-	-
		31.00000	-4.00000	19.45000	-2.0570	0.39648	2.1779	-	-	-
		32.00000	-4.00000	19.45000	-1.7703	0.30589	1.8172	-	-	-
		33.00000	-4.00000	19.45000	-1.4673	0.22767	1.4811	-	-	-
		34.00000	-4.00000	19.45000	-1.2292	0.17363	1.1724	-	-	-
		35.00000	-4.00000	19.45000	-1.0463	0.13698	0.89132	-	-	-
		36.00000	-4.00000	19.45000	-0.85582	0.10440	0.63565	-	-	-
		37.00000	-4.00000	19.45000	-0.65894	0.075233	0.40035	-	-	-
		38.00000	-4.00000	19.45000	-0.45661	0.048991	0.17778	-	-	-
		39.00000	-4.00000	19.45000	-0.24960	0.025256	0.045178	-	-	-
		40.00000	-4.00000	19.45000	-0.038537	0.0036893	0.011322	-	-	-
		-10.00000	-3.00000	19.45000	2.1156	0.26357	2.0692	-	-	-
		-9.00000	-3.00000	19.45000	2.4364	0.33774	2.4593	-	-	-
		-8.00000	-3.00000	19.45000	2.7431	0.42606	2.8680	-	-	-
		-7.00000	-3.00000	19.45000	3.0315	0.53289	3.2860	-	-	-
		-6.00000	-3.00000	19.45000	3.2947	0.66435	3.7015	-	-	-
		-5.00000	-3.00000	19.45000	3.5218	0.82919	4.1003	-	-	-
		-4.00000	-3.00000	19.45000	3.6951	1.0404	4.4658	-	-	-
		-3.00000	-3.00000	19.45000	3.7864	1.3175	4.7792	-	-	-
		-2.00000	-3.00000	19.45000	3.7501	1.6912	5.0203	-	-	-
		-1.00000	-3.00000	19.45000	3.5109	2.2100	5.1684	-	-	-
		0.00000	-3.00000	19.45000	2.9484	2.9484	5.2042	-	-	-
		1.00000	-3.00000	19.45000	2.2288	4.3356	5.4912	-	-	-
		2.00000	-3.00000	19.45000	1.0416	6.2202	5.7840	-	-	-
		3.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		4.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		5.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		6.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		7.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		8.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		9.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		10.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		11.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		12.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		13.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		14.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		15.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		16.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		17.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		18.00000	-3.00000	19.45000	0.0	10.043	7.2457	-	-	-
		19.00000	-3.00000	19.45000	-0.15315	7.4933	5.9660	-	-	-
		20.00000	-3.00000	19.45000	-1.5715	5.4134	5.6651	-	-	-
		21.00000	-3.00000	19.45000	-2.5700	3.7204	5.3767	-	-	-
		22.00000	-3.00000	19.45000	-3.2222	2.6207	5.2044	-	-	-
		23.00000	-3.00000	19.45000	-3.6374	1.9810	5.1217	-	-	-
		24.00000	-3.00000	19.45000	-3.7839	1.5275	4.9339	-	-	-
		25.00000	-3.00000	19.45000	-3.7621	1.1971	4.6613	-	-	-
		26.00000	-3.00000	19.45000	-3.6337	0.94926	4.3247	-	-	-
		27.00000	-3.00000	19.45000	-3.4362	0.75854	3.9438	-	-	-
		28.00000	-3.00000	19.45000	-3.1930	0.60832	3.5365	-	-	-
		29.00000	-3.00000	19.45000	-2.9187	0.48759	3.1183	-	-	-
		30.00000	-3.00000	19.45000	-2.6223	0.38879	2.7028	-	-	-
		31.00000	-3.00000	19.45000	-2.3096	0.30658	2.3006	-	-	-
		32.00000	-3.00000	19.45000	-1.9839	0.23711	1.9199	-	-	-
		33.00000	-3.00000	19.45000	-1.6471	0.17755	1.5664	-	-	-
		34.00000	-3.00000	19.45000	-1.3508	0.13222	1.2430	-	-	-
		35.00000	-3.00000	19.45000	-1.1496	0.10462	0.94997	-	-	-
		36.00000	-3.00000	19.45000	-0.94273	0.080158	0.68496	-	-	-
		37.00000	-3.00000	19.45000	-0.73107	0.058325	0.44291	-	-	-
		38.00000	-3.00000	19.45000	-0.51536	0.038724	0.21607	-	-	-
		39.00000	-3.00000	19.45000	-0.29618	0.021031	0.050116	-	-	-
		40.00000	-3.00000	19.45000	-0.074028	0.0049822	0.018018	-	-	-
		-10.00000	-2.00000	19.45000	2.3318	0.17276	2.1548	-	-	-
		-9.00000	-2.00000	19.45000	2.6961	0.22124	2.5626	-	-	-
		-8.00000	-2.00000	19.45000	3.0542	0.27935	2.9915	-	-	-
		-7.00000	-2.00000	19.45000	3.4043	0.35022	3.4320	-	-	-
		-6.00000	-2.00000	19.45000	3.7422	0.43834	3.8721	-	-	-
		-5.00000	-2.00000	19.45000	4.0607	0.55039	4.2970	-	-	-
		-4.00000	-2.00000	19.45000	4.3474	0.69667	4.6893	-	-	-
		-3.00000	-2.00000	19.45000	4.5802	0.89392	5.0289	-	-	-
		-2.00000	-2.00000	19.45000	4.7194	1.1709	5.2929	-	-	-
		-1.00000	-2.00000	19.45000	4.6892	1.5808	5.4562	-	-	-
		0.00000	-2.00000	19.45000	4.3356	2.2288	5.4912	-	-	-
		1.00000	-2.00000	19.45000	3.3327	3.3327	5.3696	-	-	-
		2.00000	-2.00000	19.45000	1.7383	5.8853	5.6687	-	-	-
		3.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		4.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		5.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		6.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		7.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		8.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		9.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		10.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		11.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		12.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		13.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		14.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		15.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		16.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		17.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		18.00000	-2.00000	19.45000	0.0	10.803	7.0709	-	-	-
		19.00000	-2.00000	19.45000	-0.26444	7.9788	5.9023	-	-	-
		20.00000	-2.00000	19.45000	-2.5162	4.7013	5.5381	-	-	-
		21.00000	-2.00000	19.45000	-3.8440	2.8154	5.4387	-	-	-
		22.00000	-2.00000	19.45000	-4.5313	1.9306	5.4944	-	-	-
		23.00000	-2.00000	19.45000	-4.7289	1.3958	5.4047	-	-	-
		24.00000	-2.00000	19.45000	-4.6786	1.0479	5.1979	-	-	-
		25.00000	-2.00000	19.45000	-4.4955	0.80743	4.9008	-	-	-
		26.00000	-2.00000	19.45000	-4.2377	0.63317	4.5376	-	-	-
		27.00000	-2.00000	19.45000	-3.9363	0.50214	4.1300	-	-	-
		28.00000	-2.00000	19.45000	-3.6088	0.40065	3.6970	-	-	-
		29.00000	-2.00000	19.45000	-3.2654	0.32009	3.2552	-	-	-
		30.00000	-2.00000	19.45000	-2.9118	0.25478	2.8180	-	-	-
		31.00000	-2.00000	19.45000	-2.5510	0.20084	2.3965	-	-	-
		32.00000	-2.00000	19.45000	-2.1846	0.15554	1.9991	-	-	-
		33.00000	-2.00000	19.45000	-1.8129	0.11689	1.6312	-	-	-
		34.00000	-2.00000	19.45000	-1.4652	0.085708	1.2959	-	-	-
		35.00000	-2.00000	19.45000	-1.2452	0.067942	0.99327	-	-	-
		36.00000	-2.00000	19.45000	-1.0217	0.052229	0.72085	-	-	-
		37.00000	-2.00000	19.45000	-0.79513	0.038234	0.47346	-	-	-
		38.00000	-2.00000	19.45000	-0.56599	0.025691	0.24318	-	-	-
		39.00000	-2.00000	19.45000	-0.33468	0.014385	0.053771	-	-	-
		40.00000	-2.00000	19.45000	-0.10149	0.0041421	0.022557	-	-	-
		-10.00000	-1.00000	19.45000	2.5279	0.072706	2.2120	-	-	-
		-9.00000	-1.00000	19.45000	2.9357	0.093089	2.6336	-	-	-
		-8.00000	-1.00000	19.45000	3.3461	0.11761	3.0787	-	-	-
		-7.00000	-1.00000	19.45000	3.7595	0.14766	3.5380	-	-	-
		-6.00000	-1.00000	19.45000	4.1758	0.18525	3.9995	-	-	-
		-5.00000	-1.00000	19.45000	4.5933	0.23344	4.4484	-	-	-
		-4.00000	-1.00000	19.45000	5.0077	0.29709	4.8673	-	-	-
		-3.00000	-1.00000	19.45000	5.4103	0.38437	5.2357	-	-	-
		-2.00000	-1.00000	19.45000	5.7828	0.51026	5.5302	-	-	-
		-1.00000	-1.00000	19.45000	6.0855	0.70521	5.7236	-	-	-
		0.00000	-1.00000	19.45000	6.2202	1.0416	5.7840	-	-	-
		1.00000	-1.00000	19.45000	5.8853	1.7383	5.6687	-	-	-
		2.00000	-1.00000	19.45000	3.7490	3.7490	5.2914	-	-	-
		3.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		4.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		5.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		6.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		7.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		8.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		9.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		10.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		11.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		12.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		13.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		14.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		15.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		16.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		17.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		18.00000	-1.00000	19.45000	0.0	11.596	6.6174	-	-	-
		19.00000	-1.00000	19.45000	-0.69312	8.0710	5.6250	-	-	-
		20.00000	-1.00000	19.45000	-5.0311	2.6364	5.4843	-	-	-
		21.00000	-1.00000	19.45000	-6.1158	1.3875	5.7396	-	-	-
		22.00000	-1.00000	19.45000	-6.1978	0.88184	5.7782	-	-	-
		23.00000	-1.00000	19.45000	-5.9770	0.61581	5.6602	-	-	-
		24.00000	-1.00000	19.45000	-5.6392	0.45384	5.4229	-	-	-
		25.00000	-1.00000	19.45000	-5.2515	0.34588	5.0959	-	-	-
		26.00000	-1.00000	19.45000	-4.8427	0.26935	4.7046	-	-	-
		27.00000	-1.00000	19.45000	-4.4263	0.21263	4.2714	-	-	-
		28.00000	-1.00000	19.45000	-4.0090	0.16914	3.8155	-	-	-
		29.00000	-1.00000	19.45000	-3.5938	0.13486	3.3533	-	-	-
		30.00000	-1.00000	19.45000	-3.1816	0.10723	2.8984	-	-	-
		31.00000	-1.00000	19.45000	-2.7723	0.084502	2.4617	-	-	-
		32.00000	-1.00000	19.45000	-2.3652	0.065480	2.0514	-	-	-
		33.00000	-1.00000	19.45000	-1.9587	0.049298	1.6730	-	-	-
		34.00000	-1.00000	19.45000	-1.5688	0.035853	1.3291	-	-	-
		35.00000	-1.00000	19.45000	-1.3303	0.028447	1.0197	-	-	-
		36.00000	-1.00000	19.45000	-1.0902	0.021906	0.74228	-	-	-
		37.00000	-1.00000	19.45000	-0.84895	0.016087	0.49132	-	-	-
		38.00000	-1.00000	19.45000	-0.60663	0.010876	0.25875	-	-	-
		39.00000	-1.00000	19.45000	-0.36343	0.0061824	0.056194	-	-	-
		40.00000	-1.00000	19.45000	-0.11946	0.0019333	0.025170	-	-	-
		-10.00000	0.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	0.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	0.00000	19.45000	4.8805	0.0	3.7341	-	-	-
		-7.00000	0.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	0.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	0.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	0.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	0.00000	19.45000	7.9425	0.0	6.5751	-	-	-
		-2.00000	0.00000	19.45000	8.6157	0.0	6.9541	-	-	-
		-1.00000	0.00000	19.45000	9.3151	0.0	7.1915	-	-	-
		0.00000	0.00000	19.45000	10.043	0.0	7.2457	-	-	-
		1.00000	0.00000	19.45000	10.803	0.0	7.0709	-	-	-
		2.00000	0.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	0.00000	19.45000	Point lies within an excavation.					
		4.00000	0.00000	19.45000	Point lies within an excavation.					
		5.00000	0.00000	19.45000	Point lies within an excavation.					
		6.00000	0.00000	19.45000	Point lies within an excavation.					
		7.00000	0.00000	19.45000	Point lies within an excavation.					
		8.00000	0.00000	19.45000	Point lies within an excavation.					
		9.00000	0.00000	19.45000	Point lies within an excavation.					
		10.00000	0.00000	19.45000	Point lies within an excavation.					
		11.00000	0.00000	19.45000	Point lies within an excavation.					
		12.00000	0.00000	19.45000	Point lies within an excavation.					
		13.00000	0.00000	19.45000	Point lies within an excavation.					
		14.00000	0.00000	19.45000	Point lies within an excavation.					
		15.00000	0.00000	19.45000	Point lies within an excavation.					
		16.00000	0.00000	19.45000	Point lies within an excavation.					
		17.00000	0.00000	19.45000	Point lies within an excavation.					
		18.00000	0.00000	19.45000	Point lies within an excavation.					
		19.00000	0.00000	19.45000	-12.089	0.0	6.1893	-	-	-
		20.00000	0.00000	19.45000	-11.274	0.0	6.8356	-	-	-
		21.00000	0.00000	19.45000	-10.495	0.0	7.1714	-	-	-
		22.00000	0.00000	19.45000	-9.7484	0.0	7.2489	-	-	-
		23.00000	0.00000	19.45000	-9.0320	0.0	7.1161	-	-	-
		24.00000	0.00000	19.45000	-8.3434	0.0	6.8173	-	-	-
		25.00000	0.00000	19.45000	-7.6800	0.0	6.3925	-	-	-
		26.00000	0.00000	19.45000	-7.0392	0.0	5.8777	-	-	-
		27.00000	0.00000	19.45000	-6.4186	0.0	5.3050	-	-	-
		28.00000	0.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	0.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	0.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	0.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	0.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	0.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	0.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	0.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	0.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	0.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	0.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	0.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	0.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	1.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	1.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	1.00000	19.45000	4.8805	0.0	3.7341	-	-	-
		-7.00000	1.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	1.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	1.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	1.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	1.00000	19.45000	7.9425	0.0	6.5751	-	-	-
		-2.00000	1.00000	19.45000	8.6157	0.0	6.9541	-	-	-
		-1.00000	1.00000	19.45000	9.3151	0.0	7.1915	-	-	-
		0.00000	1.00000	19.45000	10.053	-591.63E-6	7.2472	-	-	-
		1.00000	1.00000	19.45000	10.805	-145.79E-6	7.0713	-	-	-
		2.00000	1.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	1.00000	19.45000	Point lies within an excavation.					
		4.00000	1.00000	19.45000	Point lies within an excavation.					

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		5.00000	1.00000	19.45000			Point lies within an excavation.			
		6.00000	1.00000	19.45000			Point lies within an excavation.			
		7.00000	1.00000	19.45000			Point lies within an excavation.			
		8.00000	1.00000	19.45000			Point lies within an excavation.			
		9.00000	1.00000	19.45000			Point lies within an excavation.			
		10.00000	1.00000	19.45000			Point lies within an excavation.			
		11.00000	1.00000	19.45000			Point lies within an excavation.			
		12.00000	1.00000	19.45000			Point lies within an excavation.			
		13.00000	1.00000	19.45000			Point lies within an excavation.			
		14.00000	1.00000	19.45000			Point lies within an excavation.			
		15.00000	1.00000	19.45000			Point lies within an excavation.			
		16.00000	1.00000	19.45000			Point lies within an excavation.			
		17.00000	1.00000	19.45000			Point lies within an excavation.			
		18.00000	1.00000	19.45000			Point lies within an excavation.			
		19.00000	1.00000	19.45000	-12.089	0.18750	6.2148	-	-	-
		20.00000	1.00000	19.45000	-11.274	0.18750	6.8611	-	-	-
		21.00000	1.00000	19.45000	-10.495	0.18750	7.1969	-	-	-
		22.00000	1.00000	19.45000	-9.7484	0.18750	7.2744	-	-	-
		23.00000	1.00000	19.45000	-9.0371	0.11259	7.1323	-	-	-
		24.00000	1.00000	19.45000	-8.3538	0.054797	6.8278	-	-	-
		25.00000	1.00000	19.45000	-7.6800	0.0	6.3925	-	-	-
		26.00000	1.00000	19.45000	-7.0392	0.0	5.8777	-	-	-
		27.00000	1.00000	19.45000	-6.4186	0.0	5.3050	-	-	-
		28.00000	1.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	1.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	1.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	1.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	1.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	1.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	1.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	1.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	1.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	1.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	1.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	1.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	1.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	2.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	2.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	2.00000	19.45000	4.8805	0.0	3.7341	-	-	-
		-7.00000	2.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	2.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	2.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	2.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	2.00000	19.45000	7.9425	0.0	6.5751	-	-	-
		-2.00000	2.00000	19.45000	8.6368	-0.0012639	6.9576	-	-	-
		-1.00000	2.00000	19.45000	9.3688	-0.0032189	7.1988	-	-	-
		0.00000	2.00000	19.45000	10.091	-0.0028441	7.2544	-	-	-
		1.00000	2.00000	19.45000	10.812	-564.97E-6	7.0730	-	-	-
		2.00000	2.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	2.00000	19.45000			Point lies within an excavation.			
		4.00000	2.00000	19.45000			Point lies within an excavation.			
		5.00000	2.00000	19.45000			Point lies within an excavation.			
		6.00000	2.00000	19.45000			Point lies within an excavation.			
		7.00000	2.00000	19.45000			Point lies within an excavation.			
		8.00000	2.00000	19.45000			Point lies within an excavation.			
		9.00000	2.00000	19.45000			Point lies within an excavation.			
		10.00000	2.00000	19.45000			Point lies within an excavation.			
		11.00000	2.00000	19.45000			Point lies within an excavation.			
		12.00000	2.00000	19.45000			Point lies within an excavation.			
		13.00000	2.00000	19.45000			Point lies within an excavation.			
		14.00000	2.00000	19.45000			Point lies within an excavation.			
		15.00000	2.00000	19.45000			Point lies within an excavation.			
		16.00000	2.00000	19.45000			Point lies within an excavation.			
		17.00000	2.00000	19.45000			Point lies within an excavation.			
		18.00000	2.00000	19.45000			Point lies within an excavation.			
		19.00000	2.00000	19.45000	-12.089	0.56250	6.3127	-	-	-
		20.00000	2.00000	19.45000	-11.274	0.56250	6.9590	-	-	-
		21.00000	2.00000	19.45000	-10.495	0.56250	7.2948	-	-	-
		22.00000	2.00000	19.45000	-9.7484	0.56250	7.3723	-	-	-
		23.00000	2.00000	19.45000	-9.0521	0.33744	7.1930	-	-	-
		24.00000	2.00000	19.45000	-8.3993	0.21525	6.8641	-	-	-
		25.00000	2.00000	19.45000	-7.7343	0.098843	6.4124	-	-	-
		26.00000	2.00000	19.45000	-7.0503	0.011642	5.8824	-	-	-
		27.00000	2.00000	19.45000	-6.4186	0.0	5.3050	-	-	-
		28.00000	2.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	2.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	2.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	2.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	2.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	2.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	2.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	2.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	2.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	2.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	2.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	2.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	2.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	3.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	3.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	3.00000	19.45000	4.8805	0.0	3.7341	-	-	-
		-7.00000	3.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	3.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	3.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	3.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	3.00000	19.45000	7.9572	-879.26E-6	6.5782	-	-	-
		-2.00000	3.00000	19.45000	8.7163	-0.0060363	6.9682	-	-	-
		-1.00000	3.00000	19.45000	9.4481	-0.0079818	7.2255	-	-	-
		0.00000	3.00000	19.45000	10.153	-0.0066011	7.2884	-	-	-
		1.00000	3.00000	19.45000	10.827	-0.0014321	7.0812	-	-	-
		2.00000	3.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	3.00000	19.45000			Point lies within an excavation.			
		4.00000	3.00000	19.45000			Point lies within an excavation.			
		5.00000	3.00000	19.45000			Point lies within an excavation.			
		6.00000	3.00000	19.45000			Point lies within an excavation.			
		7.00000	3.00000	19.45000			Point lies within an excavation.			
		8.00000	3.00000	19.45000			Point lies within an excavation.			
		9.00000	3.00000	19.45000			Point lies within an excavation.			
		10.00000	3.00000	19.45000			Point lies within an excavation.			
		11.00000	3.00000	19.45000			Point lies within an excavation.			
		12.00000	3.00000	19.45000			Point lies within an excavation.			
		13.00000	3.00000	19.45000			Point lies within an excavation.			
		14.00000	3.00000	19.45000			Point lies within an excavation.			
		15.00000	3.00000	19.45000			Point lies within an excavation.			
		16.00000	3.00000	19.45000			Point lies within an excavation.			
		17.00000	3.00000	19.45000			Point lies within an excavation.			
		18.00000	3.00000	19.45000			Point lies within an excavation.			
		19.00000	3.00000	19.45000	-12.089	0.93750	6.6141	-	-	-
		20.00000	3.00000	19.45000	-11.274	0.93750	7.2604	-	-	-
		21.00000	3.00000	19.45000	-10.495	0.93750	7.5962	-	-	-
		22.00000	3.00000	19.45000	-9.7484	0.93863	7.6740	-	-	-
		23.00000	3.00000	19.45000	-9.0819	0.56954	7.3836	-	-	-
		24.00000	3.00000	19.45000	-8.4735	0.31781	6.9805	-	-	-
		25.00000	3.00000	19.45000	-7.8201	0.15013	6.4581	-	-	-
		26.00000	3.00000	19.45000	-7.1360	0.059017	5.8981	-	-	-
		27.00000	3.00000	19.45000	-6.4186	0.0	5.3050	-	-	-
		28.00000	3.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	3.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	3.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	3.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	3.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	3.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	3.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	3.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	3.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	3.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	3.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	3.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	3.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	4.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	4.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	4.00000	19.45000	4.8805	0.0	3.7341	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		-7.00000	4.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	4.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	4.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	4.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	4.00000	19.45000	8.0325	-0.0053963	6.5872	-	-	-
		-2.00000	4.00000	19.45000	8.8339	-0.013089	7.0006	-	-	-
		-1.00000	4.00000	19.45000	9.5936	-0.016707	7.3070	-	-	-
		0.00000	4.00000	19.45000	10.370	-0.019577	7.3956	-	-	-
		1.00000	4.00000	19.45000	10.884	-0.0048653	7.1120	-	-	-
		2.00000	4.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	4.00000	19.45000	Point lies within an excavation.					
		4.00000	4.00000	19.45000	Point lies within an excavation.					
		5.00000	4.00000	19.45000	Point lies within an excavation.					
		6.00000	4.00000	19.45000	Point lies within an excavation.					
		7.00000	4.00000	19.45000	Point lies within an excavation.					
		8.00000	4.00000	19.45000	Point lies within an excavation.					
		9.00000	4.00000	19.45000	Point lies within an excavation.					
		10.00000	4.00000	19.45000	Point lies within an excavation.					
		11.00000	4.00000	19.45000	Point lies within an excavation.					
		12.00000	4.00000	19.45000	Point lies within an excavation.					
		13.00000	4.00000	19.45000	Point lies within an excavation.					
		14.00000	4.00000	19.45000	Point lies within an excavation.					
		15.00000	4.00000	19.45000	Point lies within an excavation.					
		16.00000	4.00000	19.45000	Point lies within an excavation.					
		17.00000	4.00000	19.45000	Point lies within an excavation.					
		18.00000	4.00000	19.45000	Point lies within an excavation.					
		19.00000	4.00000	19.45000	-12.089	1.4443	7.0217	-	-	-
		20.00000	4.00000	19.45000	-11.274	1.5118	7.6866	-	-	-
		21.00000	4.00000	19.45000	-10.495	1.5794	8.0482	-	-	-
		22.00000	4.00000	19.45000	-9.7484	1.6470	8.1578	-	-	-
		23.00000	4.00000	19.45000	-9.1986	0.98425	7.7111	-	-	-
		24.00000	4.00000	19.45000	-8.6990	0.39649	7.1572	-	-	-
		25.00000	4.00000	19.45000	-7.9821	0.14468	6.5591	-	-	-
		26.00000	4.00000	19.45000	-7.2548	0.063672	5.9282	-	-	-
		27.00000	4.00000	19.45000	-6.4837	0.013779	5.3169	-	-	-
		28.00000	4.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	4.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	4.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	4.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	4.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	4.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	4.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	4.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	4.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	4.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	4.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	4.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	4.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	5.00000	19.45000	3.7500	0.0	2.6147	-	-	-
		-9.00000	5.00000	19.45000	4.3111	0.0	3.1557	-	-	-
		-8.00000	5.00000	19.45000	4.8805	0.0	3.7341	-	-	-
		-7.00000	5.00000	19.45000	5.4609	0.0	4.3365	-	-	-
		-6.00000	5.00000	19.45000	6.0547	0.0	4.9454	-	-	-
		-5.00000	5.00000	19.45000	6.6646	0.0	5.5392	-	-	-
		-4.00000	5.00000	19.45000	7.2930	0.0	6.0923	-	-	-
		-3.00000	5.00000	19.45000	8.1029	-0.0096204	6.5961	-	-	-
		-2.00000	5.00000	19.45000	8.9704	-0.021279	7.0518	-	-	-
		-1.00000	5.00000	19.45000	9.9342	-0.037146	7.4702	-	-	-
		0.00000	5.00000	19.45000	10.942	-0.053907	7.7363	-	-	-
		1.00000	5.00000	19.45000	11.152	-0.020964	7.2996	-	-	-
		2.00000	5.00000	19.45000	11.596	0.0	6.6174	-	-	-
		3.00000	5.00000	19.45000	Point lies within an excavation.					
		4.00000	5.00000	19.45000	Point lies within an excavation.					
		5.00000	5.00000	19.45000	Point lies within an excavation.					
		6.00000	5.00000	19.45000	Point lies within an excavation.					
		7.00000	5.00000	19.45000	Point lies within an excavation.					
		8.00000	5.00000	19.45000	Point lies within an excavation.					
		9.00000	5.00000	19.45000	Point lies within an excavation.					
		10.00000	5.00000	19.45000	Point lies within an excavation.					
		11.00000	5.00000	19.45000	Point lies within an excavation.					
		12.00000	5.00000	19.45000	Point lies within an excavation.					
		13.00000	5.00000	19.45000	Point lies within an excavation.					
		14.00000	5.00000	19.45000	Point lies within an excavation.					
		15.00000	5.00000	19.45000	Point lies within an excavation.					
		16.00000	5.00000	19.45000	Point lies within an excavation.					
		17.00000	5.00000	19.45000	Point lies within an excavation.					
		18.00000	5.00000	19.45000	Point lies within an excavation.					
		19.00000	5.00000	19.45000	-12.089	2.1526	7.3473	-	-	-
		20.00000	5.00000	19.45000	-11.274	2.2202	8.0577	-	-	-
		21.00000	5.00000	19.45000	-10.495	2.2877	8.4585	-	-	-
		22.00000	5.00000	19.45000	-9.7484	2.3553	8.6014	-	-	-
		23.00000	5.00000	19.45000	-9.6674	0.88285	8.0511	-	-	-
		24.00000	5.00000	19.45000	-9.2811	0.22672	7.4263	-	-	-
		25.00000	5.00000	19.45000	-8.2656	0.070042	6.6793	-	-	-
		26.00000	5.00000	19.45000	-7.3863	0.027249	5.9646	-	-	-
		27.00000	5.00000	19.45000	-6.5492	0.0077214	5.3233	-	-	-
		28.00000	5.00000	19.45000	-5.8154	0.0	4.7024	-	-	-
		29.00000	5.00000	19.45000	-5.2273	0.0	4.0937	-	-	-
		30.00000	5.00000	19.45000	-4.6516	0.0	3.4990	-	-	-
		31.00000	5.00000	19.45000	-4.0858	0.0	2.9342	-	-	-
		32.00000	5.00000	19.45000	-3.5273	0.0	2.4110	-	-	-
		33.00000	5.00000	19.45000	-2.9737	0.0	1.9373	-	-	-
		34.00000	5.00000	19.45000	-2.4375	0.0	1.5170	-	-	-
		35.00000	5.00000	19.45000	-2.0625	0.0	1.1497	-	-	-
		36.00000	5.00000	19.45000	-1.6875	0.0	0.83117	-	-	-
		37.00000	5.00000	19.45000	-1.3125	0.0	0.55317	-	-	-
		38.00000	5.00000	19.45000	-0.93750	0.0	0.30333	-	-	-
		39.00000	5.00000	19.45000	-0.56250	0.0	0.085297	-	-	-
		40.00000	5.00000	19.45000	-0.18750	0.0	0.038659	-	-	-
		-10.00000	6.00000	19.45000	2.5639	-0.052046	2.2198	-	-	-
		-9.00000	6.00000	19.45000	2.9803	-0.066636	2.6436	-	-	-
		-8.00000	6.00000	19.45000	3.4009	-0.084195	3.0914	-	-	-
		-7.00000	6.00000	19.45000	3.8269	-0.10572	3.5539	-	-	-
		-6.00000	6.00000	19.45000	4.2588	-0.13267	4.0191	-	-	-
		-5.00000	6.00000	19.45000	4.6961	-0.16724	4.4726	-	-	-
		-4.00000	6.00000	19.45000	5.1366	-0.21296	4.8966	-	-	-
		-3.00000	6.00000	19.45000	5.8657	-0.29324	5.3092	-	-	-
		-2.00000	6.00000	19.45000	6.6624	-0.40651	5.7577	-	-	-
		-1.00000	6.00000	19.45000	7.5485	-0.57831	6.3291	-	-	-
		0.00000	6.00000	19.45000	8.5180	-0.86731	6.9263	-	-	-
		1.00000	6.00000	19.45000	9.1355	-1.4350	7.1558	-	-	-
		2.00000	6.00000	19.45000	Point lies within an excavation.					
		3.00000	6.00000	19.45000	Point lies within an excavation.					
		4.00000	6.00000	19.45000	Point lies within an excavation.					
		5.00000	6.00000	19.45000	Point lies within an excavation.					
		6.00000	6.00000	19.45000	Point lies within an excavation.					
		7.00000	6.00000	19.45000	Point lies within an excavation.					
		8.00000	6.00000	19.45000	Point lies within an excavation.					
		9.00000	6.00000	19.45000	Point lies within an excavation.					
		10.00000	6.00000	19.45000	Point lies within an excavation.					
		11.00000	6.00000	19.45000	Point lies within an excavation.					
		12.00000	6.00000	19.45000	Point lies within an excavation.					
		13.00000	6.00000	19.45000	Point lies within an excavation.					
		14.00000	6.00000	19.45000	Point lies within an excavation.					
		15.00000	6.00000	19.45000	Point lies within an excavation.					
		16.00000	6.00000	19.45000	Point lies within an excavation.					
		17.00000	6.00000	19.45000	Point lies within an excavation.					
		18.00000	6.00000	19.45000	Point lies within an excavation.					
		19.00000	6.00000	19.45000	Point lies within an excavation.					
		20.00000	6.00000	19.45000	Point lies within an excavation.					
		21.00000	6.00000	19.45000	Point lies within an excavation.					
		22.00000	6.00000	19.45000	Point lies within an excavation.					
		23.00000	6.00000	19.45000	-8.7004	-0.44307	7.1164	-	-	-
		24.00000	6.00000	19.45000	-7.5899	-0.32587	6.4489	-	-	-
		25.00000	6.00000	19.45000	-6.4503	-0.24805	5.6045	-	-	-
		26.00000	6.00000	19.45000	-5.5603	-0.19303	4.8755	-	-	-
		27.00000	6.00000	19.45000	-4.7456	-0.15231	4.3231	-	-	-
		28.00000	6.00000	19.45000	-4.0853	-0.12112	3.8336	-	-	-
		29.00000	6.00000	19.45000	-3.6558	-0.096554	3.3678	-	-	-
		30.00000	6.00000	19.45000	-3.2321	-0.076759	2.9099	-	-	-
		31.00000	6.00000	19.45000	-2.8133	-0.060489	2.4708	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		32.00000	6.00000	19.45000	-2.3982	-0.046875	2.0585	-	-	-
		33.00000	6.00000	19.45000	-1.9849	-0.035297	1.6784	-	-	-
		34.00000	6.00000	19.45000	-1.5880	-0.025649	1.3332	-	-	-
		35.00000	6.00000	19.45000	-1.3457	-0.020353	1.0229	-	-	-
		36.00000	6.00000	19.45000	-1.1025	-0.015676	0.74476	-	-	-
		37.00000	6.00000	19.45000	-0.85829	-0.011515	0.49333	-	-	-
		38.00000	6.00000	19.45000	-0.61339	-0.0077897	0.26045	-	-	-
		39.00000	6.00000	19.45000	-0.36786	-0.0044346	0.056530	-	-	-
		40.00000	6.00000	19.45000	-0.12179	-0.0013973	0.025471	-	-	-
		-10.00000	7.00000	19.45000	2.3729	-0.15333	2.1686	-	-	-
		-9.00000	7.00000	19.45000	2.7459	-0.19634	2.5795	-	-	-
		-8.00000	7.00000	19.45000	3.1146	-0.24795	3.0120	-	-	-
		-7.00000	7.00000	19.45000	3.4773	-0.31096	3.4566	-	-	-
		-6.00000	7.00000	19.45000	3.8307	-0.38945	3.9013	-	-	-
		-5.00000	7.00000	19.45000	4.1688	-0.48946	4.3312	-	-	-
		-4.00000	7.00000	19.45000	4.4802	-0.62041	4.7289	-	-	-
		-3.00000	7.00000	19.45000	5.0139	-0.81388	5.1089	-	-	-
		-2.00000	7.00000	19.45000	5.5696	-1.0870	5.5139	-	-	-
		-1.00000	7.00000	19.45000	6.0834	-1.4914	6.0388	-	-	-
		0.00000	7.00000	19.45000	6.5093	-2.1393	6.5978	-	-	-
		1.00000	7.00000	19.45000	6.2778	-3.2560	6.8395	-	-	-
		2.00000	7.00000	19.45000	Point lies within an excavation.					
		3.00000	7.00000	19.45000	Point lies within an excavation.					
		4.00000	7.00000	19.45000	Point lies within an excavation.					
		5.00000	7.00000	19.45000	Point lies within an excavation.					
		6.00000	7.00000	19.45000	Point lies within an excavation.					
		7.00000	7.00000	19.45000	Point lies within an excavation.					
		8.00000	7.00000	19.45000	Point lies within an excavation.					
		9.00000	7.00000	19.45000	Point lies within an excavation.					
		10.00000	7.00000	19.45000	Point lies within an excavation.					
		11.00000	7.00000	19.45000	Point lies within an excavation.					
		12.00000	7.00000	19.45000	Point lies within an excavation.					
		13.00000	7.00000	19.45000	Point lies within an excavation.					
		14.00000	7.00000	19.45000	Point lies within an excavation.					
		15.00000	7.00000	19.45000	Point lies within an excavation.					
		16.00000	7.00000	19.45000	Point lies within an excavation.					
		17.00000	7.00000	19.45000	Point lies within an excavation.					
		18.00000	7.00000	19.45000	Point lies within an excavation.					
		19.00000	7.00000	19.45000	Point lies within an excavation.					
		20.00000	7.00000	19.45000	Point lies within an excavation.					
		21.00000	7.00000	19.45000	Point lies within an excavation.					
		22.00000	7.00000	19.45000	Point lies within an excavation.					
		23.00000	7.00000	19.45000	-7.4360	-1.2537	6.8674	-	-	-
		24.00000	7.00000	19.45000	-6.6263	-0.93691	6.2330	-	-	-
		25.00000	7.00000	19.45000	-5.6967	-0.71988	5.4195	-	-	-
		26.00000	7.00000	19.45000	-4.9598	-0.56351	4.7187	-	-	-
		27.00000	7.00000	19.45000	-4.2610	-0.44637	4.1915	-	-	-
		28.00000	7.00000	19.45000	-3.6908	-0.35587	3.7243	-	-	-
		29.00000	7.00000	19.45000	-3.3331	-0.28416	3.2780	-	-	-
		30.00000	7.00000	19.45000	-2.9677	-0.22612	2.8370	-	-	-
		31.00000	7.00000	19.45000	-2.5972	-0.17823	2.4121	-	-	-
		32.00000	7.00000	19.45000	-2.2226	-0.13805	2.0118	-	-	-
		33.00000	7.00000	19.45000	-1.8438	-0.10380	1.6415	-	-	-
		34.00000	7.00000	19.45000	-1.4869	-0.075944	1.3042	-	-	-
		35.00000	7.00000	19.45000	-1.2632	-0.060217	0.99995	-	-	-
		36.00000	7.00000	19.45000	-1.0363	-0.046312	0.72632	-	-	-
		37.00000	7.00000	19.45000	-0.80678	-0.033931	0.47806	-	-	-
		38.00000	7.00000	19.45000	-0.57498	-0.022838	0.24722	-	-	-
		39.00000	7.00000	19.45000	-0.34126	-0.012840	0.054354	-	-	-
		40.00000	7.00000	19.45000	-0.10589	-0.0037846	0.023229	-	-	-
		-10.00000	8.00000	19.45000	2.1601	-0.24638	2.0884	-	-	-
		-9.00000	8.00000	19.45000	2.4894	-0.31567	2.4823	-	-	-
		-8.00000	8.00000	19.45000	2.8062	-0.39829	2.8953	-	-	-
		-7.00000	8.00000	19.45000	3.1066	-0.49841	3.3181	-	-	-
		-6.00000	8.00000	19.45000	3.3843	-0.62192	3.7388	-	-	-
		-5.00000	8.00000	19.45000	3.6287	-0.77728	4.1429	-	-	-
		-4.00000	8.00000	19.45000	3.8230	-0.97715	4.5137	-	-	-
		-3.00000	8.00000	19.45000	4.1859	-1.2558	4.8641	-	-	-
		-2.00000	8.00000	19.45000	4.5529	-1.6372	5.2336	-	-	-
		-1.00000	8.00000	19.45000	4.8119	-2.1702	5.7277	-	-	-
		0.00000	8.00000	19.45000	4.9790	-2.9462	6.2779	-	-	-
		1.00000	8.00000	19.45000	4.9013	-4.3519	6.8943	-	-	-
		2.00000	8.00000	19.45000	Point lies within an excavation.					
		3.00000	8.00000	19.45000	Point lies within an excavation.					
		4.00000	8.00000	19.45000	Point lies within an excavation.					
		5.00000	8.00000	19.45000	Point lies within an excavation.					
		6.00000	8.00000	19.45000	Point lies within an excavation.					
		7.00000	8.00000	19.45000	Point lies within an excavation.					
		8.00000	8.00000	19.45000	Point lies within an excavation.					
		9.00000	8.00000	19.45000	Point lies within an excavation.					
		10.00000	8.00000	19.45000	Point lies within an excavation.					
		11.00000	8.00000	19.45000	Point lies within an excavation.					
		12.00000	8.00000	19.45000	Point lies within an excavation.					
		13.00000	8.00000	19.45000	Point lies within an excavation.					
		14.00000	8.00000	19.45000	Point lies within an excavation.					
		15.00000	8.00000	19.45000	Point lies within an excavation.					
		16.00000	8.00000	19.45000	Point lies within an excavation.					
		17.00000	8.00000	19.45000	Point lies within an excavation.					
		18.00000	8.00000	19.45000	Point lies within an excavation.					
		19.00000	8.00000	19.45000	Point lies within an excavation.					
		20.00000	8.00000	19.45000	Point lies within an excavation.					
		21.00000	8.00000	19.45000	Point lies within an excavation.					
		22.00000	8.00000	19.45000	Point lies within an excavation.					
		23.00000	8.00000	19.45000	-6.3061	-1.8811	6.5894	-	-	-
		24.00000	8.00000	19.45000	-5.7128	-1.4423	5.9761	-	-	-
		25.00000	8.00000	19.45000	-4.9547	-1.1261	5.1881	-	-	-
		26.00000	8.00000	19.45000	-4.3527	-0.89081	4.5143	-	-	-
		27.00000	8.00000	19.45000	-3.7608	-0.71062	4.0137	-	-	-
		28.00000	8.00000	19.45000	-3.2765	-0.56924	3.5716	-	-	-
		29.00000	8.00000	19.45000	-2.9888	-0.45593	3.1485	-	-	-
		30.00000	8.00000	19.45000	-2.6812	-0.36340	2.7284	-	-	-
		31.00000	8.00000	19.45000	-2.3590	-0.28654	2.3220	-	-	-
		32.00000	8.00000	19.45000	-2.0253	-0.22169	1.9377	-	-	-
		33.00000	8.00000	19.45000	-1.6816	-0.16615	1.5811	-	-	-
		34.00000	8.00000	19.45000	-1.3744	-0.12328	1.2551	-	-	-
		35.00000	8.00000	19.45000	-1.1695	-0.097588	0.95991	-	-	-
		36.00000	8.00000	19.45000	-0.95924	-0.074828	0.69325	-	-	-
		37.00000	8.00000	19.45000	-0.74460	-0.054527	0.45000	-	-	-
		38.00000	8.00000	19.45000	-0.52619	-0.036308	0.22240	-	-	-
		39.00000	8.00000	19.45000	-0.30458	-0.019868	0.050946	-	-	-
		40.00000	8.00000	19.45000	-0.080209	-0.0049610	0.019088	-	-	-
		-10.00000	9.00000	19.45000	1.9334	-0.32640	1.9827	-	-	-
		-9.00000	9.00000	19.45000	2.2209	-0.41868	2.3562	-	-	-
		-8.00000	9.00000	19.45000	2.4887	-0.52780	2.7465	-	-	-
		-7.00000	9.00000	19.45000	2.7314	-0.65865	3.1445	-	-	-
		-6.00000	9.00000	19.45000	2.9409	-0.81793	3.5388	-	-	-
		-5.00000	9.00000	19.45000	3.1044	-1.0149	3.9159	-	-	-
		-4.00000	9.00000	19.45000	3.2033	-1.2624	4.2603	-	-	-
		-3.00000	9.00000	19.45000	3.4331	-1.5925	4.5841	-	-	-
		-2.00000	9.00000	19.45000	3.6780	-2.0268	4.9245	-	-	-
		-1.00000	9.00000	19.45000	3.8007	-2.5963	5.3970	-	-	-
		0.00000	9.00000	19.45000	4.0871	-3.5340	6.1676	-	-	-
		1.00000	9.00000	19.45000	4.1422	-4.7988	6.8824	-	-	-
		2.00000	9.00000	19.45000	Point lies within an excavation.					
		3.00000	9.00000	19.45000	Point lies within an excavation.					
		4.00000	9.00000	19.45000	Point lies within an excavation.					
		5.00000	9.00000	19.45000	Point lies within an excavation.					
		6.00000	9.00000	19.45000	Point lies within an excavation.					
		7.00000	9.00000	19.45000	Point lies within an excavation.					
		8.00000	9.00000	19.45000	Point lies within an excavation.					
		9.00000	9.00000	19.45000	Point lies within an excavation.					
		10.00000	9.00000	19.45000	Point lies within an excavation.					
		11.00000	9.00000	19.45000	Point lies within an excavation.					
		12.00000	9.00000	19.45000	Point lies within an excavation.					
		13.00000	9.00000	19.45000	Point lies within an excavation.					
		14.00000	9.00000	19.45000	Point lies within an excavation.					
		15.00000	9.00000	19.45000	Point lies within an excavation.					
		16.00000	9.00000	19.45000	Point lies within an excavation.					
		17.00000	9.00000	19.45000	Point lies within an excavation.					
		18.00000	9.00000	19.45000	Point lies within an excavation.					
		19.00000	9.00000	19.45000	Point lies within an excavation.					

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		20.00000	9.00000	19.45000	Point lies within an excavation.					
		21.00000	9.00000	19.45000	Point lies within an excavation.					
		22.00000	9.00000	19.45000	Point lies within an excavation.					
		23.00000	9.00000	19.45000	-5.3810	-2.2982	6.2872	-	-	-
		24.00000	9.00000	19.45000	-4.9100	-1.8127	5.6867	-	-	-
		25.00000	9.00000	19.45000	-4.2704	-1.4427	4.9199	-	-	-
		26.00000	9.00000	19.45000	-3.7731	-1.1563	4.2713	-	-	-
		27.00000	9.00000	19.45000	-3.2705	-0.93083	3.7976	-	-	-
		28.00000	9.00000	19.45000	-2.8618	-0.75028	3.3823	-	-	-
		29.00000	9.00000	19.45000	-2.6378	-0.60332	2.9850	-	-	-
		30.00000	9.00000	19.45000	-2.3842	-0.48185	2.5889	-	-	-
		31.00000	9.00000	19.45000	-2.1080	-0.37998	2.2044	-	-	-
		32.00000	9.00000	19.45000	-1.8137	-0.29334	1.8395	-	-	-
		33.00000	9.00000	19.45000	-1.5041	-0.21865	1.4997	-	-	-
		34.00000	9.00000	19.45000	-1.2539	-0.16584	1.1878	-	-	-
		35.00000	9.00000	19.45000	-1.0674	-0.13093	0.90420	-	-	-
		36.00000	9.00000	19.45000	-0.87372	-0.099901	0.64653	-	-	-
		37.00000	9.00000	19.45000	-0.67391	-0.072157	0.40979	-	-	-
		38.00000	9.00000	19.45000	-0.46892	-0.047203	0.18631	-	-	-
		39.00000	9.00000	19.45000	-0.25948	-0.024644	0.046274	-	-	-
		40.00000	9.00000	19.45000	-0.046208	-0.0041536	0.012850	-	-	-
		-10.00000	10.00000	19.45000	1.7004	-0.38942	1.8554	-	-	-
		-9.00000	10.00000	19.45000	1.9492	-0.50074	2.2061	-	-	-
		-8.00000	10.00000	19.45000	2.1728	-0.63099	2.5712	-	-	-
		-7.00000	10.00000	19.45000	2.3651	-0.78520	2.9425	-	-	-
		-6.00000	10.00000	19.45000	2.5171	-0.96996	3.3091	-	-	-
		-5.00000	10.00000	19.45000	2.6161	-1.1939	3.6587	-	-	-
		-4.00000	10.00000	19.45000	2.6443	-1.4683	3.9773	-	-	-
		-3.00000	10.00000	19.45000	2.7789	-1.8198	4.2768	-	-	-
		-2.00000	10.00000	19.45000	2.9585	-2.2644	4.5923	-	-	-
		-1.00000	10.00000	19.45000	3.1492	-2.9391	5.2014	-	-	-
		0.00000	10.00000	19.45000	3.4889	-3.8240	6.0071	-	-	-
		1.00000	10.00000	19.45000	3.6533	-4.8751	6.7329	-	-	-
		2.00000	10.00000	19.45000	Point lies within an excavation.					
		3.00000	10.00000	19.45000	Point lies within an excavation.					
		4.00000	10.00000	19.45000	Point lies within an excavation.					
		5.00000	10.00000	19.45000	Point lies within an excavation.					
		6.00000	10.00000	19.45000	Point lies within an excavation.					
		7.00000	10.00000	19.45000	Point lies within an excavation.					
		8.00000	10.00000	19.45000	Point lies within an excavation.					
		9.00000	10.00000	19.45000	Point lies within an excavation.					
		10.00000	10.00000	19.45000	Point lies within an excavation.					
		11.00000	10.00000	19.45000	Point lies within an excavation.					
		12.00000	10.00000	19.45000	Point lies within an excavation.					
		13.00000	10.00000	19.45000	Point lies within an excavation.					
		14.00000	10.00000	19.45000	Point lies within an excavation.					
		15.00000	10.00000	19.45000	Point lies within an excavation.					
		16.00000	10.00000	19.45000	Point lies within an excavation.					
		17.00000	10.00000	19.45000	Point lies within an excavation.					
		18.00000	10.00000	19.45000	Point lies within an excavation.					
		19.00000	10.00000	19.45000	Point lies within an excavation.					
		20.00000	10.00000	19.45000	Point lies within an excavation.					
		21.00000	10.00000	19.45000	Point lies within an excavation.					
		22.00000	10.00000	19.45000	Point lies within an excavation.					
		23.00000	10.00000	19.45000	-4.7150	-2.5897	6.0359	-	-	-
		24.00000	10.00000	19.45000	-4.2371	-2.0498	5.3718	-	-	-
		25.00000	10.00000	19.45000	-3.6675	-1.6631	4.6232	-	-	-
		26.00000	10.00000	19.45000	-3.2429	-1.3516	3.9983	-	-	-
		27.00000	10.00000	19.45000	-2.8088	-1.0990	3.5512	-	-	-
		28.00000	10.00000	19.45000	-2.4618	-0.89189	3.1638	-	-	-
		29.00000	10.00000	19.45000	-2.2924	-0.72026	2.7939	-	-	-
		30.00000	10.00000	19.45000	-2.0867	-0.57633	2.4239	-	-	-
		31.00000	10.00000	19.45000	-1.8524	-0.45418	2.0637	-	-	-
		32.00000	10.00000	19.45000	-1.5947	-0.34929	1.7207	-	-	-
		33.00000	10.00000	19.45000	-1.3172	-0.25810	1.4001	-	-	-
		34.00000	10.00000	19.45000	-1.1288	-0.20203	1.1046	-	-	-
		35.00000	10.00000	19.45000	-0.95996	-0.15886	0.83453	-	-	-
		36.00000	10.00000	19.45000	-0.78218	-0.12034	0.58736	-	-	-
		37.00000	10.00000	19.45000	-0.59683	-0.085777	0.35818	-	-	-
		38.00000	10.00000	19.45000	-0.40500	-0.054605	0.13937	-	-	-
		39.00000	10.00000	19.45000	-0.20759	-0.026354	0.040200	-	-	-
		40.00000	10.00000	19.45000	-0.0053278	-639.03E-6	0.0041353	-	-	-
		-10.00000	11.00000	19.45000	1.4672	-0.43252	1.7109	-	-	-
		-9.00000	11.00000	19.45000	1.6818	-0.55863	2.0370	-	-	-
		-8.00000	11.00000	19.45000	1.8673	-0.70442	2.3756	-	-	-
		-7.00000	11.00000	19.45000	2.0175	-0.87460	2.7189	-	-	-
		-6.00000	11.00000	19.45000	2.1238	-1.0750	3.0572	-	-	-
		-5.00000	11.00000	19.45000	2.1747	-1.3129	3.3792	-	-	-
		-4.00000	11.00000	19.45000	2.1552	-1.5968	3.6727	-	-	-
		-3.00000	11.00000	19.45000	2.2256	-1.9475	3.9494	-	-	-
		-2.00000	11.00000	19.45000	2.4708	-2.4673	4.3522	-	-	-
		-1.00000	11.00000	19.45000	2.6678	-3.1155	4.9668	-	-	-
		0.00000	11.00000	19.45000	3.0484	-3.8012	5.7496	-	-	-
		1.00000	11.00000	19.45000	3.3127	-4.7595	6.4740	-	-	-
		2.00000	11.00000	19.45000	Point lies within an excavation.					
		3.00000	11.00000	19.45000	Point lies within an excavation.					
		4.00000	11.00000	19.45000	Point lies within an excavation.					
		5.00000	11.00000	19.45000	Point lies within an excavation.					
		6.00000	11.00000	19.45000	Point lies within an excavation.					
		7.00000	11.00000	19.45000	Point lies within an excavation.					
		8.00000	11.00000	19.45000	Point lies within an excavation.					
		9.00000	11.00000	19.45000	Point lies within an excavation.					
		10.00000	11.00000	19.45000	Point lies within an excavation.					
		11.00000	11.00000	19.45000	Point lies within an excavation.					
		12.00000	11.00000	19.45000	Point lies within an excavation.					
		13.00000	11.00000	19.45000	Point lies within an excavation.					
		14.00000	11.00000	19.45000	Point lies within an excavation.					
		15.00000	11.00000	19.45000	Point lies within an excavation.					
		16.00000	11.00000	19.45000	Point lies within an excavation.					
		17.00000	11.00000	19.45000	Point lies within an excavation.					
		18.00000	11.00000	19.45000	Point lies within an excavation.					
		19.00000	11.00000	19.45000	Point lies within an excavation.					
		20.00000	11.00000	19.45000	Point lies within an excavation.					
		21.00000	11.00000	19.45000	Point lies within an excavation.					
		22.00000	11.00000	19.45000	Point lies within an excavation.					
		23.00000	11.00000	19.45000	-4.2722	-2.7951	5.8329	-	-	-
		24.00000	11.00000	19.45000	-3.7311	-2.2150	5.0891	-	-	-
		25.00000	11.00000	19.45000	-3.1521	-1.7934	4.3056	-	-	-
		26.00000	11.00000	19.45000	-2.7726	-1.4771	3.7034	-	-	-
		27.00000	11.00000	19.45000	-2.3868	-1.2127	3.2826	-	-	-
		28.00000	11.00000	19.45000	-2.0872	-0.99079	2.9231	-	-	-
		29.00000	11.00000	19.45000	-1.9621	-0.80325	2.5816	-	-	-
		30.00000	11.00000	19.45000	-1.7969	-0.64346	2.2391	-	-	-
		31.00000	11.00000	19.45000	-1.5991	-0.50605	1.9047	-	-	-
		32.00000	11.00000	19.45000	-1.3742	-0.38671	1.5853	-	-	-
		33.00000	11.00000	19.45000	-1.1422	-0.28702	1.2856	-	-	-
		34.00000	11.00000	19.45000	-1.0020	-0.23055	1.0081	-	-	-
		35.00000	11.00000	19.45000	-0.84958	-0.18022	0.75277	-	-	-
		36.00000	11.00000	19.45000	-0.68688	-0.13511	0.51707	-	-	-
		37.00000	11.00000	19.45000	-0.51535	-0.094470	0.29598	-	-	-
		38.00000	11.00000	19.45000	-0.33620	-0.057693	0.081915	-	-	-
		39.00000	11.00000	19.45000	-0.15046	-0.024265	0.032422	-	-	-
		40.00000	11.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	12.00000	19.45000	1.2388	-0.45374	1.5535	-	-	-
		-9.00000	12.00000	19.45000	1.4242	-0.59049	1.8542	-	-	-
		-8.00000	12.00000	19.45000	1.5781	-0.74654	2.1654	-	-	-
		-7.00000	12.00000	19.45000	1.6948	-0.92598	2.4803	-	-	-
		-6.00000	12.00000	19.45000	1.7667	-1.1336	2.7901	-	-	-
		-5.00000	12.00000	19.45000	1.7843	-1.3748	3.0850	-	-	-
		-4.00000	12.00000	19.45000	1.7358	-1.6556	3.3540	-	-	-
		-3.00000	12.00000	19.45000	1.8334	-2.0601	3.6855	-	-	-
		-2.00000	12.00000	19.45000	2.0929	-2.5656	4.0837	-	-	-
		-1.00000	12.00000	19.45000	2.2856	-3.1476	4.6626	-	-	-
		0.00000	12.00000	19.45000	2.7126	-3.8184	5.4158	-	-	-
		1.00000	12.00000	19.45000	3.0600	-4.5389	6.1318	-	-	-
		2.00000	12.00000	19.45000	Point lies within an excavation.					
		3.00000	12.00000	19.45000	Point lies within an excavation.					
		4.00000	12.00000	19.45000	Point lies within an excavation.					
		5.00000	12.00000	19.45000	Point lies within an excavation.					
		6.00000	12.00000	19.45000	Point lies within an excavation.					
		7.00000	12.00000	19.45000	Point lies within an excavation.					

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		8.00000	12.00000	19.45000	Point lies within an excavation.					
		9.00000	12.00000	19.45000	Point lies within an excavation.					
		10.00000	12.00000	19.45000	Point lies within an excavation.					
		11.00000	12.00000	19.45000	Point lies within an excavation.					
		12.00000	12.00000	19.45000	Point lies within an excavation.					
		13.00000	12.00000	19.45000	Point lies within an excavation.					
		14.00000	12.00000	19.45000	Point lies within an excavation.					
		15.00000	12.00000	19.45000	Point lies within an excavation.					
		16.00000	12.00000	19.45000	Point lies within an excavation.					
		17.00000	12.00000	19.45000	Point lies within an excavation.					
		18.00000	12.00000	19.45000	Point lies within an excavation.					
		19.00000	12.00000	19.45000	Point lies within an excavation.					
		20.00000	12.00000	19.45000	Point lies within an excavation.					
		21.00000	12.00000	19.45000	Point lies within an excavation.					
		22.00000	12.00000	19.45000	Point lies within an excavation.					
		23.00000	12.00000	19.45000	-3.9229	-2.8601	5.5632	-	-	-
		24.00000	12.00000	19.45000	-3.3758	-2.3315	4.8392	-	-	-
		25.00000	12.00000	19.45000	-2.7522	-1.8782	4.0100	-	-	-
		26.00000	12.00000	19.45000	-2.3639	-1.5381	3.3940	-	-	-
		27.00000	12.00000	19.45000	-2.0095	-1.2739	2.9990	-	-	-
		28.00000	12.00000	19.45000	-1.7439	-1.0468	2.6674	-	-	-
		29.00000	12.00000	19.45000	-1.6531	-0.85111	2.3544	-	-	-
		30.00000	12.00000	19.45000	-1.5207	-0.68156	2.0401	-	-	-
		31.00000	12.00000	19.45000	-1.3536	-0.53367	1.7323	-	-	-
		32.00000	12.00000	19.45000	-1.1569	-0.40366	1.4374	-	-	-
		33.00000	12.00000	19.45000	-0.99993	-0.31318	1.1596	-	-	-
		34.00000	12.00000	19.45000	-0.87590	-0.25039	0.90082	-	-	-
		35.00000	12.00000	19.45000	-0.73859	-0.19408	0.66083	-	-	-
		36.00000	12.00000	19.45000	-0.58986	-0.14336	0.43692	-	-	-
		37.00000	12.00000	19.45000	-0.43129	-0.097464	0.22393	-	-	-
		38.00000	12.00000	19.45000	-0.26416	-0.055767	0.049327	-	-	-
		39.00000	12.00000	19.45000	-0.089576	-0.017739	0.022398	-	-	-
		40.00000	12.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	13.00000	19.45000	1.0191	-0.45203	1.3874	-	-	-
		-9.00000	13.00000	19.45000	1.1803	-0.59563	1.6624	-	-	-
		-8.00000	13.00000	19.45000	1.3091	-0.75731	1.9464	-	-	-
		-7.00000	13.00000	19.45000	1.4003	-0.94037	2.2330	-	-	-
		-6.00000	13.00000	19.45000	1.4478	-1.1484	2.5148	-	-	-
		-5.00000	13.00000	19.45000	1.4441	-1.3853	2.7830	-	-	-
		-4.00000	13.00000	19.45000	1.4334	-1.7074	3.0802	-	-	-
		-3.00000	13.00000	19.45000	1.5167	-2.1013	3.4018	-	-	-
		-2.00000	13.00000	19.45000	1.7814	-2.5640	3.7681	-	-	-
		-1.00000	13.00000	19.45000	1.9833	-3.0789	4.3070	-	-	-
		0.00000	13.00000	19.45000	2.4477	-3.6563	5.0263	-	-	-
		1.00000	13.00000	19.45000	2.8628	-4.2583	5.7298	-	-	-
		2.00000	13.00000	19.45000	Point lies within an excavation.					
		3.00000	13.00000	19.45000	Point lies within an excavation.					
		4.00000	13.00000	19.45000	Point lies within an excavation.					
		5.00000	13.00000	19.45000	Point lies within an excavation.					
		6.00000	13.00000	19.45000	Point lies within an excavation.					
		7.00000	13.00000	19.45000	Point lies within an excavation.					
		8.00000	13.00000	19.45000	Point lies within an excavation.					
		9.00000	13.00000	19.45000	Point lies within an excavation.					
		10.00000	13.00000	19.45000	Point lies within an excavation.					
		11.00000	13.00000	19.45000	Point lies within an excavation.					
		12.00000	13.00000	19.45000	Point lies within an excavation.					
		13.00000	13.00000	19.45000	Point lies within an excavation.					
		14.00000	13.00000	19.45000	Point lies within an excavation.					
		15.00000	13.00000	19.45000	Point lies within an excavation.					
		16.00000	13.00000	19.45000	Point lies within an excavation.					
		17.00000	13.00000	19.45000	Point lies within an excavation.					
		18.00000	13.00000	19.45000	Point lies within an excavation.					
		19.00000	13.00000	19.45000	Point lies within an excavation.					
		20.00000	13.00000	19.45000	Point lies within an excavation.					
		21.00000	13.00000	19.45000	Point lies within an excavation.					
		22.00000	13.00000	19.45000	Point lies within an excavation.					
		23.00000	13.00000	19.45000	-3.6449	-2.8232	5.2427	-	-	-
		24.00000	13.00000	19.45000	-3.0829	-2.3509	4.5433	-	-	-
		25.00000	13.00000	19.45000	-2.4596	-1.9324	3.7381	-	-	-
		26.00000	13.00000	19.45000	-2.0388	-1.5679	3.1013	-	-	-
		27.00000	13.00000	19.45000	-1.6773	-1.2869	2.7073	-	-	-
		28.00000	13.00000	19.45000	-1.4345	-1.0620	2.4032	-	-	-
		29.00000	13.00000	19.45000	-1.3687	-0.86436	2.1185	-	-	-
		30.00000	13.00000	19.45000	-1.2618	-0.69027	1.8321	-	-	-
		31.00000	13.00000	19.45000	-1.1195	-0.53619	1.5511	-	-	-
		32.00000	13.00000	19.45000	-0.95609	-0.40374	1.2809	-	-	-
		33.00000	13.00000	19.45000	-0.86253	-0.32849	1.0250	-	-	-
		34.00000	13.00000	19.45000	-0.75273	-0.26083	0.78511	-	-	-
		35.00000	13.00000	19.45000	-0.62890	-0.19976	0.56044	-	-	-
		36.00000	13.00000	19.45000	-0.49289	-0.14444	0.34804	-	-	-
		37.00000	13.00000	19.45000	-0.34627	-0.094140	0.14255	-	-	-
		38.00000	13.00000	19.45000	-0.19036	-0.048248	0.040102	-	-	-
		39.00000	13.00000	19.45000	-0.026285	-0.0062380	0.0092694	-	-	-
		40.00000	13.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	14.00000	19.45000	0.84011	-0.44481	1.2162	-	-	-
		-9.00000	14.00000	19.45000	0.95247	-0.57425	1.4662	-	-	-
		-8.00000	14.00000	19.45000	1.0619	-0.73772	1.7234	-	-	-
		-7.00000	14.00000	19.45000	1.1348	-0.91998	1.9825	-	-	-
		-6.00000	14.00000	19.45000	1.1663	-1.1236	2.2370	-	-	-
		-5.00000	14.00000	19.45000	1.1912	-1.3915	2.5132	-	-	-
		-4.00000	14.00000	19.45000	1.1853	-1.7070	2.7949	-	-	-
		-3.00000	14.00000	19.45000	1.2468	-2.0695	3.0875	-	-	-
		-2.00000	14.00000	19.45000	1.5222	-2.4872	3.4198	-	-	-
		-1.00000	14.00000	19.45000	1.7483	-2.9398	3.9186	-	-	-
		0.00000	14.00000	19.45000	2.2325	-3.4358	4.6092	-	-	-
		1.00000	14.00000	19.45000	2.7025	-3.9424	5.2890	-	-	-
		2.00000	14.00000	19.45000	Point lies within an excavation.					
		3.00000	14.00000	19.45000	Point lies within an excavation.					
		4.00000	14.00000	19.45000	Point lies within an excavation.					
		5.00000	14.00000	19.45000	Point lies within an excavation.					
		6.00000	14.00000	19.45000	Point lies within an excavation.					
		7.00000	14.00000	19.45000	Point lies within an excavation.					
		8.00000	14.00000	19.45000	Point lies within an excavation.					
		9.00000	14.00000	19.45000	Point lies within an excavation.					
		10.00000	14.00000	19.45000	Point lies within an excavation.					
		11.00000	14.00000	19.45000	Point lies within an excavation.					
		12.00000	14.00000	19.45000	Point lies within an excavation.					
		13.00000	14.00000	19.45000	Point lies within an excavation.					
		14.00000	14.00000	19.45000	Point lies within an excavation.					
		15.00000	14.00000	19.45000	Point lies within an excavation.					
		16.00000	14.00000	19.45000	Point lies within an excavation.					
		17.00000	14.00000	19.45000	Point lies within an excavation.					
		18.00000	14.00000	19.45000	Point lies within an excavation.					
		19.00000	14.00000	19.45000	Point lies within an excavation.					
		20.00000	14.00000	19.45000	Point lies within an excavation.					
		21.00000	14.00000	19.45000	Point lies within an excavation.					
		22.00000	14.00000	19.45000	Point lies within an excavation.					
		23.00000	14.00000	19.45000	-3.4209	-2.7125	4.8872	-	-	-
		24.00000	14.00000	19.45000	-2.8404	-2.2954	4.2151	-	-	-
		25.00000	14.00000	19.45000	-2.2107	-1.9156	3.4369	-	-	-
		26.00000	14.00000	19.45000	-1.7928	-1.5760	2.8265	-	-	-
		27.00000	14.00000	19.45000	-1.4072	-1.2763	2.4293	-	-	-
		28.00000	14.00000	19.45000	-1.1590	-1.0394	2.1362	-	-	-
		29.00000	14.00000	19.45000	-1.1104	-0.84465	1.8790	-	-	-
		30.00000	14.00000	19.45000	-1.0223	-0.67022	1.6199	-	-	-
		31.00000	14.00000	19.45000	-0.89940	-0.51355	1.3651	-	-	-
		32.00000	14.00000	19.45000	-0.81279	-0.41112	1.1191	-	-	-
		33.00000	14.00000	19.45000	-0.73168	-0.33260	0.88473	-	-	-
		34.00000	14.00000	19.45000	-0.63411	-0.26144	0.66308	-	-	-
		35.00000	14.00000	19.45000	-0.52212	-0.19679	0.45301	-	-	-
		36.00000	14.00000	19.45000	-0.39748	-0.13788	0.25120	-	-	-
		37.00000	14.00000	19.45000	-0.26170	-0.084035	0.052017	-	-	-
		38.00000	14.00000	19.45000	-0.11610	-0.034687	0.028663	-	-	-
		39.00000	14.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	14.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	15.00000	19.45000	0.70291	-0.44004	1.0431	-	-	-
		-9.00000	15.00000	19.45000	0.74746	-0.53149	1.2692	-	-	-
		-8.00000	15.00000	19.45000	0.83713	-0.68935	1.5008	-	-	-
		-7.00000	15.00000	19.45000	0.89765	-0.86755	1.7335	-	-	-
		-6.00000	15.00000	19.45000	0.95070	-1.0944	1.9828	-	-	-
		-5.00000	15.00000	19.45000	0.97844	-1.3573	2.2389	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		-4.00000	15.00000	19.45000	0.97103	-1.6507	2.4929	-	-	-
		-3.00000	15.00000	19.45000	1.0151	-1.9797	2.7546	-	-	-
		-2.00000	15.00000	19.45000	1.3041	-2.3536	3.0527	-	-	-
		-1.00000	15.00000	19.45000	1.5539	-2.7498	3.5106	-	-	-
		0.00000	15.00000	19.45000	2.0528	-3.1762	4.1546	-	-	-
		1.00000	15.00000	19.45000	2.5679	-3.6051	4.8276	-	-	-
		2.00000	15.00000	19.45000	Point lies within an excavation.					
		3.00000	15.00000	19.45000	Point lies within an excavation.					
		4.00000	15.00000	19.45000	Point lies within an excavation.					
		5.00000	15.00000	19.45000	Point lies within an excavation.					
		6.00000	15.00000	19.45000	Point lies within an excavation.					
		7.00000	15.00000	19.45000	Point lies within an excavation.					
		8.00000	15.00000	19.45000	Point lies within an excavation.					
		9.00000	15.00000	19.45000	Point lies within an excavation.					
		10.00000	15.00000	19.45000	Point lies within an excavation.					
		11.00000	15.00000	19.45000	Point lies within an excavation.					
		12.00000	15.00000	19.45000	Point lies within an excavation.					
		13.00000	15.00000	19.45000	Point lies within an excavation.					
		14.00000	15.00000	19.45000	Point lies within an excavation.					
		15.00000	15.00000	19.45000	Point lies within an excavation.					
		16.00000	15.00000	19.45000	Point lies within an excavation.					
		17.00000	15.00000	19.45000	Point lies within an excavation.					
		18.00000	15.00000	19.45000	Point lies within an excavation.					
		19.00000	15.00000	19.45000	Point lies within an excavation.					
		20.00000	15.00000	19.45000	Point lies within an excavation.					
		21.00000	15.00000	19.45000	Point lies within an excavation.					
		22.00000	15.00000	19.45000	Point lies within an excavation.					
		23.00000	15.00000	19.45000	-3.2381	-2.5479	4.5117	-	-	-
		24.00000	15.00000	19.45000	-2.6381	-2.1822	3.8678	-	-	-
		25.00000	15.00000	19.45000	-1.9986	-1.8414	3.1179	-	-	-
		26.00000	15.00000	19.45000	-1.5784	-1.5297	2.5357	-	-	-
		27.00000	15.00000	19.45000	-1.1964	-1.2486	2.1658	-	-	-
		28.00000	15.00000	19.45000	-0.93044	-0.99756	1.8809	-	-	-
		29.00000	15.00000	19.45000	-0.87786	-0.79424	1.6406	-	-	-
		30.00000	15.00000	19.45000	-0.80296	-0.62263	1.4077	-	-	-
		31.00000	15.00000	19.45000	-0.73211	-0.49388	1.1779	-	-	-
		32.00000	15.00000	19.45000	-0.67956	-0.40577	0.95492	-	-	-
		33.00000	15.00000	19.45000	-0.60859	-0.32543	0.74094	-	-	-
		34.00000	15.00000	19.45000	-0.52129	-0.25205	0.53634	-	-	-
		35.00000	15.00000	19.45000	-0.41950	-0.18492	0.33951	-	-	-
		36.00000	15.00000	19.45000	-0.30485	-0.12338	0.14674	-	-	-
		37.00000	15.00000	19.45000	-0.17876	-0.066832	0.040411	-	-	-
		38.00000	15.00000	19.45000	-0.042508	-0.014758	0.013731	-	-	-
		39.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	15.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	16.00000	19.45000	0.57725	-0.42234	0.87056	-	-	-
		-9.00000	16.00000	19.45000	0.61485	-0.51329	1.0744	-	-	-
		-8.00000	16.00000	19.45000	0.63404	-0.61405	1.2820	-	-	-
		-7.00000	16.00000	19.45000	0.71052	-0.80941	1.5022	-	-	-
		-6.00000	16.00000	19.45000	0.76509	-1.0322	1.7295	-	-	-
		-5.00000	16.00000	19.45000	0.79065	-1.2784	1.9581	-	-	-
		-4.00000	16.00000	19.45000	0.78532	-1.5480	2.1840	-	-	-
		-3.00000	16.00000	19.45000	0.79063	-1.8432	2.4102	-	-	-
		-2.00000	16.00000	19.45000	0.95850	-2.1776	2.6544	-	-	-
		-1.00000	16.00000	19.45000	1.0740	-2.5361	2.9880	-	-	-
		0.00000	16.00000	19.45000	1.3241	-2.9755	3.4358	-	-	-
		1.00000	16.00000	19.45000	1.2797	-3.6299	3.9209	-	-	-
		2.00000	16.00000	19.45000	0.12312	-5.8243	4.5619	-	-	-
		3.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		4.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		5.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		6.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		7.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		8.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		9.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		10.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		11.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		12.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		13.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		14.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		15.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		16.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		17.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		18.00000	16.00000	19.45000	0.0	-7.3915	5.2453	-	-	-
		19.00000	16.00000	19.45000	-0.017669	-5.9914	4.5965	-	-	-
		20.00000	16.00000	19.45000	-0.19218	-5.7061	4.5304	-	-	-
		21.00000	16.00000	19.45000	-0.35610	-5.3933	4.4241	-	-	-
		22.00000	16.00000	19.45000	-0.50097	-5.0668	4.2829	-	-	-
		23.00000	16.00000	19.45000	-1.2555	-3.2260	3.6553	-	-	-
		24.00000	16.00000	19.45000	-1.6472	-2.2507	3.1357	-	-	-
		25.00000	16.00000	19.45000	-1.3523	-1.7906	2.6028	-	-	-
		26.00000	16.00000	19.45000	-1.1383	-1.4647	2.1812	-	-	-
		27.00000	16.00000	19.45000	-0.91469	-1.1848	1.8858	-	-	-
		28.00000	16.00000	19.45000	-0.74663	-0.94034	1.6382	-	-	-
		29.00000	16.00000	19.45000	-0.68103	-0.72663	1.4125	-	-	-
		30.00000	16.00000	19.45000	-0.62776	-0.57160	1.1987	-	-	-
		31.00000	16.00000	19.45000	-0.60215	-0.47600	0.99225	-	-	-
		32.00000	16.00000	19.45000	-0.55693	-0.38804	0.79061	-	-	-
		33.00000	16.00000	19.45000	-0.49400	-0.30714	0.59523	-	-	-
		34.00000	16.00000	19.45000	-0.41515	-0.23268	0.40583	-	-	-
		35.00000	16.00000	19.45000	-0.32198	-0.16408	0.22028	-	-	-
		36.00000	16.00000	19.45000	-0.21596	-0.10081	0.047694	-	-	-
		37.00000	16.00000	19.45000	-0.098424	-0.042348	0.026952	-	-	-
		38.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	16.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	17.00000	19.45000	0.46316	-0.39236	0.70006	-	-	-
		-9.00000	17.00000	19.45000	0.49597	-0.48164	0.88381	-	-	-
		-8.00000	17.00000	19.45000	0.52705	-0.59494	1.0763	-	-	-
		-7.00000	17.00000	19.45000	0.54829	-0.72592	1.2750	-	-	-
		-6.00000	17.00000	19.45000	0.59819	-0.93289	1.4767	-	-	-
		-5.00000	17.00000	19.45000	0.62441	-1.1610	1.6786	-	-	-
		-4.00000	17.00000	19.45000	0.62352	-1.4066	1.8769	-	-	-
		-3.00000	17.00000	19.45000	0.59506	-1.6676	2.0673	-	-	-
		-2.00000	17.00000	19.45000	0.71253	-1.9881	2.2737	-	-	-
		-1.00000	17.00000	19.45000	0.75897	-2.3395	2.5205	-	-	-
		0.00000	17.00000	19.45000	0.73386	-2.7785	2.8196	-	-	-
		1.00000	17.00000	19.45000	0.53975	-3.5002	3.1530	-	-	-
		2.00000	17.00000	19.45000	0.097625	-4.7051	3.6519	-	-	-
		3.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		4.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		5.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		6.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		7.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		8.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		9.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		10.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		11.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		12.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		13.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		14.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		15.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		16.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		17.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		18.00000	17.00000	19.45000	0.0	-6.1117	4.1996	-	-	-
		19.00000	17.00000	19.45000	-0.014007	-4.8405	3.6788	-	-	-
		20.00000	17.00000	19.45000	-0.15242	-4.6084	3.6265	-	-	-
		21.00000	17.00000	19.45000	-0.28270	-4.3498	3.5387	-	-	-
		22.00000	17.00000	19.45000	-0.39821	-4.0755	3.4195	-	-	-
		23.00000	17.00000	19.45000	-0.66012	-3.0921	2.9378	-	-	-
		24.00000	17.00000	19.45000	-0.92046	-2.2267	2.5155	-	-	-
		25.00000	17.00000	19.45000	-0.91185	-1.7062	2.1590	-	-	-
		26.00000	17.00000	19.45000	-0.84276	-1.3701	1.8488	-	-	-
		27.00000	17.00000	19.45000	-0.68225	-1.0814	1.6100	-	-	-
		28.00000	17.00000	19.45000	-0.58032	-0.84670	1.3958	-	-	-
		29.00000	17.00000	19.45000	-0.54147	-0.67180	1.1950	-	-	-
		30.00000	17.00000	19.45000	-0.51472	-0.54652	0.99815	-	-	-
		31.00000	17.00000	19.45000	-0.48503	-0.44513	0.80996	-	-	-
		32.00000	17.00000	19.45000	-0.44508	-0.35847	0.62747	-	-	-
		33.00000	17.00000	19.45000	-0.38832	-0.27808	0.44838	-	-	-
		34.00000	17.00000	19.45000	-0.31624	-0.20351	0.27179	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		35.00000	17.00000	19.45000	-0.23022	-0.13435	0.094978	-	-	-
		36.00000	17.00000	19.45000	-0.13156	-0.070155	0.034761	-	-	-
		37.00000	17.00000	19.45000	-0.021440	-0.010516	0.0089288	-	-	-
		38.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	17.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	18.00000	19.45000	0.36042	-0.35083	0.53219	-	-	-
		-9.00000	18.00000	19.45000	0.40221	-0.44955	0.70207	-	-	-
		-8.00000	18.00000	19.45000	0.43486	-0.56232	0.87580	-	-	-
		-7.00000	18.00000	19.45000	0.45514	-0.68705	1.0522	-	-	-
		-6.00000	18.00000	19.45000	0.46236	-0.82381	1.2299	-	-	-
		-5.00000	18.00000	19.45000	0.47653	-1.0103	1.4065	-	-	-
		-4.00000	18.00000	19.45000	0.48157	-1.2325	1.5789	-	-	-
		-3.00000	18.00000	19.45000	0.46288	-1.4648	1.7433	-	-	-
		-2.00000	18.00000	19.45000	0.48724	-1.7380	1.9090	-	-	-
		-1.00000	18.00000	19.45000	0.50225	-2.0605	2.0750	-	-	-
		0.00000	18.00000	19.45000	0.43148	-2.4298	2.2683	-	-	-
		1.00000	18.00000	19.45000	0.27641	-2.8643	2.4665	-	-	-
		2.00000	18.00000	19.45000	0.076503	-3.5885	2.7257	-	-	-
		3.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		4.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		5.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		6.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		7.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		8.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		9.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		10.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		11.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		12.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		13.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		14.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		15.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		16.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		17.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		18.00000	18.00000	19.45000	0.0	-4.8408	3.1510	-	-	-
		19.00000	18.00000	19.45000	-0.0109076	-3.6977	2.7463	-	-	-
		20.00000	18.00000	19.45000	-0.11944	-3.5098	2.7055	-	-	-
		21.00000	18.00000	19.45000	-0.22151	-3.2965	2.6337	-	-	-
		22.00000	18.00000	19.45000	-0.31187	-3.0664	2.5341	-	-	-
		23.00000	18.00000	19.45000	-0.43592	-2.4179	2.2466	-	-	-
		24.00000	18.00000	19.45000	-0.57067	-1.9254	1.9995	-	-	-
		25.00000	18.00000	19.45000	-0.61329	-1.5210	1.7444	-	-	-
		26.00000	18.00000	19.45000	-0.57920	-1.2012	1.5311	-	-	-
		27.00000	18.00000	19.45000	-0.46782	-0.92478	1.3362	-	-	-
		28.00000	18.00000	19.45000	-0.46108	-0.76767	1.1588	-	-	-
		29.00000	18.00000	19.45000	-0.44856	-0.63571	0.98140	-	-	-
		30.00000	18.00000	19.45000	-0.42324	-0.51580	0.80593	-	-	-
		31.00000	18.00000	19.45000	-0.38586	-0.40772	0.63349	-	-	-
		32.00000	18.00000	19.45000	-0.34389	-0.31771	0.46587	-	-	-
		33.00000	18.00000	19.45000	-0.29168	-0.23869	0.30028	-	-	-
		34.00000	18.00000	19.45000	-0.22488	-0.16487	0.13357	-	-	-
		35.00000	18.00000	19.45000	-0.14467	-0.095917	0.038986	-	-	-
		36.00000	18.00000	19.45000	-0.052161	-0.031526	0.018003	-	-	-
		37.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	18.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	19.00000	19.45000	0.27619	-0.30612	0.36847	-	-	-
		-9.00000	19.00000	19.45000	0.31841	-0.40362	0.52425	-	-	-
		-8.00000	19.00000	19.45000	0.34991	-0.51108	0.68039	-	-	-
		-7.00000	19.00000	19.45000	0.37011	-0.62857	0.83691	-	-	-
		-6.00000	19.00000	19.45000	0.37853	-0.75587	0.99285	-	-	-
		-5.00000	19.00000	19.45000	0.37486	-0.89243	1.1464	-	-	-
		-4.00000	19.00000	19.45000	0.35902	-1.0372	1.2952	-	-	-
		-3.00000	19.00000	19.45000	0.34735	-1.2359	1.4360	-	-	-
		-2.00000	19.00000	19.45000	0.31917	-1.4443	1.5654	-	-	-
		-1.00000	19.00000	19.45000	0.31821	-1.7128	1.6936	-	-	-
		0.00000	19.00000	19.45000	0.27725	-2.0206	1.8100	-	-	-
		1.00000	19.00000	19.45000	0.18011	-2.3333	1.9160	-	-	-
		2.00000	19.00000	19.45000	0.058707	-2.7651	2.0194	-	-	-
		3.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		4.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		5.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		6.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		7.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		8.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		9.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		10.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		11.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		12.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		13.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		14.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		15.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		16.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		17.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		18.00000	19.00000	19.45000	0.0	-3.8679	2.3387	-	-	-
		19.00000	19.00000	19.45000	-0.0084247	-2.8521	2.0350	-	-	-
		20.00000	19.00000	19.45000	-0.091628	-2.7015	2.0035	-	-	-
		21.00000	19.00000	19.45000	-0.16969	-2.5267	1.9452	-	-	-
		22.00000	19.00000	19.45000	-0.23827	-2.3344	1.8628	-	-	-
		23.00000	19.00000	19.45000	-0.31368	-1.9063	1.7128	-	-	-
		24.00000	19.00000	19.45000	-0.38857	-1.5762	1.5621	-	-	-
		25.00000	19.00000	19.45000	-0.40750	-1.2519	1.4008	-	-	-
		26.00000	19.00000	19.45000	-0.37789	-0.99004	1.2411	-	-	-
		27.00000	19.00000	19.45000	-0.37779	-0.83675	1.0854	-	-	-
		28.00000	19.00000	19.45000	-0.37660	-0.70380	0.93064	-	-	-
		29.00000	19.00000	19.45000	-0.36342	-0.58038	0.77430	-	-	-
		30.00000	19.00000	19.45000	-0.33863	-0.46689	0.61787	-	-	-
		31.00000	19.00000	19.45000	-0.30277	-0.36344	0.46193	-	-	-
		32.00000	19.00000	19.45000	-0.25645	-0.26986	0.30607	-	-	-
		33.00000	19.00000	19.45000	-0.20399	-0.18953	0.14984	-	-	-
		34.00000	19.00000	19.45000	-0.14118	-0.11713	0.040561	-	-	-
		35.00000	19.00000	19.45000	-0.065573	-0.049063	0.022712	-	-	-
		36.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	19.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	20.00000	19.45000	0.19960	-0.24874	0.20476	-	-	-
		-9.00000	20.00000	19.45000	0.24056	-0.34165	0.34904	-	-	-
		-8.00000	20.00000	19.45000	0.27163	-0.44301	0.49074	-	-	-
		-7.00000	20.00000	19.45000	0.29239	-0.55264	0.63036	-	-	-
		-6.00000	20.00000	19.45000	0.30256	-0.67013	0.76752	-	-	-
		-5.00000	20.00000	19.45000	0.30198	-0.79474	0.90103	-	-	-
		-4.00000	20.00000	19.45000	0.29073	-0.92534	1.0290	-	-	-
		-3.00000	20.00000	19.45000	0.26914	-1.0603	1.1491	-	-	-
		-2.00000	20.00000	19.45000	0.23786	-1.1977	1.2585	-	-	-
		-1.00000	20.00000	19.45000	0.19925	-1.3419	1.3542	-	-	-
		0.00000	20.00000	19.45000	0.16351	-1.5369	1.4400	-	-	-
		1.00000	20.00000	19.45000	0.11267	-1.7573	1.5078	-	-	-
		2.00000	20.00000	19.45000	0.043472	-1.9834	1.5567	-	-	-
		3.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		4.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		5.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		6.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		7.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		8.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		9.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		10.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		11.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		12.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		13.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		14.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		15.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		16.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		17.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		18.00000	20.00000	19.45000	0.0	-2.9405	1.7882	-	-	-
		19.00000	20.00000	19.45000	-0.0062415	-2.0515	1.5684	-	-	-
		20.00000	20.00000	19.45000	-0.067801	-1.9329	1.5442	-	-	-
		21.00000	20.00000	19.45000	-0.12514	-1.7909	1.4972	-	-	-
		22.00000	20.00000	19.45000	-0.17465	-1.6313	1.4293	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	to x Axis
		23.00000	20.00000	19.45000	-0.21994	-1.3927	1.3339	-	-	-
		24.00000	20.00000	19.45000	-0.26182	-1.1974	1.2267	-	-	-
		25.00000	20.00000	19.45000	-0.27898	-1.0059	1.1022	-	-	-
		26.00000	20.00000	19.45000	-0.29649	-0.87247	0.97863	-	-	-
		27.00000	20.00000	19.45000	-0.30350	-0.74410	0.84817	-	-	-
		28.00000	20.00000	19.45000	-0.29978	-0.62223	0.71301	-	-	-
		29.00000	20.00000	19.45000	-0.28535	-0.50781	0.57477	-	-	-
		30.00000	20.00000	19.45000	-0.26041	-0.40146	0.43431	-	-	-
		31.00000	20.00000	19.45000	-0.22533	-0.30347	0.29170	-	-	-
		32.00000	20.00000	19.45000	-0.18055	-0.21393	0.14602	-	-	-
		33.00000	20.00000	19.45000	-0.12659	-0.13274	0.040439	-	-	-
		34.00000	20.00000	19.45000	-0.065080	-0.060766	0.024183	-	-	-
		35.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	20.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	21.00000	19.45000	0.12795	-0.17738	0.045707	-	-	-
		-9.00000	21.00000	19.45000	0.16825	-0.26505	0.17470	-	-	-
		-8.00000	21.00000	19.45000	0.19945	-0.35975	0.30571	-	-	-
		-7.00000	21.00000	19.45000	0.22127	-0.46117	0.43208	-	-	-
		-6.00000	21.00000	19.45000	0.23354	-0.56875	0.55399	-	-	-
		-5.00000	21.00000	19.45000	0.23625	-0.68165	0.67086	-	-	-
		-4.00000	21.00000	19.45000	0.22958	-0.79868	0.78145	-	-	-
		-3.00000	21.00000	19.45000	0.21390	-0.91829	0.88404	-	-	-
		-2.00000	21.00000	19.45000	0.18988	-1.0385	0.97654	-	-	-
		-1.00000	21.00000	19.45000	0.15844	-1.1570	1.0567	-	-	-
		0.00000	21.00000	19.45000	0.12077	-1.2711	1.1222	-	-	-
		1.00000	21.00000	19.45000	0.078330	-1.3777	1.1710	-	-	-
		2.00000	21.00000	19.45000	0.032776	-1.4736	1.2013	-	-	-
		3.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		4.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		5.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		6.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		7.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		8.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		9.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		10.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		11.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		12.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		13.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		14.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		15.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		16.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		17.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		18.00000	21.00000	19.45000	0.0	-2.2875	1.3638	-	-	-
		19.00000	21.00000	19.45000	-0.0046973	-1.5247	1.2100	-	-	-
		20.00000	21.00000	19.45000	-0.051258	-1.4367	1.1915	-	-	-
		21.00000	21.00000	19.45000	-0.095777	-1.3361	1.1536	-	-	-
		22.00000	21.00000	19.45000	-0.13650	-1.2262	1.0979	-	-	-
		23.00000	21.00000	19.45000	-0.17184	-1.1100	1.0263	-	-	-
		24.00000	21.00000	19.45000	-0.20044	-0.99050	0.94089	-	-	-
		25.00000	21.00000	19.45000	-0.22121	-0.87026	0.84409	-	-	-
		26.00000	21.00000	19.45000	-0.23335	-0.75147	0.73807	-	-	-
		27.00000	21.00000	19.45000	-0.23631	-0.63592	0.62478	-	-	-
		28.00000	21.00000	19.45000	-0.22978	-0.52503	0.50579	-	-	-
		29.00000	21.00000	19.45000	-0.21368	-0.41983	0.38206	-	-	-
		30.00000	21.00000	19.45000	-0.18808	-0.32104	0.25390	-	-	-
		31.00000	21.00000	19.45000	-0.15320	-0.22913	0.12079	-	-	-
		32.00000	21.00000	19.45000	-0.10936	-0.14433	0.040212	-	-	-
		33.00000	21.00000	19.45000	-0.056939	-0.066710	0.023937	-	-	-
		34.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	21.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	22.00000	19.45000	0.060949	-0.093173	0.028428	-	-	-
		-9.00000	22.00000	19.45000	0.10197	-0.17511	0.043087	-	-	-
		-8.00000	22.00000	19.45000	0.13283	-0.26283	0.12227	-	-	-
		-7.00000	22.00000	19.45000	0.15606	-0.35590	0.23954	-	-	-
		-6.00000	22.00000	19.45000	0.17068	-0.45365	0.35020	-	-	-
		-5.00000	22.00000	19.45000	0.17677	-0.55520	0.45427	-	-	-
		-4.00000	22.00000	19.45000	0.17457	-0.65935	0.55115	-	-	-
		-3.00000	22.00000	19.45000	0.16450	-0.76462	0.63975	-	-	-
		-2.00000	22.00000	19.45000	0.14719	-0.86919	0.71865	-	-	-
		-1.00000	22.00000	19.45000	0.12350	-0.97094	0.78623	-	-	-
		0.00000	22.00000	19.45000	0.094493	-1.0675	0.84083	-	-	-
		1.00000	22.00000	19.45000	0.061431	-1.1562	0.88091	-	-	-
		2.00000	22.00000	19.45000	0.025736	-1.2344	0.90517	-	-	-
		3.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		4.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		5.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		6.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		7.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		8.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		9.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		10.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		11.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		12.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		13.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		14.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		15.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		16.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		17.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		18.00000	22.00000	19.45000	0.0	-1.9125	1.0168	-	-	-
		19.00000	22.00000	19.45000	-0.0036892	-1.2751	0.91174	-	-	-
		20.00000	22.00000	19.45000	-0.040234	-1.2046	0.89743	-	-	-
		21.00000	22.00000	19.45000	-0.075054	-1.1218	0.86671	-	-	-
		22.00000	22.00000	19.45000	-0.10666	-1.0297	0.82065	-	-	-
		23.00000	22.00000	19.45000	-0.13368	-0.93073	0.76066	-	-	-
		24.00000	22.00000	19.45000	-0.15493	-0.82757	0.68836	-	-	-
		25.00000	22.00000	19.45000	-0.16944	-0.72249	0.60539	-	-	-
		26.00000	22.00000	19.45000	-0.17643	-0.61747	0.51332	-	-	-
		27.00000	22.00000	19.45000	-0.17535	-0.51420	0.41346	-	-	-
		28.00000	22.00000	19.45000	-0.16586	-0.41404	0.30672	-	-	-
		29.00000	22.00000	19.45000	-0.14780	-0.31807	0.19345	-	-	-
		30.00000	22.00000	19.45000	-0.12115	-0.22707	0.073370	-	-	-
		31.00000	22.00000	19.45000	-0.086014	-0.14163	0.037652	-	-	-
		32.00000	22.00000	19.45000	-0.042614	-0.062078	0.021264	-	-	-
		33.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	22.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	23.00000	19.45000	0.038627	-0.073070	0.022514	-	-	-
		-8.00000	23.00000	19.45000	0.071274	-0.15363	0.037718	-	-	-
		-7.00000	23.00000	19.45000	0.096150	-0.23833	0.049767	-	-	-
		-6.00000	23.00000	19.45000	0.11326	-0.32646	0.15185	-	-	-
		-5.00000	23.00000	19.45000	0.12275	-0.41711	0.24730	-	-	-
		-4.00000	23.00000	19.45000	0.12488	-0.50909	0.33440	-	-	-
		-3.00000	23.00000	19.45000	0.12009	-0.60102	0.41271	-	-	-
		-2.00000	23.00000	19.45000	0.10899	-0.69121	0.48140	-	-	-
		-1.00000	23.00000	19.45000	0.092350	-0.77778	0.53945	-	-	-
		0.00000	23.00000	19.45000	0.071133	-0.85860	0.58576	-	-	-
		1.00000	23.00000	19.45000	0.046441	-0.93141	0.61927	-	-	-
		2.00000	23.00000	19.45000	0.019499	-0.99385	0.63911	-	-	-
		3.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		4.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		5.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		6.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		7.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		8.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		9.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		10.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		11.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		12.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		13.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		14.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		15.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		16.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		17.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		18.00000	23.00000	19.45000	0.0	-1.5375	0.71571	-	-	-
		19.00000	23.00000	19.45000	-0.0027964	-1.0254	0.64419	-	-	-
		20.00000	23.00000	19.45000	-0.030463	-0.97027	0.63286	-	-	-
		21.00000	23.00000	19.45000	-0.056659	-0.90339	0.60747	-	-	-
		22.00000	23.00000	19.45000	-0.080102	-0.82710	0.56872	-	-	-
		23.00000	23.00000	19.45000	-0.099611	-0.74372	0.51758	-	-	-
		24.00000	23.00000	19.45000	-0.11414	-0.65546	0.45514	-	-	-
		25.00000	23.00000	19.45000	-0.12280	-0.56436	0.38249	-	-	-
		26.00000	23.00000	19.45000	-0.12489	-0.47222	0.30058	-	-	-
		27.00000	23.00000	19.45000	-0.11986	-0.38062	0.21011	-	-	-
		28.00000	23.00000	19.45000	-0.10734	-0.29085	0.11136	-	-	-
		29.00000	23.00000	19.45000	-0.087134	-0.20400	0.045191	-	-	-
		30.00000	23.00000	19.45000	-0.059144	-0.12088	0.032145	-	-	-
		31.00000	23.00000	19.45000	-0.023410	-0.042124	0.014986	-	-	-
		32.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	23.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	24.00000	19.45000	0.014304	-0.033386	0.011918	-	-	-
		-7.00000	24.00000	19.45000	0.040999	-0.10982	0.028489	-	-	-
		-6.00000	24.00000	19.45000	0.060679	-0.18861	0.041040	-	-	-
		-5.00000	24.00000	19.45000	0.073515	-0.26883	0.051247	-	-	-
		-4.00000	24.00000	19.45000	0.079805	-0.34936	0.12502	-	-	-
		-3.00000	24.00000	19.45000	0.079978	-0.42889	0.19684	-	-	-
		-2.00000	24.00000	19.45000	0.074608	-0.50588	0.25876	-	-	-
		-1.00000	24.00000	19.45000	0.064411	-0.57861	0.31031	-	-	-
		0.00000	24.00000	19.45000	0.050236	-0.64524	0.35087	-	-	-
		1.00000	24.00000	19.45000	0.033055	-0.70376	0.37982	-	-	-
		2.00000	24.00000	19.45000	0.013935	-0.75214	0.39663	-	-	-
		3.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		4.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		5.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		6.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		7.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		8.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		9.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		10.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		11.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		12.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		13.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		14.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		15.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		16.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		17.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		18.00000	24.00000	19.45000	0.0	-1.1625	0.45068	-	-	-
		19.00000	24.00000	19.45000	-0.00200000	-0.77545	0.40072	-	-	-
		20.00000	24.00000	19.45000	-0.021745	-0.73413	0.39139	-	-	-
		21.00000	24.00000	19.45000	-0.040222	-0.68145	0.36967	-	-	-
		22.00000	24.00000	19.45000	-0.056324	-0.61945	0.33601	-	-	-
		23.00000	24.00000	19.45000	-0.069018	-0.55014	0.29098	-	-	-
		24.00000	24.00000	19.45000	-0.077379	-0.47549	0.23521	-	-	-
		25.00000	24.00000	19.45000	-0.080610	-0.39729	0.16928	-	-	-
		26.00000	24.00000	19.45000	-0.078050	-0.31719	0.093590	-	-	-
		27.00000	24.00000	19.45000	-0.069186	-0.23664	0.047364	-	-	-
		28.00000	24.00000	19.45000	-0.053640	-0.15687	0.036380	-	-	-
		29.00000	24.00000	19.45000	-0.031169	-0.078921	0.022459	-	-	-
		30.00000	24.00000	19.45000	-0.0016435	-0.0036402	0.0036619	-	-	-
		31.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	24.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	25.00000	19.45000	0.012385	-0.041314	0.013144	-	-	-
		-5.00000	25.00000	19.45000	0.028496	-0.11162	0.027247	-	-	-
		-4.00000	25.00000	19.45000	0.038757	-0.18138	0.038067	-	-	-
		-3.00000	25.00000	19.45000	0.043586	-0.24938	0.046685	-	-	-
		-2.00000	25.00000	19.45000	0.043522	-0.31421	0.053772	-	-	-
		-1.00000	25.00000	19.45000	0.039217	-0.37433	0.090099	-	-	-
		0.00000	25.00000	19.45000	0.031433	-0.42808	0.12735	-	-	-
		1.00000	25.00000	19.45000	0.021030	-0.47371	0.15358	-	-	-
		2.00000	25.00000	19.45000	0.0089407	-0.50945	0.16854	-	-	-
		3.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		4.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		5.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		6.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		7.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		8.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		9.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		10.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		11.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		12.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		13.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		14.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		15.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		16.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		17.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		18.00000	25.00000	19.45000	0.0	-0.78750	0.20776	-	-	-
		19.00000	25.00000	19.45000	-0.0012853	-0.52540	0.17202	-	-	-
		20.00000	25.00000	19.45000	-0.013917	-0.49646	0.16392	-	-	-
		21.00000	25.00000	19.45000	-0.025448	-0.45654	0.14442	-	-	-
		22.00000	25.00000	19.45000	-0.034911	-0.40745	0.11375	-	-	-
		23.00000	25.00000	19.45000	-0.041401	-0.35095	0.072175	-	-	-
		24.00000	25.00000	19.45000	-0.044096	-0.28875	0.051092	-	-	-
		25.00000	25.00000	19.45000	-0.042275	-0.22248	0.043451	-	-	-
		26.00000	25.00000	19.45000	-0.035331	-0.15362	0.034054	-	-	-
		27.00000	25.00000	19.45000	-0.022774	-0.083497	0.022076	-	-	-
		28.00000	25.00000	19.45000	-0.0042305	-0.013287	0.0062482	-	-	-
		29.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	25.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	26.00000	19.45000	0.0012404	-0.0061812	0.0043280	-	-	-
		-3.00000	26.00000	19.45000	0.010434	-0.063452	0.016920	-	-	-
		-2.00000	26.00000	19.45000	0.015284	-0.11706	0.026455	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	to x Axis
		-1.00000	26.00000	19.45000	0.016386	-0.16563	0.033684	-	-	-
		0.00000	26.00000	19.45000	0.014427	-0.20766	0.039083	-	-	-
		1.00000	26.00000	19.45000	0.010169	-0.24161	0.042926	-	-	-
		2.00000	26.00000	19.45000	0.0044331	-0.26593	0.045341	-	-	-
		3.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		4.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		5.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		6.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		7.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		8.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		9.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		10.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		11.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		12.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		13.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		14.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		15.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		16.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		17.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		18.00000	26.00000	19.45000	0.0	-0.41250	0.068952	-	-	-
		19.00000	26.00000	19.45000	-640.35E-6	-0.27524	0.046118	-	-	-
		20.00000	26.00000	19.45000	-0.0068501	-0.25746	0.044543	-	-	-
		21.00000	26.00000	19.45000	-0.012097	-0.22910	0.041565	-	-	-
		22.00000	26.00000	19.45000	-0.015531	-0.19173	0.037121	-	-	-
		23.00000	26.00000	19.45000	-0.016353	-0.14690	0.031033	-	-	-
		24.00000	26.00000	19.45000	-0.013829	-0.096145	0.022953	-	-	-
		25.00000	26.00000	19.45000	-0.0073080	-0.040909	0.012303	-	-	-
		26.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	26.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	27.00000	19.45000	309.83E-6	-0.0077445	0.0046970	-	-	-
		2.00000	27.00000	19.45000	344.24E-6	-0.021684	0.0075659	-	-	-
		3.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		4.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		5.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		6.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		7.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		8.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		9.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		10.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		11.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		12.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		13.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		14.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		15.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		16.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		17.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		18.00000	27.00000	19.45000	0.0	-0.037500	0.012258	-	-	-
		19.00000	27.00000	19.45000	-55.390E-6	-0.024974	0.0081890	-	-	-
		20.00000	27.00000	19.45000	-438.59E-6	-0.017323	0.0066949	-	-	-
		21.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	27.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		9.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		10.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		11.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		12.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		13.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		14.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		15.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		16.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		17.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		18.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		19.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		20.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		21.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-

Type/No.		Coordinates			Displacements					Angle of Line to x Axis
Name	Dist.	x	y	z	x	y	z	Horizontal displacement	Horizontal displacement	
		38.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	28.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		9.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		10.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		11.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		12.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		13.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		14.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		15.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		16.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		17.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		18.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		19.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		20.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		21.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	29.00000	19.45000	0.0	0.0	0.0	-	-	-
		-10.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-9.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-8.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-7.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-6.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-5.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-4.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-3.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-2.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		-1.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		0.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		1.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		2.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		3.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		4.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		5.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		6.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		7.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		8.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		9.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		10.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		11.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		12.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		13.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		14.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		15.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		16.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		17.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		18.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		19.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		20.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		21.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		22.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		23.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		24.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		25.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		26.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		27.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		28.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		29.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		30.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		31.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		32.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		33.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		34.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		35.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		36.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		37.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		38.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		39.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
		40.00000	30.00000	19.45000	0.0	0.0	0.0	-	-	-
Line 1	Line 1	23.70000	15.95000	19.45000	-1.7150	-2.4228	3.3411	-2.7537	1.1084	76.633
	1.0381	23.94000	16.96000	19.45000	-0.93555	-2.2771	2.5620	-2.4317	0.38378	76.633
	2.0762	24.18000	17.97000	19.45000	-0.59215	-1.8550	1.9663	-1.9417	0.14725	76.633
	3.1144	24.42000	18.98000	19.45000	-0.40751	-1.4441	1.5009	-1.4992	0.062605	76.633
	4.1525	24.66000	19.99000	19.45000	-0.27438	-1.0634	1.1481	-1.0980	0.021108	76.633
	5.1906	24.90000	21.00000	19.45000	-0.21951	-0.88225	0.85422	-0.90910	0.0096037	76.633
	6.2287	25.14000	22.01000	19.45000	-0.17038	-0.70623	0.59073	-0.72648	0.0024987	76.633
	7.2669	25.38000	23.02000	19.45000	-0.12348	-0.52622	0.34814	-0.54051	-0.0015205	76.633
	8.3050	25.62000	24.03000	19.45000	-0.078451	-0.34284	0.11724	-0.35169	-0.0029346	76.633
	9.3431	25.86000	25.04000	19.45000	-0.035023	-0.15660	0.034426	-0.16045	-0.0021294	76.633
	10.381	26.10000	26.05000	19.45000	0.0	0.0	0.0	0.0	0.0	76.633
Line 2	Line 2	26.10000	26.10000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	1.3065	27.35000	25.72000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	2.6130	28.60000	25.34000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	3.9195	29.85000	24.96000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	5.2259	31.10000	24.58000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	6.5324	32.35000	24.20000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	7.8389	33.60000	23.82000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	9.1454	34.85000	23.44000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	10.452	36.10000	23.06000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	11.758	37.35000	22.68000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
	13.065	38.60000	22.30000	19.45000	0.0	0.0	0.0	0.0	0.0	343.09
Line 3	Line 3	38.60000	22.25000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	0.97015	38.36000	21.31000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	1.9403	38.12000	20.37000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	2.9105	37.88000	19.43000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	3.8806	37.64000	18.49000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	4.8508	37.40000	17.55000	19.45000	0.0	0.0	0.0	0.0	0.0	255.68
	5.8209	37.16000	16.61000	19.45000	-0.031971	-0.014727	0.011709	0.022179	-0.027334	255.68
	6.7911	36.92000	15.67000	19.45000	-0.13461	-0.055703	0.033645	0.087273	-0.11665	255.68
	7.7612	36.68000	14.73000	19.45000	-0.24324	-0.089563	0.049764	0.14695	-0.21352	255.68
	8.7314	36.44000	13.79000	19.45000	-0.35790	-0.11592	0.18398	0.20086	-0.31810	255.68
	9.7015	36.20000	12.85000	19.45000	-0.47850	-0.13444	0.32019	0.24863	-0.43037	255.68
Line 4	Line 4	36.20000	12.80000	19.45000	-0.48321	-0.13455	0.32468	0.43662	0.24690	166.07
	1.2879	34.95000	13.11000	19.45000	-0.62342	-0.20280	0.55978	0.55627	0.34690	166.07
	2.5757	33.70000	13.42000	19.45000	-0.73519	-0.28236	0.80264	0.64560	0.45102	166.07

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	3.8636	32.45000	13.73000	19.45000	-0.81480	-0.37440	1.0534	0.70072	0.55552	166.07
	5.1515	31.20000	14.04000	19.45000	-0.86263	-0.48269	1.3078	0.72108	0.67614	166.07
	6.4393	29.95000	14.35000	19.45000	-0.94822	-0.66489	1.5579	0.76030	0.87358	166.07
	7.7272	28.70000	14.66000	19.45000	-0.97051	-0.86998	1.7937	0.73256	1.0780	166.07
	9.0151	27.45000	14.97000	19.45000	-1.0191	-1.1333	2.0397	0.71639	1.3453	166.07
	10.303	26.20000	15.28000	19.45000	-1.4498	-1.4508	2.3649	1.0580	1.7571	166.07
	11.591	24.95000	15.59000	19.45000	-1.5696	-1.8048	2.7952	1.0890	2.1296	166.07
	12.879	23.70000	15.90000	19.45000	-1.7729	-2.4042	3.3754	1.1420	2.7603	166.07
Line 5	Line 5	26.60000	-6.65000	19.00000	-1.8396	1.3689	3.1298	0.83313	2.1363	74.650
	1.0577	26.88000	-5.63000	19.00000	-2.2363	1.2263	3.3389	0.59056	2.4812	74.650
	2.1155	27.16000	-4.61000	19.00000	-2.6512	1.0360	3.5138	0.29718	2.8309	74.650
	3.1732	27.44000	-3.59000	19.00000	-3.0648	0.80778	3.6463	-0.032347	3.1693	74.650
	4.2309	27.72000	-2.57000	19.00000	-3.4534	0.55625	3.7291	-0.37775	3.4774	74.650
	5.2887	28.00000	-1.55000	19.00000	-3.7921	0.29868	3.7560	-0.71581	3.7359	74.650
Line 6	Line 6	28.00000	-1.50000	19.00000	-3.8122	0.28710	3.7619	-3.7810	-0.56490	347.20
	0.45122	28.44000	-1.60000	19.00000	-3.6090	0.28094	3.5517	-3.5815	-0.52589	347.20
	0.90244	28.88000	-1.70000	19.00000	-3.4108	0.27326	3.3427	-3.3865	-0.48943	347.20
	1.3537	29.32000	-1.80000	19.00000	-3.2168	0.26429	3.1358	-3.1954	-0.45520	347.20
	1.8049	29.76000	-1.90000	19.00000	-3.0268	0.25422	2.9320	-3.0078	-0.42290	347.20
	2.2561	30.20000	-2.00000	19.00000	-2.8402	0.24318	2.7321	-2.8234	-0.39231	347.20
Line 7	Line 7	30.20000	-1.95000	19.00000	-2.8537	0.23638	2.7368	-0.65552	2.7874	72.031
	0.77795	30.44000	-1.21000	19.00000	-2.9514	0.12533	2.6910	-0.79131	2.8461	72.031
	1.5559	30.68000	-0.47000	19.00000	-3.0164	0.022270	2.6217	-0.90939	2.8761	72.031
	2.3338	30.92000	0.27000	19.00000	-4.1307	0.0	2.9780	-1.2744	3.9293	72.031
	3.1118	31.16000	1.01000	19.00000	-3.9960	0.0	2.8474	-1.2328	3.8011	72.031
	3.8897	31.40000	1.75000	19.00000	-3.8617	0.0	2.7194	-1.1913	3.6733	72.031
Line 8	Line 8	31.40000	1.80000	19.00000	-3.8617	0.0	2.7194	-3.7500	-0.92212	346.18
	0.62817	32.01000	1.65000	19.00000	-3.5218	0.0	2.4060	-3.4199	-0.84096	346.18
	1.2563	32.62000	1.50000	19.00000	-3.1837	0.0	2.1112	-3.0916	-0.76022	346.18
	1.8845	33.23000	1.35000	19.00000	-2.8467	0.0	1.8359	-2.7644	-0.67977	346.18
	2.5127	33.84000	1.20000	19.00000	-2.5104	0.0	1.5806	-2.4378	-0.59946	346.18
	3.1409	34.45000	1.05000	19.00000	-2.2687	0.0	1.3453	-2.2031	-0.54175	346.18
	3.7690	35.06000	0.90000	19.00000	-2.0400	0.0	1.1292	-1.9810	-0.48713	346.18
	4.3972	35.67000	0.75000	19.00000	-1.8112	0.0	0.93131	-1.7589	-0.43250	346.18
	5.0254	36.28000	0.60000	19.00000	-1.5825	0.0	0.74970	-1.5367	-0.37788	346.18
	5.6535	36.89000	0.45000	19.00000	-1.3538	0.0	0.58211	-1.3146	-0.32326	346.18
	6.2817	37.50000	0.30000	19.00000	-1.1250	0.0	0.42566	-1.0925	-0.26864	346.18
Line 9	Line 9	37.50000	0.25000	19.00000	-1.1250	0.0	0.42566	0.29501	-1.0856	254.80
	0.95336	37.25000	-0.67000	19.00000	-0.80250	0.0078122	0.43472	0.20290	-0.77647	254.80
	1.9067	37.00000	-1.59000	19.00000	-0.81856	0.029335	0.48235	0.18634	-0.79760	254.80
	2.8601	36.75000	-2.51000	19.00000	-0.81868	0.053135	0.51877	0.16341	-0.80396	254.80
	3.8134	36.50000	-3.43000	19.00000	-0.80419	0.078233	0.54337	0.13539	-0.79656	254.80
	4.7668	36.25000	-4.35000	19.00000	-0.77663	0.10357	0.55571	0.10371	-0.77661	254.80
	5.7202	36.00000	-5.27000	19.00000	-0.73773	0.12804	0.55563	0.069893	-0.74549	254.80
	6.6735	35.75000	-6.19000	19.00000	-0.68934	0.15053	0.54321	0.035500	-0.70470	254.80
	7.6269	35.50000	-7.11000	19.00000	-0.63340	0.16996	0.51880	0.0020836	-0.65580	254.80
	8.5803	35.25000	-8.03000	19.00000	-0.57180	0.18529	0.48295	-0.028859	-0.60038	254.80
	9.5336	35.00000	-8.95000	19.00000	-0.50644	0.19558	0.43636	-0.055935	-0.54000	254.80
Line 10	Line 10	35.00000	-9.00000	19.00000	-0.50123	0.19513	0.43078	0.53497	-0.055838	164.69
	0.87092	34.16000	-8.77000	19.00000	-0.62054	0.25082	0.63242	0.66475	-0.078042	164.69
	1.7418	33.32000	-8.54000	19.00000	-0.73450	0.30933	0.84774	0.79012	-0.10438	164.69
	2.6128	32.48000	-8.31000	19.00000	-0.84228	0.37109	1.0796	0.91038	-0.13548	164.69
	3.4837	31.64000	-8.08000	19.00000	-0.95270	0.44191	1.3293	1.0356	-0.17463	164.69
	4.3546	30.80000	-7.85000	19.00000	-1.1390	0.56507	1.5971	1.2478	-0.24422	164.69
	5.2255	29.96000	-7.62000	19.00000	-1.3121	0.69738	1.8815	1.4497	-0.32611	164.69
	6.0964	29.12000	-7.39000	19.00000	-1.4702	0.84107	2.1801	1.6402	-0.42294	164.69
	6.9674	28.28000	-7.16000	19.00000	-1.6106	0.99885	2.4888	1.8172	-0.53806	164.69
	7.8383	27.44000	-6.93000	19.00000	-1.7293	1.1741	2.8026	1.9780	-0.67573	164.69
	8.7092	26.60000	-6.70000	19.00000	-1.8210	1.3710	3.1149	2.1184	-0.84143	164.69

Specific Building Damage Results - Horizontal Displacements

Structure: 5 Upper Terrace | Sub-structure: North Wall

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	23.70000	15.95000	19.45000	-1.7150	-2.4228	-2.7537	1.1084
1.0381	23.94000	16.96000	19.45000	-0.93555	-2.2771	-2.4317	0.38378
2.0762	24.18000	17.97000	19.45000	-0.59215	-1.8550	-1.9417	0.14725
3.1144	24.42000	18.98000	19.45000	-0.40751	-1.4441	-1.4992	0.062605
4.1525	24.66000	19.99000	19.45000	-0.27438	-1.0634	-1.0980	0.021108
5.1906	24.90000	21.00000	19.45000	-0.21951	-0.88225	-0.90910	0.0096037
6.2287	25.14000	22.01000	19.45000	-0.17038	-0.70623	-0.72648	0.0024987
7.2669	25.38000	23.02000	19.45000	-0.12348	-0.52622	-0.54051	-0.0015205
8.3050	25.62000	24.03000	19.45000	-0.078451	-0.34284	-0.35169	-0.0029346
9.3431	25.86000	25.04000	19.45000	-0.035023	-0.15660	-0.16045	-0.0021294
10.381	26.10000	26.05000	19.45000	0.0	0.0	0.0	0.0

Structure: 5 Upper Terrace | Sub-structure: East Wall

Dist.	Coordinates x	y	z	x	y	Displacements Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.10000	26.10000	19.45000	0.0	0.0	0.0	0.0
1.3065	27.35000	25.72000	19.45000	0.0	0.0	0.0	0.0
2.6130	28.60000	25.34000	19.45000	0.0	0.0	0.0	0.0
3.9195	29.85000	24.96000	19.45000	0.0	0.0	0.0	0.0
5.2259	31.10000	24.58000	19.45000	0.0	0.0	0.0	0.0
6.5324	32.35000	24.20000	19.45000	0.0	0.0	0.0	0.0
7.8389	33.60000	23.82000	19.45000	0.0	0.0	0.0	0.0
9.1454	34.85000	23.44000	19.45000	0.0	0.0	0.0	0.0
10.452	36.10000	23.06000	19.45000	0.0	0.0	0.0	0.0
11.758	37.35000	22.68000	19.45000	0.0	0.0	0.0	0.0
13.065	38.60000	22.30000	19.45000	0.0	0.0	0.0	0.0

Structure: 5 Upper Terrace | Sub-structure: South Wall

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	38.60000	22.25000	19.45000	0.0	0.0	0.0	0.0
0.97015	38.36000	21.31000	19.45000	0.0	0.0	0.0	0.0
1.9403	38.12000	20.37000	19.45000	0.0	0.0	0.0	0.0
2.9105	37.88000	19.43000	19.45000	0.0	0.0	0.0	0.0
3.8806	37.64000	18.49000	19.45000	0.0	0.0	0.0	0.0
4.8508	37.40000	17.55000	19.45000	0.0	0.0	0.0	0.0
5.8209	37.16000	16.61000	19.45000	-0.031971	-0.014727	0.022179	-0.027334
6.7911	36.92000	15.67000	19.45000	-0.13461	-0.055703	0.087273	-0.11665
7.7612	36.68000	14.73000	19.45000	-0.24324	-0.089563	0.14695	-0.21352
8.7314	36.44000	13.79000	19.45000	-0.35790	-0.11592	0.20086	-0.31810
9.7015	36.20000	12.85000	19.45000	-0.47850	-0.13444	0.24863	-0.43037

Structure: 5 Upper Terrace | Sub-structure: West Wall

Dist.	Coordinates x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	36.20000	12.80000	19.45000	-0.48321	-0.13455	0.43662	0.24690
1.2879	34.95000	13.11000	19.45000	-0.62342	-0.20280	0.55627	0.34690
2.5757	33.70000	13.42000	19.45000	-0.73519	-0.28236	0.64560	0.45102

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the	Horizontal displacement perpendicular
3.8636	32.45000	13.73000	19.45000	-0.81480	-0.37440	0.70072	0.55952
5.1515	31.20000	14.04000	19.45000	-0.86263	-0.48269	0.72108	0.67614
6.4393	29.95000	14.35000	19.45000	-0.94822	-0.66489	0.76030	0.87358
7.7272	28.70000	14.66000	19.45000	-0.97051	-0.86998	0.73256	1.0780
9.0151	27.45000	14.97000	19.45000	-1.0191	-1.1333	0.71639	1.3453
10.303	26.20000	15.28000	19.45000	-1.4498	-1.4508	1.0580	1.7571
11.591	24.95000	15.59000	19.45000	-1.5696	-1.8048	1.0890	2.1296
12.879	23.70000	15.90000	19.45000	-1.7729	-2.4042	1.1420	2.7603

Structure: 6 Branch Hill | Sub-structure: North 1

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	26.60000	-6.65000	19.00000	-1.8396	1.3689	0.83313	2.1363
1.0577	26.88000	-5.63000	19.00000	-2.2363	1.2263	0.59056	2.4812
2.1155	27.16000	-4.61000	19.00000	-2.6512	1.0360	0.29718	2.8309
3.1732	27.44000	-3.59000	19.00000	-3.0648	0.80778	-0.032347	3.1693
4.2309	27.72000	-2.57000	19.00000	-3.4534	0.55625	-0.37775	3.4774
5.2887	28.00000	-1.55000	19.00000	-3.7921	0.29868	-0.71581	3.7359

Structure: 6 Branch Hill | Sub-structure: East 1

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	28.00000	-1.50000	19.00000	-3.8122	0.28710	-3.7810	-0.56490
0.45122	28.44000	-1.60000	19.00000	-3.6090	0.28094	-3.5815	-0.52589
0.90244	28.88000	-1.70000	19.00000	-3.4108	0.27326	-3.3865	-0.48943
1.3537	29.32000	-1.80000	19.00000	-3.2168	0.26429	-3.1954	-0.45520
1.8049	29.76000	-1.90000	19.00000	-3.0268	0.25422	-3.0078	-0.42290
2.2561	30.20000	-2.00000	19.00000	-2.8402	0.24318	-2.8234	-0.39231

Structure: 6 Branch Hill | Sub-structure: North 2

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	30.20000	-1.95000	19.00000	-2.8537	0.23638	-0.65552	2.7874
0.77795	30.44000	-1.21000	19.00000	-2.9514	0.12533	-0.79131	2.8461
1.5559	30.68000	-0.47000	19.00000	-3.0164	0.022270	-0.90939	2.8761
2.3338	30.92000	0.27000	19.00000	-4.1307	0.0	-1.2744	3.9293
3.1118	31.16000	1.01000	19.00000	-3.9960	0.0	-1.2328	3.8011
3.8897	31.40000	1.75000	19.00000	-3.8617	0.0	-1.1913	3.6733

Structure: 6 Branch Hill | Sub-structure: East 2

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	31.40000	1.80000	19.00000	-3.8617	0.0	-3.7500	-0.92212
0.62817	32.01000	1.65000	19.00000	-3.5218	0.0	-3.4199	-0.84096
1.2563	32.62000	1.50000	19.00000	-3.1837	0.0	-3.0916	-0.76022
1.8845	33.23000	1.35000	19.00000	-2.8467	0.0	-2.7644	-0.67977
2.5127	33.84000	1.20000	19.00000	-2.5104	0.0	-2.4378	-0.59946
3.1409	34.45000	1.05000	19.00000	-2.2687	0.0	-2.2031	-0.54175
3.7690	35.06000	0.90000	19.00000	-2.0400	0.0	-1.9810	-0.48713
4.3972	35.67000	0.75000	19.00000	-1.8112	0.0	-1.7589	-0.43250
5.0254	36.28000	0.60000	19.00000	-1.5825	0.0	-1.5367	-0.37788
5.6535	36.89000	0.45000	19.00000	-1.3538	0.0	-1.3146	-0.32326
6.2817	37.50000	0.30000	19.00000	-1.1250	0.0	-1.0925	-0.26864

Structure: 6 Branch Hill | Sub-structure: South

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	37.50000	0.25000	19.00000	-1.1250	0.0	0.29501	-1.0856
0.95336	37.25000	-0.67000	19.00000	-0.80250	0.0078122	0.20290	-0.77647
1.9067	37.00000	-1.59000	19.00000	-0.81856	0.029335	0.18634	-0.79760
2.8601	36.75000	-2.51000	19.00000	-0.81868	0.053135	0.16341	-0.80396
3.8134	36.50000	-3.43000	19.00000	-0.80419	0.078233	0.13539	-0.79656
4.7668	36.25000	-4.35000	19.00000	-0.77663	0.10357	0.10371	-0.77661
5.7202	36.00000	-5.27000	19.00000	-0.73773	0.12804	0.069893	-0.74549
6.6735	35.75000	-6.19000	19.00000	-0.68934	0.15053	0.035500	-0.70470
7.6269	35.50000	-7.11000	19.00000	-0.63340	0.16996	0.0020836	-0.65580
8.5803	35.25000	-8.03000	19.00000	-0.57180	0.18529	-0.028859	-0.60038
9.5336	35.00000	-8.95000	19.00000	-0.50644	0.19558	-0.055935	-0.54000

Structure: 6 Branch Hill | Sub-structure: West

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]
0.0	35.00000	-9.00000	19.00000	-0.50123	0.19513	0.53497	-0.055838
0.87092	34.16000	-8.77000	19.00000	-0.62054	0.25082	0.66475	-0.078042
1.7418	33.32000	-8.54000	19.00000	-0.73450	0.30933	0.79012	-0.10438
2.6128	32.48000	-8.31000	19.00000	-0.84228	0.37109	0.91038	-0.13548
3.4837	31.64000	-8.08000	19.00000	-0.95270	0.44191	1.0356	-0.17463
4.3546	30.80000	-7.85000	19.00000	-1.1390	0.56507	1.2478	-0.24422
5.2255	29.96000	-7.62000	19.00000	-1.3121	0.69738	1.4497	-0.32611
6.0964	29.12000	-7.39000	19.00000	-1.4702	0.84107	1.6402	-0.42294
6.9674	28.28000	-7.16000	19.00000	-1.6106	0.99885	1.8172	-0.53806
7.8383	27.44000	-6.93000	19.00000	-1.7293	1.1741	1.9780	-0.67573
8.7092	26.60000	-6.70000	19.00000	-1.8210	1.3710	2.1184	-0.84143

Specific Building Damage Results - Vertical Displacements

Structure: 5 Upper Terrace | Sub-structure: North Wall

Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	23.70000	15.95000	19.45000	3.3411
1.0381	23.94000	16.96000	19.45000	2.5620
2.0762	24.18000	17.97000	19.45000	1.9663
3.1144	24.42000	18.98000	19.45000	1.5009
4.1525	24.66000	19.99000	19.45000	1.1481
5.1906	24.90000	21.00000	19.45000	0.85422
6.2287	25.14000	22.01000	19.45000	0.59073
7.2669	25.38000	23.02000	19.45000	0.34814

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
8.3050	25.62000	24.03000	19.45000	0.11724
9.3431	25.86000	25.04000	19.45000	0.034426
10.381	26.10000	26.05000	19.45000	0.0

Structure: 5 Upper Terrace | Sub-structure: East Wall

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	26.10000	26.10000	19.45000	0.0
1.3065	27.35000	25.72000	19.45000	0.0
2.6130	28.60000	25.34000	19.45000	0.0
3.9195	29.85000	24.96000	19.45000	0.0
5.2259	31.10000	24.58000	19.45000	0.0
6.5324	32.35000	24.20000	19.45000	0.0
7.8389	33.60000	23.82000	19.45000	0.0
9.1454	34.85000	23.44000	19.45000	0.0
10.452	36.10000	23.06000	19.45000	0.0
11.758	37.35000	22.68000	19.45000	0.0
13.065	38.60000	22.30000	19.45000	0.0

Structure: 5 Upper Terrace | Sub-structure: South Wall

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	38.60000	22.25000	19.45000	0.0
0.97015	38.36000	21.31000	19.45000	0.0
1.9403	38.12000	20.37000	19.45000	0.0
2.9105	37.88000	19.43000	19.45000	0.0
3.8806	37.64000	18.49000	19.45000	0.0
4.8508	37.40000	17.55000	19.45000	0.0
5.8209	37.16000	16.61000	19.45000	0.011709
6.7911	36.92000	15.67000	19.45000	0.033645
7.7612	36.68000	14.73000	19.45000	0.049764
8.7314	36.44000	13.79000	19.45000	0.18398
9.7015	36.20000	12.85000	19.45000	0.32019

Structure: 5 Upper Terrace | Sub-structure: West Wall

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	36.20000	12.80000	19.45000	0.32468
1.2879	34.95000	13.11000	19.45000	0.55978
2.5757	33.70000	13.42000	19.45000	0.80264
3.8636	32.45000	13.73000	19.45000	1.0534
5.1515	31.20000	14.04000	19.45000	1.3078
6.4393	29.95000	14.35000	19.45000	1.5579
7.7272	28.70000	14.66000	19.45000	1.7937
9.0151	27.45000	14.97000	19.45000	2.0397
10.303	26.20000	15.28000	19.45000	2.3649
11.591	24.95000	15.59000	19.45000	2.7952
12.879	23.70000	15.90000	19.45000	3.3754

Structure: 6 Branch Hill | Sub-structure: North 1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	26.60000	-6.65000	19.00000	3.1298
1.0577	26.88000	-5.63000	19.00000	3.3389
2.1155	27.16000	-4.61000	19.00000	3.5138
3.1732	27.44000	-3.59000	19.00000	3.6463
4.2309	27.72000	-2.57000	19.00000	3.7291
5.2887	28.00000	-1.55000	19.00000	3.7560

Structure: 6 Branch Hill | Sub-structure: East 1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	28.00000	-1.50000	19.00000	3.7619
0.45122	28.44000	-1.60000	19.00000	3.5517
0.90244	28.88000	-1.70000	19.00000	3.3427
1.3537	29.32000	-1.80000	19.00000	3.1358
1.8049	29.76000	-1.90000	19.00000	2.9320
2.2561	30.20000	-2.00000	19.00000	2.7321

Structure: 6 Branch Hill | Sub-structure: North 2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	30.20000	-1.95000	19.00000	2.7368
0.77795	30.44000	-1.21000	19.00000	2.6910
1.5559	30.68000	-0.47000	19.00000	2.6217
2.3338	30.92000	0.27000	19.00000	2.9780
3.1118	31.16000	1.01000	19.00000	2.8474
3.8897	31.40000	1.75000	19.00000	2.7194

Structure: 6 Branch Hill | Sub-structure: East 2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	31.40000	1.80000	19.00000	2.7194
0.62817	32.01000	1.65000	19.00000	2.4060
1.2563	32.62000	1.50000	19.00000	2.1112
1.8845	33.23000	1.35000	19.00000	1.8359
2.5127	33.84000	1.20000	19.00000	1.5806
3.1409	34.45000	1.05000	19.00000	1.3453
3.7690	35.06000	0.90000	19.00000	1.1292
4.3972	35.67000	0.75000	19.00000	0.93131
5.0254	36.28000	0.60000	19.00000	0.74970
5.6535	36.89000	0.45000	19.00000	0.58211
6.2817	37.50000	0.30000	19.00000	0.42566

Structure: 6 Branch Hill | Sub-structure: South

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	37.50000	0.25000	19.00000	0.42566
0.95336	37.25000	-0.67000	19.00000	0.43472

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
1.9067	37.00000	-1.59000	19.00000	0.48235
2.8601	36.75000	-2.51000	19.00000	0.51877
3.8134	36.50000	-3.43000	19.00000	0.54337
4.7668	36.25000	-4.35000	19.00000	0.55571
5.7202	36.00000	-5.27000	19.00000	0.55563
6.6735	35.75000	-6.19000	19.00000	0.54321
7.6269	35.50000	-7.11000	19.00000	0.51880
8.5803	35.25000	-8.03000	19.00000	0.48295
9.5336	35.00000	-8.95000	19.00000	0.43636

Structure: 6 Branch Hill | Sub-structure: West

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	35.00000	-9.00000	19.00000	0.43078
0.87092	34.16000	-8.77000	19.00000	0.63242
1.7418	33.32000	-8.54000	19.00000	0.84774
2.6128	32.48000	-8.31000	19.00000	1.0796
3.4837	31.64000	-8.08000	19.00000	1.3293
4.3546	30.80000	-7.85000	19.00000	1.5971
5.2255	29.96000	-7.62000	19.00000	1.8815
6.0964	29.12000	-7.39000	19.00000	2.1801
6.9674	28.28000	-7.16000	19.00000	2.4888
7.8383	27.44000	-6.93000	19.00000	2.8026
8.7092	26.60000	-6.70000	19.00000	3.1149

Specific Building Damage Results - All Segments

Structure: 5 Upper Terrace | Sub-structure: North Wall

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	8.3050	Hogging	0.0075893	0.028922	0.032842	-471.78E-6	750.24E-6	5483.2	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: East Wall

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: South Wall

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	8.7314	0.49270	None	0.0	0.0049243	0.0049243	-55.560E-6	-140.40E-6	31096.	0 (Negligible)
	2	9.2241	0.42591	Hogging	0.0	0.0049243	0.0049243	-49.240E-6	-140.40E-6	35972.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 5 Upper Terrace | Sub-structure: West Wall

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.3293	Hogging	238.10E-6	0.0062704	0.0063359	-92.898E-6	-197.50E-6	212490.	0 (Negligible)
	2	4.3293	2.3808	Sagging	125.39E-6	0.0019482	0.0019861	-30.450E-6	-197.50E-6	293000.	0 (Negligible)
	3	6.7101	6.0899	Hogging	0.0043332	0.0063110	0.0082262	-265.19E-6	-450.45E-6	9964.9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: North 1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	5.2000	Sagging	0.0026102	-0.029242	0.0060267	326.66E-6	-197.72E-6	18513.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: East 1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.2000	Hogging	354.98E-6	0.042484	0.042530	-441.85E-6	465.66E-6	45579.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: North 2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.47017	Sagging	0.0	-0.017455	0.0034911	174.58E-6	58.946E-6	4457.2	0 (Negligible)
	2	0.47017	1.3850	Hogging	0.0090474	-0.022542	0.0072519	469.37E-6	-458.18E-6	6809.3	0 (Negligible)
	3	1.8552	1.5927	Sagging	0.013086	-0.010364	0.010297	469.37E-6	-458.18E-6	4441.8	0 (Negligible)
	4	3.4479	0.35207	None	0.0	0.0053275	0.0053275	-53.272E-6	164.58E-6	5146.2	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: East 2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	6.2000	Hogging	0.0035837	0.042397	0.043693	-525.15E-6	498.60E-6	19876.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: South

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.9871	Hogging	976.96E-6	-0.0055660	0.0012527	96.623E-6	-49.961E-6	17814.	0 (Negligible)
	2	1.9871	7.5129	Sagging	0.0012470	-0.0031864	955.76E-6	36.077E-6	48.872E-6	73548.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: 6 Branch Hill | Sub-structure: West

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	7.8879	Hogging	0.0019858	0.018395	0.019301	-243.58E-6	-360.15E-6	43003.	0 (Negligible)
	2	7.8879	0.81206	Sagging	0.0	0.016130	0.016130	-161.28E-6	-358.54E-6	253130.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: 5 Upper Terrace | Sub-structure: North Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0075893	0.028922	750.24E-6	3.3411	0.032842	-471.78E-6	750.24E-6	5483.2	-	0 (Negligible)

Structure: 5 Upper Terrace | Sub-structure: East Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Structure: 5 Upper Terrace | Sub-structure: South Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0049243	-140.40E-6	0.31295	0.0049243	-55.560E-6	-140.40E-6	35972.	-	0 (Negligible)

Structure: 5 Upper Terrace | Sub-structure: West Wall

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0043332	0.0063110	-450.45E-6	3.3399	0.0082262	-265.19E-6	-450.45E-6	9964.9	293000.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: North 1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0026102	-0.029242	-197.72E-6	3.7537	0.0060267	326.66E-6	-197.72E-6	-	18513.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: East 1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	354.98E-6	0.042484	465.66E-6	3.7619	0.042530	-441.85E-6	465.66E-6	45579.	-	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: North 2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.013086	-0.022542	-458.18E-6	2.9773	0.010297	469.37E-6	-458.18E-6	6809.3	4441.8	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: East 2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	

Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0035837	0.042397	498.60E-6	2.7194	0.043693	-525.15E-6	498.60E-6	19876.	-	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: South

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0012470	-0.0055660	-49.961E-6	0.55571	0.0012527	96.623E-6	-49.961E-6	17814.	73548.	0 (Negligible)

Structure: 6 Branch Hill | Sub-structure: West

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0019858	0.018395	-360.15E-6	3.1116	0.019301	-243.58E-6	-360.15E-6	43003.	253130.	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
				[m]	[m]			[mm]	[%]	[m]	[m]	
5 Upper Terrace	Max Slope	North Wall	1	0.0	8.3050	Hogging	**750.24E-6**	3.3411	0.032842	5483.2	-	0 (Negligible)
	Max Settlement	North Wall	1	0.0	8.3050	Hogging	750.24E-6	**3.3411**	0.032842	5483.2	-	0 (Negligible)
	Max Tensile Strain	North Wall	1	0.0	8.3050	Hogging	750.24E-6	3.3411	**0.032842**	5483.2	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	North Wall	1	0.0	8.3050	Hogging	750.24E-6	3.3411	0.032842	**5483.2**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	West Wall	2	4.3293	6.7101	Sagging	197.50E-6	1.6075	0.0019861	-	**293000.**	0 (Negligible)
6 Branch Hill	Max Slope	East 2	1	0.0	6.2000	Hogging	**498.60E-6**	2.7194	0.043693	19876.	-	0 (Negligible)
	Max Settlement	East 1	1	0.0	2.2000	Hogging	465.66E-6	**3.7619**	0.042530	45579.	-	0 (Negligible)
	Max Tensile Strain	East 2	1	0.0	6.2000	Hogging	498.60E-6	2.7194	**0.043693**	19876.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	North 2	2	0.47017	1.8552	Hogging	458.18E-6	2.7588	0.0072519	**6809.3**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	North 2	3	1.8552	3.4479	Sagging	458.18E-6	2.9773	0.010297	-	**4441.8**	0 (Negligible)

Geotechnical & Environmental Associates (GEA)
is an engineer-led and client-focused independent specialist providing a complete range of geotechnical and contaminated land investigation, analytical and consultancy services to the property and construction industries.

We have offices at

Widbury Barn
Widbury Hill
Ware
Hertfordshire
SG12 7QE
tel 01727 824666
mail@gea-ltd.co.uk

Church Farm
Gotham Road
Kingston on Soar
Notts
NG11 0DE
tel 01509 674888
midlands@gea-ltd.co.uk

Enquiries can also be made on-line at

www.gea-ltd.co.uk

where information can be found on all of the services that we offer.

GEA

APPENDIX F - STRUCTURAL DESIGN & CONSTRUCTION STATEMENT

SINCLAIRJOHNSTON

STRUCTURAL DESIGN & CONSTRUCTION STATEMENT FOR JUDGE'S LODGE, 7 BRANCH HILL, NW3

Sinclair Johnston & Partners
93 Great Suffolk Street
London
SE1 0BX
T: 020 7593 1900

Project reference: 7922

Document reference: 7922/SDCS/TM/Rev A

Date: April 2013

Revised: April 18 (Section 73) by: Ilias Stypas BEng MSc

INDEX

1. INTRODUCTION

1.1 This Structural Design & Construction Statement is issued as an amendment to a previous report issued in conjunction with original Planning Application ref. 2013/4187/P of April 2013, as part of the current Section 73 application submitted by Marek Wojciechowski Architects for the proposed residential redevelopment at 7 Branch Hill, NW3 7LT.

1.2 This report outlines the existing site conditions and describes the proposed structural scheme and development. The envisaged construction sequence and methodology are detailed in drawings and in the statement, to make sure the proposed works are carried out in a way to minimise disruption and provide adequate and safe support to the existing adjoining structures in the temporary condition during the construction works as well as in the permanent condition.

1.3 In Appendix C a drawing has been included to highlight the change of the latest proposed scheme from that of the above original application, as part of the present Section 73 application. The present application relates to a basement of much reduced extent and area.

1.4 This report should be read with Sinclair Johnston & Partners Basement Impact Assessment (BIA) report, reference 7922/BIA/IS/Rev A.

2. EXISTING SITE

2.1 The site address is 7 Branch Hill, London, NW3 7LT and is located at National Grid Reference 526100 186125.

2.2 A plan showing the existing site is provided in Appendix A.

2.3 Directions left and right in plan on the drawing are taken as though standing on Branch Hill, looking towards the existing property to the East.

2.4 The site comprises:

- An approximate rectangular shaped site of plan dimensions approximately 20m x 22m.
- An existing three storey residential house constructed in the late 1980's and arranged over ground, first and second floor.
- The first and second floors to the house are situated to the rear of the site with the ground floor comprising almost the full site footprint leaving a small gravel courtyard, approximately 70 sq. m, to the front right hand corner of the site.
- The house is set into the ground with the rear and flank walls of the house are being retaining walls supporting approximately 6 m of ground in the worst case.

- A raised garden area, approximately 150 sq. m, is built over the ground floor structure across the front of the site and comprises a small grass lawn, perimeter planting containing bushes and trees, a small water feature and timber decked patio extending across the full front elevation.
- The site is bounded to the Northeast by communal gardens to properties on Upper Terrace Lodge's garden, to the Southeast by 6 Branch Hill's garden, to the Southwest by Branch Hill highway and the Northwest by Judge's Walk public right of way and open heathland. 5 Upper Terrace is located close to the North East site boundary.
- Access onto site is off Branch Hill through an existing motorised gate directly onto the small gravel courtyard described above.

2.5 The following description of the existing structure is provided from record drawings and a non-intrusive visual inspection without recourse to opening up works or other investigation. No assurances are given that areas that are inaccessible or covered are free from defect.

2.6 Photographs of the existing site are given in Appendix B

2.7 The existing structure of the house comprises:

- A steel framed structure above ground comprising internal concrete floors and a timber flat roof.
- Fully glazed front elevation.
- Reinforced concrete retaining walls constructed against steelwork sheet piles to the rear and flank walls.
- Reinforced concrete ground floor slab supported on mass concrete fill.
- Reinforced concrete swimming pool structure at lower ground floor.
- Reinforced concrete 'box' to a single storey ground floor section with garden over forming garage and plantroom spaces to the north/west side of the site.

2.8 The existing house is in poor conditions and repair and has aged badly. The following visible building defects were noted at the time of the visual inspection:

- Severe damp and water ingress through the existing retaining structures.
- Severe damage to existing steel coatings and corrosion of steel within the pool area.
- Numerous cold bridges via steelwork projecting through the external cladding to external environment.
- Glass main staircase with minimal slip resistance and distracting visual appearance.
- Poor floor to ceiling heights creating poor living spaces.
- Failure of window seals and roof coverings allowing water ingress.
- Weathering of the coatings to external steel and subsequent corrosion of steelwork.

3. SITE GROUND CONDITIONS

3.1 The following is a brief description of the existing site ground conditions. For detailed information, reference should be made to GEA Ltd's site investigation report reference J13022, included in the Basement Impact Assessment document 7922/BIA/IS/Rev A. The existing site conditions and construction have not changed or been altered since the initial planning application ref. 2013/4187/P of April 2013.

3.2 The site ground profile comprises a varying thickness of made ground overlying the Bagshot Formation (sands and clayey gravels) proven to a maximum depth of 16m below existing highway level.

3.3 Ground water was monitored at approximately 11m below existing highway level.

3.4 The ground investigation found elevated concentrations of poly-aromatic hydrocarbons (PAH) and sulphide within the made ground. All made ground is to be taken off site to a licensed tip and is classified as non-hazardous under waste code 17 05 04. The natural ground is classified as inert also under waster code 17 05 04. As all made ground is to be taken off site and disposed of, no further remediation is considered necessary.

4. PROPOSED DEVELOPMENT

4.1 The description of the proposed development given below is provided to give context to the following sections of the report. For a detailed description of the various disciplines proposals reference should be made to the various reports submitted with the planning application.

4.2 The proposed development comprises:

- Demolition of the existing house and retention of existing retaining walls to all earth sides.
- Construction of a two-storey private dwelling above ground level (road level).
- Construction of a single storey lower ground space (approximately 1.5m below ground / street level), comprising leisure facilities and a swimming pool over a deeper level space occupied by a plant-room and a car lift-pit.
- Installation of a green roof.
- Reinstatement of raised garden and landscaping to the front of the site.

5. STRUCTURAL PROPOSALS

5.1 DESCRIPTION OF STRUCTURE

5.1.1 Drawings describing the structural proposals are provided in Appendix C.

5.1.2 The structural works can be divided into sub-structure (structures below ground) and super-structure (structures above ground).

5.1.3 The sub-structure comprises:

- Retention of the existing reinforced concrete retaining walls to be used as temporary earth support during the proposed works.
- New reinforced concrete underpinning to the existing rear and flank retaining walls.
- New reinforced concrete box basement structure with contiguous piled embedded retaining walls, to support the earth in the temporary and permanent condition.
- Piled foundations supporting vertical loads and resisting horizontal forces exerted onto the proposed building by the retained earth.

5.1.4 The super-structure to the main house is to comprise:

- Reinforced concrete floors slabs supported on reinforced concrete columns and walls.
- Steel roof structure with concrete slabs cast on permanent metal decking.
- Cladding is to be non-load bearing brickwork with glazing.

5.1.5 Although the extent and layout of the proposed basement has been reduced in comparison with that proposed as part of the original planning application, the envisaged scope and sequence of works will not be altered as much and a similar approach will be adopted for the construction of the scheme currently proposed.

5.2 STRUCTURAL DESIGN

5.2.1 The proposed structure is to be designed to comply with The Building Regulations 2015.

5.2.2. The following current design documents are to be used to complete the structural design:

BS EN 1990	Code of practice for basis of structural design.
BS EN 1991	Code of practice for actions.
BS 8002:1994	Code of practice for earth retaining structures.
BS 8004:1996	Code of practice for foundations.
BS EN 1997	Code of practice for geotechnical design.

BS EN 1995	Code of practice for structural use of timber.
BS EN 1996	Code of practice for use of reinforced and unreinforced masonry, including lateral loading.
BS EN 1994	Code of practice for design of composite steel and concrete structures.
BS EN 1993	Code of practice for design of steel structures.
BS 8110-1:1997	Structural use of concrete. Code of practice for design and construction.
BS EN 1992	Code of practice for design of concrete structures.

5.3 STRUCTURAL STABILITY

5.3.1 Sliding of the new building due to lateral pressures resulting from the retained earth, surcharge loads and hypothetical transient hydrostatic pressures are to be resisted by the pile foundations.

5.3.2 Lateral loads due to wind and notional horizontal loads are to be resisted by reinforced concrete shear walls running through the height of the building. The steel roof frames are to be portalised.

5.3.3 The observed ground water level is some 6m below the proposed basement formation level. However, flotation due to a hypothetical raised ground water level, or minor heave forces, are to be resisted by a combination of the self-weight of the building and the piled foundations.

5.4 PREDICTED STRUCTURAL DAMAGE TO NEIGHBOURING PROPERTY

5.4.1 As highlighted in previous sections and Appendix C, the lower ground level space currently proposed has been significantly reduced in size from the basement space that had been proposed in the original planning application ref. 2013/4187/P of April 2013.

5.4.2 A study and prediction of the likely soil strains and resulting structural damage to all neighbouring properties had originally been undertaken by Geotechnical & Environmental Associates Limited (GEA) via a Finite Elements analysis, the results of which were included in the Ground Movement Assessment Report that formed part of the documents submitted by Sinclair Johnston in support to the original planning application of April 2013. As part of the present Section 73 planning application, and to take into account the reduced scope of works and excavations, a new analysis has been carried out and the original Basement Impact Assessment report amended and included (7922/BIA/IS/Rev A).

5.4.3 CIRIA C760 has been cautiously used to model the installation and excavations of the proposed scheme. C760 provides guidance on possible ground movements due to excavation and construction of embedded retaining walls within clay ground. The ground at 7 Branch Hill, as

outlined in Section 3 of this report, is not clay. Nor is it proposed to adopt embedded retaining walls to the rear of the site. However, given that there is no readily available published data for comparable ground conditions and form of construction the use of the procedures and guidance set out in CIRIA C760 is considered good practice in this instance. The values calculated are considered to be conservative.

5.4.4 The category of damage, as classified under Burland et al. (1981), anticipated from the proposed construction of the new lower ground and basement structures is expected to be that of “Category 0”(negligible), as had been already anticipated for the larger basement footprint of the previously submitted scheme (referenced to in the Ground Movement Assessment report prepared in March 2016 as part of the Section 106 application).

5.4.5 The Contractor will be required to monitor ground movements during the works to ensure that movements are within defined acceptable limits. Refer to drawing 7922/P007 in Appendix C.

6. PARTY WALL MATTERS

6.1 The works comprise the excavation for a new single storey basement and formation of new foundations adjacent to the site boundaries and within close proximity to 5 Upper Terrace. Full procedures under The Party Wall etc Act 1996 are therefore required.

6.2 The structural scheme adopted has been designed with due regard to maintaining the structural stability and integrity of neighbouring buildings & structures and surrounding land. The structural form of the basement and the method of construction have been developed to ensure that lateral deflections, and associated ground movements, are kept within acceptable limits.

7. CONSTRUCTION METHODOLOGY

7.1 CONSTRUCTION SEQUENCE

7.1.1 The proposed sequence of works given below has been assumed for the purposes of undertaking the structural design of the building and is provided to demonstrate that the works can be executed with due regard to the local amenity. The sequence of works should be read in accordance with the drawings provided in Appendix C.

7.1.2 Proposed Sequence of Works

a) Soft strip to be undertaken including removal of landscaping. Any further investigations into the existing structure to be completed.

b) Front wall to be demolished allow safe construction vehicle access on and off site. Site traffic control measures on Branch Hill are to be set up.

c) Demolition of upper ground level existing structures to be undertaken. Temporary lateral propping, in the form of waling beams, props and corner bracing to be provided to support the existing retaining walls prior to demolition of existing ground level slab structures. Refer to drawing 7922/P05 included in Appendix C.

d) Monitoring points to be installed and base line readings taken. Regular monitoring to be undertaken throughout the works. Refer to drawing 7922/P07 included in Appendix C.

e) Existing retaining walls to be underpinned in reinforced concrete underpinning using a traditional 1,3,5,2,4 sequence to level of new ground slab.

f) Existing ground floor slab to be demolished, and pile positions to be probed.

g) Contiguous piled wall all-round the single-storey basement and internal piles to be constructed.

h) Excavation for single storey basement to be undertaken. Propping to head of contiguous piled walls to be installed as works proceed. Phasing of the development is to be planned so as to maximise on site construction vehicle parking. Temporary slab over car lift void to be installed as necessary.

i) Props to be moved only as agreed between the Engineer and Contractor to allow works to proceed.

j) Construction of the reinforced concrete basement structure to progress as the excavation proceeds.

k) Once reinforced concrete basement structure and ground floor raft slab is complete, above ground reinforced concrete structure to be constructed.

l) Temporary lateral propping is only to be removed once vertical lateral stability elements have been constructed and are tied to slabs.

m) Once the reinforced concrete above ground structure is completed up to second floor the steel roof structure is to be installed using mobile crane.

n) Roof timber decking to be installed and green roof laid over.

o) The structure is then complete.

7.2 CONSTRUCTION GENERALLY

7.2.1 The works are required to be undertaken in accordance with all statutory legislation relating to construction works.

7.2.2 The Contractor will be required to demonstrate a positive attitude and commitment toward minimising environmental disturbance to local residents and will be required to be registered with the Considerate Contractors Scheme.

7.2.3 Noise, dust and vibration will be controlled by employing Best Practicable Means (BPM) as prescribed in the following legislative documents and the approved code of practice BS 5228:

The Control of Pollution Act 1972
The Health & Safety at Work Act 1974
The Environmental Protection Act 1990
Construction (Design and Management) Regulations 2015
The Clean Air Act 1993

7.2.4 General measures to be adopted by the Contractor to reduce noise, dust and vibration include:

- Erection of site hoarding to act as minor acoustic screen.
- Use of super silenced plant where feasible.
- Use of well-maintained modern plant.
- Site operatives to be well trained to ensure that noise minimisation and BPM's are implemented.
- Effective noise and vibration monitoring to be implemented.
- Reducing the need to adopt percussive and vibrating machinery.
- Bored piling techniques to be adopted to reduce piling induced vibration.
- Piles to be broken down using non-percussive techniques.
- Vehicles not to be left idling.
- Vehicles to be washed and cleaned effectively before leaving site.
- All loads entering and leaving the site to be covered.

- Measures to be adopted to prevent site runoff of water or mud.
- Water to be used as a dust suppressant.
- Cutting equipment to use water as suppressant or suitable local exhaust ventilation system.
- Skips to be covered.
- Drop heights to be minimised during deconstruction.
- Use of agreed wet cleaning methods or mechanical road sweepers on all roads around site.
- Set up and monitor effective site monitoring of dust emissions.
- Working hours to be restricted as required by the Local Auhtority.

7.2.5 The Contractor is to install monitoring points on the existing retained concrete retaining walls, as shown on drawings within Appendix C, and regular movement monitoring to be undertaken.

7.3 DEMOLITION

7.3.1 The proposals comprise the demolition of the existing structure. The demolition works will be required to undertaken in accordance with the legislative documents stated in section 7.2 and, as stated in Camden Planning Guidance CPG4 Section 2.83, Contractors are to adopt the practices outlined within the ICE Demolition Protocol in order to mitigate the impact of the works.

7.3.2 Demolition of the existing suspended concrete slabs will be undertaken using a 'clean' deconstruction method to reduce noise, dust and vibration. Slabs are to be cut into manageable sections using a wet saw or stitch drilling method. A scaffold safety deck will be constructed under each floor prior to demolition.

7.3.3 Concrete within the ground will be demolished using hydraulic, non-percussive techniques to reduce noise, dust and vibration.

7.3.4 The steel frame will be deconstructed by loosening the existing connections, dismantling the steel frame and flame cutting the steel elements into manageable sections for transportation offsite.

7.3.5 Where practical demolition material should be taken to recycling plants.

7.4 CONSTRUCTION

7.4.1 The Contractor will be required to be registered with the Considerate Contractor scheme.

7.4.2 Impacts on the local amenity will be strictly controlled and managed by the Contractor.

7.4.3 Working hours will be restricted as required by the Local Authority.

7.4.4 The Contractor will be required to provide a Construction Management Plan prior to undertaking the works. The contents of this plan must be agreed with the Local Authority and complied with unless otherwise agreed with the Council.

7.4.5 The Contractor will be required to provide a Site Waste Management Plan describing how site waste is to be minimised and dealt with.

7.4.6 Ground water is well below the proposed basement formation level. Therefore, ground water will not be significant during execution.

7.4.7 The existing retaining walls are to be retained during the works to support the existing ground. Temporary works will be required to support these walls once the existing building is demolished. Refer to drawing 7922/P005 in Appendix C for details.

7.5 CONSTRUCTION TRAFFIC MANAGEMENT

7.5.1 The Contractor will be required to develop a Construction Traffic Management Plan for submission and agreement with the Local Authority. This Traffic Management Plan is to be in accordance with Camden Planning Guidance 6 Section 8.

7.5.2 The following have been considered at the planning stage to mitigate the impacts on the local highways and highway safety.

7.5.3 As the local roads are quite narrow and steep in places, with on street parking and several one way systems in the vicinity of Heath Street, traffic movements to and from site are to be strictly controlled and managed by the Contractor.

7.5.4 Site traffic coming to site can be routed from Heath Street (A502) onto West Heath Road and left onto Branch Hill. Vehicles would reverse into the site so that vehicles are not required to

park on the street. Vehicles leaving site would drive off site turning right onto Branch Hill, right back onto West Heath Road and then onto Heath Street (A502).

7.5.5 Traffic movements are to be scheduled to avoid periods of heavy traffic such as mornings and evenings. All deliveries are to be agreed with the Contractor in advance. Any unscheduled deliveries will be turned away.

7.5.6 Banksmen are to be provided for all site vehicle movements, one located on the top of Branch Hill and one lower down Branch Hill to control traffic movements on and off site, to ensure pedestrian and highway user safety and to ensure congestion is minimised.

7.5.7 Vehicle sizes should be suitable for the local highway widths.

8. CONCLUSIONS

8.1 The structural proposals and construction methodology for the redevelopment at 7 Branch Hill have been developed with due regard to the existing site constraints, the site-specific and local ground conditions, the local amenity and the highways.

8.2 The ground conditions are well understood, have been researched in a site specific ground investigation and have been modelled and analysed by geotechnical engineers at GEA Ltd. (report reference J13022 included in the Basement Impact Assessment).

8.3 Ground water has been monitored well below the formation level of the proposed basement. Ground water is therefore not to be significant during construction. Dewatering of the site is not required.

8.3 The structure has been designed to maintain the stability and integrity of the surrounding land and neighbouring buildings, structures and below ground services.

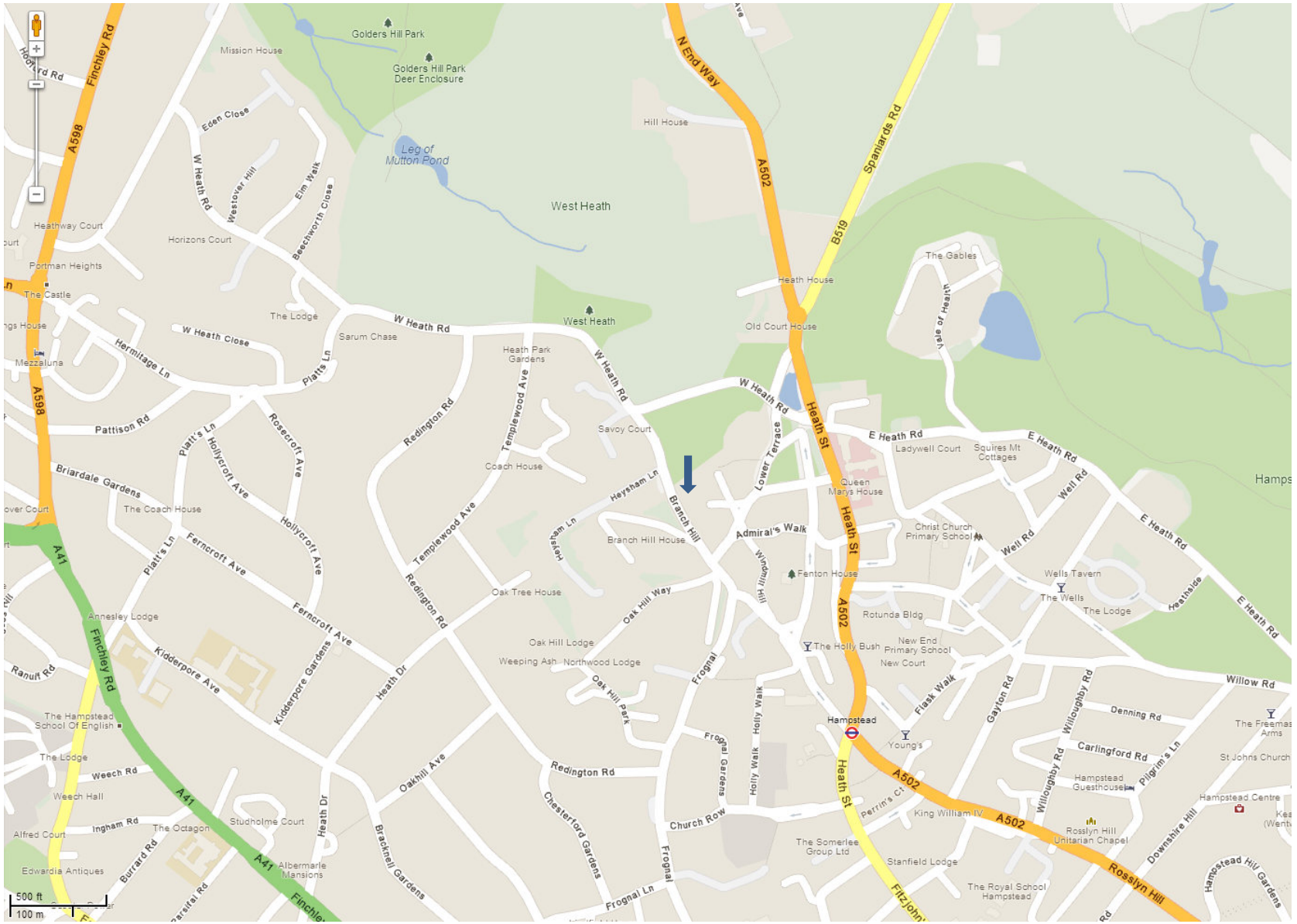
8.4 Anticipated ground movements associated with the works can be limited to acceptable values by a combination of the proposed structure and suitably designed temporary works. Refer to GEA's "Ground Movement Assessment Report" reference J13022-A included in the Basement Impact Assessment Report (document reference Document reference 7922/BIA/IS/Rev A).

8.5 This report demonstrates that by adopting good construction practices the works can be executed in a safe manner while minimising the impact on adjoining properties and the local amenity.

8.6 The use of onsite vehicle parking is to be maximised to ensure that vehicles do not block Branch Hill.

8.7 The present Section 73 application relates to a reduced footprint and proposed basement works. Overall, the required excavations to form the proposed one level below-ground structure is minimised as the resulting levels are in essence very close to those of the existing building and the ground conditions will not be altered considerably. The revised extent of alterations and the reduced size of the basement have been modelled and incorporated in the '*Ground Movement Assessment'* report and revised Basement Impact Assessment, prepared by GEA Ltd as included by Sinclair Johnston & Partners in support to the Section 73 application.

APPENDIX A - SITE PLAN



Site Location Map: 7 Branch Hill, NW3 7LT

APPENDIX B - EXISTING PHOTOGRAPHS

Photo 1: View South Down Branch Hill

Photo 2: View North Up Branch Hill

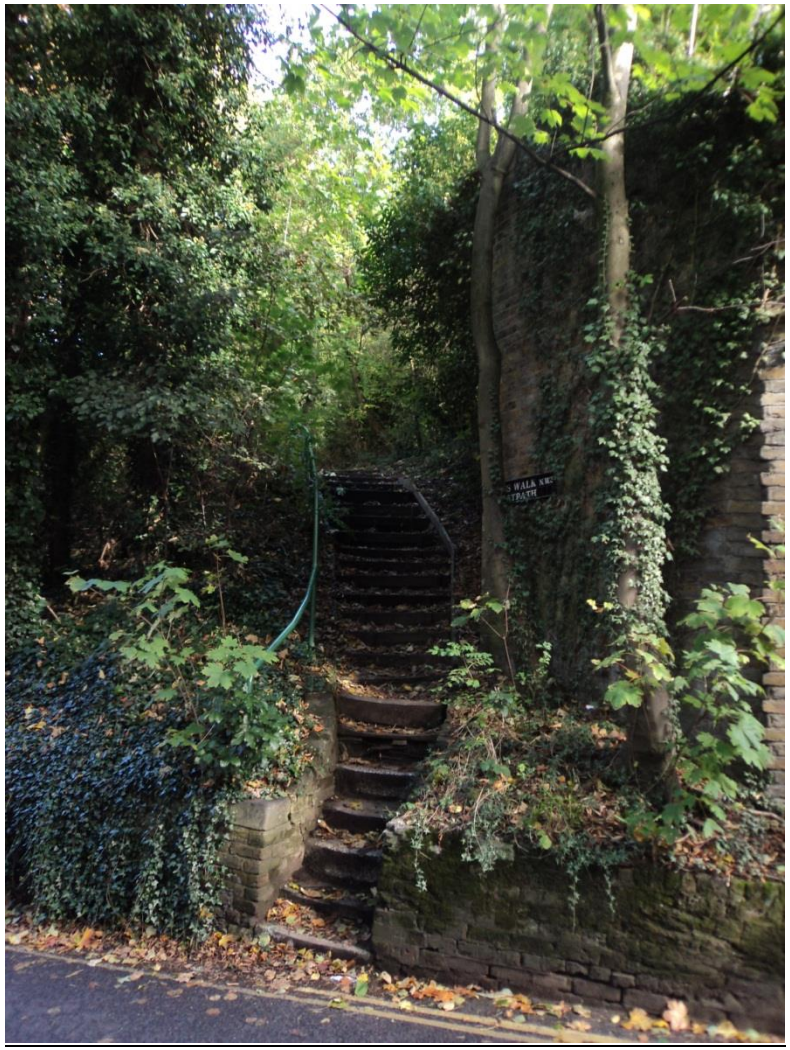


Photo 3: View From Branch Hill Looking Up Judge's Walk

Photo 4: View Looking Down Judge's Walk To Branch Hill

Photo 5: View From Judges Wall North West

Photo 6: View Of Existing House and Garage

Photo 7: View Of Existing Entrance Onto Branch Hill

APPENDIX C - STRUCTURAL DRAWINGS

NORTH

A P004

B P004

B P004

Existing trees

+25.000

+24.630

+24.780

+24.130

+24.170

Judge's Walk

+23.020

+22.330

+22.350

+22.350

+22.350

Extents of house over (first and second)

Decking

Roof light down into swimming pool area

+22.320

Brambles & overgrown vegetation

Water feature

Planted area

+22.290

+22.310

Outline of house under (ground floor)

Grass

+21.310

Existing trees

+20.690

+22.250

Planted area

+19.730

+20.050

Brick paving

+19.670

Existing MH CL +19.820

Existing brick wall to street boundary

+20.130

Stairs up to garden level

+20.130

+20.000

Water main

+19.960

+19.880

+19.910

Branch Hill

+19.920

+19.900

+22.320

Outline of house under and brick wall at raised garden level

+19.690

Gravel

+19.800

+19.830

+19.980

+19.940

+19.940

Brick paving

+19.550

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.

Approximate Existing Plan Areas:

Existing roof	170 sq. m
Courtyard	70 sq. m
Garden over ground floor structure	110 sq. m
Garden	52 sq. m

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for planning.

Status

PLANNING

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

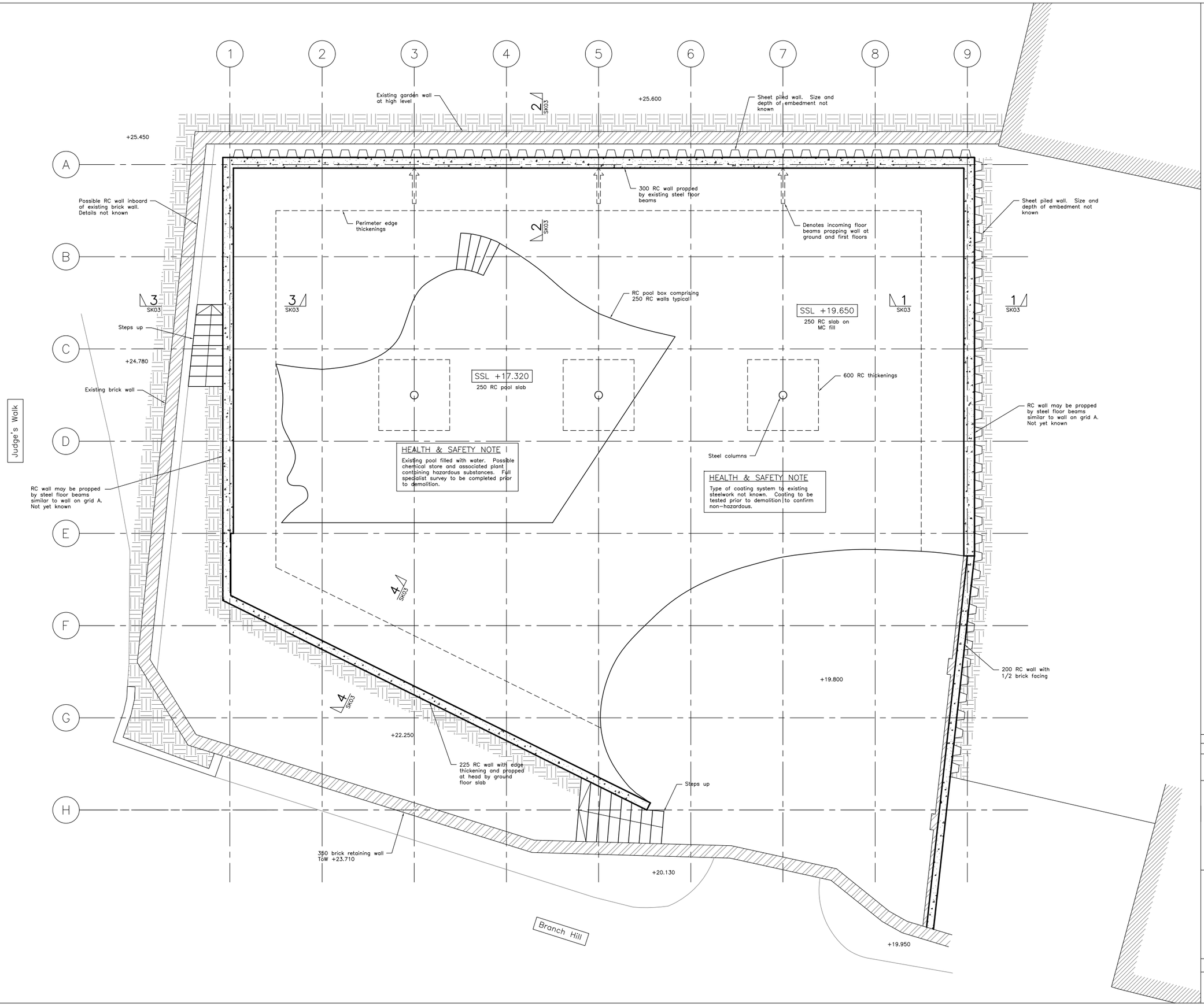
EXISTING SITE PLAN

Drawn T Musson

Scale 1:50 at A1

Project No./Drawing No. 7922/P001

Rev –



NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.

DESCRIPTION OF EXISTING STRUCTURE:

The following description has been developed from record drawings and non-intrusive investigations:

The structure to the main house (first & second) comprises steel frames with reinforced concrete slabs.

The roof comprises steel beams with a timber roof.

The ground floor structure comprises a reinforced concrete box with reinforced concrete retaining walls and reinforced concrete ground bearing slab on mass concrete fill.

The rear and flank retaining walls appear to be propped by the steel floor beams.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for comment.

Status: *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

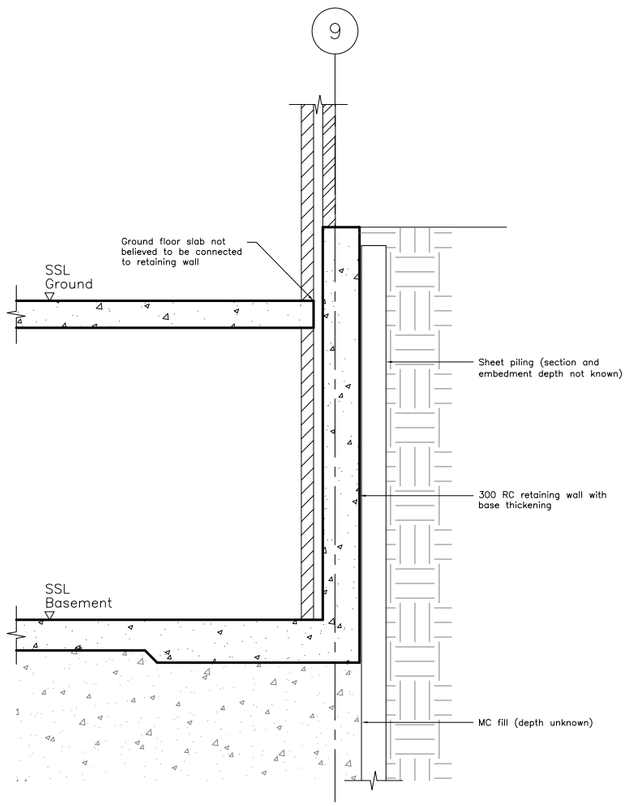
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

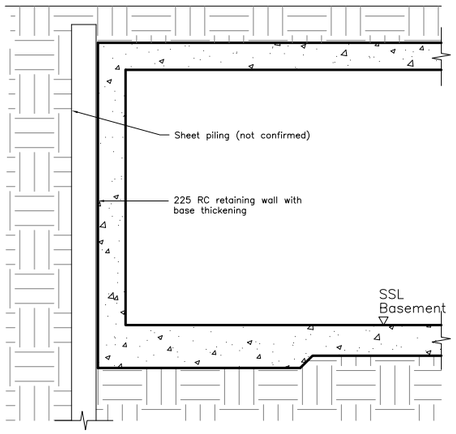
EXISTING BASEMENT STRUCTURE

Drawn T Musson | Scale 1:50 at A1

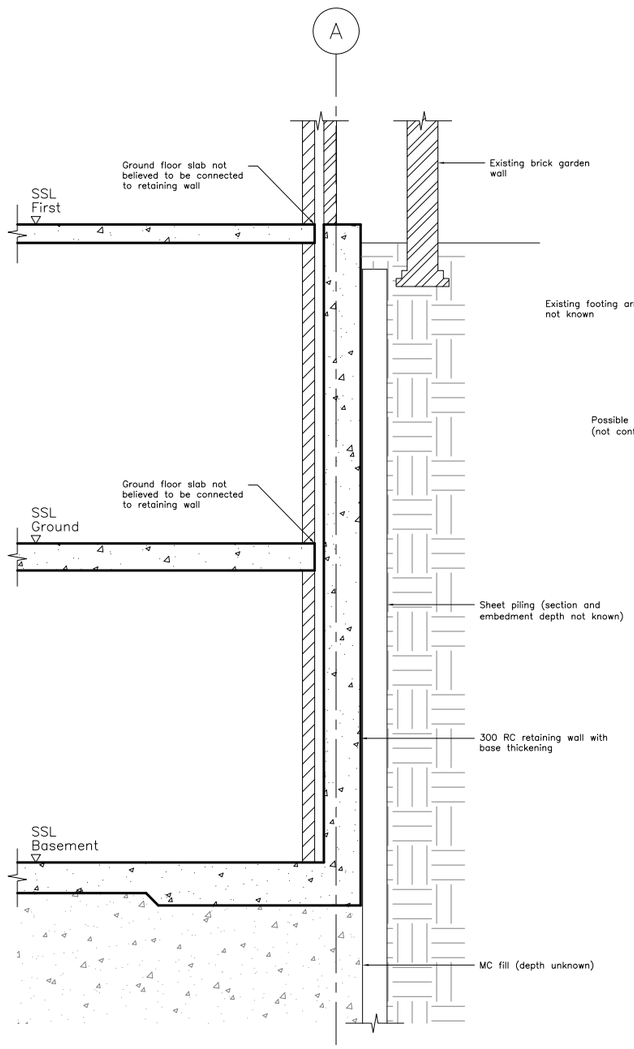
Project No./Drawing No. 7922/P002 | Rev –



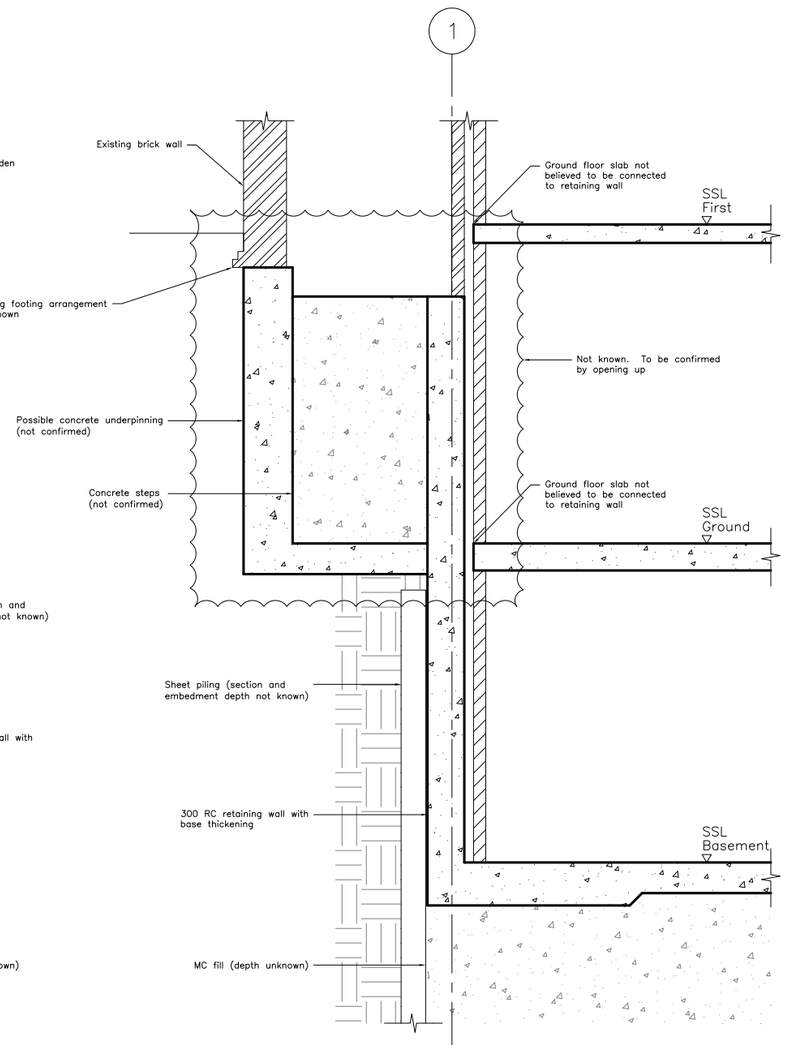
SECTION 1–1



SECTION 4–4



SECTION 2–2



SECTION 3–3

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for comment.

Status *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

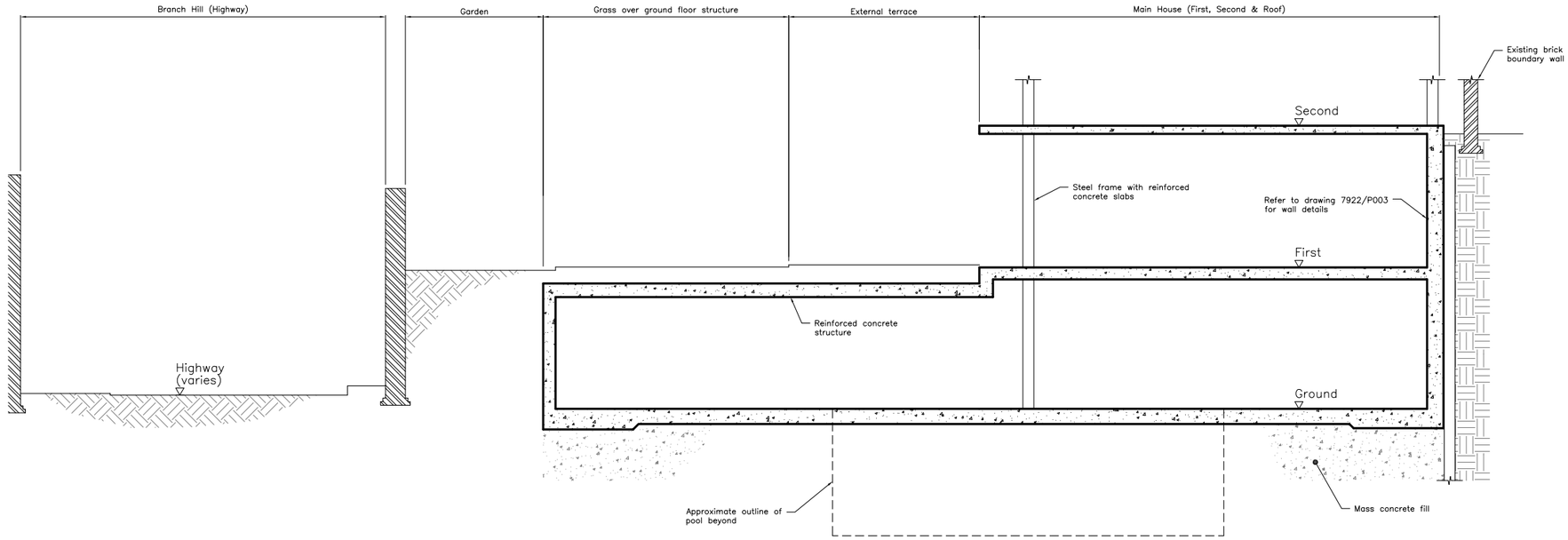
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

EXISTING BASEMENT SECTIONS

Drawn T Musson | Scale 1:25 at A1

Project No./Drawing No. 7922/P003 | Rev –



NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for planning.

Status *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

EXISTING SITE SECTIONS

Drawn T Musson | Scale 1:50 at A1

Project No./Drawing No. 7922/P004 | Rev –

HEALTH & SAFETY NOTE

Existing trees recorded as overhanging site.

NORTH

Existing walls retained

1 P006

Waling beam

Waling beam

Corner braces

Raking props

Raking props

Corner braces

HEALTH & SAFETY NOTE

Existing concrete retaining walls to be retained and propped during the works. Temporary props to be installed prior to disconnecting existing props and fully demolishing the existing building

1 P006

Waling beam

Judge's Walk

Raking props

Raking props

Raking props

Raking props

Existing building demolished and site level taken to +18.443m approx.

Parking for site vehicles etc.

Existing wall taken down during construction and rebuilt

HEALTH & SAFETY NOTE

Approximate crest of 'blind hill'. Visibility for traffic users impaired.

Line of hoarding and gated entrance

Branch Hill

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The temporary works proposals shown on this drawing are indicative only. The Contractor is responsible for the design, installation and maintenance of all necessary temporary works to ensure the strength, stability and integrity of the building and surrounding land and buildings throughout the course of the works.

Rev	Date	Issued	Amendment
A	17.03.16	IS	Issued for planning.
–	19.04.13	TJM	Issued for planning.

Status

PLANNING

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

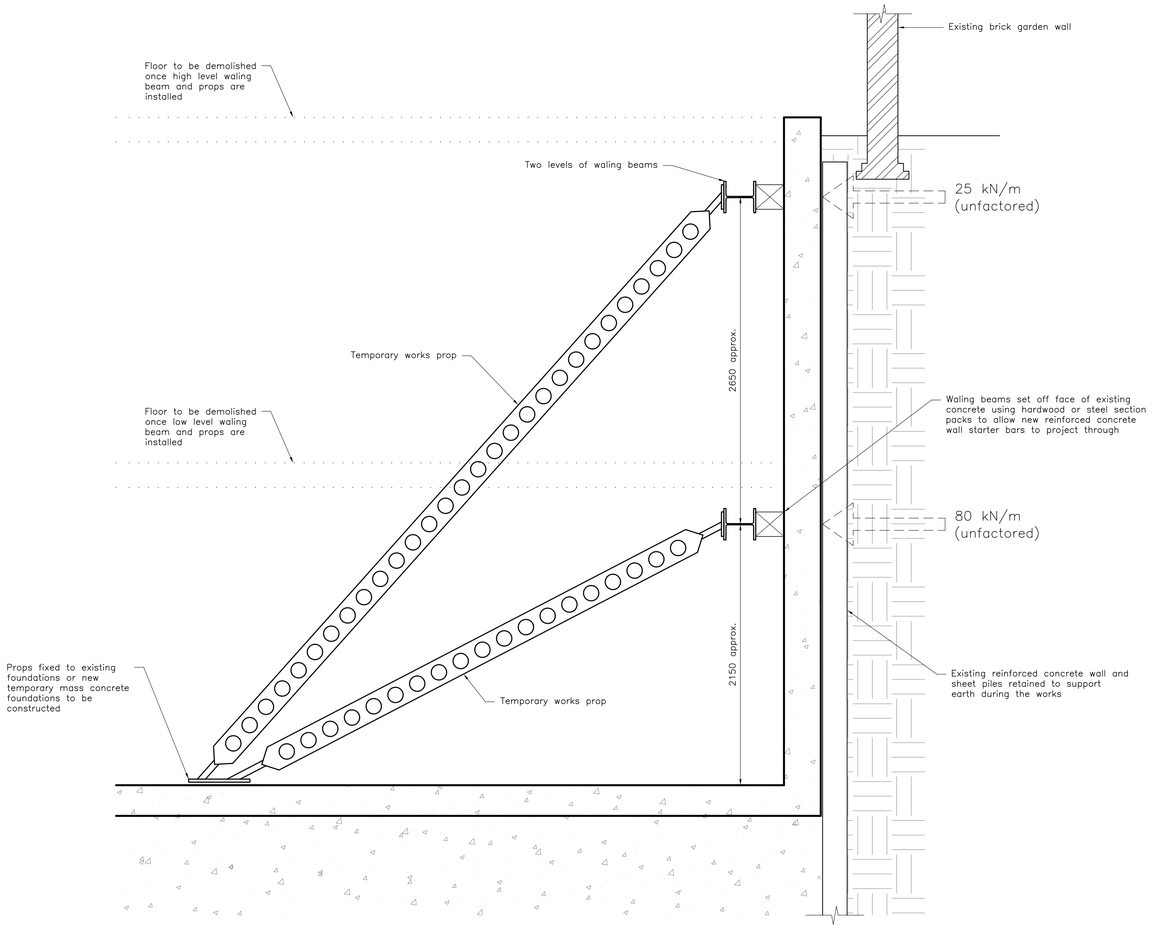
PROPOSED SITE SETUP

Drawn T Musson

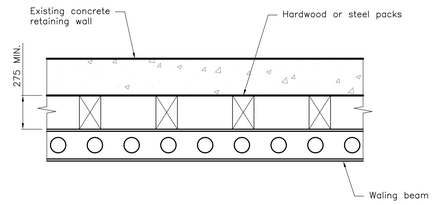
Scale 1:50 at A1

Project No./Drawing No. 7922/P005

Rev A



SECTION 1–1



PLAN VIEW ON WAILING BEAM

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The temporary works proposals shown on this drawing are indicative only. The Contractor is responsible for the design, installation and maintenance of all necessary temporary works to ensure the strength, stability and integrity of the building and surrounding land and buildings throughout the course of the works.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for planning.

Status *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

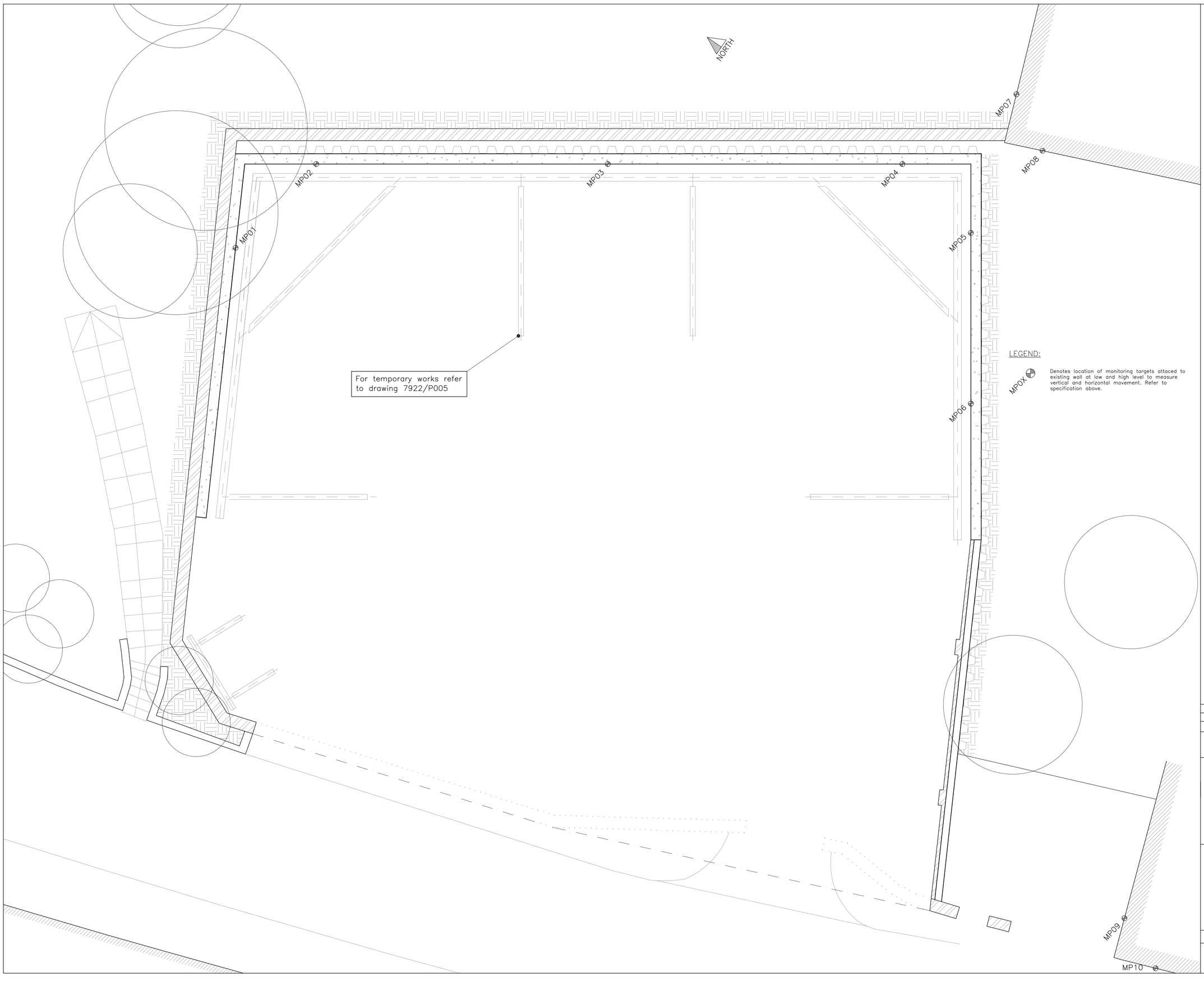
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

TEMPORARY WORKS SECTIONS

Drawn T Musson Scale 1:50 at A1

Project No./Drawing No. 7922/P006 Rev –



NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.

MOVEMENT MONITORING OUTLINE SPECIFICATION:

1. The Contractor is to appoint an independent surveying company to undertake the movement monitoring. The appointed surveying company is to be experienced in the form of monitoring proposed.
2. The Contractor is required to submit details of the Appointed Monitoring Company and detailed proposals for the monitoring with the Tender returns.
3. Monitoring is required to provide line and level information such that each survey point is defined in three dimensions (one vertical and two horizontal).
4. The methods of surveying are to be proposed by the surveying company and are to be appropriate for the site, the proposed sequence of works and the requirements of this drawing.
5. Where precise leveling is to be used the equipment and methods used are to provide an accuracy of ±1mm.
6. Where total station equipment is to be used the equipment and methods used are to provide an accuracy of ±2mm.
7. Readings are to be taken on the following basis, and as agreed between the Party Wall Surveyors:

   Baseline readings to be taken on a weekly basis at least four weeks prior to substantial works being undertaken or as soon as is practical.

   Readings during the ground works are to be taken on a weekly basis.

   Readings during the above ground works are to be taken on a two weekly basis.

   The Contractor is to provide a programme of monitoring dates with the tender returns.
8. Monitoring results are to be submitted to the CA and Engineer within two working days of the survey being completed.
9. Monitoring results are to be provided in a report containing the results in graphical and numerical tabular form and containing an executive summary of the findings clearly stating the trigger level category in which the recorded movements lie.
10. The following green / amber / red trigger level values are to be adopted:

    HORIZONTAL MOVEMENTS

    Green: < 5mm

    Amber: 5 – 10mm

    Red: > 10mm

    VERTICAL MOVEMENTS

    Green: < 6mm

    Amber: 6 – 12mm

    Red: > 12mm
11. TRIGGER VALUE ACTIONS

    Green:
    No action.

    Amber:
    Should values within the amber category be recorded the Contractor is to notify the CA, Engineer and Party Wall Surveyors. Contractor and Temporary Works Coordinator to review the adequacy and performance of the temporary works and take action to arrest further movement. Details of any modifications to temporary works are to be submitted by the Contractor. The Contractor is to increase the monitoring of frequency as necessary to demonstrate that movement has been arrested.

    Red:
    Should values reach the red trigger values, the Contractor is to immediately stop work and notify the CA and Engineer. The Contractor should installed 'emergency' temporary works measures as necessary to stabilise the works immediately. The Contractor is to take daily readings to demonstrate that movement has stopped.

LEGEND:

MP0X — Denotes location of monitoring targets attaced to existing wall at low and high level to measure vertical and horizontal movement. Refer to specification above.

Rev	Date	Issued	Amendment
A	17.03.16	IS	Issued for planning.
–	19.04.13	TJM	Issued for planning.

Status: *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

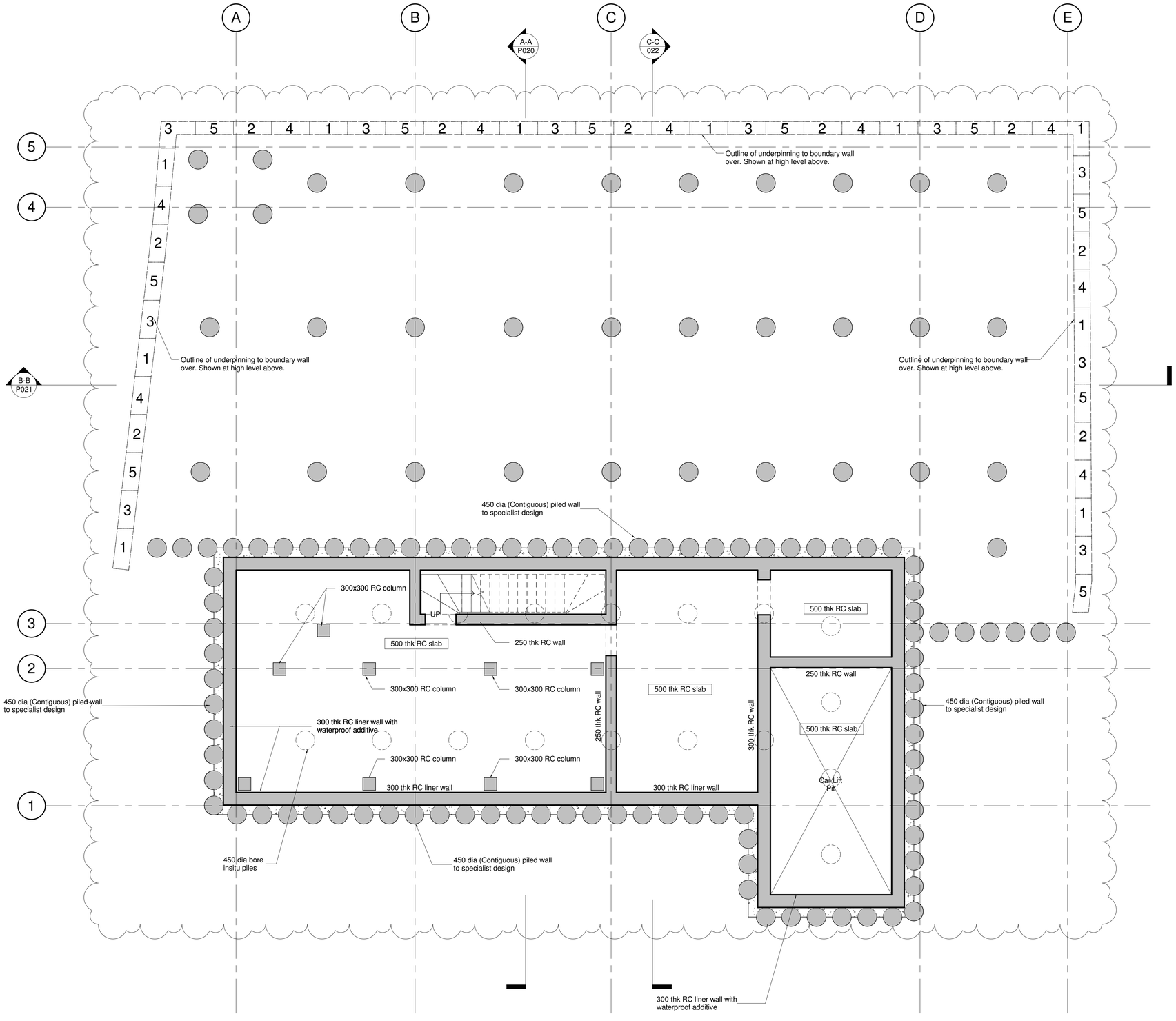
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

PROPOSED MONITORING POINTS

Drawn: T Musson | Scale: 1:50 at A1

Project No./Drawing No.: 7922/P007 | Rev: A



NOTES:

1. All Structural Engineering drawings are to be read with the specification and with all relevant Architect's and service Engineer's drawings and specification.
2. DO NOT SCALE from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
7. All waterproofing and damp proofing membranes by Main contractor.
8. All concrete to perimeter walls and slabs on ground is to contain a proprietary water resistant concrete additive.

NEW RC WALL

STRUCTURE UNDER

Rev	Date	Issued	Amendment
A	03.04.18	ETC	Revised as clouded/ Section 73 Application
-	17.03.16	IStypas	Issue for Planning

Status

Planning

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

Judge's Lodge
7 Branch Hill, NW3

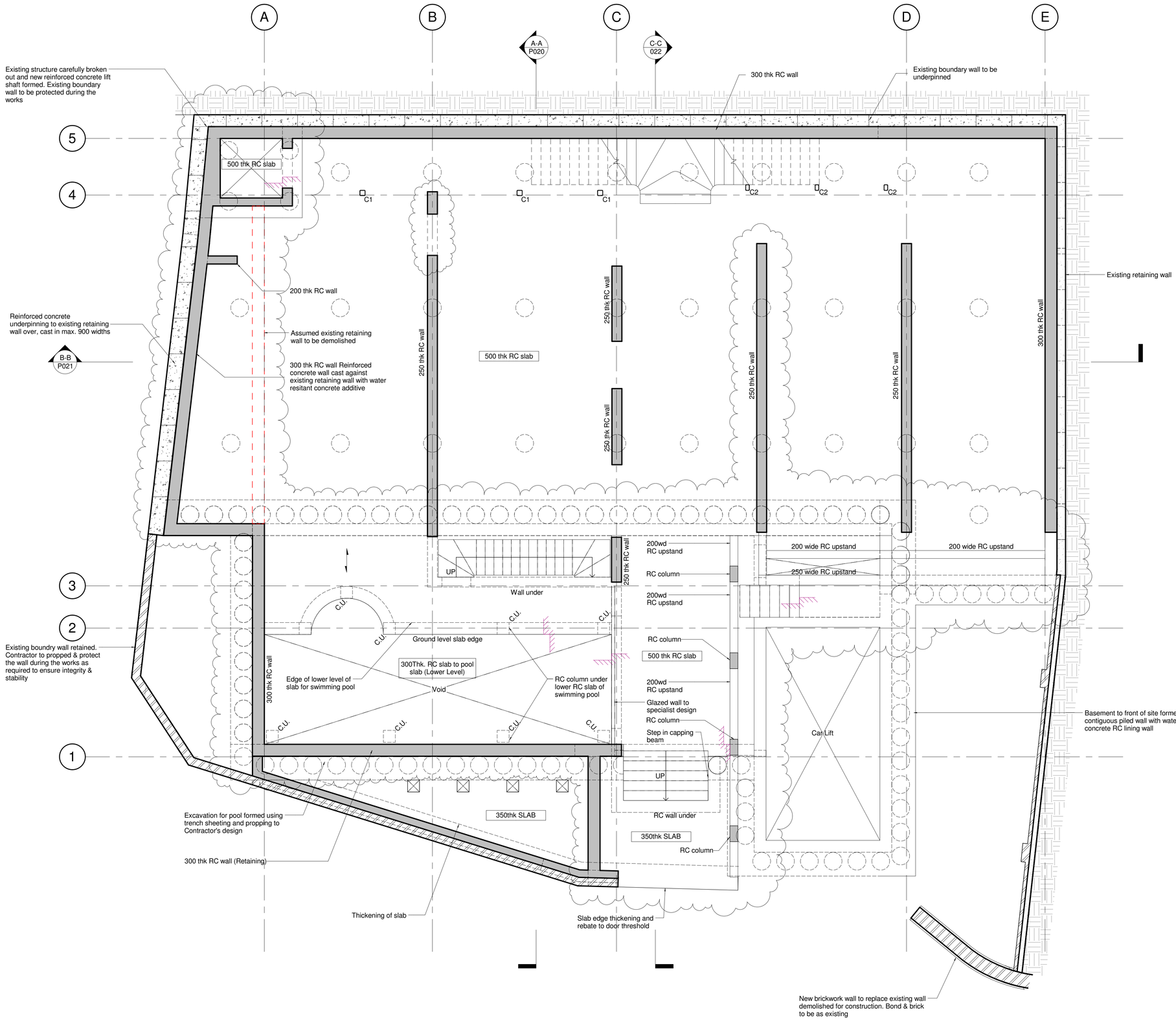
Proposed Lower Ground Floor Plan

Drawn Author

Scale 1 : 50 @ A1

Project No./Drawing No. 7922-009

Rev A



NOTES:

1. All Structural Engineering drawings are to be read with the specification and with all relevant Architect's and service Engineer's drawings and specification.
2. DO NOT SCALE from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
7. All waterproofing and damp proofing membranes by Main contractor.
8. All concrete to perimeter walls and slabs on ground is to contain a proprietary water resistant concrete additive.

Steelwork Schedule - Level 00

Ref	Definition	Comments
C1	140x140x10.0 SHS	
C2	150x100x10.0 RHS	

THIS DRAWING IS NOT FOR CONSTRUCTION

Rev	Date	Issued	Amendment
A	03.04.18	ETC	Revised as clouded/ Section 73 Application
-	19.04.13	TJM	Issued for Planning

Status: Planning

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

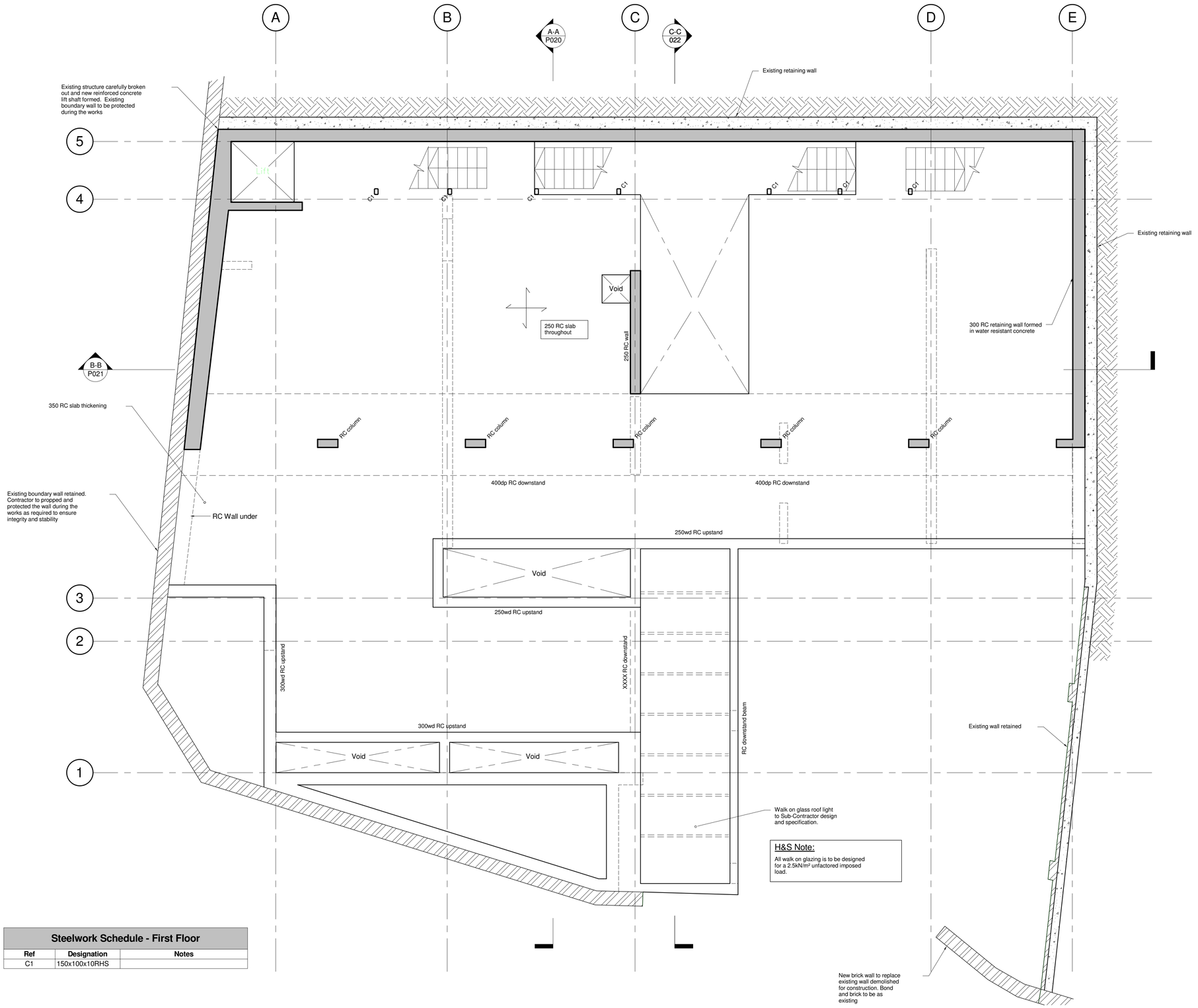
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

Judge's Lodge
7 Branch Hill, NW3

Proposed Ground Floor Plan

Drawn: I.Stypas | Scale: 1 : 50 @ A1

Project No./Drawing No.: 7922-P011 | Rev: A



Steelwork Schedule - First Floor

Ref	Designation	Notes
C1	150x100x10RHS	

NOTES:

1. All Structural Engineering drawings are to be read with the specification and with all relevant Architect's and service Engineer's drawings and specification.
2. DO NOT SCALE from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
6. All waterproofing details and specifications by others.

Rev	Date	Issued	Amendment
B	03.04.18	ETC	Revised as clouded/ Section 73 Application
A	15.10.13	TJM	RC columns b'twn Grids 3-4 moved back
-	19.04.13	TJM	Issued for Planning

Status

Planning

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

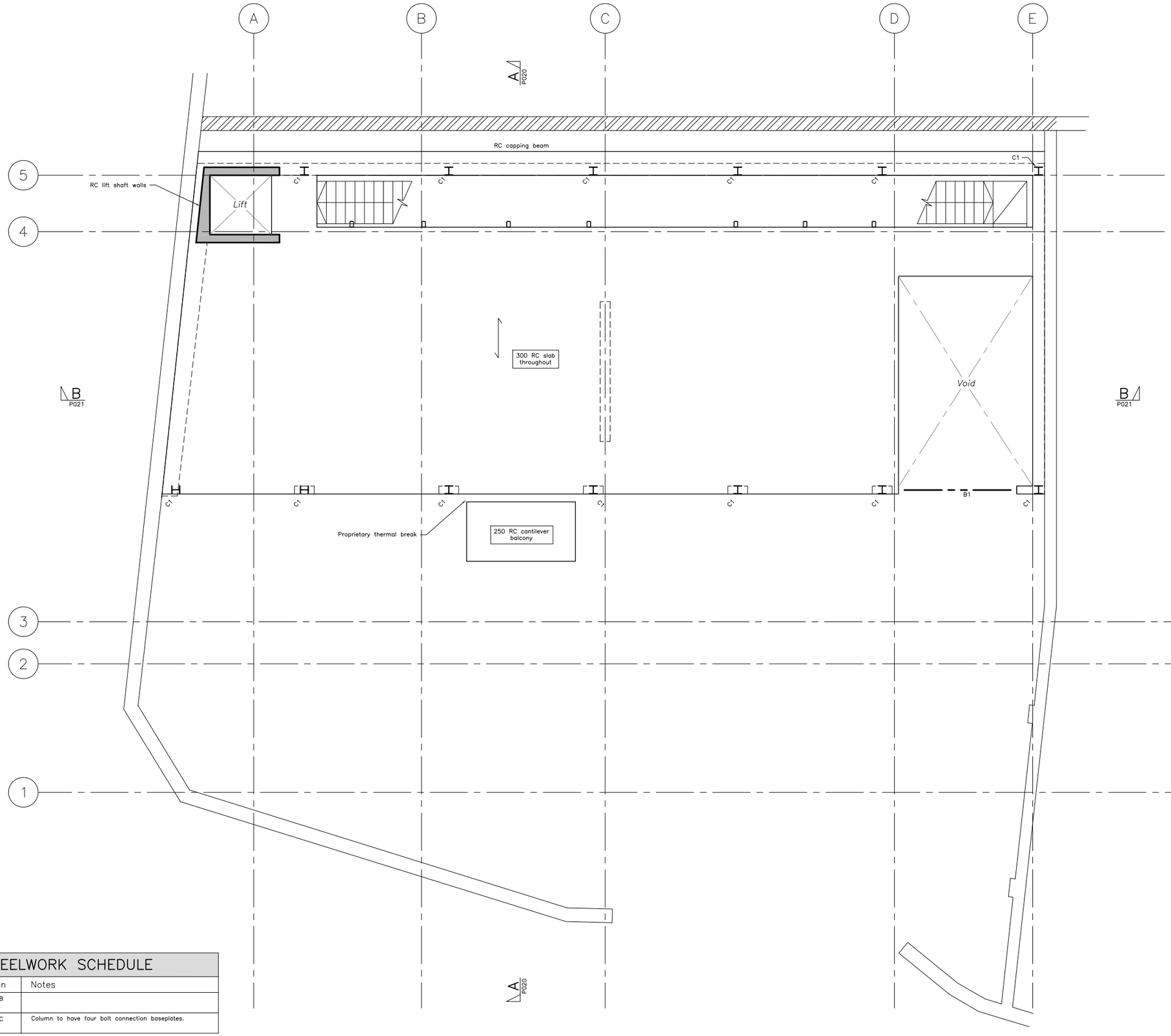
Judge's Lodge
7 Branch Hill, NW3

Proposed First Floor Plan

Drawn Author Scale 1 : 50 @ A1

Project No./Drawing No. Rev

7922-P012 B



STEELWORK SCHEDULE

Ref.	Designation	Notes
B1	203x102x23UB	
C1	203x203x60UC	Column to have four bolt connection baseplates.

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
6. All waterproofing details and specifications by others.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for planning.

Status: *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

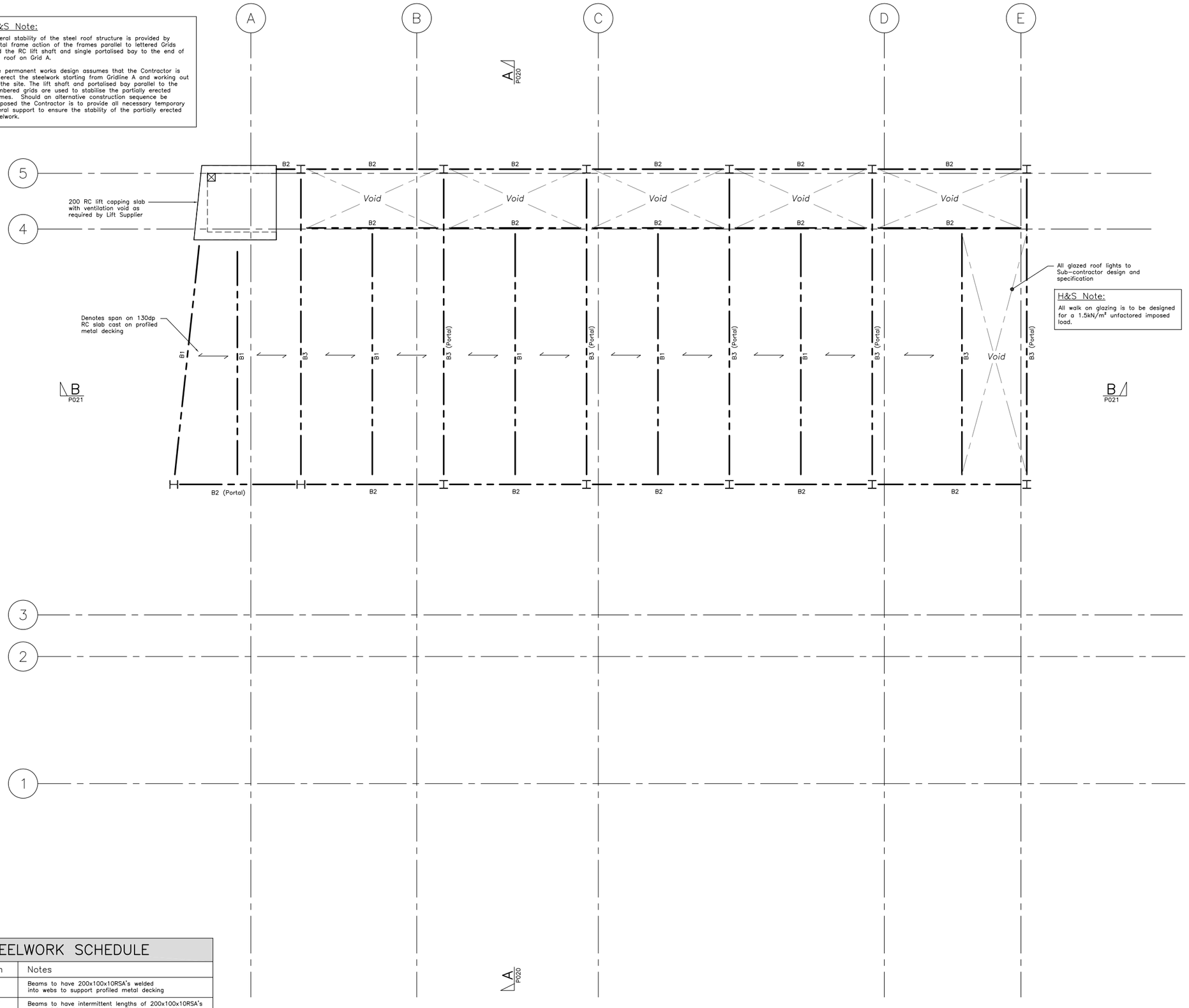
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

PROPOSED SECOND FLOOR PLAN

Drawn: T Musson
Scale: 1:50 at A1

Project No./Drawing No.: 7922/P013
Rev: –



STEELWORK SCHEDULE

Ref.	Designation	Notes
B1	203x203x60UC	Beams to have 200x100x10RSA's welded into webs to support profiled metal decking
B2	203x203x60UC	Beams to have intermittent lengths of 200x100x10RSA's welded into web to support profiled metal decking
B3	203x203x71UC	Beams to have 200x100x10RSA's welded into webs to support profiled metal decking

NOTES:

1. All structural engineering drawings are to be read with the specification and with all relevant Architect's and Service Engineer's drawings and specifications.
2. Do not scale from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3:
3. All dimensions are in millimetres and levels in metres.
4. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.

LEGEND:

Span of 130mm deep concrete slab cast on Comflor 46 0.9 metal deck. Slab to have 1No. layer A193 mesh in top face.

(V)100 (M)25 — Steel beam connection reactions. (V) denotes factored shear force. (M) denotes factored moment.

Rev	Date	Issued	Amendment
–	19.04.13	TJM	Issued for planning.

Status: *PLANNING*

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

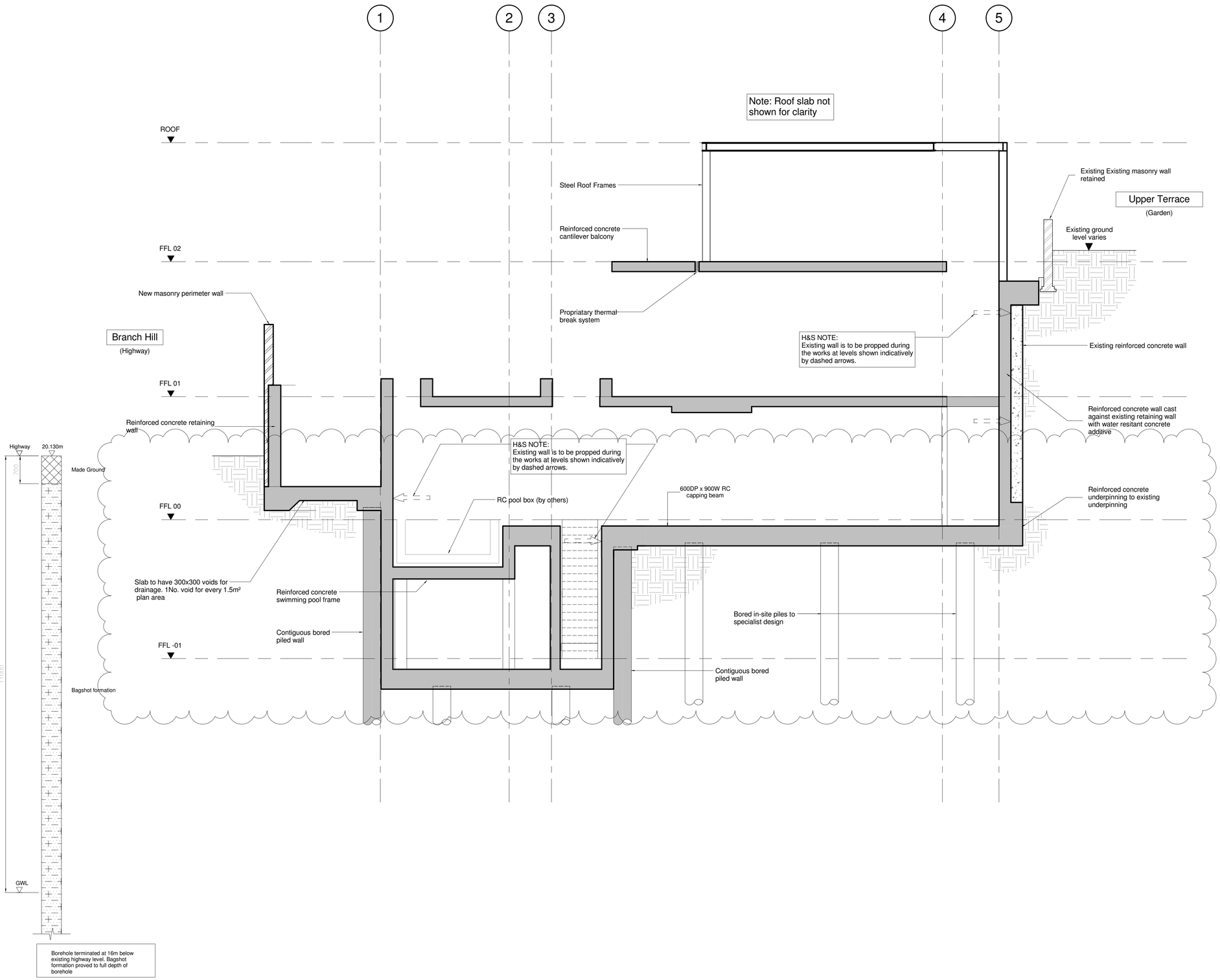
93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

JUDGE'S LODGE
7 BRANCH HILL, NW3

PROPOSED ROOF PLAN

Drawn T Musson | Scale 1:50 at A1

Project No./Drawing No. 7922/P014 | Rev –



NOTES:

1. All Structural Engineering drawings are to be read with the specification and with all relevant Architect's and service Engineer's drawings and specification.
2. DO NOT SCALE from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
7. All waterproofing and damp proofing membranes by Main contractor.
8. All concrete to perimeter walls and slabs on ground is to contain a proprietary water resistant concrete additive.
9. Borehole information shown on this drawing has been taken from GEA Ltd's Site Investigation Report.

Rev	Date	Issued	Amendment
B	03.04.18	ETC	Revised as clouded/ Section 73 Application
A	15.10.13	TJM	RC columns b'twn Grids 3-4 moved back
-	19.04.13	TJM	Issued for Planning

Status

Planning

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

Judge's Lodge
7 Branch Hill, NW3

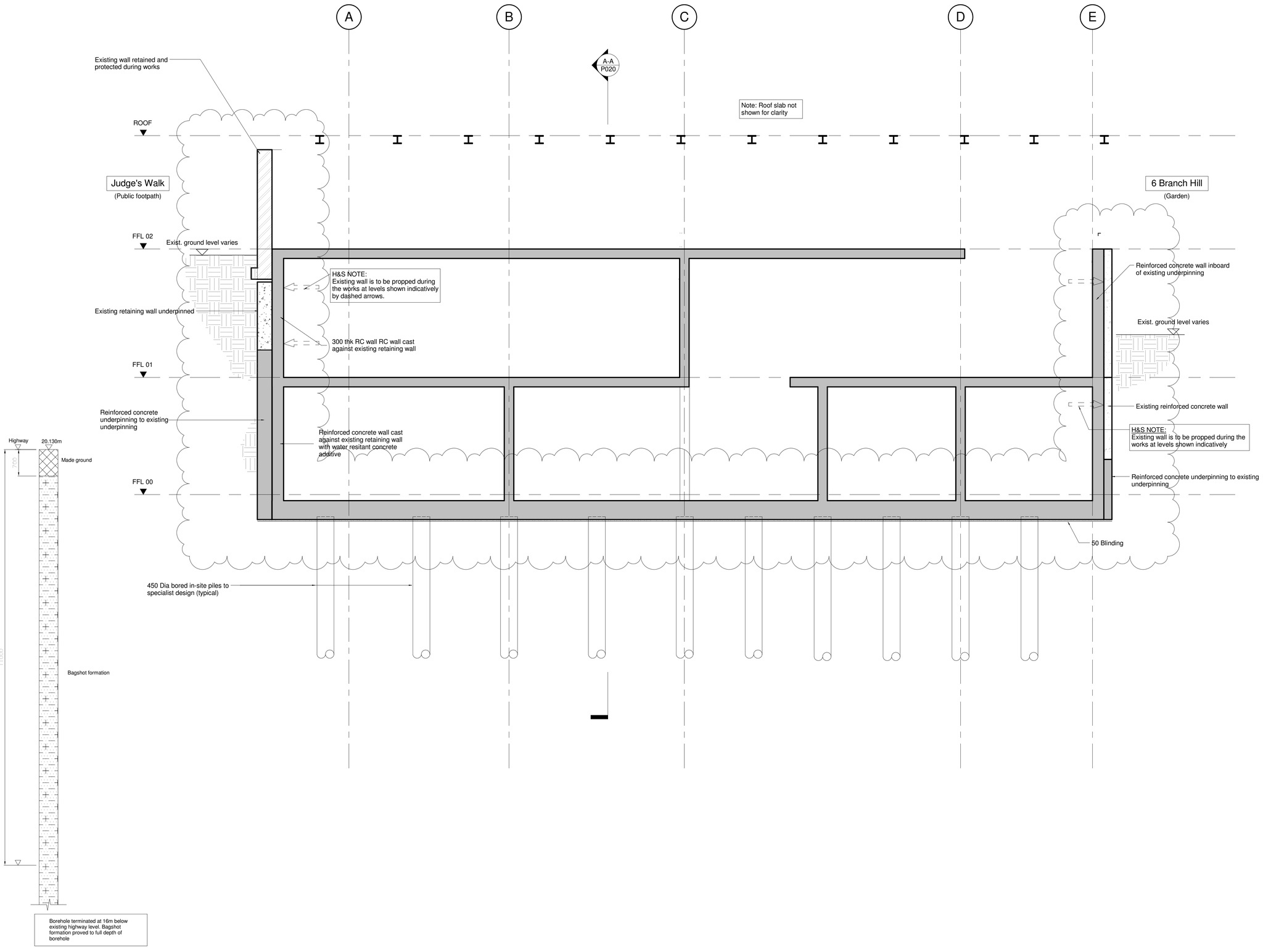
Full Building Section A-A

Drawn Author

Scale 1 : 50 @ A1

Project No./Drawing No. 7922-P020

Rev B



NOTES:

1. All Structural Engineering drawings are to be read with the specification and with all relevant Architect's and service Engineer's drawings and specification.
2. DO NOT SCALE from this drawing in either paper or digital form. Use written dimensions only. To check drawing has been printed to intended scale this bar should be 50mm long @ A1 or 25mm long @ A3.
3. All dimensions are in millimetres and levels in metres.
4. The information shown on this drawing has been prepared based on existing drawings. No guarantee is given that the information shown represents actual existing site conditions.
5. All levels shown are provided by others and subject to confirmation on site.
6. Boundary line and other demises shown on this drawing are indicative only and are to be confirmed by others.
7. All waterproofing and damp proofing membranes by Main contractor.
8. All concrete to perimeter walls and slabs on ground is to contain a proprietary water resistant concrete additive.
9. Borehole information shown on this drawing has been taken from GEA Ltd's Site Investigation Report.

Rev	Date	Issued	Amendment
A	03.04.18	ETC	Revised as clouded/ Section 73 Application
-	19.04.13	TJM	Issued for Planning

Status

Planning

SINCLAIR JOHNSTON
Consulting Civil & Structural Engineers

93 Great Suffolk Street
London SE1 0BX
T: 020 7593 1900
F: 020 7593 1910
www.sinclairjohnston.co.uk

Judge's Lodge
7 Branch Hill, NW3

Full Building Section B-B

Drawn Author

Scale 1 : 50 @ A1

Project No./Drawing No.

7922-P021

Rev

A