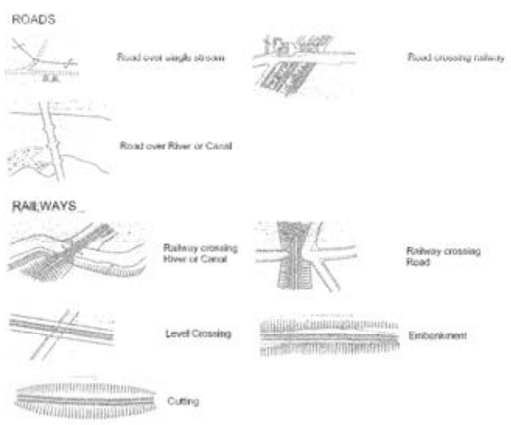
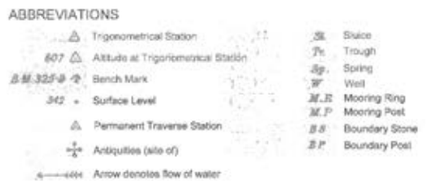
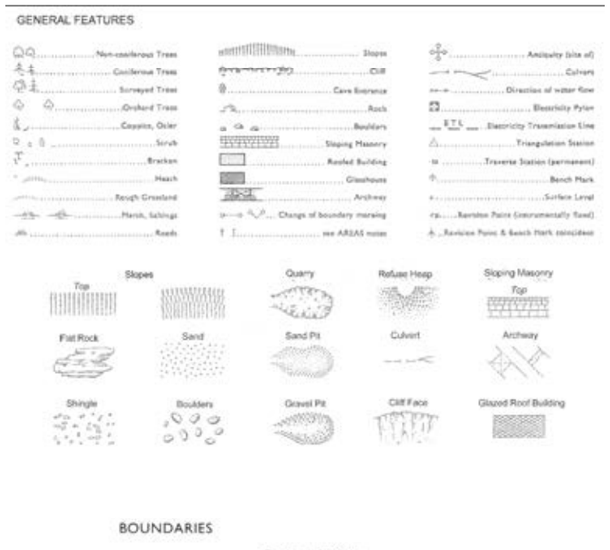
County Series 1:2,500 scale



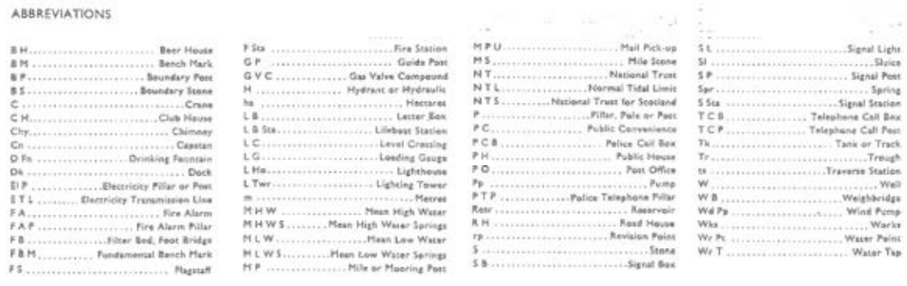




National Grid 1:2,500 / 1:1,250 scale







GroundSure

Historical Map Pack Legend

County Series

1:1,250 scale

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County Series & National Grid

1:2,500 scale

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

If you have a query regarding any of the maps provided within this map pack, please contact GroundSure's technical helpline. We will endeavour to answer any queries you may have.

Technical Helpline:

Tel 08444159000

groundsureinsight@groundsure.com
www.groundsure.com

APPENDIX G
EXPLORATORY HOLE RECORDS

F2,5< G<H9 2 I

78 2,#8 5,Ā58 3

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F2,5< G<H9 2 I

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F2,5< G<H9 2 I

78 2,#8 5,Ā58 3

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NLÄ!OL | JÄKNO | PPP | J '& O

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RSK

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						12+'Ā3456 7+8Ā9:;<=>?>!	Ā$!	!À	
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! Y% ! Y%	Ā	'( )* +	! , ,-			R=:C; EMJ0M@M@GO=@MM(27+! (@;F JEK;> ?: <:@=E>! 3=@L>MĀIJEĀKĀ@=E>NĀ@M=ĀEPBF; F>FĀKMJ;? .IT 79UĀU*IIĀ342H'I0		. !_ 0	
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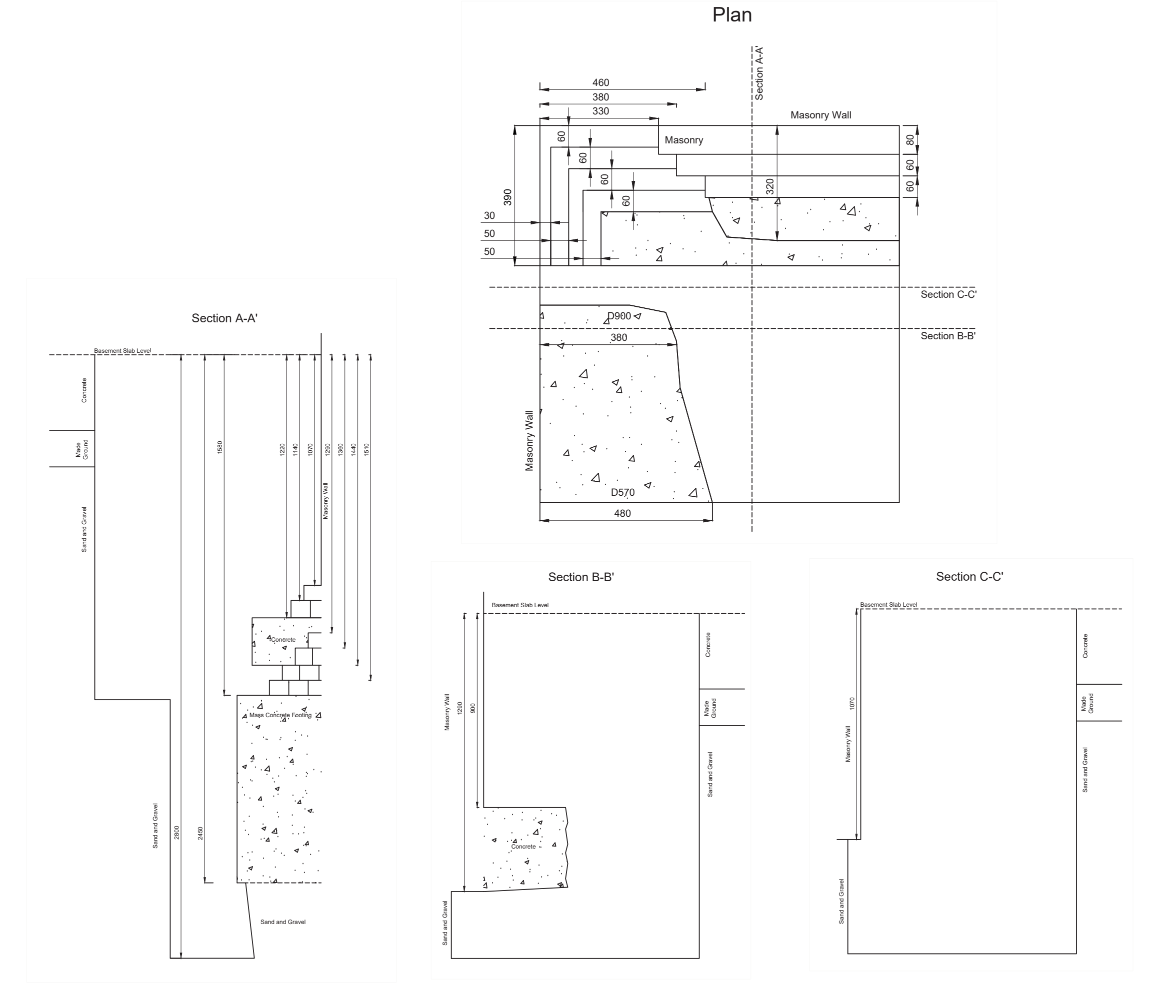
3>; >=@MĀ@=AE

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1> ?QF 6E>F8 .:6=Ā =?0	)M@? 6E>F8 . : 6=Ā9238	I: OG>F RG8) &@5	9Q><A>F RG8	AGS

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Rev.	Date	Amendment	Drawn	Chkd.	Appd.

RSK
18 Frogmore Road
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Tel: +44 (0) 1442 437500
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Email: info@rsk.co.uk
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Client: SRG HOLBORN LIMITED

Project Title: HIGH HOLBORN ESTATE

Drawing Title: TRIAL PIT DIAGRAM - TP1

Drawn	Date	Checked	Date	Approved	Date
AT	25-05-17	AT	25-05-17	AT	25-05-17

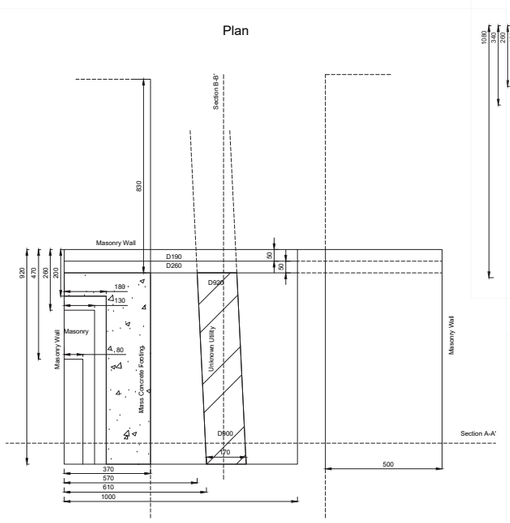
Scale	Orig Size	Dimensions
NTS	A3	MM

Project No.: 371547 — Drawing File: 371547_TP_DIAGRAMS

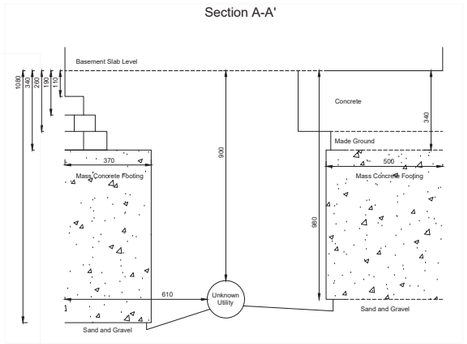
Drawing No.: 371547_01_TP_01 — Rev.: R

D = Depth to Surface

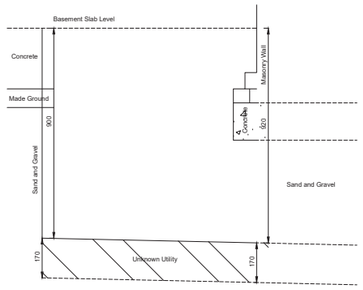
Plan



Section A-A'



Section B-B'



Rev.	Date	Amendment	Drawn	Chkd.	Appd.

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Client
SRG HOLBORN LIMITED

Project Title
HIGH HOLBORN ESTATE

Drawing Title
TRIAL PIT DIAGRAM - TP2

Drawn	Date	Checked	Date	Approved	Date
AT	25-05-17	AT	25-05-17	AT	25-05-17

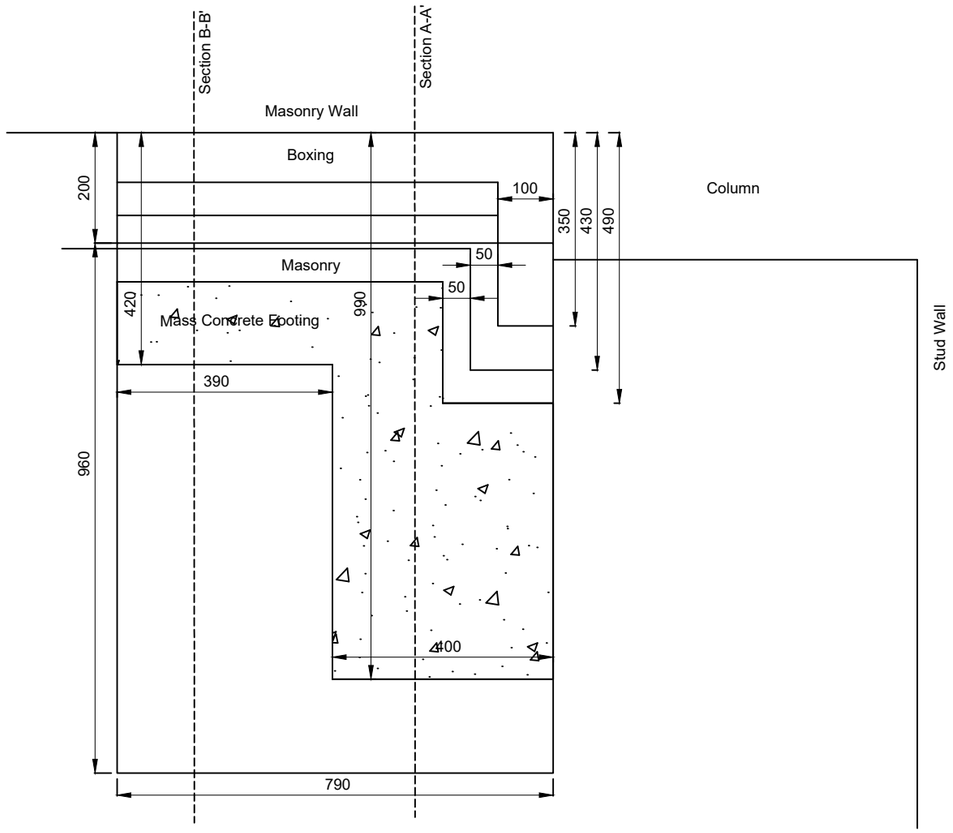
Scale	Orig Size	Dimensions
NTS	A3	MM

Project No.	Drawing File
371547	371547_TP_DIAGRAMS

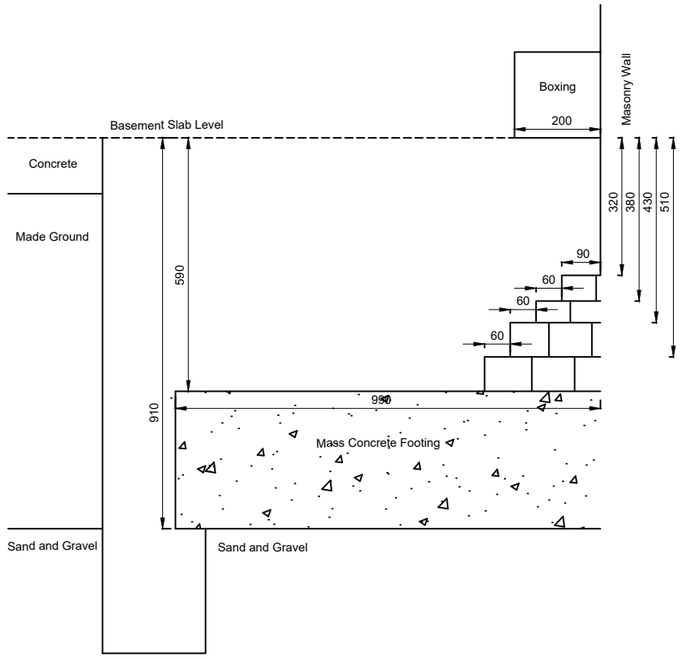
Drawing No.	Rev.
371547_01_TP_01	R

D = Depth to Surface

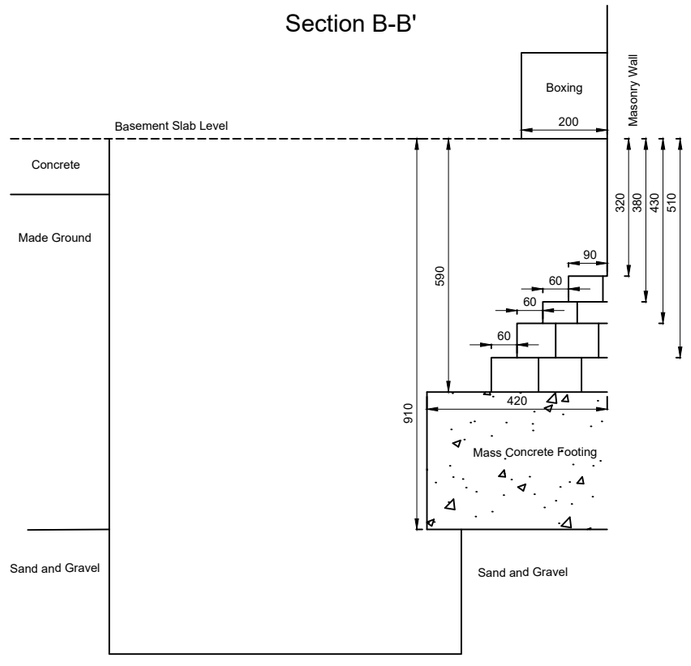
Plan



Section A-A'



Section B-B'



Rev.	Date	Amendment	Drawn	Chkd.	Appd.

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Client

SRG HOLBORN LIMITED

Project Title

HIGH HOLBORN ESTATE

Drawing Title

TRIAL PIT DIAGRAM - TP3

Drawn	Date	Checked	Date	Approved	Date
AT	25-05-17	AT	25-05-17	AT	25-05-17

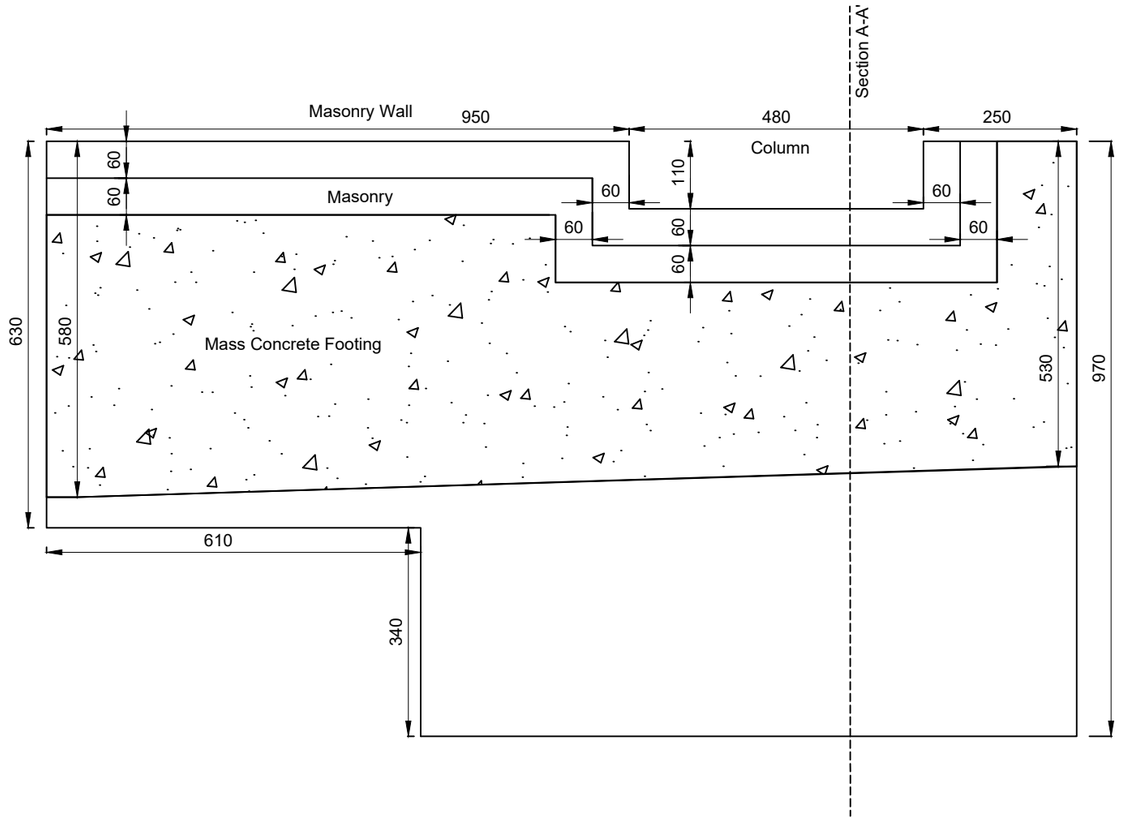
Scale	Orig Size	Dimensions
NTS	A3	MM

Project No.	Drawing File
371547	371547_TP_DIAGRAMS

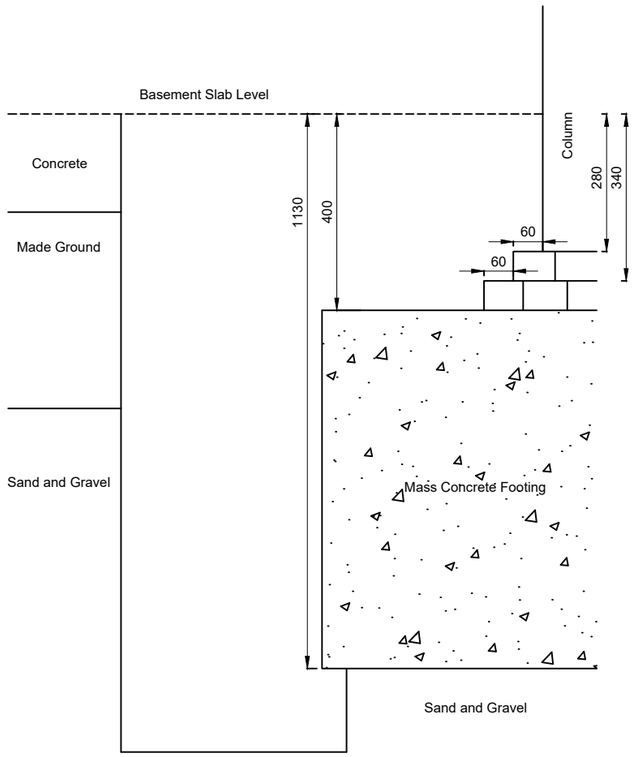
Drawing No.	Rev.
371547_01_TP_01	R

D = Depth to Surface

Plan



Section A-A'



Rev.	Date	Amendment	Drawn	Chkd.	Appd.

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Client

SRG HOLBORN LIMITED

Project Title

HIGH HOLBORN ESTATE

Drawing Title

TRIAL PIT DIAGRAM - TP4

Drawn	Date	Checked	Date	Approved	Date
AT	25-05-17	AT	25-05-17	AT	25-05-17

Scale	Orig Size	Dimensions
NTS	A3	MM

Project No.	Drawing File
371547	371547_TP_DIAGRAMS

Drawing No.	Rev.
371547_01_TP_01	R

D = Depth to Surface

RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
1	24-04-17

Direction Photo Taken:

South

Description:

TP1 – Boundary wall to Caroline House.



Photo No.	Date:
2	27-04-17

Direction Photo Taken:

South

Description:

TP1 – Boundary wall to Caroline House



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
3	27-04-17

Direction Photo Taken:

Down

Description:

TP1 – Boundary wall to Caroline House.



Photo No.	Date:
4	27-04-17

Direction Photo Taken:

East

Description:

TP1 – Boundary wall to High Holborn House.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
5	27-04-17

Direction Photo Taken:

East

Description:

TP1 – Boundary wall to High Holborn House.



Photo No.	Date:
6	27-04-17

Direction Photo Taken:

North East

Description:

TP1 – Boundary wall to High Holborn House. Lump of what appears to be concrete over pour.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
7	27-04-17

Direction Photo Taken:

Down

Description:

TP1 – Boundary wall to Caroline House. Base of mass concrete footing.



Photo No.	Date:
8	27-04-17

Direction Photo Taken:

West

Description:

TP2 – Boundary wall to Hand Court



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
9	27-04-17

Direction Photo Taken:

West

Description:

TP2 – Boundary wall to Hand Court with unknown utility in centre of pit.



Photo No.	Date:
10	27-04-17

Direction Photo Taken:

South West

Description:

TP2 – Buttress wall to Hand Court.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
11	27-04-17

Direction Photo Taken:

Down

Description:

TP2 – Buttress wall to Hand Court. Base of mass concrete footing.



Photo No.	Date:
12	27-04-17

Direction Photo Taken:

North West

Description:

TP2 – Adjacent buttress wall to Hand Court. Exposed mass concrete footing.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
13	24-04-17

Direction Photo Taken:

West

Description:

TP3 – Boundary wall with 18 – 21 Hand Court.



Photo No.	Date:
14	24-04-17

Direction Photo Taken:

North West

Description:

TP3 – Base of mass concrete footing.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
15	24-04-17

Direction Photo Taken:

North West

Description:

TP3 – Boundary wall with 18 – 21 Hand Court.



Photo No.	Date:
16	27-04-17

Direction Photo Taken:

South

Description:

TP4 – Boundary wall with 18 – 21 Hand Court.



RSK	Report No: 371547	PHOTOGRAPHIC LOG
Client name: SRG Holdings Limited	Site Location: High Holborn Estate	

Photo No.	Date:
17	27-04-17

Direction Photo Taken:

South

Description:

TP4 – Boundary wall with 18 – 21 Hand Court.



Photo No.	Date:
18	27-04-17

Direction Photo Taken:

Down

Description:

TP4 – Base of mass concrete footing.



APPENDIX H
GROUND GAS MONITORING DATA

IN-SITU GAS MONITORING RESULTS

[Pressures]	Previous	During	Start	End	Equipment Used & Remarks
Round 1	Constant	Constant	1025	1025	GFM-40 + Dipmeter + Weather: Average + Ground: Dry + Wind: Light
Round 2	Constant	Constant	1009	1009	GFM-40 + Dipmeter + Weather: Average + Ground: Wet + Wind: Medium
Round 3	Constant	Constant	1020	1020	GFM-40 + Dipmeter + Weather: Average + Ground: Dry + Wind: Medium

Exploratory Position ID	Monitoring Round	Measured Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	
BH1	1	3.50	24/05/2017 11:30:00	-	1025	0.0	3.34	0.0	0.0	20.1	0.0	
BH1	1	---	30 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	60 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	120 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	180 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	240 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	300 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	1	---	360 secs	-	-	0.0	-	0.0	0.0	20.1	-	
BH1	2	3.50	09/06/2017 12:15:00	-	1009	0.0	3.32	0.0	0.0	20.7	0.0	
BH1	2	---	30 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	2	---	60 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	2	---	120 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	2	---	180 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	2	---	240 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	2	---	300 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	2	---	360 secs	-	-	0.0	-	0.0	0.0	20.2	-	
BH1	3	3.50	03/07/2017 11:10:00	-	1020	0.0	3.34	0.0	0.0	20.5	0.0	
BH1	3	---	30 secs	-	-	0.0	-	0.0	0.0	20.5	-	

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

RSK Environment Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By	Date	Checked By	Date	Contract Ref:
	13/07/17			371547

Contract: **High Holborn Estate**

GINT_LIBRARY_V8_06.GLB : E - GAS MON - REDUCED - 9A - A4L : 371547_HIGH HOLBORN ESTATE.GPJ : 13/07/17 16:34 : HKL1 :

IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	
BH1	3	---	60 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	3	---	120 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	3	---	180 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	3	---	240 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	3	---	300 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH1	3	---	360 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	1	4.10	24/05/2017 12:00:00	-	1025	0.0	2.91	0.0	0.0	19.2	0.0	
BH2	1	---	30 secs	-	-	0.0	-	0.0	0.0	18.5	-	
BH2	1	---	60 secs	-	-	0.0	-	0.0	0.0	18.3	-	
BH2	1	---	120 secs	-	-	0.0	-	0.0	0.0	18.2	-	
BH2	1	---	180 secs	-	-	0.0	-	0.0	0.0	18.2	-	
BH2	1	---	240 secs	-	-	0.0	-	0.0	0.0	18.2	-	
BH2	1	---	300 secs	-	-	0.0	-	0.0	0.0	18.2	-	
BH2	1	---	360 secs	-	-	0.0	-	0.0	0.0	18.2	-	
BH2	2	4.10	09/06/2017 11:30:00	-	1009	0.0	2.86	0.0	0.0	19.7	0.0	
BH2	2	---	30 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	60 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	120 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	180 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	240 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	300 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	2	---	360 secs	-	-	0.0	-	0.0	0.0	19.7	-	
BH2	3	4.10	03/07/2017 11:30:00	-	1020	0.0	2.91	0.0	0.0	20.5	-	
BH2	3	---	30 secs	-	-	0.0	-	0.0	0.0	20.5	-	

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

RSK Environment Ltd
18 Frogmore Road
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Hertfordshire
HP3 9RT

Compiled By	Date	Checked By	Date	Contract Ref:
	13/07/17			371547

Contract: **High Holborn Estate**

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IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	
BH2	3	---	60 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	3	---	120 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	3	---	180 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	3	---	240 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	3	---	300 secs	-	-	0.0	-	0.0	0.0	20.5	-	
BH2	3	---	360 secs	-	-	0.0	-	0.0	0.0	20.5	-	
WS1	1	3.00	24/05/2017 11:45:00	-	1025	0.0	2.86	0.4	0.0	19.0	0.0	
WS1	1	---	30 secs	-	-	0.0	-	0.5	0.0	19.0	-	
WS1	1	---	60 secs	-	-	0.0	-	0.5	0.0	18.9	-	
WS1	1	---	120 secs	-	-	0.0	-	0.6	0.0	18.8	-	
WS1	1	---	180 secs	-	-	0.0	-	0.6	0.0	18.7	-	
WS1	1	---	240 secs	-	-	0.0	-	0.6	0.0	18.7	-	
WS1	1	---	300 secs	-	-	0.0	-	0.6	0.0	18.7	-	
WS1	1	---	360 secs	-	-	0.0	-	0.6	0.0	18.7	-	
WS1	2	3.00	09/06/2017 12:00:00	-	1009	0.0	2.79	0.0	0.0	20.6	0.0	
WS1	2	---	30 secs	-	-	0.0	-	1.3	0.0	17.7	-	
WS1	2	---	60 secs	-	-	0.0	-	1.3	0.0	17.5	-	
WS1	2	---	120 secs	-	-	0.0	-	1.3	0.0	17.4	-	
WS1	2	---	180 secs	-	-	0.0	-	1.3	0.0	17.4	-	
WS1	2	---	240 secs	-	-	0.0	-	1.3	0.0	17.4	-	
WS1	2	---	300 secs	-	-	0.0	-	1.3	0.0	17.4	-	
WS1	2	---	360 secs	-	-	0.0	-	1.3	0.0	17.4	-	
WS1	3	3.00	03/07/2017 11:00:00	-	1020	0.0	2.83	0.0	0.0	20.5	0.0	
WS1	3	---	30 secs	-	-	0.0	-	1.6	0.0	17.5	-	

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

RSK Environment Ltd
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Hertfordshire
HP3 9RT

Compiled By	Date	Checked By	Date	Contract Ref:
MRRee	13/07/17			371547

Contract: **High Holborn Estate**

GINT_LIBRARY_V8_06.GLB : E - GAS MON - REDUCED - 9A - A4L : 371547_HIGH HOLBORN ESTATE.GPJ : 13/07/17 16:34 : HKL1 :

IN-SITU GAS MONITORING RESULTS

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	
WS1	3	---	60 secs	-	-	0.0	-	1.7	0.0	17.4	-	
WS1	3	---	120 secs	-	-	0.0	-	1.7	0.0	17.3	-	
WS1	3	---	180 secs	-	-	0.0	-	1.7	0.0	17.3	-	
WS1	3	---	240 secs	-	-	0.0	-	1.7	0.0	17.3	-	
WS1	3	---	300 secs	-	-	0.0	-	1.7	0.0	17.3	-	
WS1	3	---	360 secs	-	-	0.0	-	1.7	0.0	17.3	-	

Key: I = Initial, P = Peak, SS = Steady State. Note: LEL = Lower Explosive Limit = 5% v/v.

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Compiled By	Date	Checked By	Date	Contract Ref:
	13/07/17			371547

Contract: **High Holborn Estate**

Page: **4** of **4**

APPENDIX I
GEOTECHNICAL TESTING CERTIFICATES

STRUCTURAL SOILS LTD

TEST REPORT

Report No. 583631-01 (00) 1774

Date	06-June-2017	Contract	High Holborn Estate

Client RSK
Address 18 Frogmore Rd
Apsley
Hemel Hempstead
Hertfordshire
HP3 9RT
For the Attention of Andy Tyler

Samples submitted by client	16-May-2017	Client Reference	371547
Testing Started	18-May-2017	Client Order No.	n/a
Testing Completed	05-June-2017	Instruction Type	Written

Tests marked 'Not UKAS Accredited' in this report are not included in the UKAS Accreditation Schedule for our Laboratory.

UKAS Accredited Tests

1.01	Moisture Content (oven drying method) BS1377:Part 2:1990:clause 3.2
1.03	Liquid Limit (one point method) & Plastic Limit BS1377:Part 2:1990,clause 4.4/5.3
1.10	Particle Size Distribution wet sieve method BS1377:Part 2:1990,clause 9.2
5.04	Undrained shear strength triaxial compression without pore pressure measurement (definitive method) 100mm diameter specimens BS1377:Part 7:1990,clause 8.4
4.01	One-dimensional consolidation BS1377:Part 5:1990,clause 3.5

* This clause of BS1377 is no longer the most up to date method due to the publication of ISO17892

Please Note: Remaining samples will be retained for a period of one month from today and will then be disposed of .
Test were undertaken on samples 'as received' unless otherwise stated.
Opinions and interpretations expressed in this report are outside the scope of accreditation for this laboratory.

Structural Soils Ltd 18 Frogmore Rd Hemel Hempstead HP3 9RT Tel.01442 416661 e-mail dimitris.xirouchakis@soils.co.uk

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À: 4;Ā824Ā65Ā12/47406Ā>2/84?4>782Ā>012/;Ā7==Ā824Ā65Ā6Ā/E2?2Ā8:2
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À2;8465Ā/2.0/823Ā72/Ā8:4;Ā3782Ā8Ā>012/23ĀE8:4;Ā2/47406Ā(2/84?4>782K

Dimitris Xirouchakis

)../0123Ā!456780/9
À ! '"#$Ā%#&'()*+ $Ā,À #(" &#Ā.Ā/*0&#"&#- $1

UM273Ā*4?2V
W/4;80=ĀD7E0/780/9
B648Ā+ĀL/46>2;Ā 8228
W23H46;82/
W/4;80=
W!OĀ-)$

(7;8=2?0/3ĀD7E0/780/9
À:2ÀL082/42;IĀL0828Ā!8228
(7;8=2?0/3
Q 2;8ĀR/J;:4/2
Q ' +SĀ+#T

M2H2=ĀD7E087/9
+NĀ'/05H0/2Ā&073
M2H2=ĀM2H.;8273
M2/8?0/34/2
MLOĀP&À

À06E/4352ĀD7E07780/9
)62/=29Ā0</8IĀM7=?ĀG006ĀD762
M4=326E0<5:
À06E/4352
À#++ĀPMB

FGHIJG IH5 / **FK3/ FĀGÀ**	(068/7>8@ **A B) ĀÀ&0&#DĀ$"* "-**	T0EĀ#0@ **?@>7>:**

À ! ! "#$Ã%&Ã%'(Ã) (" ÀÀ'&)" *' %+Ã, À*À

K/Ã.JJ5-B. /J ;Ã6183ÃJ7.F2Ã)%!Q%)QQ@Q@%@%%!Q%!Q'%Ã5ÃÀP")* *RI.- 8Ã!R#'+&

WLN7-.85-9 I 5218/ Ã#K	P.D N7, V; O	P.D N7, S9N,	#; N83 TDU	E5128F-; <5/ 8, / 8 G	=1HFB =1D18 G	I7.2 8J1 =1D18 G	I7.2 8J189 K B;L	G M6!@FD	#; 2J-1N8/Ã5OÃP.DN7;
À !	"	#	$%&	! '	( )	! (	) *	+(	,-./0123Ã4-56 /Ã27103Ã709.:;779Ã<=>?
À !		#	$%&	!$	@+	)"	!'	"&&	A;-9 ÃB.-CÃ-56 /ÃD587;BÃ71038Ã4-ÃD587;BÃ5-./0123Ã4-56SILT
À !		#	(%$@	!(	*!	!(	$(	"&&	A;-9 ÃB.-CÃ-56 /Ã<=>?
À !		#	'%@	!*	@+	!*	)!	"&&	A;-9 ÃB.-CÃ-56 /ÃD587;BÃ71038Ã4-Ã<=>?
À !		#	")%@	) "	* !	! '	$$	" &&	A;-9 ÃB.-CÃ-56 /Ã<=>?
À !		#	"(%&&	! @	*)	) "	$!	" &&	A;-9 ÃB.-CÃ;9 123Ã4-56Ã<=>?
À !		#	!&%@	! *	* '	! +	$+	" &&	A;-9 ÃB.-CÃ-56 /123Ã0-;9Ã<=>?
À !		#	!(%' &	" @	$$	" +	! @	" &&	#.-CÃ4-56/ÃD587;BÃ0-;9Ã<=>?

À ! ! "#$Ā%&Ā%'(Ā) (" ÀÀ'&)" *' %+Ā, À*À

K/Ā.JJ5-B. /J ;Ā6183ĀJ7.F2Ā%!Q%)Q%Q@Q@%%!Q%!Q'%Ā5ŌÀÀP")* *RI.- 8Ā!R#'+&

WLN7-.85-9 I 5218/ Ā#K	P.D N7, V; O	P.D N7, S9N,	#; N8 TDU	E5128F-; <5/ 8, / 8 G	=1HFB =1D18 G	I7.2 8J1 =1D18 G	I7.2 8J189 K/B; L	G M6!@FD	#; 2J-1N8/Ā5OĀP.DN7;
À !		#	!+%+@	"@	$*	!"	!(	"&&	Ā-56 /ĀD587;BĀ0-;9ĀD587;BĀ-;BB123Ā4/5Ā6=>?



À*#)* #" (À%'(ÀĀ*?

<5/8-.J8R

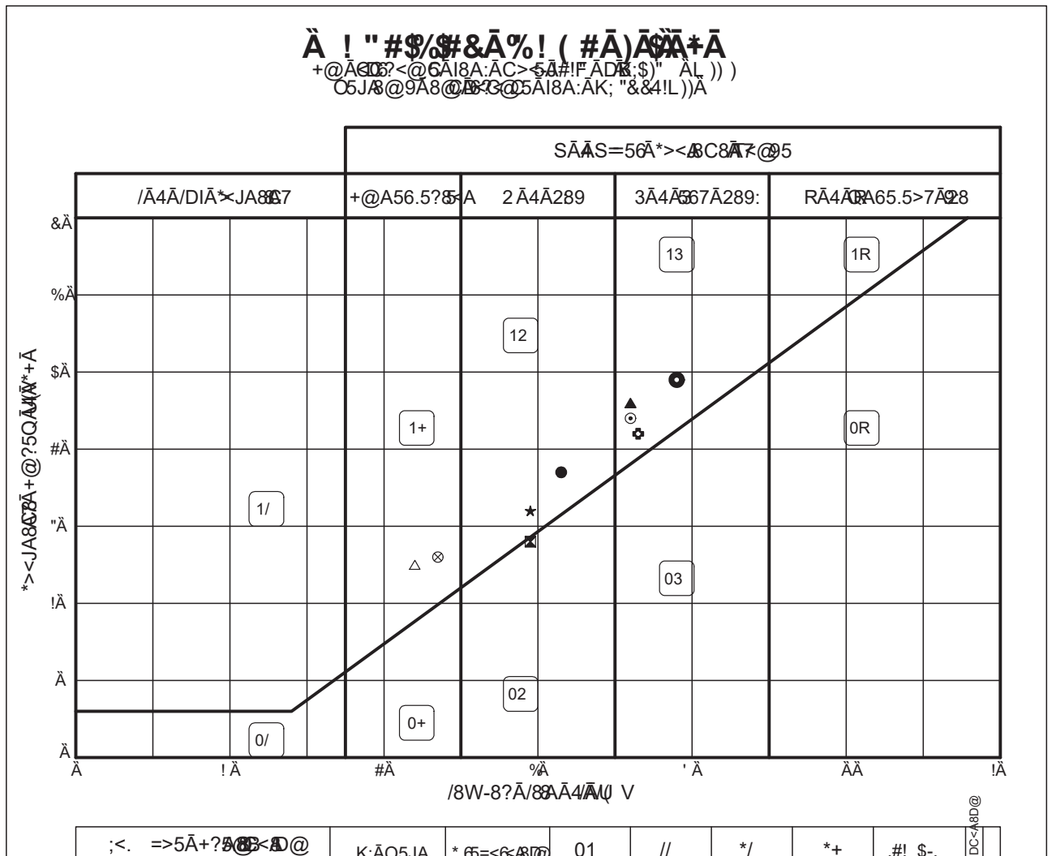
23Ā45Ā678 69:Ā;; <=>

<5/8-.J8Ā;OR

-./0/1



XKYSZ=kÅV>V?ZA' Z&(%+ÄÄRĀĀP\E E>V?Ā,] Ā=>PPK,K=> SK, YĀĀ+$=ĀRŌ\)( )" Ā kX Ā , =Ā, VYĀNPS>SWĀĀVP^Ā* "@S* %I _ĀĀ&@&('"*Ā&+R@ĀĀR<"ĀR



;<. =>5Ã+?5Ã@<ÃD@ RC=Ð6<A:Ð7 *DJ8Ã@Ã+E	;<.= >5	E5=A: U.V	K;ÃO5JA 0 5A:D?ÃN	* 65=<6<A:D@ 0 5A:D?ÃH	01 (	// (	*/ (	*+ (	,#! $-. (	/< MÃ>DC<A8D@
●	K2!	E	#F!Ä	"F! @F#&$F"%$F#	#F!##	!'	%"	!%	"&	)%
⧓	K2!	ÃE	#F#Ä	"F! @F#&$F"%$F#	#F!#"	!#	$)	"	!'	ÄÄ
▲	K2!	ÃE	%F$Ä	"F! @F#&$F"%$F#	#F!#"	!%	&!	!%	#%	ÄÄ
★	K2!	ÃE	'F$Ä	"F! @F#&$F"%$F#	#F!#"	!&	$)	!&	"!	ÄÄ
⊙	K2!	ÃE	" F$Ä	"F! @F#&$F"%$F#	#F!#"	"	&!	!'	##	ÄÄ
✪	K2!	ÃE	%FÄÄ	"F! @F#&$F"%$F#	#F!#"	!$	&"	"	#!	ÄÄ
⓿	K2!	ÃE	!Ä F$Ä	"F! @F#&$F"%$F#	#F!#"	!&	&'	!)	#)	ÄÄ
△	K2!	ÃE	!%F'Ä	"F! @F#&$F"%$F#	#F!#"	$	##	)	!$	ÄÄ
⊗	K2!	ÃE	!) F)$	"F! @F#&$F"%$F#	#F!#"	$	#&	!	!%	ÄÄ

NÃ5JA5?Ã@Ã<CCD6?<@C5ÃÃA5ÃBD@I 8@9Ã=-J5J ÃDÃK"&&4!L))ÃF

"FI ÃÃD9A65ÃD@ÃÃA
#F"ÃÃD@5Ã5@5ÃD. 5A56Ã5A D?
#F#ÃÃR@5Ã8@ÃD@5Ã5@5ÃD. 5A56Ã5A D?
#F"ÃÃR@5Ã8@ÃR<J<96<@?5Ã5A D?
$F"ÃÃA<JA8Ã. 9ÃÃ5A D?
$F#ÃÃA<JA8Ã8ÃA@?5Q

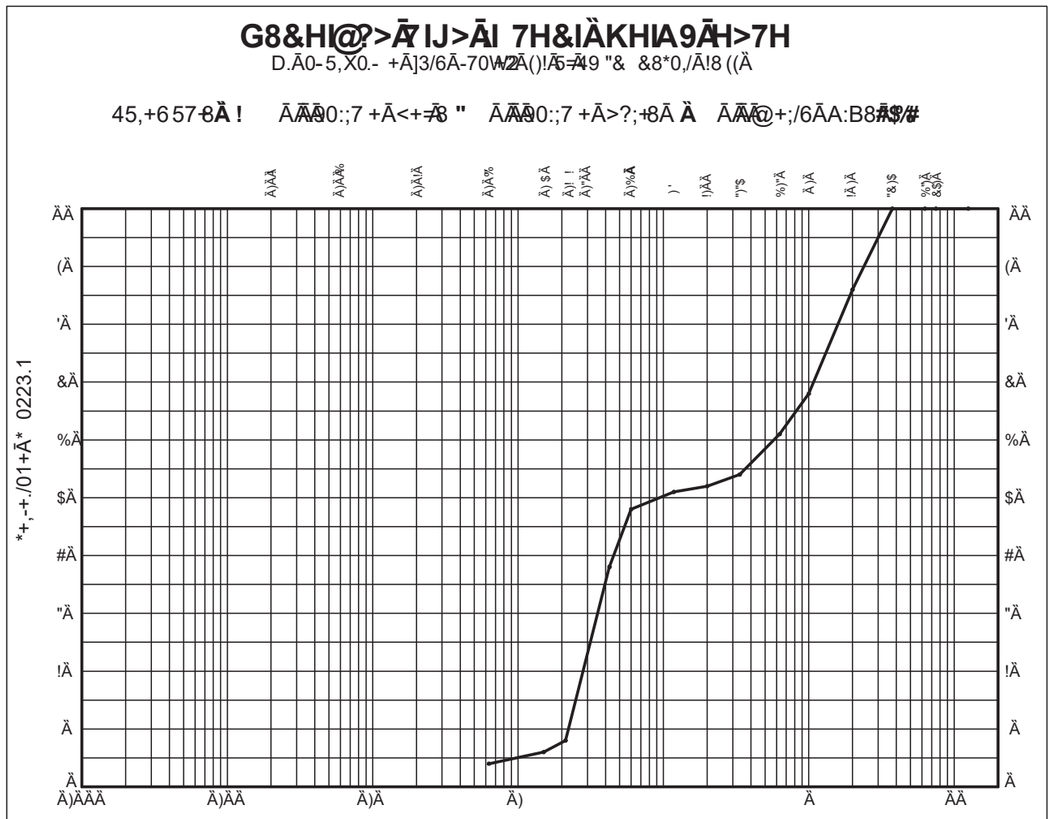
HÃ5JA5?Ã8Ã@CCD8?<@C5Ã 8A:Ã=5ÃB>>D8@ÃC< J5JÃBÃÃ; "&&4 L))ÃF

#FF"Ã4Ã< A 6<>ÃA<A5
#FF#ÃÃ 5Ã 5" 5?

a57ÃÃÃ D@JA<@<6?Ã5NAÃÃ* ÃÃ D@A=>4A8C

/ <MÃ=DC<A8D@ÃÃK8AÐÃU "Ã#Z\[Ã ÃÃ1<JA>5Ð8?ÃU] ÄÃ^ _\[Ã ÃÃ25. 5=Ã25. =JA5<?Ã2*" Ã]TO\[ÃÐÃÃO@6?95ÃÐ^ Ã,2 SV

;O TS1O STY /Ã;P +/; 'Ã]6D9.D65 ÃTD<? 25.5>Ã25.=JA5<? 256ABD6?865 2*"Ã)TO	1D.=8>5?ÃK7	E<A5
	"'!(45Ã %!$(5"	1,21/ 203
1D@A6<CA ' 6?8Ã'9:; 9<=Ã>?@A	1D@A6<C?5Ã ,-./.0	



OGHI	=3.+	: +X3V:	-50,2+	=3+	: +X3V:	-50,2+	=3.+	: +X3V:	-50,2+	@AÀÄ?>7
	9DG>			9HE@			C<HJTG			

>+2/ 93+L+ÃAaB	*+,-+./ *022 3.1 AaB
!$)Ä	"##
&$)Ä	"##
%")Ä	"##
"&)$	"##
!Ä)Ä	CD
Ä)Ä	DC
%)"Ä	D"
")"$	EB
!)ÄÄ	E!
) '	E"
Ä)%ÄÄ	BC
Ä)#!$	FC
Ä)! !	C
Ä) $Ä	D
Ä)Ä%"	B

*0,/3-7+ @30:+/+, A:: B	*+,-+./ *022 3.1 AaB
9+X3 +./ 0/3.Ã20: ; 7+Ã, 02Ã5/ :, +N,+0/+X	

9537 Z,0-/35.	93+L+ *+,-+./0 1+ÃaB
C<HJTG	BC
9HE@	BC
9DG>OGHI	B

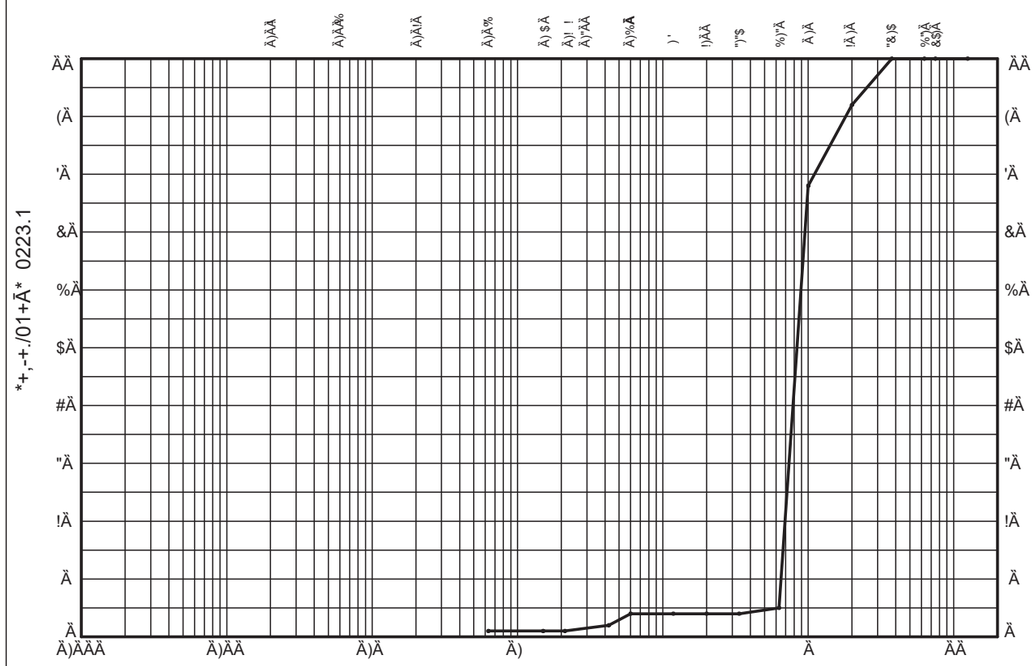
9537Ã@+2;/35.8
&' (( )* +Ã,-. / 0Ã*1)2-31Ã5 6' 4Ã7 8 9 : ;< &8=>?

9> <cO> c<H GÃ9$DG9 'ÃZ,51:5,+ Ã<50X Q+:+7ÃQ+:;2/+0X Q+,/=5,X263,+ Q*"Ã(<>	O5:;37 +XÃ4?	@0/+
	7 8&A9Ã @8I &97	#E#D;"%
O5./,0-/)2+Ã . 1, . -0Ã*363	O5./,0-/Ã<+=8 ECFDF"	

G8&HI@?>Ā7IJ>ĀI 7H&IÀKHIA9ĀH>7H

D.Ā0-5,X0.- +Ā]3/6Ā-70W2Ā)!Ā5=Ā49 "& &8*0,/Ā!8((À

45,+6 57-8À ! ĀÃÃÃ0:;7 +Ā<+=Ā8 F ĀÃÃÃ0:;7 +Ā>?;+8Ā À ĀÃÃÃ@+;/6ĀA:B8Ā$E#



*0,/ 3-7+Ā9Ā:A: B

OGHI	=3+ : +X3V: -50 ,2+ 9DG>	=3+ : +X3V: -50 ,2+ 9HE@	=3.+ : +X3V: -50 ,2+ C<HJTG	@ÃÄÄ?>7

>+2/ 93+L+ĀA:B	*+,-+./ *022 3.1 AaB
!$)Ä	"##
&$)Ä	"##
%")Ä	"##
"&)$	"##
!Ä)Ä	L!
Ä)Ä	%C
%)"Ä	E
")"$	B
!)ÄÄ	B
) '	B
Ä)%ÄÄ	B
Ä)#!$	!
Ä)! !	"
Ä) $Ä	"
Ä)Ä%"	"

*0,/3-7+ @30:+/+, A:: B	*+,-+./ *022 3.1 AaB
9+X3 +./ 0/3.Ā20: ; 7+Ā 02Ā5/ ;, +N,+0/+X	

9537 Z,0-/35.	93+L+ *+,-+./0 1+ĀaB
C<HJTG	LD
9HE@	F
9DG>OGHI	"

9537Ā@+2;/35.8
?)2+3Ā-./ 0Ā1)2+31Ā56(' 4Ā1)2+31Ā60(4Ā<&8=>?

9><cO> c<H GĀ9$DG9 'ĀZ,51:5,+ Ā<50X Q+:+7ĀQ+:;2/+0X Q+,/=5,X263,+ Q*"Ā(<>	O5:;37+XĀ4?	@0/+
	7 8&A9Ā @8I&97	#E;#D;"%
	O5./,0-/)2+Ā . 1, . -0Ā*>363	O5./,0-/Ā<+=8 ECFDF"

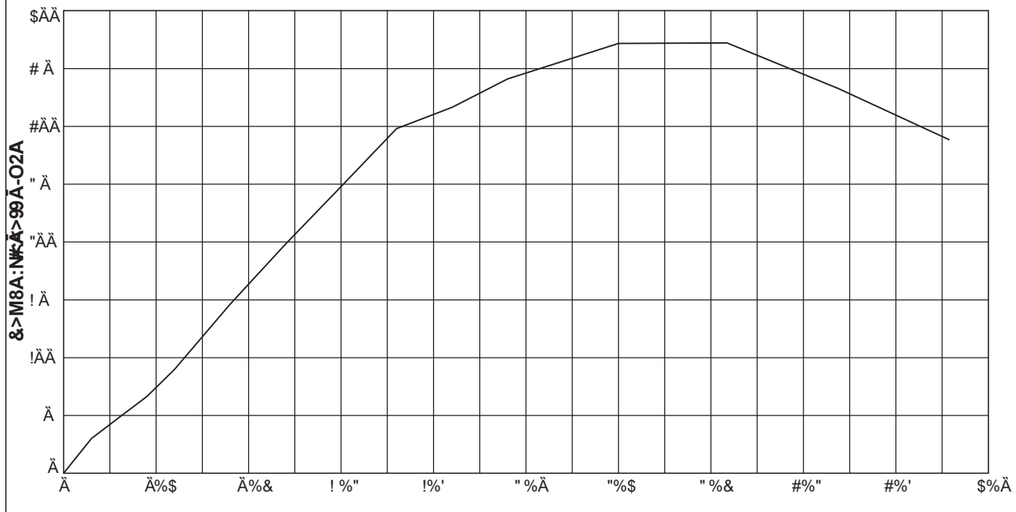
À !" #"$ %&' ( )&Ā* À%+ĀÀ &,' %)&Ā-#%$) Ā#(' .)/ (, %0%$Ā!" 1 2,) ##%" Ā) #(

P0Ā(C251) 0C-Ā<2;Ā>(!# WWG)53ĀWaaÃ`Ā.,)=7-Ā&

>/5-; / ,-VĀP4 ĀÃÃÃ()*+, -ĀD-6Ā G ĀÃÃÃ()*+, -ĀB@+VĀ À ĀÃÃÃ-+3;ĀK*LVĀ3GDC

8- 7C52+3Ā2(VĀÃÃA<CĀ<NQ6Ā $' R

#(' .)Ā Ā1K),			3	4	5
#' 12$)Ā &) (' %#	()*+,-Ā./012 32/0		Ā6789:;<=>7		
	452-03)32/0Ā/6Ā7)*+,-		?><8@AB		
	82)*-3-5	K**L	3C5D5		
	9-2: ;3	K**L	4CEBG		
	</273=5-Ā./03-03	KML	4E		
	>=,?Ā8-0723@	K<:N*#L	4DDC		
	85@8-0723@	K<:N*#L	3DBH		
()#(Ā &)(' %#	<-*A5)0-ĀB ;2C?0-77	K**L	CB3		
	D)3-Ā/6ĀE2)Ā827+,)C-*-03	KMN*20L	3DDG		
	.-,, ĀG5-7#5-	K?G)L	5CC		
	<-*A5)0-Ā./55-C32/0	K?G)L	CØI		
	./55-C3-1Ā8-H2)3/5Ā85-77	K?G)L	5F4		
	I015)20-1Ā(;-)5Ā(35-0:3;	K?G)L	3EH		
	(35)20Ā)&J)2,=5-	KML	4DJ		
	</1-A/6AJ)2,=5-		K<8:B		



#:<A86Ā-L/

(B DI.B IDE SĀ(4PS(!&ĀJ5/:*/5- ĀD/)1 9-*-,Ā9-*+73-)1 9-536/517;25- 9G#ĀaDB	./*+2, -1Ā>@	8)3-
	#P',"Ā ! '%,#	CGSHSF
	./035)C3 P8TUĀNB=N<6Ā)9:A:>	./035)C3Ā0-6V GE5H53

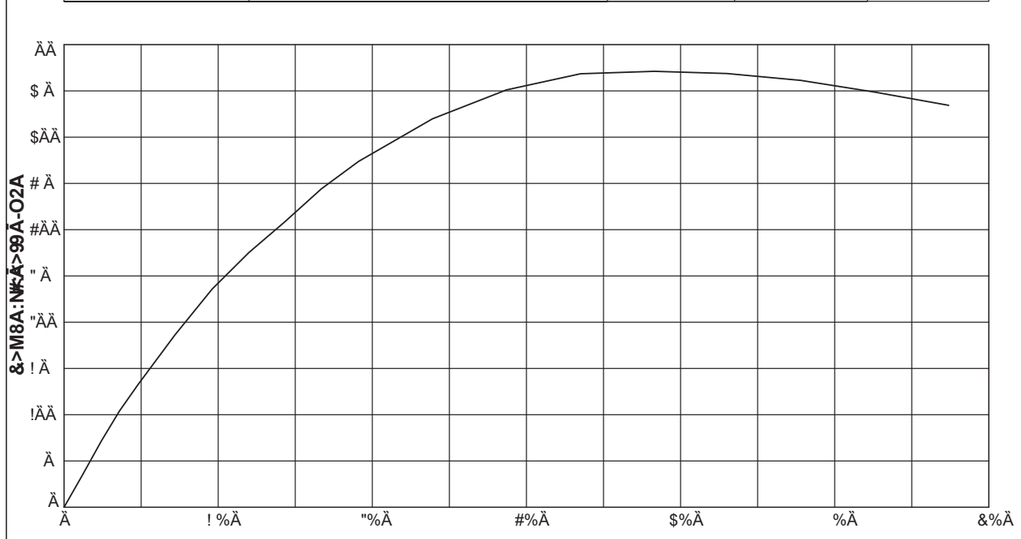
À !" #"$ %&' ( )&Ā* À%+ĀÀ &,' %)&Ā-#%$) Ā#(' ./0
(, %1%$Ā!" 1 2,) ##%" Ā) #(

O/ĀBB40(/B,Āc 2:Ā='!# WWF(42ĀWaaÀ`Ā-+<6,ĀU

=.4,: . +,VĀP4 ĀĀĀ()*+ ,ĀC,5VĀ J ĀĀĀ()*+ ,ĀA?*, VĀÀ ĀĀĀ7,*2:ĀJ)KVĀ3IDCC

7, 6B41*2/Ā\VĀĀA<OĀ=NQ6Ā!$' RĀQ8SĀTN@D>:9ĀNĀ67

#(' .)Ā Ā1K),			3	4	5
#' 12$)Ā &) (' %#	'()*+,Ā-./01 21./		Ā6789:;<=>7		
	341,/2(21./Ā.5Ā6()*+,		?><8@AB		
	71(),2,4	J))K	3C5EF		
	8,19:2	J))K	4CGDH		
	;.162<4,Ā-./2,/2	JLK	4H		
	=<+>Ā7,/612?	J;9M) #K	4D3		
	74?Ā7,/612?	J;9M) #K	3DE		
()#(Ā &)(' %#	;,)@4(/,ĀA :1B>/,66	J))K	CB4		
	C(2,Ā.5ĀDE(Ā716*+(B,),/2	JLM)1/K	3D3C		
	-,++ĀF4,66<4,	J>F(K	5JC		
	;,)@4(/,Ā-.44,B21./	J>F(K	CB4		
	-.44,B2,0Ā7,G1(2.4Ā24,66	J>F(K	FH3		
	H/04(1/,0Ā':,(4Ā'24 ,/92:	J>F(K	45J		
	'24(1/Ā(2Ā(1+<4,	JLK	5D		
	;.0,Ā.5Ā(1+<4,		K<8:B		



'A CH-A HCDRĀ'3OR' !UĀI4.9).4, ĀC.(0 8,),+Ā8,)*62,(0 8,425.406:14, 8F#ĀaCA	-.)*1+ ,0Ā=?		7(2,
	SC	#P'," Ā !'% , #	CEWJV8H
	-./24(B2 P8MSĀNB=N<6Ā)9:A:>	-./24(B2ĀC,5V EI5J53	AGS

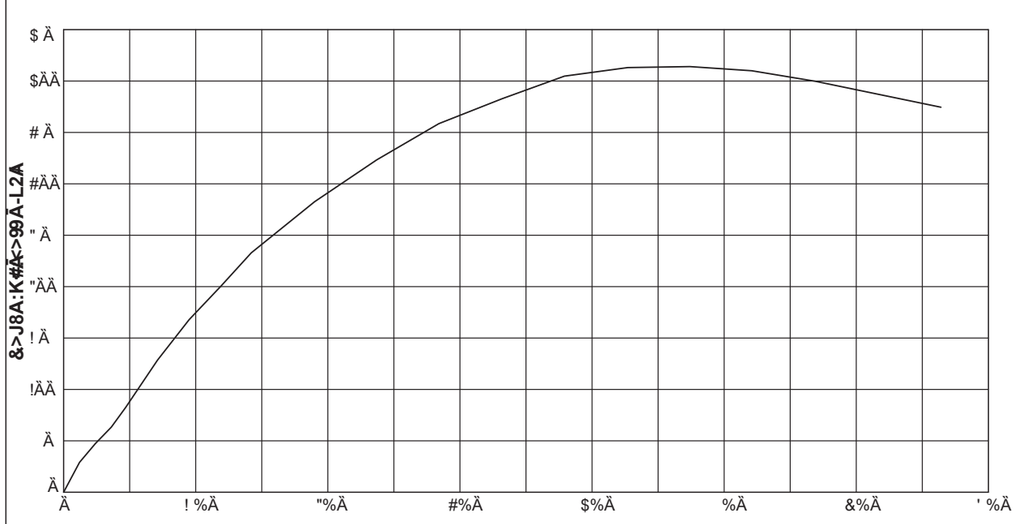
À !" #"$ %&' ( )&Ā* À%+ĀÀ &,' %)&Ā-#%$) Ā#(' ./0
(, %1%$Ā!" 1 2,) ##%" Ā) #(

POĀÇC51) 0C-Āc2;Ā>(!# ' ' W3)53ĀV!aaÀ`Ā.,)=7-ĀV

>/5-; / ,- WĀM4 ĀĀĀ()*+, -ĀD-6VĀ F ĀĀĀ()*+, -ĀB@+WĀÀ ĀĀĀ-+3;ĀK*LWĀ3DDC

8- 7C52+3ĀÀ\ĀĀA<LĀ=KN6Ā9Ā67OĀ!$' P

#(' .)Ā Ā1H),			3	4	5
#' 12$)Ā &) (' %#	()*+,-Ā./012 32/0		Ā6789:;<=>7		
	452-03)32/0Ā/6Ā7)*+,-		?><8@AB		
	82)*-3-5	K**L	3C4EF		
	9-2: ;3	K**L	43CEF		
	</273=5-Ā./03-03	KML	44		
	>=,?Ā8-0723@	K<:N*#L	4DDE		
	85@Ā8-0723@	K<:N*#L	3DF3		
()#(Ā &)(' %#	<-*A5)0-ĀB ;2C?0-77	K**L	CB4		
	D)3-Ā/6ĀE2)Ā827+,)C-*-03	KMN*20L	3DDE		
	.-,, ĀG5-7?5-	K?G)L	G4C		
	<-*A5)0-Ā./55-C32/0	K?G)L	CDDC		
	./55-C3-1Ā8-H2)3/5Ā85-77	K?G)L	G3G		
	I015)20-1Ā(;-)5Ā(35-0:3;	K?G)L	4CF		
	(35)20Ā)8J)2,=5-	KML	GB		
	</1-Ā/6ĀJ)2,=5-		H<8:B		



(B DI.B IDE SĀ(4PS(!VĀJ5/:*/5- ĀD/)1 9-*-,Ā9-*+73-)1 9-536/5?;25- 9G#ĀaDB	./*+2, -1Ā>@		8)3-
	SC	#M," Ā ! '%,#	CQXSTBF
	./035)C3 M8UVĀMB=K<6Ā)9:A:>	./035)C3Ā)-6W QR5S53	AGS

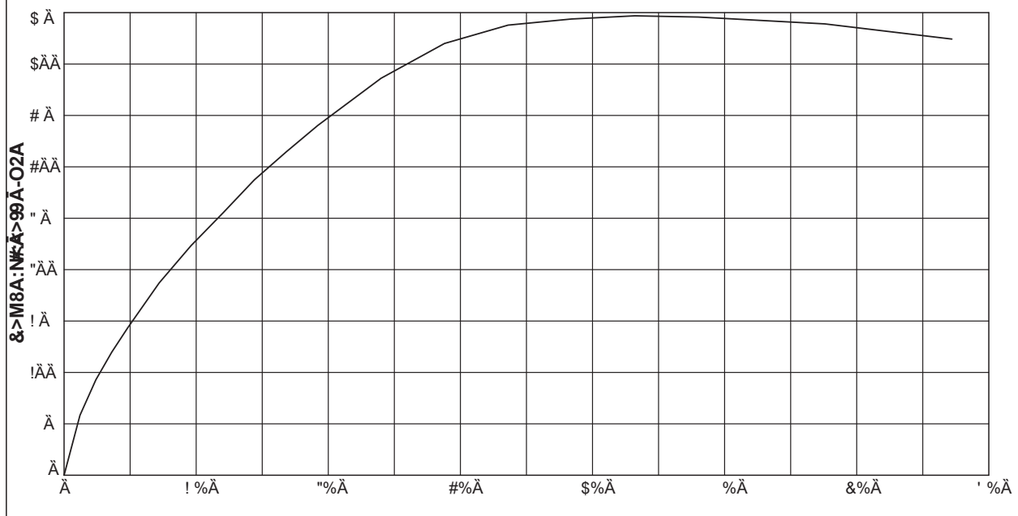
À !" #"$ %&' ( )&Ā* À%+ĀÀ &,' %)&Ā-#%$) Ā#(' ./)/
(, %0%$Ā!" 1 2,) ##%" Ā) #(

P0ĀÇ©51) 0C-Āc23;Ā>(!# ' ' W5)53ĀW!aÀ`Ā.,)=7-ĀV

>/5-; / ,-WK₱4 ĀĀĀ)*+, -ĀD-6WG ĀĀĀ)*+, -ĀB@+WÀÀ ĀĀĀ3-+3;ĀK*LWĀHDC

8- 7C52+3ZĀVĀĀĀA<OĀ=NQ6Ā967RĀ!$' S

#(' .)Ā Ā1K),			3	4	5
#' 12$)Ā &) (' %#	()*+,-Ā./012 32/0		Ā6789:;<=>7		
	452-03)32/0Ā/6Ā7)*+,-		?><8@AB		
	82)*-3-5	K**L	3C4EF		
	9-2: ;3	K**L	4CGH		
	</273=5-Ā./03-03	KML	4I		
	>=,?Ā8-0723@	K<:N*#L	4DDG		
	85@Ā8-0723@	K<:N*#L	3DFF		
()#(Ā &)(' %#	<-*A5)0-ĀB ;2C?0-77	K**L	CD2J		
	D)3-Ā/6ĀE2F)Ā827+,)C-*-03	KMN*20L	3D3C		
	.-,, ĀG5-7#5-	K?G)L	HGC		
	<-*A5)0-Ā./55-C32/0	K?G)L	CB55		
	./55-C3-1Ā8-H2)3/5Ā85-77	K?G)L	HHE		
	I015)20-1Ā(;-)5Ā(35-0:3;	K?G)L	44H		
	(35)20Ā)&J2,=5-	KML	HB9		
	</1-Ā/6ĀJ)2,=5-		K<8:B▶		



(B DI.B IDE SĀ(4PS(!VĀJ5/:*/5- ĀD/)1 9-*-,Ā9-*+73-)1 9-536/517;25- 9G#ĀaDB	./*+2, -1Ā>@		8)3-
	SC	#P'," Ā !%,#	CITCFBE
	./035)C3	./035)C3Ā)-6W	
	P8UVĀRNB=N<6Ā)9:A:>	IG5F53	

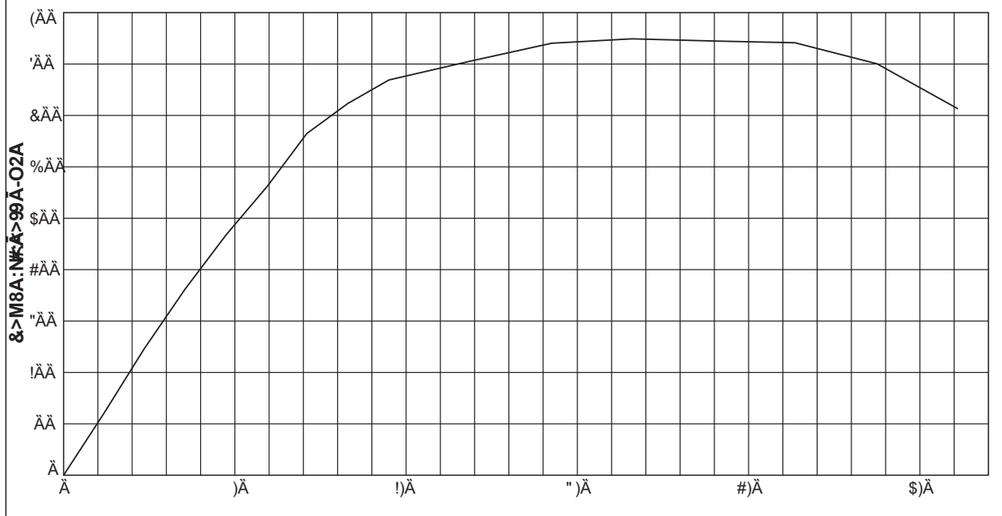
À !" #"$ %&' ( )&Ā* À%+ĀÀ &,' %)&Ā-#%$) Ā#(' ./)/
(, %0%$Ā!" 1 2,) ##%" Ā) #(

R2ĀEH73+2E/Āc5=Ā@* "&&X+75ĀX ((ÀaĀ0.?9/Ā'

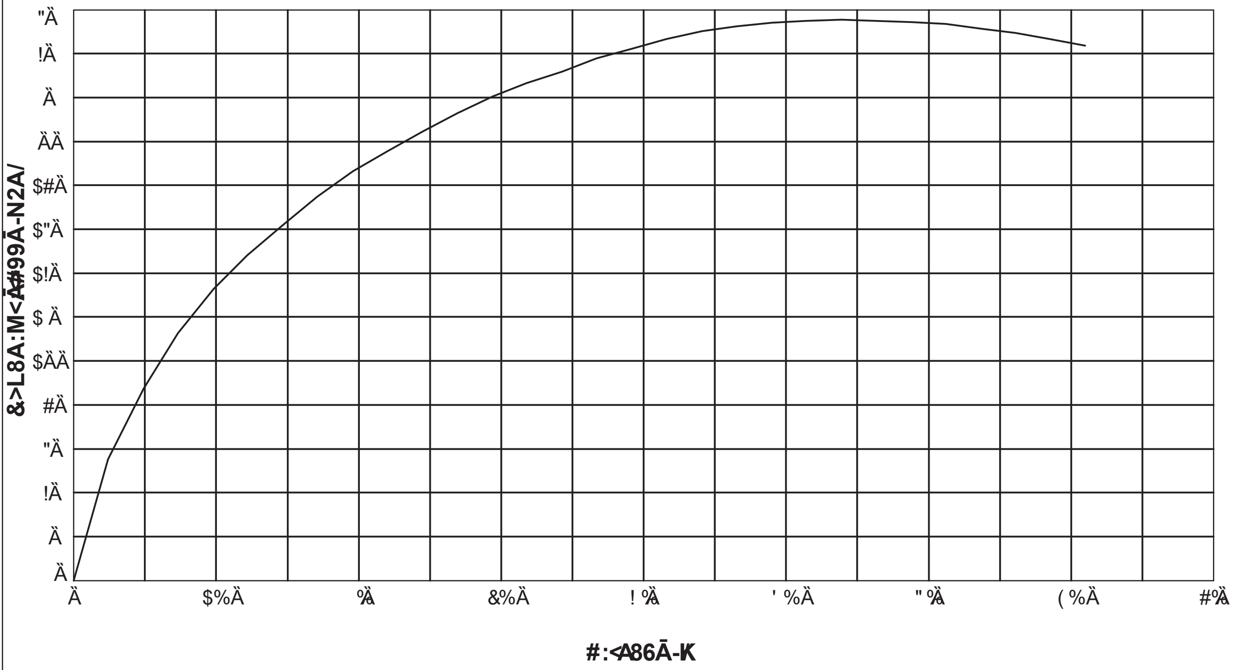
@17/=1./ XK₱4 ĀĀĀ+,-. /ĀF/8XĀ G ĀĀĀ+,-. /ĀDB-/XĀÀ ĀĀĀ-5=ĀM,NXĀ4FDC

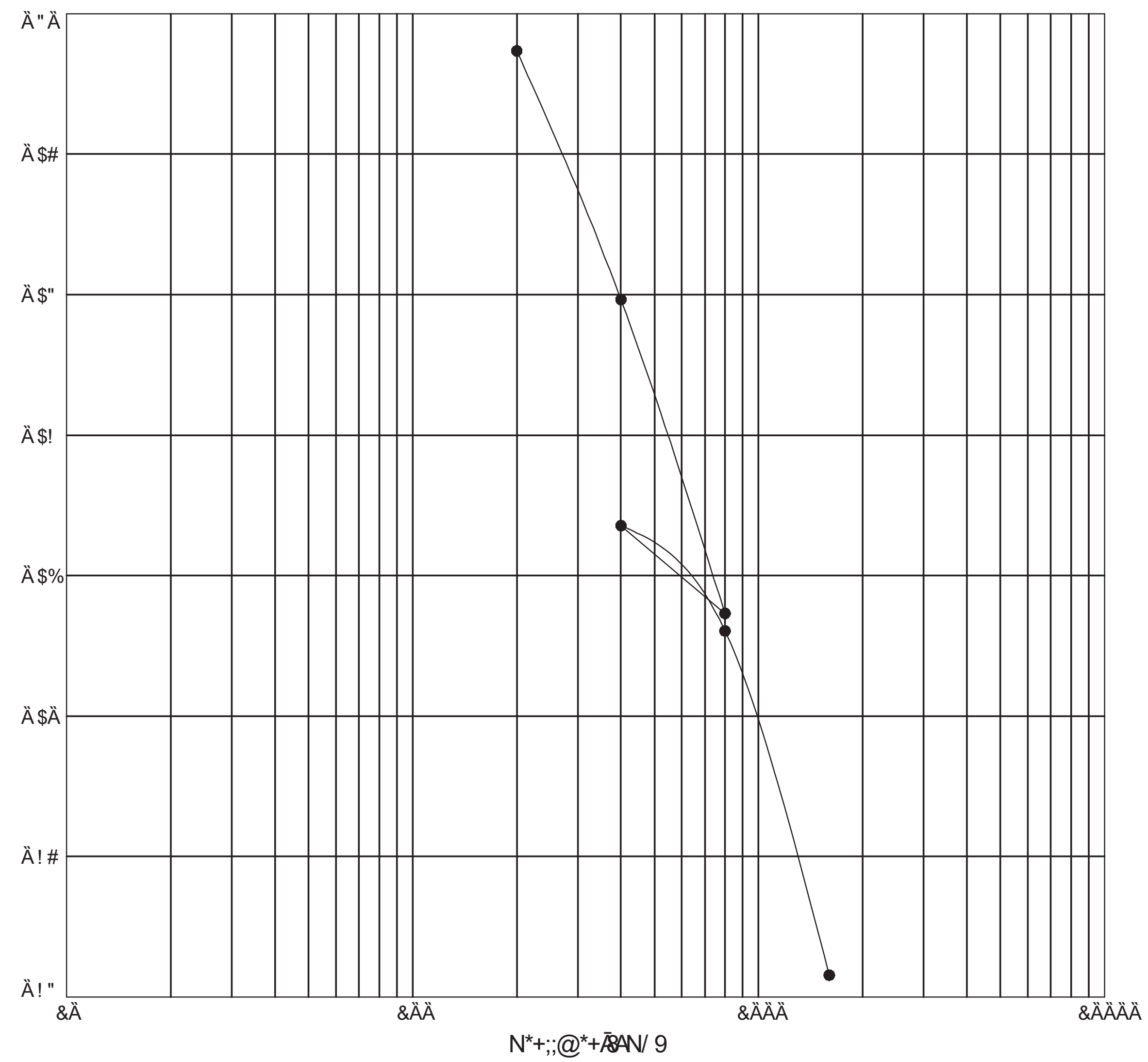
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	;/4< =5	M,,N	43CEF		
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	:7BĀ/2945B	M><P,"N	3DFG		
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	F+5/Ā18Ā@+HĀ:49-.+E/,/25	MOP,42N	3D43		
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	>/,C7+2/Ā0177/E5412	MAI+N	CD2E		
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	K237+2/3Ā*=/+7Ā*572<5=	MAI+N	I4H		
	*57+42ĀĀE-4?7/	MON	5D5		
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APPENDIX J
LABORATORY CERTIFICATES FOR CHEMICAL SOIL ANALYSIS

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 17/03411
Issue Number: 1 **Date:** 31 May, 2017

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler/Nigel Austin
Project Name: High Holborn Estate
Project Ref: 371547
Order No: N/A
Date Samples Received: 17/05/17
Date Instructions Received: 17/05/17
Date Analysis Completed: 31/05/17

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Service Manager

UKAS TESTING 1247

Envirolab Job Number: 17/03411 **Client Project Name: High Holborn Estate**

Client Project Ref: 371547

Lab Sample ID	17/03411/1	17/03411/2	17/03411/3	17/03411/4	17/03411/5	17/03411/6	17/03411/7	17/03411/8	Units	Method ref
Client Sample No	J	J	J	J	J	J	J	D		
Client Sample ID	BH2	BH2	BH2	BH2	BH2	BH2	BH2	BH2		
Depth to Top	3.6	4.2	4.4	6.45	11.5	20.5	26.8	28.2		
Depth To Bottom										
Date Sampled	12-May-17	12-May-17	12-May-17	12-May-17	12-May-17	12-May-17	12-May-17	12-May-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	1A	5	5	3	3	3	5	3		
% Stones >10mm$_A$#	5.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	A-T-044
pH BRE$_D$M#	8.47	5.05	7.07	8.31	8.44	8.54	9.41	9.30	pH	A-T-031s
Ammonium NH4 BRE (water sol 2:1)$_D$	<1.00	-	1.48	-	6.39	-	-	-	mg/l	A-T-033s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$M#	<7	-	26	-	56	-	-	-	mg/l	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	1.2	-	<0.4	-	<0.4	-	-	-	mg/l	A-T-026s
Sulphate BRE (water sol 2:1)$_D$M#	10	81	378	240	258	347	22	2520	mg/l	A-T-026s
Sulphate BRE (acid sol)$_D$M#	<0.02	-	0.11	-	0.08	-	-	-	% w/w	A-T-028s
Sulphur BRE (total)$_D$	<0.01	-	0.26	-	0.39	-	-	-	% w/w	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	2	-	49	-	48	-	-	-	mg/l	A-T-SOLMETS

REPORT NOTES

General:
This report shall not be reproduced, except in full, without written approval from Envirolab.
All samples contained within this report, and any received with the same delivery, will be disposed of one month after the date of this report.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure. These are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Soil chemical analysis:
All results are reported as dry weight (<40℃).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 17/03060
Issue Number: 1 **Date:** 17 May, 2017

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler/Nigel Austin
Project Name: High Holborn Estate
Project Ref: 371547
Order No: N/A
Date Samples Received: 28/04/17
Date Instructions Received: 04/05/17
Date Analysis Completed: 17/05/17

Prepared by:
Melanie Marshall
Laboratory Coordinator

Approved by:
Iain Haslock
Analytical Consultant

Lab Sample ID	17/03060/1	17/03060/2	17/03060/3	17/03060/4	17/03060/5	17/03060/6	17/03060/7	17/03060/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4		
Depth to Top	0.30	1.80	0.95	1.30	0.30	1.00	0.44	0.65		
Depth To Bottom										
Date Sampled	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	5A	5AB	5A	5A	1A	5			
% Stones >10mm$_A$ #	23.2	20.1	9.8	30.3	27.1	23.9	<0.1	-	% w/w	A-T-044
pH$_D$ M#	8.87	8.36	8.61	-	-	7.67	7.50	-	pH	A-T-031s
pH BRE$_D$ M#	8.87	8.36	8.61	8.42	-	-	-	-	pH	A-T-031s
Ammonium NH4 BRE (water sol 2:1)$_D$	<1.00	-	<1.00	-	-	-	-	-	mg/l	A-T-033s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$ M#	18	-	11	-	-	-	-	-	mg/l	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	25.6	-	12.5	-	-	-	-	-	mg/l	A-T-026s
Sulphate BRE (water sol 2:1)$_D$ M#	143	26	41	12	-	-	-	-	mg/l	A-T-026s
Sulphate BRE (acid sol)$_D$ M#	0.06	-	0.12	-	-	-	-	-	% w/w	A-T-028s
Sulphur BRE (total)$_D$	0.03	-	0.05	-	-	-	-	-	% w/w	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	<1	-	2	-	-	-	-	-	mg/l	A-T-SOLMETS
Phenols - Total by HPLC$_A$	<0.2	-	<0.2	-	-	-	-	-	mg/kg	A-T-050s
Total Organic Carbon$_D$ M#	0.14	0.06	0.13	<0.03	-	0.05	0.13	-	% w/w	A-T-032s
Arsenic$_D$ M#	15	4	5	-	-	5	<1	-	mg/kg	A-T-024s
Cadmium$_D$ M#	0.8	0.6	0.7	-	-	0.7	1.5	-	mg/kg	A-T-024s
Copper$_D$ M#	363	8	22	-	-	24	13	-	mg/kg	A-T-024s
Chromium$_D$ M#	11	8	14	-	-	9	36	-	mg/kg	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	-	-	<1	-	-	mg/kg	A-T-040s
Lead$_D$ M#	84	6	124	-	-	10	12	-	mg/kg	A-T-024s
Mercury$_D$	4.90	<0.17	0.87	-	-	<0.17	<0.17	-	mg/kg	A-T-024s
Nickel$_D$ M#	8	9	10	-	-	8	31	-	mg/kg	A-T-024s
Selenium$_D$	<1	<1	<1	-	-	<1	2	-	mg/kg	A-T-024s
Zinc$_D$ M#	104	14	33	-	-	14	41	-	mg/kg	A-T-024s

Envirolab Job Number: 17/03060 **Client Project Name: High Holborn Estate**

Client Project Ref: 371547

Lab Sample ID	17/03060/1	17/03060/2	17/03060/3	17/03060/4	17/03060/5	17/03060/6	17/03060/7	17/03060/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4		
Depth to Top	0.30	1.80	0.95	1.30	0.30	1.00	0.44	0.65		
Depth To Bottom										
Date Sampled	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	5A	5AB	5A	5A	1A	5			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_A^{\#}$	NAD	-	NAD	-	NAD	-	NAD	-		A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	-	N/A	-	N/A	-	N/A	-		

Envirolab Job Number: 17/03060 **Client Project Name: High Holborn Estate**

Client Project Ref: 371547

Lab Sample ID	17/03060/1	17/03060/2	17/03060/3	17/03060/4	17/03060/5	17/03060/6	17/03060/7	17/03060/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4		
Depth to Top	0.30	1.80	0.95	1.30	0.30	1.00	0.44	0.65		
Depth To Bottom										
Date Sampled	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	5A	5AB	5A	5A	1A	5			
SVOC										
Hexachlorobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Dibenzofuran$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Carbazole$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	<500	-	-	-	-	µg/kg	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
4-Methylphenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Acenaphthylene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Acenaphthene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Anthracene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Benzo(a)anthracene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Benzo(b)fluoranthene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s

Envirolab Job Number: 17/03060

Client Project Name: High Holborn Estate

Client Project Ref: 371547

Lab Sample ID	17/03060/1	17/03060/2	17/03060/3	17/03060/4	17/03060/5	17/03060/6	17/03060/7	17/03060/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4		
Depth to Top	0.30	1.80	0.95	1.30	0.30	1.00	0.44	0.65		
Depth To Bottom										
Date Sampled	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	5A	5AB	5A	5A	1A	5			
Benzo(k)fluoranthene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Benzo(a)pyrene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Benzo(ghi)perylene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Chrysene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Fluoranthene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Fluorene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Phenanthrene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Pyrene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Naphthalene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Phenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500	<500	-	-	-	-	µg/kg	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s
Perylene$_A$	<100	<100	<100	<100	-	-	-	-	µg/kg	A-T-052s

Envirolab Job Number: 17/03060

Client Project Name: High Holborn Estate

Client Project Ref: 371547

Lab Sample ID	17/03060/1	17/03060/2	17/03060/3	17/03060/4	17/03060/5	17/03060/6	17/03060/7	17/03060/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP4		
Depth to Top	0.30	1.80	0.95	1.30	0.30	1.00	0.44	0.65		
Depth To Bottom										
Date Sampled	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	5A	5AB	5A	5A	1A	5			
TPH CWG										
Ali >C5-C6$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Ali >C6-C8$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Ali >C8-C10$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Ali >C10-C12$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Ali >C12-C16$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Ali >C16-C21$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Ali >C21-C35$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Total Aliphatics$_A$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Aro >C5-C7$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Aro >C7-C8$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Aro >C8-C9$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Aro >C9-C10$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
Aro >C10-C12$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Aro >C12-C16$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Aro >C16-C21$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Aro >C21-C35$_A^\#$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
Total Aromatics$_A$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
TPH (Ali & Aro)$_A$	<0.1	<0.1	<0.1	<0.1	-	-	-	-	mg/kg	A-T-023s
BTEX - Benzene$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
BTEX - Toluene$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
BTEX - Ethyl Benzene$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
BTEX - m & p Xylene$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
BTEX - o Xylene$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s
MTBE$_A^\#$	<0.01	<0.01	<0.01	<0.01	-	-	-	-	mg/kg	A-T-022s

Envirolab Job Number: 17/03060

Client Project Name: High Holborn Estate

Client Project Ref: 371547

Lab Sample ID	**17/03060/9**								**Units**	**Method ref**
Client Sample No										
Client Sample ID	**TP3/4**									
Depth to Top	**0.65**									
Depth To Bottom	**1.00**									
Date Sampled	**25-Apr-17**									
Sample Type	**Soil - ES**									
Sample Matrix Code	**5A**									
% Stones >10mm$_A$$^{\#}$	**9.9**								**% w/w**	**A-T-044**
pH$_D$$^{M\#}$	**7.71**								**pH**	**A-T-031s**
Total Organic Carbon$_D$$^{M\#}$	**0.09**								**% w/w**	**A-T-032s**

REPORT NOTES

General:
This report shall not be reproduced, except in full, without written approval from Envirolab.
All samples contained within this report, and any received with the same delivery, will be disposed of one month after the date of this report.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure. These are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number: 17/03060
Issue Number: 1
Date: 17-May-17

Client: RSK Environment Ltd Hemel
18 Frogmore Road
Hemel Hempstead
Hertfordshire
UK
HP3 9RT

Project Manager: Andrew Tyler/Nigel Austin
Project Name: High Holborn Estate
Project Ref: 371547
Order No: N/A

Date Samples Received: 28-Apr-17
Date Instructions Received: 4-May-17
Date Analysis Completed: 17-May-17

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.

Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations.

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Iain Haslock
Analytical Consultant

UKAS
No. 1247

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	17/03060/9		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample Number								
Client Sample ID				TP3/4				
Depth to Top				0.65				
Depth to Bottom				1.00				
Date Sampled				25/04/2017				
Sample Type				Soil - ES				
Sample Matrix Code				5A				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	Y	Y	**7.71**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**<0.01**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	Y	N	**0.8**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	Y	Y	**0.09**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**<0.08**		100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**<10**		500	-	-
Sum of 7 PCBs (mg/kg)$_D$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l	**mg/kg**			
Arsenic	A-T-025	Y	N	0.003	**0.030**	0.5	2	25
Barium	A-T-025	Y	N	0.034	**0.340**	20	100	300
Cadmium	A-T-025	Y	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	Y	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	Y	N	0.004	**0.040**	2	50	100
Mercury	A-T-025	Y	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	Y	N	0.001	**0.010**	0.5	10	30
Nickel	A-T-025	Y	N	<0.001	**<0.01**	0.4	10	40
Lead	A-T-025	Y	N	0.001	**0.010**	0.5	10	50
Antimony	A-T-025	Y	N	<0.001	**<0.01**	0.06	0.7	5
Selenium	A-T-025	Y	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	Y	N	0.003	**0.030**	4	50	200
Chloride	A-T-026	Y	N	2	**15**	800	15000	25000
Fluoride	A-T-026	Y	N	0.2	**2.0**	10	150	500
Sulphate as SO_4	A-T-026	Y	N	33	**329**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	93	**930**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<0.2	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	Y	6.8				
Conductivity (µS/cm)	A-T-037	N	N	186				
Mass Sample (kg)				0.185				
Dry Matter (%)	A-T-044	N	N	94.6				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

Haswaste, developed by Dr. Iain Haslock.

TP/WS/BH		TP1	TP1	TP2	TP2	TP3	TP3	TP4			
Depth (m)		0.30	1.80	0.95	1.30	0.30	1.00	0.44			
Envirolab reference		25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17			
% Moisture	%										
pH (soil)		8.87	8.36	8.61			7.67	7.50			
pH (leachate)											
Arsenic	mg/kg	15	4	5			5	1			
Cadmium	mg/kg	0.8	0.6	0.7			0.7	1.5			
Copper	updated v5.4e mg/kg	363	8	22			24	13			
CrVI or Chromium	mg/kg	11	8	14			9	36			
Lead	mg/kg	84	6	124			10	12			
Mercury	mg/kg	4.90	0.17	0.87			0.17	0.17			
Nickel	mg/kg	8	9	10			8	31			
Selenium	mg/kg	1	1	1			1	2			
Zinc	mg/kg	104	14	33			14	41			
Barium	mg/kg										
Beryllium	mg/kg										
Vanadium	mg/kg										
Cobalt	mg/kg										
Manganese	mg/kg										
Molybdenum	mg/kg										
Antimony	mg/kg										
Aluminium	mg/kg										
Bismuth	mg/kg										
CrIII	mg/kg										
Iron	mg/kg										
Strontium	mg/kg										
Tellurium	mg/kg										
Thallium	mg/kg										
Titanium	mg/kg										
Tungsten	mg/kg										
Ammoniacal N	mg/kg										
ws Boron	mg/kg										
PAH (Input Total PAH **OR** individual PAH results)											
Acenaphthene	mg/kg	0.10	0.10	0.10	0.10						
Acenaphthylene	mg/kg	0.10	0.10	0.10	0.10						
Anthracene	mg/kg	0.10	0.10	0.10	0.10						
Benzo(a)anthracene	mg/kg	0.10	0.10	0.10	0.10						
Benzo(a)pyrene	mg/kg	0.10	0.10	0.10	0.10						
Benzo(b)fluoranthene	mg/kg	0.10	0.10	0.10	0.10						
Benzo(ghi)perylene	mg/kg	0.10	0.10	0.10	0.10						
Benzo(k)fluoranthene	mg/kg	0.10	0.10	0.10	0.10						
Chrysene	mg/kg	0.10	0.10	0.10	0.10						
Dibenzo(ah)anthracene	mg/kg	0.10	0.10	0.10	0.10						
Fluoranthene	mg/kg	0.10	0.10	0.10	0.10						
Fluorene	mg/kg	0.10	0.10	0.10	0.10						
Indeno(123cd)pyrene	mg/kg	0.10	0.10	0.10	0.10						
Naphthalene	mg/kg	0.10	0.10	0.10	0.10						
Phenanthrene	mg/kg	0.10	0.10	0.10	0.10						
Pyrene	mg/kg	0.10	0.10	0.10	0.10						
Coronene	mg/kg										
Total PAHs (16 or 17)	mg/kg										
TPH											
Petrol	mg/kg										
Diesel	mg/kg										
Lube Oil	mg/kg										
Crude Oil	new v5.4e mg/kg										
White Spirit / Kerosene	mg/kg										
Creosote	mg/kg										
Unknown TPH with ID	mg/kg	0.1	0.1	0.1	0.1						
Unknown TPHCWG	mg/kg	0.1	0.1	0.1	0.1						
Total Sulphide	mg/kg										
Complex Cyanide	mg/kg										
Free (or Total) Cyanide	mg/kg										
Thiocyanate	mg/kg										
Elemental/Free Sulphur	mg/kg										
Phenols Input Total Phenols HPLC **OR** individual Phenol results.											
Phenol	mg/kg										
Cresols	mg/kg										
Xylenols	mg/kg										
Resourcinol	mg/kg										
Phenols Total by HPLC	mg/kg	0.2		0.2							
BTEX Input Total BTEX **OR** individual BTEX results.											
Benzene	mg/kg	0.01	0.01	0.01	0.01						
Toluene	mg/kg	0.01	0.01	0.01	0.01						
Ethylbenzene	mg/kg	0.01	0.01	0.01	0.01						
Xylenes	mg/kg	0.01	0.01	0.01	0.01						
Total BTEX	mg/kg										
PCBs (POPs)											
PCBs Total (eg EC7/WHO12)	mg/kg										
PBBs (POPs)											
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg										

HASWASTE v5.4e extra. Envirolab's Contaminated Land Soil Hazardous Waste Assessment Tool for use with WM3. Envirolab, Sandpits Business Park, Mottram Road, Hyde, Cheshire SK14 3AR.

Haswaste, developed by Dr. Iain Haslock.

TP/WS/BH	TP1	TP1	TP2	TP2	TP3	TP3	TP4			
Depth (m)	0.30	1.80	0.95	1.30	0.30	1.00	0.44			
Envirolab reference	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17			
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.										
2,3,7,8-TeCDD mg/kg										
1,2,3,7,8-PeCDD mg/kg										
1,2,3,4,7,8-HxCDD mg/kg										
1,2,3,6,7,8-HxCDD mg/kg										
1,2,3,7,8,9-HxCDD mg/kg										
1,2,3,4,6,7,8-HpCDD mg/kg										
OCDD mg/kg										
2,3,7,8-TeCDF mg/kg										
1,2,3,7,8-PeCDF mg/kg										
2,3,4,7,8-PeCDF mg/kg										
1,2,3,4,7,8-HxCDF mg/kg										
1,2,3,6,7,8-HxCDF mg/kg										
2,3,4,6,7,8-HxCDF mg/kg										
1,2,3,7,8,9-HxCDF mg/kg										
1,2,3,4,6,7,8-HpCDF mg/kg										
1,2,3,4,7,8,9-HpCDF mg/kg										
OCDF mg/kg										
Total Dioxins and Furans mg/kg										
Some Pesticides (POPs unless otherwise stated)										
Aldrin mg/kg										
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)* mg/kg										
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)* mg/kg										
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane* mg/kg										
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)* mg/kg										
Dieldrin mg/kg										
Endrin mg/kg										
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH* mg/kg										
Heptachlor mg/kg										
Hexachlorobenzene mg/kg										
o,p'-DDT *(leave empty if total DDT results used)* mg/kg										
p,p'-DDT ***OR*** *Total DDT* mg/kg										
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)* mg/kg										
Chlordecone (kepone) mg/kg										
Pentachlorobenzene mg/kg										
Mirex mg/kg										
Toxaphene (camphechlor) mg/kg										
Tin										
Tin *(leave empty if Organotin and Tin excl Organotin results used)* mg/kg										
Organotin										
Dibutyltin; DiBT mg/kg										
Tributyltin; TriBT mg/kg										
Triphenyltin; TriPT mg/kg										
Tetrabutyltin; TeBT mg/kg										
Tin excluding Organotin										
Tin excl Organotin mg/kg										

Table 3.1 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for *** STOT + Acute Toxicity.

envirolab

Haswaste, developed by Dr. Iain Haslock.

TP/WS/BH		TP1	TP1	TP2	TP2	TP3	TP3	TP4			
Depth (m)		0.30	1.80	0.95	1.30	0.30	1.00	0.44			
Envirolab reference		25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17	25-Apr-17			
Asbestos in Soil	Thresholds										
Asbestos detected in Soil (enter Y or N)	Y	N		N		N		N			
		Asbestos in Soil above is "Y", the soil is Hazardous Waste HP5 and HP7									
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%									
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces)	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
		If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You cannot use Asbestos % results when visual identifiable pieces are present.									If Asbestos in Soil ab
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y										
		If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06 05. Therefore, if Asbestos in Soil above is "Y", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.									If visual identifiable p Therefo
		Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.									
		All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.									All visual as

Hazardous Property	Thresholds	Cut Off Value									
Corrosive HP8	≥5%	<1%	0.00411	0.00206	0.00337	0.00000	0.00000	0.00239	0.00704	0.00000	0.00000	0.00000
Irritant HP4	≥10%	<1%	0.04302	0.00143	0.00317	0.00000	0.00000	0.00337	0.00160	0.00000	0.00000	0.00000
Irritant HP4	≥20%	<1%	0.04271	0.00278	0.00458	0.00005	0.00000	0.00433	0.00773	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00002	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00001	0.00001	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00211	0.00182	0.00269	0.00000	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥10%		0.01300	0.00175	0.01240	0.00001	0.00000	0.00175	0.00513	0.00000	0.00000	0.00000
Aspiration Toxicity HP5	≥10%		0.00002	0.00002	0.00002	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00247	0.00055	0.00075	0.00000	0.00000	0.00068	0.00015	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥5%	<0.1%	0.00227	0.00168	0.00285	0.00000	0.00000	0.00187	0.00719	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥25%	<1%	0.06418	0.00517	0.02116	0.00004	0.00000	0.00715	0.01421	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00049	0.00002	0.00009	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥2.5%	<0.1%	0.00211	0.00154	0.00269	0.00000	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥15%	<0.1%	0.00002	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00008	0.00006	0.00007	0.00000	0.00000	0.00007	0.00015	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00268	0.00161	0.00285	0.00000	0.00000	0.00182	0.00708	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00014	0.00016	0.00000	0.00000	0.00014	0.00028	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥22.5%	<1%	0.06404	0.00507	0.02103	0.00000	0.00000	0.00708	0.01406	0.00000	0.00000	0.00000
Carcinogenic HP7	≥0.1%		0.00840	0.00182	0.01240	0.00001	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00001	0.00001	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only)	≥0.01%		100.00000	100.00000	100.00000	100.00000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥1.5		8.87	8.36	8.61	0.00	0.00	7.67	7.50	0.00	0.00	0.00
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.87	8.36	8.61	0.00	0.00	7.67	7.50	0.00	0.00	0.00
Toxic for Reproduction HP10	≥0.3%		0.01300	0.00182	0.01240	0.00001	0.00000	0.00175	0.00626	0.00000	0.00000	0.00000
Toxic for Reproduction HP10	≥3%		0.00211	0.00154	0.00269	0.00001	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Mutagenic HP11	≥0.1%		0.00211	0.00154	0.00269	0.00001	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only)	≥0.01%		100.00000	100.00000	100.00000	100.00000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00162	0.00182	0.00202	0.00001	0.00000	0.00162	0.00626	0.00000	0.00000	0.00000
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00211	0.00182	0.00269	0.00001	0.00000	0.00173	0.00691	0.00000	0.00000	0.00000
Ecotoxic HP14	≥1.0	<0.1% (except CompCN + Thiocyanate + Xylene + BTEX 1%).	0.27589	0.02994	0.09924	0.00053	0.00000	0.03878	0.08620	0.00000	0.00000	0.00000
Ecotoxic HP14	≥25%	<0.1%	0.06900	0.00749	0.02484	0.00014	0.00000	0.00969	0.02155	0.00000	0.00000	0.00000
Ecotoxic HP14	≥25%	<0.1% (except CompCN + Thiocyanate + Xylene + BTEX 1%).	0.06901	0.00750	0.02485	0.00015	0.00000	0.00969	0.02155	0.00000	0.00000	0.00000
Ecotoxic HP14 individual substance specific thresholds (Benzo(a)anthracene, Dibenz(ah)anthracene (or Total PAH if only used), Sn, TriPT)	≥0.0025%		0.000010	0.000010	0.000010	0.000010	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Ecotoxic HP14 individual substance specific thresholds (Co, γ-HCH, DiBT, TriBT)	≥0.025%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

If other contaminants need adding to Haswaste, please contact Envirolab.

Table 3.1 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for *** STOT + Acute Toxicity.

RSK

APPENDIX K
HUMAN HEALTH GENERIC ASSESSMENT CRITERIA

Generic assessment criteria for human health: commercial scenario

Background

RSK's generic assessment criteria (GAC) were initially prepared following the publication by the Environment Agency (EA) of soil guideline value (SGV) and toxicological (TOX) reports, and associated publications in 2009[1]. RSK GAC were updated following the publication of GAC by LQM/CIEH in 2009[2]. RSK GAC are periodically revised when updated information on toxicological, land use or receptor parameters is published.

Updates to the RSK GAC

In 2014, the publication of Category 4 Screening Levels (C4SL)[3,4], as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3)[5] used in the generation of SGVs.

C4SL were published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern (LLTC; see Section 2.3 of research project report SP1010[3]). Where a C4SL has been published, the RSK GAC duplicates the C4SL published values using all input parameters within the SP1010 final project report[3] and associated appendices[6], and adopts them as GAC for these six substances.

For all other substances the only C4SL exposure modification relevant to a commercial end use are daily inhalation rates.

The RSK GAC have also been revised with updated toxicology published by LQM/CIEH in 2015[7] or by the USEPA[14], where a C4SL has not been published.

RSK GAC derivation for metals and organic compounds

Model selection

Soil assessment criteria (SAC) were calculated using the Contaminated Land Exposure Assessment (CLEA) tool v1.071, supporting EA guidance[5,8,9] and revised exposure scenarios published for the C4SL[3]. The SAC are also termed GAC.

Pathway selection

In accordance with SR3[5] the commercial scenario considers risks to a female worker who works from the age of 16 to 65 years. It should be noted that this end use is not suitable for a workplace nursery but may be appropriate for a sports centre or shopping centre where children are present. In accordance with Box 3.5, SR3[5] the pathways considered for production of the SAC in the commercial scenario are

- direct soil and dust ingestion
- dermal contact with soil both indoors and outdoors
- indoor air inhalation from soil and vapour and outdoor inhalation of soil and vapour.

With respect to volatilisation, the CLEA model assumes a simple linear partitioning of a chemical in the soil between the sorbed, dissolved and vapour phase[9]. The upper boundaries of this partitioning are represented by the maximum aqueous solubility and pure saturated vapour concentration of the chemical. The CLEA model estimates saturated soil concentrations where these limits are reached[9]. The CLEA software uses a traffic light system to identify when individual and/or combined assessment criteria exceed the lower of either the aqueous- or vapour-based soil saturation limits. Model output cells are flagged red where the saturated soil concentration has been exceeded and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10%. In this case, further consideration of the following is required[9]:

- Free phase contamination may be present.
- Exposure from the vapour pathways will be over-predicted by the model, as in reality the vapour phase concentration will not increase at concentrations above saturation limits
- Where the vapour pathway contribution is greater than 90%, it is unlikely the relevant health criteria value (HCV) will be exceeded at soil concentrations at least a factor of ten higher than the relevant HCV.

Where the vapour pathway is the predominant pathway (contributes greater than 90% of exposure) or the only exposure route considered and the cell is highlighted red (SAC exceeds saturation limit), the risk based on the assumed conceptual model is likely to be negligible as the vapour risk is assumed to be tolerable at maximum possible soil concentrations. In such circumstances, the vapour pathway exposure should be considered based on the presence of free phase or non-aqueous phase liquid sources and the measured concentrations of volatile organic compounds (VOC) in the vapour phase. Screening could be considered based on setting the SAC as the modelled soil saturation limits. However, as stated within the CLEA handbook[9], this is likely to not be practical in many cases because of the very low saturation limits and, in any case, is highly conservative.

It should also be noted that for mixtures of compounds, free phase may be present where soil (or groundwater) concentrations are well below saturation limits for individual compounds.

Where the vapour pathway is only one of the exposure pathways considered, an additional approach can then be utilised as detailed within Section 4.12 of the CLEA model handbook[9], which explains how to calculate an effective assessment criterion manually.

SR3[5] states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase contamination by petroleum hydrocarbons are at least a factor of ten higher than those likely to be measured on-site. RSK has therefore applied an empirical subsurface to indoor air correction factor of 10 into the CLEA model chemical database for all petroleum hydrocarbon fractions (including BTEX, trimethylbenzenes and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene) to reduce this conservatism.

Input selection

The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7[10], the EA TOX[1] reports, the C4SL SP1010 project report and associated appendices[3,6], the 2015 LQM/CIEH report[7] or the USEPA IRIS database[14]. Where a C4SL has been published, the RSK GAC have duplicated the C4SL published values using all input parameters within the SP1010 final project report[3] and associated appendices[6], and has

adopted them as GAC for these six substances. Toxicological and specific chemical parameters for aromatic hydrocarbon C_8–C_9 (styrene), 1,2,4-trimethylbenzene and methyl tertiary-butyl ether (MTBE) were obtained from the CL:AIRE Soil Generic Assessment Criteria report[11].

For TPH, aromatic hydrocarbons C_5–C_8 were not modelled, as this range comprises benzene and toluene, which are modelled separately. The aromatic C_8–C_9 hydrocarbon fraction comprises ethylbenzene, xylene and styrene. As ethylbenzene and xylene are being modelled separately, the physical, chemical and toxicological data for aromatic C_8–C_9 have been taken from styrene.

Physical parameters

For the commercial end use, the CLEA default pre-1970s three-storey office building was used. SR3[5] notes this commercial building type to be the most conservative in terms of protection from vapour intrusion. The default input building parameters presented in Table 3.10 of SR3[5] have been used.

The parameters for a sandy loam soil type were used in line with Table 4.4 of SR3[5]. This includes a value of 6% for the percentage of soil organic matter (SOM) within the soil. In RSK's experience, this is rather high for many sites. To avoid undertaking site-specific risk assessments for this SOM, RSK has produced an additional set of GAC for SOM of 1% and 2.5% for all substances using the CLEA tool.

Summary of modifications to the default CLEA SR3[5] input parameters for a commercial land use

In summary, the RSK commercial GAC were produced using the default input parameters for soil properties, the air dispersion model, building properties and the vapour model detailed in SR3[5]. Modifications to the default SR3[5] exposure scenarios based on the C4SL exposure scenarios[3] are presented in Table 2 below. The sole modification to the default commercial input parameters is the updated inhalation rate.

The final selected GAC are presented by pathway in Table 3 with the combined GAC in Table 4.

Figure 1: Conceptual model for CLEA commercial scenario

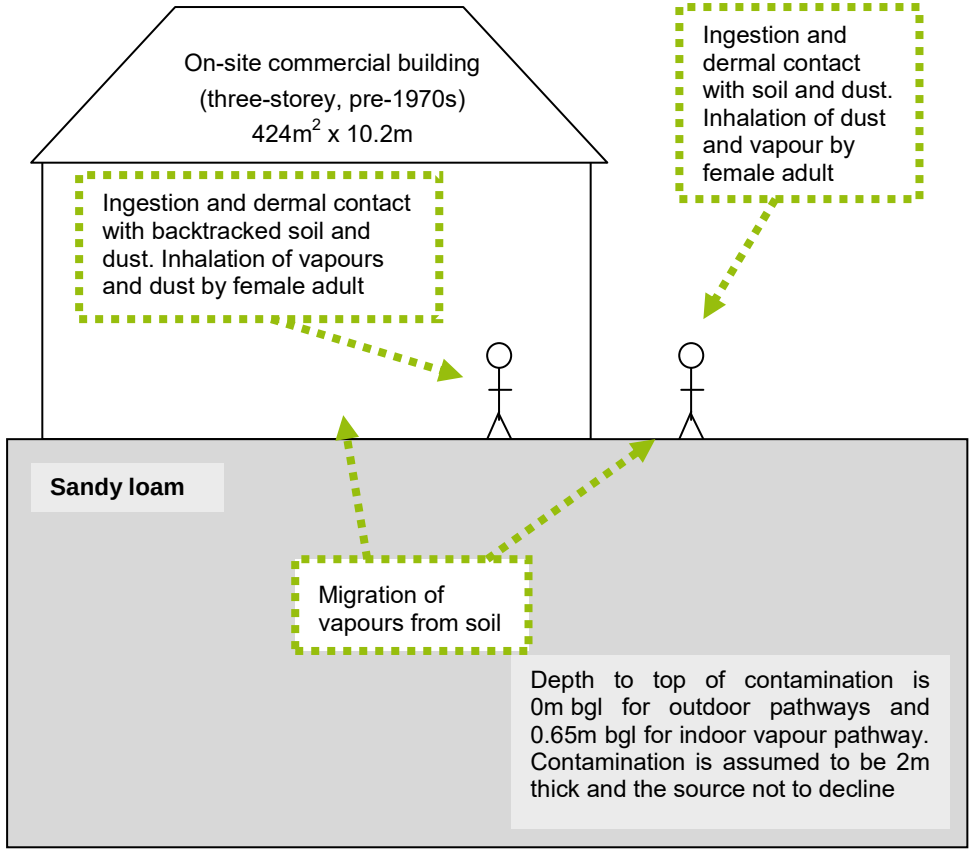


Table 1: Exposure assessment parameters for commercial scenario – inputs for CLEA model

Parameter	Value	Justification
Land use	Commercial	Chosen land use
Receptor	Female worker	Taken as female adult exposed over 49 years from age 16 to 65 years, Box 3.5, SR3[5]
Building	Office (pre-1970)	Key generic assumption given in Box 3.5, SR3[5]. Pre-1970s three-storey office building chosen as it is the most conservative in terms of protection from vapour intrusion (Section 3.4.6, SR3[5])
Soil type	Sandy loam	Most common UK soil type (Section 4.3.1, Table 4.4, SR3[5])
Start age class (AC)	17	AC corresponding to key generic assumption that the critical receptor is a working female adult exposed over a 49-year period from age 16 to 65 years. Assumption given in Box 3.5, SR3[5]
End AC	17	
SOM (%)	6	Representative of sandy loam according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents'[13]
	1	To provide SAC for sites where SOM < 6% as often observed by RSK
	2.5	
pH	7	Model default

Table 2: Commercial – modified receptor inputs

Parameter	Unit	Value	Justification
Inhalation rate (AC17)	m^3 day^{-1}	15.7	Mean value USEPA, 2011[12]; Table 3.2, SP1010[3]

References

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GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - COMMERCIAL

Table 3

Human health generic assessment criteria by pathway for commercial scenario

Compound	Notes	SAC appropriate to pathway SOM 1% (mg/kg)			Soil saturation limit (mg/kg)	SAC appropriate to pathway SOM 2.5% (mg/kg)			Soil saturation limit (mg/kg)	SAC appropriate to pathway SOM 6% (mg/kg)			Soil saturation limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Metals													
Arsenic	(a,b)	6.35E+02	1.25E+03	NR	NR	6.35E+02	1.25E+03	NR	NR	6.35E+02	1.25E+03	NR	NR
Cadmium	(a)	7.73E+02	8.57E+02	4.10E+02	NR	7.73E+02	8.57E+02	4.10E+02	NR	7.73E+02	8.57E+02	4.10E+02	NR
Chromium (III) - trivalent	(c)	3.31E+05	8.57E+03	NR	NR	3.31E+05	8.57E+03	NR	NR	3.31E+05	8.57E+03	NR	NR
Chromium (VI) - hexavalent	(a,d)	9.62E+02	4.91E+01	NR	NR	9.62E+02	4.91E+01	NR	NR	9.62E+02	4.91E+01	NR	NR
Copper		1.89E+05	8.96E+04	6.83E+04	NR	1.89E+05	8.96E+04	6.83E+04	NR	1.89E+05	8.96E+04	6.83E+04	NR
Lead	(a)	2.32E+03	NR	NR	NR	2.32E+03	NR	NR	NR	2.32E+03	NR	NR	NR
Elemental Mercury (Hg^0)	(d)	NR	1.54E+01	NR	4.31E+00	NR	3.26E+01	NR	1.07E+01	NR	5.80E+01	NR	2.58E+01
Inorganic Mercury (Hg^{2+})		1.18E+03	1.97E+04	1.12E+03	NR	1.18E+03	1.97E+04	1.12E+03	NR	1.18E+03	1.97E+04	1.12E+03	NR
Methyl Mercury (Hg^{4+})		3.38E+02	2.13E+03	2.92E+02	7.33E+01	3.38E+02	3.87E+03	3.11E+02	1.42E+02	3.38E+02	7.33E+03	3.23E+02	3.04E+02
Nickel	(d)	3.06E+03	9.83E+02	NR	NR	3.06E+03	9.83E+02	NR	NR	3.06E+03	9.83E+02	NR	NR
Selenium	(b)	1.23E+04	NR	NR	NR	1.23E+04	NR	NR	NR	1.23E+04	NR	NR	NR
Zinc	(b)	7.35E+05	1.97E+08	NR	NR	7.35E+05	1.97E+08	NR	NR	7.35E+05	1.97E+08	NR	NR
Cyanide (free)		6.56E+02	7.51E+04	6.53E+02	NR	6.56E+02	7.51E+04	6.53E+02	NR	6.56E+02	7.51E+04	6.53E+02	NR
Volatile Organic Compounds													
Benzene	(a)	1.09E+03	2.79E+01	2.72E+01	1.22E+03	1.09E+03	5.19E+01	4.96E+01	2.26E+03	1.09E+03	1.08E+02	9.80E+01	4.71E+03
Toluene		4.24E+05	6.49E+04	5.63E+04	8.69E+02	4.24E+05	1.43E+05	1.07E+05	1.92E+03	4.24E+05	3.24E+05	1.84E+05	4.36E+03
Ethylbenzene		1.91E+05	5.89E+03	5.71E+03	5.18E+02	1.91E+05	1.38E+04	1.28E+04	1.22E+03	1.91E+05	3.21E+04	2.75E+04	2.84E+03
Xylene - m		3.43E+05	6.26E+03	6.15E+03	6.25E+02	3.43E+05	1.47E+04	1.41E+04	1.47E+03	3.43E+05	3.44E+04	3.12E+04	3.46E+03
Xylene - o		3.43E+05	6.73E+03	6.60E+03	4.78E+02	3.43E+05	1.57E+04	1.50E+04	1.12E+03	3.43E+05	3.65E+04	3.30E+04	2.62E+03
Xylene - p		3.43E+05	6.03E+03	5.92E+03	5.76E+02	3.43E+05	1.41E+04	1.36E+04	1.35E+03	3.43E+05	3.28E+04	3.00E+04	3.17E+03
Total xylene		3.43E+05	6.03E+03	5.92E+03	6.25E+02	3.43E+05	1.41E+04	1.36E+04	1.47E+03	3.43E+05	3.28E+04	3.00E+04	3.46E+03
Methyl tertiary-Butyl ether (MTBE)		5.72E+05	7.58E+03	7.48E+03	2.04E+04	5.72E+05	1.23E+04	1.21E+04	3.31E+04	5.72E+05	2.34E+04	2.24E+04	6.27E+04
Trichloroethene		9.53E+02	1.23E+00	1.23E+00	1.54E+03	9.53E+02	2.58E+00	2.57E+00	3.22E+03	9.53E+02	5.72E+00	5.69E+00	7.14E+03
Tetrachloroethene		1.12E+04	1.86E+01	1.86E+01	4.24E+02	1.12E+04	4.17E+01	4.16E+01	9.51E+02	1.12E+04	9.57E+01	9.49E+01	2.18E+03
1,1,1-Trichloroethane		1.14E+06	6.60E+02	6.60E+02	1.43E+03	1.14E+06	1.35E+03	1.35E+03	2.92E+03	1.14E+06	2.96E+03	2.95E+03	6.39E+03
1,1,1,2 Tetrachloroethane		1.10E+04	1.09E+02	1.08E+02	2.60E+03	1.10E+04	2.53E+02	2.47E+02	6.02E+03	1.10E+04	5.88E+02	5.59E+02	1.40E+04
1,1,2,2-Tetrachloroethane		1.10E+04	2.81E+02	2.74E+02	2.67E+03	1.10E+04	5.75E+02	5.46E+02	5.46E+03	1.10E+04	1.26E+03	1.13E+03	1.20E+04
Carbon Tetrachloride		7.62E+03	2.87E+00	2.87E+00	1.52E+03	7.62E+03	6.29E+00	6.28E+00	3.32E+03	7.62E+03	1.43E+01	1.42E+01	7.54E+03
1,2-Dichloroethane		2.29E+02	6.73E-01	6.71E-01	3.41E+03	2.29E+02	9.71E-01	9.67E-01	4.91E+03	2.29E+02	1.67E+00	1.65E+00	8.43E+03
Vinyl Chloride		2.67E+01	5.95E-02	5.94E-02	1.36E+03	2.67E+01	7.70E-02	7.67E-02	1.76E+03	2.67E+01	1.18E-01	1.17E-01	2.69E+03
1,2,4-Trimethylbenzene		NR	3.29E+02	NR	4.74E+02	NR	6.41E+02	NR	1.16E+03	NR	1.04E+03	NR	2.76E+03
1,3,5-Trimethylbenzene	(e)	NR	NR	NR	2.30E+02	NR	NR	NR	5.52E+02	NR	NR	NR	1.30E+03
Semi-Volatile Organic Compounds													
Acenaphthene		1.10E+05	2.75E+06	1.06E+05	5.70E+01	1.10E+05	5.36E+06	1.08E+05	1.41E+02	1.10E+05	8.83E+06	1.08E+05	3.36E+02
Acenaphthylene		1.10E+05	2.68E+06	1.05E+05	8.61E+01	1.10E+05	5.23E+06	1.07E+05	2.12E+02	1.10E+05	8.65E+06	1.08E+05	5.06E+02
Anthracene		5.49E+05	1.13E+07	5.23E+05	1.17E+00	5.49E+05	2.35E+07	5.36E+05	2.91E+00	5.49E+05	4.13E+07	5.42E+05	6.96E+00
Benzo(a)anthracene		2.84E+02	4.08E+02	1.67E+02	1.71E+00	2.84E+02	4.47E+02	1.74E+02	4.28E+00	2.84E+02	4.67E+02	1.76E+02	1.03E+01
Benzo(a)pyrene	(a)	7.68E+01	2.04E+02	5.58E+01	9.11E-01	7.68E+01	2.09E+02	5.61E+01	2.28E+00	7.68E+01	2.11E+02	5.63E+01	5.46E+00
Benzo(b)fluoranthene		7.13E+01	1.17E+02	4.43E+01	1.22E+00	7.13E+01	1.20E+02	4.47E+01	3.04E+00	7.13E+01	1.21E+02	4.49E+01	7.29E+00
Benzo(g,h,i)perylene		6.29E+03	1.05E+04	3.93E+03	1.54E-02	6.29E+03	1.06E+04	3.95E+03	3.85E-02	6.29E+03	1.07E+04	3.96E+03	9.23E-02
Benzo(k)fluoranthene		1.88E+03	3.11E+03	1.17E+03	6.87E-01	1.88E+03	3.17E+03	1.18E+03	1.72E+00	1.88E+03	3.21E+03	1.19E+03	4.12E+00
Chrysene		5.67E+02	8.89E+02	3.46E+02	4.40E-01	5.67E+02	9.25E+02	3.52E+02	1.10E+00	5.67E+02	9.47E+02	3.55E+02	2.64E+00
Dibenzo(a,h)anthracene		5.67E+00	9.32E+00	3.53E+00	3.93E-03	5.67E+00	9.52E+00	3.55E+00	9.82E-03	5.67E+00	9.64E+00	3.57E+00	2.36E-02
Fluoranthene		2.29E+04	1.89E+06	2.26E+04	1.89E+01	2.29E+04	2.72E+06	2.27E+04	4.73E+01	2.29E+04	3.32E+06	2.27E+04	1.13E+02
Fluorene		7.31E+04	4.55E+05	6.30E+04	3.09E+01	7.31E+04	1.06E+06	6.84E+04	7.65E+01	7.31E+04	2.24E+06	7.08E+04	1.83E+02
Indeno(1,2,3-cd)pyrene		8.10E+02	1.31E+03	5.01E+02	6.13E-02	8.10E+02	1.35E+03	5.06E+02	1.53E-01	8.10E+02	1.37E+03	5.09E+02	3.68E-01
Naphthalene		3.64E+04	1.87E+03	1.78E+03	7.64E+01	3.64E+04	4.39E+03	3.92E+03	1.83E+02	3.64E+04	9.94E+03	7.81E+03	4.32E+02
Phenanthrene		2.28E+04	5.35E+05	2.19E+04	3.60E+01	2.28E+04	1.09E+06	2.24E+04	8.96E+01	2.28E+04	1.86E+06	2.25E+04	2.14E+02
Pyrene		5.49E+04	4.47E+06	5.42E+04	2.20E+00	5.49E+04	6.46E+06	5.44E+04	5.49E+00	5.49E+04	7.91E+06	5.45E+04	1.32E+01
Phenol		1.10E+06	2.65E+04	2.59E+04	2.42E+04	1.10E+06	3.04E+04	2.96E+04	3.81E+04	1.10E+06	3.46E+04	3.35E+04	7.03E+04

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - COMMERCIAL

Table 3

Human health generic assessment criteria by pathway for commercial scenario

Compound	Notes	SAC appropriate to pathway SOM 1% (mg/kg)			Soil saturation limit (mg/kg)	SAC appropriate to pathway SOM 2.5% (mg/kg)			Soil saturation limit (mg/kg)	SAC appropriate to pathway SOM 6% (mg/kg)			Soil saturation limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Total petroleum hydrocarbons													
Aliphatic hydrocarbons EC5-EC6		4.77E+06	3.19E+03	3.19E+03	3.04E+02	4.77E+06	5.86E+03	5.86E+03	5.58E+02	4.77E+06	1.21E+04	1.21E+04	1.15E+03
Aliphatic hydrocarbons >EC6-EC8		4.77E+06	7.79E+03	7.78E+03	1.44E+02	4.77E+06	1.74E+04	1.74E+04	3.22E+02	4.77E+06	3.97E+04	3.96E+04	7.36E+02
Aliphatic hydrocarbons >EC8-EC10		9.53E+04	2.02E+03	2.00E+03	7.77E+01	9.53E+04	4.91E+03	4.85E+03	1.90E+02	9.53E+04	1.17E+04	1.13E+04	4.51E+02
Aliphatic hydrocarbons >EC10-EC12		9.53E+04	9.97E+03	9.69E+03	4.75E+01	9.53E+04	2.47E+04	2.29E+04	1.18E+02	9.53E+04	5.89E+04	4.73E+04	2.83E+02
Aliphatic hydrocarbons >EC12-EC16		9.53E+04	8.26E+04	5.88E+04	2.37E+01	9.53E+04	2.04E+05	8.17E+04	5.91E+01	9.53E+04	4.81E+05	9.02E+04	1.42E+02
Aliphatic hydrocarbons >EC16-EC35	(b)	1.58E+06	NR	NR	8.48E+00	1.75E+06	NR	NR	2.12E+01	1.83E+06	NR	NR	5.09E+01
Aliphatic hydrocarbons >EC35-EC44	(b)	1.58E+06	NR	NR	8.48E+00	1.75E+06	NR	NR	2.12E+01	1.83E+06	NR	NR	5.09E+01
Aromatic hydrocarbons >EC8-EC9 (styrene)		2.29E+04	3.66E+04	1.41E+04	6.26E+02	2.29E+04	8.39E+04	1.80E+04	1.44E+03	2.29E+04	1.93E+05	2.04E+04	3.35E+03
Aromatic hydrocarbons >EC_9-EC_{10}		3.81E+04	3.55E+03	3.46E+03	6.13E+02	3.81E+04	8.66E+03	8.11E+03	1.50E+03	3.81E+04	2.05E+04	1.70E+04	3.58E+03
Aromatic hydrocarbons >EC10-EC12		3.81E+04	1.92E+04	1.62E+04	3.64E+02	3.81E+04	4.69E+04	2.79E+04	8.99E+02	3.81E+04	1.10E+05	3.42E+04	2.15E+03
Aromatic hydrocarbons >EC12-EC16		3.81E+04	2.02E+05	3.62E+04	1.69E+02	3.81E+04	4.76E+05	3.73E+04	4.19E+02	3.81E+04	1.03E+06	3.78E+04	1.00E+03
Aromatic hydrocarbons >EC16-EC21	(b)	2.82E+04	NR	NR	5.37E+01	2.83E+04	NR	NR	1.34E+02	2.84E+04	NR	NR	3.21E+02
Aromatic hydrocarbons >EC21-EC35	(b)	2.84E+04	NR	NR	4.83E+00	2.84E+04	NR	NR	1.21E+01	2.84E+04	NR	NR	2.90E+01
Aromatic hydrocarbons >EC35-EC44	(b)	2.84E+04	NR	NR	4.83E+00	2.84E+04	NR	NR	1.21E+01	2.84E+04	NR	NR	2.90E+01

Notes:

EC - equivalent carbon. GrAC - groundwater screening value. SAC - soil screening value.

The CLEA model output is colour coded depending upon whether the soil saturation limit has been exceeded.

Calculated SAC exceeds soil saturation limit and may significantly affect the interpretation of any exceedances as the contribution of the indoor and outdoor vapour pathway to total exposure is >10%.

Calculated SAC exceeds soil saturation limit but the exceedance will not affect the SAC significantly as the contribution of the indoor and outdoor vapour pathway to total exposure is <10%.

Calculated SAC does not exceed the soil saturation limit.

The SAC for organic compounds are dependant upon soil organic matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway (Section 10.1.1, SR3)

(a) SAC for arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead are derived using the C4SL toxicology data.

(b) SAC for selenium should not include the inhalation pathway as no expert group HCV has been derived; aliphatic and aromatic hydrocarbons >EC16 should not include inhalation pathway due to their non-volatile nature and inhalation exposure being minimal (oral, dermal and inhalation exposure is compared to the oral HCV); arsenic should only be based on oral contribution (rather than combined) owing to the relative small contribution from inhalation in accordance with the SGV report. The Oral SAC should be adopted for zinc and benzo(a)pyrene.

(c) SAC for CrIII should be based on the lower of the oral and inhalation SAC (see LQM/CIEH 2015 Section 6.8)

(d) SAC for elemental mercury, chromium VI and nickel should be based on the inhalation pathway only.

(e) SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used.

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - COMMERCIAL

Table 4
Human Health Generic Assessment Criteria for Commercial Scenario

Compound	SAC for Soil SOM 1% (mg/kg)	SAC for Soil SOM 2.5% (mg/kg)	SAC for Soil SOM 6% (mg/kg)
Metals			
Arsenic	640	640	640
Cadmium	410	410	410
Chromium (III) - trivalent	8,600	8,600	8,600
Chromium (VI) - hexavalent	49	49	49
Copper	68,000	68,000	68,000
Lead	2,300	2,300	2,300
Elemental Mercury (Hg^0)	15 (4)	33 (11)	58 (26)
Inorganic Mercury (Hg^{2+})	1,120	1,120	1,120
Methyl Mercury (Hg^{4+})	290 (73)	310 (142)	320
Nickel	980	980	980
Selenium	12,000	12,000	12,000
Zinc	740,000	740,000	740,000
Cyanide (free)	650	650	650
Volatile Organic Compounds			
Benzene	27	50	98
Toluene	56,000 (869)	107,000 (1,916)	184,000 (4,357)
Ethylbenzene	6,000 (518)	13,000 (1,216)	27,000 (2,844)
Xylene - m	6,200 (625)	14,100 (1,474)	31,200 (3,457)
Xylene - o	6,600 (478)	15,000 (1,120)	33,000 (2,618)
Xylene - p	5,900 (576)	13,600 (1,353)	30,000 (3,167)
Total xylene	5,900 (625)	13,600 (1,474)	30,000 (3,457)
Methyl tertiary-Butyl ether (MTBE)	7,500	12,100	22,400
Trichloroethene	1	3	6
Tetrachloroethene	20	40	90
1,1,1-Trichloroethane	700	1,300	3,000
1,1,1,2 Tetrachloroethane	110	250	560
1,1,2,2-Tetrachloroethane	270	550	1,130
Carbon Tetrachloride	2.9	6.3	14.2
1,2-Dichloroethane	0.67	0.97	1.65
Vinyl Chloride	0.06	0.08	0.12
1,2,4-Trimethylbenzene	330	640	1,040
1,3,5-Trimethylbenzene	NR	NR	NR
Semi-Volatile Organic Compounds			
Acenaphthene	110,000	110,000	110,000
Acenaphthylene	110,000	110,000	110,000
Anthracene	520,000	540,000	540,000
Benzo(a)anthracene	170	170	180
Benzo(a)pyrene	77	77	77
Benzo(b)fluoranthene	44	45	45
Benzo(g,h,i)perylene	3,900	3,900	4,000
Benzo(k)fluoranthene	1,200	1,200	1,200
Chrysene	350	350	350
Dibenzo(a,h)anthracene	3.5	3.6	3.6
Fluoranthene	23,000	23,000	23,000
Fluorene	63,000 (31)	68,000	71,000
Indeno(1,2,3-cd)pyrene	500	510	510
Naphthalene	1,800 (76)	3,900 (183)	7,800 (432)
Phenanthrene	22,000	22,000	23,000
Pyrene	54,000	54,000	54,000
Phenol	440*	690*	1,300*
Total Petroleum Hydrocarbons			
Aliphatic hydrocarbons EC_5-EC_6	3,200 (304)	5,900 (558)	12,100 (1,150)
Aliphatic hydrocarbons >EC_6-EC_8	7,800 (144)	17,400 (322)	39,600 (736)
Aliphatic hydrocarbons >EC_8-EC_{10}	2,000 (78)	4,800 (190)	11,300 (451)
Aliphatic hydrocarbons >EC_{10}-EC_{12}	9,700 (48)	22,900 (118)	47,300 (283)
Aliphatic hydrocarbons >EC_{12}-EC_{16}	59,000 (24)	82,000 (59)	90,000 (142)
Aliphatic hydrocarbons >EC_{16}-EC_{35}	1,000,000**	1,000,000**	1,000,000**
Aliphatic hydrocarbons >EC_{35}-EC_{44}	1,000,000**	1,000,000**	1,000,000**
Aromatic hydrocarbons >EC_8-EC_9 (styrene)	14,000 (626)	18,000 (1,440)	20,000 (3,350)
Aromatic hydrocarbons >EC_9-EC_{10}	3,500 (613)	8,100 (1,503)	17,000 (3,580)
Aromatic hydrocarbons >EC_{10}-EC_{12}	16,000 (364)	28,000 (899)	34,000 (2,150)
Aromatic hydrocarbons >EC_{12}-EC_{16}	36,000 (169)	37,000	38,000
Aromatic hydrocarbons >EC_{16}-EC_{21}	28,000	28,000	28,000
Aromatic hydrocarbons >EC_{21}-EC_{35}	28,000	28,000	28,000
Aromatic hydrocarbons >EC_{35}-EC_{44}	28,000	28,000	28,000

Notes:
'-' Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.
NR - SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used
EC - equivalent carbon. GrAC - groundwater assessment criteria. SAC - soil assessment criteria.
* The GAC for Phenol is based on a threshold which is protective of direct contact (SC050021/Phenol SGV report)
** Denoted SAC calculated exceeds 100% contaminant, hence 100% (1,000,000mg/kg) has been taken as SAC

The SAC for organic compounds are dependent on Soil Organic Matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58.
1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor f
air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway, section 10.1.1, SR3.

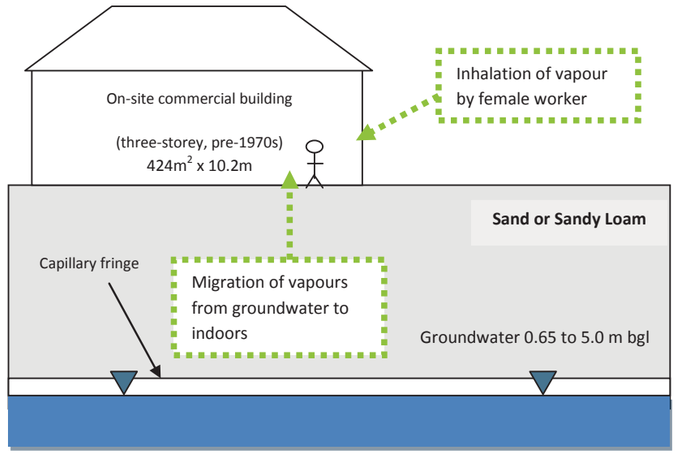
(VALUE IN BRACKETS)
RSK has adopted an approach for petroleum hydrocarbons in accordance with LQM/CIEH whereby the concentration modelled for each petroleum hydrocarbon fraction has been tabulated as the SAC with the corresponding solubility or vapour saturation limits given in brackets.

Generic groundwater assessment criteria (GrAC) for human health: commercial scenario (adult receptor)

Background

Volatile organic compounds (VOC) in groundwater have the potential to pose risks to residential site end users via indoor and outdoor inhalation exposure. Due to significant dilution effects in outdoor air, inhalation risk is dominated by indoor exposure. The GrAC conceptual site model (CSM) is shown in Figure 1 (not to scale).

Figure 1: GrAC conceptual model for a generic commercial scenario



RSK GrAC derivation

Model selection

The Society for Brownfield Risk Assessment (SoBRA) published a set of generic assessment criteria for assessing vapour risk to human health from volatile contaminants in groundwater in February 2017[(1)]. The criteria were developed for a list of common VOC using the Environment Agency Contaminated Land Exposure Assessment (CLEA) tool[(2)] based on a sand soil type and a groundwater depth of 0.65 m below foundation base level. The CLEA tool is not designed to directly model VOC in groundwater and the SoBRA generic criteria are recognised as being conservative since calculations in CLEA are based on three-phase partitioning in the unsaturated zone between soil, soil vapour and soil moisture, with the latter taken by SoBRA as a groundwater equivalent. This method does not take account of the presence of a semi-saturated capillary fringe above the water table, which will serve to provide some mitigation to vertical soil vapour migration.

RSK GrAC are calculated using the RBCA Toolkit for Chemical Releases (version 2.6) with the Johnson and Ettinger model, based on the CSM in Figure 1 for a pre-1970 three storey office

building (as defined in SR3[3], Table 4.21) and which allows consideration of a capillary fringe. The capillary fringe is the subsurface layer in which groundwater seeps up from a water table by capillary action to partially fill soil pores.

The RBCA model was used in preference to the Environment Agency Contaminated Land Exposure Assessment (CLEA) tool[2], as the CLEA tool is not designed to directly model VOC in groundwater and does not take account of the presence of a semi-saturated capillary zone.

Conceptual model

In accordance with SR3[3], the commercial scenario considers risks to an adult female worker who works from the age of 16 to 65 years. It should be noted that this end use is not suitable for a workplace nursery (where children will be present for an extended period of time) but may be appropriate for a sports centre or shopping centre where children are present but for limited periods of time.

The pollutant linkage considered in production of the GrAC is the volatilisation of compounds from groundwater and subsequent vapour inhalation by the identified receptor while indoors. Figure 1 illustrates this linkage. Although the outdoor air inhalation pathway is also valid, this contributes little to the overall risks owing to the dilution in outdoor air. RBCA does not take account of the presence of non-aqueous phase chemicals but highlights when the assessment criterion exceeds the solubility limit of the pure compound.

Input selection – chemical and toxicological parameters

Key parameters used in the RBCA model are listed and justified in Table 1. The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7[2], the EA TOX[5] reports, and published by Nathanial et al.,[6], as appropriate. Toxicological and specific chemical parameters for aromatic hydrocarbon C8–C9 (styrene), 1,2,4-trimethylbenzene and methyl tertiary-butyl ether (MTBE) were obtained from the CL:AIRE Soil Generic Assessment Criteria report[7].

The toxicological input parameters are associated with minimal risk, rather than low risk.

For petroleum hydrocarbon fractions, aromatic hydrocarbons C5–C8 were not modelled, as this range comprises benzene and toluene, which are modelled separately. The aromatic C8–C9 hydrocarbon fraction comprises ethylbenzene, xylenes and styrene. As ethylbenzene and xylenes are being modelled separately, the physical, chemical and toxicological data for aromatic C8–C9 have been taken from styrene.

For the Commercial GrAC, the Health Criteria Values (HCV) used in the modelling were derived using the toxicological data discussed above, amended as follows:

- An adult weighing 70kg and breathing 15.7m^3 air per day in accordance with the revised exposure parameters used in the SP1010 final project report for the Category 4 Screening Levels (C4SL) (Table 3.2[8]) and USEPA data[9]
- Background inhalation (mean daily intake(MDI)) for an adult (Age Class 17).

The amended HCV used in the derivation of the RSK GrAC are presented in Table 1.

Table 1: Amended Health Criteria Values

	Modified HCV (mg/m^3)
VOC / SVOC	Adult (Commercial)
MTBE	3.2064
Benzene	0.0062
Toluene	6.2362
Ethylbenzene	0.3301
Xylenes	0.2609
Trimethybenzenes	0.0085
TPH_Aliph EC5-EC6	11.1465
TPH_Aliph >EC6-EC8	11.1465
TPH_Aliph >EC8-EC10	0.6465
TPH_Aliph >EC10-EC12	0.6465
TPH_Aliph >EC12-EC16	0.6465
TPH_Arom >EC8-EC9 (styrene)	0.5350
TPH_Arom >EC9-EC10	0.1338
TPH_Arom >EC10-EC12	0.1338
TPH_Arom >EC12-EC16	0.1338
Acenaphthene	0.2675
Acenaphthylene	0.2675
Naphthalene	0.0037
Vinyl chloride	0.0013
Dichloroethane-1,2	0.0005
Tetrachloroethene	0.0363
Carbon tetrachloride	0.0114
Trichloroethane-1,1,1	2.6752
Trichloroethene	0.0025
Tetrachloroethane 1,1,2,2 & 1,1,1,2	0.0257
1,1,2-Trichloroethane	0.0216
1,1-dichloroethane	0.8915
1,1-dichloroethene	0.2541
Chloroethane	12.7374
Chloromethane	0.0115
cis-1,2-dichloroethene	0.0264
Dichloromethane	0.5765
trans-1,2-dichloroethene	0.0754
Trichloromethane (chloroform)	0.1752

Note on Trimethylbenzenes

For trimethylbenzenes the CL:AIRE report[7] based background inhalation from non-soil sources (MDI) on a Dutch study from 1985, which is reported to have identified an average daily dose of 1,2,4-trimethylbenzene of 86 ug d^{-1} (1,3,5-trimethylbenzene was 20.5 ug d^{-1}). This dose value was based on the upper end of the identified concentration range of 1,2,4-trimethylbenzene (2.46 – 5.66 ug m^{-3}) and was used to calculate an a MDI of 1.23 ug kg^{-1} bw d^{-1} for a 70 kg adult breathing 20 m^3 of air daily.

The approach recommended in SR2[10], and also adopted for the C4SLs[8], for non-carcinogenic (threshold) compounds such as trimethylbenzenes is to subtract the MDI from the tolerable daily intake (TDI) to obtain a tolerable daily intake from soil (TDSI) in units of ug kg^{-1} bw d^{-1}. For 1,2,4-trimethylbenzene, the adult MDI from the Dutch study used in the CL:AIRE report[7] (1.23 ug kg^{-1} bw d^{-1}) is a significant proportion of the TDI (2.0 ug kg^{-1} bw d^{-1}), resulting in a low TDSI (1.0 ug kg^{-1} bw d^{-1}) when the 50% rule is applied (i.e. TDSI = TDI * 0.5 when MDI is high relative to TDI). This TDSI equates to an Inhalation Reference Concentration (or modified Health Criteria Value) for adults of 3.4 ug m^{-3} (70 kg adult breathing 15.7 m^3 d^{-1}).

By comparison the adult inhalation modified HCV for benzene is 6.2 ug m^{-3}, which is proven human carcinogen (non-threshold compound).

The MDI for 1,2,4-trimethylbenzene is considered by RSK to be overly conservative for the following reasons:

- The Dutch 1985 study is dated and air quality has improved since this time
- The maximum value in the range (5.66 ug m^{-3}) was used in calculating the MDI
- Experience has shown that trimethylbenzenes often appear to drive inhalation risks to a greater extent than benzene, even though the latter is carcinogenic and more volatile.

As an alternative to the 1985 Dutch study, RSK have obtained automated roadside air quality monitoring data for the UK from www.uk-air.defra.gov.uk/. The average concentration of 1,2,4-trimethylbenzene measured during 2015 at Eltham, south-east London (urban) was 0.309 ug m^{-3}, significantly lower than that identified in the Dutch study and used by CL:AIRE[7] for calculation of a MDI. Whilst an average concentration of 1,2,4-trimethylbenzene in UK urban and rural areas is likely to be significantly below 0.0.309 ug m^{-3}, this value is considered to be suitably conservative for the calculation of a modified HCV for trimethylbenzenes in the UK.

On this basis, the HCV for 1,2,4-trimethylbenzene for adults and children was calculated as 8.5 ug m^{-3} (0.0085 mg m^{-3}) and 2.6 ug m^{-3} (0.0026 mg m^{-3}), respectively (see Table 3). Due to the paucity of toxicological data for 1,2,3-trimethylbenzene and 1,3,5-trimethylbenzene the modified HCV for 1,2,4-trimethylbenzene is considered suitable for assessing total trimethylbenzenes.

Note on aqueous solubility and the RSK GrAC

Where the modelled assessment criteria, or the modelled assessment criteria with the correction factor applied to those contaminants specified below, exceeds the aqueous solubility limit the assessment criteria defaults to this concentration and consequently the GrAC is set at the limit of solubility. These assessment criteria are shaded in red in Table 3 at the end of this document.

The theoretical aqueous solubility is the maximum amount of a single chemical that will dissolve in pure water at a specified temperature. Above this concentration, the chemical will exist in the non-aqueous phase (i.e. in its natural physical form as a solid, liquid (NAPL) or gas). If the contaminant, based on its toxicity, is not considered to pose a risk to human health at the aqueous solubility concentration then the contaminant can be considered not to pose a risk to human health. Where the GrAC is set at the aqueous solubility limit (shaded in red on Table 3), this is not a risk based assessment criteria but is indicative of the maximum amount of chemical that would be found dissolved in the water. Therefore an exceedance of the RSK GrAC set at the aqueous solubility limit is <u>not</u> indicative that there may be potential risks to human health. It should be noted that for certain contaminants (e.g. the lighter petroleum hydrocarbon fractions) the aqueous solubility is very low and may be at, or below, the laboratory method detection limit. It should also be noted that non-aqueous phase may exist where concentrations of individual compounds are well below their solubility limits where they are part of a mixture, in accordance with Raoult's Law.

Input selection - physical parameters

For the commercial scenario, the CLEA default pre-1970s three-storey office building was used. SR3[3] notes this commercial building type to be the most conservative in terms of risk from vapour intrusion. The building parameters used in the production of the RSK GACs are the default CLEA v1.06 inputs presented in Table 3.3 of SR3[3].

The RSK GrAC have been calculated for both Sand and Sandy Loam soils. The soil parameters used in the derivation of the RSK GrAC are those presented in Table 3.1 of SR3[3].

The RSK GrAC have been derived for groundwater depths of 0.65 m, 1.5 m, 2.5 m and 5.0 m below ground level, incorporating a capillary fringe (see Table 2).

Input selection - attenuation factors

In line with recommendations provided in Environment Agency SR3[3] a sub-surface to indoor attenuation factor of 10 has been applied to certain RBCA derived 'site-specific target levels'. SR3[3] states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase petroleum hydrocarbons by using partition coefficients are at least a factor of ten higher than those likely to be measured on-site. This difference is likely to be due to a number of factors, however aerobic biodegradation in the unsaturated zone is believed to be largely responsible. RSK has therefore applied this attenuation factor to all volatile petroleum hydrocarbon fractions (including BTEX, trimethylbenzenes and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene). No such attenuation factors have been applied to other non-hydrocarbon chemical species, including chlorinated hydrocarbons or fuel oxygenates such as MtBE.

Convective (volumetric) air flow through foundation cracks (Q_{soil}) is a sensitive parameter in the calculation of GrAC and has been calculated within RBCA on a soil-specific basis for Sand and Sandy Loam in a residential exposure scenario (see Table 2). This approach is less conservative than using the default Q_{soil} value recommended in SR3[3] for a Sandy Loam (150 cm^3 s^{-1}) and used in the CLEA model (version 1.071) for Sandy Loam (and Sand) soils (150 cm^3 s^{-1}) in a commercial scenario.

Commercial GrAC_2017_01 T25656

Table 2: Commercial scenario – RBCA inputs

Parameter	Unit	Value	Justification
Receptor – female child			
Averaging time	Years	49	From Box 3.5, SR3[3]
Receptor weight	kg	70	Female adult, Table 4.6, SR3[3]
Exposure duration	Years	49	From Box 3.5, SR3[3]
Exposure frequency	Days yr^{-1}	86.25	Weighted using occupancy period of 9 hours per day for 230 days of the year ((9hours x 230 days)/24 hours)
Soil type – sand			
Total porosity	-	0.54	CLEA value for sand. Parameters for sand from Table 4.4, SR3[3] Volumetric water content in the vadose zone is a highly sensitive parameter within the model and potentially highly variable in the field.
Volumetric water content – unsaturated (vadose) zone	-	0.24	
Volumetric air content - unsaturated (vadose) zone	-	0.30	
Dry bulk density	g cm^{-3} or kg L^{-1}	1.18	
Volumetric water content – capillary zone	-	0.35	Calculated using SR3 Equation 4.1. Value taken as the average moisture content calculated for suction heads (cm H_2O); 0 (i.e. saturated), 10, 20, 30, 40, 50 (i.e. unsaturated soil at field capacity). This is a highly sensitive parameter within the model.
Volumetric air content - capillary zone	-	0.19	Calculated from total porosity and volumetric water content of capillary zone. This is a highly sensitive parameter within the model.
Vertical hydraulic conductivity	cm d^{-1}	636	CLEA value for saturated conductivity of sandy loam, Table 4.4, SR3[3] equivalent to 7.36 E-03 cm s^{-1}
Vapour permeability	m^2	7.54 E-12	Calculated for sand using equations in Appendix 1, SR3[3]
Capillary zone thickness	m	0.25	Taken from C W Fetter, Applied Hydrogeology 4th Ed, 1994[11] and R Heath, Basic groundwater hydrology 1992[12] for a medium sand
Fraction organic carbon	%	0.0058	Equivalent to SOM = 1%. Note that GrAC are independent on FOC/SOM content since partitioning is assumed to be between aqueous and vapour phases only
Soil type – sandy loam			
Total porosity	-	0.53	CLEA value for sandy loam. Parameters for sandy loam from Table 4.4, SR3[3]. Volumetric water content in the vadose zone is a highly sensitive parameter within the model and potentially highly variable in the field.
Volumetric water content – unsaturated (vadose) zone	-	0.33	
Volumetric air content - unsaturated (vadose) zone	-	0.20	
Dry bulk density	g cm^{-3} or kg/L	1.21	
Volumetric water content – capillary zone	-	0.42	Calculated using SR3 Equation 4.1[3]. Value taken as the average moisture content calculated for suction heads (cm H_2O); 0 (i.e. saturated), 10, 20, 30, 40, 50 (i.e. unsaturated soil at field capacity). This is a highly sensitive parameter within the model.
Volumetric air content - capillary zone	-	0.11	Calculated from total porosity and volumetric water content of capillary zone. This is a highly sensitive parameter within the model.

Parameter	Unit	Value	Justification
Vertical hydraulic conductivity	cm d^{-1}	308	CLEA value for saturated conductivity of sandy loam, Table 4.4, SR3[3] equivalent to 3.56E-3 cm s^{-1}
Vapour permeability	m^2	3.05 E-12	Calculated for sandy loam using equations in Appendix 1, SR3[3]
Capillary zone thickness	m	0.4	Taken from R Heath, Basic Groundwater Hydrology 1992[12] for a fine sand. Note: C W Fetter, Applied Hydrogeology 4th Ed, 1994[11] value for fine sand is 0.5 m
Fraction organic carbon	%	0.0058	Equivalent to SOM = 1%. Note that GrAC are independent on FOC/SOM content since partitioning is assumed to be between aqueous and vapour phases only
Building – pre-1970 three storey office			
Building volume/area ratio	m	9.6	Table 3.10, SR3[3]
Foundation area	m^2	424	
Foundation perimeter	m	82.40	Based on square root of building area being 20.59m
Building air exchange rate	d^{-1}	24	Table 3.10, SR3[3] Building air exchange rate equivalent to 2.8 E-04 s^{-1}
Depth to bottom of foundation slab	m	0.15	
Foundation thickness	m	0.15	
Foundation crack fraction	-	3.89E-04	Calculated from floor crack area of 0.165m^2 and building footprint of 424m^2 in Table 4.21, SR3[3]
Volumetric water content of cracks	-	0.24 / 0.33	For sand / sandy loam, assumed equal to underlying soil type in assumption that cracks become filled with unsaturated zone soil over time. Parameters for sand and sandy loam from Table 4.4, SR3[3]
Volumetric air content of cracks	-	0.30 / 0.20	
Indoor/outdoor differential pressure	Pa	4.4	From Table 3.3, SR3[3] Equivalent to 44g/cm/s^2
Convective air flow through cracks (Q_{soil}) - Sand	m^3 s^{-1}	1.95 E-04	Soil-specific calculated parameter in RBCA equivalent (and cross checked) with equations A1, A2, A3, A8, A9 in SR3[3]. Equivalent to **195 cm^3 s^{-1}**
Convective air flow through cracks (Q_{soil}) – Sandy Loam	m^3 s^{-1}	7.7 E-05	Soil-specific calculated parameter in RBCA equivalent (and cross checked) with equations A1, A2, A3, A8, A9 in SR3[3]. Equivalent to **77 cm^3 s^{-1}**

RSK GrAC derivation outputs

The RSK GrACs are presented in Table 3.

Within the RSK GrAC the following should be noted:

- GrAC do not take account of outdoor inhalation exposure to VOC, which is considered to contribute minimally to overall inhalation exposure
- GrAC do not take account of other exposure routes potentially relevant to VOC in shallow groundwater such as direct contact or root uptake
- No biodegradation is assumed to occur in the unsaturated zone. Where aerobic conditions on site are known to exist the GrAC for hydrocarbons may therefore be conservative
- GrAC do not take account of preferential flow into buildings such as through unsealed service entries. In such circumstances GrAC may not be appropriate for use
- GrAC are based on a soil vapour intrusion CSM and are not appropriate for use when the foundation is in direct contact with contaminated groundwater

- GrAC assume that the capillary fringe is un-contaminated with VOC, which is unlikely, particularly where groundwater levels are variable
- GrAC set at the theoretical aqueous solubility limit are not considered to pose a risk to human health
- GrAC do not take into account the interaction between contaminants and the influence this may have on the theoretical aqueous solubility
- GrACs are only applicable to dissolved phase contaminants where the modelled assessment criteria is below the aqueous solubility limits

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	Table 3: RSK GrAC (ug/l)								
	COMMERCIAL								
	SAND					SANDY LOAM			
GW Depth (m)	0.65	1.5	2.5	5		0.65	1.5	2.5	5
Metals									
Elemental mercury	56	56	56	56		56	56	56	56
Methyl mercury	100000	100000	100000	100000		100000	100000	100000	100000
Volatile Organic Compounds									
Benzene	30740	40200	51330	79160		158660	193720	234960	338070
Toluene	59000	59000	59000	59000		59000	59000	59000	59000
Ethylbenzene	180000	180000	180000	180000		180000	180000	180000	180000
Xylene - m	200000	200000	200000	200000		200000	200000	200000	200000
Xylene - o	173000	173000	173000	173000		173000	173000	173000	173000
Xylene - p	200000	200000	200000	200000		200000	200000	200000	200000
Total xylene	173000	173000	173000	173000		173000	173000	173000	173000
Methyl tertiary-Butyl ether (MTBE)	12068580	16013210	20653950	32255810		48000000	48000000	48000000	48000000
Trichloroethene	820	1090	1400	2180		4410	5400	6550	9440
Tetrachloroethene	7430	9930	12870	20210		41190	50460	61360	88610
1,1,1-Trichloroethane	456280	604180	778170	1213140		1300000	1300000	1300000	1300000
1,1,1,2 Tetrachloroethane	35130	47100	61190	96410		180890	225050	277000	406880
1,1,2,2-Tetrachloroethane	231900	313430	409350	649150		844250	1131800	1470100	2315840
Carbon Tetrachloride	1200	1590	2050	3210		6600	8050	9760	14030
1,2-Dichloroethane	1290	1690	2160	3350		5860	7330	9060	13390
Vinyl Chloride	90	120	140	220		460	550	660	930
1,2,4-Trimethylbenzene	55900	55900	55900	55900		55900	55900	55900	55900
Semi-Volatile Organic Compounds									
Acenaphthene	4100	4100	4100	4100		4100	4100	4100	4100
Acenapththylene	7950	7950	7950	7950		7950	7950	7950	7950
Naphthalene	19000	19000	19000	19000		19000	19000	19000	19000
Petroleum Hydrocarbons									
Aliphatic hydrocarbons EC5-EC6	35900	35900	35900	35900		35900	35900	35900	35900
Aliphatic hydrocarbons >EC6-EC8	5370	5370	5370	5370		5370	5370	5370	5370
Aliphatic hydrocarbons >EC8-EC10	427	427	427	427		427	427	427	427
Aliphatic hydrocarbons >EC10-EC12	33.9	33.9	33.9	33.9		33.9	33.9	33.9	33.9
Aliphatic hydrocarbons >EC12-EC16	0.759	0.759	0.759	0.759		0.759	0.759	0.759	0.759
Aromatic hydrocarbons >EC8-EC9 (styrene)	29000	29000	29000	29000		29000	29000	29000	29000
Aromatic hydrocarbons >EC9-EC10	64600	64600	64600	64600		64600	64600	64600	64600
Aromatic hydrocarbons >EC10-EC12	24500	24500	24500	24500		24500	24500	24500	24500
Aromatic hydrocarbons >EC12-EC16	5750	5750	5750	5750		5750	5750	5750	5750

Notes:

Values less than 100 have not been rounded up or down; values greater than 100 have been rounded to the nearest 10.

Highlighted values exceed solubility limit for the pure compound in water (aqueous solubility); GrAC defaults to the limit of solubility.

No vadose zone biodegradation considered

Sub-surface to indoor air correction factor of 10 applied to all petroleum (non-chlorinated) hydrocarbons

All GrAC are for 1% SOM (0.0058 FOC)

APPENDIX L
GENERIC ASSESSMENT CRITERIA FOR PHYTOTOXIC EFFECTS

GENERIC ASSESSMENT CRITERIA FOR PHYTOTOXIC EFFECTS

Several compounds can inhibit plant growth; hence it is important to have generic assessment criteria (GAC) to promote healthy plant growth. In the absence of other published GAC, the GAC have been obtained from legislation (UK and European) and guidance related to the use of sewage sludge on agricultural fields.

The Council of European Communities Sewage Sludge Directive (86/278/EEC) dated 1986, has been transposed into UK law by Statutory Instrument No. 1263, The Sludge (use in Agriculture) Regulations 1989 (Public Health England, Wales and Scotland), as ammended in 1990 and The Sludge (use in Agriculture) Regulations (Northern Ireland) SR No, 245, 1990. In addition the Department of Environment (DoE) produced a Code of Practice (CoP) (Updated 2nd Edition) in 2006 which provided guidance on the application of sewage sludge on agricultural land (however the status of this document is unclear as it is on the archive section of the Defra website).

The directive seeks to encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to "***prevent harmful effects on soil, vegetation, animals and man".*** To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil. Treated sludge is defined as having undergone "biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use". To provide protection against potential health risks from residual pathogens, sludge must not be applied to soil in which fruit and vegetable crops are growing, or less than ten months before fruit and vegetable crops are to be harvested. Grazing animals must not be allowed access to grassland or forage land less than three weeks after the application of sludge.

The specified limits of concentrations of selected elements in soil are presented in Table 4 of the updated 2nd Edition of the DoE Code of Practice and are designed to protect plant growth. It is noted that these values are more stringent than the values set in current UK regulations. However since they were ammended following recommendations from the Independent Scientific Committee in 1993. (MAFF/DOE 1993). The GAC are presented in Table 1.

Table 1: Generic assessment criteria

Determinant	Generic assessment criteria (mg/kg)			
	pH 5.0 < 5.5	pH 5.5 < 6.0	pH 6.0 < 7.0	pH >7.0
Zinc	200	200	200	300
Copper	80	100	135	200
Nickel	50	60	75	110
Lead	300	300	300	300
Cadmium	3	3	3	3
Mercury	1	1	1	1
Note: Only compounds with assessment criteria documented within the Directive 86/278/EEC have been included, although criteria for 5 additional compounds have been presented within the 2006 CoP.				

RSK Phytotoxic GAC_2012_01_Rev01

APPENDIX M
GENERIC ASSESSMENT CRITERIA FOR CONTROLLED WATERS

GENERIC ASSESSMENT CRITERIA FOR CONTROLLED WATERS

Protection of the water environment

The water environment in the United Kingdom is protected under a number of regulatory regimes. The relevant environmental regulator is consulted where there may be a risk that pollution of 'controlled waters' may occur or may have occurred in the past.

The term 'controlled waters' refers to coastal waters, inland freshwaters and groundwater. The EU Water Framework Directive (WFD) (2000/60/EC) is implemented via domestic regulations and guidance, covering aspects of groundwater and surface water protection as well as drinking water supply policy. Domestic legislation and guidance will vary across the United Kingdom. Therefore, the relevant legislation for England, Wales, Northern Ireland and Scotland should be reviewed, alongside guidance provided by the Environment Agency (EA), Natural Resource Wales (NRW), the Scottish Environmental Protection Agency (SEPA) or the Northern Ireland Environment Agency (NIEA), as appropriate.

The main objectives of the protection and remediation of groundwater under threat from land contamination are set out within "The Environment Agency's approach to groundwater protection", version 1.0 (March 2017)[1] and the associated guidance "Land contamination groundwater compliance points: quantitative risk assessments (March 2017)[1a] that have replaced the previous guidance document "Groundwater Principles and Practice (GP3)". When assessing risks to groundwater, the following need to be considered:

- Where pollutants have not yet entered groundwater, all necessary and reasonable measures must be taken to:
  - ***prevent*** *the input of* ***hazardous*** *substances into groundwater (see description of hazardous substances below)*
  - ***limit*** *the entry of other (non-hazardous) pollutants into groundwater to avoid pollution, deterioration in the status of groundwater bodies and to prevent sustained, upward trends in pollutant concentrations in groundwater.*
- Where pollutants have already entered groundwater, the priority is to take all necessary and reasonable measures to:
  - ***minimise*** *further entry of "contaminants" where there is a defined source*
  - ***limit the pollution*** *of groundwater or any effect on the status of the groundwater body from the future expansion of the 'plume', if necessary, by actively reducing its extent.*

Within the context of groundwater risk assessments on sites affected by land contamination, "reasonable" means feasible without involving disproportionate costs. What costs are "disproportionate" depends on site-specific circumstances, which may include:

- Considerations of technical feasibility such as identified by the remedial options appraisal, this may be due to the distribution or nature of the contamination and the available remedial methods to treat the identified contamination;
- Sustainability considerations.

DEFINITIONS AND SUBSTANCE CLASSIFICATIONS

Risks to surface waters:

When assessing risks to surface waters, the following list of definitions should be understood:

Priority substances (PS) are harmful substances originally identified under the Water Framework Directive (WFD) 2000/60/EC as substances 'presenting a significant risk to or via the aquatic environment' at a European level. Member States are required to incorporate the identified **PS** into their country-wide monitoring programmes. There are currently 33 **PS** defined within the Priority Substances Directive (2013/39/EU; Annex 1), with a further 12 additional substances due to come into force from 22 December 2018. Directive 2013/39/EU has been transposed into domestic legislation for England and Wales by The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

Under the umbrella of **PS**, there is a sub-set of substances identified as being "hazardous", and these are referred to as **Priority hazardous substances (PHS).** The list of **PHS** is defined at EU level within the Priority Substances Directive (2013/39/EU). The WFD defines hazardous substances as 'substances (or groups of substances) that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances that give rise to an equivalent level of concern.' There are currently 15 **PHS**, with a further 6 additional substances due to come into force from 22 December 2018.

There is also another group of substances defined at EU level and which are referred to as **other pollutants (OP)** in Directive 2013/39/EU**.** These are additional substances which although not **priority substances**, have EQS which are identical to those laid down in the legislation which applied prior to 13 January 2009 (Directive 2008/105/EU). The **OP** are listed along with the **priority substance (PS)** within the Priority Substances Directive (2013/39/EU),and their associated EQS are also listed therein. There are 6 **OP** defined within the Priority Substances Directive (2013/39/EU).

In addition to the EU level substances, there are also a group of pollutants defined at a Member State level, referred to as **Specific pollutants (SP)**. These substances are pollutants which are released in significant quantities into water bodies in each of the individual European Member States. Under the WFD, Member States are required to set their own EQS for these substances. An indicative list of **SP** is given in Annex VIII of the WFD. Many of the substances categorised as **SP** in the UK were formerly List 2 substances under the old Groundwater Directive (80/68/EEC). The **SP** are defined within Part 2 (Table 1) of The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

Risks to groundwater:

When assessing risks to groundwater, the following definitions should be understood:

Under the requirements of the Groundwater Daughter Directive (2006/118/EU), the UK has published a list of substances it considers to be **hazardous substances** with respect to groundwater. In their advisory capacity to the government, this list has been derived by the UK Joint Agencies Groundwater Directive Advisory Group (JAGDAG), of which the Environment Agency is a member. The JAGDAG list of **hazardous substances** was published in January 2017 and the Environment Agency will use the updated list of hazardous substances from this date for all new activities that may lead to the discharge of hazardous substances to groundwater. The list is extensive and can be found in full at:

https://www.wfduk.org/sites/default/files/Media/170116%20Substance%20Determinationsfinal.pdf

Selecting the appropriate assessment criteria

When assessing the risks to controlled waters, various assessment criteria apply, depending on the nature of the assessment and the conceptual site model.

Where a surface water body is involved, then Environmental Quality Standards (EQS) are the relevant assessment criteria as they are designed to be protective of surface water ecology.

Where a public water supply or a Principal aquifer is involved, then the standards defined in The Water Supply (Water Quality) Regulations[2] are the primary source of assessment criteria. The Private Water Supplies Regulations[3] may also be applicable in some cases. For instances where there are no UK assessment criteria, then the World Health Organisation (WHO) drinking water guidelines[4] may be used.

This appendix presents the generic assessment criteria (GAC) that RSK considers suitable for assessing risks to controlled waters for our most commonly encountered determinants. A full list of EQS for England and Wales are included in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

The RSK GAC for controlled waters are presented in **Table 1** and **Table 2**. In line with the Environment Agency's Remedial Targets Methodology, the GAC for controlled waters are termed 'target concentrations'.

The appropriate target concentrations should be selected with consideration to:

- the site conceptual model (i.e. the receptor at potential risk);
- whether the substance is already present in groundwater at the site;
- whether or not the substance is classified as a priority hazardous substance under the Priority Substances Directive (2013/39/EC) (see above), or as a hazardous substance according to the current list of JAGDAG determinations[5]; and
- background concentrations in the aquifer (if applicable).

It is important to remember that the WFD and Environment Agency guidance[1 & 1a] support a sustainable, risk-based approach be applied to groundwater contamination. Exceedance of any target concentration does not necessarily imply that an unacceptable risk exists or that remediation is inevitably required.

Target concentrations shaded in green are statutory values	Target concentrations shaded in orange are non-statutory values

Note: Units µg/l throughout (unless otherwise stated)

Table 1: Target concentrations for controlled waters (excluding TPH CWG fractions)

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Metals & other inorganics						
Hazardous substance	Specific pollutant	Arsenic	-	10[2]	50[6a]	25[6a]
Non-hazardous pollutant	Priority substance	Cadmium	0.1[7]	5[2]	≤0.08, 0.08, 0.09, 0.15, 0.25 [6b]	0.2[6a]
(Not determined)	-	Chromium (total)	-	50[2]	Sum values for chromium III and VI	
(None	Specific pollutant	Chromium (III)	-	Use value for total chromium	4.7[6a]	-
Hazardous substance	Specific pollutant	Chromium (VI)			3.4[6a]	0.6[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
(Not determined)	Specific pollutant	Copper	-	2,000[2]	1 bioavailable[6a]	3.76 dissolved, where DOC ≤1mg/l[6a]
						3.76µg/l + (2.677µg/l x ((DOC/2) – 0.5µg/l)) dissolved, where DOC >1mg/l[6a]
Hazardous substance	Priority substance	Lead	-	10[2]	1.2 bioavailable[6a]	1.3[6a]
Hazardous substance	**Priority hazardous substance**	Mercury	0.01[7]	1[2]	0.07[6c]	0.07[6c]
Non-hazardous pollutant	Priority substance	Nickel	-	20[2]	4.0 bioavailable[6a]	8.6[6a]
Non-hazardous pollutant	-	Selenium	-	10[2]	-	-
Non-hazardous pollutant	Specific pollutant	Zinc	-	3,000[8]	10.9 bioavailable[6a]	6.8 dissolved [6a]
None	Specific pollutant	Iron	-	200[2]	1000[6a]*1	1000[6a])*1
None	Specific pollutant	Manganese	-	50[2] (0.05mg/l)	123 bioavailable[6a] (0.123mg/l)	-
(Not determined)	-	Aluminium	-	200[2]	-	-

Substance classification		Determinant	Target concentrations (µg/l)			
			Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
Groundwater receptors[5]	Surface water receptors[6]				Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	**Priority hazardous substance**	Tributyltin compounds (Tributyltin-cation)	0.001[7]	-	0.0002[6a]	0.0002[6a]
(Not determined)	-	Sodium	-	200,000[2] (200 mg/l)	-	-
Non-hazardous pollutant	Specific pollutant	Cyanide (Hydrogen cyanide)	-	50[2] (0.05 mg/l)	1[6a] (0.001 mg/l)	1[6a] (0.001 mg/l)
Non-hazardous pollutant	-	Total ammonia[$] (ammonium (as NH_4^+) plus ammonia (NH_3)	-	500[2] (0.5 mg/l)	300[6f] (0.3 mg/l)	-
Non-hazardous pollutant	Specific pollutant	Ammonia un-ionised (NH_3)	-	-	-	21[6a] (0.021 mg/l)
Non-hazardous pollutant	Specific pollutant	Chlorine	-	-	2[6a] (0.002 mg/l)	10[6d] (0.01 mg/l)
(Not determined)	-	Chloride	-	250,000[2] (250 mg/l)	-	-
(Not determined)	-	Sulphate	-	250,000[2] (250 mg/l)	-	-
(Not determined)	-	Nitrate (as NO_3)	-	50,000[2] (50 mg/l)	-	-
(Not determined)	-	Nitrite (as NO_2)	-	500[2] (0.5 mg/l)	10[9] (0.01 mg/l)	-
Volatile organic compounds (VOC)						

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Non-hazardous pollutant	Other pollutant	Tetrachloroethene (tetrachloroethylene)	0.1[7]	10[2]	10[6a]	10[6a]
Hazardous substance	Other pollutant	Trichloroethene (trichloroethylene)	0.1[7]	10[2]	10[6a]	10[6a]
None	Specific pollutant	Tetrachloroethane	-	-	140[6a]	-
Hazardous substance	Other pollutant	Carbon tetrachloride (tetrachloromethane)	0.1[7]	3.0[2]	12[6a]	12[6a]
Non-hazardous pollutant	Priority substance	1,2-Dichloroethane	1.0[7]	3.0[2]	10[6a]	10[6a]
Hazardous substance	-	Vinyl chloride (chloroethene)	-	0.5[2]	-	-
Non-hazardous pollutant	Priority substance	Dichloromethane	-	20[4]	20[6a]	20[6a]
Non-hazardous pollutant	Priority substance	Trichlorobenzenes	0.01[7]	-	0.4[6a]	0.4[(6a)]
(Not determined)	-	Trihalomethanes	-	100[2a]	-	-
Hazardous substance	Priority substance	Trichloromethane (Chloroform)	0.1[7]	(see "Trihalomethanes"above)	2.5[6a]	2.5[6a]
Non-hazardous pollutant	**Priority hazardous substance**	Di(2-ethylhexyl) phthalate (bis(2-ethylhexyl) phthalate, DEHP)	-	8[4]	1.3[6a]	1.3[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
			Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
Groundwater receptors[5]	Surface water receptors[6]				Freshwater	Transitional (estuaries) and coastal waters
None	Specific pollutant	Benzyl butyl phthalate	-	-	7.5[6a]	0.75[6e]
Hazardous substance	**Priority hazardous substance**	Hexachlorobutadiene	0.005[7]	0.6[4]	0.6[6c]	0.6[6c]
Semi-volatile organic compounds (SVOC)						
(Not determined)	-	Acenaphthylene (C12-C16)	-	-	5.8[10]	
Hazardous substance	**Priority hazardous substance**	Anthracene (C16-C35)	-	-	0.1[6a]	0.1[6a]
Non-hazardous pollutant	Priority substance	Naphthalene (C10-C12)	-	-	2[6a]	2[6a]
Hazardous substance	Priority substance	Fluoranthene (C16-C35)	-	-	0.0063[6a]	0.0063[6a]
Hazardous substance(s)	**Priority hazardous substance(s)**	Benzo(a)pyrene (C16-C35)	-	0.01[2]	0.00017[6a]	0.00017[6a]
		Benzo(b)fluoranthene (C16-C35)	-	0.1[2] sum of the concentration of the four specified compounds	No EQS for these substances. B(a)P should be used as the indicator compound instead.	
		Benzo(k)fluoranthene (C16-C35)	-			

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
		Benzo(g,h,i)perylene (C16-C35)	-			
		Indeno(1,2,3-cd) pyrene (C16-C35)	-			
Non-hazardous pollutant	Specific pollutant	Phenol		-	7.7[6a]	7.7[6a]
Hazardous substance	Specific pollutant	2,4-Dichlorophenol	0.1[7]	-	4.2[6a]	0.42[6a]
Hazardous substance	Priority substance	Pentachloro-phenol (PCP)	0.1[7]	9[4]	0.4[6a]	0.4[6a]
Petroleum hydrocarbons						
Hazardous substance	-	Total petroleum hydrocarbons	-	See Table 2 for individual (non-statutory) TPH CWG fractions with respect to drinking water receptors	See individual risk driving compounds (i.e. BTEX and PAH) for specific EQS	
Hazardous substance	Priority substance	Benzene	1[7]	1[2]	10[6a]	8[6a]
Hazardous substance	Specific pollutant	Toluene	4[7]	700[4]	74[6a]	74[6a]
Hazardous substance	-	Ethylbenzene	-	300[4]	-	-
(Not determined)	-	Xylenes	3[7]	500[4]	30[11]	-

Substance classification		Determinant	Target concentrations (µg/l)			
			Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
Groundwater receptors[5]	Surface water receptors[6]				Freshwater	Transitional (estuaries) and coastal waters
Non-hazardous pollutant	-	Methyl tertiary butyl ether (MTBE)	-	15[12]	-	
Pesticides, fungicides, insecticides and herbicides						
Hazardous substance(s)	Other pollutant (Cyclodiene pesticides)	Aldrin	0.003[7]	0.03[2]	0.01[6a]	0.005[6a]
		Dieldrin	0.003[7]	0.03[2]		
		Endrin	0.003[7]	0.1[2b]		
		Isodrin*2	0.003[7]	0.1[2b]		
Hazardous substance	Other pollutant	DDT (total)	0.002[7]	1[4]	0.025[6a]	0.025[6a]
(Not determined) – assume to be Hazardous Substance	-	Total pesticides	-	0.5[2]	-	-
(Not determined) - assume to be Hazardous Substance	-	Other individual pesticides	-	0.1[2]		

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Specific pollutant	Carbendazim	-	-	0.15[6a]	-
Hazardous substance	Specific pollutant	Chlorothalonil	-	-	0.035[6a]	-
Hazardous substance	Specific pollutant (until 22/12/18, after which it becomes a Priority substance)	Cypermethrin	-	-	0.0001[6a] From 22/12/18: 8.0E-5[6a]	0.0001[6a] From 22/12/18: 8.0E-6[6a]
Hazardous substance	Specific pollutant	Dimethoate	0.01[7]	-	0.48[6a]	0.48[6a]
(Not determined)	Specific pollutant	Glyphosate	-	-	196[6a]	196[6a]
Hazardous substance	Specific pollutant	Linuron		-	0.5[6a]	0.5[6a]
Non-hazardous pollutant	Specific pollutant	Mecoprop	0.04[7]	-	18[6a]	18[6a]
Non-hazardous pollutant	Specific pollutant	Methiocarb	-	-	0.01[6a]	-
Non-hazardous pollutant	Specific pollutant	Pendimethalin	-	20[4]	0.3[6a]	-

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Specific pollutant	Permethrin	0.001[7]	-	0.001[6a]	0.0002[6a]
Hazardous substance	Priority substance	Alachlor	-	20[4]	0.3[6a]	0.3[6a]
Hazardous substance	Priority substance	Atrazine	0.03[7]	100[4]	0.6[6a]	0.6[6a]
Hazardous substance	Priority substance	Diuron	-	-	0.2[6a]	0.2[6a]
Hazardous substance	**Priority hazardous substance**	Endosulphan	0.005[7]	-	0.005[6a]	0.0005[6a]
Non-hazardous pollutant	Priority substance	Isoproturon	-	9[4]	0.3[6a]	0.3[6a]
Hazardous substance	Priority substance	Simazine	0.03[7]	2[4]	1[6a]	1 [6a]
Hazardous substance	**Priority hazardous substance**	Trifluralin	0.01[7]	20[4]	0.03[6a]	0.03[6a]
(Not determined)	From 22/12/18: Priority substance	Dichlorovos	-	-	From 22/12/18: 6.0E-4[6a]	From 22/12/18: 6.0E-5[6a]
Hazardous substance	From 22/12/18: Priority substance	Heptachlor and heptachlor epoxide	-	0.03[2]	From 22/12/18: 2.0E-7[6a]	From 22/12/18: 1.0E-08[6a]
Miscellaneous						

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
None	Specific pollutant	Triclosan (antibacterial agent)	-	-	0.1[6a]	0.1[6a]
Hazardous substance	**From 22/12/18: Priority hazardous substance**	Perfluoro-octane sulfonic acid (and its derivatives) (PFOS)	-	-	From 22/12/18: 6.5E-4[6a]	From 22/12/18: 1.3E-4[6a]
Hazardous substance	**From 22/12/18: Priority hazardous substance**	Hexabromo cyclododecane (HBCDD)	-	-	From 22/12/18: 0.0016[6a]	From 22/12/18: 0.0016[6a]

Notes:

'-' A target concentration is not available.

$Please note that total ammonia (NH_4^+ and NH_3) is equivalent to ammoniacal nitrogen in laboratory reports

*1 Please note that although iron is listed in the 2015 Direction as 1.000 µg/l, the EQS remains at 1mg/l in Scotland and it is assumed this is an error and should read either 1,000 or 1000µg/l.

*2 Please note that although Isodrin is not listed in name within the group of "Cyclodiene pesticides" in Table 1 of Schedule 3 Part 3 of the 2015 Direction[6], the CAS number for Isodrin (465-73-6) **is** listed and therefore it is assumed that it has been missed off the named list of substances.

*3 Total petroleum hydrocarbons is used for consistency, but is an analytical method-defined measurement for a mixture of hydrocarbons subject to environmental analysis[11].

"Bioavailable" in relation to copper, zinc, nickel and manganese (but not lead) is the generic EQSbioavailable[6a] derived from the Metal Bioavailability Assessment Tool (M-BAT) developed by the Water Framework Directive UK Technical Advisory Group (WFDTAG). Exceedance of this value should prompt a site-specific assessment using the M-BAT with pH, DOC and Ca to derive a site-specific EQS termed the $PNEC_{dissolved}$. http://www.wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat.

For zinc, if there is an exceedance of the EQSbioavailable in an initial GQRA, Tier 2 required that the EQS for zinc should also have the ambient background concentration of zinc added as well

Table 2: World Health Organization (WHO) guide values for TPH CWG fractions in drinking water[13] (as referenced in CL:AIRE, 2017[11])

TPH CWG fraction	WHO guide value for drinking water[13] (µg/l)
Aliphatic fractions:	
Aliphatic EC5-EC6	15,000
Aliphatic >EC6-EC8	15,000
Aliphatic >EC8-EC10	300
Aliphatic >EC10-EC12	300
Aliphatic >EC12-EC16	300
Aliphatic >EC16-EC21	-
Aliphatic >EC21-EC35	-
Aromatic fractions:	
Aromatic EC5-EC6	10 (benzene)
Aromatic >EC6-EC8	700 (toluene)
Aromatic >EC8-EC10	300 (ethyl benzene) 500 (xylenes)
Aromatic >EC10-EC12	90
Aromatic >EC12-EC16	90
Aromatic >EC16-EC21	90
Aromatic >EC21-EC35	90
Reference: World Health Organisation (WHO), 2008. Petroleum products in drinking-water. Background document for development of WHO guidelines for drinking water quality. WHO/SDE/WSH/05.08/123. World Health Organisation, Geneva[13].	

References

1. Environment Agency (2017), 'The Environment Agency's approach to groundwater protection', version 1.0, March 2017 (formerly contained within GP3) [accessed 29 March 2017]. https://www.gov.uk/government/collections/groundwater-protection

1a. Environment Agency (2017), 'Land contamination groundwater compliance points: quantitative risk assessments', March 2017 (formerly contained within GP3) [accessed 29 March 2017]. https://www.gov.uk/government/collections/groundwater-protection

2. The Water Supply (Water Quality) Regulations 2016 (SI 2016/619)
   - 2a. Sum of chloroform, bromoform, dibromochloromethane and bromodichloromethane
   - 2b. Standard applies to individual pesticides except aldrin, dieldrin, heptachlor and heptachlor epoxide, for which a separate standard is defined.
3. The Private Water Supplies (England) Regulations 2016. SI 2016 / 618
4. WHO (2011), *Guidelines for drinking-water quality*, 4th edn
5. JAGDAG hazard substance determinations: This list contains substances that are determined to be hazardous substances or non-hazardous pollutants for the purposes of the groundwater directive 2006/118/EC. The absence of an assessment or substance from the list means an assessment has not been done yet and is presented as 'Not yet determined'; if a substance has been assessed but does not fall into either category it is presented as 'None'. For further details on how substances are assessed, see the Joint Agencies Groundwater Directive Advisory Group (JAGDAG) 'Methodology for the determination of hazardous substances in groundwater for the purposes of the groundwater directive 2006/118/EC' which is available from the JAGDAG website. The methodology is a UK –wide framework that sets criteria for how to assess whether a substance is a hazardous substances in groundwater. The list of substances can be found at:

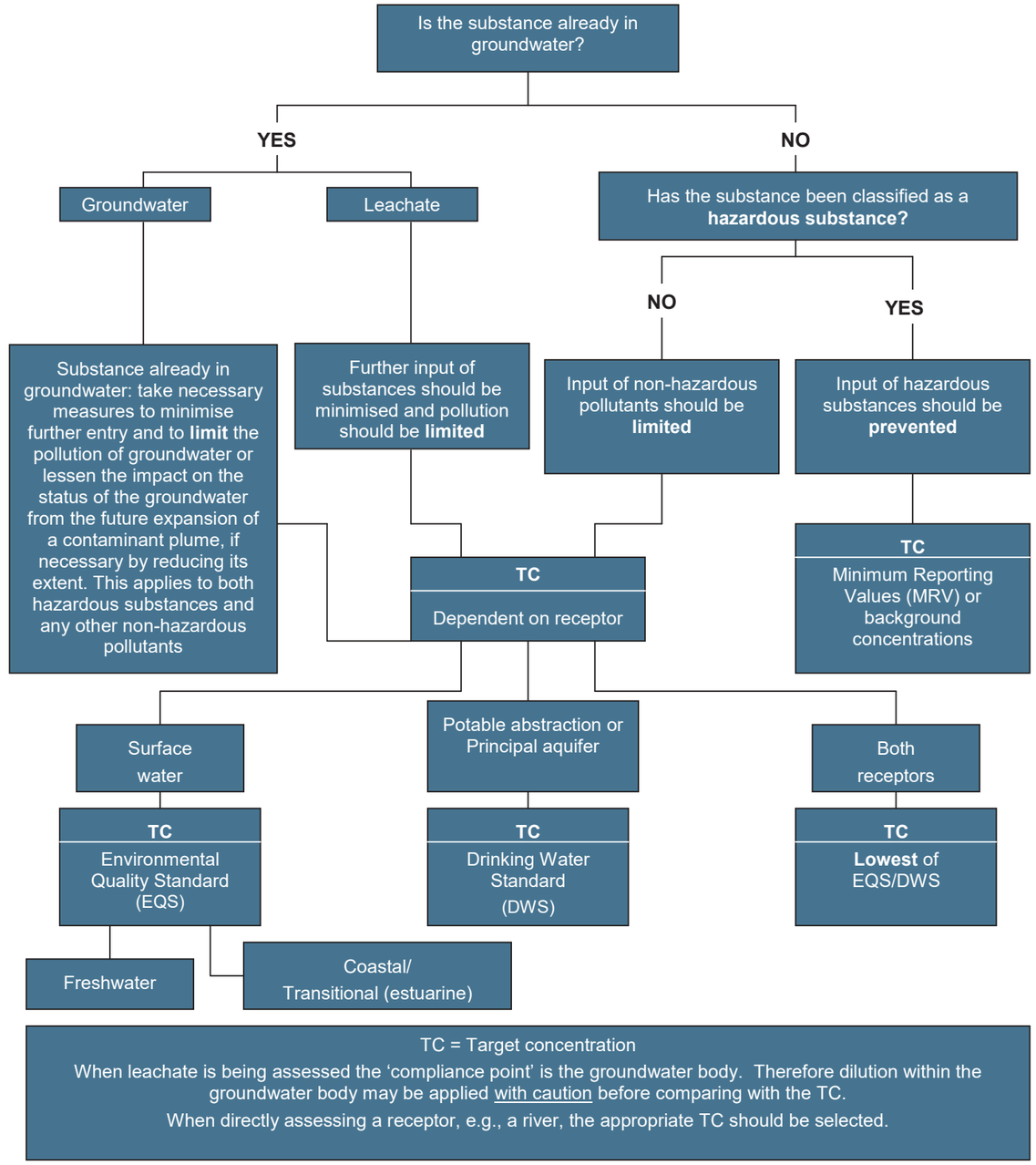
   https://www.wfduk.org/sites/default/files/Media/170116%20Substance%20Determinationsfinal.pdf

6. The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.
   - 6a. The EQS for these substances are based on a "long term mean" or an "annual average (AA)" EQS.
   - 6b. For cadmium and its compounds the EQS values vary depending on the hardness of the water as specified in five class categories (Class 1: < 40 mg CaCO3/l, Class 2: 40 to < 50 mg CaCO3/l, Class 3: 50 to < 100 mg CaCO3/l, Class 4: 100 to < 200 mg CaCO3/l and Class 5: ≥ 200 mg CaCO3/l).
   - 6c. The EQS for Mercury and hexachlorobutadiene are based on a "maximum acceptable concentration (MAC)" EQS in absence of an "annual average (AA)" EQS.
   - 6d. The EQS for chlorine in saltwater is based on the 95th percentile concentration of total residual oxidant, which refers to the sum of all oxidising agents existing in water, expressed as available chlorine.
   - 6e. The recommended saltwater standard is derived using a safety factor of 100. Where the standard is failed, it is recommended that supporting evidence of ecological damage should be obtained before committing to expensive action.
   - 6f. EQS for total ammonia is as per Schedule 3, Part 1, Table 7 of of the above directions. EQS applies to river types 1, 2 and 4 and 6 (namely upland and low alkalinity). The EQS for a lowland and high alkalinity rivers (types 3, 5 and 7) is 600µg/l (0.6mg/l).

Additional information on the Metal Bioavailability Assessment Tool (M-BAT) is available at http://www.wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat

7. Minimum reporting values listed at https://www.gov.uk/government/publications/values-for-groundwater-risk-assessments/hazardous-substances-to-groundwater-minimum-reporting-values (updated 13 January 2017; accessed 29 March 2017). Note target concentration for xylenes is 3 μg/l each for o-xylene and m/p xylene as it may not be possible to separate m- and p-xylene; 135 tcb, 124 tcb, 123 tcb each to 0.01 μg/l)
8. The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 (as amended). SI 1996 / 3001
9. Council Directive on the Quality of Fresh Waters Needing Protection or Improvement in Order to Support Fish Life (Freshwater Fish Directive) (78/659/EEC)
10. WRc plc (2002), R&D Technical Report P45.
11. CL:AIRE, 2017. Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies. V1.1.
12. Drinking Water Inspectorate (London, UK). Environmental Information Request on MTBE in drinking water. Ref. DWI 1/10/18; dated 28 November 2006. Value is based on the odour threshold for MTBE, which is lower than a health-based guideline value
13. World Health Organisation (WHO), 2008. Petroleum products in drinking-water. Background document for development of WHO guidelines for drinking water quality. WHO/SDE/WSH/05.08/123. World Health Organisation, Geneva. [accessed 29 March 2017] http://www.who.int/water_sanitation_health/dwq/chemicals/petroleumproducts_2add_june2008.pdf

FLOW CHART TO ASSIST WITH SELECTION OF TARGET CONCENTRATIONS



APPENDIX N
GENERIC ASSESSMENT CRITERIA FOR POTABLE WATER SUPPLY PIPES

A range of pipe materials is available and careful selection, design and installation is required to ensure that water supply pipes are satisfactorily installed and meet the requirements of the Water Supply (Water Fittings) Regulations 1999 in England and Wales, the Byelaws 2000 in Scotland and the Northern Ireland Water Regulations. The regulations include a requirement to use only suitable materials when laying water pipes and laying water pipes without protection is not permitted at contaminated sites. The water supply company has a statutory duty to enforce the regulations.

Contaminants in the ground can pose a risk to human health by permeating potable water supply pipes. To fulfil their statutory obligation, UK water supply companies require robust evidence from developers to demonstrate either that the ground in which new plastic supply pipes will be laid is free from specific contaminants, or that the proposed remedial strategy will mitigate any existing risk. If these requirements cannot be demonstrated to the satisfaction of the relevant water company, it becomes necessary to specify an alternative pipe material on the whole development or in specific zones.

In 2010, UK Water Industry Research (UKWIR) published *Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites* (Report Ref. No. 10/WM/03/21). This report reviewed previously published industry guidelines and threshold concentrations adopted by individual water supply companies.

The focus of the UKWIR research project was to develop clear and concise procedures, which provide consistency in the pipe selection decision process. It was intended to provide guidance that can be used to ensure compliance with current regulations and to prevent water supply pipe failing prematurely due to the presence of contamination.

The report concluded that in most circumstances only organic contaminants pose a potential risk to plastic pipe materials and Table 3.1 of the report provides threshold concentrations for polyethylene (PE) and polyvinyl chloride (PVC) pipes for the organic contaminants of concern. The report also makes recommendations for the procedures to be adopted in the design of site investigations and sampling strategies, and the assessment of data, to ensure that the ground through which water supply pipes will be laid is adequately characterised.

Risks to water supply pipes have therefore been assessed against the threshold concentrations for PE and PVC pipe specified in Table 3.1 of Report 10/WM/03/21, which have been adopted as the GAC for this linkage and are reproduced in Table A3 below.

Since water supply pipes are typically laid at a minimum depth of 0.75m below finished ground levels, sample results from depths between 0.5m and 1.5m below finished level are generally considered suitable for assessing risks to water supply. Samples outside these depths can be used, providing the stratum is the same as that in which water supply pipes are likely to be located. The report specifies that sampling should characterise the ground conditions to a minimum of 0.5m below the proposed depth of the pipe.

It should be noted that the assessment provided in this report is a guide and the method of assessment and recommendations should be checked with the relevant water supply company.

Table A3: Generic assessment criteria for water supply pipes

		Pipe material	
		GAC (mg/kg)	
	Parameter group	PE	PVC
1	Extended VOC suite by purge and trap or head space and GC-MS with TIC (Not including compounds within group 1a)	0.5	0.125
1a	• BTEX + MTBE	0.1	0.03
2	SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C_5–C_{10}) (Not including compounds within group 2e and 2f)	2	1.4
2e	• Phenols	2	0.4
2f	• Cresols and chlorinated phenols	2	0.04
3	Mineral oil C_{11}–C_{20}	10	Suitable
4	Mineral oil C_{21}–C_{40}	500	Suitable
5	Corrosive (conductivity, redox and pH)	Suitable	Suitable
Specific suite identified as relevant following site investigation			
2a	Ethers	0.5	1
2b	Nitrobenzene	0.5	0.4
2c	Ketones	0.5	0.02
2d	Aldehydes	0.5	0.02
6	Amines	Not suitable	Suitable
Notes: where indicated as 'suitable', the material is considered resistant to permeation or degradation and no threshold concentration has been specified by UKWIR.			

APPENDIX O
EHO RESPONSE

Andrew Tyler

From: Arthur, Anona [Anona.Arthur@camden.gov.uk]
Sent: 18 May 2017 17:17
To: Andrew Tyler
Subject: Contaminated Land Enquiry - 50-57 High Holborn, 45-51 Bedford Row; 14-19 Brownlow Street and 18-25 Hand Court
Attachments: 588-PlanningApplicationPublic.csv; 588-LandUseHistoric.csv

Dear Andrew

RE: Contaminated Land Enquiry - 50-57 High Holborn, 45-48 Bedford Row; 14-19 Brownlow Street and 18-23 Hand Court

Further to your contaminated land enquiry relating to the above land I would like to confirm the following:

The site has not been determined as contaminated land under Part IIA of the Environmental Protection Act 1990.

With regards to details under the Council's Part IIA Strategy, Camden has a Contaminated Land Database to identify and prioritise sites within the Borough with a former potentially contaminative land use. Sites recorded on the database are not contaminated land (as defined by Part IIA of the Environmental Protection Act 1990); rather they are considered as having the potential to be contaminated land through their previous use. The Council is in the process of reviewing the Contaminated Land Strategy.

The sites at **45-46 Bedford Row; 48 Bedford Row & 24-25 Hand Court** have not been identified as a priority for inspection, as the Council considers them to be suitable for their current use, however the Council cannot guarantee that the land will not be investigated in the future).

If the land were to be redeveloped in the future and the works would involve excavations, a planning condition may be imposed with a requirement to carry out a detailed site investigation (desk top, walkover and intrusive investigation) and if necessary remediation works. However, if the site remains in the current state (established development/hard-standing) and there are no extensive soft landscaped areas or gardens the site would not be considered for investigation under the contaminated land regime.

The sites at **50 - 57 High Holborn; 14 - 19 Brownlow Street; 18 -23 Hand Court,23 Handcourt & 47-47A & 49-51 Bedford Row** have been identified as a priority for inspection. The sites have been categorised with a high risk rating in line with the new statutory guidance. There are no records of any intrusive ground works confirming ground conditions.

Further to your enquiry, a historical record search was performed to determine historical land uses and it appears that the following past industrial uses of plausible concern were carried out on or within **50 metres** of the sites (full list is attached):

- Unknown Industrial at 50-57 High Holborn, 18-23 Hand Court and 47 Bedford Row

According to our contaminated land risk characterisation, land on which the above processes/activities were carried out is inherently considered to present a high risk of contamination. It is conservatively considered likely that such land would exhibit areas of significantly elevated contamination levels with high magnitude to cause harm.

If the land were to be redeveloped in the future and the works would involve excavations, a planning condition would be imposed with a requirement to carry out a detailed site investigation (desk top, walkover and intrusive investigation) and if necessary remediation works.

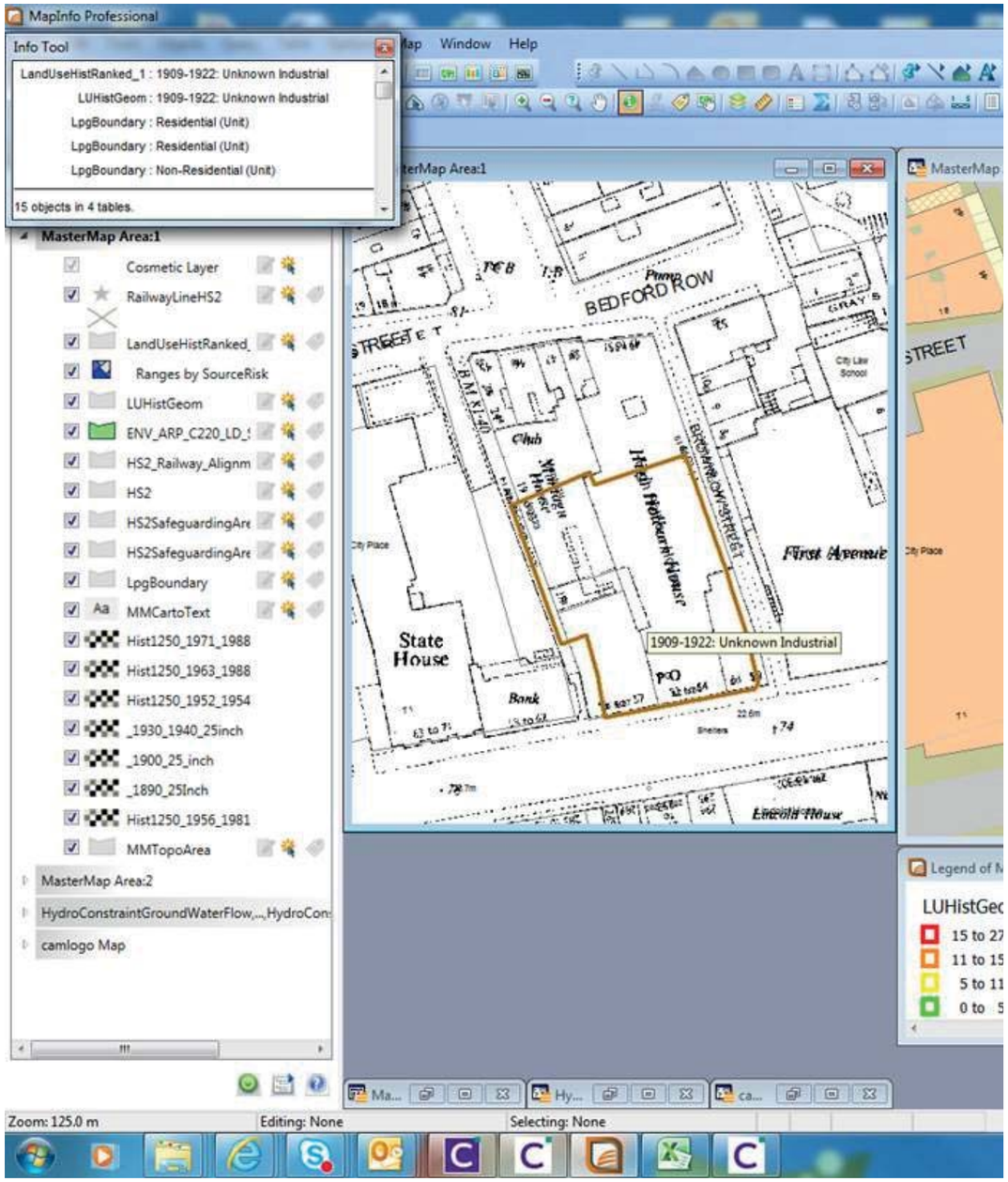
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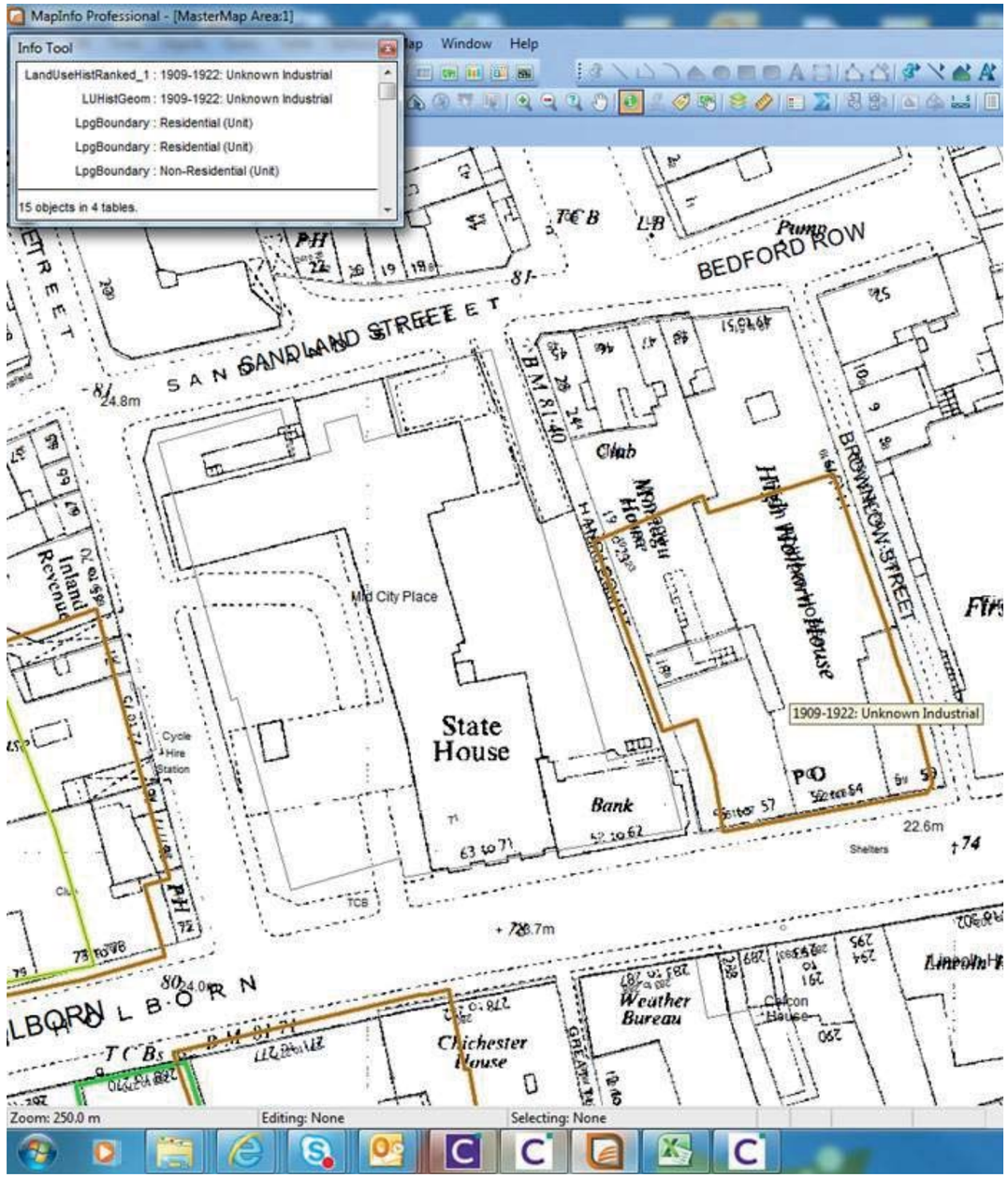
- The Council holds no information on pollution incidents in the area.
- No historical landfills identified within 250 metres of the site.
- Currently, the Council holds no information about water abstraction points or private water supplies.
- The Council holds no information relating to materials extraction, mine gasses, or animal burial grounds.
- There are no IPPC (Environment Agency) industrial processes within 50 metres of the site.
- There are no LAPPC (Local Authority) industrial process within 50 metres of the site.
- The Council holds no records relating to flooding.
- The Council has no information about the extent of made ground on subject site, however Camden soil profile tends to exhibit high levels of Lead (BGS data)
- The Council holds no information relating to radon levels (this can be enquired with the Environment Agency)
- Details of any records of complaints, notices etc. about nuisance relating to the current or previous site uses and its environs may be obtained from Council's Land Charges Department (0207 974 4444 – Contact Camden) but those will be limited to actual entries relating to outstanding matters i.e.: fees for works in default etc. Details with regards to complaints relating to noise issues may be obtained from Council's Noise & Licensing Team, odour issues from our Private Sector Housing Team. Both can be contact via the main line: 0207 974 4444.

Disclaimer:

The above response is provided from such information that is readily available to the Council and in its possession. It is believed to be correct but the Council expressly gives no warranty in this respect nor will the Council accept any liability whatsoever for any error, omission or loss occasioned thereby to any person (whether or not the person requested the information) and in particular the Council gives no warranty that it has researched all its relevant archives in order to respond to the request for information.

I hope the information provided is sufficient, however if you require further clarification please contact me directly.





Regards

Anona Arthur BSc (Hons) Env Health; Dip Acoustics
Environmental Health Officer / Contaminated Land Officer
Communities
Supporting Communities

London Borough of Camden

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APPENDIX D
PDISP OUTPUTS

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	33000.	115000.	0.50000	None
3	-5.0000	10	205000.	255000.	0.50000	None
4	-49.000	5	255000.	255000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.00000	140.00000	-40.00000	100.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Perimeter	Polygonal	Horizontal	N/A	N/A	19.97000	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
2	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.00000	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
3	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.27000	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
4	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.69000	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
5	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.10000	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A
6	Upper Foot 1	Rectangular	Horizontal	76.30000	41.75000	23.00000	5.0000	7.5000	1.0000	N/A	N/A	1	-19.730	0.0	0.0
7	Upper Foot 2	Rectangular	Horizontal	84.55000	42.50000	23.00000	5.0000	9.0000	1.0000	N/A	N/A	1	-6.8900	0.0	0.0
8	Upper Foot 3	Rectangular	Horizontal	84.95000	36.50000	23.50000	4.0000	9.0000	1.0000	N/A	N/A	1	-7.3300	0.0	0.0
9	Upper Foot 4	Rectangular	Horizontal	89.45000	29.90000	23.50000	4.0000	1.0000	12.750	N/A	N/A	1	-2.9000	0.0	0.0
10	Upper Foot 5	Rectangular	Horizontal	84.50000	34.10000	23.50000	4.0000	1.0000	3.7000	N/A	N/A	1	-8.6500	0.0	0.0
11	Upper Foot 6	Rectangular	Horizontal	84.80000	30.15000	23.50000	4.0000	1.0000	4.2000	N/A	N/A	1	-20.950	0.0	0.0
12	Upper Foot 7	Rectangular	Horizontal	85.20000	25.60000	23.50000	4.0000	1.0000	4.8500	N/A	N/A	1	-6.3900	0.0	0.0
13	Upper Slab 1	Rectangular	Horizontal	81.00000	39.20000	23.00000	4.7000	16.500	4.8000	N/A	N/A	1	-9.1000	0.0	0.0
14	Upper Slab 2	Rectangular	Horizontal	86.00000	29.65000	23.50000	5.0000	7.5000	12.900	N/A	N/A	1	-9.1000	0.0	0.0
15	Upper Slab 3	Rectangular	Horizontal	84.50000	19.65000	23.50000	5.0000	2.8000	6.8000	N/A	N/A	1	-9.1000	0.0	0.0
16	Lower Foot 1	Rectangular	Horizontal	73.90000	27.30000	21.10000	3.5000	1.0000	16.000	N/A	N/A	1	-42.440	0.0	0.0
17	Lower Foot 2	Rectangular	Horizontal	73.50000	35.70000	21.10000	5.0000	1.3000	0.70000	N/A	N/A	1	-138.46	0.0	0.0
18	Lower Foot 3	Rectangular	Horizontal	77.30000	36.00000	21.10000	5.0000	6.3000	1.0000	N/A	N/A	1	-77.460	0.0	0.0
19	Lower Foot 4	Rectangular	Horizontal	81.30000	33.00000	21.10000	5.0000	1.0000	7.5000	N/A	N/A	1	-6.9300	0.0	0.0
20	Lower Foot 5	Rectangular	Horizontal	82.20000	23.30000	21.10000	5.0000	1.0000	12.000	N/A	N/A	1	-7.0800	0.0	0.0
21	Lower Foot 6	Rectangular	Horizontal	78.70000	16.35000	21.10000	4.0000	9.3000	1.0000	N/A	N/A	1	-14.300	0.0	0.0
22	Lower Foot 7	Rectangular	Horizontal	74.50000	18.00000	21.10000	5.0000	1.3000	2.7000	N/A	N/A	1	-165.24	0.0	0.0
23	Lower Foot 8	Rectangular	Horizontal	77.50000	31.50000	21.10000	5.0000	6.7000	1.0000	N/A	N/A	1	-15.340	0.0	0.0
24	Lower Foot 9	Rectangular	Horizontal	77.90000	27.20000	21.10000	5.0000	6.8000	1.0000	N/A	N/A	1	-21.350	0.0	0.0
25	Lower Foot 10	Rectangular	Horizontal	78.20000	22.80000	21.10000	5.0000	7.0000	1.0000	N/A	N/A	1	-19.560	0.0	0.0
26	Lower Foot 11	Rectangular	Horizontal	85.50000	18.20000	19.97000	5.0000	1.0000	3.5000	N/A	N/A	1	-6.0000	0.0	0.0
27	Lower Foot 12	Rectangular	Horizontal	85.70000	21.00000	19.97000	5.0000	1.0000	2.0000	N/A	N/A	1	-22.000	0.0	0.0
28	Lower Foot 13	Rectangular	Horizontal	87.80000	22.80000	19.97000	5.0000	5.4000	1.0000	N/A	N/A	1	-12.590	0.0	0.0
29	Lower Foot 14	Rectangular	Horizontal	88.30000	19.80000	19.97000	5.0000	4.8000	1.0000	N/A	N/A	1	-8.5400	0.0	0.0
30	Lower Slab 1	Rectangular	Horizontal	77.90000	26.20000	21.00000	4.5000	6.8000	18.800	N/A	N/A	1	-16.300	0.0	0.0
31	Lower Slab 2	Rectangular	Horizontal	88.40000	21.30000	19.97000	5.0000	4.4000	2.0000	N/A	N/A	1	-16.300	0.0	0.0
32	Lower Slab 3	Rectangular	Horizontal	87.65000	17.80000	19.97000	5.0000	3.1000	2.8000	N/A	N/A	1	-16.300	0.0	0.0
33	Lower Slab 4	Rectangular	Horizontal	90.05000	17.95000	19.97000	5.0000	1.6000	2.9000	N/A	N/A	1	-18.500	0.0	0.0

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Perimeter					
(Edge 3 optimal)					
1	88.17709	43.39682	-86.760	0.11303	1.6568
2	86.53126	43.19045	-86.760	0.11303	4.9705
3	84.88544	42.98408	-86.760	0.11303	8.2841
4	83.23961	42.77771	-86.760	0.11303	11.598
5	81.59379	42.57135	-86.760	0.11303	14.911
6	81.63491	29.24349	-86.760	26.505	16.799
Load 2 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.50000	-1.21071	-180.00	9.0000	14.421
2	31.50000	37.53929	-180.00	61.000	82.921
Load 3 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.73798	56.34257	169.38	0.27275	1.3889
2	92.21394	55.02770	169.38	0.27275	4.1668
3	91.68991	53.71283	169.38	0.27275	6.9446
4	91.16587	52.39796	169.38	0.27275	9.7224
5	90.64183	51.08309	169.38	0.27275	12.500
6	82.85577	50.76411	169.38	14.915	15.997
7	74.75493	51.07628	169.38	1.1242	18.158
8	73.91031	51.94500	169.38	0.85633	16.391
9	73.37469	53.73500	169.38	0.85633	12.748
10	72.83906	55.52500	169.38	0.85633	9.1060
11	72.30344	57.31500	169.38	0.85633	5.4636
12	71.76781	59.10500	169.38	0.85633	1.8212
Load 4 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.90179	43.80000	-90.000	0.40000	25.004
2	103.62143	30.00000	-90.000	27.200	27.043
3	104.56978	15.20000	-90.000	2.4000	26.732
4	100.68407	10.00000	-90.000	8.0000	18.060
5	100.39286	-3.00000	-90.000	18.000	16.786
6	100.86429	-12.20000	-90.000	0.40000	14.529
7	102.45000	-12.60000	-90.000	0.40000	11.300
8	104.03571	-13.00000	-90.000	0.40000	8.0714
9	105.62143	-13.40000	-90.000	0.40000	4.8429
10	107.20714	-13.80000	-90.000	0.40000	1.6143
11	92.96976	74.58333	-90.000	0.83333	1.8938
12	94.90927	73.75000	-90.000	0.83333	5.6815
13	96.84879	72.91667	-90.000	0.83333	9.4691
14	98.78831	72.08333	-90.000	0.83333	13.257
15	100.72782	71.25000	-90.000	0.83333	17.044
16	102.66734	70.41667	-90.000	0.83333	20.832
17	104.34176	57.00000	-90.000	26.000	22.709
Load 5 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					

Oasys
18-21 Hand Court
Demolition
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

No.	Centre of load X	Centre of load Y	Angle of local x from global X	Width x	Depth y
1	90.25030	16.18269	-97.765	0.66025	1.7365
2	88.55091	15.74806	-97.765	0.66025	5.2096
3	86.85151	15.31343	-97.765	0.66025	8.6826
4	85.15212	14.87880	-97.765	0.66025	12.156
5	83.45272	14.44417	-97.765	0.66025	15.629
6	83.09097	7.06259	-97.765	14.065	16.836
7	83.30468	-5.43927	-97.765	10.651	17.206
8	82.12738	-10.69919	-97.765	0.090075	16.295
9	80.32130	-10.54381	-97.765	0.090075	12.674
10	78.51521	-10.38844	-97.765	0.090075	9.0526
11	76.70913	-10.23306	-97.765	0.090075	5.4316
12	74.90304	-10.07769	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.00000	-40.00000	20.00000	N/A	100.00000	20.00000	100	160.00000	100	No	N/A
2	Line	Mid City Place_1	N/A	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	N/A	N/A	Yes	Yes
6	Line	Mid City Place_5	N/A	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (-4.8046mm) and the Mindlin method (-5.8968mm) occurs at point X = 78.20000m, Y = 22.80000m, level = 21.100mOD, and is 1.0923mm.

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Perimeter	81.65695	29.31520	19.97000	-3.4843	19.508	-12.199	-26.604	-99.917E-6
Perimeter - Mid City Place	32.84589	36.53961	24.00000	-868.53E-6	23.433	0.0	-217.42E-6	0.0
Perimeter - High Holborn House 1	81.10657	51.26800	20.27000	-0.28201	19.758	-0.067751	-1.0125	8.0925E-6
Perimeter - High Holborn House 2	103.02424	32.09680	18.69000	-0.18044	18.317	-0.057489	-0.84783	6.7536E-6
Perimeter - High Holborn House 3	83.29361	2.34535	19.10000	-0.16154	18.625	-0.018856	-0.62919	5.7262E-6
Upper Foot 1	76.30000	41.75000	23.00000	-2.2244	22.420	-16.115	-26.156	-221.88E-6
Upper Foot 2	84.55000	42.50000	23.00000	-1.4984	22.420	-6.0784	-12.328	-59.070E-6
Upper Foot 3	84.95000	36.50000	23.50000	-2.5186	22.870	-7.1243	-15.476	-58.971E-6
Upper Foot 4	89.45000	29.90000	23.50000	-1.9749	22.870	-9.0484	-16.307	-108.38E-6
Upper Foot 5	84.50000	34.10000	23.50000	-3.0844	22.870	-15.433	-27.617	-186.81E-6
Upper Foot 6	84.80000	30.15000	23.50000	-3.5778	22.870	-24.476	-39.859	-335.69E-6
Upper Foot 7	85.20000	25.60000	23.50000	-3.0085	22.870	-13.774	-25.427	-158.95E-6
Upper Slab 1	81.00000	39.20000	23.00000	-2.6623	22.420	-9.1336	-20.000	-74.003E-6
Upper Slab 2	86.00000	29.65000	23.50000	-2.9297	22.870	-10.582	-25.044	-67.014E-6
Upper Slab 3	84.50000	19.65000	23.50000	-2.7887	22.870	-8.8175	-16.020	-104.33E-6
Lower Foot 1	73.90000	27.30000	21.10000	-4.3329	20.450	-33.629	-56.747	-441.40E-6
Lower Foot 2	73.50000	35.70000	21.10000	-5.6921	20.450	-81.263	-103.81	-0.0013998
Lower Foot 3	77.30000	36.00000	21.10000	-5.8349	20.450	-62.006	-94.530	-914.88E-6
Lower Foot 4	81.30000	33.00000	21.10000	-4.5365	20.450	-10.817	-26.887	-55.637E-6
Lower Foot 5	82.20000	23.30000	21.10000	-3.3825	20.450	-10.918	-25.311	-74.420E-6
Lower Foot 6	78.70000	16.35000	21.10000	-2.7494	20.450	-12.398	-25.912	-112.83E-6
Lower Foot 7	74.50000	18.00000	21.10000	-8.0589	20.450	-134.06	-185.42	-0.0021676
Lower Foot 8	77.50000	31.50000	21.10000	-4.8207	20.450	-27.954	-55.690	-281.71E-6
Lower Foot 9	77.90000	27.20000	21.10000	-4.9853	20.450	-32.179	-60.554	-359.81E-6
Lower Foot 10	78.20000	22.80000	21.10000	-4.8046	20.450	-30.801	-58.256	-341.48E-6
Lower Foot 11	85.50000	18.20000	19.97000	-2.3127	19.508	-9.3806	-21.135	-70.066E-6
Lower Foot 12	85.70000	21.00000	19.97000	-3.0931	19.508	-23.778	-41.519	-298.15E-6
Lower Foot 13	87.80000	22.80000	19.97000	-2.6518	19.508	-15.694	-30.263	-168.18E-6
Lower Foot 14	88.30000	19.80000	19.97000	-2.5003	19.508	-11.251	-28.820	-49.330E-6
Lower Slab 1	77.90000	26.20000	21.00000	-4.5580	20.367	-19.777	-47.387	-119.45E-6
Lower Slab 2	88.40000	21.30000	19.97000	-2.7269	19.508	-18.323	-37.461	-175.09E-6
Lower Slab 3	87.65000	17.80000	19.97000	-2.4339	19.508	-17.569	-35.670	-170.38E-6

Name	X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
Lower Slab 4	90.05000	17.95000	19.97000	-2.0577	19.508	-18.258	-34.374	-204.02E-6
Mid City Place_1	1.00000	79.00000	24.00000	0.0086106	23.433	0.0	-34.935E-6	0.0
	2.96774	79.00000	24.00000	0.0087749	23.433	0.0	-36.802E-6	0.0
	4.93548	79.00000	24.00000	0.0089335	23.433	0.0	-38.793E-6	0.0
	6.90323	79.00000	24.00000	0.0090852	23.433	0.0	-40.915E-6	0.0
	8.87097	79.00000	24.00000	0.0092285	23.433	0.0	-43.179E-6	0.0
	10.83871	79.00000	24.00000	0.0093621	23.433	0.0	-45.594E-6	0.0
	12.80645	79.00000	24.00000	0.0094842	23.433	0.0	-48.173E-6	0.0
	14.77419	79.00000	24.00000	0.0095931	23.433	0.0	-50.925E-6	0.0
	16.74194	79.00000	24.00000	0.0096870	23.433	0.0	-53.865E-6	0.0
	18.70968	79.00000	24.00000	0.0097638	23.433	0.0	-57.004E-6	0.0
	20.67742	79.00000	24.00000	0.0098215	23.433	0.0	-60.358E-6	0.0
	22.64516	79.00000	24.00000	0.0098579	23.433	0.0	-63.939E-6	0.0
	24.61290	79.00000	24.00000	0.0098707	23.433	0.0	-67.764E-6	0.0
	26.58065	79.00000	24.00000	0.0098576	23.433	0.0	-71.848E-6	0.0
	28.54839	79.00000	24.00000	0.0098162	23.433	0.0	-76.206E-6	0.0
	30.51613	79.00000	24.00000	0.0097442	23.433	0.0	-80.855E-6	0.0
	32.48387	79.00000	24.00000	0.0096393	23.433	0.0	-85.811E-6	0.0
	34.45161	79.00000	24.00000	0.0094995	23.433	0.0	-91.089E-6	0.0
	36.41935	79.00000	24.00000	0.0093226	23.433	0.0	-96.704E-6	0.0
	38.38710	79.00000	24.00000	0.0091072	23.433	0.0	-102.67E-6	0.0
	40.35484	79.00000	24.00000	0.0088517	23.433	0.0	-109.00E-6	0.0
	42.32258	79.00000	24.00000	0.0085554	23.433	0.0	-115.70E-6	0.0
	44.29032	79.00000	24.00000	0.0082180	23.433	0.0	-122.78E-6	0.0
	46.25806	79.00000	24.00000	0.0078399	23.433	0.0	-130.23E-6	0.0
	48.22581	79.00000	24.00000	0.0074224	23.433	0.0	-138.06E-6	0.0
	50.19355	79.00000	24.00000	0.0069679	23.433	0.0	-146.26E-6	0.0
	52.16129	79.00000	24.00000	0.0064797	23.433	0.0	-154.79E-6	0.0
	54.12903	79.00000	24.00000	0.0059623	23.433	0.0	-163.64E-6	0.0
	56.09677	79.00000	24.00000	0.0054218	23.433	0.0	-172.77E-6	0.0
	58.06452	79.00000	24.00000	0.0048652	23.433	0.0	-182.11E-6	0.0
	60.03226	79.00000	24.00000	0.0043013	23.433	0.0	-191.61E-6	0.0
	62.00000	79.00000	24.00000	0.0037398	23.433	0.0	-201.19E-6	0.0
Mid City Place_2	62.00000	79.00000	24.00000	0.0037398	23.433	0.0	-201.19E-6	0.0
	62.00000	77.02703	24.00000	0.0020925	23.433	0.0	-222.21E-6	0.0
	62.00000	75.05405	24.00000	102.65E-6	23.433	0.0	-246.05E-6	0.0
	62.00000	73.08108	24.00000	-0.0022936	23.433	0.0	-273.16E-6	0.0
	62.00000	71.10811	24.00000	-0.0051735	23.433	0.0	-304.06E-6	0.0
	62.00000	69.13514	24.00000	-0.0086306	23.433	0.0	-339.35E-6	0.0
	62.00000	67.16216	24.00000	-0.012779	23.433	0.0	-379.73E-6	0.0
	62.00000	65.18919	24.00000	-0.017756	23.433	0.0	-426.00E-6	0.0
	62.00000	63.21622	24.00000	-0.023731	23.433	0.0	-479.08E-6	0.0
	62.00000	61.24324	24.00000	-0.030908	23.433	0.0	-540.00E-6	0.0
	62.00000	59.27027	24.00000	-0.039531	23.433	0.0	-609.88E-6	0.0
	62.00000	57.29730	24.00000	-0.049887	23.433	0.0	-689.90E-6	0.0
	62.00000	55.32432	24.00000	-0.062305	23.433	0.0	-781.27E-6	0.0
	62.00000	53.35135	24.00000	-0.077146	23.433	0.0	-885.08E-6	0.0
	62.00000	51.37838	24.00000	-0.094764	23.433	0.0	-0.0010022	0.0
	62.00000	49.40541	24.00000	-0.11545	23.433	0.0	-0.0011329	0.0
	62.00000	47.43243	24.00000	-0.13934	23.433	0.0	-0.0012768	0.0
	62.00000	45.45946	24.00000	-0.16626	23.433	0.0	-0.0014323	0.0
	62.00000	43.48649	24.00000	-0.19558	23.433	0.0	-0.0015963	0.0
	62.00000	41.51351	24.00000	-0.22617	23.433	0.0	-0.0017640	0.0
	62.00000	39.54054	24.00000	-0.25643	23.433	0.0	-0.0019288	0.0
	62.00000	37.56757	24.00000	-0.28448	23.433	0.0	-0.0020829	0.0
	62.00000	35.59459	24.00000	-0.30851	23.433	0.0	-0.0022176	0.0
	62.00000	33.62162	24.00000	-0.32713	23.433	0.0	-0.0023247	0.0
	62.00000	31.64865	24.00000	-0.33973	23.433	0.0	-0.0023974	0.0
	62.00000	29.67568	24.00000	-0.34636	23.433	0.0	-0.0024314	0.0
	62.00000	27.70270	24.00000	-0.34743	23.433	0.0	-0.0024250	0.0
	62.00000	25.72973	24.00000	-0.34331	23.433	0.0	-0.0023794	0.0
	62.00000	23.75676	24.00000	-0.33418	23.433	0.0	-0.0022983	0.0
	62.00000	21.78378	24.00000	-0.31994	23.433	0.0	-0.0021873	0.0
	62.00000	19.81081	24.00000	-0.30042	23.433	0.0	-0.0020531	0.0
	62.00000	17.83784	24.00000	-0.27583	23.433	0.0	-0.0019030	0.0
	62.00000	15.86486	24.00000	-0.24715	23.433	0.0	-0.0017441	0.0
	62.00000	13.89189	24.00000	-0.21618	23.433	0.0	-0.0015830	0.0
	62.00000	11.91892	24.00000	-0.18509	23.433	0.0	-0.0014250	0.0
	62.00000	9.94595	24.00000	-0.15572	23.433	0.0	-0.0012743	0.0
	62.00000	7.97297	24.00000	-0.12926	23.433	0.0	-0.0011339	0.0
	62.00000	6.00000	24.00000	-0.10619	23.433	0.0	-0.0010053	0.0
Mid City Place_3	62.00000	6.00000	24.00000	-0.10619	23.433	0.0	-0.0010053	0.0
	63.80000	6.00000	24.00000	-0.12613	23.433	0.0	-0.0011482	0.0
	65.60000	6.00000	24.00000	-0.14872	23.433	0.0	-0.0013148	0.0
	67.40000	6.00000	24.00000	-0.17363	23.433	0.0	-0.0015092	0.0
	69.20000	6.00000	24.00000	-0.19999	23.433	0.0	-0.0017352	0.0
	71.00000	6.00000	24.00000	-0.22617	23.433	0.0	-0.0019968	0.0
Mid City Place_4	71.00000	6.00000	24.00000	-0.22617	23.433	0.0	-0.0019968	0.0
	71.00000	4.12500	24.00000	-0.17235	23.433	0.0	-0.0016647	0.0
	71.00000	2.25000	24.00000	-0.13276	23.433	0.0	-0.0013952	0.0
	71.00000	0.37500	24.00000	-0.10303	23.433	0.0	-0.0011763	0.0
	71.00000	-1.50000	24.00000	-0.080303	23.433	0.0	-998.14E-6	0.0
	71.00000	-3.37500	24.00000	-0.062660	23.433	0.0	-852.41E-6	0.0
	71.00000	-5.25000	24.00000	-0.048787	23.433	0.0	-732.55E-6	0.0
	71.00000	-7.12500	24.00000	-0.037756	23.433	0.0	-633.38E-6	0.0
	71.00000	-9.00000	24.00000	-0.028899	23.433	0.0	-550.80E-6	0.0
Mid City Place_5	71.00000	-9.00000	24.00000	-0.028899	23.433	0.0	-550.80E-6	0.0
	69.00000	-8.74286	24.00000	-0.027692	23.433	0.0	-526.01E-6	0.0
	67.00000	-8.48571	24.00000	-0.026066	23.433	0.0	-499.16E-6	0.0
	65.00000	-8.22857	24.00000	-0.024092	23.433	0.0	-471.05E-6	0.0
	63.00000	-7.97143	24.00000	-0.021853	23.433	0.0	-442.41E-6	0.0
	61.00000	-7.71429	24.00000	-0.019434	23.433	0.0	-413.84E-6	0.0
	59.00000	-7.45714	24.00000	-0.016918	23.433	0.0	-385.82E-6	0.0
	57.00000	-7.20000	24.00000	-0.014376	23.433	0.0	-358.72E-6	0.0
	55.00000	-6.94286	24.00000	-0.011871	23.433	0.0	-332.79E-6	0.0
	53.00000	-6.68571	24.00000	-0.0094501	23.433	0.0	-308.23E-6	0.0
	51.00000	-6.42857	24.00000	-0.0071507	23.433	0.0	-285.13E-6	0.0
	49.00000	-6.17143	24.00000	-0.0049974	23.433	0.0	-263.53E-6	0.0
	47.00000	-5.91429	24.00000	-0.0030055	23.433	0.0	-243.43E-6	0.0
	45.00000	-5.65714	24.00000	-0.0011829	23.433	0.0	-224.82E-6	0.0
	43.00000	-5.40000	24.00000	468.61E-6	23.433	0.0	-207.62E-6	0.0
	41.00000	-5.14286	24.00000	0.0019516	23.433	0.0	-191.78E-6	0.0
	39.00000	-4.88571	24.00000	0.0032718	23.433	0.0	-177.21E-6	0.0
	37.00000	-4.62857	24.00000	0.0044372	23.433	0.0	-163.83E-6	0.0
	35.00000	-4.37143	24.00000	0.0054570	23.433	0.0	-151.56E-6	0.0
	33.00000	-4.11429	24.00000	0.0063414	23.433	0.0	-140.31E-6	0.0
	31.00000	-3.85714	24.00000	0.0071008	23.433	0.0	-130.00E-6	0.0
	29.00000	-3.60000	24.00000	0.0077455	23.433	0.0	-120.55E-6	0.0
	27.00000	-3.34286	24.00000	0.0082859	23.433	0.0	-111.89E-6	0.0
	25.00000	-3.08571	24.00000	0.0087317	23.433	0.0	-103.95E-6	0.0
	23.00000	-2.82857	24.00000	0.0090922	23.433	0.0	-96.676E-6	0.0
	21.00000	-2.57143	24.00000	0.0093763	23.433	0.0	-89.999E-6	0.0
	19.00000	-2.31429	24.00000	0.0095921	23.433	0.0	-83.870E-6	0.0
	17.00000	-2.05714	24.00000	0.0097472	23.433	0.0	-78.239E-6	0.0
	15.00000	-1.80000	24.00000	0.0098487	23.433	0.0	-73.062E-6	0.0
	13.00000	-1.54286	24.00000	0.0099030	23.433	0.0	-68.298E-6	0.0
	11.00000	-1.28571	24.00000	0.0099158	23.433	0.0	-63.911E-6	0.0
	9.00000	-1.02857	24.00000	0.0098926	23.433	0.0	-59.867E-6	0.0
	7.00000	-0.77143	24.00000	0.0098380	23.433	0.0	-56.136E-6	0.0
	5.00000	-0.51429	24.00000	0.0097566	23.433	0.0	-52.690E-6	0.0
	3.00000	-0.25714	24.00000	0.0096520	23.433	0.0	-49.505E-6	0.0
	1.00000	0.00000	24.00000	0.0095280	23.433	0.0	-46.557E-6	0.0
Mid City Place_6	1.00000	0.00000	24.00000	0.0095280	23.433	0.0	-46.557E-6	0.0
	1.00000	1.97500	24.00000	0.0095760	23.433	0.0	-47.517E-6	0.0
	1.00000	3.95000	24.00000	0.0096191	23.433	0.0	-48.438E-6	0.0
	1.00000	5.92500	24.00000	0.0096577	23.433	0.0	-49.315E-6	0.0
	1.00000	7.90000	24.00000	0.0096918	23.433	0.0	-50.143E-6	0.0
	1.00000	9.87500	24.00000	0.0097217	23.433	0.0	-50.915E-6	0.0
	1.00000	11.85000	24.00000	0.0097477	23.433	0.0	-51.628E-6	0.0
	1.00000	13.82500	24.00000	0.0097700	23.433	0.0	-52.275E-6	0.0
	1.00000	15.80000	24.00000	0.0097889	23.433	0.0	-52.853E-6	0.0
	1.00000	17.77500	24.00000	0.0098046	23.433	0.0	-53.358E-6	0.0
	1.00000	19.75000	24.00000	0.0098172	23.433	0.0	-53.785E-6	0.0
	1.00000	21.72500	24.00000	0.0098271	23.433	0.0	-54.131E-6	0.0
	1.00000	23.70000	24.00000	0.0098343	23.433	0.0	-54.394E-6	0.0

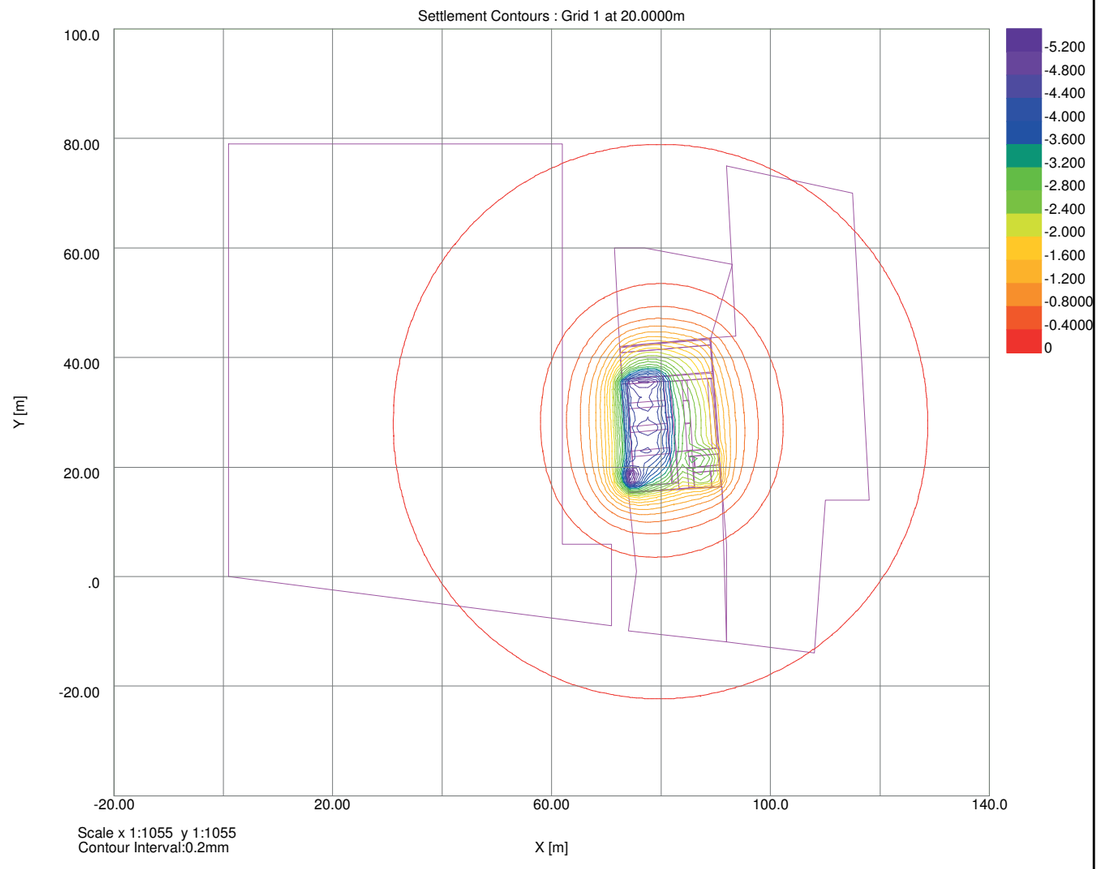
Name	X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	1.00000	25.67500	24.00000	0.0098389	23.433	0.0	-54.572E-6	0.0
	1.00000	27.65000	24.00000	0.0098411	23.433	0.0	-54.663E-6	0.0
	1.00000	29.62500	24.00000	0.0098408	23.433	0.0	-54.666E-6	0.0
	1.00000	31.60000	24.00000	0.0098380	23.433	0.0	-54.582E-6	0.0
	1.00000	33.57500	24.00000	0.0098327	23.433	0.0	-54.411E-6	0.0
	1.00000	35.55000	24.00000	0.0098248	23.433	0.0	-54.155E-6	0.0
	1.00000	37.52500	24.00000	0.0098141	23.433	0.0	-53.815E-6	0.0
	1.00000	39.50000	24.00000	0.0098005	23.433	0.0	-53.394E-6	0.0
	1.00000	41.47500	24.00000	0.0097836	23.433	0.0	-52.895E-6	0.0
	1.00000	43.45000	24.00000	0.0097635	23.433	0.0	-52.322E-6	0.0
	1.00000	45.42500	24.00000	0.0097396	23.433	0.0	-51.680E-6	0.0
	1.00000	47.40000	24.00000	0.0097119	23.433	0.0	-50.972E-6	0.0
	1.00000	49.37500	24.00000	0.0096801	23.433	0.0	-50.203E-6	0.0
	1.00000	51.35000	24.00000	0.0096439	23.433	0.0	-49.379E-6	0.0
	1.00000	53.32500	24.00000	0.0096032	23.433	0.0	-48.505E-6	0.0
	1.00000	55.30000	24.00000	0.0095576	23.433	0.0	-47.587E-6	0.0
	1.00000	57.27500	24.00000	0.0095071	23.433	0.0	-46.629E-6	0.0
	1.00000	59.25000	24.00000	0.0094514	23.433	0.0	-45.637E-6	0.0
	1.00000	61.22500	24.00000	0.0093906	23.433	0.0	-44.617E-6	0.0
	1.00000	63.20000	24.00000	0.0093244	23.433	0.0	-43.574E-6	0.0
	1.00000	65.17500	24.00000	0.0092530	23.433	0.0	-42.512E-6	0.0
	1.00000	67.15000	24.00000	0.0091763	23.433	0.0	-41.437E-6	0.0
	1.00000	69.12500	24.00000	0.0090943	23.433	0.0	-40.353E-6	0.0
	1.00000	71.10000	24.00000	0.0090072	23.433	0.0	-39.264E-6	0.0
	1.00000	73.07500	24.00000	0.0089151	23.433	0.0	-38.174E-6	0.0
	1.00000	75.05000	24.00000	0.0088182	23.433	0.0	-37.087E-6	0.0
	1.00000	77.02500	24.00000	0.0087166	23.433	0.0	-36.006E-6	0.0
	1.00000	79.00000	24.00000	0.0086106	23.433	0.0	-34.935E-6	0.0
High Holborn House 1_1	93.00000	57.00000	20.27000	-0.075998	19.758	-0.0064333	-0.27519	2.5589E-6
	91.00000	57.37500	20.27000	-0.081611	19.758	-0.0070848	-0.29185	2.7060E-6
	89.00000	57.75000	20.27000	-0.085900	19.758	-0.0075240	-0.30401	2.8144E-6
	87.00000	58.12500	20.27000	-0.088561	19.758	-0.0077012	-0.31070	2.8760E-6
	85.00000	58.50000	20.27000	-0.089415	19.758	-0.0076067	-0.31144	2.8862E-6
	83.00000	58.87500	20.27000	-0.088417	19.758	-0.0072660	-0.30628	2.8449E-6
	81.00000	59.25000	20.27000	-0.085659	19.758	-0.0067263	-0.29574	2.7556E-6
	79.00000	59.62500	20.27000	-0.081349	19.758	-0.0060460	-0.28068	2.6255E-6
	77.00000	60.00000	20.27000	-0.075786	19.758	-0.0052870	-0.26222	2.4636E-6
High Holborn House 1_2	77.00000	60.00000	20.27000	-0.075786	19.758	-0.0052870	-0.26222	2.4636E-6
	75.16667	60.00000	20.27000	-0.073264	19.758	-0.0049166	-0.25314	2.3839E-6
	73.33333	60.00000	20.27000	-0.069715	19.758	-0.0044630	-0.24120	2.2782E-6
	71.50000	60.00000	20.27000	-0.065328	19.758	-0.0039597	-0.22709	2.1521E-6
High Holborn House 1_3	71.50000	60.00000	20.27000	-0.065328	19.758	-0.0039597	-0.22709	2.1521E-6
	71.61111	58.01111	20.27000	-0.085563	19.758	-0.0060322	-0.28507	2.6698E-6
	71.72222	56.02222	20.27000	-0.11235	19.758	-0.0096082	-0.36527	3.3645E-6
	71.83333	54.03333	20.27000	-0.14846	19.758	-0.016187	-0.47985	4.3129E-6
	71.94444	52.04444	20.27000	-0.19825	19.758	-0.029320	-0.65028	5.6232E-6
	72.05556	50.05556	20.27000	-0.26876	19.758	-0.058454	-0.91714	7.4178E-6
	72.16667	48.06667	20.27000	-0.37186	19.758	-0.13254	-1.3632	9.6553E-6
	72.27778	46.07778	20.27000	-0.52821	19.758	-0.35485	-2.1691	11.045E-6
	72.38889	44.08889	20.27000	-0.77280	19.758	-1.1086	-3.7091	3.8320E-6
	72.50000	42.10000	20.27000	-1.1336	19.758	-2.9988	-6.2672	-27.293E-6
High Holborn House 1_4	72.50000	42.10000	20.27000	-1.1336	19.758	-2.9988	-6.2672	-27.293E-6
	74.57500	42.28750	20.27000	-1.4189	19.758	-4.9870	-8.6836	-62.773E-6
	76.65000	42.47500	20.27000	-1.5524	19.758	-5.5516	-9.7350	-69.198E-6
	78.72500	42.66250	20.27000	-1.5458	19.758	-5.2800	-9.6349	-62.052E-6
	80.80000	42.85000	20.27000	-1.4352	19.758	-4.3333	-8.7504	-42.496E-6
	82.87500	43.03750	20.27000	-1.2988	19.758	-3.7541	-7.8607	-34.017E-6
	84.95000	43.22500	20.27000	-1.1530	19.758	-3.4801	-7.0411	-33.993E-6
	87.02500	43.41250	20.27000	-0.97158	19.758	-2.9562	-5.8817	-29.868E-6
	89.10000	43.60000	20.27000	-0.74121	19.758	-1.7236	-4.1450	-10.259E-6
High Holborn House 2_1	92.00000	75.00000	18.69000	-0.0039551	18.317	-0.0012500	-0.10031	0.0
	93.91667	74.58333	18.69000	-0.0037166	18.317	-0.0012344	-0.099375	0.0
	95.83333	74.16667	18.69000	-0.0033554	18.317	-0.0012062	-0.097891	0.0
	97.75000	73.75000	18.69000	-0.0028827	18.317	-0.0011666	-0.095899	0.0
	99.66667	73.33333	18.69000	-0.0023125	18.317	-0.0011172	-0.093453	0.0
	101.58333	72.91667	18.69000	-0.0016612	18.317	-0.0010599	-0.090617	0.0
	103.50000	72.50000	18.69000	-945.95E-6	18.317	-996.90E-6	-0.087459	0.0
	105.41667	72.08333	18.69000	-184.60E-6	18.317	-930.13E-6	-0.084051	0.0
	107.33333	71.66667	18.69000	605.55E-6	18.317	-861.53E-6	-0.080461	0.0
	109.25000	71.25000	18.69000	0.0014082	18.317	-792.79E-6	-0.076754	0.0
	111.16667	70.83333	18.69000	0.0022088	18.317	-725.33E-6	-0.072989	0.0
	113.08333	70.41667	18.69000	0.0029942	18.317	-660.27E-6	-0.069219	0.0
	115.00000	70.00000	18.69000	0.0037535	18.317	-598.44E-6	-0.065486	0.0
High Holborn House 2_2	115.00000	70.00000	18.69000	0.0037535	18.317	-598.44E-6	-0.065486	0.0
	115.10714	68.00000	18.69000	0.0026071	18.317	-693.27E-6	-0.071159	0.0
	115.21429	66.00000	18.69000	0.0013205	18.317	-802.92E-6	-0.077308	0.0
	115.32143	64.00000	18.69000	-110.14E-6	18.317	-929.08E-6	-0.083947	0.0
	115.42857	62.00000	18.69000	-0.0016860	18.317	-0.0010733	-0.091075	0.0
	115.53571	60.00000	18.69000	-0.0034048	18.317	-0.0012370	-0.098682	0.0
	115.64286	58.00000	18.69000	-0.0052593	18.317	-0.0014208	-0.10674	1.0247E-6
	115.75000	56.00000	18.69000	-0.0072372	18.317	-0.0016248	-0.11518	1.1031E-6
	115.85714	54.00000	18.69000	-0.0093195	18.317	-0.0018479	-0.12395	1.1841E-6
	115.96429	52.00000	18.69000	-0.011481	18.317	-0.0020876	-0.13292	1.2666E-6
	116.07143	50.00000	18.69000	-0.013687	18.317	-0.0023398	-0.14197	1.3495E-6
	116.17857	48.00000	18.69000	-0.015900	18.317	-0.0025987	-0.15092	1.4312E-6
	116.28571	46.00000	18.69000	-0.018073	18.317	-0.0028568	-0.15958	1.5101E-6
	116.39286	44.00000	18.69000	-0.020154	18.317	-0.0031053	-0.16775	1.5844E-6
	116.50000	42.00000	18.69000	-0.022092	18.317	-0.0033342	-0.17521	1.6521E-6
	116.60714	40.00000	18.69000	-0.023833	18.317	-0.0035335	-0.18175	1.7115E-6
	116.71429	38.00000	18.69000	-0.025326	18.317	-0.0036938	-0.18716	1.7608E-6
	116.82143	36.00000	18.69000	-0.026525	18.317	-0.0038069	-0.19128	1.7986E-6
	116.92857	34.00000	18.69000	-0.027392	18.317	-0.0038667	-0.19397	1.8237E-6
	117.03571	32.00000	18.69000	-0.027900	18.317	-0.0038702	-0.19514	1.8353E-6
	117.14286	30.00000	18.69000	-0.028029	18.317	-0.0038169	-0.19476	1.8331E-6
	117.25000	28.00000	18.69000	-0.027777	18.317	-0.0037100	-0.19283	1.8170E-6
	117.35714	26.00000	18.69000	-0.027149	18.317	-0.0035551	-0.18944	1.7877E-6
	117.46429	24.00000	18.69000	-0.026166	18.317	-0.0033602	-0.18469	1.7461E-6
	117.57143	22.00000	18.69000	-0.024859	18.317	-0.0031351	-0.17874	1.6933E-6
	117.67857	20.00000	18.69000	-0.023268	18.317	-0.0028896	-0.17177	1.6310E-6
	117.78571	18.00000	18.69000	-0.021444	18.317	-0.0026338	-0.16400	1.5610E-6
	117.89286	16.00000	18.69000	-0.019438	18.317	-0.0023766	-0.15563	1.4850E-6
	118.00000	14.00000	18.69000	-0.017306	18.317	-0.0021253	-0.14689	1.4051E-6
High Holborn House 2_3	118.00000	14.00000	18.69000	-0.017306	18.317	-0.0021253	-0.14689	1.4051E-6
	116.00000	14.00000	18.69000	-0.023500	18.317	-0.0027333	-0.17004	1.6184E-6
	114.00000	14.00000	18.69000	-0.031097	18.317	-0.0035582	-0.19825	1.8757E-6
	112.00000	14.00000	18.69000	-0.040470	18.317	-0.0046941	-0.23296	2.1888E-6
	110.00000	14.00000	18.69000	-0.052118	18.317	-0.0062846	-0.27616	2.5731E-6
High Holborn House 2_4	110.00000	14.00000	18.69000	-0.052118	18.317	-0.0062846	-0.27616	2.5731E-6
	109.85714	12.00000	18.69000	-0.047545	18.317	-0.0054782	-0.25763	2.4120E-6
	109.71429	10.00000	18.69000	-0.042719	18.317	-0.0047208	-0.23853	2.2437E-6
	109.57143	8.00000	18.69000	-0.037805	18.317	-0.0040298	-0.21944	2.0735E-6
	109.42857	6.00000	18.69000	-0.032944	18.317	-0.0034141	-0.20082	1.9057E-6
	109.28571	4.00000	18.69000	-0.028248	18.317	-0.0028759	-0.18302	1.7439E-6
	109.14286	2.00000	18.69000	-0.023800	18.317	-0.0024128	-0.16628	1.5904E-6
	109.00000	0.00000	18.69000	-0.019657	18.317	-0.0020191	-0.15074	1.4468E-6
	108.85714	-2.00000	18.69000	-0.015847	18.317	-0.0016874	-0.13647	1.3141E-6
	108.71429	-4.00000	18.69000	-0.012384	18.317	-0.0014099	-0.12346	1.1923E-6
	108.57143	-6.00000	18.69000	-0.0092659	18.317	-0.0011789	-0.11166	1.0813E-6
	108.42857	-8.00000	18.69000	-0.0064806	18.317	-987.04E-6	-0.10103	0.0
	108.28571	-10.00000	18.69000	-0.0040107	18.317	-828.03E-6	-0.091459	0.0
	108.14286	-12.00000	18.69000	-0.0018350	18.317	-696.30E-6	-0.082875	0.0
	108.00000	-14.00000	18.69000	69.639E-6	18.317	-587.11E-6	-0.075182	0.0
High Holborn House 2_5	108.00000	-14.00000	18.69000	69.639E-6	18.317	-587.11E-6	-0.075182	0.0
	106.00000	-13.75000	18.69000	-0.0015592	18.317	-669.96E-6	-0.081562	0.0
	104.00000	-13.50000	18.69000	-0.0033517	18.317	-763.27E-6	-0.088421	0.0
	102.00000	-13.25000	18.69000	-0.0053049	18.317	-867.58E-6	-0.095751	0.0
	100.00000	-13.00000	18.69000	-0.0074103	18.317	-983.09E-6	-0.10353	1.0058E-6
	98.00000	-12.75000	18.69000	-0.0096527	18.317	-0.0011095	-0.11171	1.0838E-6
	96.00000	-12.50000	18.69000	-0.012009	18.317	-0.0012460	-0.12022	1.1648E-6
	94.00000	-12.25000	18.69000	-0.014447	18.317	-0.0013909	-0.12896	1.2479E-6
	92.00000	-12.00000	18.69000	-0.016924	18.317	-0.0015413	-0.13779	1.3317E-6
High Holborn	92.00000	-12.00000	18.69000	-0.016924	18.317	-0.0015413	-0.13779	1.3317E-6

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
House 2_6								
	92.00000	-10.00000	18.69000	-0.023079	18.317	-0.0019948	-0.16002	1.5403E-6
	92.00000	-8.00000	18.69000	-0.030642	18.317	-0.0026190	-0.18724	1.7938E-6
	92.00000	-6.00000	18.69000	-0.039984	18.317	-0.0034937	-0.22090	2.1042E-6
	92.00000	-4.00000	18.69000	-0.051603	18.317	-0.0047445	-0.26302	2.4879E-6
	92.00000	-2.00000	18.69000	-0.066164	18.317	-0.0065743	-0.31639	2.9666E-6
	92.00000	0.00000	18.69000	-0.084574	18.317	-0.0093204	-0.38497	3.5700E-6
	92.00000	2.00000	18.69000	-0.10809	18.317	-0.013563	-0.47459	4.3390E-6
	92.00000	4.00000	18.69000	-0.13850	18.317	-0.020339	-0.59410	5.3308E-6
	92.00000	6.00000	18.69000	-0.17840	18.317	-0.031583	-0.75763	6.6289E-6
High Holborn House 2_7	92.00000	6.00000	18.69000	-0.17840	18.317	-0.031583	-0.75763	6.6289E-6
	91.82000	8.08000	18.69000	-0.23771	18.317	-0.053570	-1.0161	8.5539E-6
	91.64000	10.16000	18.69000	-0.32272	18.317	-0.097681	-1.4241	11.310E-6
	91.46000	12.24000	18.69000	-0.45188	18.317	-0.20246	-2.1523	15.449E-6
	91.28000	14.32000	18.69000	-0.66933	18.317	-0.60399	-3.8121	20.002E-6
	91.10000	16.40000	18.69000	-1.0878	18.317	-3.8079	-8.8723	-25.513E-6
High Holborn House 2_8	91.10000	16.40000	18.69000	-1.0878	18.317	-3.8079	-8.8723	-25.513E-6
	90.95714	18.34286	18.69000	-1.4856	18.317	-7.4438	-13.870	-84.615E-6
	90.81429	20.28571	18.69000	-1.6310	18.317	-6.9354	-14.456	-63.505E-6
	90.67143	22.22857	18.69000	-1.6775	18.317	-7.3882	-14.151	-80.140E-6
	90.52857	24.17143	18.69000	-1.5246	18.317	-4.5013	-10.399	-31.048E-6
	90.38571	26.11429	18.69000	-1.4478	18.317	-3.9199	-8.6211	-31.386E-6
	90.24286	28.05714	18.69000	-1.4424	18.317	-4.2227	-8.4412	-42.270E-6
	90.10000	30.00000	18.69000	-1.4389	18.317	-4.3802	-8.4642	-46.764E-6
	89.95714	31.94286	18.69000	-1.4156	18.317	-4.3760	-8.3876	-47.402E-6
	89.81429	33.88571	18.69000	-1.3679	18.317	-4.2495	-8.1641	-45.844E-6
	89.67143	35.82857	18.69000	-1.2981	18.317	-4.0749	-7.8228	-44.019E-6
	89.52857	37.77143	18.69000	-1.2081	18.317	-3.9362	-7.3770	-44.316E-6
	89.38571	39.71429	18.69000	-1.0864	18.317	-3.6561	-6.6936	-42.748E-6
	89.24286	41.65714	18.69000	-0.92005	18.317	-2.9438	-5.6242	-32.071E-6
	89.10000	43.60000	18.69000	-0.72398	18.317	-1.8708	-4.2826	-13.297E-6
High Holborn House 2_9	89.10000	43.60000	18.69000	-0.72398	18.317	-1.8708	-4.2826	-13.297E-6
	91.40000	43.80000	18.69000	-0.51702	18.317	-0.85902	-2.8766	2.9950E-6
	93.70000	44.00000	18.69000	-0.36462	18.317	-0.36178	-1.9126	8.2721E-6
High Holborn House 2_10	93.70000	44.00000	18.69000	-0.36462	18.317	-0.36178	-1.9126	8.2721E-6
	93.59375	45.93750	18.69000	-0.29717	18.317	-0.23585	-1.5316	8.2407E-6
	93.48750	47.87500	18.69000	-0.23826	18.317	-0.14604	-1.2088	7.7063E-6
	93.38125	49.81250	18.69000	-0.18965	18.317	-0.089833	-0.95353	6.8403E-6
	93.27500	51.75000	18.69000	-0.15062	18.317	-0.056325	-0.75774	5.8876E-6
	93.16875	53.68750	18.69000	-0.11958	18.317	-0.036334	-0.60847	4.9946E-6
	93.06250	55.62500	18.69000	-0.094906	18.317	-0.024141	-0.49408	4.2165E-6
	92.95625	57.56250	18.69000	-0.075233	18.317	-0.016488	-0.40558	3.5611E-6
	92.85000	59.50000	18.69000	-0.059468	18.317	-0.011544	-0.33636	3.0173E-6
	92.74375	61.43750	18.69000	-0.046765	18.317	-0.0082627	-0.28162	2.5683E-6
	92.63750	63.37500	18.69000	-0.036473	18.317	-0.0060313	-0.23787	2.1977E-6
	92.53125	65.31250	18.69000	-0.028092	18.317	-0.0044806	-0.20254	1.8910E-6
	92.42500	67.25000	18.69000	-0.021235	18.317	-0.0033816	-0.17376	1.6361E-6
	92.31875	69.18750	18.69000	-0.015603	18.317	-0.0025888	-0.15009	1.4232E-6
	92.21250	71.12500	18.69000	-0.010962	18.317	-0.0020078	-0.13047	1.2445E-6
	92.10625	73.06250	18.69000	-0.0071276	18.317	-0.0015757	-0.11409	1.0936E-6
	92.00000	75.00000	18.69000	-0.0039551	18.317	-0.0012500	-0.10031	0.0
High Holborn House 3_1	91.10000	16.40000	19.10000	-1.0933	18.625	-3.6482	-9.0189	-19.257E-6
	89.20000	16.28889	19.10000	-1.4946	18.625	-7.0013	-14.292	-67.116E-6
	87.30000	16.17778	19.10000	-1.6450	18.625	-7.1852	-14.775	-67.803E-6
	85.40000	16.06667	19.10000	-1.5857	18.625	-4.2664	-11.387	-14.118E-6
	83.50000	15.95556	19.10000	-1.6534	18.625	-4.2237	-10.859	-18.117E-6
	81.60000	15.84444	19.10000	-1.8758	18.625	-6.2047	-13.427	-51.874E-6
	79.70000	15.73333	19.10000	-2.0855	18.625	-7.2417	-15.815	-59.102E-6
	77.80000	15.62222	19.10000	-2.2969	18.625	-8.5702	-18.444	-72.663E-6
	75.90000	15.51111	19.10000	-2.5167	18.625	-12.242	-22.052	-146.73E-6
	74.00000	15.40000	19.10000	-2.2675	18.625	-11.112	-19.819	-135.18E-6
High Holborn House 3_2	74.00000	15.40000	19.10000	-2.2675	18.625	-11.112	-19.819	-135.18E-6
	74.21429	13.34286	19.10000	-1.2363	18.625	-2.0289	-8.0855	19.988E-6
	74.42857	11.28571	19.10000	-0.74930	18.625	-0.48334	-3.9072	24.572E-6
	74.64286	9.22857	19.10000	-0.49341	18.625	-0.16464	-2.2354	17.415E-6
	74.85714	7.17143	19.10000	-0.34254	18.625	-0.071748	-1.4289	12.137E-6
	75.07143	5.11429	19.10000	-0.24613	18.625	-0.036658	-0.98269	8.7272E-6
	75.28571	3.05714	19.10000	-0.18101	18.625	-0.020815	-0.71117	6.4872E-6
	75.50000	1.00000	19.10000	-0.13525	18.625	-0.012727	-0.53436	4.9618E-6
High Holborn House 3_3	75.50000	1.00000	19.10000	-0.13525	18.625	-0.012727	-0.53436	4.9618E-6
	75.25000	-0.83333	19.10000	-0.10437	18.625	-0.0084603	-0.42145	3.9607E-6
	75.00000	-2.66667	19.10000	-0.081001	18.625	-0.0058385	-0.33917	3.2165E-6
	74.75000	-4.50000	19.10000	-0.063017	18.625	-0.0041552	-0.27758	2.6511E-6
	74.50000	-6.33333	19.10000	-0.048968	18.625	-0.0030343	-0.23043	2.2133E-6
	74.25000	-8.16667	19.10000	-0.037856	18.625	-0.0022649	-0.19365	1.8685E-6
	74.00000	-10.00000	19.10000	-0.028972	18.625	-0.0017228	-0.16447	1.5930E-6
High Holborn House 3_4	74.00000	-10.00000	19.10000	-0.028972	18.625	-0.0017228	-0.16447	1.5930E-6
	76.00000	-10.22222	19.10000	-0.029090	18.625	-0.0017523	-0.16490	1.5965E-6
	78.00000	-10.44444	19.10000	-0.028730	18.625	-0.0017555	-0.16378	1.5852E-6
	80.00000	-10.66667	19.10000	-0.027913	18.625	-0.0017324	-0.16118	1.5599E-6
	82.00000	-10.88889	19.10000	-0.026681	18.625	-0.0016848	-0.15724	1.5218E-6
	84.00000	-11.11111	19.10000	-0.025088	18.625	-0.0016157	-0.15213	1.4729E-6
	86.00000	-11.33333	19.10000	-0.023202	18.625	-0.0015291	-0.14608	1.4149E-6
	88.00000	-11.55556	19.10000	-0.021091	18.625	-0.0014294	-0.13929	1.3500E-6
	90.00000	-11.77778	19.10000	-0.018826	18.625	-0.0013214	-0.13199	1.2803E-6
	92.00000	-12.00000	19.10000	-0.016473	18.625	-0.0012093	-0.12440	1.2077E-6

Oasys

18-21 Hand Court
Demolition
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked



Oasys

18-21 Hand Court
Demolition
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	**Date**	**Checked**

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	20000.	71000.	0.20000	None
3	-5.0000	10	120000.	150000.	0.20000	None
4	-49.000	5	150000.	150000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.00000	140.00000	-40.00000	100.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Perimeter	Polygonal	Horizontal	N/A	N/A	19.97000	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
2	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.00000	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
3	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.27000	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
4	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.69000	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
5	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.10000	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A
6	Upper Foot 1	Rectangular	Horizontal	76.30000	41.75000	23.00000	5.0000	7.5000	1.0000	N/A		N/A	1	-19.730	0.0	0.0
7	Upper Foot 2	Rectangular	Horizontal	84.55000	42.50000	23.00000	5.0000	9.0000	1.0000	N/A		N/A	1	-6.8900	0.0	0.0
8	Upper Foot 3	Rectangular	Horizontal	84.95000	36.50000	23.50000	4.0000	9.0000	1.0000	N/A		N/A	1	-7.3300	0.0	0.0
9	Upper Foot 4	Rectangular	Horizontal	89.45000	29.90000	23.50000	4.0000	1.0000	12.750	N/A		N/A	1	-2.9000	0.0	0.0
10	Upper Foot 5	Rectangular	Horizontal	84.50000	34.10000	23.50000	4.0000	1.0000	3.7000	N/A		N/A	1	-8.6500	0.0	0.0
11	Upper Foot 6	Rectangular	Horizontal	84.80000	30.15000	23.50000	4.0000	1.0000	4.2000	N/A		N/A	1	-20.950	0.0	0.0
12	Upper Foot 7	Rectangular	Horizontal	85.20000	25.60000	23.50000	4.0000	1.0000	4.8500	N/A		N/A	1	-6.3900	0.0	0.0
13	Upper Slab 1	Rectangular	Horizontal	81.00000	39.20000	23.00000	4.7000	16.500	4.8000	N/A		N/A	1	-9.1000	0.0	0.0
14	Upper Slab 2	Rectangular	Horizontal	86.00000	29.65000	23.50000	5.0000	7.5000	12.900	N/A		N/A	1	-9.1000	0.0	0.0
15	Upper Slab 3	Rectangular	Horizontal	84.50000	19.65000	23.50000	5.0000	2.8000	6.8000	N/A		N/A	1	-9.1000	0.0	0.0
16	Lower Foot 1	Rectangular	Horizontal	73.90000	27.30000	21.10000	3.5500	1.0000	16.000	N/A		N/A	1	-42.440	0.0	0.0
17	Lower Foot 2	Rectangular	Horizontal	73.50000	35.70000	21.10000	5.0000	1.3000	0.70000	N/A		N/A	1	-138.46	0.0	0.0
18	Lower Foot 3	Rectangular	Horizontal	77.30000	36.00000	21.10000	5.0000	6.3000	1.0000	N/A		N/A	1	-77.460	0.0	0.0
19	Lower Foot 4	Rectangular	Horizontal	81.30000	33.00000	21.10000	5.0000	1.0000	7.5000	N/A		N/A	1	-6.9300	0.0	0.0
20	Lower Foot 5	Rectangular	Horizontal	82.20000	23.30000	21.10000	5.0000	1.0000	12.000	N/A		N/A	1	-7.0800	0.0	0.0
21	Lower Foot 6	Rectangular	Horizontal	78.70000	16.35000	21.10000	4.0000	9.3000	1.0000	N/A		N/A	1	-14.300	0.0	0.0
22	Lower Foot 7	Rectangular	Horizontal	74.50000	18.00000	21.10000	5.0000	1.3000	2.7000	N/A		N/A	1	-165.24	0.0	0.0
23	Lower Foot 8	Rectangular	Horizontal	77.50000	31.50000	21.10000	5.0000	6.7000	1.0000	N/A		N/A	1	-15.340	0.0	0.0
24	Lower Foot 9	Rectangular	Horizontal	77.90000	27.20000	21.10000	5.0000	6.8000	1.0000	N/A		N/A	1	-21.350	0.0	0.0
25	Lower Foot 10	Rectangular	Horizontal	78.20000	22.80000	21.10000	5.0000	7.0000	1.0000	N/A		N/A	1	-19.560	0.0	0.0
26	Lower Foot 11	Rectangular	Horizontal	85.50000	18.20000	19.97000	5.0000	1.0000	3.5000	N/A		N/A	1	-6.0000	0.0	0.0
27	Lower Foot 12	Rectangular	Horizontal	85.70000	21.00000	19.97000	5.0000	1.0000	2.0000	N/A		N/A	1	-22.000	0.0	0.0
28	Lower Foot 13	Rectangular	Horizontal	87.80000	22.80000	19.97000	5.0000	5.4000	1.0000	N/A		N/A	1	-12.590	0.0	0.0
29	Lower Foot 14	Rectangular	Horizontal	88.30000	19.80000	19.97000	5.0000	4.8000	1.0000	N/A		N/A	1	-8.5400	0.0	0.0
30	Lower Slab 1	Rectangular	Horizontal	77.90000	26.20000	21.00000	4.5000	6.8000	18.800	N/A		N/A	1	-16.300	0.0	0.0
31	Lower Slab 2	Rectangular	Horizontal	88.40000	21.30000	19.97000	5.0000	4.4000	2.0000	N/A		N/A	1	-16.300	0.0	0.0
32	Lower Slab 3	Rectangular	Horizontal	87.65000	17.80000	19.97000	5.0000	3.1000	2.8000	N/A		N/A	1	-16.300	0.0	0.0
33	Lower Slab 4	Rectangular	Horizontal	90.05000	17.95000	19.97000	5.0000	1.6000	2.9000	N/A		N/A	1	-18.500	0.0	0.0

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Perimeter					
(Edge 3 optimal)					
1	88.17709	43.39682	-86.760	0.11303	1.6568
2	86.53126	43.19045	-86.760	0.11303	4.9705
3	84.88544	42.98408	-86.760	0.11303	8.2841
4	83.23961	42.77771	-86.760	0.11303	11.598
5	81.59379	42.57135	-86.760	0.11303	14.911
6	81.63491	29.24349	-86.760	26.505	16.799
Load 2 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.50000	-1.21071	-180.00	9.0000	14.421
2	31.50000	37.53929	-180.00	61.000	82.921
Load 3 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.73798	56.34257	169.38	0.27275	1.3889
2	92.21394	55.02770	169.38	0.27275	4.1668
3	91.68991	53.71283	169.38	0.27275	6.9446
4	91.16587	52.39796	169.38	0.27275	9.7224
5	90.64183	51.08309	169.38	0.27275	12.500
6	82.85577	50.76411	169.38	14.915	15.997
7	74.75493	51.07628	169.38	1.1242	18.158
8	73.91031	51.94500	169.38	0.85633	16.391
9	73.37469	53.73500	169.38	0.85633	12.748
10	72.83906	55.52500	169.38	0.85633	9.1060
11	72.30344	57.31500	169.38	0.85633	5.4636
12	71.76781	59.10500	169.38	0.85633	1.8212
Load 4 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.90179	43.80000	-90.000	0.40000	25.004
2	103.62143	30.00000	-90.000	27.200	27.043
3	104.56978	15.20000	-90.000	2.4000	26.732
4	100.68407	10.00000	-90.000	8.0000	18.060
5	100.39286	-3.00000	-90.000	18.000	16.786
6	100.86429	-12.20000	-90.000	0.40000	14.529
7	102.45000	-12.60000	-90.000	0.40000	11.300
8	104.03571	-13.00000	-90.000	0.40000	8.0714
9	105.62143	-13.40000	-90.000	0.40000	4.8429
10	107.20714	-13.80000	-90.000	0.40000	1.6143
11	92.96976	74.58333	-90.000	0.83333	1.8938
12	94.90927	73.75000	-90.000	0.83333	5.6815
13	96.84879	72.91667	-90.000	0.83333	9.4691
14	98.78831	72.08333	-90.000	0.83333	13.257
15	100.72782	71.25000	-90.000	0.83333	17.044
16	102.66734	70.41667	-90.000	0.83333	20.832
17	104.34176	57.00000	-90.000	26.000	22.709
Load 5 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					

Oasys

18-21 Hand Court
Excavation
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	**Date**	**Checked**

Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	33000.	115000.	0.50000	None
3	-5.0000	10	205000.	255000.	0.50000	None
4	-49.000	5	255000.	255000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.00000	140.00000	-40.00000	100.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Low Base 1	Rectangular	Horizontal	77.90000	26.10000	19.97000	3.3000	8.9000	20.800	N/A		N/A	1	-27.600	0.0	0.0
2	Low Base 2	Rectangular	Horizontal	88.25000	19.85000	19.97000	4.0000	5.0000	6.9500	N/A		N/A	1	0.0	0.0	0.0
3	Upper Base 1	Rectangular	Horizontal	80.95000	39.75000	19.97000	4.6000	16.500	5.9000	N/A		N/A	1	-85.200	0.0	0.0
4	Upper Base 2	Rectangular	Horizontal	86.10000	30.20000	19.97000	4.0000	7.7500	14.000	N/A		N/A	1	-76.200	0.0	0.0
5	Upper Base 3	Rectangular	Horizontal	84.25000	19.60000	19.97000	4.0000	3.0500	6.9000	N/A		N/A	1	-76.200	0.0	0.0
6	Perimeter	Polygonal	Horizontal	N/A	N/A	19.97000	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
7	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.00000	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
8	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.27000	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
9	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.69000	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
10	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.10000	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 6 : Perimeter					
(Edge 3 optimal)					
1	88.17709	43.39682	-86.760	0.11303	1.6568
2	86.53126	43.19045	-86.760	0.11303	4.9705
3	84.88544	42.98408	-86.760	0.11303	8.2841
4	83.23961	42.77771	-86.760	0.11303	11.598
5	81.59379	42.57135	-86.760	0.11303	14.911
6	81.63491	29.24349	-86.760	26.505	16.799
Load 7 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.50000	-1.21071	-180.00	9.0000	14.421
2	31.50000	37.53929	-180.00	61.000	82.921
Load 8 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.73798	56.34257	169.38	0.27275	1.3889
2	92.21394	55.02770	169.38	0.27275	4.1668
3	91.68991	53.71283	169.38	0.27275	6.9446
4	91.16587	52.39796	169.38	0.27275	9.7224
5	90.64183	51.08309	169.38	0.27275	12.500
6	82.85577	50.76411	169.38	14.915	15.997
7	74.75493	51.07628	169.38	1.1242	18.158
8	73.91031	51.94500	169.38	0.85633	16.391
9	73.37469	53.73500	169.38	0.85633	12.748
10	72.83906	55.52500	169.38	0.85633	9.1060
11	72.30344	57.31500	169.38	0.85633	5.4636
12	71.76781	59.10500	169.38	0.85633	1.8212
Load 9 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.90179	43.80000	-90.000	0.40000	25.004
2	103.62143	30.00000	-90.000	27.200	27.043
3	104.56978	15.20000	-90.000	2.4000	26.732
4	100.68407	10.00000	-90.000	8.0000	18.060
5	100.39286	-3.00000	-90.000	18.000	16.786
6	100.86429	-12.20000	-90.000	0.40000	14.529
7	102.45000	-12.60000	-90.000	0.40000	11.300
8	104.03571	-13.00000	-90.000	0.40000	8.0714
9	105.62143	-13.40000	-90.000	0.40000	4.8429
10	107.20714	-13.80000	-90.000	0.40000	1.6143
11	92.96976	74.58333	-90.000	0.83333	1.8938
12	94.90927	73.75000	-90.000	0.83333	5.6815
13	96.84879	72.91667	-90.000	0.83333	9.4691
14	98.78831	72.08333	-90.000	0.83333	13.257
15	100.72782	71.25000	-90.000	0.83333	17.044
16	102.66734	70.41667	-90.000	0.83333	20.832
17	104.34176	57.00000	-90.000	26.000	22.709
Load 10 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					
1	90.25030	16.18269	-97.765	0.66025	1.7365
2	88.55091	15.74806	-97.765	0.66025	5.2096
3	86.85151	15.31343	-97.765	0.66025	8.6826
4	85.15212	14.87880	-97.765	0.66025	12.156
5	83.45272	14.44417	-97.765	0.66025	15.629
6	83.09097	7.06259	-97.765	14.065	16.836
7	83.30468	-5.43927	-97.765	10.651	17.206
8	82.12738	-10.69919	-97.765	0.090075	16.295
9	80.32130	-10.54381	-97.765	0.090075	12.674
10	78.51521	-10.38844	-97.765	0.090075	9.0526
11	76.70913	-10.23306	-97.765	0.090075	5.4316
12	74.90304	-10.07769	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.00000	-40.00000	20.00000	N/A	100.00000	20.00000	100	160.00000	100	No	N/A
2	Line	Mid City Place_1	N/A	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	N/A	N/A	Yes	Yes

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
6	Line	Mid City Place_5	N/A	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (-8.7109mm) and the Mindlin method (-13.564mm) occurs at point X = 80.80000m, Y = 42.85000m, level = 20.270mOD, and is 4.8529mm.

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Low Base 1	77.90000	26.10000	19.97000	-7.7080	19.508	-27.602	-64.791	-180.15E-6
Low Base 2	88.25000	19.85000	19.97000	-4.0908	19.508	-0.11149	-8.0227	76.883E-6
Upper Base 1	80.95000	39.75000	19.97000	-14.846	19.508	-85.099	-186.91	-683.89E-6
Upper Base 2	86.10000	30.20000	19.97000	-14.524	19.508	-76.154	-169.90	-585.58E-6
Upper Base 3	84.25000	19.60000	19.97000	-9.9552	19.508	-75.529	-152.96	-736.26E-6
Perimeter	81.65695	29.31520	19.97000	-10.904	19.508	-29.456	-83.160	-52.075E-6
Perimeter - Mid City Place	32.84589	36.53961	24.00000	0.0031651	23.433	0.0	0.0	0.0
Perimeter - High Holborn House 1	81.10657	51.26800	20.27000	-1.2465	19.758	-195.04E-6	-0.51748	5.1690E-6
Perimeter - High Holborn House 2	103.02424	32.09680	18.69000	-0.68112	18.317	-0.019324	-1.8291	17.711E-6
Perimeter - High Holborn House 3	83.29361	2.34535	19.10000	-0.31400	18.625	-0.0039781	-0.72552	7.1358E-6
Mid City Place_1	1.00000	79.00000	24.00000	0.025406	23.433	0.0	0.0	0.0
	2.96774	79.00000	24.00000	0.025907	23.433	0.0	0.0	0.0
	4.93548	79.00000	24.00000	0.026390	23.433	0.0	0.0	0.0
	6.90323	79.00000	24.00000	0.026851	23.433	0.0	0.0	0.0
	8.87097	79.00000	24.00000	0.027285	23.433	0.0	0.0	0.0
	10.83871	79.00000	24.00000	0.027688	23.433	0.0	0.0	0.0
	12.80645	79.00000	24.00000	0.028052	23.433	0.0	0.0	0.0
	14.77419	79.00000	24.00000	0.028373	23.433	0.0	0.0	0.0
	16.74194	79.00000	24.00000	0.028643	23.433	0.0	0.0	0.0
	18.70968	79.00000	24.00000	0.028855	23.433	0.0	0.0	0.0
	20.67742	79.00000	24.00000	0.029001	23.433	0.0	0.0	0.0
	22.64516	79.00000	24.00000	0.029072	23.433	0.0	0.0	0.0
	24.61290	79.00000	24.00000	0.029060	23.433	0.0	0.0	0.0
	26.58065	79.00000	24.00000	0.028955	23.433	0.0	0.0	0.0
	28.54839	79.00000	24.00000	0.028748	23.433	0.0	0.0	0.0
	30.51613	79.00000	24.00000	0.028429	23.433	0.0	0.0	0.0
	32.48387	79.00000	24.00000	0.027987	23.433	0.0	0.0	0.0
	34.45161	79.00000	24.00000	0.027412	23.433	0.0	0.0	0.0
	36.41935	79.00000	24.00000	0.026695	23.433	0.0	0.0	0.0
	38.38710	79.00000	24.00000	0.025827	23.433	0.0	0.0	0.0
	40.35484	79.00000	24.00000	0.024799	23.433	0.0	0.0	0.0
	42.32258	79.00000	24.00000	0.023604	23.433	0.0	0.0	0.0
	44.29032	79.00000	24.00000	0.022237	23.433	0.0	0.0	0.0
	46.25806	79.00000	24.00000	0.020696	23.433	0.0	0.0	0.0
	48.22581	79.00000	24.00000	0.018980	23.433	0.0	0.0	0.0
	50.19355	79.00000	24.00000	0.017093	23.433	0.0	0.0	0.0
	52.16129	79.00000	24.00000	0.015043	23.433	0.0	0.0	0.0
	54.12903	79.00000	24.00000	0.012842	23.433	0.0	0.0	0.0
	56.09677	79.00000	24.00000	0.010509	23.433	0.0	0.0	0.0
	58.06452	79.00000	24.00000	0.0080682	23.433	0.0	0.0	0.0
	60.03226	79.00000	24.00000	0.0055498	23.433	0.0	0.0	0.0
	62.00000	79.00000	24.00000	0.0029907	23.433	0.0	0.0	0.0
Mid City Place_2	62.00000	79.00000	24.00000	0.0029907	23.433	0.0	0.0	0.0
	62.00000	77.02703	24.00000	-0.0032844	23.433	0.0	0.0	0.0
	62.00000	75.05405	24.00000	-0.010749	23.433	0.0	0.0	0.0
	62.00000	73.08108	24.00000	-0.019606	23.433	0.0	0.0	0.0
	62.00000	71.10811	24.00000	-0.030098	23.433	0.0	0.0	0.0
	62.00000	69.13514	24.00000	-0.042513	23.433	0.0	0.0	0.0
	62.00000	67.16216	24.00000	-0.057190	23.433	0.0	0.0	0.0
	62.00000	65.18919	24.00000	-0.074534	23.433	0.0	0.0	0.0
	62.00000	63.21622	24.00000	-0.095021	23.433	0.0	0.0	0.0
	62.00000	61.24324	24.00000	-0.11920	23.433	0.0	0.0	0.0
	62.00000	59.27027	24.00000	-0.14769	23.433	0.0	0.0	0.0
	62.00000	57.29730	24.00000	-0.18118	23.433	0.0	0.0	0.0
	62.00000	55.32432	24.00000	-0.22035	23.433	0.0	0.0	0.0
	62.00000	53.35135	24.00000	-0.26579	23.433	0.0	0.0	0.0
	62.00000	51.37838	24.00000	-0.31783	23.433	0.0	0.0	0.0
	62.00000	49.40541	24.00000	-0.37625	23.433	0.0	0.0	0.0

Oasys

18-21 Hand Court
Excavation
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	**Date**	**Checked**

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	62.00000	47.43243	24.00000	-0.43985	23.433	0.0	0.0	0.0
	62.00000	45.45946	24.00000	-0.50601	23.433	0.0	0.0	0.0
	62.00000	43.48649	24.00000	-0.57049	23.433	0.0	0.0	0.0
	62.00000	41.51351	24.00000	-0.62785	23.433	0.0	0.0	0.0
	62.00000	39.54054	24.00000	-0.67279	23.433	0.0	0.0	0.0
	62.00000	37.56757	24.00000	-0.70180	23.433	0.0	0.0	0.0
	62.00000	35.59459	24.00000	-0.71421	23.433	0.0	0.0	0.0
	62.00000	33.62162	24.00000	-0.71175	23.433	0.0	0.0	0.0
	62.00000	31.64865	24.00000	-0.69736	23.433	0.0	0.0	0.0
	62.00000	29.67568	24.00000	-0.67390	23.433	0.0	0.0	0.0
	62.00000	27.70270	24.00000	-0.64357	23.433	0.0	0.0	0.0
	62.00000	25.72973	24.00000	-0.60783	23.433	0.0	0.0	0.0
	62.00000	23.75676	24.00000	-0.56761	23.433	0.0	0.0	0.0
	62.00000	21.78378	24.00000	-0.52365	23.433	0.0	0.0	0.0
	62.00000	19.81081	24.00000	-0.47674	23.433	0.0	0.0	0.0
	62.00000	17.83784	24.00000	-0.42790	23.433	0.0	0.0	0.0
	62.00000	15.86486	24.00000	-0.37843	23.433	0.0	0.0	0.0
	62.00000	13.89189	24.00000	-0.32981	23.433	0.0	0.0	0.0
	62.00000	11.91892	24.00000	-0.28346	23.433	0.0	0.0	0.0
	62.00000	9.94595	24.00000	-0.24051	23.433	0.0	0.0	0.0
	62.00000	7.97297	24.00000	-0.20167	23.433	0.0	0.0	0.0
	62.00000	6.00000	24.00000	-0.16721	23.433	0.0	0.0	0.0
Mid City Place_3	62.00000	6.00000	24.00000	-0.16721	23.433	0.0	0.0	0.0
	63.80000	6.00000	24.00000	-0.19745	23.433	0.0	0.0	0.0
	65.60000	6.00000	24.00000	-0.23155	23.433	0.0	0.0	0.0
	67.40000	6.00000	24.00000	-0.26955	23.433	0.0	0.0	0.0
	69.20000	6.00000	24.00000	-0.31107	23.433	0.0	0.0	0.0
	71.00000	6.00000	24.00000	-0.35516	23.433	0.0	0.0	0.0
Mid City Place_4	71.00000	6.00000	24.00000	-0.35516	23.433	0.0	0.0	0.0
	71.00000	4.12500	24.00000	-0.28000	23.433	0.0	0.0	0.0
	71.00000	2.25000	24.00000	-0.22102	23.433	0.0	0.0	0.0
	71.00000	0.37500	24.00000	-0.17426	23.433	0.0	0.0	0.0
	71.00000	-1.50000	24.00000	-0.13686	23.433	0.0	0.0	0.0
	71.00000	-3.37500	24.00000	-0.10670	23.433	0.0	0.0	0.0
	71.00000	-5.25000	24.00000	-0.082193	23.433	0.0	0.0	0.0
	71.00000	-7.12500	24.00000	-0.062156	23.433	0.0	0.0	0.0
	71.00000	-9.00000	24.00000	-0.045686	23.433	0.0	0.0	0.0
Mid City Place_5	71.00000	-9.00000	24.00000	-0.045686	23.433	0.0	0.0	0.0
	69.00000	-8.74286	24.00000	-0.042438	23.433	0.0	0.0	0.0
	67.00000	-8.48571	24.00000	-0.038567	23.433	0.0	0.0	0.0
	65.00000	-8.22857	24.00000	-0.034219	23.433	0.0	0.0	0.0
	63.00000	-7.97143	24.00000	-0.029539	23.433	0.0	0.0	0.0
	61.00000	-7.71429	24.00000	-0.024667	23.433	0.0	0.0	0.0
	59.00000	-7.45714	24.00000	-0.019729	23.433	0.0	0.0	0.0
	57.00000	-7.20000	24.00000	-0.014833	23.433	0.0	0.0	0.0
	55.00000	-6.94286	24.00000	-0.010066	23.433	0.0	0.0	0.0
	53.00000	-6.68571	24.00000	-0.0054997	23.433	0.0	0.0	0.0
	51.00000	-6.42857	24.00000	-0.0011840	23.433	0.0	0.0	0.0
	49.00000	-6.17143	24.00000	0.0028447	23.433	0.0	0.0	0.0
	47.00000	-5.91429	24.00000	0.0065639	23.433	0.0	0.0	0.0
	45.00000	-5.65714	24.00000	0.0099620	23.433	0.0	0.0	0.0
	43.00000	-5.40000	24.00000	0.013036	23.433	0.0	0.0	0.0
	41.00000	-5.14286	24.00000	0.015790	23.433	0.0	0.0	0.0
	39.00000	-4.88571	24.00000	0.018233	23.433	0.0	0.0	0.0
	37.00000	-4.62857	24.00000	0.020378	23.433	0.0	0.0	0.0
	35.00000	-4.37143	24.00000	0.022241	23.433	0.0	0.0	0.0
	33.00000	-4.11429	24.00000	0.023838	23.433	0.0	0.0	0.0
	31.00000	-3.85714	24.00000	0.025189	23.433	0.0	0.0	0.0
	29.00000	-3.60000	24.00000	0.026311	23.433	0.0	0.0	0.0
	27.00000	-3.34286	24.00000	0.027224	23.433	0.0	0.0	0.0
	25.00000	-3.08571	24.00000	0.027945	23.433	0.0	0.0	0.0
	23.00000	-2.82857	24.00000	0.028494	23.433	0.0	0.0	0.0
	21.00000	-2.57143	24.00000	0.028886	23.433	0.0	0.0	0.0
	19.00000	-2.31429	24.00000	0.029138	23.433	0.0	0.0	0.0
	17.00000	-2.05714	24.00000	0.029266	23.433	0.0	0.0	0.0
	15.00000	-1.80000	24.00000	0.029283	23.433	0.0	0.0	0.0
	13.00000	-1.54286	24.00000	0.029202	23.433	0.0	0.0	0.0
	11.00000	-1.28571	24.00000	0.029036	23.433	0.0	0.0	0.0
	9.00000	-1.02857	24.00000	0.028795	23.433	0.0	0.0	0.0
	7.00000	-0.77143	24.00000	0.028490	23.433	0.0	0.0	0.0
	5.00000	-0.51429	24.00000	0.028131	23.433	0.0	0.0	0.0
	3.00000	-0.25714	24.00000	0.027724	23.433	0.0	0.0	0.0
	1.00000	0.00000	24.00000	0.027279	23.433	0.0	0.0	0.0
Mid City Place_6	1.00000	0.00000	24.00000	0.027279	23.433	0.0	0.0	0.0
	1.00000	1.97500	24.00000	0.027463	23.433	0.0	0.0	0.0
	1.00000	3.95000	24.00000	0.027632	23.433	0.0	0.0	0.0
	1.00000	5.92500	24.00000	0.027787	23.433	0.0	0.0	0.0
	1.00000	7.90000	24.00000	0.027928	23.433	0.0	0.0	0.0
	1.00000	9.87500	24.00000	0.028054	23.433	0.0	0.0	0.0
	1.00000	11.85000	24.00000	0.028168	23.433	0.0	0.0	0.0
	1.00000	13.82500	24.00000	0.028268	23.433	0.0	0.0	0.0
	1.00000	15.80000	24.00000	0.028356	23.433	0.0	0.0	0.0
	1.00000	17.77500	24.00000	0.028433	23.433	0.0	0.0	0.0
	1.00000	19.75000	24.00000	0.028497	23.433	0.0	0.0	0.0
	1.00000	21.72500	24.00000	0.028551	23.433	0.0	0.0	0.0
	1.00000	23.70000	24.00000	0.028594	23.433	0.0	0.0	0.0
	1.00000	25.67500	24.00000	0.028627	23.433	0.0	0.0	0.0
	1.00000	27.65000	24.00000	0.028650	23.433	0.0	0.0	0.0
	1.00000	29.62500	24.00000	0.028664	23.433	0.0	0.0	0.0
	1.00000	31.60000	24.00000	0.028668	23.433	0.0	0.0	0.0
	1.00000	33.57500	24.00000	0.028663	23.433	0.0	0.0	0.0
	1.00000	35.55000	24.00000	0.028650	23.433	0.0	0.0	0.0
	1.00000	37.52500	24.00000	0.028626	23.433	0.0	0.0	0.0
	1.00000	39.50000	24.00000	0.028594	23.433	0.0	0.0	0.0
	1.00000	41.47500	24.00000	0.028552	23.433	0.0	0.0	0.0
	1.00000	43.45000	24.00000	0.028500	23.433	0.0	0.0	0.0
	1.00000	45.42500	24.00000	0.028437	23.433	0.0	0.0	0.0
	1.00000	47.40000	24.00000	0.028364	23.433	0.0	0.0	0.0
	1.00000	49.37500	24.00000	0.028280	23.433	0.0	0.0	0.0
	1.00000	51.35000	24.00000	0.028183	23.433	0.0	0.0	0.0
	1.00000	53.32500	24.00000	0.028074	23.433	0.0	0.0	0.0
	1.00000	55.30000	24.00000	0.027953	23.433	0.0	0.0	0.0
	1.00000	57.27500	24.00000	0.027818	23.433	0.0	0.0	0.0
	1.00000	59.25000	24.00000	0.027670	23.433	0.0	0.0	0.0
	1.00000	61.22500	24.00000	0.027508	23.433	0.0	0.0	0.0
	1.00000	63.20000	24.00000	0.027331	23.433	0.0	0.0	0.0
	1.00000	65.17500	24.00000	0.027140	23.433	0.0	0.0	0.0
	1.00000	67.15000	24.00000	0.026935	23.433	0.0	0.0	0.0
	1.00000	69.12500	24.00000	0.026715	23.433	0.0	0.0	0.0
	1.00000	71.10000	24.00000	0.026481	23.433	0.0	0.0	0.0
	1.00000	73.07500	24.00000	0.026232	23.433	0.0	0.0	0.0
	1.00000	75.05000	24.00000	0.025970	23.433	0.0	0.0	0.0
	1.00000	77.02500	24.00000	0.025695	23.433	0.0	0.0	0.0
	1.00000	79.00000	24.00000	0.025406	23.433	0.0	0.0	0.0
High Holborn House 1_1	93.00000	57.00000	20.27000	-0.36232	19.758	-15.816E-6	-0.12817	1.2812E-6
	91.00000	57.37500	20.27000	-0.38543	19.758	-17.590E-6	-0.13619	1.3614E-6
	89.00000	57.75000	20.27000	-0.40088	19.758	-18.747E-6	-0.14154	1.4149E-6
	87.00000	58.12500	20.27000	-0.40736	19.758	-19.135E-6	-0.14371	1.4365E-6
	85.00000	58.50000	20.27000	-0.40445	19.758	-18.748E-6	-0.14257	1.4251E-6
	83.00000	58.87500	20.27000	-0.39262	19.758	-17.696E-6	-0.13834	1.3828E-6
	81.00000	59.25000	20.27000	-0.37304	19.758	-16.154E-6	-0.13151	1.3146E-6
	79.00000	59.62500	20.27000	-0.34736	19.758	-14.312E-6	-0.12274	1.2270E-6
	77.00000	60.00000	20.27000	-0.31742	19.758	-12.347E-6	-0.11270	1.1266E-6
High Holborn House 1_2	77.00000	60.00000	20.27000	-0.31742	19.758	-12.347E-6	-0.11270	1.1266E-6
	75.16667	60.00000	20.27000	-0.30098	19.758	-11.377E-6	-0.10731	1.0728E-6
	73.33333	60.00000	20.27000	-0.28100	19.758	-10.241E-6	-0.10081	1.0078E-6
	71.50000	60.00000	20.27000	-0.25850	19.758	-9.0206E-6	-0.093563	0.0
High Holborn House 1_3	71.50000	60.00000	20.27000	-0.25850	19.758	-9.0206E-6	-0.093563	0.0
	71.61111	58.01111	20.27000	-0.33341	19.758	-13.850E-6	-0.11855	1.1851E-6
	71.72222	56.02222	20.27000	-0.43206	19.758	-22.266E-6	-0.15355	1.5348E-6
	71.83333	54.03333	20.27000	-0.56437	19.758	-37.984E-6	-0.20437	2.0426E-6
	71.94444	52.04444	20.27000	-0.74581	19.758	-70.204E-6	-0.28180	2.8159E-6
	72.05556	50.05556	20.27000	-1.0019	19.758	-145.67E-6	-0.40789	4.0745E-6
	72.16667	48.06667	20.27000	-1.3782	19.758	-363.03E-6	-0.63521	6.3412E-6

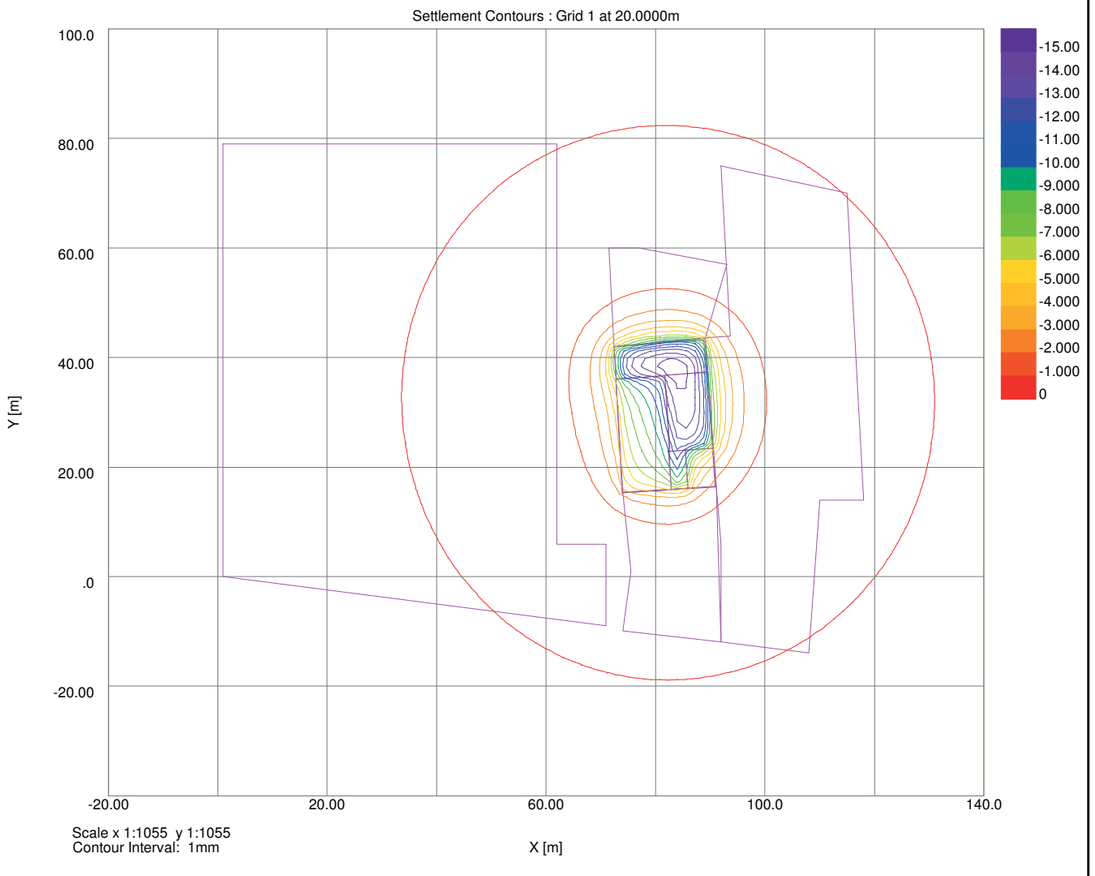
Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	72.27778	46.07778	20.27000	-1.9664	19.758	-0.0012643	-1.1239	11.201E-6
	72.38889	44.08889	20.27000	-2.9812	19.758	-0.0098889	-2.6701	26.404E-6
	72.50000	42.10000	20.27000	-5.1846	19.758	-14.005	-41.465	-5.4945E-6
High Holborn House 1_4	72.50000	42.10000	20.27000	-5.1846	19.758	-14.005	-41.465	-5.4945E-6
	74.57500	42.28750	20.27000	-7.3410	19.758	-21.813	-71.686	62.472E-6
	76.65000	42.47500	20.27000	-8.2165	19.758	-18.333	-68.012	130.12E-6
	78.72500	42.66250	20.27000	-8.6044	19.758	-15.358	-63.704	176.29E-6
	80.80000	42.85000	20.27000	-8.7109	19.758	-12.856	-59.508	209.41E-6
	82.87500	43.03750	20.27000	-8.5637	19.758	-10.771	-55.493	231.80E-6
	84.95000	43.22500	20.27000	-8.0817	19.758	-9.0454	-51.498	243.62E-6
	87.02500	43.41250	20.27000	-7.0315	19.758	-7.6130	-46.639	238.00E-6
	89.10000	43.60000	20.27000	-4.8508	19.758	-1.4081	-16.546	123.22E-6
High Holborn House 2_1	92.00000	75.00000	18.69000	-0.030716	18.317	-415.19E-6	-0.19479	1.9355E-6
	93.91667	74.58333	18.69000	-0.030086	18.317	-410.05E-6	-0.19346	1.9223E-6
	95.83333	74.16667	18.69000	-0.028879	18.317	-400.36E-6	-0.19088	1.8968E-6
	97.75000	73.75000	18.69000	-0.027134	18.317	-386.55E-6	-0.18712	1.8596E-6
	99.66667	73.33333	18.69000	-0.024909	18.317	-369.24E-6	-0.18232	1.8121E-6
	101.58333	72.91667	18.69000	-0.022273	18.317	-349.16E-6	-0.17662	1.7557E-6
	103.50000	72.50000	18.69000	-0.019304	18.317	-327.07E-6	-0.17017	1.6918E-6
	105.41667	72.08333	18.69000	-0.016082	18.317	-303.76E-6	-0.16314	1.6223E-6
	107.33333	71.66667	18.69000	-0.012689	18.317	-279.92E-6	-0.15570	1.5486E-6
	109.25000	71.25000	18.69000	-0.0092014	18.317	-256.18E-6	-0.14800	1.4723E-6
	111.16667	70.83333	18.69000	-0.0056895	18.317	-233.04E-6	-0.14018	1.3948E-6
	113.08333	70.41667	18.69000	-0.0022156	18.317	-210.89E-6	-0.13236	1.3173E-6
	115.00000	70.00000	18.69000	0.0011674	18.317	-190.01E-6	-0.12464	1.2407E-6
High Holborn House 2_2	115.00000	70.00000	18.69000	0.0011674	18.317	-190.01E-6	-0.12464	1.2407E-6
	115.10714	68.00000	18.69000	-0.0038208	18.317	-220.70E-6	-0.13612	1.3546E-6
	115.21429	66.00000	18.69000	-0.0093550	18.317	-256.21E-6	-0.14862	1.4785E-6
	115.32143	64.00000	18.69000	-0.015439	18.317	-297.07E-6	-0.16215	1.6126E-6
	115.42857	62.00000	18.69000	-0.022062	18.317	-343.76E-6	-0.17671	1.7568E-6
	115.53571	60.00000	18.69000	-0.029193	18.317	-396.60E-6	-0.19225	1.9106E-6
	115.64286	58.00000	18.69000	-0.036780	18.317	-455.73E-6	-0.20870	2.0733E-6
	115.75000	56.00000	18.69000	-0.044743	18.317	-520.96E-6	-0.22590	2.2434E-6
	115.85714	54.00000	18.69000	-0.052972	18.317	-591.70E-6	-0.24364	2.4187E-6
	115.96429	52.00000	18.69000	-0.061326	18.317	-666.86E-6	-0.26164	2.5964E-6
	116.07143	50.00000	18.69000	-0.069631	18.317	-744.81E-6	-0.27954	2.7731E-6
	116.17857	48.00000	18.69000	-0.077690	18.317	-823.33E-6	-0.29693	2.9446E-6
	116.28571	46.00000	18.69000	-0.085285	18.317	-899.77E-6	-0.31333	3.1063E-6
	116.39286	44.00000	18.69000	-0.092190	18.317	-971.13E-6	-0.32826	3.2535E-6
	116.50000	42.00000	18.69000	-0.098183	18.317	-0.0010343	-0.34124	3.3813E-6
	116.60714	40.00000	18.69000	-0.10306	18.317	-0.0010865	-0.35180	3.4854E-6
	116.71429	38.00000	18.69000	-0.10665	18.317	-0.0011250	-0.35958	3.5620E-6
	116.82143	36.00000	18.69000	-0.10882	18.317	-0.0011482	-0.36428	3.6084E-6
	116.92857	34.00000	18.69000	-0.10951	18.317	-0.0011547	-0.36575	3.6228E-6
	117.03571	32.00000	18.69000	-0.10868	18.317	-0.0011445	-0.36393	3.6050E-6
	117.14286	30.00000	18.69000	-0.10638	18.317	-0.0011182	-0.35893	3.5558E-6
	117.25000	28.00000	18.69000	-0.10271	18.317	-0.0010772	-0.35095	3.4771E-6
	117.35714	26.00000	18.69000	-0.097796	18.317	-0.0010237	-0.34029	3.3722E-6
	117.46429	24.00000	18.69000	-0.091822	18.317	-960.14E-6	-0.32736	3.2448E-6
	117.57143	22.00000	18.69000	-0.084987	18.317	-889.54E-6	-0.31259	3.0992E-6
	117.67857	20.00000	18.69000	-0.077507	18.317	-814.75E-6	-0.29646	2.9401E-6
	117.78571	18.00000	18.69000	-0.069595	18.317	-738.48E-6	-0.27942	2.7720E-6
	117.89286	16.00000	18.69000	-0.061453	18.317	-663.08E-6	-0.26190	2.5991E-6
	118.00000	14.00000	18.69000	-0.053266	18.317	-590.45E-6	-0.24429	2.4252E-6
High Holborn House 2_3	118.00000	14.00000	18.69000	-0.053266	18.317	-590.45E-6	-0.24429	2.4252E-6
	116.00000	14.00000	18.69000	-0.070957	18.317	-759.43E-6	-0.28242	2.8014E-6
	114.00000	14.00000	18.69000	-0.092221	18.317	-989.08E-6	-0.32860	3.2564E-6
	112.00000	14.00000	18.69000	-0.11786	18.317	-0.0013062	-0.38502	3.8110E-6
	110.00000	14.00000	18.69000	-0.14890	18.317	-0.0017517	-0.45456	4.4930E-6
High Holborn House 2_4	110.00000	14.00000	18.69000	-0.14890	18.317	-0.0017517	-0.45456	4.4930E-6
	109.85714	12.00000	18.69000	-0.13223	18.317	-0.0015194	-0.41734	4.1279E-6
	109.71429	10.00000	18.69000	-0.11579	18.317	-0.0013041	-0.38092	3.7700E-6
	109.57143	8.00000	18.69000	-0.099937	18.317	-0.0011097	-0.34600	3.4267E-6
	109.42857	6.00000	18.69000	-0.084909	18.317	-937.86E-6	-0.31311	3.1029E-6
	109.28571	4.00000	18.69000	-0.070885	18.317	-788.44E-6	-0.28255	2.8018E-6
	109.14286	2.00000	18.69000	-0.057967	18.317	-660.35E-6	-0.25449	2.5250E-6
	109.00000	0.00000	18.69000	-0.046199	18.317	-551.74E-6	-0.22895	2.2729E-6
	108.85714	-2.00000	18.69000	-0.035584	18.317	-460.44E-6	-0.20587	2.0449E-6
	108.71429	-4.00000	18.69000	-0.026090	18.317	-384.19E-6	-0.18514	1.8398E-6
	108.57143	-6.00000	18.69000	-0.017663	18.317	-320.80E-6	-0.16658	1.6562E-6
	108.42857	-8.00000	18.69000	-0.010235	18.317	-268.25E-6	-0.15002	1.4922E-6
	108.28571	-10.00000	18.69000	-0.0037305	18.317	-224.76E-6	-0.13528	1.3461E-6
	108.14286	-12.00000	18.69000	0.0019293	18.317	-188.78E-6	-0.12216	1.2160E-6
	108.00000	-14.00000	18.69000	0.0068223	18.317	-159.01E-6	-0.11050	1.1002E-6
High Holborn House 2_5	108.00000	-14.00000	18.69000	0.0068223	18.317	-159.01E-6	-0.11050	1.1002E-6
	106.00000	-13.75000	18.69000	0.0031849	18.317	-181.45E-6	-0.11909	1.1855E-6
	104.00000	-13.50000	18.69000	-751.12E-6	18.317	-206.76E-6	-0.12821	1.2759E-6
	102.00000	-13.25000	18.69000	-0.0049618	18.317	-235.09E-6	-0.13781	1.3710E-6
	100.00000	-13.00000	18.69000	-0.0094101	18.317	-266.51E-6	-0.14782	1.4702E-6
	98.00000	-12.75000	18.69000	-0.014044	18.317	-300.94E-6	-0.15815	1.5725E-6
	96.00000	-12.50000	18.69000	-0.018795	18.317	-338.13E-6	-0.16868	1.6767E-6
	94.00000	-12.25000	18.69000	-0.023575	18.317	-377.57E-6	-0.17923	1.7810E-6
	92.00000	-12.00000	18.69000	-0.028282	18.317	-418.46E-6	-0.18960	1.8835E-6
High Holborn House 2_6	92.00000	-12.00000	18.69000	-0.028282	18.317	-418.46E-6	-0.18960	1.8835E-6
	92.00000	-10.00000	18.69000	-0.042076	18.317	-544.16E-6	-0.21993	2.1830E-6
	92.00000	-8.00000	18.69000	-0.059006	18.317	-718.69E-6	-0.25717	2.5502E-6
	92.00000	-6.00000	18.69000	-0.079880	18.317	-965.91E-6	-0.30341	3.0051E-6
	92.00000	-4.00000	18.69000	-0.10577	18.317	-0.0013240	-0.36154	3.5757E-6
	92.00000	-2.00000	18.69000	-0.13811	18.317	-0.0018560	-0.43565	4.3008E-6
	92.00000	0.00000	18.69000	-0.17884	18.317	-0.0026691	-0.53162	5.2361E-6
	92.00000	2.00000	18.69000	-0.23059	18.317	-0.0039525	-0.65804	6.4618E-6
	92.00000	4.00000	18.69000	-0.29699	18.317	-0.0060526	-0.82774	8.0958E-6
	92.00000	6.00000	18.69000	-0.38298	18.317	-0.0096267	-1.0602	10.313E-6
High Holborn House 2_7	92.00000	6.00000	18.69000	-0.38298	18.317	-0.0096267	-1.0602	10.313E-6
	91.82000	8.08000	18.69000	-0.50702	18.317	-0.016831	-1.4215	13.710E-6
	91.64000	10.16000	18.69000	-0.67664	18.317	-0.031362	-1.9642	18.701E-6
	91.46000	12.24000	18.69000	-0.91060	18.317	-0.062120	-2.8006	26.143E-6
	91.28000	14.32000	18.69000	-1.2317	18.317	-0.12679	-4.0937	37.133E-6
	91.10000	16.40000	18.69000	-1.6612	18.317	-0.24886	-6.0212	52.746E-6
High Holborn House 2_8	91.10000	16.40000	18.69000	-1.6612	18.317	-0.24886	-6.0212	52.746E-6
	90.95714	18.34286	18.69000	-2.1751	18.317	-0.44551	-8.5795	72.430E-6
	90.81429	20.28571	18.69000	-2.8847	18.317	-1.0212	-12.969	99.053E-6
	90.67143	22.22857	18.69000	-4.0735	18.317	-5.0487	-24.315	91.684E-6
	90.52857	24.17143	18.69000	-6.0797	18.317	-25.368	-51.357	-247.47E-6
	90.38571	26.11429	18.69000	-7.4713	18.317	-33.459	-67.285	-330.92E-6
	90.24286	28.05714	18.69000	-8.1522	18.317	-34.579	-72.447	-312.90E-6
	90.10000	30.00000	18.69000	-8.5145	18.317	-34.957	-74.595	-302.76E-6
	89.95714	31.94286	18.69000	-8.7104	18.317	-35.215	-75.705	-299.40E-6
	89.81429	33.88571	18.69000	-8.7970	18.317	-35.460	-76.369	-300.12E-6
	89.67143	35.82857	18.69000	-8.7890	18.317	-35.799	-76.868	-305.31E-6
	89.52857	37.77143	18.69000	-8.6537	18.317	-36.556	-77.269	-324.00E-6
	89.38571	39.71429	18.69000	-8.1983	18.317	-36.659	-75.093	-348.85E-6
	89.24286	41.65714	18.69000	-7.1094	18.317	-33.684	-65.433	-356.20E-6
	89.10000	43.60000	18.69000	-4.9736	18.317	-15.122	-38.197	-71.683E-6
High Holborn House 2_9	89.10000	43.60000	18.69000	-4.9736	18.317	-15.122	-38.197	-71.683E-6
	91.40000	43.80000	18.69000	-2.8457	18.317	-1.5125	-13.732	91.949E-6
	93.70000	44.00000	18.69000	-1.8057	18.317	-0.28879	-6.5844	57.181E-6
High Holborn House 2_10	93.70000	44.00000	18.69000	-1.8057	18.317	-0.28879	-6.5844	57.181E-6
	93.59375	45.93750	18.69000	-1.4497	18.317	-0.16418	-4.8956	44.031E-6
	93.48750	47.87500	18.69000	-1.1409	18.317	-0.087210	-3.5685	33.069E-6
	93.38125	49.81250	18.69000	-0.89284	18.317	-0.047163	-2.6233	24.818E-6
	93.27500	51.75000	18.69000	-0.69948	18.317	-0.026796	-1.9654	18.850E-6
	93.16875	53.68750	18.69000	-0.54986	18.317	-0.016041	-1.5031	14.550E-6
	93.06250	55.62500	18.69000	-0.43380	18.317	-0.010062	-1.1719	11.417E-6
	92.95625	57.56250	18.69000	-0.34321	18.317	-0.0065672	-0.92956	9.0986E-6
	92.85000	59.50000	18.69000	-0.27196	18.317	-0.0044330	-0.74867	7.3537E-6
	92.74375	61.43750	18.69000	-0.21545	18.317	-0.0030794	-0.61118	6.0194E-6
	92.63750	63.37500	18.69000	-0.17028	18.317	-0.0021925	-0.50498	4.9840E-6
	92.53125	65.31250	18.69000	-0.13389	18.317	-0.0015949	-0.42174	4.1696E-6
	92.42500	67.25000	18.69000	-0.10436	18.317	-0.0011823	-0.35565	3.5210E-6

Oasys

18-21 Hand Court
Excavation
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	92.31875	69.18750	18.69000	-0.080265	18.317	-891.24E-6	-0.30255	2.9987E-6
	92.21250	71.12500	18.69000	-0.060490	18.317	-681.95E-6	-0.25942	2.5737E-6
	92.10625	73.06250	18.69000	-0.044192	18.317	-528.88E-6	-0.22405	2.2247E-6
	92.00000	75.00000	18.69000	-0.030716	18.317	-415.19E-6	-0.19479	1.9355E-6
High Holborn House 3_1	91.10000	16.40000	19.10000	-1.6450	18.625	-0.13965	-4.9845	45.655E-6
	89.20000	16.28889	19.10000	-2.1619	18.625	-0.45624	-8.0668	66.981E-6
	87.30000	16.17778	19.10000	-3.0566	18.625	-3.2643	-17.432	76.388E-6
	85.40000	16.06667	19.10000	-4.6855	18.625	-23.971	-44.686	-272.28E-6
	83.50000	15.95556	19.10000	-5.1482	18.625	-26.646	-50.541	-293.98E-6
	81.60000	15.84444	19.10000	-4.4613	18.625	-14.800	-36.538	-78.621E-6
	79.70000	15.73333	19.10000	-4.0048	18.625	-13.285	-31.563	-82.933E-6
	77.80000	15.62222	19.10000	-3.6141	18.625	-13.024	-29.177	-98.956E-6
	75.90000	15.51111	19.10000	-3.1197	18.625	-12.427	-25.743	-115.38E-6
	74.00000	15.40000	19.10000	-2.2814	18.625	-6.1682	-15.515	-29.900E-6
High Holborn House 3_2	74.00000	15.40000	19.10000	-2.2814	18.625	-6.1682	-15.515	-29.900E-6
	74.21429	13.34286	19.10000	-1.4483	18.625	-0.50772	-5.7419	42.188E-6
	74.42857	11.28571	19.10000	-1.0007	18.625	-0.092202	-2.9863	27.097E-6
	74.64286	9.22857	19.10000	-0.72271	18.625	-0.030420	-1.8767	17.854E-6
	74.85714	7.17143	19.10000	-0.53495	18.625	-0.013375	-1.2918	12.517E-6
	75.07143	5.11429	19.10000	-0.40198	18.625	-0.0068904	-0.93884	9.1817E-6
	75.28571	3.05714	19.10000	-0.30491	18.625	-0.0039230	-0.70839	6.9663E-6
	75.50000	1.00000	19.10000	-0.23246	18.625	-0.0023957	-0.54987	5.4268E-6
High Holborn House 3_3	75.50000	1.00000	19.10000	-0.23246	18.625	-0.0023957	-0.54987	5.4268E-6
	75.25000	-0.83333	19.10000	-0.18012	18.625	-0.0015800	-0.44200	4.3726E-6
	75.00000	-2.66667	19.10000	-0.13943	18.625	-0.0010841	-0.36174	3.5849E-6
	74.75000	-4.50000	19.10000	-0.10736	18.625	-768.20E-6	-0.30052	2.9822E-6
	74.50000	-6.33333	19.10000	-0.081769	18.625	-559.18E-6	-0.25285	2.5117E-6
	74.25000	-8.16667	19.10000	-0.061149	18.625	-416.37E-6	-0.21507	2.1382E-6
	74.00000	-10.00000	19.10000	-0.044402	18.625	-316.13E-6	-0.18467	1.8373E-6
High Holborn House 3_4	74.00000	-10.00000	19.10000	-0.044402	18.625	-316.13E-6	-0.18467	1.8373E-6
	76.00000	-10.22222	19.10000	-0.045740	18.625	-323.54E-6	-0.18706	1.8609E-6
	78.00000	-10.44444	19.10000	-0.046203	18.625	-325.86E-6	-0.18786	1.8689E-6
	80.00000	-10.66667	19.10000	-0.045770	18.625	-322.96E-6	-0.18705	1.8608E-6
	82.00000	-10.88889	19.10000	-0.044462	18.625	-315.05E-6	-0.18465	1.8371E-6
	84.00000	-11.11111	19.10000	-0.042338	18.625	-302.68E-6	-0.18079	1.7988E-6
	86.00000	-11.33333	19.10000	-0.039487	18.625	-286.65E-6	-0.17562	1.7476E-6
	88.00000	-11.55556	19.10000	-0.036024	18.625	-267.88E-6	-0.16935	1.6855E-6
	90.00000	-11.77778	19.10000	-0.032076	18.625	-247.36E-6	-0.16222	1.6148E-6
	92.00000	-12.00000	19.10000	-0.027776	18.625	-226.01E-6	-0.15446	1.5378E-6



No.	Centre of load X	Y	Angle of local x from global X	Width x	Depth y
1	90.25030	16.18269	-97.765	0.66025	1.7365
2	88.55091	15.74806	-97.765	0.66025	5.2096
3	86.85151	15.31343	-97.765	0.66025	8.6826
4	85.15212	14.87880	-97.765	0.66025	12.156
5	83.45272	14.44417	-97.765	0.66025	15.629
6	83.09097	7.06259	-97.765	14.065	16.836
7	83.30468	-5.43927	-97.765	10.651	17.206
8	82.12738	-10.69919	-97.765	0.090075	16.295
9	80.32130	-10.54381	-97.765	0.090075	12.674
10	78.51521	-10.38844	-97.765	0.090075	9.0526
11	76.70913	-10.23306	-97.765	0.090075	5.4316
12	74.90304	-10.07769	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion: First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.00000	-40.00000	20.00000	N/A	100.00000	20.00000	100	160.00000	100	No	N/A
2	Line	Mid City Place_1	N/A	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	N/A	N/A	Yes	Yes
6	Line	Mid City Place_5	N/A	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (-7.7048mm) and the Mindlin method (-10.994mm) occurs at point X = 77.90000m, Y = 27.20000m, level = 21.100mOD, and is 3.2896mm.

Name	Location X [m]	Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
Perimeter	81.65695	29.31520	19.97000	-5.8264	19.508	-12.199	-26.604	-99.917E-6
Perimeter - Mid City Place	32.84589	36.53961	24.00000	-0.064467	23.433	0.0	-217.42E-6	0.0
Perimeter - High Holborn House 1	81.10657	51.26800	20.27000	-0.69278	19.758	-0.067751	-1.0125	8.0925E-6
Perimeter - High Holborn House 2	103.02424	32.09680	18.69000	-0.49264	18.317	-0.057489	-0.84783	6.7536E-6
Perimeter - High Holborn House 3	83.29361	2.34535	19.10000	-0.46104	18.625	-0.018856	-0.62919	5.7262E-6
Upper Foot 1	76.30000	41.75000	23.00000	-3.4756	22.420	-16.115	-26.156	-221.88E-6
Upper Foot 2	84.55000	42.50000	23.00000	-2.5177	22.420	-6.0784	-12.328	-59.070E-6
Upper Foot 3	84.95000	36.50000	23.50000	-4.0663	22.870	-7.1243	-15.476	-58.971E-6
Upper Foot 4	89.45000	29.90000	23.50000	-3.2532	22.870	-9.0484	-16.307	-108.38E-6
Upper Foot 5	84.50000	34.10000	23.50000	-4.8381	22.870	-15.433	-27.617	-186.81E-6
Upper Foot 6	84.80000	30.15000	23.50000	-5.4426	22.870	-24.476	-39.859	-335.69E-6
Upper Foot 7	85.20000	25.60000	23.50000	-4.9800	22.870	-13.774	-25.427	-158.95E-6
Upper Slab 1	81.00000	39.20000	23.00000	-4.2893	22.420	-9.1336	-20.000	-74.003E-6
Upper Slab 2	86.00000	29.65000	23.50000	-4.6490	22.870	-10.582	-25.044	-67.014E-6
Upper Slab 3	84.50000	19.65000	23.50000	-4.6256	22.870	-8.8175	-16.020	-104.33E-6
Lower Foot 1	73.90000	27.30000	21.10000	-6.6498	20.450	-33.629	-56.747	-441.40E-6
Lower Foot 2	73.50000	35.70000	21.10000	-7.7237	20.450	-81.263	-103.81	-0.0013998
Lower Foot 3	77.30000	36.00000	21.10000	-8.2256	20.450	-62.006	-94.530	-914.88E-6
Lower Foot 4	81.30000	33.00000	21.10000	-5.8133	20.450	-10.817	-26.887	-55.637E-6
Lower Foot 5	82.20000	23.30000	21.10000	-5.6310	20.450	-10.918	-25.311	-74.420E-6
Lower Foot 6	78.70000	16.35000	21.10000	-4.5325	20.450	-12.398	-25.912	-112.83E-6
Lower Foot 7	74.50000	18.00000	21.10000	-10.237	20.450	-134.06	-185.42	-0.0021676
Lower Foot 8	77.50000	31.50000	21.10000	-7.4980	20.450	-27.954	-55.690	-281.71E-6
Lower Foot 9	77.90000	27.20000	21.10000	-7.7048	20.450	-32.179	-60.554	-359.81E-6
Lower Foot 10	78.20000	22.80000	21.10000	-7.4256	20.450	-30.801	-58.256	-341.48E-6
Lower Foot 11	85.50000	18.20000	19.97000	-3.9580	19.508	-9.3806	-21.135	-70.066E-6
Lower Foot 12	85.70000	21.00000	19.97000	-4.9805	19.508	-23.778	-41.519	-298.15E-6
Lower Foot 13	87.80000	22.80000	19.97000	-4.3659	19.508	-15.694	-30.263	-168.18E-6
Lower Foot 14	88.30000	19.80000	19.97000	-4.1455	19.508	-11.251	-28.820	-49.330E-6
Lower Slab 1	77.90000	26.20000	21.00000	-7.2691	20.367	-19.777	-47.387	-119.45E-6
Lower Slab 2	88.40000	21.30000	19.97000	-4.4066	19.508	-18.323	-37.461	-175.09E-6
Lower Slab 3	87.65000	17.80000	19.97000	-3.9468	19.508	-17.569	-35.670	-170.38E-6

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Vert Strain [-]
Lower Slab 4	90.05000	17.95000	19.97000	-3.3302	19.508	-18.258	-34.374	-204.02E-6
Mid City Place_1	1.00000	79.00000	24.00000	-0.0011000	23.433	0.0	-34.935E-6	0.0
	2.96774	79.00000	24.00000	-0.0014779	23.433	0.0	-36.802E-6	0.0
	4.93548	79.00000	24.00000	-0.0018961	23.433	0.0	-38.793E-6	0.0
	6.90323	79.00000	24.00000	-0.0023580	23.433	0.0	-40.915E-6	0.0
	8.87097	79.00000	24.00000	-0.0028673	23.433	0.0	-43.179E-6	0.0
	10.83871	79.00000	24.00000	-0.0034278	23.433	0.0	-45.594E-6	0.0
	12.80645	79.00000	24.00000	-0.0040437	23.433	0.0	-48.173E-6	0.0
	14.77419	79.00000	24.00000	-0.0047190	23.433	0.0	-50.925E-6	0.0
	16.74194	79.00000	24.00000	-0.0054583	23.433	0.0	-53.865E-6	0.0
	18.70968	79.00000	24.00000	-0.0062661	23.433	0.0	-57.004E-6	0.0
	20.67742	79.00000	24.00000	-0.0071469	23.433	0.0	-60.358E-6	0.0
	22.64516	79.00000	24.00000	-0.0081055	23.433	0.0	-63.939E-6	0.0
	24.61290	79.00000	24.00000	-0.0091464	23.433	0.0	-67.764E-6	0.0
	26.58065	79.00000	24.00000	-0.010274	23.433	0.0	-71.848E-6	0.0
	28.54839	79.00000	24.00000	-0.011493	23.433	0.0	-76.206E-6	0.0
	30.51613	79.00000	24.00000	-0.012807	23.433	0.0	-80.855E-6	0.0
	32.48387	79.00000	24.00000	-0.014220	23.433	0.0	-85.811E-6	0.0
	34.45161	79.00000	24.00000	-0.015734	23.433	0.0	-91.089E-6	0.0
	36.41935	79.00000	24.00000	-0.017351	23.433	0.0	-96.704E-6	0.0
	38.38710	79.00000	24.00000	-0.019073	23.433	0.0	-102.67E-6	0.0
	40.35484	79.00000	24.00000	-0.020899	23.433	0.0	-109.00E-6	0.0
	42.32258	79.00000	24.00000	-0.022826	23.433	0.0	-115.70E-6	0.0
	44.29032	79.00000	24.00000	-0.024851	23.433	0.0	-122.78E-6	0.0
	46.25806	79.00000	24.00000	-0.026968	23.433	0.0	-130.23E-6	0.0
	48.22581	79.00000	24.00000	-0.029167	23.433	0.0	-138.06E-6	0.0
	50.19355	79.00000	24.00000	-0.031438	23.433	0.0	-146.26E-6	0.0
	52.16129	79.00000	24.00000	-0.033764	23.433	0.0	-154.79E-6	0.0
	54.12903	79.00000	24.00000	-0.036129	23.433	0.0	-163.64E-6	0.0
	56.09677	79.00000	24.00000	-0.038510	23.433	0.0	-172.77E-6	0.0
	58.06452	79.00000	24.00000	-0.040883	23.433	0.0	-182.11E-6	0.0
	60.03226	79.00000	24.00000	-0.043217	23.433	0.0	-191.61E-6	0.0
	62.00000	79.00000	24.00000	-0.045483	23.433	0.0	-201.19E-6	0.0
Mid City Place_2	62.00000	79.00000	24.00000	-0.045483	23.433	0.0	-201.19E-6	0.0
	62.00000	77.02703	24.00000	-0.051958	23.433	0.0	-222.21E-6	0.0
	62.00000	75.05405	24.00000	-0.059363	23.433	0.0	-246.05E-6	0.0
	62.00000	73.08108	24.00000	-0.067845	23.433	0.0	-273.16E-6	0.0
	62.00000	71.10811	24.00000	-0.077582	23.433	0.0	-304.06E-6	0.0
	62.00000	69.13514	24.00000	-0.088782	23.433	0.0	-339.35E-6	0.0
	62.00000	67.16216	24.00000	-0.10169	23.433	0.0	-379.73E-6	0.0
	62.00000	65.18919	24.00000	-0.11661	23.433	0.0	-426.00E-6	0.0
	62.00000	63.21622	24.00000	-0.13389	23.433	0.0	-479.08E-6	0.0
	62.00000	61.24324	24.00000	-0.15393	23.433	0.0	-540.00E-6	0.0
	62.00000	59.27027	24.00000	-0.17722	23.433	0.0	-609.88E-6	0.0
	62.00000	57.29730	24.00000	-0.20431	23.433	0.0	-689.90E-6	0.0
	62.00000	55.32432	24.00000	-0.23580	23.433	0.0	-781.27E-6	0.0
	62.00000	53.35135	24.00000	-0.27234	23.433	0.0	-885.08E-6	0.0
	62.00000	51.37838	24.00000	-0.31452	23.433	0.0	-0.0010022	0.0
	62.00000	49.40541	24.00000	-0.36278	23.433	0.0	-0.0011329	0.0
	62.00000	47.43243	24.00000	-0.41723	23.433	0.0	-0.0012768	0.0
	62.00000	45.45946	24.00000	-0.47739	23.433	0.0	-0.0014323	0.0
	62.00000	43.48649	24.00000	-0.54194	23.433	0.0	-0.0015963	0.0
	62.00000	41.51351	24.00000	-0.60862	23.433	0.0	-0.0017640	0.0
	62.00000	39.54054	24.00000	-0.67425	23.433	0.0	-0.0019288	0.0
	62.00000	37.56757	24.00000	-0.73514	23.433	0.0	-0.0020829	0.0
	62.00000	35.59459	24.00000	-0.78761	23.433	0.0	-0.0022176	0.0
	62.00000	33.62162	24.00000	-0.82883	23.433	0.0	-0.0023247	0.0
	62.00000	31.64865	24.00000	-0.85732	23.433	0.0	-0.0023974	0.0
	62.00000	29.67568	24.00000	-0.87290	23.433	0.0	-0.0024314	0.0
	62.00000	27.70270	24.00000	-0.87614	23.433	0.0	-0.0024250	0.0
	62.00000	25.72973	24.00000	-0.86767	23.433	0.0	-0.0023794	0.0
	62.00000	23.75676	24.00000	-0.84782	23.433	0.0	-0.0022983	0.0
	62.00000	21.78378	24.00000	-0.81656	23.433	0.0	-0.0021873	0.0
	62.00000	19.81081	24.00000	-0.77383	23.433	0.0	-0.0020531	0.0
	62.00000	17.83784	24.00000	-0.72029	23.433	0.0	-0.0019030	0.0
	62.00000	15.86486	24.00000	-0.65805	23.433	0.0	-0.0017441	0.0
	62.00000	13.89189	24.00000	-0.59074	23.433	0.0	-0.0015830	0.0
	62.00000	11.91892	24.00000	-0.52258	23.433	0.0	-0.0014250	0.0
	62.00000	9.94595	24.00000	-0.45728	23.433	0.0	-0.0012743	0.0
	62.00000	7.97297	24.00000	-0.39729	23.433	0.0	-0.0011339	0.0
	62.00000	6.00000	24.00000	-0.34379	23.433	0.0	-0.0010053	0.0
Mid City Place_3	62.00000	6.00000	24.00000	-0.34379	23.433	0.0	-0.0010053	0.0
	63.80000	6.00000	24.00000	-0.38933	23.433	0.0	-0.0011482	0.0
	65.60000	6.00000	24.00000	-0.43968	23.433	0.0	-0.0013148	0.0
	67.40000	6.00000	24.00000	-0.49397	23.433	0.0	-0.0015092	0.0
	69.20000	6.00000	24.00000	-0.55029	23.433	0.0	-0.0017352	0.0
	71.00000	6.00000	24.00000	-0.60541	23.433	0.0	-0.0019968	0.0
Mid City Place_4	71.00000	6.00000	24.00000	-0.60541	23.433	0.0	-0.0019968	0.0
	71.00000	4.12500	24.00000	-0.49096	23.433	0.0	-0.0016647	0.0
	71.00000	2.25000	24.00000	-0.40348	23.433	0.0	-0.0013952	0.0
	71.00000	0.37500	24.00000	-0.33529	23.433	0.0	-0.0011763	0.0
	71.00000	-1.50000	24.00000	-0.28122	23.433	0.0	-998.14E-6	0.0
	71.00000	-3.37500	24.00000	-0.23773	23.433	0.0	-852.41E-6	0.0
	71.00000	-5.25000	24.00000	-0.20229	23.433	0.0	-732.55E-6	0.0
	71.00000	-7.12500	24.00000	-0.17310	23.433	0.0	-633.38E-6	0.0
	71.00000	-9.00000	24.00000	-0.14882	23.433	0.0	-550.80E-6	0.0
Mid City Place_5	71.00000	-9.00000	24.00000	-0.14882	23.433	0.0	-550.80E-6	0.0
	69.00000	-8.74286	24.00000	-0.14545	23.433	0.0	-526.01E-6	0.0
	67.00000	-8.48571	24.00000	-0.14089	23.433	0.0	-499.16E-6	0.0
	65.00000	-8.22857	24.00000	-0.13532	23.433	0.0	-471.05E-6	0.0
	63.00000	-7.97143	24.00000	-0.12893	23.433	0.0	-442.41E-6	0.0
	61.00000	-7.71429	24.00000	-0.12195	23.433	0.0	-413.84E-6	0.0
	59.00000	-7.45714	24.00000	-0.11457	23.433	0.0	-385.82E-6	0.0
	57.00000	-7.20000	24.00000	-0.10699	23.433	0.0	-358.72E-6	0.0
	55.00000	-6.94286	24.00000	-0.099375	23.433	0.0	-332.79E-6	0.0
	53.00000	-6.68571	24.00000	-0.091856	23.433	0.0	-308.23E-6	0.0
	51.00000	-6.42857	24.00000	-0.084543	23.433	0.0	-285.13E-6	0.0
	49.00000	-6.17143	24.00000	-0.077513	23.433	0.0	-263.53E-6	0.0
	47.00000	-5.91429	24.00000	-0.070825	23.433	0.0	-243.43E-6	0.0
	45.00000	-5.65714	24.00000	-0.064512	23.433	0.0	-224.82E-6	0.0
	43.00000	-5.40000	24.00000	-0.058597	23.433	0.0	-207.62E-6	0.0
	41.00000	-5.14286	24.00000	-0.053085	23.433	0.0	-191.78E-6	0.0
	39.00000	-4.88571	24.00000	-0.047975	23.433	0.0	-177.21E-6	0.0
	37.00000	-4.62857	24.00000	-0.043257	23.433	0.0	-163.83E-6	0.0
	35.00000	-4.37143	24.00000	-0.038917	23.433	0.0	-151.56E-6	0.0
	33.00000	-4.11429	24.00000	-0.034937	23.433	0.0	-140.31E-6	0.0
	31.00000	-3.85714	24.00000	-0.031297	23.433	0.0	-130.00E-6	0.0
	29.00000	-3.60000	24.00000	-0.027976	23.433	0.0	-120.55E-6	0.0
	27.00000	-3.34286	24.00000	-0.024952	23.433	0.0	-111.89E-6	0.0
	25.00000	-3.08571	24.00000	-0.022204	23.433	0.0	-103.95E-6	0.0
	23.00000	-2.82857	24.00000	-0.019712	23.433	0.0	-96.676E-6	0.0
	21.00000	-2.57143	24.00000	-0.017454	23.433	0.0	-89.999E-6	0.0
	19.00000	-2.31429	24.00000	-0.015411	23.433	0.0	-83.870E-6	0.0
	17.00000	-2.05714	24.00000	-0.013566	23.433	0.0	-78.239E-6	0.0
	15.00000	-1.80000	24.00000	-0.011902	23.433	0.0	-73.062E-6	0.0
	13.00000	-1.54286	24.00000	-0.010402	23.433	0.0	-68.298E-6	0.0
	11.00000	-1.28571	24.00000	-0.0090515	23.433	0.0	-63.911E-6	0.0
	9.00000	-1.02857	24.00000	-0.0078373	23.433	0.0	-59.867E-6	0.0
	7.00000	-0.77143	24.00000	-0.0067465	23.433	0.0	-56.136E-6	0.0
	5.00000	-0.51429	24.00000	-0.0057677	23.433	0.0	-52.690E-6	0.0
	3.00000	-0.25714	24.00000	-0.0048903	23.433	0.0	-49.505E-6	0.0
	1.00000	0.00000	24.00000	-0.0041046	23.433	0.0	-46.557E-6	0.0
Mid City Place_6	1.00000	0.00000	24.00000	-0.0041046	23.433	0.0	-46.557E-6	0.0
	1.00000	1.97500	24.00000	-0.0043667	23.433	0.0	-47.517E-6	0.0
	1.00000	3.95000	24.00000	-0.0046210	23.433	0.0	-48.438E-6	0.0
	1.00000	5.92500	24.00000	-0.0048655	23.433	0.0	-49.315E-6	0.0
	1.00000	7.90000	24.00000	-0.0050980	23.433	0.0	-50.143E-6	0.0
	1.00000	9.87500	24.00000	-0.0053165	23.433	0.0	-50.915E-6	0.0
	1.00000	11.85000	24.00000	-0.0055190	23.433	0.0	-51.628E-6	0.0
	1.00000	13.82500	24.00000	-0.0057036	23.433	0.0	-52.275E-6	0.0
	1.00000	15.80000	24.00000	-0.0058684	23.433	0.0	-52.853E-6	0.0
	1.00000	17.77500	24.00000	-0.0060118	23.433	0.0	-53.358E-6	0.0
	1.00000	19.75000	24.00000	-0.0061324	23.433	0.0	-53.785E-6	0.0
	1.00000	21.72500	24.00000	-0.0062288	23.433	0.0	-54.131E-6	0.0
	1.00000	23.70000	24.00000	-0.0063001	23.433	0.0	-54.394E-6	0.0

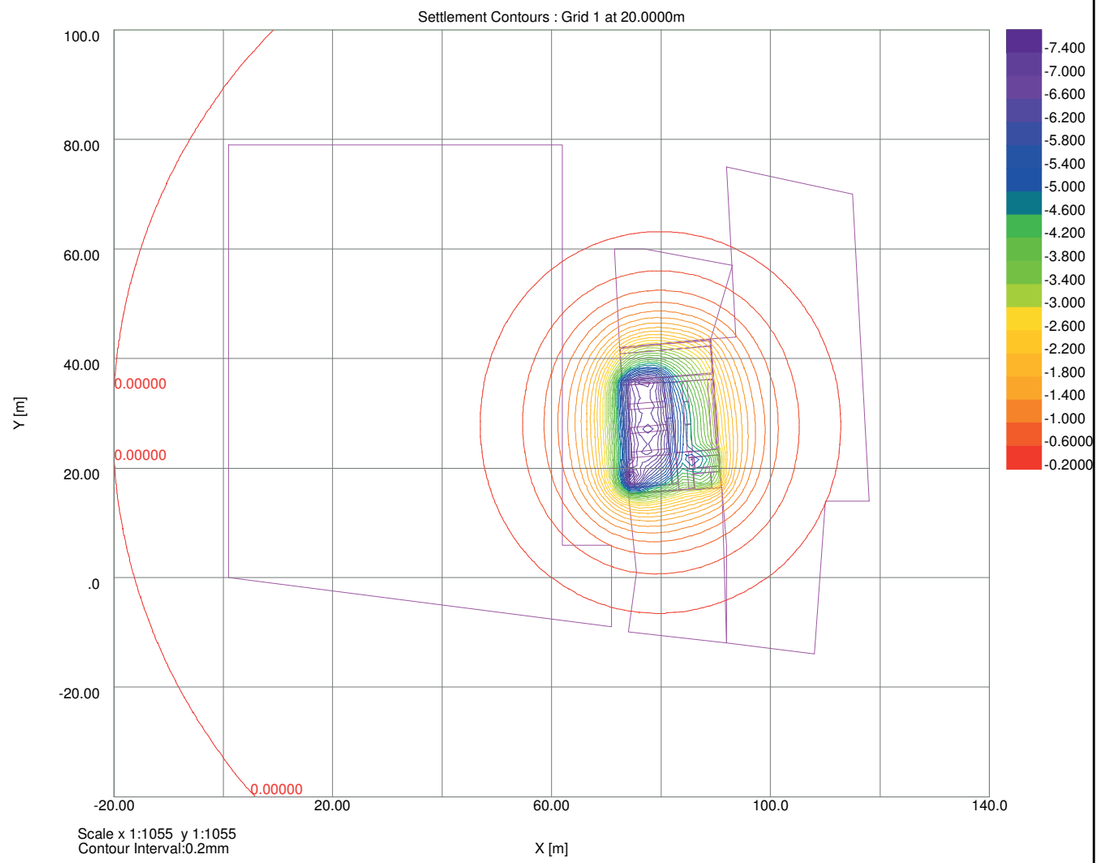
Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Vert Strain [-]
	1.00000	25.67500	24.00000	-0.0063455	23.433	0.0	-54.572E-6	0.0
	1.00000	27.65000	24.00000	-0.0063646	23.433	0.0	-54.663E-6	0.0
	1.00000	29.62500	24.00000	-0.0063570	23.433	0.0	-54.666E-6	0.0
	1.00000	31.60000	24.00000	-0.0063230	23.433	0.0	-54.582E-6	0.0
	1.00000	33.57500	24.00000	-0.0062628	23.433	0.0	-54.411E-6	0.0
	1.00000	35.55000	24.00000	-0.0061772	23.433	0.0	-54.155E-6	0.0
	1.00000	37.52500	24.00000	-0.0060671	23.433	0.0	-53.815E-6	0.0
	1.00000	39.50000	24.00000	-0.0059335	23.433	0.0	-53.394E-6	0.0
	1.00000	41.47500	24.00000	-0.0057780	23.433	0.0	-52.895E-6	0.0
	1.00000	43.45000	24.00000	-0.0056020	23.433	0.0	-52.322E-6	0.0
	1.00000	45.42500	24.00000	-0.0054074	23.433	0.0	-51.680E-6	0.0
	1.00000	47.40000	24.00000	-0.0051960	23.433	0.0	-50.972E-6	0.0
	1.00000	49.37500	24.00000	-0.0049697	23.433	0.0	-50.203E-6	0.0
	1.00000	51.35000	24.00000	-0.0047306	23.433	0.0	-49.379E-6	0.0
	1.00000	53.32500	24.00000	-0.0044809	23.433	0.0	-48.505E-6	0.0
	1.00000	55.30000	24.00000	-0.0042224	23.433	0.0	-47.587E-6	0.0
	1.00000	57.27500	24.00000	-0.0039574	23.433	0.0	-46.629E-6	0.0
	1.00000	59.25000	24.00000	-0.0036878	23.433	0.0	-45.637E-6	0.0
	1.00000	61.22500	24.00000	-0.0034155	23.433	0.0	-44.617E-6	0.0
	1.00000	63.20000	24.00000	-0.0031423	23.433	0.0	-43.574E-6	0.0
	1.00000	65.17500	24.00000	-0.0028699	23.433	0.0	-42.512E-6	0.0
	1.00000	67.15000	24.00000	-0.0025999	23.433	0.0	-41.437E-6	0.0
	1.00000	69.12500	24.00000	-0.0023338	23.433	0.0	-40.353E-6	0.0
	1.00000	71.10000	24.00000	-0.0020727	23.433	0.0	-39.264E-6	0.0
	1.00000	73.07500	24.00000	-0.0018178	23.433	0.0	-38.174E-6	0.0
	1.00000	75.05000	24.00000	-0.0015702	23.433	0.0	-37.087E-6	0.0
	1.00000	77.02500	24.00000	-0.0013307	23.433	0.0	-36.006E-6	0.0
	1.00000	79.00000	24.00000	-0.0011000	23.433	0.0	-34.935E-6	0.0
High Holborn House 1_1	93.00000	57.00000	20.27000	-0.26276	19.758	-0.0064333	-0.27519	2.5589E-6
	91.00000	57.37500	20.27000	-0.27584	19.758	-0.0070848	-0.29185	2.7060E-6
	89.00000	57.75000	20.27000	-0.28582	19.758	-0.0075240	-0.30401	2.8144E-6
	87.00000	58.12500	20.27000	-0.29208	19.758	-0.0077012	-0.31070	2.8760E-6
	85.00000	58.50000	20.27000	-0.29422	19.758	-0.0076067	-0.31144	2.8862E-6
	83.00000	58.87500	20.27000	-0.29213	19.758	-0.0072660	-0.30628	2.8449E-6
	81.00000	59.25000	20.27000	-0.28597	19.758	-0.0067263	-0.29574	2.7556E-6
	79.00000	59.62500	20.27000	-0.27615	19.758	-0.0060460	-0.28068	2.6255E-6
	77.00000	60.00000	20.27000	-0.26328	19.758	-0.0052870	-0.26222	2.4636E-6
High Holborn House 1_2	77.00000	60.00000	20.27000	-0.26328	19.758	-0.0052870	-0.26222	2.4636E-6
	75.16667	60.00000	20.27000	-0.25749	19.758	-0.0049166	-0.25314	2.3839E-6
	73.33333	60.00000	20.27000	-0.24922	19.758	-0.0044630	-0.24120	2.2782E-6
	71.50000	60.00000	20.27000	-0.23886	19.758	-0.0039597	-0.22709	2.1521E-6
High Holborn House 1_3	71.50000	60.00000	20.27000	-0.23886	19.758	-0.0039597	-0.22709	2.1521E-6
	71.61111	58.01111	20.27000	-0.28688	19.758	-0.0060322	-0.28507	2.6698E-6
	71.72222	56.02222	20.27000	-0.34786	19.758	-0.0096082	-0.36527	3.3645E-6
	71.83333	54.03333	20.27000	-0.42666	19.758	-0.016187	-0.47985	4.3129E-6
	71.94444	52.04444	20.27000	-0.53056	19.758	-0.029320	-0.65028	5.6232E-6
	72.05556	50.05556	20.27000	-0.67076	19.758	-0.058454	-0.91714	7.4178E-6
	72.16667	48.06667	20.27000	-0.86502	19.758	-0.13254	-1.3632	9.6553E-6
	72.27778	46.07778	20.27000	-1.1417	19.758	-0.35485	-2.1691	11.045E-6
	72.38889	44.08889	20.27000	-1.5438	19.758	-1.1086	-3.7091	3.8320E-6
	72.50000	42.10000	20.27000	-2.1037	19.758	-2.9988	-6.2672	-27.293E-6
High Holborn House 1_4	72.50000	42.10000	20.27000	-2.1037	19.758	-2.9988	-6.2672	-27.293E-6
	74.57500	42.28750	20.27000	-2.5096	19.758	-4.9870	-8.6836	-62.773E-6
	76.65000	42.47500	20.27000	-2.7078	19.758	-5.5516	-9.7350	-69.198E-6
	78.72500	42.66250	20.27000	-2.7030	19.758	-5.2800	-9.6349	-62.052E-6
	80.80000	42.85000	20.27000	-2.5432	19.758	-4.3333	-8.7504	-42.496E-6
	82.87500	43.03750	20.27000	-2.3261	19.758	-3.7541	-7.8607	-34.017E-6
	84.95000	43.22500	20.27000	-2.0811	19.758	-3.4801	-7.0411	-33.993E-6
	87.02500	43.41250	20.27000	-1.7869	19.758	-2.9562	-5.8817	-29.868E-6
	89.10000	43.60000	20.27000	-1.4359	19.758	-1.7236	-4.1450	-10.259E-6
High Holborn House 2_1	92.00000	75.00000	18.69000	-0.069460	18.317	-0.0012500	-0.10031	0.0
	93.91667	74.58333	18.69000	-0.068696	18.317	-0.0012344	-0.099375	0.0
	95.83333	74.16667	18.69000	-0.067530	18.317	-0.0012062	-0.097891	0.0
	97.75000	73.75000	18.69000	-0.065992	18.317	-0.0011666	-0.095899	0.0
	99.66667	73.33333	18.69000	-0.064120	18.317	-0.0011172	-0.093453	0.0
	101.58333	72.91667	18.69000	-0.061956	18.317	-0.0010599	-0.090617	0.0
	103.50000	72.50000	18.69000	-0.059547	18.317	-996.90E-6	-0.087459	0.0
	105.41667	72.08333	18.69000	-0.056942	18.317	-930.13E-6	-0.084051	0.0
	107.33333	71.66667	18.69000	-0.054189	18.317	-861.53E-6	-0.080461	0.0
	109.25000	71.25000	18.69000	-0.051333	18.317	-792.79E-6	-0.076754	0.0
	111.16667	70.83333	18.69000	-0.048417	18.317	-725.33E-6	-0.072989	0.0
	113.08333	70.41667	18.69000	-0.045481	18.317	-660.27E-6	-0.069219	0.0
	115.00000	70.00000	18.69000	-0.042557	18.317	-598.44E-6	-0.065486	0.0
High Holborn House 2_2	115.00000	70.00000	18.69000	-0.042557	18.317	-598.44E-6	-0.065486	0.0
	115.10714	68.00000	18.69000	-0.047043	18.317	-693.27E-6	-0.071159	0.0
	115.21429	66.00000	18.69000	-0.051870	18.317	-802.92E-6	-0.077308	0.0
	115.32143	64.00000	18.69000	-0.057037	18.317	-929.08E-6	-0.083947	0.0
	115.42857	62.00000	18.69000	-0.062538	18.317	-0.0010733	-0.091075	0.0
	115.53571	60.00000	18.69000	-0.068354	18.317	-0.0012370	-0.098682	0.0
	115.64286	58.00000	18.69000	-0.074456	18.317	-0.0014208	-0.10674	1.0247E-6
	115.75000	56.00000	18.69000	-0.080802	18.317	-0.0016248	-0.11518	1.1031E-6
	115.85714	54.00000	18.69000	-0.087334	18.317	-0.0018479	-0.12395	1.1841E-6
	115.96429	52.00000	18.69000	-0.093978	18.317	-0.0020876	-0.13292	1.2666E-6
	116.07143	50.00000	18.69000	-0.10064	18.317	-0.0023398	-0.14197	1.3495E-6
	116.17857	48.00000	18.69000	-0.10722	18.317	-0.0025987	-0.15092	1.4312E-6
	116.28571	46.00000	18.69000	-0.11360	18.317	-0.0028568	-0.15958	1.5101E-6
	116.39286	44.00000	18.69000	-0.11964	18.317	-0.0031053	-0.16775	1.5844E-6
	116.50000	42.00000	18.69000	-0.12522	18.317	-0.0033342	-0.17521	1.6521E-6
	116.60714	40.00000	18.69000	-0.13020	18.317	-0.0035335	-0.18175	1.7115E-6
	116.71429	38.00000	18.69000	-0.13446	18.317	-0.0036938	-0.18716	1.7608E-6
	116.82143	36.00000	18.69000	-0.13788	18.317	-0.0038069	-0.19128	1.7986E-6
	116.92857	34.00000	18.69000	-0.14037	18.317	-0.0038667	-0.19397	1.8237E-6
	117.03571	32.00000	18.69000	-0.14185	18.317	-0.0038702	-0.19514	1.8353E-6
	117.14286	30.00000	18.69000	-0.14229	18.317	-0.0038169	-0.19476	1.8331E-6
	117.25000	28.00000	18.69000	-0.14166	18.317	-0.0037100	-0.19283	1.8170E-6
	117.35714	26.00000	18.69000	-0.13998	18.317	-0.0035551	-0.18944	1.7877E-6
	117.46429	24.00000	18.69000	-0.13730	18.317	-0.0033602	-0.18469	1.7461E-6
	117.57143	22.00000	18.69000	-0.13369	18.317	-0.0031351	-0.17874	1.6933E-6
	117.67857	20.00000	18.69000	-0.12925	18.317	-0.0028896	-0.17177	1.6310E-6
	117.78571	18.00000	18.69000	-0.12410	18.317	-0.0026338	-0.16400	1.5610E-6
	117.89286	16.00000	18.69000	-0.11837	18.317	-0.0023766	-0.15563	1.4850E-6
	118.00000	14.00000	18.69000	-0.11219	18.317	-0.0021253	-0.14689	1.4051E-6
High Holborn House 2_3	118.00000	14.00000	18.69000	-0.11219	18.317	-0.0021253	-0.14689	1.4051E-6
	116.00000	14.00000	18.69000	-0.12983	18.317	-0.0027333	-0.17004	1.6184E-6
	114.00000	14.00000	18.69000	-0.15069	18.317	-0.0035582	-0.19825	1.8757E-6
	112.00000	14.00000	18.69000	-0.17553	18.317	-0.0046941	-0.23296	2.1888E-6
	110.00000	14.00000	18.69000	-0.20531	18.317	-0.0062846	-0.27616	2.5731E-6
High Holborn House 2_4	110.00000	14.00000	18.69000	-0.20531	18.317	-0.0062846	-0.27616	2.5731E-6
	109.85714	12.00000	18.69000	-0.19369	18.317	-0.0054782	-0.25763	2.4120E-6
	109.71429	10.00000	18.69000	-0.18127	18.317	-0.0047208	-0.23853	2.2437E-6
	109.57143	8.00000	18.69000	-0.16842	18.317	-0.0040298	-0.21944	2.0735E-6
	109.42857	6.00000	18.69000	-0.15548	18.317	-0.0034141	-0.20082	1.9057E-6
	109.28571	4.00000	18.69000	-0.14275	18.317	-0.0028759	-0.18302	1.7439E-6
	109.14286	2.00000	18.69000	-0.13043	18.317	-0.0024128	-0.16628	1.5904E-6
	109.00000	0.00000	18.69000	-0.11869	18.317	-0.0020191	-0.15074	1.4468E-6
	108.85714	-2.00000	18.69000	-0.10763	18.317	-0.0016874	-0.13647	1.3141E-6
	108.71429	-4.00000	18.69000	-0.097305	18.317	-0.0014099	-0.12346	1.1923E-6
	108.57143	-6.00000	18.69000	-0.087743	18.317	-0.0011789	-0.11166	1.0813E-6
	108.42857	-8.00000	18.69000	-0.078940	18.317	-987.04E-6	-0.10103	0.0
	108.28571	-10.00000	18.69000	-0.070877	18.317	-828.03E-6	-0.091459	0.0
	108.14286	-12.00000	18.69000	-0.063521	18.317	-696.30E-6	-0.082875	0.0
	108.00000	-14.00000	18.69000	-0.056832	18.317	-587.11E-6	-0.075182	0.0
High Holborn House 2_5	108.00000	-14.00000	18.69000	-0.056832	18.317	-587.11E-6	-0.075182	0.0
	106.00000	-13.75000	18.69000	-0.062545	18.317	-669.96E-6	-0.081562	0.0
	104.00000	-13.50000	18.69000	-0.068634	18.317	-763.27E-6	-0.088421	0.0
	102.00000	-13.25000	18.69000	-0.075077	18.317	-867.58E-6	-0.095751	0.0
	100.00000	-13.00000	18.69000	-0.081841	18.317	-983.09E-6	-0.10353	1.0058E-6
	98.00000	-12.75000	18.69000	-0.088871	18.317	-0.0011095	-0.11171	1.0838E-6
	96.00000	-12.50000	18.69000	-0.096097	18.317	-0.0012460	-0.12022	1.1648E-6
	94.00000	-12.25000	18.69000	-0.10342	18.317	-0.0013909	-0.12896	1.2479E-6
	92.00000	-12.00000	18.69000	-0.11074	18.317	-0.0015413	-0.13779	1.3317E-6
High Holborn	92.00000	-12.00000	18.69000	-0.11074	18.317	-0.0015413	-0.13779	1.3317E-6

Name	X [m]	Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
House 2_6								
	92.00000	-10.00000	18.69000	-0.12841	18.317	-0.0019948	-0.16002	1.5403E-6
	92.00000	-8.00000	18.69000	-0.14933	18.317	-0.0026190	-0.18724	1.7938E-6
	92.00000	-6.00000	18.69000	-0.17428	18.317	-0.0034937	-0.22090	2.1042E-6
	92.00000	-4.00000	18.69000	-0.20421	18.317	-0.0047445	-0.26302	2.4879E-6
	92.00000	-2.00000	18.69000	-0.24043	18.317	-0.0065743	-0.31639	2.9666E-6
	92.00000	0.00000	18.69000	-0.28462	18.317	-0.0093204	-0.38497	3.5700E-6
	92.00000	2.00000	18.69000	-0.33909	18.317	-0.013563	-0.47459	4.3390E-6
	92.00000	4.00000	18.69000	-0.40700	18.317	-0.020339	-0.59410	5.3308E-6
	92.00000	6.00000	18.69000	-0.49285	18.317	-0.031583	-0.75763	6.6289E-6
High Holborn House 2_7	92.00000	6.00000	18.69000	-0.49285	18.317	-0.031583	-0.75763	6.6289E-6
	91.82000	8.08000	18.69000	-0.61547	18.317	-0.053570	-1.0161	8.5539E-6
	91.64000	10.16000	18.69000	-0.78351	18.317	-0.097681	-1.4241	11.310E-6
	91.46000	12.24000	18.69000	-1.0258	18.317	-0.20246	-2.1523	15.449E-6
	91.28000	14.32000	18.69000	-1.4052	18.317	-0.60399	-3.8121	20.002E-6
	91.10000	16.40000	18.69000	-2.0492	18.317	-3.8079	-8.8723	-25.513E-6
High Holborn House 2_8	91.10000	16.40000	18.69000	-2.0492	18.317	-3.8079	-8.8723	-25.513E-6
	90.95714	18.34286	18.69000	-2.6458	18.317	-7.4438	-13.870	-84.615E-6
	90.81429	20.28571	18.69000	-2.9058	18.317	-6.9354	-14.456	-63.505E-6
	90.67143	22.22857	18.69000	-2.9854	18.317	-7.3882	-14.151	-80.140E-6
	90.52857	24.17143	18.69000	-2.7952	18.317	-4.5013	-10.399	-31.048E-6
	90.38571	26.11429	18.69000	-2.6791	18.317	-3.9199	-8.6211	-31.386E-6
	90.24286	28.05714	18.69000	-2.6550	18.317	-4.2227	-8.4412	-42.270E-6
	90.10000	30.00000	18.69000	-2.6355	18.317	-4.3802	-8.4642	-46.764E-6
	89.95714	31.94286	18.69000	-2.5868	18.317	-4.3760	-8.3876	-47.402E-6
	89.81429	33.88571	18.69000	-2.4993	18.317	-4.2495	-8.1641	-45.844E-6
	89.67143	35.82857	18.69000	-2.3745	18.317	-4.0749	-7.8228	-44.019E-6
	89.52857	37.77143	18.69000	-2.2138	18.317	-3.9362	-7.3770	-44.316E-6
	89.38571	39.71429	18.69000	-2.0036	18.317	-3.6561	-6.6936	-42.748E-6
	89.24286	41.65714	18.69000	-1.7310	18.317	-2.9438	-5.6242	-32.071E-6
	89.10000	43.60000	18.69000	-1.4187	18.317	-1.8708	-4.2826	-13.297E-6
High Holborn House 2_9	89.10000	43.60000	18.69000	-1.4187	18.317	-1.8708	-4.2826	-13.297E-6
	91.40000	43.80000	18.69000	-1.0849	18.317	-0.85902	-2.8766	2.9950E-6
	93.70000	44.00000	18.69000	-0.82614	18.317	-0.36178	-1.9126	8.2721E-6
High Holborn House 2_10	93.70000	44.00000	18.69000	-0.82614	18.317	-0.36178	-1.9126	8.2721E-6
	93.59375	45.93750	18.69000	-0.70255	18.317	-0.23585	-1.5316	8.2407E-6
	93.48750	47.87500	18.69000	-0.59184	18.317	-0.14604	-1.2088	7.7063E-6
	93.38125	49.81250	18.69000	-0.49732	18.317	-0.089833	-0.95353	6.8403E-6
	93.27500	51.75000	18.69000	-0.41855	18.317	-0.056325	-0.75774	5.8876E-6
	93.16875	53.68750	18.69000	-0.35347	18.317	-0.036334	-0.60847	4.9946E-6
	93.06250	55.62500	18.69000	-0.29975	18.317	-0.024141	-0.49408	4.2165E-6
	92.95625	57.56250	18.69000	-0.25527	18.317	-0.016488	-0.40558	3.5611E-6
	92.85000	59.50000	18.69000	-0.21829	18.317	-0.011544	-0.33636	3.0173E-6
	92.74375	61.43750	18.69000	-0.18738	18.317	-0.0082627	-0.28162	2.5683E-6
	92.63750	63.37500	18.69000	-0.16141	18.317	-0.0060313	-0.23787	2.1977E-6
	92.53125	65.31250	18.69000	-0.13946	18.317	-0.0044806	-0.20254	1.8910E-6
	92.42500	67.25000	18.69000	-0.12082	18.317	-0.0033816	-0.17376	1.6361E-6
	92.31875	69.18750	18.69000	-0.10493	18.317	-0.0025888	-0.15009	1.4232E-6
	92.21250	71.12500	18.69000	-0.091303	18.317	-0.0020078	-0.13047	1.2445E-6
	92.10625	73.06250	18.69000	-0.079581	18.317	-0.0015757	-0.11409	1.0936E-6
	92.00000	75.00000	18.69000	-0.069460	18.317	-0.0012500	-0.10031	0.0
High Holborn House 3_1	91.10000	16.40000	19.10000	-2.0547	18.625	-3.6482	-9.0189	-19.257E-6
	89.20000	16.28889	19.10000	-2.6547	18.625	-7.0013	-14.292	-67.116E-6
	87.30000	16.17778	19.10000	-2.9216	18.625	-7.1852	-14.775	-67.803E-6
	85.40000	16.06667	19.10000	-2.9120	18.625	-4.2664	-11.387	-14.118E-6
	83.50000	15.95556	19.10000	-3.0399	18.625	-4.2237	-10.859	-18.117E-6
	81.60000	15.84444	19.10000	-3.3613	18.625	-6.2047	-13.427	-51.874E-6
	79.70000	15.73333	19.10000	-3.6737	18.625	-7.2417	-15.815	-59.102E-6
	77.80000	15.62222	19.10000	-3.9667	18.625	-8.5702	-18.444	-72.663E-6
	75.90000	15.51111	19.10000	-4.2054	18.625	-12.242	-22.052	-146.73E-6
	74.00000	15.40000	19.10000	-3.8121	18.625	-11.112	-19.819	-135.18E-6
High Holborn House 3_2	74.00000	15.40000	19.10000	-3.8121	18.625	-11.112	-19.819	-135.18E-6
	74.21429	13.34286	19.10000	-2.3518	18.625	-2.0289	-8.0855	19.988E-6
	74.42857	11.28571	19.10000	-1.5661	18.625	-0.48334	-3.9072	24.572E-6
	74.64286	9.22857	19.10000	-1.1140	18.625	-0.16464	-2.2354	17.415E-6
	74.85714	7.17143	19.10000	-0.82948	18.625	-0.071748	-1.4289	12.137E-6
	75.07143	5.11429	19.10000	-0.63783	18.625	-0.036658	-0.98269	8.7272E-6
	75.28571	3.05714	19.10000	-0.50223	18.625	-0.020815	-0.71117	6.4872E-6
	75.50000	1.00000	19.10000	-0.40275	18.625	-0.012727	-0.53436	4.9618E-6
High Holborn House 3_3	75.50000	1.00000	19.10000	-0.40275	18.625	-0.012727	-0.53436	4.9618E-6
	75.25000	-0.83333	19.10000	-0.33287	18.625	-0.0084603	-0.42145	3.9607E-6
	75.00000	-2.66667	19.10000	-0.27803	18.625	-0.0058385	-0.33917	3.2165E-6
	74.75000	-4.50000	19.10000	-0.23428	18.625	-0.0041552	-0.27758	2.6511E-6
	74.50000	-6.33333	19.10000	-0.19887	18.625	-0.0030343	-0.23043	2.2133E-6
	74.25000	-8.16667	19.10000	-0.16986	18.625	-0.0022649	-0.19365	1.8685E-6
	74.00000	-10.00000	19.10000	-0.14584	18.625	-0.0017228	-0.16447	1.5930E-6
High Holborn House 3_4	74.00000	-10.00000	19.10000	-0.14584	18.625	-0.0017228	-0.16447	1.5930E-6
	76.00000	-10.22222	19.10000	-0.14616	18.625	-0.0017523	-0.16490	1.5965E-6
	78.00000	-10.44444	19.10000	-0.14517	18.625	-0.0017555	-0.16378	1.5852E-6
	80.00000	-10.66667	19.10000	-0.14291	18.625	-0.0017324	-0.16118	1.5599E-6
	82.00000	-10.88889	19.10000	-0.13950	18.625	-0.0016848	-0.15724	1.5218E-6
	84.00000	-11.11111	19.10000	-0.13505	18.625	-0.0016157	-0.15213	1.4729E-6
	86.00000	-11.33333	19.10000	-0.12973	18.625	-0.0015291	-0.14608	1.4149E-6
	88.00000	-11.55556	19.10000	-0.12371	18.625	-0.0014294	-0.13929	1.3500E-6
	90.00000	-11.77778	19.10000	-0.11717	18.625	-0.0013214	-0.13199	1.2803E-6
	92.00000	-12.00000	19.10000	-0.11029	18.625	-0.0012093	-0.12440	1.2077E-6

Oasys

18-21 Hand Court
Demolition
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked



Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top	Number of intermediate displacement levels	Youngs Modulus Top	Youngs Modulus Btm	Poissons ratio	Non-linear curve
	[mOD]		[kN/m²]	[kN/m²]		
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	20000.	71000.	0.20000	None
3	-5.0000	10	120000.	150000.	0.20000	None
4	-49.000	5	150000.	150000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.00000	140.00000	-40.00000	100.00000	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Low Base 1	Rectangular	Horizontal	77.90000	26.10000	19.97000	3.3000	8.9000	20.800	N/A	N/A	1	-27.600	0.0	0.0
2	Low Base 2	Rectangular	Horizontal	88.25000	19.85000	19.97000	4.0000	5.0000	6.9500	N/A	N/A	1	0.0	0.0	0.0
3	Upper Base 1	Rectangular	Horizontal	80.95000	39.75000	19.97000	4.6000	16.500	5.9000	N/A	N/A	1	-85.200	0.0	0.0
4	Upper Base 2	Rectangular	Horizontal	86.10000	30.20000	19.97000	4.0000	7.7500	14.000	N/A	N/A	1	-76.200	0.0	0.0
5	Upper Base 3	Rectangular	Horizontal	84.25000	19.60000	19.97000	4.0000	3.0500	6.9000	N/A	N/A	1	-76.200	0.0	0.0
6	Perimeter	Polygonal	Horizontal	N/A	N/A	19.97000	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
7	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.00000	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
8	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.27000	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
9	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.69000	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
10	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.10000	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 6 : Perimeter					
(Edge 3 optimal)					
1	88.17709	43.39682	-86.760	0.11303	1.6568
2	86.53126	43.19045	-86.760	0.11303	4.9705
3	84.88544	42.98408	-86.760	0.11303	8.2841
4	83.23961	42.77771	-86.760	0.11303	11.598
5	81.59379	42.57135	-86.760	0.11303	14.911
6	81.63491	29.24349	-86.760	26.505	16.799
Load 7 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.50000	-1.21071	-180.00	9.0000	14.421
2	31.50000	37.53929	-180.00	61.000	82.921
Load 8 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.73798	56.34257	169.38	0.27275	1.3889
2	92.21394	55.02770	169.38	0.27275	4.1668
3	91.68991	53.71283	169.38	0.27275	6.9446
4	91.16587	52.39796	169.38	0.27275	9.7224
5	90.64183	51.08309	169.38	0.27275	12.500
6	82.85577	50.76411	169.38	14.915	15.997
7	74.75493	51.07628	169.38	1.1242	18.158
8	73.91031	51.94500	169.38	0.85633	16.391
9	73.37469	53.73500	169.38	0.85633	12.748
10	72.83906	55.52500	169.38	0.85633	9.1060
11	72.30344	57.31500	169.38	0.85633	5.4636
12	71.76781	59.10500	169.38	0.85633	1.8212
Load 9 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.90179	43.80000	-90.000	0.40000	25.004
2	103.62143	30.00000	-90.000	27.200	27.043
3	104.56978	15.20000	-90.000	2.4000	26.732
4	100.68407	10.00000	-90.000	8.0000	18.060
5	100.39286	-3.00000	-90.000	18.000	16.786
6	100.86429	-12.20000	-90.000	0.40000	14.529
7	102.45000	-12.60000	-90.000	0.40000	11.300
8	104.03571	-13.00000	-90.000	0.40000	8.0714
9	105.62143	-13.40000	-90.000	0.40000	4.8429
10	107.20714	-13.80000	-90.000	0.40000	1.6143
11	92.96976	74.58333	-90.000	0.83333	1.8938
12	94.90927	73.75000	-90.000	0.83333	5.6815
13	96.84879	72.91667	-90.000	0.83333	9.4691
14	98.78831	72.08333	-90.000	0.83333	13.257
15	100.72782	71.25000	-90.000	0.83333	17.044
16	102.66734	70.41667	-90.000	0.83333	20.832
17	104.34176	57.00000	-90.000	26.000	22.709
Load 10 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					
1	90.25030	16.18269	-97.765	0.66025	1.7365
2	88.55091	15.74806	-97.765	0.66025	5.2096
3	86.85151	15.31343	-97.765	0.66025	8.6826
4	85.15212	14.87880	-97.765	0.66025	12.156
5	83.45272	14.44417	-97.765	0.66025	15.629
6	83.09097	7.06259	-97.765	14.065	16.836
7	83.30468	-5.43927	-97.765	10.651	17.206
8	82.12738	-10.69919	-97.765	0.090075	16.295
9	80.32130	-10.54381	-97.765	0.090075	12.674
10	78.51521	-10.38844	-97.765	0.090075	9.0526
11	76.70913	-10.23306	-97.765	0.090075	5.4316
12	74.90304	-10.07769	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.00000	-40.00000	20.00000	N/A	100.00000	20.00000	100	160.00000	100	No	N/A
2	Line	Mid City Place_1	N/A	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	N/A	N/A	Yes	Yes
6	Line	Mid City Place_5	N/A	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	N/A	N/A	Yes	Yes

Oasys
18-21 Hand Court
Excavation
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (-15.391mm) and the Mindlin method (-30.052mm) occurs at point X = 80.80000m, Y = 42.85000m, level = 20.270mOD, and is 14.660mm.

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Low Base 1	77.90000	26.10000	19.97000	-13.844	19.508	-27.602	-64.791	-180.15E-6
Low Base 2	88.25000	19.85000	19.97000	-8.2380	19.508	-0.11149	-8.0227	76.883E-6
Upper Base 1	80.95000	39.75000	19.97000	-24.099	19.508	-85.099	-186.91	-683.89E-6
Upper Base 2	86.10000	30.20000	19.97000	-23.948	19.508	-76.154	-169.90	-585.58E-6
Upper Base 3	84.25000	19.60000	19.97000	-15.964	19.508	-75.529	-152.96	-736.26E-6
Perimeter	81.65695	29.31520	19.97000	-19.245	19.508	-29.456	-83.160	-52.075E-6
Perimeter - Mid City Place	32.84589	36.53961	24.00000	-0.16663	23.433	0.0	0.0	0.0
Perimeter - High Holborn House 1	81.10657	51.26800	20.27000	-3.0453	19.758	-195.04E-6	-0.51748	5.1690E-6
Perimeter - High Holborn House 2	103.02424	32.09680	18.69000	-1.8783	18.317	-0.019324	-1.8291	17.711E-6
Perimeter - High Holborn House 3	83.29361	2.34535	19.10000	-1.0094	18.625	-0.0039781	-0.72552	7.1358E-6
Mid City Place_1	1.00000	79.00000	24.00000	-0.0030221	23.433	0.0	0.0	0.0
	2.96774	79.00000	24.00000	-0.0041642	23.433	0.0	0.0	0.0
	4.93548	79.00000	24.00000	-0.0054358	23.433	0.0	0.0	0.0
	6.90323	79.00000	24.00000	-0.0068489	23.433	0.0	0.0	0.0
	8.87097	79.00000	24.00000	-0.0084167	23.433	0.0	0.0	0.0
	10.8387	79.00000	24.00000	-0.010153	23.433	0.0	0.0	0.0
	12.80645	79.00000	24.00000	-0.012074	23.433	0.0	0.0	0.0
	14.77419	79.00000	24.00000	-0.014194	23.433	0.0	0.0	0.0
	16.74194	79.00000	24.00000	-0.016532	23.433	0.0	0.0	0.0
	18.70968	79.00000	24.00000	-0.019104	23.433	0.0	0.0	0.0
	20.67742	79.00000	24.00000	-0.021930	23.433	0.0	0.0	0.0
	22.64516	79.00000	24.00000	-0.025030	23.433	0.0	0.0	0.0
	24.61290	79.00000	24.00000	-0.028423	23.433	0.0	0.0	0.0
	26.58065	79.00000	24.00000	-0.032131	23.433	0.0	0.0	0.0
	28.54839	79.00000	24.00000	-0.036173	23.433	0.0	0.0	0.0
	30.51613	79.00000	24.00000	-0.040571	23.433	0.0	0.0	0.0
	32.48387	79.00000	24.00000	-0.045344	23.433	0.0	0.0	0.0
	34.45161	79.00000	24.00000	-0.050512	23.433	0.0	0.0	0.0
	36.41935	79.00000	24.00000	-0.056090	23.433	0.0	0.0	0.0
	38.38710	79.00000	24.00000	-0.062093	23.433	0.0	0.0	0.0
	40.35484	79.00000	24.00000	-0.068531	23.433	0.0	0.0	0.0
	42.32258	79.00000	24.00000	-0.075411	23.433	0.0	0.0	0.0
	44.29032	79.00000	24.00000	-0.082732	23.433	0.0	0.0	0.0
	46.25806	79.00000	24.00000	-0.090487	23.433	0.0	0.0	0.0
	48.22581	79.00000	24.00000	-0.098659	23.433	0.0	0.0	0.0
	50.19355	79.00000	24.00000	-0.10722	23.433	0.0	0.0	0.0
	52.16129	79.00000	24.00000	-0.11613	23.433	0.0	0.0	0.0
	54.12903	79.00000	24.00000	-0.12535	23.433	0.0	0.0	0.0
	56.09677	79.00000	24.00000	-0.13479	23.433	0.0	0.0	0.0
	58.06452	79.00000	24.00000	-0.14438	23.433	0.0	0.0	0.0
	60.03226	79.00000	24.00000	-0.15401	23.433	0.0	0.0	0.0
	62.00000	79.00000	24.00000	-0.16357	23.433	0.0	0.0	0.0
Mid City Place_2	62.00000	79.00000	24.00000	-0.16357	23.433	0.0	0.0	0.0
	62.00000	77.02703	24.00000	-0.18633	23.433	0.0	0.0	0.0
	62.00000	75.05405	24.00000	-0.21226	23.433	0.0	0.0	0.0
	62.00000	73.08108	24.00000	-0.24182	23.433	0.0	0.0	0.0
	62.00000	71.10811	24.00000	-0.27557	23.433	0.0	0.0	0.0
	62.00000	69.13514	24.00000	-0.31415	23.433	0.0	0.0	0.0
	62.00000	67.16216	24.00000	-0.35831	23.433	0.0	0.0	0.0
	62.00000	65.18919	24.00000	-0.40890	23.433	0.0	0.0	0.0
	62.00000	63.21622	24.00000	-0.46690	23.433	0.0	0.0	0.0
	62.00000	61.24324	24.00000	-0.53341	23.433	0.0	0.0	0.0
	62.00000	59.27027	24.00000	-0.60964	23.433	0.0	0.0	0.0
	62.00000	57.29730	24.00000	-0.69682	23.433	0.0	0.0	0.0
	62.00000	55.32432	24.00000	-0.79614	23.433	0.0	0.0	0.0
	62.00000	53.35135	24.00000	-0.90848	23.433	0.0	0.0	0.0
	62.00000	51.37838	24.00000	-1.0341	23.433	0.0	0.0	0.0
	62.00000	49.40541	24.00000	-1.1720	23.433	0.0	0.0	0.0

Oasys

18-21 Hand Court
Excavation
Drained

Job No.	Sheet No.	Rev.
371547		

Drg. Ref.

Made by	Date	Checked
CS		

Name	Location			Displacement	Stresses			
	X [m]	Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	62.00000	47.43243	24.00000	-1.3193	23.433	0.0	0.0	0.0
	62.00000	45.45946	24.00000	-1.4702	23.433	0.0	0.0	0.0
	62.00000	43.48649	24.00000	-1.6159	23.433	0.0	0.0	0.0
	62.00000	41.51351	24.00000	-1.7453	23.433	0.0	0.0	0.0
	62.00000	39.54054	24.00000	-1.8477	23.433	0.0	0.0	0.0
	62.00000	37.56757	24.00000	-1.9159	23.433	0.0	0.0	0.0
	62.00000	35.59459	24.00000	-1.9483	23.433	0.0	0.0	0.0
	62.00000	33.62162	24.00000	-1.9478	23.433	0.0	0.0	0.0
	62.00000	31.64865	24.00000	-1.9199	23.433	0.0	0.0	0.0
	62.00000	29.67568	24.00000	-1.8702	23.433	0.0	0.0	0.0
	62.00000	27.70270	24.00000	-1.8033	23.433	0.0	0.0	0.0
	62.00000	25.72973	24.00000	-1.7222	23.433	0.0	0.0	0.0
	62.00000	23.75676	24.00000	-1.6293	23.433	0.0	0.0	0.0
	62.00000	21.78378	24.00000	-1.5266	23.433	0.0	0.0	0.0
	62.00000	19.81081	24.00000	-1.4160	23.433	0.0	0.0	0.0
	62.00000	17.83784	24.00000	-1.3001	23.433	0.0	0.0	0.0
	62.00000	15.86486	24.00000	-1.1818	23.433	0.0	0.0	0.0
	62.00000	13.89189	24.00000	-1.0646	23.433	0.0	0.0	0.0
	62.00000	11.91892	24.00000	-0.95150	23.433	0.0	0.0	0.0
	62.00000	9.94595	24.00000	-0.84516	23.433	0.0	0.0	0.0
	62.00000	7.97297	24.00000	-0.74727	23.433	0.0	0.0	0.0
	62.00000	6.00000	24.00000	-0.65861	23.433	0.0	0.0	0.0
Mid City Place_3	62.00000	6.00000	24.00000	-0.65861	23.433	0.0	0.0	0.0
	63.80000	6.00000	24.00000	-0.73458	23.433	0.0	0.0	0.0
	65.60000	6.00000	24.00000	-0.81818	23.433	0.0	0.0	0.0
	67.40000	6.00000	24.00000	-0.90913	23.433	0.0	0.0	0.0
	69.20000	6.00000	24.00000	-1.0064	23.433	0.0	0.0	0.0
	71.00000	6.00000	24.00000	-1.1076	23.433	0.0	0.0	0.0
Mid City Place_4	71.00000	6.00000	24.00000	-1.1076	23.433	0.0	0.0	0.0
	71.00000	4.12500	24.00000	-0.93153	23.433	0.0	0.0	0.0
	71.00000	2.25000	24.00000	-0.78867	23.433	0.0	0.0	0.0
	71.00000	0.37500	24.00000	-0.67166	23.433	0.0	0.0	0.0
	71.00000	-1.50000	24.00000	-0.57495	23.433	0.0	0.0	0.0
	71.00000	-3.37500	24.00000	-0.49437	23.433	0.0	0.0	0.0
	71.00000	-5.25000	24.00000	-0.42672	23.433	0.0	0.0	0.0
	71.00000	-7.12500	24.00000	-0.36954	23.433	0.0	0.0	0.0
	71.00000	-9.00000	24.00000	-0.32091	23.433	0.0	0.0	0.0
Mid City Place_5	71.00000	-9.00000	24.00000	-0.32091	23.433	0.0	0.0	0.0
	69.00000	-8.74286	24.00000	-0.31131	23.433	0.0	0.0	0.0
	67.00000	-8.48571	24.00000	-0.29976	23.433	0.0	0.0	0.0
	65.00000	-8.22857	24.00000	-0.28663	23.433	0.0	0.0	0.0
	63.00000	-7.97143	24.00000	-0.27230	23.433	0.0	0.0	0.0
	61.00000	-7.71429	24.00000	-0.25714	23.433	0.0	0.0	0.0
	59.00000	-7.45714	24.00000	-0.24150	23.433	0.0	0.0	0.0
	57.00000	-7.20000	24.00000	-0.22567	23.433	0.0	0.0	0.0
	55.00000	-6.94286	24.00000	-0.20991	23.433	0.0	0.0	0.0
	53.00000	-6.68571	24.00000	-0.19444	23.433	0.0	0.0	0.0
	51.00000	-6.42857	24.00000	-0.17941	23.433	0.0	0.0	0.0
	49.00000	-6.17143	24.00000	-0.16496	23.433	0.0	0.0	0.0
	47.00000	-5.91429	24.00000	-0.15118	23.433	0.0	0.0	0.0
	45.00000	-5.65714	24.00000	-0.13812	23.433	0.0	0.0	0.0
	43.00000	-5.40000	24.00000	-0.12582	23.433	0.0	0.0	0.0
	41.00000	-5.14286	24.00000	-0.11430	23.433	0.0	0.0	0.0
	39.00000	-4.88571	24.00000	-0.10356	23.433	0.0	0.0	0.0
	37.00000	-4.62857	24.00000	-0.093580	23.433	0.0	0.0	0.0
	35.00000	-4.37143	24.00000	-0.084347	23.433	0.0	0.0	0.0
	33.00000	-4.11429	24.00000	-0.075831	23.433	0.0	0.0	0.0
	31.00000	-3.85714	24.00000	-0.067997	23.433	0.0	0.0	0.0
	29.00000	-3.60000	24.00000	-0.060810	23.433	0.0	0.0	0.0
	27.00000	-3.34286	24.00000	-0.054232	23.433	0.0	0.0	0.0
	25.00000	-3.08571	24.00000	-0.048224	23.433	0.0	0.0	0.0
	23.00000	-2.82857	24.00000	-0.042748	23.433	0.0	0.0	0.0
	21.00000	-2.57143	24.00000	-0.037766	23.433	0.0	0.0	0.0
	19.00000	-2.31429	24.00000	-0.033240	23.433	0.0	0.0	0.0
	17.00000	-2.05714	24.00000	-0.029137	23.433	0.0	0.0	0.0
	15.00000	-1.80000	24.00000	-0.025422	23.433	0.0	0.0	0.0
	13.00000	-1.54286	24.00000	-0.022063	23.433	0.0	0.0	0.0
	11.00000	-1.28571	24.00000	-0.019030	23.433	0.0	0.0	0.0
	9.00000	-1.02857	24.00000	-0.016296	23.433	0.0	0.0	0.0
	7.00000	-0.77143	24.00000	-0.013835	23.433	0.0	0.0	0.0
	5.00000	-0.51429	24.00000	-0.011622	23.433	0.0	0.0	0.0
	3.00000	-0.25714	24.00000	-0.0096346	23.433	0.0	0.0	0.0
	1.00000	0.00000	24.00000	-0.0078528	23.433	0.0	0.0	0.0
Mid City Place_6	1.00000	0.00000	24.00000	-0.0078528	23.433	0.0	0.0	0.0
	1.00000	1.97500	24.00000	-0.0085192	23.433	0.0	0.0	0.0
	1.00000	3.95000	24.00000	-0.0091762	23.433	0.0	0.0	0.0
	1.00000	5.92500	24.00000	-0.0098190	23.433	0.0	0.0	0.0
	1.00000	7.90000	24.00000	-0.010443	23.433	0.0	0.0	0.0
	1.00000	9.87500	24.00000	-0.011043	23.433	0.0	0.0	0.0
	1.00000	11.85000	24.00000	-0.011614	23.433	0.0	0.0	0.0
	1.00000	13.82500	24.00000	-0.012151	23.433	0.0	0.0	0.0
	1.00000	15.80000	24.00000	-0.012650	23.433	0.0	0.0	0.0
	1.00000	17.77500	24.00000	-0.013105	23.433	0.0	0.0	0.0
	1.00000	19.75000	24.00000	-0.013513	23.433	0.0	0.0	0.0
	1.00000	21.72500	24.00000	-0.013869	23.433	0.0	0.0	0.0
	1.00000	23.70000	24.00000	-0.014170	23.433	0.0	0.0	0.0
	1.00000	25.67500	24.00000	-0.014413	23.433	0.0	0.0	0.0
	1.00000	27.65000	24.00000	-0.014595	23.433	0.0	0.0	0.0
	1.00000	29.62500	24.00000	-0.014714	23.433	0.0	0.0	0.0
	1.00000	31.60000	24.00000	-0.014770	23.433	0.0	0.0	0.0
	1.00000	33.57500	24.00000	-0.014760	23.433	0.0	0.0	0.0
	1.00000	35.55000	24.00000	-0.014686	23.433	0.0	0.0	0.0
	1.00000	37.52500	24.00000	-0.014548	23.433	0.0	0.0	0.0
	1.00000	39.50000	24.00000	-0.014348	23.433	0.0	0.0	0.0
	1.00000	41.47500	24.00000	-0.014087	23.433	0.0	0.0	0.0
	1.00000	43.45000	24.00000	-0.013768	23.433	0.0	0.0	0.0
	1.00000	45.42500	24.00000	-0.013395	23.433	0.0	0.0	0.0
	1.00000	47.40000	24.00000	-0.012970	23.433	0.0	0.0	0.0
	1.00000	49.37500	24.00000	-0.012499	23.433	0.0	0.0	0.0
	1.00000	51.35000	24.00000	-0.011985	23.433	0.0	0.0	0.0
	1.00000	53.32500	24.00000	-0.011434	23.433	0.0	0.0	0.0
	1.00000	55.30000	24.00000	-0.010850	23.433	0.0	0.0	0.0
	1.00000	57.27500	24.00000	-0.010238	23.433	0.0	0.0	0.0
	1.00000	59.25000	24.00000	-0.0096029	23.433	0.0	0.0	0.0
	1.00000	61.22500	24.00000	-0.0089505	23.433	0.0	0.0	0.0
	1.00000	63.20000	24.00000	-0.0082854	23.433	0.0	0.0	0.0
	1.00000	65.17500	24.00000	-0.0076123	23.433	0.0	0.0	0.0
	1.00000	67.15000	24.00000	-0.0069358	23.433	0.0	0.0	0.0
	1.00000	69.12500	24.00000	-0.0062601	23.433	0.0	0.0	0.0
	1.00000	71.10000	24.00000	-0.0055893	23.433	0.0	0.0	0.0
	1.00000	73.07500	24.00000	-0.0049269	23.433	0.0	0.0	0.0
	1.00000	75.05000	24.00000	-0.0042763	23.433	0.0	0.0	0.0
	1.00000	77.02500	24.00000	-0.0036405	23.433	0.0	0.0	0.0
	1.00000	79.00000	24.00000	-0.0030221	23.433	0.0	0.0	0.0
High Holborn House 1_1	93.00000	57.00000	20.27000	-1.1435	19.758	-15.816E-6	-0.12817	1.2812E-6
	91.00000	57.37500	20.27000	-1.1975	19.758	-17.590E-6	-0.13619	1.3614E-6
	89.00000	57.75000	20.27000	-1.2334	19.758	-18.747E-6	-0.14154	1.4149E-6
	87.00000	58.12500	20.27000	-1.2484	19.758	-19.135E-6	-0.14371	1.4365E-6
	85.00000	58.50000	20.27000	-1.2416	19.758	-18.748E-6	-0.14257	1.4251E-6
	83.00000	58.87500	20.27000	-1.2139	19.758	-17.696E-6	-0.13834	1.3828E-6
	81.00000	59.25000	20.27000	-1.1679	19.758	-16.154E-6	-0.13151	1.3146E-6
	79.00000	59.62500	20.27000	-1.1071	19.758	-14.312E-6	-0.12274	1.2270E-6
	77.00000	60.00000	20.27000	-1.0354	19.758	-12.347E-6	-0.11270	1.1266E-6
High Holborn House 1_2	77.00000	60.00000	20.27000	-1.0354	19.758	-12.347E-6	-0.11270	1.1266E-6
	75.16667	60.00000	20.27000	-0.99555	19.758	-11.377E-6	-0.10731	1.0728E-6
	73.33333	60.00000	20.27000	-0.94684	19.758	-10.241E-6	-0.10081	1.0078E-6
	71.50000	60.00000	20.27000	-0.89156	19.758	-9.0206E-6	-0.093563	0.0
High Holborn House 1_3	71.50000	60.00000	20.27000	-0.89156	19.758	-9.0206E-6	-0.093563	0.0
	71.61111	58.01111	20.27000	-1.0723	19.758	-13.850E-6	-0.11855	1.1851E-6
	71.72222	56.02222	20.27000	-1.3022	19.758	-22.266E-6	-0.15355	1.5348E-6
	71.83333	54.03333	20.27000	-1.6000	19.758	-37.984E-6	-0.20437	2.0426E-6
	71.94444	52.04444	20.27000	-1.9938	19.758	-70.204E-6	-0.28180	2.8159E-6
	72.05556	50.05556	20.27000	-2.5288	19.758	-145.67E-6	-0.40789	4.0745E-6
	72.16667	48.06667	20.27000	-3.2825	19.758	-363.03E-6	-0.63521	6.3412E-6

Oasys

18-21 Hand Court
Excavation
Drained

Job No.	Sheet No.	Rev.
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Drg. Ref.

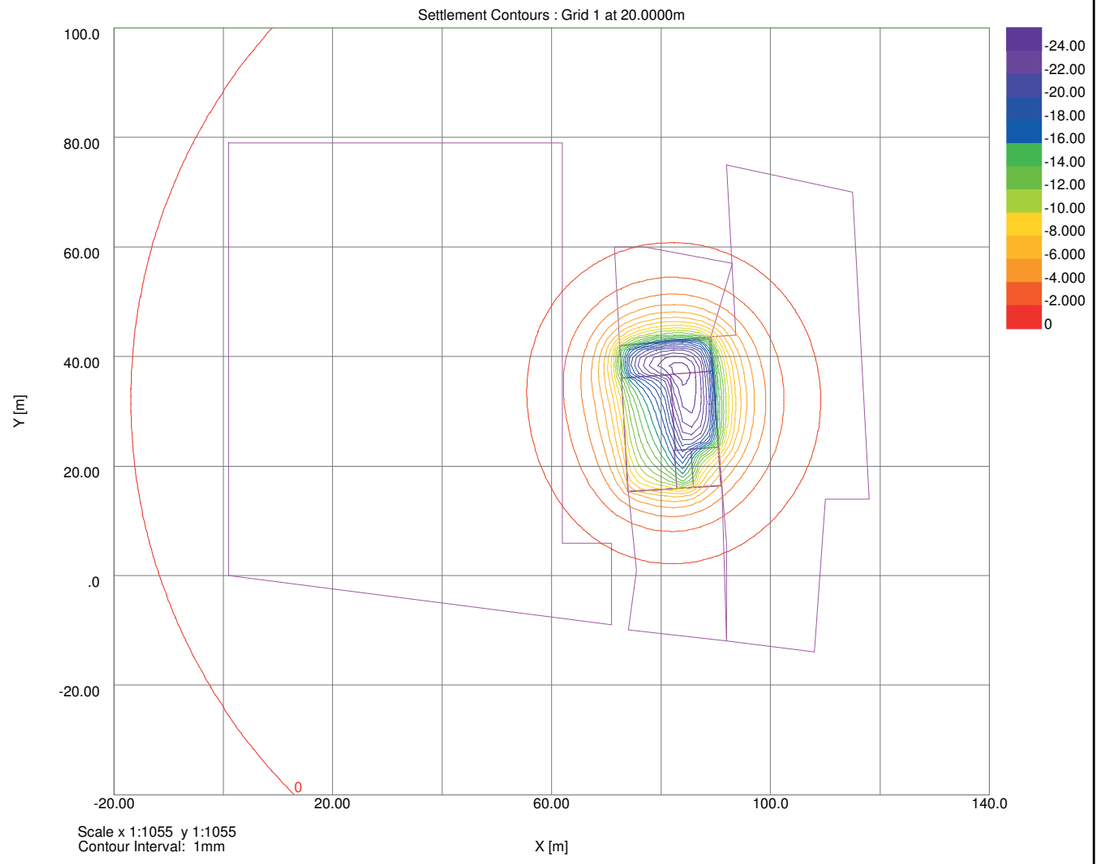
Made by	Date	Checked
CS		

Name	Location			Displacement	Stresses			
	X [m]	Y [m]	Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	72.27778	46.07778	20.27000	-4.4013	19.758	-0.0012643	-1.1239	11.201E-6
	72.38889	44.08889	20.27000	-6.1905	19.758	-0.0098889	-2.6701	26.404E-6
	72.50000	42.10000	20.27000	-9.4452	19.758	-14.005	-41.465	-5.4945E-6
High Holborn House 1_4	72.50000	42.10000	20.27000	-9.4452	19.758	-14.005	-41.465	-5.4945E-6
	74.57500	42.28750	20.27000	-12.735	19.758	-21.813	-71.686	62.472E-6
	76.65000	42.47500	20.27000	-14.339	19.758	-18.333	-68.012	130.12E-6
	78.72500	42.66250	20.27000	-15.127	19.758	-15.358	-63.704	176.29E-6
	80.80000	42.85000	20.27000	-15.391	19.758	-12.856	-59.508	209.41E-6
	82.87500	43.03750	20.27000	-15.170	19.758	-10.771	-55.493	231.80E-6
	84.95000	43.22500	20.27000	-14.334	19.758	-9.0454	-51.498	243.62E-6
	87.02500	43.41250	20.27000	-12.548	19.758	-7.6130	-46.639	238.00E-6
	89.10000	43.60000	20.27000	-9.2211	19.758	-1.4081	-16.546	123.22E-6
High Holborn House 2_1	92.00000	75.00000	18.69000	-0.27614	18.317	-415.19E-6	-0.19479	1.9355E-6
	93.91667	74.58333	18.69000	-0.27425	18.317	-410.05E-6	-0.19346	1.9223E-6
	95.83333	74.16667	18.69000	-0.27054	18.317	-400.36E-6	-0.19088	1.8968E-6
	97.75000	73.75000	18.69000	-0.26511	18.317	-386.55E-6	-0.18712	1.8596E-6
	99.66667	73.33333	18.69000	-0.25813	18.317	-369.24E-6	-0.18232	1.8121E-6
	101.58333	72.91667	18.69000	-0.24976	18.317	-349.16E-6	-0.17662	1.7557E-6
	103.50000	72.50000	18.69000	-0.24023	18.317	-327.07E-6	-0.17017	1.6918E-6
	105.41667	72.08333	18.69000	-0.22975	18.317	-303.76E-6	-0.16314	1.6223E-6
	107.33333	71.66667	18.69000	-0.21855	18.317	-279.92E-6	-0.15570	1.5486E-6
	109.25000	71.25000	18.69000	-0.20685	18.317	-256.18E-6	-0.14800	1.4723E-6
	111.16667	70.83333	18.69000	-0.19484	18.317	-233.04E-6	-0.14018	1.3948E-6
	113.08333	70.41667	18.69000	-0.18272	18.317	-210.89E-6	-0.13236	1.3173E-6
	115.00000	70.00000	18.69000	-0.17064	18.317	-190.01E-6	-0.12464	1.2407E-6
High Holborn House 2_2	115.00000	70.00000	18.69000	-0.17064	18.317	-190.01E-6	-0.12464	1.2407E-6
	115.10714	68.00000	18.69000	-0.18866	18.317	-220.70E-6	-0.13612	1.3546E-6
	115.21429	66.00000	18.69000	-0.20802	18.317	-256.21E-6	-0.14862	1.4785E-6
	115.32143	64.00000	18.69000	-0.22869	18.317	-297.07E-6	-0.16215	1.6126E-6
	115.42857	62.00000	18.69000	-0.25060	18.317	-343.76E-6	-0.17671	1.7568E-6
	115.53571	60.00000	18.69000	-0.27364	18.317	-396.60E-6	-0.19225	1.9106E-6
	115.64286	58.00000	18.69000	-0.29763	18.317	-455.73E-6	-0.20870	2.0733E-6
	115.75000	56.00000	18.69000	-0.32233	18.317	-520.96E-6	-0.22590	2.2434E-6
	115.85714	54.00000	18.69000	-0.34741	18.317	-591.70E-6	-0.24364	2.4187E-6
	115.96429	52.00000	18.69000	-0.37247	18.317	-666.86E-6	-0.26164	2.5964E-6
	116.07143	50.00000	18.69000	-0.39706	18.317	-744.81E-6	-0.27954	2.7731E-6
	116.17857	48.00000	18.69000	-0.42064	18.317	-823.33E-6	-0.29693	2.9446E-6
	116.28571	46.00000	18.69000	-0.44265	18.317	-899.77E-6	-0.31333	3.1063E-6
	116.39286	44.00000	18.69000	-0.46249	18.317	-971.13E-6	-0.32826	3.2535E-6
	116.50000	42.00000	18.69000	-0.47961	18.317	-0.0010343	-0.34124	3.3813E-6
	116.60714	40.00000	18.69000	-0.49348	18.317	-0.0010865	-0.35180	3.4854E-6
	116.71429	38.00000	18.69000	-0.50367	18.317	-0.0011250	-0.35958	3.5620E-6
	116.82143	36.00000	18.69000	-0.50986	18.317	-0.0011482	-0.36428	3.6084E-6
	116.92857	34.00000	18.69000	-0.51185	18.317	-0.0011547	-0.36575	3.6228E-6
	117.03571	32.00000	18.69000	-0.50960	18.317	-0.0011445	-0.36393	3.6050E-6
	117.14286	30.00000	18.69000	-0.50319	18.317	-0.0011182	-0.35893	3.5558E-6
	117.25000	28.00000	18.69000	-0.49287	18.317	-0.0010772	-0.35095	3.4771E-6
	117.35714	26.00000	18.69000	-0.47898	18.317	-0.0010237	-0.34029	3.3722E-6
	117.46429	24.00000	18.69000	-0.46197	18.317	-960.14E-6	-0.32736	3.2448E-6
	117.57143	22.00000	18.69000	-0.44235	18.317	-889.54E-6	-0.31259	3.0992E-6
	117.67857	20.00000	18.69000	-0.42068	18.317	-814.75E-6	-0.29646	2.9401E-6
	117.78571	18.00000	18.69000	-0.39750	18.317	-738.48E-6	-0.27942	2.7720E-6
	117.89286	16.00000	18.69000	-0.37336	18.317	-663.08E-6	-0.26190	2.5991E-6
	118.00000	14.00000	18.69000	-0.34874	18.317	-590.45E-6	-0.24429	2.4252E-6
High Holborn House 2_3	118.00000	14.00000	18.69000	-0.34874	18.317	-590.45E-6	-0.24429	2.4252E-6
	116.00000	14.00000	18.69000	-0.40077	18.317	-759.43E-6	-0.28242	2.8014E-6
	114.00000	14.00000	18.69000	-0.46135	18.317	-989.08E-6	-0.32860	3.2564E-6
	112.00000	14.00000	18.69000	-0.53219	18.317	-0.0013062	-0.38502	3.8110E-6
	110.00000	14.00000	18.69000	-0.61537	18.317	-0.0017517	-0.45456	4.4930E-6
High Holborn House 2_4	110.00000	14.00000	18.69000	-0.61537	18.317	-0.0017517	-0.45456	4.4930E-6
	109.85714	12.00000	18.69000	-0.57026	18.317	-0.0015194	-0.41734	4.1279E-6
	109.71429	10.00000	18.69000	-0.52517	18.317	-0.0013041	-0.38092	3.7700E-6
	109.57143	8.00000	18.69000	-0.48100	18.317	-0.0011097	-0.34600	3.4267E-6
	109.42857	6.00000	18.69000	-0.43842	18.317	-937.86E-6	-0.31311	3.1029E-6
	109.28571	4.00000	18.69000	-0.39794	18.317	-788.44E-6	-0.28255	2.8018E-6
	109.14286	2.00000	18.69000	-0.35988	18.317	-660.35E-6	-0.25449	2.5250E-6
	109.00000	0.00000	18.69000	-0.32443	18.317	-551.74E-6	-0.22895	2.2729E-6
	108.85714	-2.00000	18.69000	-0.29168	18.317	-460.44E-6	-0.20587	2.0449E-6
	108.71429	-4.00000	18.69000	-0.26160	18.317	-384.19E-6	-0.18514	1.8398E-6
	108.57143	-6.00000	18.69000	-0.23413	18.317	-320.80E-6	-0.16658	1.6562E-6
	108.42857	-8.00000	18.69000	-0.20915	18.317	-268.25E-6	-0.15002	1.4922E-6
	108.28571	-10.00000	18.69000	-0.18652	18.317	-224.76E-6	-0.13528	1.3461E-6
	108.14286	-12.00000	18.69000	-0.16607	18.317	-188.78E-6	-0.12216	1.2160E-6
	108.00000	-14.00000	18.69000	-0.14764	18.317	-159.01E-6	-0.11050	1.1002E-6
High Holborn House 2_5	108.00000	-14.00000	18.69000	-0.14764	18.317	-159.01E-6	-0.11050	1.1002E-6
	106.00000	-13.75000	18.69000	-0.16116	18.317	-181.45E-6	-0.11909	1.1855E-6
	104.00000	-13.50000	18.69000	-0.17533	18.317	-206.76E-6	-0.12821	1.2759E-6
	102.00000	-13.25000	18.69000	-0.19004	18.317	-235.09E-6	-0.13781	1.3710E-6
	100.00000	-13.00000	18.69000	-0.20518	18.317	-266.51E-6	-0.14782	1.4702E-6
	98.00000	-12.75000	18.69000	-0.22057	18.317	-300.94E-6	-0.15815	1.5725E-6
	96.00000	-12.50000	18.69000	-0.23601	18.317	-338.13E-6	-0.16868	1.6767E-6
	94.00000	-12.25000	18.69000	-0.25124	18.317	-377.57E-6	-0.17923	1.7810E-6
	92.00000	-12.00000	18.69000	-0.26598	18.317	-418.46E-6	-0.18960	1.8835E-6
High Holborn House 2_6	92.00000	-12.00000	18.69000	-0.26598	18.317	-418.46E-6	-0.18960	1.8835E-6
	92.00000	-10.00000	18.69000	-0.30854	18.317	-544.16E-6	-0.21993	2.1830E-6
	92.00000	-8.00000	18.69000	-0.35885	18.317	-718.69E-6	-0.25717	2.5502E-6
	92.00000	-6.00000	18.69000	-0.41868	18.317	-965.91E-6	-0.30341	3.0051E-6
	92.00000	-4.00000	18.69000	-0.49032	18.317	-0.0013240	-0.36154	3.5757E-6
	92.00000	-2.00000	18.69000	-0.57679	18.317	-0.0018560	-0.43565	4.3008E-6
	92.00000	0.00000	18.69000	-0.68205	18.317	-0.0026691	-0.53162	5.2361E-6
	92.00000	2.00000	18.69000	-0.81136	18.317	-0.0039525	-0.65804	6.4618E-6
	92.00000	4.00000	18.69000	-0.97177	18.317	-0.0060526	-0.82774	8.0958E-6
	92.00000	6.00000	18.69000	-1.1727	18.317	-0.0096267	-1.0602	10.313E-6
High Holborn House 2_7	92.00000	6.00000	18.69000	-1.1727	18.317	-0.0096267	-1.0602	10.313E-6
	91.82000	8.08000	18.69000	-1.4523	18.317	-0.016831	-1.4215	13.710E-6
	91.64000	10.16000	18.69000	-1.8209	18.317	-0.031362	-1.9642	18.701E-6
	91.46000	12.24000	18.69000	-2.3116	18.317	-0.062120	-2.8006	26.143E-6
	91.28000	14.32000	18.69000	-2.9629	18.317	-0.12679	-4.0937	37.133E-6
	91.10000	16.40000	18.69000	-3.8089	18.317	-0.24886	-6.0212	52.746E-6
High Holborn House 2_8	91.10000	16.40000	18.69000	-3.8089	18.317	-0.24886	-6.0212	52.746E-6
	90.95714	18.34286	18.69000	-4.7952	18.317	-0.44551	-8.5795	72.430E-6
	90.81429	20.28571	18.69000	-6.0993	18.317	-1.0212	-12.969	99.053E-6
	90.67143	22.22857	18.69000	-8.0916	18.317	-5.0487	-24.315	91.684E-6
	90.52857	24.17143	18.69000	-11.084	18.317	-25.368	-51.357	-247.47E-6
	90.38571	26.11429	18.69000	-13.293	18.317	-33.459	-67.285	-330.92E-6
	90.24286	28.05714	18.69000	-14.486	18.317	-34.579	-72.447	-312.90E-6
	90.10000	30.00000	18.69000	-15.152	18.317	-34.957	-74.595	-302.76E-6
	89.95714	31.94286	18.69000	-15.514	18.317	-35.215	-75.705	-299.40E-6
	89.81429	33.88571	18.69000	-15.662	18.317	-35.460	-76.369	-300.12E-6
	89.67143	35.82857	18.69000	-15.614	18.317	-35.799	-76.868	-305.31E-6
	89.52857	37.77143	18.69000	-15.305	18.317	-36.556	-77.269	-324.00E-6
	89.38571	39.71429	18.69000	-14.445	18.317	-36.659	-75.093	-348.85E-6
	89.24286	41.65714	18.69000	-12.598	18.317	-33.684	-65.433	-356.20E-6
	89.10000	43.60000	18.69000	-9.3438	18.317	-15.122	-38.197	-71.683E-6
High Holborn House 2_9	89.10000	43.60000	18.69000	-9.3438	18.317	-15.122	-38.197	-71.683E-6
	91.40000	43.80000	18.69000	-5.9806	18.317	-1.5125	-13.732	91.949E-6
	93.70000	44.00000	18.69000	-4.1133	18.317	-0.28879	-6.5844	57.181E-6
High Holborn House 2_10	93.70000	44.00000	18.69000	-4.1133	18.317	-0.28879	-6.5844	57.181E-6
	93.59375	45.93750	18.69000	-3.4208	18.317	-0.16418	-4.8956	44.031E-6
	93.48750	47.87500	18.69000	-2.8066	18.317	-0.087210	-3.5685	33.069E-6
	93.38125	49.81250	18.69000	-2.2985	18.317	-0.047163	-2.6233	24.818E-6
	93.27500	51.75000	18.69000	-1.8900	18.317	-0.026796	-1.9654	18.850E-6
	93.16875	53.68750	18.69000	-1.5638	18.317	-0.016041	-1.5031	14.550E-6
	93.06250	55.62500	18.69000	-1.3026	18.317	-0.010062	-1.1719	11.417E-6
	92.95625	57.56250	18.69000	-1.0923	18.317	-0.0065672	-0.92956	9.0986E-6
	92.85000	59.50000	18.69000	-0.92163	18.317	-0.0044330	-0.74867	7.3537E-6
	92.74375	61.43750	18.69000	-0.78200	18.317	-0.0030794	-0.61118	6.0194E-6
	92.63750	63.37500	18.69000	-0.66685	18.317	-0.0021925	-0.50498	4.9840E-6
	92.53125	65.31250	18.69000	-0.57116	18.317	-0.0015949	-0.42174	4.1696E-6
	92.42500	67.25000	18.69000	-0.49109	18.317	-0.0011823	-0.35565	3.5210E-6

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	92.31875	69.18750	18.69000	-0.42364	18.317	-891.24E-6	-0.30255	2.9987E-6
	92.21250	71.12500	18.69000	-0.36649	18.317	-681.95E-6	-0.25942	2.5737E-6
	92.10625	73.06250	18.69000	-0.31781	18.317	-528.88E-6	-0.22405	2.2247E-6
	92.00000	75.00000	18.69000	-0.27614	18.317	-415.19E-6	-0.19479	1.9355E-6
High Holborn House 3_1	91.10000	16.40000	19.10000	-3.7927	18.625	-0.13965	-4.9845	45.655E-6
	89.20000	16.28889	19.10000	-4.7263	18.625	-0.45624	-8.0668	66.981E-6
	87.30000	16.17778	19.10000	-6.1751	18.625	-3.2643	-17.432	76.388E-6
	85.40000	16.06667	19.10000	-8.4038	18.625	-23.971	-44.686	-272.28E-6
	83.50000	15.95556	19.10000	-9.1102	18.625	-26.646	-50.541	-293.98E-6
	81.60000	15.84444	19.10000	-8.2596	18.625	-14.800	-36.538	-78.621E-6
	79.70000	15.73333	19.10000	-7.5256	18.625	-13.285	-31.563	-82.933E-6
	77.80000	15.62222	19.10000	-6.8239	18.625	-13.024	-29.177	-98.956E-6
	75.90000	15.51111	19.10000	-5.9466	18.625	-12.427	-25.743	-115.38E-6
	74.00000	15.40000	19.10000	-4.6322	18.625	-6.1682	-15.515	-29.900E-6
High Holborn House 3_2	74.00000	15.40000	19.10000	-4.6322	18.625	-6.1682	-15.515	-29.900E-6
	74.21429	13.34286	19.10000	-3.2916	18.625	-0.50772	-5.7419	42.188E-6
	74.42857	11.28571	19.10000	-2.4587	18.625	-0.092202	-2.9863	27.097E-6
	74.64286	9.22857	19.10000	-1.9010	18.625	-0.030420	-1.8767	17.854E-6
	74.85714	7.17143	19.10000	-1.5041	18.625	-0.013375	-1.2918	12.517E-6
	75.07143	5.11429	19.10000	-1.2104	18.625	-0.0068904	-0.93884	9.1817E-6
	75.28571	3.05714	19.10000	-0.98726	18.625	-0.0039230	-0.70839	6.9663E-6
	75.50000	1.00000	19.10000	-0.81414	18.625	-0.0023957	-0.54987	5.4268E-6
High Holborn House 3_3	75.50000	1.00000	19.10000	-0.81414	18.625	-0.0023957	-0.54987	5.4268E-6
	75.25000	-0.83333	19.10000	-0.68441	18.625	-0.0015800	-0.44200	4.3726E-6
	75.00000	-2.66667	19.10000	-0.57997	18.625	-0.0010841	-0.36174	3.5849E-6
	74.75000	-4.50000	19.10000	-0.49472	18.625	-768.20E-6	-0.30052	2.9822E-6
	74.50000	-6.33333	19.10000	-0.42430	18.625	-559.18E-6	-0.25285	2.5117E-6
	74.25000	-8.16667	19.10000	-0.36556	18.625	-416.37E-6	-0.21507	2.1382E-6
	74.00000	-10.00000	19.10000	-0.31612	18.625	-316.13E-6	-0.18467	1.8373E-6
High Holborn House 3_4	74.00000	-10.00000	19.10000	-0.31612	18.625	-316.13E-6	-0.18467	1.8373E-6
	76.00000	-10.22222	19.10000	-0.32005	18.625	-323.54E-6	-0.18706	1.8609E-6
	78.00000	-10.44444	19.10000	-0.32138	18.625	-325.86E-6	-0.18786	1.8689E-6
	80.00000	-10.66667	19.10000	-0.32008	18.625	-322.96E-6	-0.18705	1.8608E-6
	82.00000	-10.88889	19.10000	-0.31619	18.625	-315.05E-6	-0.18465	1.8371E-6
	84.00000	-11.11111	19.10000	-0.30986	18.625	-302.68E-6	-0.18079	1.7988E-6
	86.00000	-11.33333	19.10000	-0.30131	18.625	-286.65E-6	-0.17562	1.7476E-6
	88.00000	-11.55556	19.10000	-0.29084	18.625	-267.88E-6	-0.16935	1.6855E-6
	90.00000	-11.77778	19.10000	-0.27878	18.625	-247.36E-6	-0.16222	1.6148E-6
	92.00000	-12.00000	19.10000	-0.26547	18.625	-226.01E-6	-0.15446	1.5378E-6

Oasys
18-21 Hand Court
Excavation
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked



Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top [mOD]	Number of intermediate displacement levels	Youngs Modulus Top [kN/m²]	Youngs Modulus Btm [kN/m²]	Poissons ratio	Non-linear curve
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	33000.	115000.	0.50000	None
3	-5.0000	10	205000.	255000.	0.50000	None
4	-49.000	5	255000.	255000.	0.50000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.0	140.0	-40.0	100.0	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Perimeter	Polygonal	Horizontal	N/A	N/A	20.0	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
2	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.0	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
3	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.3	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
4	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.7	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
5	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.1	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A
6	C1	Rectangular	Horizontal	87.7	41.7	20.0	4.0000	2.7000	3.2500	N/A	N/A	1	135.86	0.0	0.0
7	C2	Rectangular	Horizontal	87.5	36.9	20.0	5.0000	3.7500	6.2000	N/A	N/A	1	119.26	0.0	0.0
8	C3	Rectangular	Horizontal	88.0	30.5	20.0	4.0000	3.7500	6.3000	N/A	N/A	1	114.16	0.0	0.0
9	C4, C5, C6	Rectangular	Horizontal	88.3	21.9	20.0	4.5000	4.3000	10.700	N/A	N/A	1	83.410	0.0	0.0
10	C7	Rectangular	Horizontal	80.8	41.0	20.0	5.0000	11.000	3.2500	N/A	N/A	1	97.250	0.0	0.0
11	C8	Rectangular	Horizontal	81.5	36.3	20.0	4.5000	8.0000	6.3000	N/A	N/A	1	92.580	0.0	0.0
12	C9	Rectangular	Horizontal	82.0	30.0	20.0	4.5000	8.0000	6.3000	N/A	N/A	1	101.15	0.0	0.0
13	C10	Rectangular	Horizontal	74.0	40.4	20.0	4.5000	2.7000	3.2500	N/A	N/A	1	122.19	0.0	0.0
14	C11	Rectangular	Horizontal	75.2	35.8	20.0	4.0000	4.5000	6.1000	N/A	N/A	1	97.550	0.0	0.0
15	C12	Rectangular	Horizontal	75.6	29.4	20.0	3.5000	4.5000	6.5000	N/A	N/A	1	94.950	0.0	0.0
16	C13	Rectangular	Horizontal	76.0	22.9	20.0	4.0000	4.5000	6.5000	N/A	N/A	1	87.940	0.0	0.0
17	C14	Rectangular	Horizontal	76.4	17.7	20.0	5.0000	4.5000	3.9000	N/A	N/A	1	91.870	0.0	0.0
18	Core1	Rectangular	Horizontal	82.3	21.4	20.0	4.0000	7.6000	10.600	N/A	N/A	1	105.80	0.0	0.0

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Perimeter					
(Edge 3 optimal)					
1	88.2	43.4	-86.760	0.11303	1.6568
2	86.5	43.2	-86.760	0.11303	4.9705
3	84.9	43.0	-86.760	0.11303	8.2841
4	83.2	42.8	-86.760	0.11303	11.598
5	81.6	42.6	-86.760	0.11303	14.911
6	81.6	29.2	-86.760	26.505	16.799
Load 2 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.5	-1.2	-180.00	9.0000	14.421
2	31.5	37.5	-180.00	61.000	82.921
Load 3 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.7	56.3	169.38	0.27275	1.3889
2	92.2	55.0	169.38	0.27275	4.1668
3	91.7	53.7	169.38	0.27275	6.9446
4	91.2	52.4	169.38	0.27275	9.7224
5	90.6	51.1	169.38	0.27275	12.500
6	82.9	50.8	169.38	14.915	15.997
7	74.8	51.1	169.38	1.1242	18.158
8	73.9	51.9	169.38	0.85633	16.391
9	73.4	53.7	169.38	0.85633	12.748
10	72.8	55.5	169.38	0.85633	9.1060
11	72.3	57.3	169.38	0.8563	5.4636
12	71.8	59.1	169.38	0.85633	1.8212
Load 4 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.9	43.8	-90.000	0.40000	25.004
2	103.6	30.0	-90.000	27.200	27.043
3	104.6	15.2	-90.000	2.4000	26.732
4	100.7	10.0	-90.000	8.0000	18.060
5	100.4	-3.0	-90.000	18.000	16.786
6	100.9	-12.2	-90.000	0.40000	14.529
7	102.4	-12.6	-90.000	0.40000	11.300
8	104.0	-13.0	-90.000	0.40000	8.0714
9	105.6	-13.4	-90.000	0.40000	4.8429
10	107.2	-13.8	-90.000	0.40000	1.6143
11	93.0	74.6	-90.000	0.83333	1.8938
12	94.9	73.8	-90.000	0.83333	5.6815
13	96.8	72.9	-90.000	0.83333	9.4691
14	98.8	72.1	-90.000	0.83333	13.257
15	100.7	71.2	-90.000	0.83333	17.044
16	102.7	70.4	-90.000	0.83333	20.832
17	104.3	57.0	-90.000	26.000	22.709
Load 5 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					
1	90.3	16.2	-97.765	0.66025	1.7365
2	88.6	15.7	-97.765	0.66025	5.2096
3	86.9	15.3	-97.765	0.66025	8.6826
4	85.2	14.9	-97.765	0.66025	12.156
5	83.5	14.4	-97.765	0.66025	15.629
6	83.1	7.1	-97.765	14.065	16.836
7	83.3	-5.4	-97.765	10.651	17.206
8	82.1	-10.7	-97.765	0.090075	16.295
9	80.3	-10.5	-97.765	0.090075	12.674
10	78.5	-10.4	-97.765	0.090075	9.0526
11	76.7	-10.2	-97.765	0.090075	5.4316
12	74.9	-10.1	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.0	-40.0	20.0	N/A	100.0	20.0	100	160.0	100	No	N/A

Oasys

RSK GROUP

18-21 Hand Court
Load Test - Raft
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
2	Line	Mid City Place_1	N/A	1.0	79.0	24.0	62.0	79.0	24.0	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.0	79.0	24.0	62.0	6.0	24.0	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.0	6.0	24.0	71.0	6.0	24.0	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.0	6.0	24.0	71.0	-9.0	24.0	8	N/A	N/A	Yes	Yes
6	Line	Mid City Place_5	N/A	71.0	-9.0	24.0	1.0	0.0	24.0	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.0	0.0	24.0	1.0	79.0	24.0	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.0	57.0	20.3	77.0	60.0	20.3	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.0	60.0	20.3	71.5	60.0	20.3	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.5	60.0	20.3	72.5	42.1	20.3	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.5	42.1	20.3	89.1	43.6	20.3	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.0	75.0	18.7	115.0	70.0	18.7	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.0	70.0	18.7	118.0	14.0	18.7	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.0	14.0	18.7	110.0	14.0	18.7	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.0	14.0	18.7	108.0	-14.0	18.7	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.0	-14.0	18.7	92.0	-12.0	18.7	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.0	-12.0	18.7	92.0	6.0	18.7	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.0	6.0	18.7	91.1	16.4	18.7	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.1	16.4	18.7	89.1	43.6	18.7	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.1	43.6	18.7	93.7	44.0	18.7	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.7	44.0	18.7	92.0	75.0	18.7	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.1	16.4	19.1	74.0	15.4	19.1	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.0	15.4	19.1	75.5	1.0	19.1	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.5	1.0	19.1	74.0	-10.0	19.1	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.0	-10.0	19.1	92.0	-12.0	19.1	9	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (10.878mm) and the Mindlin method (16.515mm) occurs at point X = 80.8m, Y = 42.9m, level = 20.270mOD, and is 5.6373mm.

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Perimeter	81.7	29.3	20.0	23.105	19.508	101.12	231.22	721.33E-6
Perimeter - Mid City Place	32.8	36.5	24.0	-0.0038745	23.433	0.0	0.0	0.0
Perimeter - High Holborn House 1	81.1	51.3	20.3	1.7532	19.758	241.26E-6	0.70908	-7.0835E-6
Perimeter - High Holborn House 2	103.0	32.1	18.7	1.1233	18.317	0.029628	3.0026	-29.137E-6
Perimeter - High Holborn House 3	83.3	2.3	19.1	0.76108	18.625	0.010431	1.7212	-16.899E-6
C1	87.7	41.7	20.0	15.891	19.508	133.92	261.10	0.0014065
C2	87.5	36.9	20.0	19.677	19.508	118.76	253.12	0.0010316
C3	88.0	30.5	20.0	20.020	19.508	113.71	244.03	970.91E-6
C4, C5, C6	88.3	21.9	20.0	16.379	19.508	83.249	183.83	659.20E-6
C7	80.8	41.0	20.0	17.181	19.508	96.789	207.73	826.34E-6
C8	81.5	36.3	20.0	21.308	19.508	92.578	212.72	650.10E-6
C9	82.0	30.0	20.0	23.131	19.508	101.13	231.43	719.54E-6
C10	74.0	40.4	20.0	14.958	19.508	120.55	236.92	0.0012474
C11	75.2	35.8	20.0	18.277	19.508	97.353	213.54	785.23E-6
C12	75.6	29.4	20.0	18.829	19.508	94.761	209.05	752.30E-6
C13	76.0	22.9	20.0	17.566	19.508	87.787	194.52	688.41E-6
C14	76.4	17.7	20.0	14.643	19.508	91.480	193.33	811.08E-6
Core1	82.3	21.4	20.0	21.753	19.508	105.76	238.68	786.03E-6
Mid City Place_1	1.0	79.0	24.0	-0.046518	23.433	0.0	0.0	0.0
	3.0	79.0	24.0	-0.047437	23.433	0.0	0.0	0.0
	4.9	79.0	24.0	-0.048327	23.433	0.0	0.0	0.0
	6.9	79.0	24.0	-0.049180	23.433	0.0	0.0	0.0
	8.9	79.0	24.0	-0.049988	23.433	0.0	0.0	0.0
	10.8	79.0	24.0	-0.050743	23.433	0.0	0.0	0.0
	12.8	79.0	24.0	-0.051435	23.433	0.0	0.0	0.0
	14.8	79.0	24.0	-0.052054	23.433	0.0	0.0	0.0
	16.7	79.0	24.0	-0.052590	23.433	0.0	0.0	0.0
	18.7	79.0	24.0	-0.053029	23.433	0.0	0.0	0.0
	20.7	79.0	24.0	-0.053360	23.433	0.0	0.0	0.0
	22.6	79.0	24.0	-0.053569	23.433	0.0	0.0	0.0
	24.6	79.0	24.0	-0.053642	23.433	0.0	0.0	0.0
	26.6	79.0	24.0	-0.053564	23.433	0.0	0.0	0.0
	28.5	79.0	24.0	-0.053321	23.433	0.0	0.0	0.0
	30.5	79.0	24.0	-0.052896	23.433	0.0	0.0	0.0
	32.5	79.0	24.0	-0.052276	23.433	0.0	0.0	0.0
	34.5	79.0	24.0	-0.051445	23.433	0.0	0.0	0.0
	36.4	79.0	24.0	-0.050388	23.433	0.0	0.0	0.0
	38.4	79.0	24.0	-0.049094	23.433	0.0	0.0	0.0
	40.4	79.0	24.0	-0.047550	23.433	0.0	0.0	0.0
	42.3	79.0	24.0	-0.045748	23.433	0.0	0.0	0.0
	44.3	79.0	24.0	-0.043682	23.433	0.0	0.0	0.0
	46.3	79.0	24.0	-0.041351	23.433	0.0	0.0	0.0
	48.2	79.0	24.0	-0.038757	23.433	0.0	0.0	0.0
	50.2	79.0	24.0	-0.035907	23.433	0.0	0.0	0.0
	52.2	79.0	24.0	-0.032818	23.433	0.0	0.0	0.0
	54.1	79.0	24.0	-0.029512	23.433	0.0	0.0	0.0
	56.1	79.0	24.0	-0.026018	23.433	0.0	0.0	0.0
	58.1	79.0	24.0	-0.022377	23.433	0.0	0.0	0.0
	60.0	79.0	24.0	-0.018635	23.433	0.0	0.0	0.0
	62.0	79.0	24.0	-0.014851	23.433	0.0	0.0	0.0
Mid City	62.0	79.0	24.0	-0.014851	23.433	0.0	0.0	0.0

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Place_2								
	62.0	77.0	24.0	-0.0050623	23.433	0.0	0.0	0.0
	62.0	75.1	24.0	0.0066323	23.433	0.0	0.0	0.0
	62.0	73.1	24.0	0.020560	23.433	0.0	0.0	0.0
	62.0	71.1	24.0	0.037109	23.433	0.0	0.0	0.0
	62.0	69.1	24.0	0.056742	23.433	0.0	0.0	0.0
	62.0	67.2	24.0	0.080007	23.433	0.0	0.0	0.0
	62.0	65.2	24.0	0.10756	23.433	0.0	0.0	0.0
	62.0	63.2	24.0	0.14017	23.433	0.0	0.0	0.0
	62.0	61.2	24.0	0.17876	23.433	0.0	0.0	0.0
	62.0	59.3	24.0	0.22437	23.433	0.0	0.0	0.0
	62.0	57.3	24.0	0.27820	23.433	0.0	0.0	0.0
	62.0	55.3	24.0	0.34153	23.433	0.0	0.0	0.0
	62.0	53.4	24.0	0.41560	23.433	0.0	0.0	0.0
	62.0	51.4	24.0	0.50146	23.433	0.0	0.0	0.0
	62.0	49.4	24.0	0.59951	23.433	0.0	0.0	0.0
	62.0	47.4	24.0	0.70903	23.433	0.0	0.0	0.0
	62.0	45.5	24.0	0.82742	23.433	0.0	0.0	0.0
	62.0	43.5	24.0	0.94974	23.433	0.0	0.0	0.0
	62.0	41.5	24.0	1.0690	23.433	0.0	0.0	0.0
	62.0	39.5	24.0	1.1773	23.433	0.0	0.0	0.0
	62.0	37.6	24.0	1.2681	23.433	0.0	0.0	0.0
	62.0	35.6	24.0	1.3369	23.433	0.0	0.0	0.0
	62.0	33.6	24.0	1.3822	23.433	0.0	0.0	0.0
	62.0	31.6	24.0	1.4038	23.433	0.0	0.0	0.0
	62.0	29.7	24.0	1.4026	23.433	0.0	0.0	0.0
	62.0	27.7	24.0	1.3799	23.433	0.0	0.0	0.0
	62.0	25.7	24.0	1.3371	23.433	0.0	0.0	0.0
	62.0	23.8	24.0	1.2757	23.433	0.0	0.0	0.0
	62.0	21.8	24.0	1.1977	23.433	0.0	0.0	0.0
	62.0	19.8	24.0	1.1059	23.433	0.0	0.0	0.0
	62.0	17.8	24.0	1.0035	23.433	0.0	0.0	0.0
	62.0	15.9	24.0	0.89500	23.433	0.0	0.0	0.0
	62.0	13.9	24.0	0.78509	23.433	0.0	0.0	0.0
	62.0	11.9	24.0	0.67830	23.433	0.0	0.0	0.0
	62.0	9.9	24.0	0.57826	23.433	0.0	0.0	0.0
	62.0	8.0	24.0	0.48727	23.433	0.0	0.0	0.0
	62.0	6.0	24.0	0.40637	23.433	0.0	0.0	0.0
Mid City Place_3	62.0	6.0	24.0	0.40637	23.433	0.0	0.0	0.0
	63.8	6.0	24.0	0.48073	23.433	0.0	0.0	0.0
	65.6	6.0	24.0	0.56528	23.433	0.0	0.0	0.0
	67.4	6.0	24.0	0.66010	23.433	0.0	0.0	0.0
	69.2	6.0	24.0	0.76418	23.433	0.0	0.0	0.0
	71.0	6.0	24.0	0.87482	23.433	0.0	0.0	0.0
Mid City Place_4	71.0	6.0	24.0	0.87482	23.433	0.0	0.0	0.0
	71.0	4.1	24.0	0.68779	23.433	0.0	0.0	0.0
	71.0	2.3	24.0	0.54281	23.433	0.0	0.0	0.0
	71.0	0.4	24.0	0.42915	23.433	0.0	0.0	0.0
	71.0	-1.5	24.0	0.33911	23.433	0.0	0.0	0.0
	71.0	-3.4	24.0	0.26711	23.433	0.0	0.0	0.0
	71.0	-5.3	24.0	0.20902	23.433	0.0	0.0	0.0
	71.0	-7.1	24.0	0.16182	23.433	0.0	0.0	0.0
	71.0	-9.0	24.0	0.12320	23.433	0.0	0.0	0.0
Mid City Place_5	71.0	-9.0	24.0	0.12320	23.433	0.0	0.0	0.0
	69.0	-8.7	24.0	0.11562	23.433	0.0	0.0	0.0
	67.0	-8.5	24.0	0.10651	23.433	0.0	0.0	0.0
	65.0	-8.2	24.0	0.096249	23.433	0.0	0.0	0.0
	63.0	-8.0	24.0	0.085180	23.433	0.0	0.0	0.0
	61.0	-7.7	24.0	0.073650	23.433	0.0	0.0	0.0
	59.0	-7.5	24.0	0.061970	23.433	0.0	0.0	0.0
	57.0	-7.2	24.0	0.050402	23.433	0.0	0.0	0.0
	55.0	-6.9	24.0	0.039161	23.433	0.0	0.0	0.0
	53.0	-6.7	24.0	0.028413	23.433	0.0	0.0	0.0
	51.0	-6.4	24.0	0.018278	23.433	0.0	0.0	0.0
	49.0	-6.2	24.0	0.00883?1	23.433	0.0	0.0	0.0
	47.0	-5.9	24.0	138.93E-6	23.433	0.0	0.0	0.0
	45.0	-5.7	24.0	-0.0077952	23.433	0.0	0.0	0.0
	43.0	-5.4	24.0	-0.014965	23.433	0.0	0.0	0.0
	41.0	-5.1	24.0	-0.021384	23.433	0.0	0.0	0.0
	39.0	-4.9	24.0	-0.027081	23.433	0.0	0.0	0.0
	37.0	-4.6	24.0	-0.032090	23.433	0.0	0.0	0.0
	35.0	-4.4	24.0	-0.036451	23.433	0.0	0.0	0.0
	33.0	-4.1	24.0	-0.040207	23.433	0.0	0.0	0.0
	31.0	-3.9	24.0	-0.043404	23.433	0.0	0.0	0.0
	29.0	-3.6	24.0	-0.046088	23.433	0.0	0.0	0.0
	27.0	-3.3	24.0	-0.048302	23.433	0.0	0.0	0.0
	25.0	-3.1	24.0	-0.050090	23.433	0.0	0.0	0.0
	23.0	-2.8	24.0	-0.051493	23.433	0.0	0.0	0.0
	21.0	-2.6	24.0	-0.052551	23.433	0.0	0.0	0.0
	19.0	-2.3	24.0	-0.053300	23.433	0.0	0.0	0.0
	17.0	-2.1	24.0	-0.053775	23.433	0.0	0.0	0.0
	15.0	-1.8	24.0	-0.054008	23.433	0.0	0.0	0.0
	13.0	-1.5	24.0	-0.054027	23.433	0.0	0.0	0.0
	11.0	-1.3	24.0	-0.053859	23.433	0.0	0.0	0.0
	9.0	-1.0	24.0	-0.053530	23.433	0.0	0.0	0.0
	7.0	-0.8	24.0	-0.053060	23.433	0.0	0.0	0.0
	5.0	-0.5	24.0	-0.052470	23.433	0.0	0.0	0.0
	3.0	-0.3	24.0	-0.051779	23.433	0.0	0.0	0.0
	1.0	0.0	24.0	-0.051001	23.433	0.0	0.0	0.0
Mid City Place_6	1.0	0.0	24.0	-0.051001	23.433	0.0	0.0	0.0
	1.0	2.0	24.0	-0.051302	23.433	0.0	0.0	0.0
	1.0	4.0	24.0	-0.051576	23.433	0.0	0.0	0.0
	1.0	5.9	24.0	-0.051824	23.433	0.0	0.0	0.0
	1.0	7.9	24.0	-0.052048	23.433	0.0	0.0	0.0
	1.0	9.9	24.0	-0.052246	23.433	0.0	0.0	0.0
	1.0	11.9	24.0	-0.052422	23.433	0.0	0.0	0.0
	1.0	13.8	24.0	-0.052575	23.433	0.0	0.0	0.0
	1.0	15.8	24.0	-0.052707	23.433	0.0	0.0	0.0
	1.0	17.8	24.0	-0.052818	23.433	0.0	0.0	0.0
	1.0	19.8	24.0	-0.052910	23.433	0.0	0.0	0.0
	1.0	21.7	24.0	-0.052984	23.433	0.0	0.0	0.0
	1.0	23.7	24.0	-0.053040	23.433	0.0	0.0	0.0
	1.0	25.7	24.0	-0.053079	23.433	0.0	0.0	0.0
	1.0	27.6	24.0	-0.053101	23.433	0.0	0.0	0.0
	1.0	29.6	24.0	-0.053108	23.433	0.0	0.0	0.0
	1.0	31.6	24.0	-0.053098	23.433	0.0	0.0	0.0
	1.0	33.6	24.0	-0.053072	23.433	0.0	0.0	0.0
	1.0	35.5	24.0	-0.053030	23.433	0.0	0.0	0.0
	1.0	37.5	24.0	-0.052971	23.433	0.0	0.0	0.0
	1.0	39.5	24.0	-0.052895	23.433	0.0	0.0	0.0
	1.0	41.5	24.0	-0.052800	23.433	0.0	0.0	0.0
	1.0	43.5	24.0	-0.052687	23.433	0.0	0.0	0.0
	1.0	45.4	24.0	-0.052554	23.433	0.0	0.0	0.0
	1.0	47.4	24.0	-0.052400	23.433	0.0	0.0	0.0
	1.0	49.4	24.0	-0.052223	23.433	0.0	0.0	0.0
	1.0	51.4	24.0	-0.052024	23.433	0.0	0.0	0.0
	1.0	53.3	24.0	-0.051802	23.433	0.0	0.0	0.0
	1.0	55.3	24.0	-0.051554	23.433	0.0	0.0	0.0
	1.0	57.3	24.0	-0.051280	23.433	0.0	0.0	0.0
	1.0	59.3	24.0	-0.050981	23.433	0.0	0.0	0.0
	1.0	61.2	24.0	-0.050654	23.433	0.0	0.0	0.0
	1.0	63.2	24.0	-0.050301	23.433	0.0	0.0	0.0
	1.0	65.2	24.0	-0.049920	23.433	0.0	0.0	0.0
	1.0	67.2	24.0	-0.049512	23.433	0.0	0.0	0.0
	1.0	69.1	24.0	-0.049077	23.433	0.0	0.0	0.0
	1.0	71.1	24.0	-0.048616	23.433	0.0	0.0	0.0
	1.0	73.1	24.0	-0.048128	23.433	0.0	0.0	0.0
	1.0	75.0	24.0	-0.047615	23.433	0.0	0.0	0.0
	1.0	77.0	24.0	-0.047078	23.433	0.0	0.0	0.0
	1.0	79.0	24.0	-0.046518	23.433	0.0	0.0	0.0
High Holborn House 1_1	93.0	57.0	20.3	0.52611	19.758	21.960E-6	0.19138	-1.9131E-6
	91.0	57.4	20.3	0.55807	19.758	24.222E-6	0.20223	-2.0216E-6
	89.0	57.8	20.3	0.57906	19.758	25.602E-6	0.20927	-2.0920E-6
	87.0	58.1	20.3	0.58747	19.758	25.939E-6	0.21191	-2.1183E-6
	85.0	58.5	20.3	0.58293	19.758	25.274E-6	0.21004	-2.0997E-6
	83.0	58.9	20.3	0.56618	19.758	23.788E-6	0.20406	-2.0399E-6

Oasys

RSK GROUP

Job No.	Sheet No.	Rev.
371547		

Drg. Ref.

Made by CS | Date | Checked

18-21 Hand Court
Load Test - Raft
Undrained

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	81.0	59.3	20.3	0.53887	19.758	21.722E-6	0.19465	-1.9458E-6
	79.0	59.6	20.3	0.50315	19.758	19.313E-6	0.18262	-1.8256E-6
	77.0	60.0	20.3	0.46143	19.758	16.767E-6	0.16887	-1.6882E-6
High Holborn House 1_2	77.0	60.0	20.3	0.46143	19.758	16.767E-6	0.16887	-1.6882E-6
	75.2	60.0	20.3	0.43932	19.758	15.534E-6	0.16170	-1.6166E-6
	73.3	60.0	20.3	0.41209	19.758	14.087E-6	0.15297	-1.5293E-6
	71.5	60.0	20.3	0.38106	19.758	12.524E-6	0.14312	-1.4308E-6
High Holborn House 1_3	71.5	60.0	20.3	0.38106	19.758	12.524E-6	0.14312	-1.4308E-6
	71.6	58.0	20.3	0.49254	19.758	18.957E-6	0.17940	-1.7934E-6
	71.7	56.0	20.3	0.63824	19.758	30.005E-6	0.22955	-2.2946E-6
	71.8	54.0	20.3	0.83202	19.758	50.319E-6	0.30134	-3.0119E-6
	71.9	52.0	20.3	1.0954	19.758	91.296E-6	0.40892	-4.0865E-6
	72.1	50.1	20.3	1.4634	19.758	185.75E-6	0.58091	-5.8035E-6
	72.2	48.1	20.3	1.9983	19.758	453.62E-6	0.88453	-8.8317E-6
	72.3	46.1	20.3	2.8244	19.758	0.0015455	1.5218	-15.171E-6
	72.4	44.1	20.3	4.2315	19.758	0.011451	3.4684	-34.341E-6
	72.5	42.1	20.3	7.0519	19.758	6.4655	37.120	-177.24E-6
High Holborn House 1_4	72.5	42.1	20.3	7.0519	19.758	6.4655	37.120	-177.24E-6
	74.6	42.3	20.3	9.5529	19.758	11.033	65.311	-322.12E-6
	76.7	42.5	20.3	10.348	19.758	8.9283	56.556	-297.71E-6
	78.7	42.7	20.3	10.745	19.758	8.4973	55.549	-300.58E-6
	80.8	42.9	20.3	10.878	19.758	8.0933	54.628	-303.48E-6
	82.9	43.0	20.3	10.783	19.758	7.7119	53.683	-305.47E-6
	84.9	43.2	20.3	10.495	19.758	7.3646	53.358	-312.64E-6
	87.0	43.4	20.3	10.159	19.758	24.613	94.638	-207.99E-6
	89.1	43.6	20.3	7.0612	19.758	3.2653	29.481	-196.85E-6
High Holborn House 2_1	92.0	75.0	18.7	0.034458	18.317	613.58E-6	0.31061	-3.0877E-6
	93.9	74.6	18.7	0.033537	18.317	606.64E-6	0.30865	-3.0683E-6
	95.8	74.2	18.7	0.031770	18.317	593.28E-6	0.30483	-3.0305E-6
	97.8	73.8	18.7	0.029216	18.317	574.07E-6	0.29927	-2.9754E-6
	99.7	73.3	18.7	0.025953	18.317	549.83E-6	0.29212	-2.9047E-6
	101.6	72.9	18.7	0.022082	18.317	521.55E-6	0.28360	-2.8204E-6
	103.5	72.5	18.7	0.017712	18.317	490.28E-6	0.27393	-2.7246E-6
	105.4	72.1	18.7	0.012962	18.317	457.10E-6	0.26336	-2.6199E-6
	107.3	71.7	18.7	0.0079476	18.317	422.99E-6	0.25212	-2.5085E-6
	109.3	71.3	18.7	0.0027828	18.317	388.85E-6	0.24044	-2.3927E-6
	111.2	70.8	18.7	-0.0024286	18.317	355.39E-6	0.22852	-2.2746E-6
	113.1	70.4	18.7	-0.007593?	18.317	323.18E-6	0.21655	-2.1558E-6
	115.0	70.0	18.7	-0.012633	18.317	292.65E-6	0.20468	-2.0380E-6
High Holborn House 2_2	115.0	70.0	18.7	-0.012633	18.317	292.65E-6	0.20468	-2.0380E-6
	115.1	68.0	18.7	-0.0048842	18.317	339.27E-6	0.22320	-2.2218E-6
	115.2	66.0	18.7	0.0037687	18.317	393.22E-6	0.24336	-2.4218E-6
	115.3	64.0	18.7	0.013344	18.317	455.35E-6	0.26523	-2.6386E-6
	115.4	62.0	18.7	0.023837	18.317	526.43E-6	0.28881	-2.8723E-6
	115.5	60.0	18.7	0.035220	18.317	607.07E-6	0.31407	-3.1225E-6
	115.6	58.0	18.7	0.047428	18.317	697.61E-6	0.34091	-3.3882E-6
	115.8	56.0	18.7	0.060358	18.317	797.96E-6	0.36914	-3.6675E-6
	115.9	54.0	18.7	0.073864	18.317	907.49E-6	0.39848	-3.9576E-6
	116.0	52.0	18.7	0.087749	18.317	0.0010249	0.42855	-4.2548E-6
	116.1	50.0	18.7	0.10177	18.317	0.0011480	0.45885	-4.5541E-6
	116.2	48.0	18.7	0.11564	18.317	0.0012740	0.48879	-4.8497E-6
	116.3	46.0	18.7	0.12905	18.317	0.0013992	0.51769	-5.1350E-6
	116.4	44.0	18.7	0.14163	18.317	0.0015196	0.54483	-5.4028E-6
	116.5	42.0	18.7	0.15307	18.317	0.0016308	0.56947	-5.6457E-6
	116.6	40.0	18.7	0.16300	18.317	0.0017287	0.59088	-5.8569E-6
	116.7	38.0	18.7	0.17115	18.317	0.0018095	0.60842	-6.0299E-6
	116.8	36.0	18.7	0.17726	18.317	0.0018699	0.62155	-6.1594E-6
	116.9	34.0	18.7	0.18113	18.317	0.0019077	0.62987	-6.2414E-6
	117.0	32.0	18.7	0.18265	18.317	0.0019217	0.63312	-6.2735E-6
	117.1	30.0	18.7	0.18179	18.317	0.0019113	0.63122	-6.2548E-6
	117.3	28.0	18.7	0.17856	18.317	0.0018771	0.62424	-6.1861E-6
	117.4	26.0	18.7	0.17309	18.317	0.0018207	0.61243	-6.0697E-6
	117.5	24.0	18.7	0.16554	18.317	0.0017442	0.59617	-5.9094E-6
	117.6	22.0	18.7	0.15616	18.317	0.0016506	0.57596	-5.710?E-6
	117.7	20.0	18.7	0.14524	18.317	0.0015435	0.55243	-5.4780E-6
	117.8	18.0	18.7	0.13307	18.317	0.0014268	0.52624	-5.2196E-6
	117.9	16.0	18.7	0.12001	18.317	0.0013045	0.49811	-4.9419E-6
	118.0	14.0	18.7	0.10638	18.317	0.0011806	0.46875	-4.6520E-6
High Holborn House 2_3	118.0	14.0	18.7	0.10638	18.317	0.0011806	0.46875	-4.6520E-6
	116.0	14.0	18.7	0.14195	18.317	0.0015419	0.54579	-5.4116E-6
	114.0	14.0	18.7	0.18524	18.317	0.0020465	0.64055	-6.3441E-6
	112.0	14.0	18.7	0.23824	18.317	0.0027671	0.75847	-7.5017E-6
	110.0	14.0	18.7	0.30358	18.317	0.0038235	0.90723	-8.9576E-6
High Holborn House 2_4	110.0	14.0	18.7	0.30358	18.317	0.0038235	0.90723	-8.9576E-6
	109.9	12.0	18.7	0.27500	18.317	0.0033893	0.84274	-8.3258E-6
	109.7	10.0	18.7	0.24544	18.317	0.0029553	0.77630	-7.6743E-6
	109.6	8.0	18.7	0.21579	18.317	0.0025406	0.71002	-7.0239E-6
	109.4	6.0	18.7	0.18683	18.317	0.0021592	0.64566	-6.3918E-6
	109.3	4.0	18.7	0.15914	18.317	0.0018189	0.58451	-5.7906E-6
	109.1	2.0	18.7	0.13316	18.317	0.0015226	0.52744	-5.2288E-6
	109.0	0.0	18.7	0.10914	18.317	0.0012692	0.47491	-4.7110E-6
	108.9	-2.0	18.7	0.087211	18.317	0.0010555	0.42706	-4.2389E-6
	108.7	-4.0	18.7	0.067410	18.317	877.11E-6	0.38384	-3.8121E-6
	108.6	-6.0	18.7	0.049688	18.317	729.10E-6	0.34503	-3.4285E-6
	108.4	-8.0	18.7	0.033954	18.317	606.84E-6	0.31034	-3.0852E-6
	108.3	-10.0	18.7	0.020081	18.317	506.09E-6	0.27941	-2.7790E-6
	108.1	-12.0	18.7	0.0079300	18.317	423.12E-6	0.25190	-2.5063E-6
	108.0	-14.0	18.7	-0.0026465	18.317	354.79E-6	0.22743	-2.2637E-6
High Holborn House 2_5	108.0	-14.0	18.7	-0.0026465	18.317	354.79E-6	0.22743	-2.2637E-6
	106.0	-13.8	18.7	0.0057072	18.317	408.85E-6	0.24662	-2.4539E-6
	104.0	-13.5	18.7	0.014792	18.317	470.46E-6	0.26714	-2.6573E-6
	102.0	-13.3	18.7	0.024563	18.317	540.07E-6	0.28894	-2.8732E-6
	100.0	-13.0	18.7	0.034941	18.317	617.92E-6	0.31189	-3.1004E-6
	98.0	-12.8	18.7	0.045811	18.317	703.85E-6	0.33577	-3.3366E-6
	96.0	-12.5	18.7	0.057015	18.317	797.20E-6	0.36029	-3.5790E-6
	94.0	-12.3	18.7	0.068352	18.317	896.63E-6	0.38504	-3.8235E-6
	92.0	-12.0	18.7	0.079573	18.317	0.0010000	0.40953	-4.0653E-6
High Holborn House 2_6	92.0	-12.0	18.7	0.079573	18.317	0.0010000	0.40953	-4.0653E-6
	92.0	-10.0	18.7	0.11104	18.317	0.0013157	0.47848	-4.7453E-6
	92.0	-8.0	18.7	0.14980	18.317	0.0017605	0.56395	-5.5867E-6
	92.0	-6.0	18.7	0.19781	18.317	0.0024013	0.67124	-6.6403E-6
	92.0	-4.0	18.7	0.25773	18.317	0.0033482	0.80783	-7.9779E-6
	92.0	-2.0	18.7	0.33319	18.317	0.0047894	0.98456	-9.7019E-6
	92.0	0.0	18.7	0.42918	18.317	0.0070608	1.2175	-11.963E-6
	92.0	2.0	18.7	0.55274	18.317	0.010796	1.5313	-14.989E-6
	92.0	4.0	18.7	0.71391	18.317	0.017270	1.9651	-19.133E-6
	92.0	6.0	18.7	0.92745	18.317	0.029284	2.5848	-24.970E-6
High Holborn House 2_7	92.0	6.0	18.7	0.92745	18.317	0.029284	2.5848	-24.970E-6
	91.8	8.1	18.7	1.2462	18.317	0.056824	3.6106	-34.401E-6
	91.6	10.2	18.7	1.7066	18.317	0.12740	5.3286	-49.464E-6
	91.5	12.2	18.7	2.4063	18.317	0.36426	8.5707	-74.779E-6
	91.3	14.3	18.7	3.5624	18.317	1.6494	16.113	-111.65E-6
	91.1	16.4	18.7	5.6991	18.317	13.678	38.847	21.860E-6
High Holborn House 2_8	91.1	16.4	18.7	5.6991	18.317	13.678	38.847	21.860E-6
	91.0	18.3	18.7	8.0621	18.317	32.680	67.071	309.68E-6
	90.8	20.3	18.7	9.4307	18.317	35.392	77.880	282.95E-6
	90.7	22.2	18.7	10.254	18.317	35.576	82.202	245.27E-6
	90.5	24.2	18.7	10.833	18.317	35.503	84.799	217.08E-6
	90.4	26.1	18.7	11.370	18.317	36.027	88.245	198.34E-6
	90.2	28.1	18.7	12.097	18.317	41.857	96.983	285.89E-6
	90.1	30.0	18.7	12.637	18.317	45.953	103.79	340.66E-6
	90.0	31.9	18.7	12.799	18.317	46.457	105.50	338.68E-6
	89.8	33.9	18.7	12.768	18.317	46.389	105.93	332.38E-6
	89.7	35.8	18.7	12.685	18.317	49.361	108.06	400.19E-6
	89.5	37.8	18.7	12.252	18.317	48.706	106.30	398.19E-6
	89.4	39.7	18.7	11.512	18.317	48.782	103.07	432.82E-6
	89.2	41.7	18.7	10.224	18.317	51.108	95.385	579.40E-6
	89.1	43.6	18.7	7.2221	18.317	24.764	57.329	169.62E-6
High Holborn House 2_9	89.1	43.6	18.7	7.2221	18.317	24.764	57.329	169.62E-6

Oasys

RSK GROUP

18-21 Hand Court
Load Test - Raft
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	**Date**	**Checked**

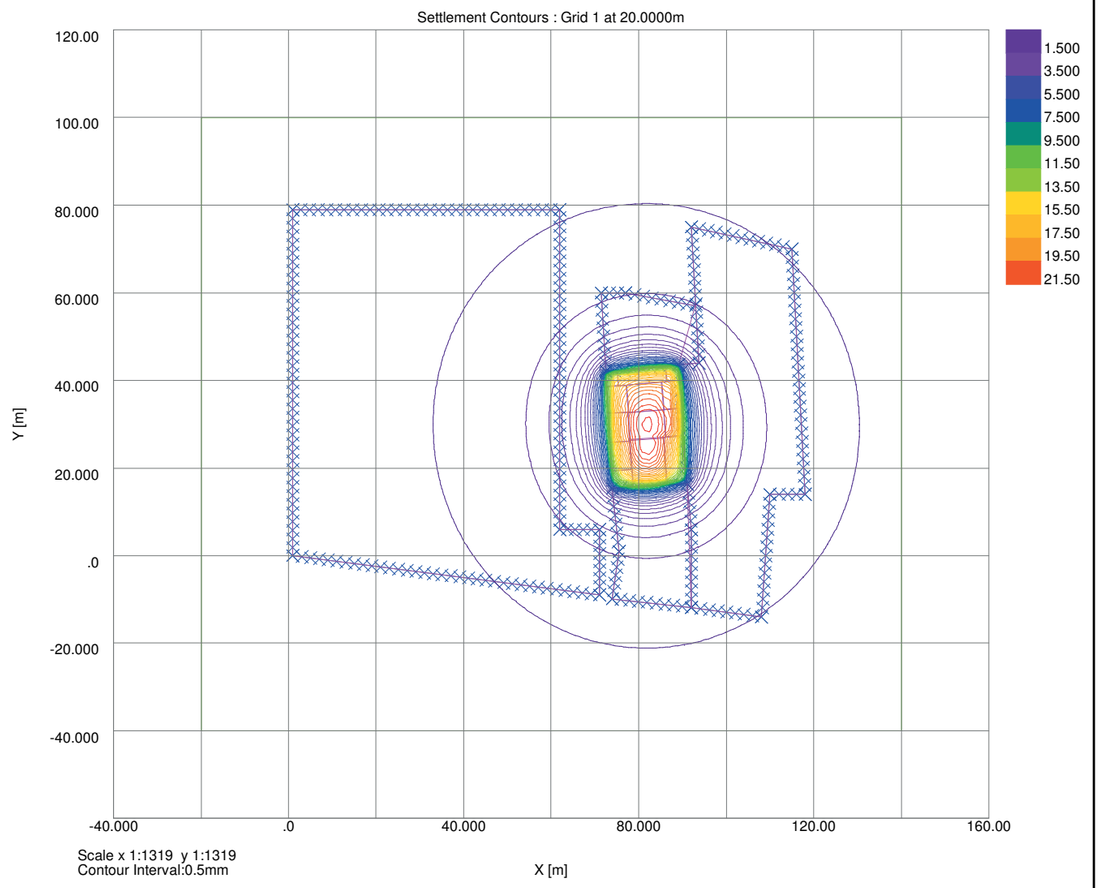
Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	91.4	43.8	18.7	4.1187	18.317	2.3016	19.928	-130.23E-6
	93.7	44.0	18.7	2.6357	18.317	0.41761	9.5270	-82.741E-6
High Holborn House 2_10	93.7	44.0	18.7	2.6357	18.317	0.41761	9.5270	-82.741E-6
	93.6	45.9	18.7	2.1134	18.317	0.23748	7.0981	-63.856E-6
	93.5	47.9	18.7	1.6614	18.317	0.12459	5.1810	-48.072E-6
	93.4	49.8	18.7	1.2994	18.317	0.066427	3.8203	-36.210E-6
	93.3	51.8	18.7	1.0179	18.317	0.037360	2.8771	-27.650E-6
	93.2	53.7	18.7	0.80004	18.317	0.022256	2.2155	-21.487E-6
	93.1	55.6	18.7	0.63076	18.317	0.013953	1.7407	-16.989E-6
	93.0	57.6	18.7	0.49824	18.317	0.0091305	1.3921	-13.647E-6
	92.8	59.5	18.7	0.39358	18.317	0.0061926	1.1304	-11.118E-6
	92.7	61.4	18.7	0.31023	18.317	0.0043278	0.93028	-9.1730E-6
	92.6	63.4	18.7	0.24330	18.317	0.0031025	0.77462	-7.6531E-6
	92.5	65.3	18.7	0.18916	18.317	0.0022734	0.65175	-6.4493E-6
	92.4	67.3	18.7	0.14507	18.317	0.0016978	0.55349	-5.4840E-6
	92.3	69.2	18.7	0.10897	18.317	0.0012893	0.47398	-4.7012E-6
	92.2	71.1	18.7	0.079273	18.317	993.78E-6	0.40897	-4.0599E-6
	92.1	73.1	18.7	0.054753	18.317	776.22E-6	0.35530	-3.5297E-6
	92.0	75.0	18.7	0.034458	18.317	613.58E-6	0.31061	-3.0877E-6
High Holborn House 3_1	91.1	16.4	19.1	5.6870	18.625	12.305	37.415	-4.9902E-6
	89.2	16.3	19.1	7.9357	18.625	28.000	64.986	190.12E-6
	87.3	16.2	19.1	9.3722	18.625	31.151	77.110	163.44E-6
	85.4	16.1	19.1	10.598	18.625	39.053	90.515	266.44E-6
	83.5	16.0	19.1	11.243	18.625	41.955	97.152	287.13E-6
	81.6	15.8	19.1	11.342	18.625	42.996	98.526	304.61E-6
	79.7	15.7	19.1	10.894	18.625	41.871	94.585	310.28E-6
	77.8	15.6	19.1	9.8665	18.625	35.944	84.474	233.58E-6
	75.9	15.5	19.1	8.5230	18.625	35.121	74.160	312.02E-6
	74.0	15.4	19.1	5.9926	18.625	14.023	40.948	11.219E-6
High Holborn House 3_2	74.0	15.4	19.1	5.9926	18.625	14.023	40.948	11.219E-6
	74.2	13.3	19.1	3.7628	18.625	1.3181	15.445	-114.91E-6
	74.4	11.3	19.1	2.5503	18.625	0.25609	7.8689	-71.006E-6
	74.6	9.2	19.1	1.8129	18.625	0.084984	4.8030	-45.480E-6
	74.9	7.2	19.1	1.3265	18.625	0.036856	3.2210	-31.104E-6
	75.1	5.1	19.1	0.98921	18.625	0.018655	2.2900	-22.340E-6
	75.3	3.1	19.1	0.74725	18.625	0.010443	1.6960	-16.646E-6
	75.5	1.0	19.1	0.56926	18.625	0.0062794	1.2953	-12.765E-6
High Holborn House 3_3	75.5	1.0	19.1	0.56926	18.625	0.0062794	1.2953	-12.765E-6
	75.3	-0.8	19.1	0.44236	18.625	0.0040893	1.0276	-10.153E-6
	75.0	-2.7	19.1	0.34465	18.625	0.0027717	0.83102	-8.2270E-6
	74.8	-4.5	19.1	0.26824	18.625	0.0019411	0.68295	-6.7712E-6
	74.5	-6.3	19.1	0.20770	18.625	0.0013970	0.56896	-5.6477E-6
	74.3	-8.2	19.1	0.15921	18.625	0.0010291	0.47959	-4.7651E-6
	74.0	-10.0	19.1	0.12001	18.625	773.32E-6	0.40842	-4.0610E-6
High Holborn House 3_4	74.0	-10.0	19.1	0.12001	18.625	773.32E-6	0.40842	-4.0610E-6
	76.0	-10.2	19.1	0.12296	18.625	791.26E-6	0.41369	-4.1131E-6
	78.0	-10.4	19.1	0.12380	18.625	796.26E-6	0.41516	-4.1278E-6
	80.0	-10.7	19.1	0.12249	18.625	788.07E-6	0.41278	-4.1041E-6
	82.0	-10.9	19.1	0.11911	18.625	767.31E-6	0.40665	-4.0435E-6
	84.0	-11.1	19.1	0.11380	18.625	735.40E-6	0.39706	-3.9485E-6
	86.0	-11.3	19.1	0.10679	18.625	694.36E-6	0.38442	-3.8234E-6
	88.0	-11.6	19.1	0.098349	18.625	646.53E-6	0.36927	-3.6733E-6
	90.0	-11.8	19.1	0.088807	18.625	594.37E-6	0.35215	-3.5037E-6
	92.0	-12.0	19.1	0.078479	18.625	540.19E-6	0.33366	-3.3204E-6

Oasys

RSK GROUP

18-21 Hand Court
Load Test - Raft
Undrained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	**Date**	**Checked**



Analysis Options

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Maximum allowable ratio between values of E: 1.5
Horizontal rigid boundary level: -50.00 [m OD]
Displacements at load centroids: Yes

Soil ProfilesSoil Profile 1

Layer	Level at top [mOD]	Number of intermediate displacement levels	Youngs Modulus Top [kN/m²]	Youngs Modulus Btm [kN/m²]	Poissons ratio	Non-linear curve
1	24.000	5	50000.	50000.	0.50000	None
2	17.200	10	20000.	71000.	0.20000	None
3	-5.0000	10	120000.	150000.	0.20000	None
4	-49.000	5	150000.	150000.	0.20000	None

Soil Zones

Zone	Name	X coordinates min [m]	X coordinates max [m]	Y coordinates min [m]	Y coordinates max [m]	Profile
1	1	-20.0	140.0	-40.0	100.0	Soil Profile 1

Load Data

Load ref.	Name	Shape	Orientation of Plane	Centre of load (Global) X [m]	Y [m]	Z (level) [m]	Load position Angle of local x from [Degrees]	Width x or Radius [m]	Length y [m]	Polygon Coordinates [m]	Rectangle tolerance [%]	Number of rectangles	Load value Normal (local z) [kN/m²]	Tangential (local x) [kN/m²]	Tangential (local y) [kN/m²]
1	Perimeter	Polygonal	Horizontal	N/A	N/A	20.0	N/A	N/A	N/A	(72.5,42) (89,43.5) (91,16.5) (74,15.5)	10.000	6	0.0	N/A	N/A
2	Perimeter - Mid City Place	Polygonal	Horizontal	N/A	N/A	24.0	N/A	N/A	N/A	(1,79) (62,79) (62,6) (71,6) (71,-9) (1,0)	10.000	2	0.0	N/A	N/A
3	Perimeter - High Holborn House 1	Polygonal	Horizontal	N/A	N/A	20.3	N/A	N/A	N/A	(93,57) (77,60) (71.5,60) (72.5,42.1) (89.1,43.6)	10.000	12	0.0	N/A	N/A
4	Perimeter - High Holborn House 2	Polygonal	Horizontal	N/A	N/A	18.7	N/A	N/A	N/A	(92,75) (115,70) (118,14) (110,14) (108,-14) (92,-12) (92,6) (91.1,16.4) (89.1,43.6) (93.7,44)	10.000	17	0.0	N/A	N/A
5	Perimeter - High Holborn House 3	Polygonal	Horizontal	N/A	N/A	19.1	N/A	N/A	N/A	(91.1,16.4) (74,15.4) (75.5,1) (74,-10) (92,-12)	10.000	12	0.0	N/A	N/A
6	C1	Rectangular	Horizontal	87.7	41.7	20.0	4.0000	2.7000	3.2500	N/A	N/A	1	135.86	0.0	0.0
7	C2	Rectangular	Horizontal	87.5	36.9	20.0	5.0000	3.7500	6.2000	N/A	N/A	1	119.26	0.0	0.0
8	C3	Rectangular	Horizontal	88.0	30.5	20.0	4.0000	3.7500	6.3000	N/A	N/A	1	114.16	0.0	0.0
9	C4, C5, C6	Rectangular	Horizontal	88.3	21.9	20.0	4.5000	4.3000	10.700	N/A	N/A	1	83.410	0.0	0.0
10	C7	Rectangular	Horizontal	80.8	41.0	20.0	5.0000	11.000	3.2500	N/A	N/A	1	97.250	0.0	0.0
11	C8	Rectangular	Horizontal	81.5	36.3	20.0	4.5000	8.0000	6.3000	N/A	N/A	1	92.580	0.0	0.0
12	C9	Rectangular	Horizontal	82.0	30.0	20.0	4.5000	8.0000	6.3000	N/A	N/A	1	101.15	0.0	0.0
13	C10	Rectangular	Horizontal	74.0	40.4	20.0	4.5000	2.7000	3.2500	N/A	N/A	1	122.19	0.0	0.0
14	C11	Rectangular	Horizontal	75.2	35.8	20.0	4.0000	4.5000	6.1000	N/A	N/A	1	97.550	0.0	0.0
15	C12	Rectangular	Horizontal	75.6	29.4	20.0	3.5000	4.5000	6.5000	N/A	N/A	1	94.950	0.0	0.0
16	C13	Rectangular	Horizontal	76.0	22.9	20.0	4.0000	4.5000	6.5000	N/A	N/A	1	87.940	0.0	0.0
17	C14	Rectangular	Horizontal	76.4	17.7	20.0	5.0000	4.5000	3.9000	N/A	N/A	1	91.870	0.0	0.0
18	Core1	Rectangular	Horizontal	82.3	21.4	20.0	4.0000	7.6000	10.600	N/A	N/A	1	105.80	0.0	0.0

Polygonal Loads' Rectangles

No.	Centre of load X [m]	Centre of load Y [m]	Angle of local x from global X [Degrees]	Width x [m]	Depth y [m]
Load 1 : Perimeter					
(Edge 3 optimal)					
1	88.2	43.4	-86.760	0.11303	1.6568
2	86.5	43.2	-86.760	0.11303	4.9705
3	84.9	43.0	-86.760	0.11303	8.2841
4	83.2	42.8	-86.760	0.11303	11.598
5	81.6	42.6	-86.760	0.11303	14.911
6	81.6	29.2	-86.760	26.505	16.799
Load 2 : Perimeter - Mid City Place					
(Edge 6 optimal)					
1	66.5	-1.2	-180.00	9.0000	14.421
2	31.5	37.5	-180.00	61.000	82.921
Load 3 : Perimeter - High Holborn House 1					
(Edge 1 optimal)					
1	92.7	56.3	169.38	0.27275	1.3889
2	92.2	55.0	169.38	0.27275	4.1668
3	91.7	53.7	169.38	0.27275	6.9446
4	91.2	52.4	169.38	0.27275	9.7224
5	90.6	51.1	169.38	0.27275	12.500
6	82.9	50.8	169.38	14.915	15.997
7	74.8	51.1	169.38	1.1242	18.158
8	73.9	51.9	169.38	0.85633	16.391
9	73.4	53.7	169.38	0.85633	12.748
10	72.8	55.5	169.38	0.85633	9.1060
11	72.3	57.3	169.38	0.8563	5.4636
12	71.8	59.1	169.38	0.85633	1.8212
Load 4 : Perimeter - High Holborn House 2					
(Edge 9 optimal)					
1	103.9	43.8	-90.000	0.40000	25.004
2	103.6	30.0	-90.000	27.200	27.043
3	104.6	15.2	-90.000	2.4000	26.732
4	100.7	10.0	-90.000	8.0000	18.060
5	100.4	-3.0	-90.000	18.000	16.786
6	100.9	-12.2	-90.000	0.40000	14.529
7	102.4	-12.6	-90.000	0.40000	11.300
8	104.0	-13.0	-90.000	0.40000	8.0714
9	105.6	-13.4	-90.000	0.40000	4.8429
10	107.2	-13.8	-90.000	0.40000	1.6143
11	93.0	74.6	-90.000	0.83333	1.8938
12	94.9	73.8	-90.000	0.83333	5.6815
13	96.8	72.9	-90.000	0.83333	9.4691
14	98.8	72.1	-90.000	0.83333	13.257
15	100.7	71.2	-90.000	0.83333	17.044
16	102.7	70.4	-90.000	0.83333	20.832
17	104.3	57.0	-90.000	26.000	22.709
Load 5 : Perimeter - High Holborn House 3					
(Edge 3 optimal)					
1	90.3	16.2	-97.765	0.66025	1.7365
2	88.6	15.7	-97.765	0.66025	5.2096
3	86.9	15.3	-97.765	0.66025	8.6826
4	85.2	14.9	-97.765	0.66025	12.156
5	83.5	14.4	-97.765	0.66025	15.629
6	83.1	7.1	-97.765	14.065	16.836
7	83.3	-5.4	-97.765	10.651	17.206
8	82.1	-10.7	-97.765	0.090075	16.295
9	80.3	-10.5	-97.765	0.090075	12.674
10	78.5	-10.4	-97.765	0.090075	9.0526
11	76.7	-10.2	-97.765	0.090075	5.4316
12	74.9	-10.1	-97.765	0.090075	1.8105

Displacement Data

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
1	Grid	Grid 1	Global X	-20.0	-40.0	20.0	N/A	100.0	20.0	100	160.0	100	No	N/A

Oasys

RSK GROUP

18-21 Hand Court
Load Test - Raft
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

Ref.	Type	Name	Direction of Extrusion	Line/Line for extrusion First point X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]	No. of intrvls across extrusion/line	Extrusion Depth [m]	No. of intrvls along extrusion	Calculate	Show Detailed results
2	Line	Mid City Place_1	N/A	1.0	79.0	24.0	62.0	79.0	24.0	31	N/A	N/A	Yes	Yes
3	Line	Mid City Place_2	N/A	62.0	79.0	24.0	62.0	6.0	24.0	37	N/A	N/A	Yes	Yes
4	Line	Mid City Place_3	N/A	62.0	6.0	24.0	71.0	6.0	24.0	5	N/A	N/A	Yes	Yes
5	Line	Mid City Place_4	N/A	71.0	6.0	24.0	71.0	-9.0	24.0	8	N/A	N/A	Yes	Yes
6	Line	Mid City Place_5	N/A	71.0	-9.0	24.0	1.0	0.0	24.0	35	N/A	N/A	Yes	Yes
7	Line	Mid City Place_6	N/A	1.0	0.0	24.0	1.0	79.0	24.0	40	N/A	N/A	Yes	Yes
8	Line	High Holborn House 1_1	N/A	93.0	57.0	20.3	77.0	60.0	20.3	8	N/A	N/A	Yes	Yes
9	Line	High Holborn House 1_2	N/A	77.0	60.0	20.3	71.5	60.0	20.3	3	N/A	N/A	Yes	Yes
10	Line	High Holborn House 1_3	N/A	71.5	60.0	20.3	72.5	42.1	20.3	9	N/A	N/A	Yes	Yes
11	Line	High Holborn House 1_4	N/A	72.5	42.1	20.3	89.1	43.6	20.3	8	N/A	N/A	Yes	Yes
12	Line	High Holborn House 2_1	N/A	92.0	75.0	18.7	115.0	70.0	18.7	12	N/A	N/A	Yes	Yes
13	Line	High Holborn House 2_2	N/A	115.0	70.0	18.7	118.0	14.0	18.7	28	N/A	N/A	Yes	Yes
14	Line	High Holborn House 2_3	N/A	118.0	14.0	18.7	110.0	14.0	18.7	4	N/A	N/A	Yes	Yes
15	Line	High Holborn House 2_4	N/A	110.0	14.0	18.7	108.0	-14.0	18.7	14	N/A	N/A	Yes	Yes
16	Line	High Holborn House 2_5	N/A	108.0	-14.0	18.7	92.0	-12.0	18.7	8	N/A	N/A	Yes	Yes
17	Line	High Holborn House 2_6	N/A	92.0	-12.0	18.7	92.0	6.0	18.7	9	N/A	N/A	Yes	Yes
18	Line	High Holborn House 2_7	N/A	92.0	6.0	18.7	91.1	16.4	18.7	5	N/A	N/A	Yes	Yes
19	Line	High Holborn House 2_8	N/A	91.1	16.4	18.7	89.1	43.6	18.7	14	N/A	N/A	Yes	Yes
20	Line	High Holborn House 2_9	N/A	89.1	43.6	18.7	93.7	44.0	18.7	2	N/A	N/A	Yes	Yes
21	Line	High Holborn House 2_10	N/A	93.7	44.0	18.7	92.0	75.0	18.7	16	N/A	N/A	Yes	Yes
22	Line	High Holborn House 3_1	N/A	91.1	16.4	19.1	74.0	15.4	19.1	9	N/A	N/A	Yes	Yes
23	Line	High Holborn House 3_2	N/A	74.0	15.4	19.1	75.5	1.0	19.1	7	N/A	N/A	Yes	Yes
24	Line	High Holborn House 3_3	N/A	75.5	1.0	19.1	74.0	-10.0	19.1	6	N/A	N/A	Yes	Yes
25	Line	High Holborn House 3_4	N/A	74.0	-10.0	19.1	92.0	-12.0	19.1	9	N/A	N/A	Yes	Yes

RESULTS FOR GRIDS

Analysis: Boussinesq
Global Poisson's ratio: 0.20
Horizontal rigid boundary level: -50.00 [m OD]

The maximum displacement difference between the Boussinesq method (20.037mm) and the Mindlin method (39.270mm) occurs at point X = 80.8m, Y = 42.9m, level = 20.270mOD, and is 19.233mm.

Name	Location X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Perimeter	81.7	29.3	20.0	39.438	19.508	101.12	231.22	721.33E-6
Perimeter - Mid City Place	32.8	36.5	24.0	0.31480	23.433	0.0	0.0	0.0
Perimeter - High Holborn House 1	81.1	51.3	20.3	4.4530	19.758	241.26E-6	0.70908	-7.0835E-6
Perimeter - High Holborn House 2	103.0	32.1	18.7	3.1675	18.317	0.029628	3.0026	-29.137E-6
Perimeter - High Holborn House 3	83.3	2.3	19.1	2.2978	18.625	0.010431	1.7212	-16.899E-6
C1	87.7	41.7	20.0	25.475	19.508	133.92	261.10	0.0014065
C2	87.5	36.9	20.0	32.500	19.508	118.76	253.12	0.0010316
C3	88.0	30.5	20.0	33.503	19.508	113.71	244.03	970.91E-6
C4, C5, C6	88.3	21.9	20.0	27.864	19.508	83.249	183.83	659.20E-6
C7	80.8	41.0	20.0	28.835	19.508	96.789	207.73	826.34E-6
C8	81.5	36.3	20.0	36.366	19.508	92.578	212.72	650.10E-6
C9	82.0	30.0	20.0	39.477	19.508	101.13	231.43	719.54E-6
C10	74.0	40.4	20.0	24.253	19.508	120.55	236.92	0.0012474
C11	75.2	35.8	20.0	30.743	19.508	97.353	213.54	785.23E-6
C12	75.6	29.4	20.0	32.032	19.508	94.761	209.05	752.30E-6
C13	76.0	22.9	20.0	29.875	19.508	87.787	194.52	688.41E-6
C14	76.4	17.7	20.0	24.394	19.508	91.480	193.33	811.08E-6
Core1	82.3	21.4	20.0	36.480	19.508	105.76	238.68	786.03E-6
Mid City Place_1	1.0	79.0	24.0	0.0047979	23.433	0.0	0.0	0.0
	3.0	79.0	24.0	0.0067815	23.433	0.0	0.0	0.0
	4.9	79.0	24.0	0.0089856	23.433	0.0	0.0	0.0
	6.9	79.0	24.0	0.011430	23.433	0.0	0.0	0.0
	8.9	79.0	24.0	0.014137	23.433	0.0	0.0	0.0
	10.8	79.0	24.0	0.017128	23.433	0.0	0.0	0.0
	12.8	79.0	24.0	0.020428	23.433	0.0	0.0	0.0
	14.8	79.0	24.0	0.024062	23.433	0.0	0.0	0.0
	16.7	79.0	24.0	0.028058	23.433	0.0	0.0	0.0
	18.7	79.0	24.0	0.032444	23.433	0.0	0.0	0.0
	20.7	79.0	24.0	0.037248	23.433	0.0	0.0	0.0
	22.6	79.0	24.0	0.042501	23.433	0.0	0.0	0.0
	24.6	79.0	24.0	0.048233	23.433	0.0	0.0	0.0
	26.6	79.0	24.0	0.054475	23.433	0.0	0.0	0.0
	28.5	79.0	24.0	0.061257	23.433	0.0	0.0	0.0
	30.5	79.0	24.0	0.068608	23.433	0.0	0.0	0.0
	32.5	79.0	24.0	0.076557	23.433	0.0	0.0	0.0
	34.5	79.0	24.0	0.085127	23.433	0.0	0.0	0.0
	36.4	79.0	24.0	0.094340	23.433	0.0	0.0	0.0
	38.4	79.0	24.0	0.10421	23.433	0.0	0.0	0.0
	40.4	79.0	24.0	0.11475	23.433	0.0	0.0	0.0
	42.3	79.0	24.0	0.12596	23.433	0.0	0.0	0.0
	44.3	79.0	24.0	0.13783	23.433	0.0	0.0	0.0
	46.3	79.0	24.0	0.15034	23.433	0.0	0.0	0.0
	48.2	79.0	24.0	0.16345	23.433	0.0	0.0	0.0
	50.2	79.0	24.0	0.17712	23.433	0.0	0.0	0.0
	52.2	79.0	24.0	0.19127	23.433	0.0	0.0	0.0
	54.1	79.0	24.0	0.20581	23.433	0.0	0.0	0.0
	56.1	79.0	24.0	0.22063	23.433	0.0	0.0	0.0
	58.1	79.0	24.0	0.23558	23.433	0.0	0.0	0.0
	60.0	79.0	24.0	0.25052	23.433	0.0	0.0	0.0
	62.0	79.0	24.0	0.26525	23.433	0.0	0.0	0.0
Mid City	62.0	79.0	24.0	0.26525	23.433	0.0	0.0	0.0

Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
Place_2								
	62.0	77.0	24.0	0.30239	23.433	0.0	0.0	0.0
	62.0	75.1	24.0	0.34469	23.433	0.0	0.0	0.0
	62.0	73.1	24.0	0.39292	23.433	0.0	0.0	0.0
	62.0	71.1	24.0	0.44797	23.433	0.0	0.0	0.0
	62.0	69.1	24.0	0.51091	23.433	0.0	0.0	0.0
	62.0	67.2	24.0	0.58295	23.433	0.0	0.0	0.0
	62.0	65.2	24.0	0.66552	23.433	0.0	0.0	0.0
	62.0	63.2	24.0	0.76027	23.433	0.0	0.0	0.0
	62.0	61.2	24.0	0.86906	23.433	0.0	0.0	0.0
	62.0	59.3	24.0	0.99402	23.433	0.0	0.0	0.0
	62.0	57.3	24.0	1.1374	23.433	0.0	0.0	0.0
	62.0	55.3	24.0	1.3016	23.433	0.0	0.0	0.0
	62.0	53.4	24.0	1.4888	23.433	0.0	0.0	0.0
	62.0	51.4	24.0	1.7004	23.433	0.0	0.0	0.0
	62.0	49.4	24.0	1.9367	23.433	0.0	0.0	0.0
	62.0	47.4	24.0	2.1953	23.433	0.0	0.0	0.0
	62.0	45.5	24.0	2.4703	23.433	0.0	0.0	0.0
	62.0	43.5	24.0	2.7508	23.433	0.0	0.0	0.0
	62.0	41.5	24.0	3.0225	23.433	0.0	0.0	0.0
	62.0	39.5	24.0	3.2691	23.433	0.0	0.0	0.0
	62.0	37.6	24.0	3.4767	23.433	0.0	0.0	0.0
	62.0	35.6	24.0	3.6360	23.433	0.0	0.0	0.0
	62.0	33.6	24.0	3.7428	23.433	0.0	0.0	0.0
	62.0	31.6	24.0	3.7962	23.433	0.0	0.0	0.0
	62.0	29.7	24.0	3.7975	23.433	0.0	0.0	0.0
	62.0	27.7	24.0	3.7489	23.433	0.0	0.0	0.0
	62.0	25.7	24.0	3.6535	23.433	0.0	0.0	0.0
	62.0	23.8	24.0	3.5148	23.433	0.0	0.0	0.0
	62.0	21.8	24.0	3.3373	23.433	0.0	0.0	0.0
	62.0	19.8	24.0	3.1269	23.433	0.0	0.0	0.0
	62.0	17.8	24.0	2.8915	23.433	0.0	0.0	0.0
	62.0	15.9	24.0	2.6404	23.433	0.0	0.0	0.0
	62.0	13.9	24.0	2.3838	23.433	0.0	0.0	0.0
	62.0	11.9	24.0	2.1316	23.433	0.0	0.0	0.0
	62.0	9.9	24.0	1.8919	23.433	0.0	0.0	0.0
	62.0	8.0	24.0	1.6699	23.433	0.0	0.0	0.0
	62.0	6.0	24.0	1.4686	23.433	0.0	0.0	0.0
Mid City Place_3	62.0	6.0	24.0	1.4686	23.433	0.0	0.0	0.0
	63.8	6.0	24.0	1.6505	23.433	0.0	0.0	0.0
	65.6	6.0	24.0	1.8525	23.433	0.0	0.0	0.0
	67.4	6.0	24.0	2.0739	23.433	0.0	0.0	0.0
	69.2	6.0	24.0	2.3118	23.433	0.0	0.0	0.0
	71.0	6.0	24.0	2.5602	23.433	0.0	0.0	0.0
Mid City Place_4	71.0	6.0	24.0	2.5602	23.433	0.0	0.0	0.0
	71.0	4.1	24.0	2.1343	23.433	0.0	0.0	0.0
	71.0	2.3	24.0	1.7932	23.433	0.0	0.0	0.0
	71.0	0.4	24.0	1.5171	23.433	0.0	0.0	0.0
	71.0	-1.5	24.0	1.2913	23.433	0.0	0.0	0.0
	71.0	-3.4	24.0	1.1049	23.433	0.0	0.0	0.0
	71.0	-5.3	24.0	0.94971	23.433	0.0	0.0	0.0
	71.0	-7.1	24.0	0.81950	23.433	0.0	0.0	0.0
	71.0	-9.0	24.0	0.70949	23.433	0.0	0.0	0.0
Mid City Place_5	71.0	-9.0	24.0	0.70949	23.433	0.0	0.0	0.0
	69.0	-8.7	24.0	0.68777	23.433	0.0	0.0	0.0
	67.0	-8.5	24.0	0.66146	23.433	0.0	0.0	0.0
	65.0	-8.2	24.0	0.63146	23.433	0.0	0.0	0.0
	63.0	-8.0	24.0	0.59870	23.433	0.0	0.0	0.0
	61.0	-7.7	24.0	0.56406	23.433	0.0	0.0	0.0
	59.0	-7.5	24.0	0.52838	23.433	0.0	0.0	0.0
	57.0	-7.2	24.0	0.49237	23.433	0.0	0.0	0.0
	55.0	-6.9	24.0	0.45666	23.433	0.0	0.0	0.0
	53.0	-6.7	24.0	0.42172	23.433	0.0	0.0	0.0
	51.0	-6.4	24.0	0.38795	23.433	0.0	0.0	0.0
	49.0	-6.2	24.0	0.35562	23.433	0.0	0.0	0.0
	47.0	-5.9	24.0	0.32493	23.433	0.0	0.0	0.0
	45.0	-5.7	24.0	0.29599	23.433	0.0	0.0	0.0
	43.0	-5.4	24.0	0.26888	23.433	0.0	0.0	0.0
	41.0	-5.1	24.0	0.24361	23.433	0.0	0.0	0.0
	39.0	-4.9	24.0	0.22016	23.433	0.0	0.0	0.0
	37.0	-4.6	24.0	0.19848	23.433	0.0	0.0	0.0
	35.0	-4.4	24.0	0.17851	23.433	0.0	0.0	0.0
	33.0	-4.1	24.0	0.16017	23.433	0.0	0.0	0.0
	31.0	-3.9	24.0	0.14338	23.433	0.0	0.0	0.0
	29.0	-3.6	24.0	0.12803	23.433	0.0	0.0	0.0
	27.0	-3.3	24.0	0.11404	23.433	0.0	0.0	0.0
	25.0	-3.1	24.0	0.10131	23.433	0.0	0.0	0.0
	23.0	-2.8	24.0	0.089744	23.433	0.0	0.0	0.0
	21.0	-2.6	24.0	0.079259	23.433	0.0	0.0	0.0
	19.0	-2.3	24.0	0.069766	23.433	0.0	0.0	0.0
	17.0	-2.1	24.0	0.061185	23.433	0.0	0.0	0.0
	15.0	-1.8	24.0	0.053437	23.433	0.0	0.0	0.0
	13.0	-1.5	24.0	0.046451	23.433	0.0	0.0	0.0
	11.0	-1.3	24.0	0.040160	23.433	0.0	0.0	0.0
	9.0	-1.0	24.0	0.034502	23.433	0.0	0.0	0.0
	7.0	-0.8	24.0	0.029420	23.433	0.0	0.0	0.0
	5.0	-0.5	24.0	0.024859	23.433	0.0	0.0	0.0
	3.0	-0.3	24.0	0.020772	23.433	0.0	0.0	0.0
	1.0	0.0	24.0	0.017114	23.433	0.0	0.0	0.0
Mid City Place_6	1.0	0.0	24.0	0.017114	23.433	0.0	0.0	0.0
	1.0	2.0	24.0	0.018376	23.433	0.0	0.0	0.0
	1.0	4.0	24.0	0.019609	23.433	0.0	0.0	0.0
	1.0	5.9	24.0	0.020803	23.433	0.0	0.0	0.0
	1.0	7.9	24.0	0.021948	23.433	0.0	0.0	0.0
	1.0	9.9	24.0	0.023035	23.433	0.0	0.0	0.0
	1.0	11.9	24.0	0.024054	23.433	0.0	0.0	0.0
	1.0	13.8	24.0	0.024996	23.433	0.0	0.0	0.0
	1.0	15.8	24.0	0.025852	23.433	0.0	0.0	0.0
	1.0	17.8	24.0	0.026614	23.433	0.0	0.0	0.0
	1.0	19.8	24.0	0.027274	23.433	0.0	0.0	0.0
	1.0	21.7	24.0	0.027825	23.433	0.0	0.0	0.0
	1.0	23.7	24.0	0.028263	23.433	0.0	0.0	0.0
	1.0	25.7	24.0	0.028581	23.433	0.0	0.0	0.0
	1.0	27.6	24.0	0.028778	23.433	0.0	0.0	0.0
	1.0	29.6	24.0	0.028850	23.433	0.0	0.0	0.0
	1.0	31.6	24.0	0.028798	23.433	0.0	0.0	0.0
	1.0	33.6	24.0	0.028621	23.433	0.0	0.0	0.0
	1.0	35.5	24.0	0.028321	23.433	0.0	0.0	0.0
	1.0	37.5	24.0	0.027902	23.433	0.0	0.0	0.0
	1.0	39.5	24.0	0.027368	23.433	0.0	0.0	0.0
	1.0	41.5	24.0	0.026724	23.433	0.0	0.0	0.0
	1.0	43.5	24.0	0.025977	23.433	0.0	0.0	0.0
	1.0	45.4	24.0	0.025134	23.433	0.0	0.0	0.0
	1.0	47.4	24.0	0.024203	23.433	0.0	0.0	0.0
	1.0	49.4	24.0	0.023194	23.433	0.0	0.0	0.0
	1.0	51.4	24.0	0.022115	23.433	0.0	0.0	0.0
	1.0	53.3	24.0	0.020975	23.433	0.0	0.0	0.0
	1.0	55.3	24.0	0.019786	23.433	0.0	0.0	0.0
	1.0	57.3	24.0	0.018555	23.433	0.0	0.0	0.0
	1.0	59.3	24.0	0.017294	23.433	0.0	0.0	0.0
	1.0	61.2	24.0	0.016011	23.433	0.0	0.0	0.0
	1.0	63.2	24.0	0.014715	23.433	0.0	0.0	0.0
	1.0	65.2	24.0	0.013415	23.433	0.0	0.0	0.0
	1.0	67.2	24.0	0.012119	23.433	0.0	0.0	0.0
	1.0	69.1	24.0	0.010835	23.433	0.0	0.0	0.0
	1.0	71.1	24.0	0.0095683	23.433	0.0	0.0	0.0
	1.0	73.1	24.0	0.0083264	23.433	0.0	0.0	0.0
	1.0	75.0	24.0	0.0071143	23.433	0.0	0.0	0.0
	1.0	77.0	24.0	0.0059367	23.433	0.0	0.0	0.0
	1.0	79.0	24.0	0.0047979	23.433	0.0	0.0	0.0
High Holborn House 1_1	93.0	57.0	20.3	1.7550	19.758	21.960E-6	0.19138	-1.9131E-6
	91.0	57.4	20.3	1.8311	19.758	24.222E-6	0.20223	-2.0216E-6
	89.0	57.8	20.3	1.8811	19.758	25.602E-6	0.20927	-2.0920E-6
	87.0	58.1	20.3	1.9013	19.758	25.939E-6	0.21191	-2.1183E-6
	85.0	58.5	20.3	1.8910	19.758	25.274E-6	0.21004	-2.0997E-6
	83.0	58.9	20.3	1.8516	19.758	23.788E-6	0.20406	-2.0399E-6

Oasys

RSK GROUP

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked

18-21 Hand Court
Load Test - Raft
Drained

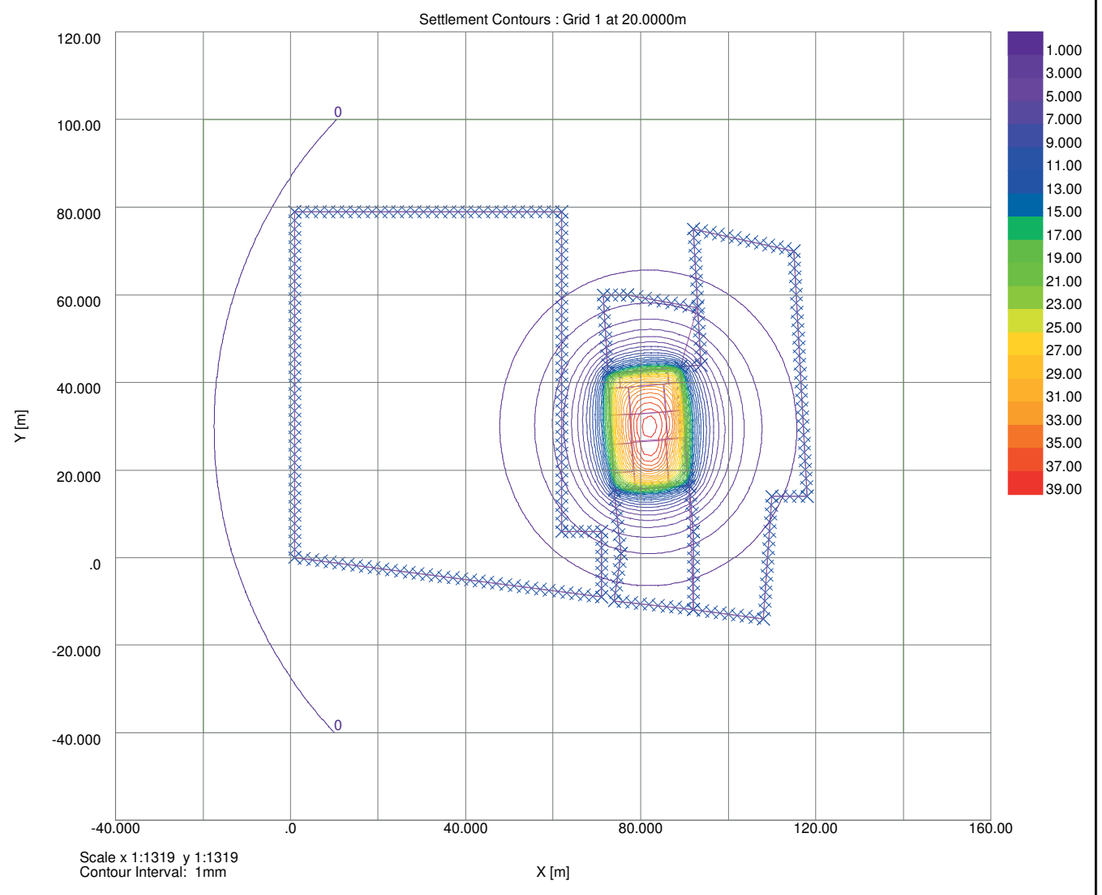
Name	Location X [m]	Location Y [m]	Location Z[Level] [mOD]	Displacement Z [mm]	Stresses Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Stresses Sum Princ [kN/m²]	Stresses Vert Strain [-]
	81.0	59.3	20.3	1.7865	19.758	21.722E-6	0.19465	-1.9458E-6
	79.0	59.6	20.3	1.7005	19.758	19.313E-6	0.18262	-1.8256E-6
	77.0	60.0	20.3	1.5989	19.758	16.767E-6	0.16887	-1.6882E-6
High Holborn House 1_2	77.0	60.0	20.3	1.5989	19.758	16.767E-6	0.16887	-1.6882E-6
	75.2	60.0	20.3	1.5446	19.758	15.534E-6	0.16170	-1.6166E-6
	73.3	60.0	20.3	1.4772	19.758	14.087E-6	0.15297	-1.5293E-6
	71.5	60.0	20.3	1.3997	19.758	12.524E-6	0.14312	-1.4308E-6
High Holborn House 1_3	71.5	60.0	20.3	1.3997	19.758	12.524E-6	0.14312	-1.4308E-6
	71.6	58.0	20.3	1.6751	19.758	18.957E-6	0.17940	-1.7934E-6
	71.7	56.0	20.3	2.0227	19.758	30.005E-6	0.22955	-2.2946E-6
	71.8	54.0	20.3	2.4687	19.758	50.319E-6	0.30134	-3.0119E-6
	71.9	52.0	20.3	3.0531	19.758	91.296E-6	0.40892	-4.0865E-6
	72.1	50.1	20.3	3.8386	19.758	185.75E-6	0.58091	-5.8035E-6
	72.2	48.1	20.3	4.9327	19.758	453.62E-6	0.88453	-8.8317E-6
	72.3	46.1	20.3	6.5371	19.758	0.0015455	1.5218	-15.171E-6
	72.4	44.1	20.3	9.0742	19.758	0.011451	3.4684	-34.341E-6
	72.5	42.1	20.3	13.464	19.758	6.4655	37.120	-177.24E-6
High Holborn House 1_4	72.5	42.1	20.3	13.464	19.758	6.4655	37.120	-177.24E-6
	74.6	42.3	20.3	17.370	19.758	11.033	65.311	-322.12E-6
	76.7	42.5	20.3	18.965	19.758	8.9283	56.556	-297.71E-6
	78.7	42.7	20.3	19.766	19.758	8.4973	55.549	-300.58E-6
	80.8	42.9	20.3	20.037	19.758	8.0933	54.628	-303.48E-6
	82.9	43.0	20.3	19.846	19.758	7.7119	53.683	-305.47E-6
	84.9	43.2	20.3	19.212	19.758	7.3646	53.358	-312.64E-6
	87.0	43.4	20.3	18.103	19.758	24.613	94.638	-207.99E-6
	89.1	43.6	20.3	16.515	19.758	3.2653	29.481	-196.85E-6
High Holborn House 2_1	92.0	75.0	18.7	0.43549	18.317	613.58E-6	0.31061	-3.0877E-6
	93.9	74.6	18.7	0.43263	18.317	606.64E-6	0.30865	-3.0683E-6
	95.8	74.2	18.7	0.42702	18.317	593.28E-6	0.30483	-3.0305E-6
	97.8	73.8	18.7	0.41881	18.317	574.07E-6	0.29927	-2.9754E-6
	99.7	73.3	18.7	0.40822	18.317	549.83E-6	0.29212	-2.9047E-6
	101.6	72.9	18.7	0.39552	18.317	521.55E-6	0.28360	-2.8204E-6
	103.5	72.5	18.7	0.38101	18.317	490.28E-6	0.27393	-2.7246E-6
	105.4	72.1	18.7	0.36502	18.317	457.10E-6	0.26336	-2.6199E-6
	107.3	71.7	18.7	0.34788	18.317	422.99E-6	0.25212	-2.5085E-6
	109.3	71.3	18.7	0.32990	18.317	388.85E-6	0.24044	-2.3927E-6
	111.2	70.8	18.7	0.31140	18.317	355.39E-6	0.22852	-2.2746E-6
	113.1	70.4	18.7	0.29264	18.317	323.18E-6	0.21655	-2.1558E-6
	115.0	70.0	18.7	0.27389	18.317	292.65E-6	0.20468	-2.0380E-6
High Holborn House 2_2	115.0	70.0	18.7	0.27389	18.317	292.65E-6	0.20468	-2.0380E-6
	115.1	68.0	18.7	0.30324	18.317	339.27E-6	0.22320	-2.2218E-6
	115.2	66.0	18.7	0.33486	18.317	393.22E-6	0.24336	-2.4218E-6
	115.3	64.0	18.7	0.36873	18.317	455.35E-6	0.26523	-2.6386E-6
	115.4	62.0	18.7	0.40479	18.317	526.43E-6	0.28881	-2.8723E-6
	115.5	60.0	18.7	0.44288	18.317	607.07E-6	0.31407	-3.1225E-6
	115.6	58.0	18.7	0.48279	18.317	697.61E-6	0.34091	-3.3882E-6
	115.8	56.0	18.7	0.52416	18.317	797.96E-6	0.36914	-3.6675E-6
	115.9	54.0	18.7	0.56657	18.317	907.49E-6	0.39848	-3.9576E-6
	116.0	52.0	18.7	0.60944	18.317	0.0010249	0.42855	-4.2548E-6
	116.1	50.0	18.7	0.65211	18.317	0.0011480	0.45885	-4.5541E-6
	116.2	48.0	18.7	0.69379	18.317	0.0012740	0.48879	-4.8497E-6
	116.3	46.0	18.7	0.73362	18.317	0.0013992	0.51769	-5.1350E-6
	116.4	44.0	18.7	0.77071	18.317	0.0015196	0.54483	-5.4028E-6
	116.5	42.0	18.7	0.80414	18.317	0.0016308	0.56947	-5.6457E-6
	116.6	40.0	18.7	0.83305	18.317	0.0017287	0.59088	-5.8569E-6
	116.7	38.0	18.7	0.85666	18.317	0.0018095	0.60842	-6.0299E-6
	116.8	36.0	18.7	0.87433	18.317	0.0018699	0.62155	-6.1594E-6
	116.9	34.0	18.7	0.88555	18.317	0.0019077	0.62987	-6.2414E-6
	117.0	32.0	18.7	0.89002	18.317	0.0019217	0.63312	-6.2735E-6
	117.1	30.0	18.7	0.88763	18.317	0.0019113	0.63122	-6.2548E-6
	117.3	28.0	18.7	0.87847	18.317	0.0018771	0.62424	-6.1861E-6
	117.4	26.0	18.7	0.86280	18.317	0.0018207	0.61243	-6.0697E-6
	117.5	24.0	18.7	0.84109	18.317	0.0017442	0.59617	-5.9094E-6
	117.6	22.0	18.7	0.81395	18.317	0.0016506	0.57596	-5.710lE-6
	117.7	20.0	18.7	0.78212	18.317	0.0015435	0.55243	-5.4780E-6
	117.8	18.0	18.7	0.74643	18.317	0.0014268	0.52624	-5.2196E-6
	117.9	16.0	18.7	0.70774	18.317	0.0013045	0.49811	-4.9419E-6
	118.0	14.0	18.7	0.66693	18.317	0.0011806	0.46875	-4.6520E-6
High Holborn House 2_3	118.0	14.0	18.7	0.66693	18.317	0.0011806	0.46875	-4.6520E-6
	116.0	14.0	18.7	0.77039	18.317	0.0015419	0.54579	-5.4116E-6
	114.0	14.0	18.7	0.89223	18.317	0.0020465	0.64055	-6.3441E-6
	112.0	14.0	18.7	1.0366	18.317	0.0027671	0.75847	-7.5017E-6
	110.0	14.0	18.7	1.2090	18.317	0.0038235	0.90723	-8.9576E-6
High Holborn House 2_4	110.0	14.0	18.7	1.2090	18.317	0.0038235	0.90723	-8.9576E-6
	109.9	12.0	18.7	1.1325	18.317	0.0033893	0.84274	-8.3258E-6
	109.7	10.0	18.7	1.0527	18.317	0.0029553	0.77630	-7.6743E-6
	109.6	8.0	18.7	0.97172	18.317	0.0025406	0.71002	-7.0239E-6
	109.4	6.0	18.7	0.89151	18.317	0.0021592	0.64566	-6.3918E-6
	109.3	4.0	18.7	0.81358	18.317	0.0018189	0.58451	-5.7906E-6
	109.1	2.0	18.7	0.73910	18.317	0.0015226	0.52744	-5.2288E-6
	109.0	0.0	18.7	0.66883	18.317	0.0012692	0.47491	-4.7110E-6
	108.9	-2.0	18.7	0.60325	18.317	0.0010555	0.42706	-4.2389E-6
	108.7	-4.0	18.7	0.54256	18.317	877.11E-6	0.38384	-3.8121E-6
	108.6	-6.0	18.7	0.48679	18.317	729.10E-6	0.34503	-3.4285E-6
	108.4	-8.0	18.7	0.43582	18.317	606.84E-6	0.31034	-3.0852E-6
	108.3	-10.0	18.7	0.38946	18.317	506.09E-6	0.27941	-2.7790E-6
	108.1	-12.0	18.7	0.34744	18.317	423.12E-6	0.25190	-2.5063E-6
	108.0	-14.0	18.7	0.30946	18.317	354.79E-6	0.22743	-2.2637E-6
High Holborn House 2_5	108.0	-14.0	18.7	0.30946	18.317	354.79E-6	0.22743	-2.2637E-6
	106.0	-13.8	18.7	0.33919	18.317	408.85E-6	0.24662	-2.4539E-6
	104.0	-13.5	18.7	0.37056	18.317	470.46E-6	0.26714	-2.6573E-6
	102.0	-13.3	18.7	0.40338	18.317	540.07E-6	0.28894	-2.8732E-6
	100.0	-13.0	18.7	0.43738	18.317	617.92E-6	0.31189	-3.1004E-6
	98.0	-12.8	18.7	0.47220	18.317	703.85E-6	0.33577	-3.3366E-6
	96.0	-12.5	18.7	0.50737	18.317	797.20E-6	0.36029	-3.5790E-6
	94.0	-12.3	18.7	0.54232	18.317	896.63E-6	0.38504	-3.8235E-6
	92.0	-12.0	18.7	0.57636	18.317	0.0010000	0.40953	-4.0653E-6
High Holborn House 2_6	92.0	-12.0	18.7	0.57636	18.317	0.0010000	0.40953	-4.0653E-6
	92.0	-10.0	18.7	0.66987	18.317	0.0013157	0.47848	-4.7453E-6
	92.0	-8.0	18.7	0.78098	18.317	0.0017605	0.56395	-5.5867E-6
	92.0	-6.0	18.7	0.91394	18.317	0.0024013	0.67124	-6.6403E-6
	92.0	-4.0	18.7	1.0743	18.317	0.0033482	0.80783	-7.9779E-6
	92.0	-2.0	18.7	1.2695	18.317	0.0047894	0.98456	-9.7019E-6
	92.0	0.0	18.7	1.5094	18.317	0.0070608	1.2175	-11.963E-6
	92.0	2.0	18.7	1.8079	18.317	0.010796	1.5313	-14.989E-6
	92.0	4.0	18.7	2.1839	18.317	0.017270	1.9651	-19.133E-6
	92.0	6.0	18.7	2.6647	18.317	0.029284	2.5848	-24.970E-6
High Holborn House 2_7	92.0	6.0	18.7	2.6647	18.317	0.029284	2.5848	-24.970E-6
	91.8	8.1	18.7	3.3551	18.317	0.056824	3.6106	-34.401E-6
	91.6	10.2	18.7	4.3102	18.317	0.12740	5.3286	-49.464E-6
	91.5	12.2	18.7	5.6904	18.317	0.36426	8.5707	-74.779E-6
	91.3	14.3	18.7	7.8178	18.317	1.6494	16.113	-111.65E-6
	91.1	16.4	18.7	11.317	18.317	13.678	38.847	21.860E-6
High Holborn House 2_8	91.1	16.4	18.7	11.317	18.317	13.678	38.847	21.860E-6
	91.0	18.3	18.7	15.031	18.317	32.680	67.071	309.68E-6
	90.8	20.3	18.7	17.440	18.317	35.392	77.880	282.95E-6
	90.7	22.2	18.7	18.998	18.317	35.576	82.202	245.27E-6
	90.5	24.2	18.7	20.123	18.317	35.503	84.799	217.08E-6
	90.4	26.1	18.7	21.116	18.317	36.027	88.245	198.34E-6
	90.2	28.1	18.7	22.261	18.317	41.857	96.983	285.89E-6
	90.1	30.0	18.7	23.091	18.317	45.953	103.79	340.66E-6
	90.0	31.9	18.7	23.342	18.317	46.457	105.50	338.68E-6
	89.8	33.9	18.7	23.238	18.317	46.389	105.93	332.38E-6
	89.7	35.8	18.7	22.940	18.317	49.361	108.06	400.19E-6
	89.5	37.8	18.7	22.082	18.317	48.706	106.30	398.19E-6
	89.4	39.7	18.7	20.655	18.317	48.782	103.07	432.82E-6
	89.2	41.7	18.7	18.281	18.317	51.108	95.385	579.40E-6
	89.1	43.6	18.7	13.676	18.317	24.764	57.329	169.62E-6
High Holborn House 2_9	89.1	43.6	18.7	13.676	18.317	24.764	57.329	169.62E-6

Name	X [m]	Location Y [m]	Z[Level] [mOD]	Displacement Z [mm]	Calc Level [mOD]	Stresses Vert Stress [kN/m²]	Sum Princ [kN/m²]	Vert Strain [-]
	91.4	43.8	18.7	8.8273	18.317	2.3016	19.928	-130.23E-6
	93.7	44.0	18.7	6.1612	18.317	0.41761	9.5270	-82.741E-6
High Holborn House 2_10	93.7	44.0	18.7	6.1612	18.317	0.41761	9.5270	-82.741E-6
	93.6	45.9	18.7	5.1309	18.317	0.23748	7.0981	-63.856E-6
	93.5	47.9	18.7	4.2197	18.317	0.12459	5.1810	-48.072E-6
	93.4	49.8	18.7	3.4679	18.317	0.066427	3.8203	-36.210E-6
	93.3	51.8	18.7	2.8636	18.317	0.037360	2.8771	-27.650E-6
	93.2	53.7	18.7	2.3804	18.317	0.022256	2.2155	-21.487E-6
	93.1	55.6	18.7	1.9924	18.317	0.013953	1.7407	-16.989E-6
	93.0	57.6	18.7	1.6784	18.317	0.0091305	1.3921	-13.647E-6
	92.8	59.5	18.7	1.4224	18.317	0.0061926	1.1304	-11.118E-6
	92.7	61.4	18.7	1.2117	18.317	0.0043278	0.93028	-9.1730E-6
	92.6	63.4	18.7	1.0371	18.317	0.0031025	0.77462	-7.6531E-6
	92.5	65.3	18.7	0.89116	18.317	0.0022734	0.65175	-6.4493E-6
	92.4	67.3	18.7	0.76842	18.317	0.0016978	0.55349	-5.4840E-6
	92.3	69.2	18.7	0.66453	18.317	0.0012893	0.47398	-4.7012E-6
	92.2	71.1	18.7	0.57610	18.317	993.78E-6	0.40897	-4.0599E-6
	92.1	73.1	18.7	0.50047	18.317	776.22E-6	0.35530	-3.5297E-6
	92.0	75.0	18.7	0.43549	18.317	613.58E-6	0.31061	-3.0877E-6
High Holborn House 3_1	91.1	16.4	19.1	11.305	18.625	12.305	37.415	-4.9902E-6
	89.2	16.3	19.1	14.810	18.625	28.000	64.986	190.12E-6
	87.3	16.2	19.1	17.253	18.625	31.151	77.110	163.44E-6
	85.4	16.1	19.1	19.215	18.625	39.053	90.515	266.44E-6
	83.5	16.0	19.1	20.269	18.625	41.955	97.152	287.13E-6
	81.6	15.8	19.1	20.413	18.625	42.996	98.526	304.61E-6
	79.7	15.7	19.1	19.647	18.625	41.871	94.585	310.28E-6
	77.8	15.6	19.1	17.962	18.625	35.944	84.474	233.58E-6
	75.9	15.5	19.1	15.629	18.625	35.121	74.160	312.02E-6
	74.0	15.4	19.1	11.783	18.625	14.023	40.948	11.219E-6
High Holborn House 3_2	74.0	15.4	19.1	11.783	18.625	14.023	40.948	11.219E-6
	74.2	13.3	19.1	8.1993	18.625	1.3181	15.445	-114.91E-6
	74.4	11.3	19.1	5.9836	18.625	0.25609	7.8689	-71.006E-6
	74.6	9.2	19.1	4.5371	18.625	0.084984	4.8030	-45.480E-6
	74.9	7.2	19.1	3.5336	18.625	0.036856	3.2210	-31.104E-6
	75.1	5.1	19.1	2.8073	18.625	0.018655	2.2900	-22.340E-6
	75.3	3.1	19.1	2.2655	18.625	0.010443	1.6960	-16.646E-6
	75.5	1.0	19.1	1.8515	18.625	0.0062794	1.2953	-12.765E-6
High Holborn House 3_3	75.5	1.0	19.1	1.8515	18.625	0.0062794	1.2953	-12.765E-6
	75.3	-0.8	19.1	1.5457	18.625	0.0040893	1.0276	-10.153E-6
	75.0	-2.7	19.1	1.3021	18.625	0.0027717	0.83102	-8.2270E-6
	74.8	-4.5	19.1	1.1050	18.625	0.0019411	0.68295	-6.7712E-6
	74.5	-6.3	19.1	0.94367	18.625	0.0013970	0.56896	-5.6477E-6
	74.3	-8.2	19.1	0.81005	18.625	0.0010291	0.47959	-4.7651E-6
	74.0	-10.0	19.1	0.69836	18.625	773.32E-6	0.40842	-4.0610E-6
High Holborn House 3_4	74.0	-10.0	19.1	0.69836	18.625	773.32E-6	0.40842	-4.0610E-6
	76.0	-10.2	19.1	0.70671	18.625	791.26E-6	0.41369	-4.1131E-6
	78.0	-10.4	19.1	0.70901	18.625	796.26E-6	0.41516	-4.1278E-6
	80.0	-10.7	19.1	0.70516	18.625	788.07E-6	0.41278	-4.1041E-6
	82.0	-10.9	19.1	0.69533	18.625	767.31E-6	0.40665	-4.0435E-6
	84.0	-11.1	19.1	0.67989	18.625	735.40E-6	0.39706	-3.9485E-6
	86.0	-11.3	19.1	0.65941	18.625	694.36E-6	0.38442	-3.8234E-6
	88.0	-11.6	19.1	0.63460	18.625	646.53E-6	0.36927	-3.6733E-6
	90.0	-11.8	19.1	0.60627	18.625	594.37E-6	0.35215	-3.5037E-6
	92.0	-12.0	19.1	0.57526	18.625	540.19E-6	0.33366	-3.3204E-6

RSK GROUP

18-21 Hand Court
Load Test - Raft
Drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date	Checked



APPENDIX E
XDISP OUTPUTS

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]			
Line	Mid City Place_1	-	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	-	-	Yes	Surface
Line	Mid City Place_2	-	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	-	-	Yes	Surface
Line	Mid City Place_3	-	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	-	-	Yes	Surface
Line	Mid City Place_4	-	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	-	-	Yes	Surface
Line	Mid City Place_5	-	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	-	-	Yes	Surface
Line	Mid City Place_6	-	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	-	-	Yes	Surface
Line	High Holborn House 1_1	-	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 1_2	-	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	-	-	Yes	Surface
Line	High Holborn House 1_3	-	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	-	-	Yes	Surface
Line	High Holborn House 1_4	-	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 2_1	-	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	-	-	Yes	Surface
Line	High Holborn House 2_2	-	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	-	-	Yes	Surface
Line	High Holborn House 2_3	-	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	-	-	Yes	Surface
Line	High Holborn House 2_4	-	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_5	-	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	-	-	Yes	Surface
Line	High Holborn House 2_6	-	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	-	-	Yes	Surface
Line	High Holborn House 2_7	-	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	-	-	Yes	Surface
Line	High Holborn House 2_8	-	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_9	-	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	-	-	Yes	Surface
Line	High Holborn House 2_10	-	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	-	-	Yes	Surface
Line	High Holborn House 3_1	-	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	-	-	Yes	Surface
Line	High Holborn House 3_2	-	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	-	-	Yes	Surface
Line	High Holborn House 3_3	-	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	-	-	Yes	Surface
Line	High Holborn House 3_4	-	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	-	-	Yes	Surface

Imported Displacements

The following data points and displacements were found in the import file Raft Demo_undrained.csv.

Ref.	Coordinates			Displacements			
	x [m]	y [m]	z [m]	x [mm]	y [mm]	z [mm]	
1	1.00000	79.00000	24.00000	0.00000	0.00000	0.00861	1,2,6
2	2.96774	79.00000	24.00000	0.00000	0.00000	0.00877	1,2,6
3	4.93548	79.00000	24.00000	0.00000	0.00000	0.00893	1,2,6
4	6.90323	79.00000	24.00000	0.00000	0.00000	0.00909	1,2,6
5	8.87097	79.00000	24.00000	0.00000	0.00000	0.00923	1,2,6
6	10.83871	79.00000	24.00000	0.00000	0.00000	0.00936	1,2,6
7	12.80645	79.00000	24.00000	0.00000	0.00000	0.00948	1,2,6
8	14.77419	79.00000	24.00000	0.00000	0.00000	0.00959	1,2,6
9	16.74194	79.00000	24.00000	0.00000	0.00000	0.00969	1,2,6
10	18.70968	79.00000	24.00000	0.00000	0.00000	0.00976	1,2,6
11	20.67742	79.00000	24.00000	0.00000	0.00000	0.00982	1,2,6
12	22.64516	79.00000	24.00000	0.00000	0.00000	0.00986	1,2,6
13	24.61290	79.00000	24.00000	0.00000	0.00000	0.00987	1,2,6
14	26.58065	79.00000	24.00000	0.00000	0.00000	0.00986	1,2,6
15	28.54839	79.00000	24.00000	0.00000	0.00000	0.00982	1,2,6
16	30.51613	79.00000	24.00000	0.00000	0.00000	0.00974	1,2,6
17	32.48387	79.00000	24.00000	0.00000	0.00000	0.00964	1,2,6
18	34.45161	79.00000	24.00000	0.00000	0.00000	0.00950	1,2,6
19	36.41935	79.00000	24.00000	0.00000	0.00000	0.00932	1,2,6
20	38.38710	79.00000	24.00000	0.00000	0.00000	0.00911	1,2,6
21	40.35484	79.00000	24.00000	0.00000	0.00000	0.00885	1,2,6
22	42.32258	79.00000	24.00000	0.00000	0.00000	0.00856	1,2,6
23	44.29032	79.00000	24.00000	0.00000	0.00000	0.00822	1,2,6
24	46.25806	79.00000	24.00000	0.00000	0.00000	0.00784	1,2,6
25	48.22581	79.00000	24.00000	0.00000	0.00000	0.00742	1,2,6
26	50.19355	79.00000	24.00000	0.00000	0.00000	0.00697	1,2,6
27	52.16129	79.00000	24.00000	0.00000	0.00000	0.00648	1,2,6
28	54.12903	79.00000	24.00000	0.00000	0.00000	0.00596	1,2,6
29	56.09677	79.00000	24.00000	0.00000	0.00000	0.00542	1,2,6
30	58.06452	79.00000	24.00000	0.00000	0.00000	0.00487	1,2,6
31	60.03226	79.00000	24.00000	0.00000	0.00000	0.00430	1,2,6
32	62.00000	79.00000	24.00000	0.00000	0.00000	0.00374	1,2,6
33	62.00000	77.02703	24.00000	0.00000	0.00000	0.00209	1,2,6
34	62.00000	75.05405	24.00000	0.00000	0.00000	0.00010	1,2,6
35	62.00000	73.08108	24.00000	0.00000	0.00000	-0.00229	1,2,6
36	62.00000	71.10811	24.00000	0.00000	0.00000	-0.00517	1,2,6
37	62.00000	69.13514	24.00000	0.00000	0.00000	-0.00863	1,2,6
38	62.00000	67.16216	24.00000	0.00000	0.00000	-0.01278	1,2,6
39	62.00000	65.18919	24.00000	0.00000	0.00000	-0.01776	1,2,6
40	62.00000	63.21622	24.00000	0.00000	0.00000	-0.02373	1,2,6
41	62.00000	61.24324	24.00000	0.00000	0.00000	-0.03091	1,2,6
42	62.00000	59.27027	24.00000	0.00000	0.00000	-0.03953	1,2,6
43	62.00000	57.29730	24.00000	0.00000	0.00000	-0.04989	1,2,6
44	62.00000	55.32432	24.00000	0.00000	0.00000	-0.06231	1,2,6
45	62.00000	53.35135	24.00000	0.00000	0.00000	-0.07715	1,2,6
46	62.00000	51.37838	24.00000	0.00000	0.00000	-0.09476	1,2,6
47	62.00000	49.40541	24.00000	0.00000	0.00000	-0.11545	1,2,6
48	62.00000	47.43243	24.00000	0.00000	0.00000	-0.13934	1,2,6
49	62.00000	45.45946	24.00000	0.00000	0.00000	-0.16626	1,2,6
50	62.00000	43.48649	24.00000	0.00000	0.00000	-0.19558	1,2,6
51	62.00000	41.51351	24.00000	0.00000	0.00000	-0.22617	1,2,6
52	62.00000	39.54054	24.00000	0.00000	0.00000	-0.25643	1,2,6
53	62.00000	37.56757	24.00000	0.00000	0.00000	-0.28448	1,2,6
54	62.00000	35.59459	24.00000	0.00000	0.00000	-0.30851	1,2,6
55	62.00000	33.62162	24.00000	0.00000	0.00000	-0.32713	1,2,6
56	62.00000	31.64865	24.00000	0.00000	0.00000	-0.33973	1,2,6
57	62.00000	29.67568	24.00000	0.00000	0.00000	-0.34636	1,2,6
58	62.00000	27.70270	24.00000	0.00000	0.00000	-0.34743	1,2,6
59	62.00000	25.72973	24.00000	0.00000	0.00000	-0.34331	1,2,6
60	62.00000	23.75676	24.00000	0.00000	0.00000	-0.33418	1,2,6
61	62.00000	21.78378	24.00000	0.00000	0.00000	-0.31994	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
62	62.00000	19.81081	24.00000	0.00000	0.00000	-0.30042	1,2,6
63	62.00000	17.83784	24.00000	0.00000	0.00000	-0.27583	1,2,6
64	62.00000	15.86486	24.00000	0.00000	0.00000	-0.24715	1,2,6
65	62.00000	13.89189	24.00000	0.00000	0.00000	-0.21618	1,2,6
66	62.00000	11.91892	24.00000	0.00000	0.00000	-0.18509	1,2,6
67	62.00000	9.94595	24.00000	0.00000	0.00000	-0.15572	1,2,6
68	62.00000	7.97297	24.00000	0.00000	0.00000	-0.12926	1,2,6
69	62.00000	6.00000	24.00000	0.00000	0.00000	-0.10619	1,2,6
70	63.80000	6.00000	24.00000	0.00000	0.00000	-0.12613	1,2,6
71	65.60000	6.00000	24.00000	0.00000	0.00000	-0.14872	1,2,6
72	67.40000	6.00000	24.00000	0.00000	0.00000	-0.17363	1,2,6
73	69.20000	6.00000	24.00000	0.00000	0.00000	-0.19999	1,2,6
74	71.00000	6.00000	24.00000	0.00000	0.00000	-0.22617	1,2,6
75	71.00000	4.12500	24.00000	0.00000	0.00000	-0.17235	1,2,6
76	71.00000	2.25000	24.00000	0.00000	0.00000	-0.13276	1,2,6
77	71.00000	0.37500	24.00000	0.00000	0.00000	-0.10303	1,2,6
78	71.00000	-1.50000	24.00000	0.00000	0.00000	-0.08030	1,2,6
79	71.00000	-3.37500	24.00000	0.00000	0.00000	-0.06266	1,2,6
80	71.00000	-5.25000	24.00000	0.00000	0.00000	-0.04879	1,2,6
81	71.00000	-7.12500	24.00000	0.00000	0.00000	-0.03776	1,2,6
82	71.00000	-9.00000	24.00000	0.00000	0.00000	-0.02890	1,2,6
83	69.00000	-8.74286	24.00000	0.00000	0.00000	-0.02769	1,2,6
84	67.00000	-8.48571	24.00000	0.00000	0.00000	-0.02607	1,2,6
85	65.00000	-8.22857	24.00000	0.00000	0.00000	-0.02409	1,2,6
86	63.00000	-7.97143	24.00000	0.00000	0.00000	-0.02185	1,2,6
87	61.00000	-7.71429	24.00000	0.00000	0.00000	-0.01943	1,2,6
88	59.00000	-7.45714	24.00000	0.00000	0.00000	-0.01692	1,2,6
89	57.00000	-7.20000	24.00000	0.00000	0.00000	-0.01438	1,2,6
90	55.00000	-6.94286	24.00000	0.00000	0.00000	-0.01187	1,2,6
91	53.00000	-6.68571	24.00000	0.00000	0.00000	-0.00945	1,2,6
92	51.00000	-6.42857	24.00000	0.00000	0.00000	-0.00715	1,2,6
93	49.00000	-6.17143	24.00000	0.00000	0.00000	-0.00500	1,2,6
94	47.00000	-5.91429	24.00000	0.00000	0.00000	-0.00301	1,2,6
95	45.00000	-5.65714	24.00000	0.00000	0.00000	-0.00118	1,2,6
96	43.00000	-5.40000	24.00000	0.00000	0.00000	0.00047	1,2,6
97	41.00000	-5.14286	24.00000	0.00000	0.00000	0.00195	1,2,6
98	39.00000	-4.88571	24.00000	0.00000	0.00000	0.00327	1,2,6
99	37.00000	-4.62857	24.00000	0.00000	0.00000	0.00444	1,2,6
100	35.00000	-4.37143	24.00000	0.00000	0.00000	0.00546	1,2,6
101	33.00000	-4.11429	24.00000	0.00000	0.00000	0.00634	1,2,6
102	31.00000	-3.85714	24.00000	0.00000	0.00000	0.00710	1,2,6
103	29.00000	-3.60000	24.00000	0.00000	0.00000	0.00775	1,2,6
104	27.00000	-3.34286	24.00000	0.00000	0.00000	0.00829	1,2,6
105	25.00000	-3.08571	24.00000	0.00000	0.00000	0.00873	1,2,6
106	23.00000	-2.82857	24.00000	0.00000	0.00000	0.00909	1,2,6
107	21.00000	-2.57143	24.00000	0.00000	0.00000	0.00938	1,2,6
108	19.00000	-2.31429	24.00000	0.00000	0.00000	0.00959	1,2,6
109	17.00000	-2.05714	24.00000	0.00000	0.00000	0.00975	1,2,6
110	15.00000	-1.80000	24.00000	0.00000	0.00000	0.00985	1,2,6
111	13.00000	-1.54286	24.00000	0.00000	0.00000	0.00990	1,2,6
112	11.00000	-1.28571	24.00000	0.00000	0.00000	0.00992	1,2,6
113	9.00000	-1.02857	24.00000	0.00000	0.00000	0.00989	1,2,6
114	7.00000	-0.77143	24.00000	0.00000	0.00000	0.00984	1,2,6
115	5.00000	-0.51429	24.00000	0.00000	0.00000	0.00976	1,2,6
116	3.00000	-0.25714	24.00000	0.00000	0.00000	0.00965	1,2,6
117	1.00000	0.00000	24.00000	0.00000	0.00000	0.00953	1,2,6
118	1.00000	1.97500	24.00000	0.00000	0.00000	0.00958	1,2,6
119	1.00000	3.95000	24.00000	0.00000	0.00000	0.00962	1,2,6
120	1.00000	5.92500	24.00000	0.00000	0.00000	0.00966	1,2,6
121	1.00000	7.90000	24.00000	0.00000	0.00000	0.00969	1,2,6
122	1.00000	9.87500	24.00000	0.00000	0.00000	0.00972	1,2,6
123	1.00000	11.85000	24.00000	0.00000	0.00000	0.00975	1,2,6
124	1.00000	13.82500	24.00000	0.00000	0.00000	0.00977	1,2,6
125	1.00000	15.80000	24.00000	0.00000	0.00000	0.00979	1,2,6
126	1.00000	17.77500	24.00000	0.00000	0.00000	0.00980	1,2,6
127	1.00000	19.75000	24.00000	0.00000	0.00000	0.00982	1,2,6
128	1.00000	21.72500	24.00000	0.00000	0.00000	0.00983	1,2,6
129	1.00000	23.70000	24.00000	0.00000	0.00000	0.00983	1,2,6
130	1.00000	25.67500	24.00000	0.00000	0.00000	0.00984	1,2,6
131	1.00000	27.65000	24.00000	0.00000	0.00000	0.00984	1,2,6
132	1.00000	29.62500	24.00000	0.00000	0.00000	0.00984	1,2,6
133	1.00000	31.60000	24.00000	0.00000	0.00000	0.00984	1,2,6
134	1.00000	33.57500	24.00000	0.00000	0.00000	0.00983	1,2,6
135	1.00000	35.55000	24.00000	0.00000	0.00000	0.00982	1,2,6
136	1.00000	37.52500	24.00000	0.00000	0.00000	0.00981	1,2,6
137	1.00000	39.50000	24.00000	0.00000	0.00000	0.00980	1,2,6
138	1.00000	41.47500	24.00000	0.00000	0.00000	0.00978	1,2,6
139	1.00000	43.45000	24.00000	0.00000	0.00000	0.00976	1,2,6
140	1.00000	45.42500	24.00000	0.00000	0.00000	0.00974	1,2,6
141	1.00000	47.40000	24.00000	0.00000	0.00000	0.00971	1,2,6
142	1.00000	49.37500	24.00000	0.00000	0.00000	0.00968	1,2,6
143	1.00000	51.35000	24.00000	0.00000	0.00000	0.00964	1,2,6
144	1.00000	53.32500	24.00000	0.00000	0.00000	0.00960	1,2,6
145	1.00000	55.30000	24.00000	0.00000	0.00000	0.00956	1,2,6
146	1.00000	57.27500	24.00000	0.00000	0.00000	0.00951	1,2,6
147	1.00000	59.25000	24.00000	0.00000	0.00000	0.00945	1,2,6
148	1.00000	61.22500	24.00000	0.00000	0.00000	0.00939	1,2,6
149	1.00000	63.20000	24.00000	0.00000	0.00000	0.00932	1,2,6
150	1.00000	65.17500	24.00000	0.00000	0.00000	0.00925	1,2,6
151	1.00000	67.15000	24.00000	0.00000	0.00000	0.00918	1,2,6
152	1.00000	69.12500	24.00000	0.00000	0.00000	0.00909	1,2,6
153	1.00000	71.10000	24.00000	0.00000	0.00000	0.00901	1,2,6
154	1.00000	73.07500	24.00000	0.00000	0.00000	0.00892	1,2,6
155	1.00000	75.05000	24.00000	0.00000	0.00000	0.00882	1,2,6
156	1.00000	77.02500	24.00000	0.00000	0.00000	0.00872	1,2,6
157	93.00000	57.00000	20.27000	0.00000	0.00000	-0.07600	1,2,6
158	91.00000	57.37500	20.27000	0.00000	0.00000	-0.08161	1,2,6
159	89.00000	57.75000	20.27000	0.00000	0.00000	-0.08590	1,2,6
160	87.00000	58.12500	20.27000	0.00000	0.00000	-0.08856	1,2,6
161	85.00000	58.50000	20.27000	0.00000	0.00000	-0.08941	1,2,6
162	83.00000	58.87500	20.27000	0.00000	0.00000	-0.08842	1,2,6
163	81.00000	59.25000	20.27000	0.00000	0.00000	-0.08566	1,2,6
164	79.00000	59.62500	20.27000	0.00000	0.00000	-0.08135	1,2,6
165	77.00000	60.00000	20.27000	0.00000	0.00000	-0.07579	1,2,6
166	75.16667	60.00000	20.27000	0.00000	0.00000	-0.07326	1,2,6
167	73.33333	60.00000	20.27000	0.00000	0.00000	-0.06972	1,2,6
168	71.50000	60.00000	20.27000	0.00000	0.00000	-0.06533	1,2,6
169	71.61111	58.01111	20.27000	0.00000	0.00000	-0.08556	1,2,6
170	71.72222	56.02222	20.27000	0.00000	0.00000	-0.11235	1,2,6
171	71.83333	54.03333	20.27000	0.00000	0.00000	-0.14846	1,2,6
172	71.94444	52.04444	20.27000	0.00000	0.00000	-0.19825	1,2,6
173	72.05556	50.05556	20.27000	0.00000	0.00000	-0.26876	1,2,6
174	72.16667	48.06667	20.27000	0.00000	0.00000	-0.37186	1,2,6
175	72.27778	46.07778	20.27000	0.00000	0.00000	-0.52821	1,2,6
176	72.38889	44.08889	20.27000	0.00000	0.00000	-0.77280	1,2,6
177	72.50000	42.10000	20.27000	0.00000	0.00000	-1.13363	1,2,6
178	74.57500	42.28750	20.27000	0.00000	0.00000	-1.41894	1,2,6
179	76.65000	42.47500	20.27000	0.00000	0.00000	-1.55244	1,2,6
180	78.72500	42.66250	20.27000	0.00000	0.00000	-1.54584	1,2,6
181	80.80000	42.85000	20.27000	0.00000	0.00000	-1.43521	1,2,6
182	82.87500	43.03750	20.27000	0.00000	0.00000	-1.29882	1,2,6
183	84.95000	43.22500	20.27000	0.00000	0.00000	-1.15302	1,2,6
184	87.02500	43.41250	20.27000	0.00000	0.00000	-0.97158	1,2,6
185	89.10000	43.60000	20.27000	0.00000	0.00000	-0.74121	1,2,6
186	92.00000	75.00000	18.69000	0.00000	0.00000	-0.00396	1,2,6
187	93.91667	74.58333	18.69000	0.00000	0.00000	-0.00372	1,2,6
188	95.83333	74.16667	18.69000	0.00000	0.00000	-0.00336	1,2,6
189	97.75000	73.75000	18.69000	0.00000	0.00000	-0.00288	1,2,6

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Demolition

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 24-May-2018	Checked

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
190	99.66667	73.33333	18.69000	0.00000	0.00000	-0.00231	1,2,6
191	101.58333	72.91667	18.69000	0.00000	0.00000	-0.00166	1,2,6
192	103.50000	72.50000	18.69000	0.00000	0.00000	-0.00095	1,2,6
193	105.41667	72.08333	18.69000	0.00000	0.00000	-0.00018	1,2,6
194	107.33333	71.66667	18.69000	0.00000	0.00000	0.00061	1,2,6
195	109.25000	71.25000	18.69000	0.00000	0.00000	0.00141	1,2,6
196	111.16667	70.83333	18.69000	0.00000	0.00000	0.00221	1,2,6
197	113.08333	70.41667	18.69000	0.00000	0.00000	0.00299	1,2,6
198	115.00000	70.00000	18.69000	0.00000	0.00000	0.00375	1,2,6
199	115.10714	68.00000	18.69000	0.00000	0.00000	0.00261	1,2,6
200	115.21429	66.00000	18.69000	0.00000	0.00000	0.00132	1,2,6
201	115.32143	64.00000	18.69000	0.00000	0.00000	-0.00011	1,2,6
202	115.42857	62.00000	18.69000	0.00000	0.00000	-0.00169	1,2,6
203	115.53571	60.00000	18.69000	0.00000	0.00000	-0.00340	1,2,6
204	115.64286	58.00000	18.69000	0.00000	0.00000	-0.00526	1,2,6
205	115.75000	56.00000	18.69000	0.00000	0.00000	-0.00724	1,2,6
206	115.85714	54.00000	18.69000	0.00000	0.00000	-0.00932	1,2,6
207	115.96429	52.00000	18.69000	0.00000	0.00000	-0.01148	1,2,6
208	116.07143	50.00000	18.69000	0.00000	0.00000	-0.01369	1,2,6
209	116.17857	48.00000	18.69000	0.00000	0.00000	-0.01590	1,2,6
210	116.28571	46.00000	18.69000	0.00000	0.00000	-0.01807	1,2,6
211	116.39286	44.00000	18.69000	0.00000	0.00000	-0.02015	1,2,6
212	116.50000	42.00000	18.69000	0.00000	0.00000	-0.02209	1,2,6
213	116.60714	40.00000	18.69000	0.00000	0.00000	-0.02383	1,2,6
214	116.71429	38.00000	18.69000	0.00000	0.00000	-0.02533	1,2,6
215	116.82143	36.00000	18.69000	0.00000	0.00000	-0.02652	1,2,6
216	116.92857	34.00000	18.69000	0.00000	0.00000	-0.02739	1,2,6
217	117.03571	32.00000	18.69000	0.00000	0.00000	-0.02790	1,2,6
218	117.14286	30.00000	18.69000	0.00000	0.00000	-0.02803	1,2,6
219	117.25000	28.00000	18.69000	0.00000	0.00000	-0.02778	1,2,6
220	117.35714	26.00000	18.69000	0.00000	0.00000	-0.02715	1,2,6
221	117.46429	24.00000	18.69000	0.00000	0.00000	-0.02617	1,2,6
222	117.57143	22.00000	18.69000	0.00000	0.00000	-0.02486	1,2,6
223	117.67857	20.00000	18.69000	0.00000	0.00000	-0.02327	1,2,6
224	117.78571	18.00000	18.69000	0.00000	0.00000	-0.02144	1,2,6
225	117.89286	16.00000	18.69000	0.00000	0.00000	-0.01944	1,2,6
226	118.00000	14.00000	18.69000	0.00000	0.00000	-0.01731	1,2,6
227	116.00000	14.00000	18.69000	0.00000	0.00000	-0.02350	1,2,6
228	114.00000	14.00000	18.69000	0.00000	0.00000	-0.03110	1,2,6
229	112.00000	14.00000	18.69000	0.00000	0.00000	-0.04047	1,2,6
230	110.00000	14.00000	18.69000	0.00000	0.00000	-0.05212	1,2,6
231	109.85714	12.00000	18.69000	0.00000	0.00000	-0.04754	1,2,6
232	109.71429	10.00000	18.69000	0.00000	0.00000	-0.04272	1,2,6
233	109.57143	8.00000	18.69000	0.00000	0.00000	-0.03781	1,2,6
234	109.42857	6.00000	18.69000	0.00000	0.00000	-0.03294	1,2,6
235	109.28571	4.00000	18.69000	0.00000	0.00000	-0.02825	1,2,6
236	109.14286	2.00000	18.69000	0.00000	0.00000	-0.02380	1,2,6
237	109.00000	0.00000	18.69000	0.00000	0.00000	-0.01966	1,2,6
238	108.85714	-2.00000	18.69000	0.00000	0.00000	-0.01585	1,2,6
239	108.71429	-4.00000	18.69000	0.00000	0.00000	-0.01238	1,2,6
240	108.57143	-6.00000	18.69000	0.00000	0.00000	-0.00927	1,2,6
241	108.42857	-8.00000	18.69000	0.00000	0.00000	-0.00648	1,2,6
242	108.28571	-10.00000	18.69000	0.00000	0.00000	-0.00401	1,2,6
243	108.14286	-12.00000	18.69000	0.00000	0.00000	-0.00183	1,2,6
244	108.00000	-14.00000	18.69000	0.00000	0.00000	0.00007	1,2,6
245	106.00000	-13.75000	18.69000	0.00000	0.00000	-0.00156	1,2,6
246	104.00000	-13.50000	18.69000	0.00000	0.00000	-0.00335	1,2,6
247	102.00000	-13.25000	18.69000	0.00000	0.00000	-0.00530	1,2,6
248	100.00000	-13.00000	18.69000	0.00000	0.00000	-0.00741	1,2,6
249	98.00000	-12.75000	18.69000	0.00000	0.00000	-0.00965	1,2,6
250	96.00000	-12.50000	18.69000	0.00000	0.00000	-0.01201	1,2,6
251	94.00000	-12.25000	18.69000	0.00000	0.00000	-0.01445	1,2,6
252	92.00000	-12.00000	18.69000	0.00000	0.00000	-0.01692	1,2,6
253	92.00000	-10.00000	18.69000	0.00000	0.00000	-0.02308	1,2,6
254	92.00000	-8.00000	18.69000	0.00000	0.00000	-0.03064	1,2,6
255	92.00000	-6.00000	18.69000	0.00000	0.00000	-0.03998	1,2,6
256	92.00000	-4.00000	18.69000	0.00000	0.00000	-0.05160	1,2,6
257	92.00000	-2.00000	18.69000	0.00000	0.00000	-0.06616	1,2,6
258	92.00000	0.00000	18.69000	0.00000	0.00000	-0.08457	1,2,6
259	92.00000	2.00000	18.69000	0.00000	0.00000	-0.10809	1,2,6
260	92.00000	4.00000	18.69000	0.00000	0.00000	-0.13850	1,2,6
261	92.00000	6.00000	18.69000	0.00000	0.00000	-0.17640	1,2,6
262	91.82000	8.08000	18.69000	0.00000	0.00000	-0.23771	1,2,6
263	91.64000	10.16000	18.69000	0.00000	0.00000	-0.32272	1,2,6
264	91.46000	12.24000	18.69000	0.00000	0.00000	-0.45188	1,2,6
265	91.28000	14.32000	18.69000	0.00000	0.00000	-0.66933	1,2,6
266	91.10000	16.40000	18.69000	0.00000	0.00000	-1.08780	1,2,6
267	90.95714	18.34286	18.69000	0.00000	0.00000	-1.48556	1,2,6
268	90.81429	20.28571	18.69000	0.00000	0.00000	-1.63104	1,2,6
269	90.67143	22.22857	18.69000	0.00000	0.00000	-1.67752	1,2,6
270	90.52857	24.17143	18.69000	0.00000	0.00000	-1.52464	1,2,6
271	90.38571	26.11429	18.69000	0.00000	0.00000	-1.44775	1,2,6
272	90.24286	28.05714	18.69000	0.00000	0.00000	-1.44239	1,2,6
273	90.10000	30.00000	18.69000	0.00000	0.00000	-1.43888	1,2,6
274	89.95714	31.94286	18.69000	0.00000	0.00000	-1.41565	1,2,6
275	89.81429	33.88571	18.69000	0.00000	0.00000	-1.36788	1,2,6
276	89.67143	35.82857	18.69000	0.00000	0.00000	-1.29805	1,2,6
277	89.52857	37.77143	18.69000	0.00000	0.00000	-1.20811	1,2,6
278	89.38571	39.71429	18.69000	0.00000	0.00000	-1.08639	1,2,6
279	89.24286	41.65714	18.69000	0.00000	0.00000	-0.92005	1,2,6
280	89.10000	43.60000	18.69000	0.00000	0.00000	-0.72398	1,2,6
281	91.40000	43.80000	18.69000	0.00000	0.00000	-0.51702	1,2,6
282	93.70000	44.00000	18.69000	0.00000	0.00000	-0.36462	1,2,6
283	93.59375	45.93750	18.69000	0.00000	0.00000	-0.29717	1,2,6
284	93.48750	47.87500	18.69000	0.00000	0.00000	-0.23826	1,2,6
285	93.38125	49.81250	18.69000	0.00000	0.00000	-0.18965	1,2,6
286	93.27500	51.75000	18.69000	0.00000	0.00000	-0.15062	1,2,6
287	93.16875	53.68750	18.69000	0.00000	0.00000	-0.11958	1,2,6
288	93.06250	55.62500	18.69000	0.00000	0.00000	-0.09491	1,2,6
289	92.95625	57.56250	18.69000	0.00000	0.00000	-0.07523	1,2,6
290	92.85000	59.50000	18.69000	0.00000	0.00000	-0.05947	1,2,6
291	92.74375	61.43750	18.69000	0.00000	0.00000	-0.04677	1,2,6
292	92.63750	63.37500	18.69000	0.00000	0.00000	-0.03647	1,2,6
293	92.53125	65.31250	18.69000	0.00000	0.00000	-0.02809	1,2,6
294	92.42500	67.25000	18.69000	0.00000	0.00000	-0.02124	1,2,6
295	92.31875	69.18750	18.69000	0.00000	0.00000	-0.01560	1,2,6
296	92.21250	71.12500	18.69000	0.00000	0.00000	-0.01096	1,2,6
297	92.10625	73.06250	18.69000	0.00000	0.00000	-0.00713	1,2,6
298	91.10000	16.40000	19.10000	0.00000	0.00000	-1.09333	1,2,6
299	89.20000	16.28889	19.10000	0.00000	0.00000	-1.49459	1,2,6
300	87.30000	16.17778	19.10000	0.00000	0.00000	-1.64504	1,2,6
301	85.40000	16.06667	19.10000	0.00000	0.00000	-1.58567	1,2,6
302	83.50000	15.95556	19.10000	0.00000	0.00000	-1.65335	1,2,6
303	81.60000	15.84444	19.10000	0.00000	0.00000	-1.87583	1,2,6
304	79.70000	15.73333	19.10000	0.00000	0.00000	-2.08555	1,2,6
305	77.80000	15.62222	19.10000	0.00000	0.00000	-2.29695	1,2,6
306	75.90000	15.51111	19.10000	0.00000	0.00000	-2.51669	1,2,6
307	74.00000	15.40000	19.10000	0.00000	0.00000	-2.26747	1,2,6
308	74.21429	13.34286	19.10000	0.00000	0.00000	-1.23628	1,2,6
309	74.42857	11.28571	19.10000	0.00000	0.00000	-0.74930	1,2,6
310	74.64286	9.22857	19.10000	0.00000	0.00000	-0.49341	1,2,6
311	74.85714	7.17143	19.10000	0.00000	0.00000	-0.34254	1,2,6
312	75.07143	5.11429	19.10000	0.00000	0.00000	-0.24613	1,2,6
313	75.28571	3.05714	19.10000	0.00000	0.00000	-0.18101	1,2,6
314	75.50000	1.00000	19.10000	0.00000	0.00000	-0.13525	1,2,6
315	75.25000	-0.83333	19.10000	0.00000	0.00000	-0.10437	1,2,6
316	75.00000	-2.66667	19.10000	0.00000	0.00000	-0.08100	1,2,6
317	74.75000	-4.50000	19.10000	0.00000	0.00000	-0.06302	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
318	74.50000	-6.33333	19.10000	0.00000	0.00000	-0.04897	1,2,6
319	74.25000	-8.16667	19.10000	0.00000	0.00000	-0.03786	1,2,6
320	74.00000	-10.00000	19.10000	0.00000	0.00000	-0.02897	1,2,6
321	76.00000	-10.22222	19.10000	0.00000	0.00000	-0.02909	1,2,6
322	78.00000	-10.44444	19.10000	0.00000	0.00000	-0.02873	1,2,6
323	80.00000	-10.66667	19.10000	0.00000	0.00000	-0.02791	1,2,6
324	82.00000	-10.88889	19.10000	0.00000	0.00000	-0.02668	1,2,6
325	84.00000	-11.11111	19.10000	0.00000	0.00000	-0.02509	1,2,6
326	86.00000	-11.33333	19.10000	0.00000	0.00000	-0.02320	1,2,6
327	88.00000	-11.55556	19.10000	0.00000	0.00000	-0.02109	1,2,6
328	90.00000	-11.77778	19.10000	0.00000	0.00000	-0.01883	1,2,6
329	92.00000	-12.00000	19.10000	0.00000	0.00000	-0.01647	1,2,6

1 - Data point coincident with displacement data. Its displacement has been added to those calculated by Xdisp.
2 - Data point coincident with horizontal movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.
6 - Data point coincident with vertical movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.

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
Mid City Place_1	Mid City Place_1	Mid City Place_1	0.00000	61.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_2	Mid City Place_2	Mid City Place_2	0.00000	73.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_3	Mid City Place_3	Mid City Place_3	0.00000	9.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_4	Mid City Place_4	Mid City Place_4	0.00000	15.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_5	Mid City Place_5	Mid City Place_5	0.00000	70.57600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_6	Mid City Place_6	Mid City Place_6	0.00000	79.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_1	High Holborn House 1_1	High Holborn House 1_1	0.00000	16.27800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_2	High Holborn House 1_2	High Holborn House 1_2	0.00000	5.50000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_3	High Holborn House 1_3	High Holborn House 1_3	0.00000	17.92700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_4	High Holborn House 1_4	High Holborn House 1_4	0.00000	16.66700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_1	High Holborn House 2_1	High Holborn House 2_1	0.00000	23.53700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_2	High Holborn House 2_2	High Holborn House 2_2	0.00000	56.08000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_3	High Holborn House 2_3	High Holborn House 2_3	0.00000	8.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_4	High Holborn House 2_4	High Holborn House 2_4	0.00000	28.07100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_5	High Holborn House 2_5	High Holborn House 2_5	0.00000	16.12400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_6	High Holborn House 2_6	High Holborn House 2_6	0.00000	18.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_7	High Holborn House 2_7	High Holborn House 2_7	0.00000	10.43800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_8	High Holborn House 2_8	High Holborn House 2_8	0.00000	27.27300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_9	High Holborn House 2_9	High Holborn House 2_9	0.00000	4.61700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_10	High Holborn House 2_10	High Holborn House 2_10	0.00000	31.04600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_1	High Holborn House 3_1	High Holborn House 3_1	0.00000	17.12900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_2	High Holborn House 3_2	High Holborn House 3_2	0.00000	14.47700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_3	High Holborn House 3_3	High Holborn House 3_3	0.00000	11.10100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_4	High Holborn House 3_4	High Holborn House 3_4	0.00000	18.11000	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]
Mid City Place_1	Mid City Place_1	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_2	Mid City Place_2	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_3	Mid City Place_3	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_4	Mid City Place_4	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_5	Mid City Place_5	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_6	Mid City Place_6	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
High Holborn House 1_1	High Holborn House 1_1	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_2	High Holborn House 1_2	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_3	High Holborn House 1_3	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_4	High Holborn House 1_4	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 2_1	High Holborn House 2_1	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_2	High Holborn House 2_2	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_3	High Holborn House 2_3	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_4	High Holborn House 2_4	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_5	High Holborn House 2_5	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_6	High Holborn House 2_6	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_7	High Holborn House 2_7	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_8	High Holborn House 2_8	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_9	High Holborn House 2_9	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_10	High Holborn House 2_10	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 3_1	High Holborn House 3_1	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_2	High Holborn House 3_2	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Demolition

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 24-May-2018	Checked

Structure Name	Sub-Structure Name	Height [m]	Default Properties	Hogging 2nd Moment of Area [m³]	Hogging Distance of Bending [m]	Hogging Distance of N.A. [m]	Sagging 2nd Moment of Area [m³]	Sagging Distance of Bending [m]	Sagging Distance of N.A. [m]
High Holborn House 3_3	High Holborn House 3_3	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_4	High Holborn House 3_4	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000

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

None

Errors

None

Displacement and Strain Results

Type/No. Name	Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	Horizontal displacement along Line [mm]	Horizontal displacement perpendicular to Line [mm]	Angle of Line to x Axis [°]	
Mid City Place_1	Line 1	1.00000	79.00000	24.00000	0.0	0.0	0.0086106	0.0	0.0	0.0	*
	1.9677	2.96774	79.00000	24.00000	0.0	0.0	0.0087749	0.0	0.0	0.0	*
	3.9355	4.93548	79.00000	24.00000	0.0	0.0	0.0089335	0.0	0.0	0.0	*
	5.9032	6.90323	79.00000	24.00000	0.0	0.0	0.0090852	0.0	0.0	0.0	*
	7.8710	8.87097	79.00000	24.00000	0.0	0.0	0.0092285	0.0	0.0	0.0	*
	9.8387	10.83871	79.00000	24.00000	0.0	0.0	0.0093621	0.0	0.0	0.0	*
	11.806	12.80645	79.00000	24.00000	0.0	0.0	0.0094842	0.0	0.0	0.0	*
	13.774	14.77419	79.00000	24.00000	0.0	0.0	0.0095931	0.0	0.0	0.0	*
	15.742	16.74194	79.00000	24.00000	0.0	0.0	0.0096870	0.0	0.0	0.0	*
	17.710	18.70968	79.00000	24.00000	0.0	0.0	0.0097638	0.0	0.0	0.0	*
	19.677	20.67742	79.00000	24.00000	0.0	0.0	0.0098215	0.0	0.0	0.0	*
	21.645	22.64516	79.00000	24.00000	0.0	0.0	0.0098579	0.0	0.0	0.0	*
	23.613	24.61290	79.00000	24.00000	0.0	0.0	0.0098707	0.0	0.0	0.0	*
	25.581	26.58065	79.00000	24.00000	0.0	0.0	0.0098576	0.0	0.0	0.0	*
	27.548	28.54839	79.00000	24.00000	0.0	0.0	0.0098162	0.0	0.0	0.0	*
	29.516	30.51613	79.00000	24.00000	0.0	0.0	0.0097442	0.0	0.0	0.0	*
	31.484	32.48387	79.00000	24.00000	0.0	0.0	0.0096393	0.0	0.0	0.0	*
	33.452	34.45161	79.00000	24.00000	0.0	0.0	0.0094995	0.0	0.0	0.0	*
	35.419	36.41935	79.00000	24.00000	0.0	0.0	0.0093226	0.0	0.0	0.0	*
	37.387	38.38710	79.00000	24.00000	0.0	0.0	0.0091072	0.0	0.0	0.0	*
	39.355	40.35484	79.00000	24.00000	0.0	0.0	0.0088517	0.0	0.0	0.0	*
	41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0085554	0.0	0.0	0.0	*
	43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0082180	0.0	0.0	0.0	*
	45.258	46.25806	79.00000	24.00000	0.0	0.0	0.0078399	0.0	0.0	0.0	*
	47.226	48.22581	79.00000	24.00000	0.0	0.0	0.0074224	0.0	0.0	0.0	*
	49.194	50.19355	79.00000	24.00000	0.0	0.0	0.0069679	0.0	0.0	0.0	*
	51.161	52.16129	79.00000	24.00000	0.0	0.0	0.0064797	0.0	0.0	0.0	*
	53.129	54.12903	79.00000	24.00000	0.0	0.0	0.0059623	0.0	0.0	0.0	*
	55.097	56.09677	79.00000	24.00000	0.0	0.0	0.0054218	0.0	0.0	0.0	*
	57.065	58.06452	79.00000	24.00000	0.0	0.0	0.0048652	0.0	0.0	0.0	*
	59.032	60.03226	79.00000	24.00000	0.0	0.0	0.0043013	0.0	0.0	0.0	*
	61.000	62.00000	79.00000	24.00000	0.0	0.0	0.0037398	0.0	0.0	0.0	*
Mid City Place_2	Line 2	62.00000	79.00000	24.00000	0.0	0.0	0.0037398	0.0	0.0	270.00	*
	1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.0020925	0.0	0.0	270.00	*
	3.9459	62.00000	75.05405	24.00000	0.0	0.0	102.65E-6	0.0	0.0	270.00	*
	5.9189	62.00000	73.08108	24.00000	0.0	0.0	-0.0022936	0.0	0.0	270.00	*
	7.8919	62.00000	71.10811	24.00000	0.0	0.0	-0.0051735	0.0	0.0	270.00	*
	9.8649	62.00000	69.13514	24.00000	0.0	0.0	-0.0086306	0.0	0.0	270.00	*
	11.838	62.00000	67.16216	24.00000	0.0	0.0	-0.012779	0.0	0.0	270.00	*
	13.811	62.00000	65.18919	24.00000	0.0	0.0	-0.017756	0.0	0.0	270.00	*
	15.784	62.00000	63.21622	24.00000	0.0	0.0	-0.023731	0.0	0.0	270.00	*
	17.757	62.00000	61.24324	24.00000	0.0	0.0	-0.030908	0.0	0.0	270.00	*
	19.730	62.00000	59.27027	24.00000	0.0	0.0	-0.039531	0.0	0.0	270.00	*
	21.703	62.00000	57.29730	24.00000	0.0	0.0	-0.049887	0.0	0.0	270.00	*
	23.676	62.00000	55.32432	24.00000	0.0	0.0	-0.062305	0.0	0.0	270.00	*
	25.649	62.00000	53.35135	24.00000	0.0	0.0	-0.077146	0.0	0.0	270.00	*
	27.622	62.00000	51.37838	24.00000	0.0	0.0	-0.094764	0.0	0.0	270.00	*
	29.595	62.00000	49.40541	24.00000	0.0	0.0	-0.11545	0.0	0.0	270.00	*
	31.568	62.00000	47.43243	24.00000	0.0	0.0	-0.13934	0.0	0.0	270.00	*
	33.541	62.00000	45.45946	24.00000	0.0	0.0	-0.16626	0.0	0.0	270.00	*
	35.514	62.00000	43.48649	24.00000	0.0	0.0	-0.19558	0.0	0.0	270.00	*
	37.486	62.00000	41.51351	24.00000	0.0	0.0	-0.22617	0.0	0.0	270.00	*
	39.459	62.00000	39.54054	24.00000	0.0	0.0	-0.25643	0.0	0.0	270.00	*
	41.432	62.00000	37.56757	24.00000	0.0	0.0	-0.28448	0.0	0.0	270.00	*
	43.405	62.00000	35.59459	24.00000	0.0	0.0	-0.30851	0.0	0.0	270.00	*
	45.378	62.00000	33.62162	24.00000	0.0	0.0	-0.32713	0.0	0.0	270.00	*
	47.351	62.00000	31.64865	24.00000	0.0	0.0	-0.33973	0.0	0.0	270.00	*
	49.324	62.00000	29.67568	24.00000	0.0	0.0	-0.34636	0.0	0.0	270.00	*
	51.297	62.00000	27.70270	24.00000	0.0	0.0	-0.34743	0.0	0.0	270.00	*
	53.270	62.00000	25.72973	24.00000	0.0	0.0	-0.34331	0.0	0.0	270.00	*
	55.243	62.00000	23.75676	24.00000	0.0	0.0	-0.33418	0.0	0.0	270.00	*
	57.216	62.00000	21.78378	24.00000	0.0	0.0	-0.31994	0.0	0.0	270.00	*
	59.189	62.00000	19.81081	24.00000	0.0	0.0	-0.30042	0.0	0.0	270.00	*
	61.162	62.00000	17.83784	24.00000	0.0	0.0	-0.27583	0.0	0.0	270.00	*
	63.135	62.00000	15.86486	24.00000	0.0	0.0	-0.24715	0.0	0.0	270.00	*
	65.108	62.00000	13.89189	24.00000	0.0	0.0	-0.21618	0.0	0.0	270.00	*
	67.081	62.00000	11.91892	24.00000	0.0	0.0	-0.18509	0.0	0.0	270.00	*
	69.054	62.00000	9.94595	24.00000	0.0	0.0	-0.15572	0.0	0.0	270.00	*
	71.027	62.00000	7.97297	24.00000	0.0	0.0	-0.12926	0.0	0.0	270.00	*
	73.000	62.00000	6.00000	24.00000	0.0	0.0	-0.10619	0.0	0.0	270.00	*
Mid City Place_3	Line 3	62.00000	6.00000	24.00000	0.0	0.0	-0.10619	0.0	0.0	0.0	*
	1.8000	63.80000	6.00000	24.00000	0.0	0.0	-0.12613	0.0	0.0	0.0	*
	3.6000	65.60000	6.00000	24.00000	0.0	0.0	-0.14872	0.0	0.0	0.0	*
	5.4000	67.40000	6.00000	24.00000	0.0	0.0	-0.17363	0.0	0.0	0.0	*
	7.2000	69.20000	6.00000	24.00000	0.0	0.0	-0.19999	0.0	0.0	0.0	*
	9.0000	71.00000	6.00000	24.00000	0.0	0.0	-0.22617	0.0	0.0	0.0	*
Mid City Place_4	Line 4	71.00000	6.00000	24.00000	0.0	0.0	-0.22617	0.0	0.0	270.00	*
	1.8750	71.00000	4.12500	24.00000	0.0	0.0	-0.17235	0.0	0.0	270.00	*
	3.7500	71.00000	2.25000	24.00000	0.0	0.0	-0.13276	0.0	0.0	270.00	*
	5.6250	71.00000	0.37500	24.00000	0.0	0.0	-0.10303	0.0	0.0	270.00	*
	7.5000	71.00000	-1.50000	24.00000	0.0	0.0	-0.080303	0.0	0.0	270.00	*
	9.3750	71.00000	-3.37500	24.00000	0.0	0.0	-0.062660	0.0	0.0	270.00	*
	11.250	71.00000	-5.25000	24.00000	0.0	0.0	-0.048787	0.0	0.0	270.00	*
	13.125	71.00000	-7.12500	24.00000	0.0	0.0	-0.037756	0.0	0.0	270.00	*
	15.000	71.00000	-9.00000	24.00000	0.0	0.0	-0.028899	0.0	0.0	270.00	*
Mid City Place_5	Line 5	71.00000	-9.00000	24.00000	0.0	0.0	-0.028899	0.0	0.0	172.67	*
	2.0165	69.00000	-8.74286	24.00000	0.0	0.0	-0.027692	0.0	0.0	172.67	*
	4.0329	67.00000	-8.48571	24.00000	0.0	0.0	-0.026066	0.0	0.0	172.67	*
	6.0494	65.00000	-8.22857	24.00000	0.0	0.0	-0.024092	0.0	0.0	172.67	*
	8.0659	63.00000	-7.97143	24.00000	0.0	0.0	-0.021853	0.0	0.0	172.67	*

Name	Type/No. Dist.	Coordinates x	Coordinates y	Coordinates z	Displacements x	Displacements y	Displacements z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	10.082	61.00000	-7.71429	24.00000	0.0	0.0	-0.019434	0.0	0.0	172.67 *
	12.099	59.00000	-7.45714	24.00000	0.0	0.0	-0.016918	0.0	0.0	172.67 *
	14.115	57.00000	-7.20000	24.00000	0.0	0.0	-0.014376	0.0	0.0	172.67 *
	16.132	55.00000	-6.94286	24.00000	0.0	0.0	-0.011871	0.0	0.0	172.67 *
	18.148	53.00000	-6.68571	24.00000	0.0	0.0	-0.0094501	0.0	0.0	172.67 *
	20.165	51.00000	-6.42857	24.00000	0.0	0.0	-0.0071507	0.0	0.0	172.67 *
	22.181	49.00000	-6.17143	24.00000	0.0	0.0	-0.0049974	0.0	0.0	172.67 *
	24.198	47.00000	-5.91429	24.00000	0.0	0.0	-0.0030055	0.0	0.0	172.67 *
	26.214	45.00000	-5.65714	24.00000	0.0	0.0	-0.0011829	0.0	0.0	172.67 *
	28.230	43.00000	-5.40000	24.00000	0.0	0.0	468.61E-6	0.0	0.0	172.67 *
	30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.0019516	0.0	0.0	172.67 *
	32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.0032718	0.0	0.0	172.67 *
	34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.0044372	0.0	0.0	172.67 *
	36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.0054570	0.0	0.0	172.67 *
	38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.0063414	0.0	0.0	172.67 *
	40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.0071008	0.0	0.0	172.67 *
	42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.0077455	0.0	0.0	172.67 *
	44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0082859	0.0	0.0	172.67 *
	46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0087317	0.0	0.0	172.67 *
	48.395	23.00000	-2.82857	24.00000	0.0	0.0	0.0090922	0.0	0.0	172.67 *
	50.412	21.00000	-2.57143	24.00000	0.0	0.0	0.0093763	0.0	0.0	172.67 *
	52.428	19.00000	-2.31429	24.00000	0.0	0.0	0.0095921	0.0	0.0	172.67 *
	54.444	17.00000	-2.05714	24.00000	0.0	0.0	0.0097472	0.0	0.0	172.67 *
	56.461	15.00000	-1.80000	24.00000	0.0	0.0	0.0098487	0.0	0.0	172.67 *
	58.477	13.00000	-1.54286	24.00000	0.0	0.0	0.0099030	0.0	0.0	172.67 *
	60.494	11.00000	-1.28571	24.00000	0.0	0.0	0.0099158	0.0	0.0	172.67 *
	62.510	9.00000	-1.02857	24.00000	0.0	0.0	0.0098926	0.0	0.0	172.67 *
	64.527	7.00000	-0.77143	24.00000	0.0	0.0	0.0098380	0.0	0.0	172.67 *
	66.543	5.00000	-0.51429	24.00000	0.0	0.0	0.0097566	0.0	0.0	172.67 *
	68.560	3.00000	-0.25714	24.00000	0.0	0.0	0.0096520	0.0	0.0	172.67 *
	70.576	1.00000	0.00000	24.00000	0.0	0.0	0.0095280	0.0	0.0	172.67 *
Mid City Place_6	Line 6	1.00000	0.00000	24.00000	0.0	0.0	0.0095280	0.0	0.0	90.000 *
	1.9750	1.00000	1.97500	24.00000	0.0	0.0	0.0095760	0.0	0.0	90.000 *
	3.9500	1.00000	3.95000	24.00000	0.0	0.0	0.0096191	0.0	0.0	90.000 *
	5.9250	1.00000	5.92500	24.00000	0.0	0.0	0.0096577	0.0	0.0	90.000 *
	7.9000	1.00000	7.90000	24.00000	0.0	0.0	0.0096918	0.0	0.0	90.000 *
	9.8750	1.00000	9.87500	24.00000	0.0	0.0	0.0097217	0.0	0.0	90.000 *
	11.850	1.00000	11.85000	24.00000	0.0	0.0	0.0097477	0.0	0.0	90.000 *
	13.825	1.00000	13.82500	24.00000	0.0	0.0	0.0097700	0.0	0.0	90.000 *
	15.800	1.00000	15.80000	24.00000	0.0	0.0	0.0097889	0.0	0.0	90.000 *
	17.775	1.00000	17.77500	24.00000	0.0	0.0	0.0098046	0.0	0.0	90.000 *
	19.750	1.00000	19.75000	24.00000	0.0	0.0	0.0098172	0.0	0.0	90.000 *
	21.725	1.00000	21.72500	24.00000	0.0	0.0	0.0098271	0.0	0.0	90.000 *
	23.700	1.00000	23.70000	24.00000	0.0	0.0	0.0098343	0.0	0.0	90.000 *
	25.675	1.00000	25.67500	24.00000	0.0	0.0	0.0098389	0.0	0.0	90.000 *
	27.650	1.00000	27.65000	24.00000	0.0	0.0	0.0098411	0.0	0.0	90.000 *
	29.625	1.00000	29.62500	24.00000	0.0	0.0	0.0098408	0.0	0.0	90.000 *
	31.600	1.00000	31.60000	24.00000	0.0	0.0	0.0098380	0.0	0.0	90.000 *
	33.575	1.00000	33.57500	24.00000	0.0	0.0	0.0098327	0.0	0.0	90.000 *
	35.550	1.00000	35.55000	24.00000	0.0	0.0	0.0098248	0.0	0.0	90.000 *
	37.525	1.00000	37.52500	24.00000	0.0	0.0	0.0098141	0.0	0.0	90.000 *
	39.500	1.00000	39.50000	24.00000	0.0	0.0	0.0098005	0.0	0.0	90.000 *
	41.475	1.00000	41.47500	24.00000	0.0	0.0	0.0097836	0.0	0.0	90.000 *
	43.450	1.00000	43.45000	24.00000	0.0	0.0	0.0097635	0.0	0.0	90.000 *
	45.425	1.00000	45.42500	24.00000	0.0	0.0	0.0097396	0.0	0.0	90.000 *
	47.400	1.00000	47.40000	24.00000	0.0	0.0	0.0097119	0.0	0.0	90.000 *
	49.375	1.00000	49.37500	24.00000	0.0	0.0	0.0096801	0.0	0.0	90.000 *
	51.350	1.00000	51.35000	24.00000	0.0	0.0	0.0096439	0.0	0.0	90.000 *
	53.325	1.00000	53.32500	24.00000	0.0	0.0	0.0096032	0.0	0.0	90.000 *
	55.300	1.00000	55.30000	24.00000	0.0	0.0	0.0095576	0.0	0.0	90.000 *
	57.275	1.00000	57.27500	24.00000	0.0	0.0	0.0095071	0.0	0.0	90.000 *
	59.250	1.00000	59.25000	24.00000	0.0	0.0	0.0094514	0.0	0.0	90.000 *
	61.225	1.00000	61.22500	24.00000	0.0	0.0	0.0093906	0.0	0.0	90.000 *
	63.200	1.00000	63.20000	24.00000	0.0	0.0	0.0093244	0.0	0.0	90.000 *
	65.175	1.00000	65.17500	24.00000	0.0	0.0	0.0092530	0.0	0.0	90.000 *
	67.150	1.00000	67.15000	24.00000	0.0	0.0	0.0091763	0.0	0.0	90.000 *
	69.125	1.00000	69.12500	24.00000	0.0	0.0	0.0090943	0.0	0.0	90.000 *
	71.100	1.00000	71.10000	24.00000	0.0	0.0	0.0090072	0.0	0.0	90.000 *
	73.075	1.00000	73.07500	24.00000	0.0	0.0	0.0089151	0.0	0.0	90.000 *
	75.050	1.00000	75.05000	24.00000	0.0	0.0	0.0088182	0.0	0.0	90.000 *
	77.025	1.00000	77.02500	24.00000	0.0	0.0	0.0087166	0.0	0.0	90.000 *
	79.000	1.00000	79.00000	24.00000	0.0	0.0	0.0086106	0.0	0.0	90.000 *
High Holborn House 1_1	Line 7	93.00000	57.00000	20.27000	0.0	0.0	-0.075998	0.0	0.0	169.38 *
	2.0349	91.00000	57.37500	20.27000	0.0	0.0	-0.081611	0.0	0.0	169.38 *
	4.0697	89.00000	57.75000	20.27000	0.0	0.0	-0.085900	0.0	0.0	169.38 *
	6.1046	87.00000	58.12500	20.27000	0.0	0.0	-0.088561	0.0	0.0	169.38 *
	8.1394	85.00000	58.50000	20.27000	0.0	0.0	-0.089415	0.0	0.0	169.38 *
	10.174	83.00000	58.87500	20.27000	0.0	0.0	-0.088417	0.0	0.0	169.38 *
	12.209	81.00000	59.25000	20.27000	0.0	0.0	-0.085659	0.0	0.0	169.38 *
	14.244	79.00000	59.62500	20.27000	0.0	0.0	-0.081349	0.0	0.0	169.38 *
	16.279	77.00000	60.00000	20.27000	0.0	0.0	-0.075786	0.0	0.0	169.38 *
High Holborn House 1_2	Line 8	77.00000	60.00000	20.27000	0.0	0.0	-0.075786	0.0	0.0	180.00 *
	1.8333	75.16667	60.00000	20.27000	0.0	0.0	-0.073264	0.0	0.0	180.00 *
	3.6667	73.33333	60.00000	20.27000	0.0	0.0	-0.069715	0.0	0.0	180.00 *
	5.5000	71.50000	60.00000	20.27000	0.0	0.0	-0.065328	0.0	0.0	180.00 *
High Holborn House 1_3	Line 9	71.50000	60.00000	20.27000	0.0	0.0	-0.065328	0.0	0.0	273.20 *
	1.9920	71.61111	58.01111	20.27000	0.0	0.0	-0.085563	0.0	0.0	273.20 *
	3.9840	71.72222	56.02222	20.27000	0.0	0.0	-0.11235	0.0	0.0	273.20 *
	5.9760	71.83333	54.03333	20.27000	0.0	0.0	-0.14846	0.0	0.0	273.20 *
	7.9680	71.94444	52.04444	20.27000	0.0	0.0	-0.19825	0.0	0.0	273.20 *
	9.9600	72.05556	50.05556	20.27000	0.0	0.0	-0.26876	0.0	0.0	273.20 *
	11.952	72.16667	48.06667	20.27000	0.0	0.0	-0.37186	0.0	0.0	273.20 *
	13.944	72.27778	46.07778	20.27000	0.0	0.0	-0.52821	0.0	0.0	273.20 *
	15.936	72.38889	44.08889	20.27000	0.0	0.0	-0.77280	0.0	0.0	273.20 *
	17.928	72.50000	42.10000	20.27000	0.0	0.0	-1.1336	0.0	0.0	273.20 *
High Holborn House 1_4	Line 10	72.50000	42.10000	20.27000	0.0	0.0	-1.1336	0.0	0.0	5.1633 *
	2.0835	74.57500	42.28750	20.27000	0.0	0.0	-1.4189	0.0	0.0	5.1633 *
	4.1669	76.65000	42.47500	20.27000	0.0	0.0	-1.5524	0.0	0.0	5.1633 *
	6.2504	78.72500	42.66250	20.27000	0.0	0.0	-1.5458	0.0	0.0	5.1633 *
	8.3338	80.80000	42.85000	20.27000	0.0	0.0	-1.4352	0.0	0.0	5.1633 *
	10.417	82.87500	43.03750	20.27000	0.0	0.0	-1.2988	0.0	0.0	5.1633 *
	12.501	84.95000	43.22500	20.27000	0.0	0.0	-1.1530	0.0	0.0	5.1633 *
	14.584	87.02500	43.41250	20.27000	0.0	0.0	-0.97158	0.0	0.0	5.1633 *
	16.668	89.10000	43.60000	20.27000	0.0	0.0	-0.74121	0.0	0.0	5.1633 *
High Holborn House 2_1	Line 11	92.00000	75.00000	18.69000	0.0	0.0	-0.0039551	0.0	0.0	347.74 *
	1.9614	93.91667	74.58333	18.69000	0.0	0.0	-0.0037166	0.0	0.0	347.74 *
	3.9229	95.83333	74.16667	18.69000	0.0	0.0	-0.0033554	0.0	0.0	347.74 *
	5.8843	97.75000	73.75000	18.69000	0.0	0.0	-0.0028827	0.0	0.0	347.74 *
	7.8457	99.66667	73.33333	18.69000	0.0	0.0	-0.0023125	0.0	0.0	347.74 *
	9.8072	101.58333	72.91667	18.69000	0.0	0.0	-0.0016612	0.0	0.0	347.74 *
	11.769	103.50000	72.50000	18.69000	0.0	0.0	-945.95E-6	0.0	0.0	347.74 *
	13.730	105.41667	72.08333	18.69000	0.0	0.0	-184.60E-6	0.0	0.0	347.74 *
	15.691	107.33333	71.66667	18.69000	0.0	0.0	605.55E-6	0.0	0.0	347.74 *
	17.653	109.25000	71.25000	18.69000	0.0	0.0	0.0014082	0.0	0.0	347.74 *
	19.614	111.16667	70.83333	18.69000	0.0	0.0	0.0022088	0.0	0.0	347.74 *
	21.576	113.08333	70.41667	18.69000	0.0	0.0	0.0029942	0.0	0.0	347.74 *
	23.537	115.00000	70.00000	18.69000	0.0	0.0	0.0037535	0.0	0.0	347.74 *
High Holborn House 2_2	Line 12	115.00000	70.00000	18.69000	0.0	0.0	0.0037535	0.0	0.0	273.07 *
	2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.0026071	0.0	0.0	273.07 *
	4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.0013205	0.0	0.0	273.07 *
	6.0086	115.32143	64.00000	18.69000	0.0	0.0	-110.14E-6	0.0	0.0	273.07 *
	8.0115	115.42857	62.00000	18.69000	0.0	0.0	-0.0016860	0.0	0.0	273.07 *
	10.014	115.53571	60.00000	18.69000	0.0	0.0	-0.0034048	0.0	0.0	273.07 *
	12.017	115.64286	58.00000	18.69000	0.0	0.0	-0.0052593	0.0	0.0	273.07 *
	14.020	115.75000	56.00000	18.69000	0.0	0.0	-0.0072372	0.0	0.0	273.07 *
	16.023	115.85714	54.00000	18.69000	0.0	0.0	-0.0093195	0.0	0.0	273.07 *
	18.026	115.96429	52.00000	18.69000	0.0	0.0	-0.011481	0.0	0.0	273.07 *
	20.029	116.07143	50.00000	18.69000	0.0	0.0	-0.013687	0.0	0.0	273.07 *

Name	Type/No. Dist.	Coordinates x	Coordinates y	Coordinates z	Displacements x	Displacements y	Displacements z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	22.032	116.17857	48.00000	18.69000	0.0	0.0	-0.015900	0.0	0.0	273.07 *
	24.034	116.28571	46.00000	18.69000	0.0	0.0	-0.018073	0.0	0.0	273.07 *
	26.037	116.39286	44.00000	18.69000	0.0	0.0	-0.020154	0.0	0.0	273.07 *
	28.040	116.50000	42.00000	18.69000	0.0	0.0	-0.022092	0.0	0.0	273.07 *
	30.043	116.60714	40.00000	18.69000	0.0	0.0	-0.023833	0.0	0.0	273.07 *
	32.046	116.71429	38.00000	18.69000	0.0	0.0	-0.025326	0.0	0.0	273.07 *
	34.049	116.82143	36.00000	18.69000	0.0	0.0	-0.026525	0.0	0.0	273.07 *
	36.052	116.92857	34.00000	18.69000	0.0	0.0	-0.027392	0.0	0.0	273.07 *
	38.054	117.03571	32.00000	18.69000	0.0	0.0	-0.027900	0.0	0.0	273.07 *
	40.057	117.14286	30.00000	18.69000	0.0	0.0	-0.028029	0.0	0.0	273.07 *
	42.060	117.25000	28.00000	18.69000	0.0	0.0	-0.027777	0.0	0.0	273.07 *
	44.063	117.35714	26.00000	18.69000	0.0	0.0	-0.027149	0.0	0.0	273.07 *
	46.066	117.46429	24.00000	18.69000	0.0	0.0	-0.026166	0.0	0.0	273.07 *
	48.069	117.57143	22.00000	18.69000	0.0	0.0	-0.024859	0.0	0.0	273.07 *
	50.072	117.67857	20.00000	18.69000	0.0	0.0	-0.023268	0.0	0.0	273.07 *
	52.075	117.78571	18.00000	18.69000	0.0	0.0	-0.021444	0.0	0.0	273.07 *
	54.077	117.89286	16.00000	18.69000	0.0	0.0	-0.019438	0.0	0.0	273.07 *
	56.080	118.00000	14.00000	18.69000	0.0	0.0	-0.017306	0.0	0.0	273.07 *
High Holborn House 2_3	Line 13	118.00000	14.00000	18.69000	0.0	0.0	-0.017306	0.0	0.0	180.00 *
	2.0000	116.00000	14.00000	18.69000	0.0	0.0	-0.023500	0.0	0.0	180.00 *
	4.0000	114.00000	14.00000	18.69000	0.0	0.0	-0.031097	0.0	0.0	180.00 *
	6.0000	112.00000	14.00000	18.69000	0.0	0.0	-0.040470	0.0	0.0	180.00 *
	8.0000	110.00000	14.00000	18.69000	0.0	0.0	-0.052118	0.0	0.0	180.00 *
High Holborn House 2_4	Line 14	110.00000	14.00000	18.69000	0.0	0.0	-0.052118	0.0	0.0	265.91 *
	2.0051	109.85714	12.00000	18.69000	0.0	0.0	-0.047545	0.0	0.0	265.91 *
	4.0102	109.71429	10.00000	18.69000	0.0	0.0	-0.042719	0.0	0.0	265.91 *
	6.0153	109.57143	8.00000	18.69000	0.0	0.0	-0.037805	0.0	0.0	265.91 *
	8.0204	109.42857	6.00000	18.69000	0.0	0.0	-0.032944	0.0	0.0	265.91 *
	10.025	109.28571	4.00000	18.69000	0.0	0.0	-0.028248	0.0	0.0	265.91 *
	12.031	109.14286	2.00000	18.69000	0.0	0.0	-0.023800	0.0	0.0	265.91 *
	14.036	109.00000	0.00000	18.69000	0.0	0.0	-0.019657	0.0	0.0	265.91 *
	16.041	108.85714	-2.00000	18.69000	0.0	0.0	-0.015847	0.0	0.0	265.91 *
	18.046	108.71429	-4.00000	18.69000	0.0	0.0	-0.012384	0.0	0.0	265.91 *
	20.051	108.57143	-6.00000	18.69000	0.0	0.0	-0.0092659	0.0	0.0	265.91 *
	22.056	108.42857	-8.00000	18.69000	0.0	0.0	-0.0064806	0.0	0.0	265.91 *
	24.061	108.28571	-10.00000	18.69000	0.0	0.0	-0.0040107	0.0	0.0	265.91 *
	26.066	108.14286	-12.00000	18.69000	0.0	0.0	-0.0018350	0.0	0.0	265.91 *
	28.071	108.00000	-14.00000	18.69000	0.0	0.0	69.639E-6	0.0	0.0	265.91 *
High Holborn House 2_5	Line 15	108.00000	-14.00000	18.69000	0.0	0.0	69.639E-6	0.0	0.0	172.87 *
	2.0156	106.00000	-13.75000	18.69000	0.0	0.0	-0.0015592	0.0	0.0	172.87 *
	4.0311	104.00000	-13.50000	18.69000	0.0	0.0	-0.0033517	0.0	0.0	172.87 *
	6.0467	102.00000	-13.25000	18.69000	0.0	0.0	-0.0053049	0.0	0.0	172.87 *
	8.0623	100.00000	-13.00000	18.69000	0.0	0.0	-0.0074103	0.0	0.0	172.87 *
	10.078	98.00000	-12.75000	18.69000	0.0	0.0	-0.0096527	0.0	0.0	172.87 *
	12.093	96.00000	-12.50000	18.69000	0.0	0.0	-0.012009	0.0	0.0	172.87 *
	14.109	94.00000	-12.25000	18.69000	0.0	0.0	-0.014447	0.0	0.0	172.87 *
	16.125	92.00000	-12.00000	18.69000	0.0	0.0	-0.016924	0.0	0.0	172.87 *
High Holborn House 2_6	Line 16	92.00000	-12.00000	18.69000	0.0	0.0	-0.016924	0.0	0.0	90.000 *
	2.0000	92.00000	-10.00000	18.69000	0.0	0.0	-0.023079	0.0	0.0	90.000 *
	4.0000	92.00000	-8.00000	18.69000	0.0	0.0	-0.030642	0.0	0.0	90.000 *
	6.0000	92.00000	-6.00000	18.69000	0.0	0.0	-0.039984	0.0	0.0	90.000 *
	8.0000	92.00000	-4.00000	18.69000	0.0	0.0	-0.051603	0.0	0.0	90.000 *
	10.000	92.00000	-2.00000	18.69000	0.0	0.0	-0.066164	0.0	0.0	90.000 *
	12.000	92.00000	0.00000	18.69000	0.0	0.0	-0.084574	0.0	0.0	90.000 *
	14.000	92.00000	2.00000	18.69000	0.0	0.0	-0.10809	0.0	0.0	90.000 *
	16.000	92.00000	4.00000	18.69000	0.0	0.0	-0.13850	0.0	0.0	90.000 *
	18.000	92.00000	6.00000	18.69000	0.0	0.0	-0.17840	0.0	0.0	90.000 *
High Holborn House 2_7	Line 17	92.00000	6.00000	18.69000	0.0	0.0	-0.17840	0.0	0.0	94.946 *
	2.0878	91.82000	8.08000	18.69000	0.0	0.0	-0.23771	0.0	0.0	94.946 *
	4.1755	91.64000	10.16000	18.69000	0.0	0.0	-0.32272	0.0	0.0	94.946 *
	6.2633	91.46000	12.24000	18.69000	0.0	0.0	-0.45188	0.0	0.0	94.946 *
	8.3511	91.28000	14.32000	18.69000	0.0	0.0	-0.66933	0.0	0.0	94.946 *
	10.439	91.10000	16.40000	18.69000	0.0	0.0	-1.0878	0.0	0.0	94.946 *
High Holborn House 2_8	Line 18	91.10000	16.40000	18.69000	0.0	0.0	-1.0878	0.0	0.0	94.205 *
	1.9481	90.95714	18.34286	18.69000	0.0	0.0	-1.4856	0.0	0.0	94.205 *
	3.8962	90.81429	20.28571	18.69000	0.0	0.0	-1.6310	0.0	0.0	94.205 *
	5.8443	90.67143	22.22857	18.69000	0.0	0.0	-1.6775	0.0	0.0	94.205 *
	7.7924	90.52857	24.17143	18.69000	0.0	0.0	-1.5246	0.0	0.0	94.205 *
	9.7405	90.38571	26.11429	18.69000	0.0	0.0	-1.4478	0.0	0.0	94.205 *
	11.689	90.24286	28.05714	18.69000	0.0	0.0	-1.4424	0.0	0.0	94.205 *
	13.637	90.10000	30.00000	18.69000	0.0	0.0	-1.4389	0.0	0.0	94.205 *
	15.585	89.95714	31.94286	18.69000	0.0	0.0	-1.4156	0.0	0.0	94.205 *
	17.533	89.81429	33.88571	18.69000	0.0	0.0	-1.3679	0.0	0.0	94.205 *
	19.481	89.67143	35.82857	18.69000	0.0	0.0	-1.2981	0.0	0.0	94.205 *
	21.429	89.52857	37.77143	18.69000	0.0	0.0	-1.2081	0.0	0.0	94.205 *
	23.377	89.38571	39.71429	18.69000	0.0	0.0	-1.0864	0.0	0.0	94.205 *
	25.325	89.24286	41.65714	18.69000	0.0	0.0	-0.92005	0.0	0.0	94.205 *
	27.273	89.10000	43.60000	18.69000	0.0	0.0	-0.72398	0.0	0.0	94.205 *
High Holborn House 2_9	Line 19	89.10000	43.60000	18.69000	0.0	0.0	-0.72398	0.0	0.0	4.9697 *
	2.3087	91.40000	43.80000	18.69000	0.0	0.0	-0.51702	0.0	0.0	4.9697 *
	4.6174	93.70000	44.00000	18.69000	0.0	0.0	-0.36462	0.0	0.0	4.9697 *
High Holborn House 2_10	Line 20	93.70000	44.00000	18.69000	0.0	0.0	-0.36462	0.0	0.0	93.139 *
	1.9404	93.59375	45.93750	18.69000	0.0	0.0	-0.29717	0.0	0.0	93.139 *
	3.8808	93.48750	47.87500	18.69000	0.0	0.0	-0.23826	0.0	0.0	93.139 *
	5.8212	93.38125	49.81250	18.69000	0.0	0.0	-0.18965	0.0	0.0	93.139 *
	7.7616	93.27500	51.75000	18.69000	0.0	0.0	-0.15062	0.0	0.0	93.139 *
	9.7021	93.16875	53.68750	18.69000	0.0	0.0	-0.11958	0.0	0.0	93.139 *
	11.642	93.06250	55.62500	18.69000	0.0	0.0	-0.094906	0.0	0.0	93.139 *
	13.583	92.95625	57.56250	18.69000	0.0	0.0	-0.075233	0.0	0.0	93.139 *
	15.523	92.85000	59.50000	18.69000	0.0	0.0	-0.059468	0.0	0.0	93.139 *
	17.464	92.74375	61.43750	18.69000	0.0	0.0	-0.046765	0.0	0.0	93.139 *
	19.404	92.63750	63.37500	18.69000	0.0	0.0	-0.036473	0.0	0.0	93.139 *
	21.345	92.53125	65.31250	18.69000	0.0	0.0	-0.028092	0.0	0.0	93.139 *
	23.285	92.42500	67.25000	18.69000	0.0	0.0	-0.021235	0.0	0.0	93.139 *
	25.225	92.31875	69.18750	18.69000	0.0	0.0	-0.015603	0.0	0.0	93.139 *
	27.166	92.21250	71.12500	18.69000	0.0	0.0	-0.010962	0.0	0.0	93.139 *
	29.106	92.10625	73.06250	18.69000	0.0	0.0	-0.0071276	0.0	0.0	93.139 *
	31.047	92.00000	75.00000	18.69000	0.0	0.0	-0.0039551	0.0	0.0	93.139 *
High Holborn House 3_1	Line 21	91.10000	16.40000	19.10000	0.0	0.0	-1.0933	0.0	0.0	183.35 *
	1.9032	89.20000	16.28889	19.10000	0.0	0.0	-1.4946	0.0	0.0	183.35 *
	3.8065	87.30000	16.17778	19.10000	0.0	0.0	-1.6450	0.0	0.0	183.35 *
	5.7097	85.40000	16.06667	19.10000	0.0	0.0	-1.5857	0.0	0.0	183.35 *
	7.6130	83.50000	15.95556	19.10000	0.0	0.0	-1.6534	0.0	0.0	183.35 *
	9.5162	81.60000	15.84444	19.10000	0.0	0.0	-1.8758	0.0	0.0	183.35 *
	11.419	79.70000	15.73333	19.10000	0.0	0.0	-2.0855	0.0	0.0	183.35 *
	13.323	77.80000	15.62222	19.10000	0.0	0.0	-2.2969	0.0	0.0	183.35 *
	15.226	75.90000	15.51111	19.10000	0.0	0.0	-2.5167	0.0	0.0	183.35 *
	17.129	74.00000	15.40000	19.10000	0.0	0.0	-2.2675	0.0	0.0	183.35 *
High Holborn House 3_2	Line 22	74.00000	15.40000	19.10000	0.0	0.0	-2.2675	0.0	0.0	275.95 *
	2.0683	74.21429	13.34286	19.10000	0.0	0.0	-1.2363	0.0	0.0	275.95 *
	4.1365	74.42857	11.28571	19.10000	0.0	0.0	-0.74930	0.0	0.0	275.95 *
	6.2048	74.64286	9.22857	19.10000	0.0	0.0	-0.49341	0.0	0.0	275.95 *
	8.2731	74.85714	7.17143	19.10000	0.0	0.0	-0.34254	0.0	0.0	275.95 *
	10.341	75.07143	5.11429	19.10000	0.0	0.0	-0.24613	0.0	0.0	275.95 *
	12.410	75.28571	3.05714	19.10000	0.0	0.0	-0.18101	0.0	0.0	275.95 *
	14.478	75.50000	1.00000	19.10000	0.0	0.0	-0.13525	0.0	0.0	275.95 *
High Holborn House 3_3	Line 23	75.50000	1.00000	19.10000	0.0	0.0	-0.13525	0.0	0.0	262.23 *
	1.8503	75.25000	-0.83333	19.10000	0.0	0.0	-0.10437	0.0	0.0	262.23 *
	3.7006	75.00000	-2.66667	19.10000	0.0	0.0	-0.081001	0.0	0.0	262.23 *

Name	Type/No.	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
		5.5509	74.75000	-4.50000	19.10000	0.0	0.0	-0.063017	0.0	0.0	262.23 *
		7.4012	74.50000	-6.33333	19.10000	0.0	0.0	-0.048968	0.0	0.0	262.23 *
		9.2515	74.25000	-8.16667	19.10000	0.0	0.0	-0.037856	0.0	0.0	262.23 *
		11.102	74.00000	-10.00000	19.10000	0.0	0.0	-0.028972	0.0	0.0	262.23 *
High Holborn House 3_4	Line 24		74.00000	-10.00000	19.10000	0.0	0.0	-0.028972	0.0	0.0	353.66 *
		2.0123	76.00000	-10.22222	19.10000	0.0	0.0	-0.029090	0.0	0.0	353.66 *
		4.0246	78.00000	-10.44444	19.10000	0.0	0.0	-0.028730	0.0	0.0	353.66 *
		6.0369	80.00000	-10.66667	19.10000	0.0	0.0	-0.027913	0.0	0.0	353.66 *
		8.0492	82.00000	-10.88889	19.10000	0.0	0.0	-0.026681	0.0	0.0	353.66 *
		10.062	84.00000	-11.11111	19.10000	0.0	0.0	-0.025088	0.0	0.0	353.66 *
		12.074	86.00000	-11.33333	19.10000	0.0	0.0	-0.023202	0.0	0.0	353.66 *
		14.086	88.00000	-11.55556	19.10000	0.0	0.0	-0.021091	0.0	0.0	353.66 *
		16.098	90.00000	-11.77778	19.10000	0.0	0.0	-0.018826	0.0	0.0	353.66 *
		18.111	92.00000	-12.00000	19.10000	0.0	0.0	-0.016473	0.0	0.0	353.66 *

* Result includes imported displacement(s).

Specific Building Damage Results - Horizontal Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9677	2.96774	79.00000	24.00000	0.0	0.0	0.0	0.0 d
3.9355	4.93548	79.00000	24.00000	0.0	0.0	0.0	0.0 d
5.9032	6.90323	79.00000	24.00000	0.0	0.0	0.0	0.0 d
7.8710	8.87097	79.00000	24.00000	0.0	0.0	0.0	0.0 d
9.8387	10.83871	79.00000	24.00000	0.0	0.0	0.0	0.0 d
11.806	12.80645	79.00000	24.00000	0.0	0.0	0.0	0.0 d
13.774	14.77419	79.00000	24.00000	0.0	0.0	0.0	0.0 d
15.742	16.74194	79.00000	24.00000	0.0	0.0	0.0	0.0 d
17.710	18.70968	79.00000	24.00000	0.0	0.0	0.0	0.0 d
19.677	20.67742	79.00000	24.00000	0.0	0.0	0.0	0.0 d
21.645	22.64516	79.00000	24.00000	0.0	0.0	0.0	0.0 d
23.613	24.61290	79.00000	24.00000	0.0	0.0	0.0	0.0 d
25.581	26.58065	79.00000	24.00000	0.0	0.0	0.0	0.0 d
27.548	28.54839	79.00000	24.00000	0.0	0.0	0.0	0.0 d
29.516	30.51613	79.00000	24.00000	0.0	0.0	0.0	0.0 d
31.484	32.48387	79.00000	24.00000	0.0	0.0	0.0	0.0 d
33.452	34.45161	79.00000	24.00000	0.0	0.0	0.0	0.0 d
35.419	36.41935	79.00000	24.00000	0.0	0.0	0.0	0.0 d
37.387	38.38710	79.00000	24.00000	0.0	0.0	0.0	0.0 d
39.355	40.35484	79.00000	24.00000	0.0	0.0	0.0	0.0 d
41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0	0.0 d
43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0	0.0 d
45.258	46.25806	79.00000	24.00000	0.0	0.0	0.0	0.0 d
47.226	48.22581	79.00000	24.00000	0.0	0.0	0.0	0.0 d
49.194	50.19355	79.00000	24.00000	0.0	0.0	0.0	0.0 d
51.161	52.16129	79.00000	24.00000	0.0	0.0	0.0	0.0 d
53.129	54.12903	79.00000	24.00000	0.0	0.0	0.0	0.0 d
55.097	56.09677	79.00000	24.00000	0.0	0.0	0.0	0.0 d
57.065	58.06452	79.00000	24.00000	0.0	0.0	0.0	0.0 d
59.032	60.03226	79.00000	24.00000	0.0	0.0	0.0	0.0 d
61.000	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_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	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.0	0.0 d
3.9459	62.00000	75.05405	24.00000	0.0	0.0	0.0	0.0 d
5.9189	62.00000	73.08108	24.00000	0.0	0.0	0.0	0.0 d
7.8919	62.00000	71.10811	24.00000	0.0	0.0	0.0	0.0 d
9.8649	62.00000	69.13514	24.00000	0.0	0.0	0.0	0.0 d
11.838	62.00000	67.16216	24.00000	0.0	0.0	0.0	0.0 d
13.811	62.00000	65.18919	24.00000	0.0	0.0	0.0	0.0 d
15.784	62.00000	63.21622	24.00000	0.0	0.0	0.0	0.0 d
17.757	62.00000	61.24324	24.00000	0.0	0.0	0.0	0.0 d
19.730	62.00000	59.27027	24.00000	0.0	0.0	0.0	0.0 d
21.703	62.00000	57.29730	24.00000	0.0	0.0	0.0	0.0 d
23.676	62.00000	55.32432	24.00000	0.0	0.0	0.0	0.0 d
25.649	62.00000	53.35135	24.00000	0.0	0.0	0.0	0.0 d
27.622	62.00000	51.37838	24.00000	0.0	0.0	0.0	0.0 d
29.595	62.00000	49.40541	24.00000	0.0	0.0	0.0	0.0 d
31.568	62.00000	47.43243	24.00000	0.0	0.0	0.0	0.0 d
33.541	62.00000	45.45946	24.00000	0.0	0.0	0.0	0.0 d
35.514	62.00000	43.48649	24.00000	0.0	0.0	0.0	0.0 d
37.486	62.00000	41.51351	24.00000	0.0	0.0	0.0	0.0 d
39.459	62.00000	39.54054	24.00000	0.0	0.0	0.0	0.0 d
41.432	62.00000	37.56757	24.00000	0.0	0.0	0.0	0.0 d
43.405	62.00000	35.59459	24.00000	0.0	0.0	0.0	0.0 d
45.378	62.00000	33.62162	24.00000	0.0	0.0	0.0	0.0 d
47.351	62.00000	31.64865	24.00000	0.0	0.0	0.0	0.0 d
49.324	62.00000	29.67568	24.00000	0.0	0.0	0.0	0.0 d
51.297	62.00000	27.70270	24.00000	0.0	0.0	0.0	0.0 d
53.270	62.00000	25.72973	24.00000	0.0	0.0	0.0	0.0 d
55.243	62.00000	23.75676	24.00000	0.0	0.0	0.0	0.0 d
57.216	62.00000	21.78378	24.00000	0.0	0.0	0.0	0.0 d
59.189	62.00000	19.81081	24.00000	0.0	0.0	0.0	0.0 d
61.162	62.00000	17.83784	24.00000	0.0	0.0	0.0	0.0 d
63.135	62.00000	15.86486	24.00000	0.0	0.0	0.0	0.0 d
65.108	62.00000	13.89189	24.00000	0.0	0.0	0.0	0.0 d
67.081	62.00000	11.91892	24.00000	0.0	0.0	0.0	0.0 d
69.054	62.00000	9.94595	24.00000	0.0	0.0	0.0	0.0 d
71.027	62.00000	7.97297	24.00000	0.0	0.0	0.0	0.0 d
73.000	62.00000	6.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	62.00000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
1.8000	63.80000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
3.6000	65.60000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
5.4000	67.40000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
7.2000	69.20000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
9.0000	71.00000	6.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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]

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Demolition

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 24-May-2018	Checked

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	71.00000	6.00000	24.00000	0.0	0.0	0.0	0.0 d
1.8750	71.00000	4.12500	24.00000	0.0	0.0	0.0	0.0 d
3.7500	71.00000	2.25000	24.00000	0.0	0.0	0.0	0.0 d
5.6250	71.00000	0.37500	24.00000	0.0	0.0	0.0	0.0 d
7.5000	71.00000	-1.50000	24.00000	0.0	0.0	0.0	0.0 d
9.3750	71.00000	-3.37500	24.00000	0.0	0.0	0.0	0.0 d
11.250	71.00000	-5.25000	24.00000	0.0	0.0	0.0	0.0 d
13.125	71.00000	-7.12500	24.00000	0.0	0.0	0.0	0.0 d
15.000	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0 d
2.0165	69.00000	-8.74286	24.00000	0.0	0.0	0.0	0.0 d
4.0329	67.00000	-8.48571	24.00000	0.0	0.0	0.0	0.0 d
6.0494	65.00000	-8.22857	24.00000	0.0	0.0	0.0	0.0 d
8.0659	63.00000	-7.97143	24.00000	0.0	0.0	0.0	0.0 d
10.082	61.00000	-7.71429	24.00000	0.0	0.0	0.0	0.0 d
12.099	59.00000	-7.45714	24.00000	0.0	0.0	0.0	0.0 d
14.115	57.00000	-7.20000	24.00000	0.0	0.0	0.0	0.0 d
16.132	55.00000	-6.94286	24.00000	0.0	0.0	0.0	0.0 d
18.148	53.00000	-6.68571	24.00000	0.0	0.0	0.0	0.0 d
20.165	51.00000	-6.42857	24.00000	0.0	0.0	0.0	0.0 d
22.181	49.00000	-6.17143	24.00000	0.0	0.0	0.0	0.0 d
24.198	47.00000	-5.91429	24.00000	0.0	0.0	0.0	0.0 d
26.214	45.00000	-5.65714	24.00000	0.0	0.0	0.0	0.0 d
28.230	43.00000	-5.40000	24.00000	0.0	0.0	0.0	0.0 d
30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.0	0.0 d
32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.0	0.0 d
34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.0	0.0 d
36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.0	0.0 d
38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.0	0.0 d
40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.0	0.0 d
42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.0	0.0 d
44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0	0.0 d
46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0	0.0 d
48.395	23.00000	-2.82857	24.00000	0.0	0.0	0.0	0.0 d
50.412	21.00000	-2.57143	24.00000	0.0	0.0	0.0	0.0 d
52.428	19.00000	-2.31429	24.00000	0.0	0.0	0.0	0.0 d
54.444	17.00000	-2.05714	24.00000	0.0	0.0	0.0	0.0 d
56.461	15.00000	-1.80000	24.00000	0.0	0.0	0.0	0.0 d
58.477	13.00000	-1.54286	24.00000	0.0	0.0	0.0	0.0 d
60.494	11.00000	-1.28571	24.00000	0.0	0.0	0.0	0.0 d
62.510	9.00000	-1.02857	24.00000	0.0	0.0	0.0	0.0 d
64.527	7.00000	-0.77143	24.00000	0.0	0.0	0.0	0.0 d
66.543	5.00000	-0.51429	24.00000	0.0	0.0	0.0	0.0 d
68.560	3.00000	-0.25714	24.00000	0.0	0.0	0.0	0.0 d
70.576	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

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	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9750	1.00000	1.97500	24.00000	0.0	0.0	0.0	0.0 d
3.9500	1.00000	3.95000	24.00000	0.0	0.0	0.0	0.0 d
5.9250	1.00000	5.92500	24.00000	0.0	0.0	0.0	0.0 d
7.9000	1.00000	7.90000	24.00000	0.0	0.0	0.0	0.0 d
9.8750	1.00000	9.87500	24.00000	0.0	0.0	0.0	0.0 d
11.850	1.00000	11.85000	24.00000	0.0	0.0	0.0	0.0 d
13.825	1.00000	13.82500	24.00000	0.0	0.0	0.0	0.0 d
15.800	1.00000	15.80000	24.00000	0.0	0.0	0.0	0.0 d
17.775	1.00000	17.77500	24.00000	0.0	0.0	0.0	0.0 d
19.750	1.00000	19.75000	24.00000	0.0	0.0	0.0	0.0 d
21.725	1.00000	21.72500	24.00000	0.0	0.0	0.0	0.0 d
23.700	1.00000	23.70000	24.00000	0.0	0.0	0.0	0.0 d
25.675	1.00000	25.67500	24.00000	0.0	0.0	0.0	0.0 d
27.650	1.00000	27.65000	24.00000	0.0	0.0	0.0	0.0 d
29.625	1.00000	29.62500	24.00000	0.0	0.0	0.0	0.0 d
31.600	1.00000	31.60000	24.00000	0.0	0.0	0.0	0.0 d
33.575	1.00000	33.57500	24.00000	0.0	0.0	0.0	0.0 d
35.550	1.00000	35.55000	24.00000	0.0	0.0	0.0	0.0 d
37.525	1.00000	37.52500	24.00000	0.0	0.0	0.0	0.0 d
39.500	1.00000	39.50000	24.00000	0.0	0.0	0.0	0.0 d
41.475	1.00000	41.47500	24.00000	0.0	0.0	0.0	0.0 d
43.450	1.00000	43.45000	24.00000	0.0	0.0	0.0	0.0 d
45.425	1.00000	45.42500	24.00000	0.0	0.0	0.0	0.0 d
47.400	1.00000	47.40000	24.00000	0.0	0.0	0.0	0.0 d
49.375	1.00000	49.37500	24.00000	0.0	0.0	0.0	0.0 d
51.350	1.00000	51.35000	24.00000	0.0	0.0	0.0	0.0 d
53.325	1.00000	53.32500	24.00000	0.0	0.0	0.0	0.0 d
55.300	1.00000	55.30000	24.00000	0.0	0.0	0.0	0.0 d
57.275	1.00000	57.27500	24.00000	0.0	0.0	0.0	0.0 d
59.250	1.00000	59.25000	24.00000	0.0	0.0	0.0	0.0 d
61.225	1.00000	61.22500	24.00000	0.0	0.0	0.0	0.0 d
63.200	1.00000	63.20000	24.00000	0.0	0.0	0.0	0.0 d
65.175	1.00000	65.17500	24.00000	0.0	0.0	0.0	0.0 d
67.150	1.00000	67.15000	24.00000	0.0	0.0	0.0	0.0 d
69.125	1.00000	69.12500	24.00000	0.0	0.0	0.0	0.0 d
71.100	1.00000	71.10000	24.00000	0.0	0.0	0.0	0.0 d
73.075	1.00000	73.07500	24.00000	0.0	0.0	0.0	0.0 d
75.050	1.00000	75.05000	24.00000	0.0	0.0	0.0	0.0 d
77.025	1.00000	77.02500	24.00000	0.0	0.0	0.0	0.0 d
79.000	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	93.00000	57.00000	20.27000	0.0	0.0	0.0	0.0 d
2.0349	91.00000	57.37500	20.27000	0.0	0.0	0.0	0.0 d
4.0697	89.00000	57.75000	20.27000	0.0	0.0	0.0	0.0 d
6.1046	87.00000	58.12500	20.27000	0.0	0.0	0.0	0.0 d
8.1394	85.00000	58.50000	20.27000	0.0	0.0	0.0	0.0 d
10.174	83.00000	58.87500	20.27000	0.0	0.0	0.0	0.0 d
12.209	81.00000	59.25000	20.27000	0.0	0.0	0.0	0.0 d
14.244	79.00000	59.62500	20.27000	0.0	0.0	0.0	0.0 d
16.279	77.00000	60.00000	20.27000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_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]

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
0.0	77.00000	60.00000	20.27000	0.0	0.0	0.0	0.0 d
1.8333	75.16667	60.00000	20.27000	0.0	0.0	0.0	0.0 d
3.6667	73.33333	60.00000	20.27000	0.0	0.0	0.0	0.0 d
5.5000	71.50000	60.00000	20.27000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	71.50000	60.00000	20.27000	0.0	0.0	0.0	0.0 d
1.9920	71.61111	58.01111	20.27000	0.0	0.0	0.0	0.0 d
3.9840	71.72222	56.02222	20.27000	0.0	0.0	0.0	0.0 d
5.9760	71.83333	54.03333	20.27000	0.0	0.0	0.0	0.0 d
7.9680	71.94444	52.04444	20.27000	0.0	0.0	0.0	0.0 d
9.9600	72.05556	50.05556	20.27000	0.0	0.0	0.0	0.0 d
11.952	72.16667	48.06667	20.27000	0.0	0.0	0.0	0.0 d
13.944	72.27778	46.07778	20.27000	0.0	0.0	0.0	0.0 d
15.936	72.38889	44.08889	20.27000	0.0	0.0	0.0	0.0 d
17.928	72.50000	42.10000	20.27000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	72.50000	42.10000	20.27000	0.0	0.0	0.0	0.0 d
2.0835	74.57500	42.28750	20.27000	0.0	0.0	0.0	0.0 d
4.1669	76.65000	42.47500	20.27000	0.0	0.0	0.0	0.0 d
6.2504	78.72500	42.66250	20.27000	0.0	0.0	0.0	0.0 d
8.3338	80.80000	42.85000	20.27000	0.0	0.0	0.0	0.0 d
10.417	82.87500	43.03750	20.27000	0.0	0.0	0.0	0.0 d
12.501	84.95000	43.22500	20.27000	0.0	0.0	0.0	0.0 d
14.584	87.02500	43.41250	20.27000	0.0	0.0	0.0	0.0 d
16.668	89.10000	43.60000	20.27000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_1

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	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0 d
1.9614	93.91667	74.58333	18.69000	0.0	0.0	0.0	0.0 d
3.9229	95.83333	74.16667	18.69000	0.0	0.0	0.0	0.0 d
5.8843	97.75000	73.75000	18.69000	0.0	0.0	0.0	0.0 d
7.8457	99.66667	73.33333	18.69000	0.0	0.0	0.0	0.0 d
9.8072	101.58333	72.91667	18.69000	0.0	0.0	0.0	0.0 d
11.769	103.50000	72.50000	18.69000	0.0	0.0	0.0	0.0 d
13.730	105.41667	72.08333	18.69000	0.0	0.0	0.0	0.0 d
15.691	107.33333	71.66667	18.69000	0.0	0.0	0.0	0.0 d
17.653	109.25000	71.25000	18.69000	0.0	0.0	0.0	0.0 d
19.614	111.16667	70.83333	18.69000	0.0	0.0	0.0	0.0 d
21.576	113.08333	70.41667	18.69000	0.0	0.0	0.0	0.0 d
23.537	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

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	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.0	0.0 d
4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.0	0.0 d
6.0086	115.32143	64.00000	18.69000	0.0	0.0	0.0	0.0 d
8.0115	115.42857	62.00000	18.69000	0.0	0.0	0.0	0.0 d
10.014	115.53571	60.00000	18.69000	0.0	0.0	0.0	0.0 d
12.017	115.64286	58.00000	18.69000	0.0	0.0	0.0	0.0 d
14.020	115.75000	56.00000	18.69000	0.0	0.0	0.0	0.0 d
16.023	115.85714	54.00000	18.69000	0.0	0.0	0.0	0.0 d
18.026	115.96429	52.00000	18.69000	0.0	0.0	0.0	0.0 d
20.029	116.07143	50.00000	18.69000	0.0	0.0	0.0	0.0 d
22.032	116.17857	48.00000	18.69000	0.0	0.0	0.0	0.0 d
24.034	116.28571	46.00000	18.69000	0.0	0.0	0.0	0.0 d
26.037	116.39286	44.00000	18.69000	0.0	0.0	0.0	0.0 d
28.040	116.50000	42.00000	18.69000	0.0	0.0	0.0	0.0 d
30.043	116.60714	40.00000	18.69000	0.0	0.0	0.0	0.0 d
32.046	116.71429	38.00000	18.69000	0.0	0.0	0.0	0.0 d
34.049	116.82143	36.00000	18.69000	0.0	0.0	0.0	0.0 d
36.052	116.92857	34.00000	18.69000	0.0	0.0	0.0	0.0 d
38.054	117.03571	32.00000	18.69000	0.0	0.0	0.0	0.0 d
40.057	117.14286	30.00000	18.69000	0.0	0.0	0.0	0.0 d
42.060	117.25000	28.00000	18.69000	0.0	0.0	0.0	0.0 d
44.063	117.35714	26.00000	18.69000	0.0	0.0	0.0	0.0 d
46.066	117.46429	24.00000	18.69000	0.0	0.0	0.0	0.0 d
48.069	117.57143	22.00000	18.69000	0.0	0.0	0.0	0.0 d
50.072	117.67857	20.00000	18.69000	0.0	0.0	0.0	0.0 d
52.075	117.78571	18.00000	18.69000	0.0	0.0	0.0	0.0 d
54.077	117.89286	16.00000	18.69000	0.0	0.0	0.0	0.0 d
56.080	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0000	116.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d
4.0000	114.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d
6.0000	112.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d
8.0000	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0051	109.85714	12.00000	18.69000	0.0	0.0	0.0	0.0 d
4.0102	109.71429	10.00000	18.69000	0.0	0.0	0.0	0.0 d

Oasys
RSK GROUP
18-21 Hand Court
Building Damage
Demolition

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 24-May-2018	Checked

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
6.0153	109.57143	8.00000	18.69000	0.0	0.0	0.0	0.0 d
8.0204	109.42857	6.00000	18.69000	0.0	0.0	0.0	0.0 d
10.025	109.28571	4.00000	18.69000	0.0	0.0	0.0	0.0 d
12.031	109.14286	2.00000	18.69000	0.0	0.0	0.0	0.0 d
14.036	109.00000	0.00000	18.69000	0.0	0.0	0.0	0.0 d
16.041	108.85714	-2.00000	18.69000	0.0	0.0	0.0	0.0 d
18.046	108.71429	-4.00000	18.69000	0.0	0.0	0.0	0.0 d
20.051	108.57143	-6.00000	18.69000	0.0	0.0	0.0	0.0 d
22.056	108.42857	-8.00000	18.69000	0.0	0.0	0.0	0.0 d
24.061	108.28571	-10.00000	18.69000	0.0	0.0	0.0	0.0 d
26.066	108.14286	-12.00000	18.69000	0.0	0.0	0.0	0.0 d
28.071	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0156	106.00000	-13.75000	18.69000	0.0	0.0	0.0	0.0 d
4.0311	104.00000	-13.50000	18.69000	0.0	0.0	0.0	0.0 d
6.0467	102.00000	-13.25000	18.69000	0.0	0.0	0.0	0.0 d
8.0623	100.00000	-13.00000	18.69000	0.0	0.0	0.0	0.0 d
10.078	98.00000	-12.75000	18.69000	0.0	0.0	0.0	0.0 d
12.093	96.00000	-12.50000	18.69000	0.0	0.0	0.0	0.0 d
14.109	94.00000	-12.25000	18.69000	0.0	0.0	0.0	0.0 d
16.125	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0000	92.00000	-10.00000	18.69000	0.0	0.0	0.0	0.0 d
4.0000	92.00000	-8.00000	18.69000	0.0	0.0	0.0	0.0 d
6.0000	92.00000	-6.00000	18.69000	0.0	0.0	0.0	0.0 d
8.0000	92.00000	-4.00000	18.69000	0.0	0.0	0.0	0.0 d
10.000	92.00000	-2.00000	18.69000	0.0	0.0	0.0	0.0 d
12.000	92.00000	0.00000	18.69000	0.0	0.0	0.0	0.0 d
14.000	92.00000	2.00000	18.69000	0.0	0.0	0.0	0.0 d
16.000	92.00000	4.00000	18.69000	0.0	0.0	0.0	0.0 d
18.000	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0878	91.82000	8.08000	18.69000	0.0	0.0	0.0	0.0 d
4.1755	91.64000	10.16000	18.69000	0.0	0.0	0.0	0.0 d
6.2633	91.46000	12.24000	18.69000	0.0	0.0	0.0	0.0 d
8.3511	91.28000	14.32000	18.69000	0.0	0.0	0.0	0.0 d
10.439	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0 d
1.9481	90.95714	18.34286	18.69000	0.0	0.0	0.0	0.0 d
3.8962	90.81429	20.28571	18.69000	0.0	0.0	0.0	0.0 d
5.8443	90.67143	22.22857	18.69000	0.0	0.0	0.0	0.0 d
7.7924	90.52857	24.17143	18.69000	0.0	0.0	0.0	0.0 d
9.7405	90.38571	26.11429	18.69000	0.0	0.0	0.0	0.0 d
11.689	90.24286	28.05714	18.69000	0.0	0.0	0.0	0.0 d
13.637	90.10000	30.00000	18.69000	0.0	0.0	0.0	0.0 d
15.585	89.95714	31.94286	18.69000	0.0	0.0	0.0	0.0 d
17.533	89.81429	33.88571	18.69000	0.0	0.0	0.0	0.0 d
19.481	89.67143	35.82857	18.69000	0.0	0.0	0.0	0.0 d
21.429	89.52857	37.77143	18.69000	0.0	0.0	0.0	0.0 d
23.377	89.38571	39.71429	18.69000	0.0	0.0	0.0	0.0 d
25.325	89.24286	41.65714	18.69000	0.0	0.0	0.0	0.0 d
27.273	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0 d
2.3087	91.40000	43.80000	18.69000	0.0	0.0	0.0	0.0 d
4.6174	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0 d
1.9404	93.59375	45.93750	18.69000	0.0	0.0	0.0	0.0 d
3.8808	93.48750	47.87500	18.69000	0.0	0.0	0.0	0.0 d
5.8212	93.38125	49.81250	18.69000	0.0	0.0	0.0	0.0 d
7.7616	93.27500	51.75000	18.69000	0.0	0.0	0.0	0.0 d
9.7021	93.16875	53.68750	18.69000	0.0	0.0	0.0	0.0 d
11.642	93.06250	55.62500	18.69000	0.0	0.0	0.0	0.0 d
13.583	92.95625	57.56250	18.69000	0.0	0.0	0.0	0.0 d
15.523	92.85000	59.50000	18.69000	0.0	0.0	0.0	0.0 d
17.464	92.74375	61.43750	18.69000	0.0	0.0	0.0	0.0 d
19.404	92.63750	63.37500	18.69000	0.0	0.0	0.0	0.0 d
21.345	92.53125	65.31250	18.69000	0.0	0.0	0.0	0.0 d
23.285	92.42500	67.25000	18.69000	0.0	0.0	0.0	0.0 d
25.225	92.31875	69.18750	18.69000	0.0	0.0	0.0	0.0 d
27.166	92.21250	71.12500	18.69000	0.0	0.0	0.0	0.0 d
29.106	92.10625	73.06250	18.69000	0.0	0.0	0.0	0.0 d
31.047	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	z
						[mm]	[mm]	

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

Dist. [m]	x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]	z
0.0	91.10000	16.40000	19.10000	0.0	0.0	0.0	0.0	d
1.9032	89.20000	16.28889	19.10000	0.0	0.0	0.0	0.0	d
3.8065	87.30000	16.17778	19.10000	0.0	0.0	0.0	0.0	d
5.7097	85.40000	16.06667	19.10000	0.0	0.0	0.0	0.0	d
7.6130	83.50000	15.95556	19.10000	0.0	0.0	0.0	0.0	d
9.5162	81.60000	15.84444	19.10000	0.0	0.0	0.0	0.0	d
11.419	79.70000	15.73333	19.10000	0.0	0.0	0.0	0.0	d
13.323	77.80000	15.62222	19.10000	0.0	0.0	0.0	0.0	d
15.226	75.90000	15.51111	19.10000	0.0	0.0	0.0	0.0	d
17.129	74.00000	15.40000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

Dist. [m]	x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]	z
0.0	74.00000	15.40000	19.10000	0.0	0.0	0.0	0.0	d
2.0683	74.21429	13.34286	19.10000	0.0	0.0	0.0	0.0	d
4.1365	74.42857	11.28571	19.10000	0.0	0.0	0.0	0.0	d
6.2048	74.64286	9.22857	19.10000	0.0	0.0	0.0	0.0	d
8.2731	74.85714	7.17143	19.10000	0.0	0.0	0.0	0.0	d
10.341	75.07143	5.11429	19.10000	0.0	0.0	0.0	0.0	d
12.410	75.28571	3.05714	19.10000	0.0	0.0	0.0	0.0	d
14.478	75.50000	1.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

Dist. [m]	x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]	z
0.0	75.50000	1.00000	19.10000	0.0	0.0	0.0	0.0	d
1.8503	75.25000	-0.83333	19.10000	0.0	0.0	0.0	0.0	d
3.7006	75.00000	-2.66667	19.10000	0.0	0.0	0.0	0.0	d
5.5509	74.75000	-4.50000	19.10000	0.0	0.0	0.0	0.0	d
7.4012	74.50000	-6.33333	19.10000	0.0	0.0	0.0	0.0	d
9.2515	74.25000	-8.16667	19.10000	0.0	0.0	0.0	0.0	d
11.102	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

Dist. [m]	x [m]	y [m]	z [m]	x [mm]	y [mm]	Horizontal displacement along the Line [mm]	Horizontal displacement perpendicular to Line [mm]	z
0.0	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d
2.0123	76.00000	-10.22222	19.10000	0.0	0.0	0.0	0.0	d
4.0246	78.00000	-10.44444	19.10000	0.0	0.0	0.0	0.0	d
6.0369	80.00000	-10.66667	19.10000	0.0	0.0	0.0	0.0	d
8.0492	82.00000	-10.88889	19.10000	0.0	0.0	0.0	0.0	d
10.062	84.00000	-11.11111	19.10000	0.0	0.0	0.0	0.0	d
12.074	86.00000	-11.33333	19.10000	0.0	0.0	0.0	0.0	d
14.086	88.00000	-11.55556	19.10000	0.0	0.0	0.0	0.0	d
16.098	90.00000	-11.77778	19.10000	0.0	0.0	0.0	0.0	d
18.111	92.00000	-12.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Specific Building Damage Results - Vertical Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_1

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	1.00000	79.00000	24.00000	0.0086106 d
1.9677	2.96774	79.00000	24.00000	0.0087749 d
3.9355	4.93548	79.00000	24.00000	0.0089335 d
5.9032	6.90323	79.00000	24.00000	0.0090852 d
7.8710	8.87097	79.00000	24.00000	0.0092285 d
9.8387	10.83871	79.00000	24.00000	0.0093621 d
11.806	12.80645	79.00000	24.00000	0.0094842 d
13.774	14.77419	79.00000	24.00000	0.0095931 d
15.742	16.74194	79.00000	24.00000	0.0096870 d
17.710	18.70968	79.00000	24.00000	0.0097638 d
19.677	20.67742	79.00000	24.00000	0.0098215 d
21.645	22.64516	79.00000	24.00000	0.0098579 d
23.613	24.61290	79.00000	24.00000	0.0098707 d
25.581	26.58065	79.00000	24.00000	0.0098576 d
27.548	28.54839	79.00000	24.00000	0.0098162 d
29.516	30.51613	79.00000	24.00000	0.0097442 d
31.484	32.48387	79.00000	24.00000	0.0096393 d
33.452	34.45161	79.00000	24.00000	0.0094995 d
35.419	36.41935	79.00000	24.00000	0.0093226 d
37.387	38.38710	79.00000	24.00000	0.0091072 d
39.355	40.35484	79.00000	24.00000	0.0088517 d
41.323	42.32258	79.00000	24.00000	0.0085554 d
43.290	44.29032	79.00000	24.00000	0.0082180 d
45.258	46.25806	79.00000	24.00000	0.0078399 d
47.226	48.22581	79.00000	24.00000	0.0074224 d
49.194	50.19355	79.00000	24.00000	0.0069679 d
51.161	52.16129	79.00000	24.00000	0.0064797 d
53.129	54.12903	79.00000	24.00000	0.0059623 d
55.097	56.09677	79.00000	24.00000	0.0054218 d
57.065	58.06452	79.00000	24.00000	0.0048652 d
59.032	60.03226	79.00000	24.00000	0.0043013 d
61.000	62.00000	79.00000	24.00000	0.0037398 d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	62.00000	79.00000	24.00000	0.0037398 d
1.9730	62.00000	77.02703	24.00000	0.0020925 d
3.9459	62.00000	75.05405	24.00000	102.65E-6 d
5.9189	62.00000	73.08108	24.00000	-0.0022936 d
7.8919	62.00000	71.10811	24.00000	-0.0051735 d
9.8649	62.00000	69.13514	24.00000	-0.0086306 d

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Dist. [m]	x [m]	y [m]	z [m]	z [mm]
11.838	62.00000	67.16216	24.00000	-0.012779 d
13.811	62.00000	65.18919	24.00000	-0.017756 d
15.784	62.00000	63.21622	24.00000	-0.023731 d
17.757	62.00000	61.24324	24.00000	-0.030908 d
19.730	62.00000	59.27027	24.00000	-0.039531 d
21.703	62.00000	57.29730	24.00000	-0.049887 d
23.676	62.00000	55.32432	24.00000	-0.062305 d
25.649	62.00000	53.35135	24.00000	-0.077146 d
27.622	62.00000	51.37838	24.00000	-0.094764 d
29.595	62.00000	49.40541	24.00000	-0.11545 d
31.568	62.00000	47.43243	24.00000	-0.13934 d
33.541	62.00000	45.45946	24.00000	-0.16626 d
35.514	62.00000	43.48649	24.00000	-0.19558 d
37.486	62.00000	41.51351	24.00000	-0.22617 d
39.459	62.00000	39.54054	24.00000	-0.25643 d
41.432	62.00000	37.56757	24.00000	-0.28448 d
43.405	62.00000	35.59459	24.00000	-0.30851 d
45.378	62.00000	33.62162	24.00000	-0.32713 d
47.351	62.00000	31.64865	24.00000	-0.33973 d
49.324	62.00000	29.67568	24.00000	-0.34636 d
51.297	62.00000	27.70270	24.00000	-0.34743 d
53.270	62.00000	25.72973	24.00000	-0.34331 d
55.243	62.00000	23.75676	24.00000	-0.33418 d
57.216	62.00000	21.78378	24.00000	-0.31994 d
59.189	62.00000	19.81081	24.00000	-0.30042 d
61.162	62.00000	17.83784	24.00000	-0.27583 d
63.135	62.00000	15.86486	24.00000	-0.24715 d
65.108	62.00000	13.89189	24.00000	-0.21618 d
67.081	62.00000	11.91892	24.00000	-0.18509 d
69.054	62.00000	9.94595	24.00000	-0.15572 d
71.027	62.00000	7.97297	24.00000	-0.12926 d
73.000	62.00000	6.00000	24.00000	-0.10619 d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	62.00000	6.00000	24.00000	-0.10619 d
1.8000	63.80000	6.00000	24.00000	-0.12613 d
3.6000	65.60000	6.00000	24.00000	-0.14872 d
5.4000	67.40000	6.00000	24.00000	-0.17363 d
7.2000	69.20000	6.00000	24.00000	-0.19999 d
9.0000	71.00000	6.00000	24.00000	-0.22617 d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	71.00000	6.00000	24.00000	-0.22617 d
1.8750	71.00000	4.12500	24.00000	-0.17235 d
3.7500	71.00000	2.25000	24.00000	-0.13276 d
5.6250	71.00000	0.37500	24.00000	-0.10303 d
7.5000	71.00000	-1.50000	24.00000	-0.080303 d
9.3750	71.00000	-3.37500	24.00000	-0.062660 d
11.250	71.00000	-5.25000	24.00000	-0.048787 d
13.125	71.00000	-7.12500	24.00000	-0.037756 d
15.000	71.00000	-9.00000	24.00000	-0.028899 d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	71.00000	-9.00000	24.00000	-0.028899 d
2.0165	69.00000	-8.74286	24.00000	-0.027692 d
4.0329	67.00000	-8.48571	24.00000	-0.026066 d
6.0494	65.00000	-8.22857	24.00000	-0.024092 d
8.0659	63.00000	-7.97143	24.00000	-0.021853 d
10.082	61.00000	-7.71429	24.00000	-0.019434 d
12.099	59.00000	-7.45714	24.00000	-0.016918 d
14.115	57.00000	-7.20000	24.00000	-0.014376 d
16.132	55.00000	-6.94286	24.00000	-0.011871 d
18.148	53.00000	-6.68571	24.00000	-0.0094501 d
20.165	51.00000	-6.42857	24.00000	-0.0071507 d
22.181	49.00000	-6.17143	24.00000	-0.0049974 d
24.198	47.00000	-5.91429	24.00000	-0.0030055 d
26.214	45.00000	-5.65714	24.00000	-0.0011829 d
28.230	43.00000	-5.40000	24.00000	468.61E-6 d
30.247	41.00000	-5.14286	24.00000	0.0019516 d
32.263	39.00000	-4.88571	24.00000	0.0032718 d
34.280	37.00000	-4.62857	24.00000	0.0044372 d
36.296	35.00000	-4.37143	24.00000	0.0054570 d
38.313	33.00000	-4.11429	24.00000	0.0063414 d
40.329	31.00000	-3.85714	24.00000	0.0071008 d
42.346	29.00000	-3.60000	24.00000	0.0077455 d
44.362	27.00000	-3.34286	24.00000	0.0082859 d
46.379	25.00000	-3.08571	24.00000	0.0087317 d
48.395	23.00000	-2.82857	24.00000	0.0090922 d
50.412	21.00000	-2.57143	24.00000	0.0093763 d
52.428	19.00000	-2.31429	24.00000	0.0095921 d
54.444	17.00000	-2.05714	24.00000	0.0097472 d
56.461	15.00000	-1.80000	24.00000	0.0098487 d
58.477	13.00000	-1.54286	24.00000	0.0099030 d
60.494	11.00000	-1.28571	24.00000	0.0099158 d
62.510	9.00000	-1.02857	24.00000	0.0098926 d
64.527	7.00000	-0.77143	24.00000	0.0098380 d
66.543	5.00000	-0.51429	24.00000	0.0097566 d
68.560	3.00000	-0.25714	24.00000	0.0096520 d
70.576	1.00000	0.00000	24.00000	0.0095280 d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

Dist. [m]	x [m]	y [m]	z [m]	z [mm]
Vertical Offset 1				
0.0	1.00000	0.00000	24.00000	0.0095280 d
1.9750	1.00000	1.97500	24.00000	0.0095760 d
3.9500	1.00000	3.95000	24.00000	0.0096191 d
5.9250	1.00000	5.92500	24.00000	0.0096577 d
7.9000	1.00000	7.90000	24.00000	0.0096918 d
9.8750	1.00000	9.87500	24.00000	0.0097217 d
11.850	1.00000	11.85000	24.00000	0.0097477 d
13.825	1.00000	13.82500	24.00000	0.0097700 d
15.800	1.00000	15.80000	24.00000	0.0097889 d
17.775	1.00000	17.77500	24.00000	0.0098046 d
19.750	1.00000	19.75000	24.00000	0.0098172 d
21.725	1.00000	21.72500	24.00000	0.0098271 d
23.700	1.00000	23.70000	24.00000	0.0098343 d
25.675	1.00000	25.67500	24.00000	0.0098389 d
27.650	1.00000	27.65000	24.00000	0.0098411 d
29.625	1.00000	29.62500	24.00000	0.0098408 d
31.600	1.00000	31.60000	24.00000	0.0098380 d

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
33.575	1.00000	33.57500	24.00000	0.0098327 d
35.550	1.00000	35.55000	24.00000	0.0098248 d
37.525	1.00000	37.52500	24.00000	0.0098141 d
39.500	1.00000	39.50000	24.00000	0.0098005 d
41.475	1.00000	41.47500	24.00000	0.0097836 d
43.450	1.00000	43.45000	24.00000	0.0097635 d
45.425	1.00000	45.42500	24.00000	0.0097396 d
47.400	1.00000	47.40000	24.00000	0.0097119 d
49.375	1.00000	49.37500	24.00000	0.0096801 d
51.350	1.00000	51.35000	24.00000	0.0096439 d
53.325	1.00000	53.32500	24.00000	0.0096032 d
55.300	1.00000	55.30000	24.00000	0.0095576 d
57.275	1.00000	57.27500	24.00000	0.0095071 d
59.250	1.00000	59.25000	24.00000	0.0094514 d
61.225	1.00000	61.22500	24.00000	0.0093906 d
63.200	1.00000	63.20000	24.00000	0.0093244 d
65.175	1.00000	65.17500	24.00000	0.0092530 d
67.150	1.00000	67.15000	24.00000	0.0091763 d
69.125	1.00000	69.12500	24.00000	0.0090943 d
71.100	1.00000	71.10000	24.00000	0.0090072 d
73.075	1.00000	73.07500	24.00000	0.0089151 d
75.050	1.00000	75.05000	24.00000	0.0088182 d
77.025	1.00000	77.02500	24.00000	0.0087166 d
79.000	1.00000	79.00000	24.00000	0.0086106 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_1

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	93.00000	57.00000	20.27000	-0.075998 d
2.0349	91.00000	57.37500	20.27000	-0.081611 d
4.0697	89.00000	57.75000	20.27000	-0.085900 d
6.1046	87.00000	58.12500	20.27000	-0.088561 d
8.1394	85.00000	58.50000	20.27000	-0.089415 d
10.174	83.00000	58.87500	20.27000	-0.088417 d
12.209	81.00000	59.25000	20.27000	-0.085659 d
14.244	79.00000	59.62500	20.27000	-0.081349 d
16.279	77.00000	60.00000	20.27000	-0.075786 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	77.00000	60.00000	20.27000	-0.075786 d
1.8333	75.16667	60.00000	20.27000	-0.073264 d
3.6667	73.33333	60.00000	20.27000	-0.069715 d
5.5000	71.50000	60.00000	20.27000	-0.065328 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	71.50000	60.00000	20.27000	-0.065328 d
1.9920	71.61111	58.01111	20.27000	-0.085563 d
3.9840	71.72222	56.02222	20.27000	-0.11235 d
5.9760	71.83333	54.03333	20.27000	-0.14846 d
7.9680	71.94444	52.04444	20.27000	-0.19825 d
9.9600	72.05556	50.05556	20.27000	-0.26876 d
11.952	72.16667	48.06667	20.27000	-0.37186 d
13.944	72.27778	46.07778	20.27000	-0.52821 d
15.936	72.38889	44.08889	20.27000	-0.77280 d
17.928	72.50000	42.10000	20.27000	-1.1336 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	72.50000	42.10000	20.27000	-1.1336 d
2.0835	74.57500	42.28750	20.27000	-1.4189 d
4.1669	76.65000	42.47500	20.27000	-1.5524 d
6.2504	78.72500	42.66250	20.27000	-1.5458 d
8.3338	80.80000	42.85000	20.27000	-1.4352 d
10.417	82.87500	43.03750	20.27000	-1.2988 d
12.501	84.95000	43.22500	20.27000	-1.1530 d
14.584	87.02500	43.41250	20.27000	-0.97158 d
16.668	89.10000	43.60000	20.27000	-0.74121 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_1

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	92.00000	75.00000	18.69000	-0.0039551 d
1.9614	93.91667	74.58333	18.69000	-0.0037166 d
3.9229	95.83333	74.16667	18.69000	-0.0033554 d
5.8843	97.75000	73.75000	18.69000	-0.0028827 d
7.8457	99.66667	73.33333	18.69000	-0.0023125 d
9.8072	101.58333	72.91667	18.69000	-0.0016612 d
11.769	103.50000	72.50000	18.69000	-945.95E-6 d
13.730	105.41667	72.08333	18.69000	-184.60E-6 d
15.691	107.33333	71.66667	18.69000	605.55E-6 d
17.653	109.25000	71.25000	18.69000	0.0014082 d
19.614	111.16667	70.83333	18.69000	0.0022088 d
21.576	113.08333	70.41667	18.69000	0.0029942 d
23.537	115.00000	70.00000	18.69000	0.0037535 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	115.00000	70.00000	18.69000	0.0037535 d
2.0029	115.10714	68.00000	18.69000	0.0026071 d
4.0057	115.21429	66.00000	18.69000	0.0013205 d
6.0086	115.32143	64.00000	18.69000	-110.14E-6 d
8.0115	115.42857	62.00000	18.69000	-0.0016860 d
10.014	115.53571	60.00000	18.69000	-0.0034048 d
12.017	115.64286	58.00000	18.69000	-0.0052593 d
14.020	115.75000	56.00000	18.69000	-0.0072372 d
16.023	115.85714	54.00000	18.69000	-0.0093195 d
18.026	115.96429	52.00000	18.69000	-0.011481 d
20.029	116.07143	50.00000	18.69000	-0.013687 d

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Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
22.032	116.17857	48.00000	18.69000	-0.015900 d
24.034	116.28571	46.00000	18.69000	-0.018073 d
26.037	116.39286	44.00000	18.69000	-0.020154 d
28.040	116.50000	42.00000	18.69000	-0.022092 d
30.043	116.60714	40.00000	18.69000	-0.023833 d
32.046	116.71429	38.00000	18.69000	-0.025326 d
34.049	116.82143	36.00000	18.69000	-0.026525 d
36.052	116.92857	34.00000	18.69000	-0.027392 d
38.054	117.03571	32.00000	18.69000	-0.027900 d
40.057	117.14286	30.00000	18.69000	-0.028029 d
42.060	117.25000	28.00000	18.69000	-0.027777 d
44.063	117.35714	26.00000	18.69000	-0.027149 d
46.066	117.46429	24.00000	18.69000	-0.026166 d
48.069	117.57143	22.00000	18.69000	-0.024859 d
50.072	117.67857	20.00000	18.69000	-0.023268 d
52.075	117.78571	18.00000	18.69000	-0.021444 d
54.077	117.89286	16.00000	18.69000	-0.019438 d
56.080	118.00000	14.00000	18.69000	-0.017306 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	118.00000	14.00000	18.69000	-0.017306 d
2.0000	116.00000	14.00000	18.69000	-0.023500 d
4.0000	114.00000	14.00000	18.69000	-0.031097 d
6.0000	112.00000	14.00000	18.69000	-0.040470 d
8.0000	110.00000	14.00000	18.69000	-0.052118 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	110.00000	14.00000	18.69000	-0.052118 d
2.0051	109.85714	12.00000	18.69000	-0.047545 d
4.0102	109.71429	10.00000	18.69000	-0.042719 d
6.0153	109.57143	8.00000	18.69000	-0.037805 d
8.0204	109.42857	6.00000	18.69000	-0.032944 d
10.025	109.28571	4.00000	18.69000	-0.028248 d
12.031	109.14286	2.00000	18.69000	-0.023800 d
14.036	109.00000	0.00000	18.69000	-0.019657 d
16.041	108.85714	-2.00000	18.69000	-0.015847 d
18.046	108.71429	-4.00000	18.69000	-0.012384 d
20.051	108.57143	-6.00000	18.69000	-0.0092659 d
22.056	108.42857	-8.00000	18.69000	-0.0064806 d
24.061	108.28571	-10.00000	18.69000	-0.0040107 d
26.066	108.14286	-12.00000	18.69000	-0.0018350 d
28.071	108.00000	-14.00000	18.69000	69.639E-6 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	108.00000	-14.00000	18.69000	69.639E-6 d
2.0156	106.00000	-13.75000	18.69000	-0.0015592 d
4.0311	104.00000	-13.50000	18.69000	-0.0033517 d
6.0467	102.00000	-13.25000	18.69000	-0.0053049 d
8.0623	100.00000	-13.00000	18.69000	-0.0074103 d
10.078	98.00000	-12.75000	18.69000	-0.0096527 d
12.093	96.00000	-12.50000	18.69000	-0.012009 d
14.109	94.00000	-12.25000	18.69000	-0.014447 d
16.125	92.00000	-12.00000	18.69000	-0.016924 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	92.00000	-12.00000	18.69000	-0.016924 d
2.0000	92.00000	-10.00000	18.69000	-0.023079 d
4.0000	92.00000	-8.00000	18.69000	-0.030642 d
6.0000	92.00000	-6.00000	18.69000	-0.039984 d
8.0000	92.00000	-4.00000	18.69000	-0.051603 d
10.000	92.00000	-2.00000	18.69000	-0.066164 d
12.000	92.00000	0.00000	18.69000	-0.084574 d
14.000	92.00000	2.00000	18.69000	-0.10809 d
16.000	92.00000	4.00000	18.69000	-0.13850 d
18.000	92.00000	6.00000	18.69000	-0.17840 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	92.00000	6.00000	18.69000	-0.17840 d
2.0878	91.82000	8.08000	18.69000	-0.23771 d
4.1755	91.64000	10.16000	18.69000	-0.32272 d
6.2633	91.46000	12.24000	18.69000	-0.45188 d
8.3511	91.28000	14.32000	18.69000	-0.66933 d
10.439	91.10000	16.40000	18.69000	-1.0878 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

Dist.	Coordinates x	y	z	Displacements z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	91.10000	16.40000	18.69000	-1.0878 d
1.9481	90.95714	18.34286	18.69000	-1.4856 d
3.8962	90.81429	20.28571	18.69000	-1.6310 d
5.8443	90.67143	22.22857	18.69000	-1.6775 d
7.7924	90.52857	24.17143	18.69000	-1.5246 d
9.7405	90.38571	26.11429	18.69000	-1.4478 d
11.689	90.24286	28.05714	18.69000	-1.4424 d
13.637	90.10000	30.00000	18.69000	-1.4389 d
15.585	89.95714	31.94286	18.69000	-1.4156 d
17.533	89.81429	33.88571	18.69000	-1.3679 d
19.481	89.67143	35.82857	18.69000	-1.2981 d
21.429	89.52857	37.77143	18.69000	-1.2081 d
23.377	89.38571	39.71429	18.69000	-1.0864 d
25.325	89.24286	41.65714	18.69000	-0.92005 d
27.273	89.10000	43.60000	18.69000	-0.72398 d

d - Displacements include imported displacements.

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

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	89.10000	43.60000	18.69000	-0.72398 d
2.3087	91.40000	43.80000	18.69000	-0.51702 d
4.6174	93.70000	44.00000	18.69000	-0.36462 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	93.70000	44.00000	18.69000	-0.36462 d
1.9404	93.59375	45.93750	18.69000	-0.29717 d
3.8808	93.48750	47.87500	18.69000	-0.23826 d
5.8212	93.38125	49.81250	18.69000	-0.18965 d
7.7616	93.27500	51.75000	18.69000	-0.15062 d
9.7021	93.16875	53.68750	18.69000	-0.11958 d
11.642	93.06250	55.62500	18.69000	-0.094906 d
13.583	92.95625	57.56250	18.69000	-0.075233 d
15.523	92.85000	59.50000	18.69000	-0.059468 d
17.464	92.74375	61.43750	18.69000	-0.046765 d
19.404	92.63750	63.37500	18.69000	-0.036473 d
21.345	92.53125	65.31250	18.69000	-0.028092 d
23.285	92.42500	67.25000	18.69000	-0.021235 d
25.225	92.31875	69.18750	18.69000	-0.015603 d
27.166	92.21250	71.12500	18.69000	-0.010962 d
29.106	92.10625	73.06250	18.69000	-0.0071276 d
31.047	92.00000	75.00000	18.69000	-0.0039551 d

d - Displacements include imported displacements.

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	91.10000	16.40000	19.10000	-1.0933 d
1.9032	89.20000	16.28889	19.10000	-1.4946 d
3.8065	87.30000	16.17778	19.10000	-1.6450 d
5.7097	85.40000	16.06667	19.10000	-1.5857 d
7.6130	83.50000	15.95556	19.10000	-1.6534 d
9.5162	81.60000	15.84444	19.10000	-1.8758 d
11.419	79.70000	15.73333	19.10000	-2.0855 d
13.323	77.80000	15.62222	19.10000	-2.2969 d
15.226	75.90000	15.51111	19.10000	-2.5167 d
17.129	74.00000	15.40000	19.10000	-2.2675 d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	74.00000	15.40000	19.10000	-2.2675 d
2.0683	74.21429	13.34286	19.10000	-1.2363 d
4.1365	74.42857	11.28571	19.10000	-0.74930 d
6.2048	74.64286	9.22857	19.10000	-0.49341 d
8.2731	74.85714	7.17143	19.10000	-0.34254 d
10.341	75.07143	5.11429	19.10000	-0.24613 d
12.410	75.28571	3.05714	19.10000	-0.18101 d
14.478	75.50000	1.00000	19.10000	-0.13525 d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	75.50000	1.00000	19.10000	-0.13525 d
1.8503	75.25000	-0.83333	19.10000	-0.10437 d
3.7006	75.00000	-2.66667	19.10000	-0.081001 d
5.5509	74.75000	-4.50000	19.10000	-0.063017 d
7.4012	74.50000	-6.33333	19.10000	-0.048968 d
9.2515	74.25000	-8.16667	19.10000	-0.037856 d
11.102	74.00000	-10.00000	19.10000	-0.028972 d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]
Vertical Offset 1				
0.0	74.00000	-10.00000	19.10000	-0.028972 d
2.0123	76.00000	-10.22222	19.10000	-0.029090 d
4.0246	78.00000	-10.44444	19.10000	-0.028730 d
6.0369	80.00000	-10.66667	19.10000	-0.027913 d
8.0492	82.00000	-10.88889	19.10000	-0.026681 d
10.062	84.00000	-11.11111	19.10000	-0.025088 d
12.074	86.00000	-11.33333	19.10000	-0.023202 d
14.086	88.00000	-11.55556	19.10000	-0.021091 d
16.098	90.00000	-11.77778	19.10000	-0.018826 d
18.111	92.00000	-12.00000	19.10000	-0.016473 d

d - Displacements include imported displacements.

Specific Building Damage Results - All Segments

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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	All settlements are less than the Settlement Trough Limit Sensitivity.										

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

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

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

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Vertical Offset from Line for Vertical Movement	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
0.0	1	29.595	7.3859	Sagging	56.149E-6	0.0	55.611E-6	0.0	15.505E-6	1.2463E+6	0 (Negligible)
	2	36.981	28.355	Hogging	465.49E-6	0.0	449.43E-6	0.0	-15.759E-6	661830.	0 (Negligible)
	3	65.336	7.6644	Sagging	68.500E-6	0.0	67.770E-6	0.0	-15.759E-6	1.1047E+6	0 (Negligible)

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

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	7.7233	Sagging	61.349E-6	0.0	60.689E-6	0.0	14.642E-6	1.1827E+6	0 (Negligible)
	2	7.7233	1.2767	Hogging	0.0	0.0	0.0	0.0	14.548E-6	5.6874E+6	0 (Negligible)

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

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	5.6250	Sagging	227.21E-6	0.0	225.91E-6	0.0	-28.708E-6	229160.	0 (Negligible)

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

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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: Mid City Place_6 | Sub-structure: Mid City Place_6

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: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	All settlements are less than the Settlement Trough Limit Sensitivity.										

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

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

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: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	3.9840	13.943	Sagging	0.0023217	0.0	0.0025511	0.0	181.14E-6	32190.	0 (Negligible)

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

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	16.667	Hogging	0.0033534	0.0	0.0031476	0.0	136.94E-6	28050.	0 (Negligible)

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

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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	All settlements are less than the Settlement Trough Limit Sensitivity.										

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

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

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: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	14.000	4.0000	Sagging	117.40E-6	0.0	116.55E-6	0.0	19.949E-6	394580.	0 (Negligible)

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

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	10.438	Sagging	0.0025966	0.0	0.0024765	0.0	200.43E-6	19015.	0 (Negligible)

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

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	7.6869	Hogging	0.0041290	0.0	0.0041020	0.0	204.18E-6	13059.	0 (Negligible)
	2	7.6869	4.9209	Sagging	942.32E-6	0.0	932.30E-6	0.0	-78.473E-6	69220.	0 (Negligible)
	3	12.608	14.665	Hogging	0.0013519	0.0	0.0013203	0.0	-100.65E-6	100960.	0 (Negligible)

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

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	4.6170	Sagging	584.81E-6	0.0	579.32E-6	0.0	-89.644E-6	97697.	0 (Negligible)

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

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	9.7021	Sagging	291.98E-6	0.0	280.27E-6	0.0	-34.757E-6	389370.	0 (Negligible)

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

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	5.1994	Hogging	0.0041249	0.0	0.0040546	0.0	210.83E-6	13875.	0 (Negligible)
	2	5.1994	6.2049	Sagging	0.0021697	0.0	0.0019748	0.0	116.89E-6	34489.	0 (Negligible)
	3	11.404	5.7247	Hogging	0.0054116	0.0	0.0053003	0.0	-130.94E-6	6157.2	0 (Negligible)

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

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

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	14.477	Sagging	0.0062615	0.0	0.0090711	0.0	-498.58E-6	6872.0	0 (Negligible)

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

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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

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Made by CS	Date 24-May-2018	Checked

Vertical Movement Calculations [m]						Strain [%]	Strain [%]	Horizontal Displacement Curve [%]	Displacement Curvature Curve [m]		
0.0		1	0.0	1.8503	None	0.0	0.0	0.0	0.0	-16.690E-6	425210. 0 (Negligible)

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

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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.

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

Structure: Mid City Place_1 | Sub-structure: Mid City Place_1

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

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope [mm]	Max Settlement [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category
0.0	465.49E-6	0.0	-15.759E-6	0.34742	449.43E-6	0.0	-15.759E-6	661830.	1.1047E+6	0 (Negligible)

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope [mm]	Max Settlement [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category
0.0	61.349E-6	0.0	14.642E-6	0.22617	60.689E-6	0.0	14.642E-6	5.6874E+6	1.1827E+6	0 (Negligible)

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope [mm]	Max Settlement [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category
0.0	227.21E-6	0.0	-28.708E-6	0.22617	225.91E-6	0.0	-28.708E-6	-	229160.	0 (Negligible)

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

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

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_1

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

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

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

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope [mm]	Max Settlement [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category
0.0	0.0023217	0.0	181.14E-6	1.1335	0.0025511	0.0	181.14E-6	-	32190.	0 (Negligible)

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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

[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0033534	0.0	136.94E-6	1.5523	0.0031476	0.0	136.94E-6	28050.	-	0 (Negligible)

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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]	

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_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]	

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	117.40E-6	0.0	19.949E-6	0.17840	116.55E-6	0.0	19.949E-6	-	394580.	0 (Negligible)

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	0.0025966	0.0	200.43E-6	1.0876	0.0024765	0.0	200.43E-6	-	19015.	0 (Negligible)

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	0.0041290	0.0	204.18E-6	1.6770	0.0041020	0.0	204.18E-6	13059.	69220.	0 (Negligible)

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	584.81E-6	0.0	-89.644E-6	0.72398	579.32E-6	0.0	-89.644E-6	-	97697.	0 (Negligible)

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	291.98E-6	0.0	-34.757E-6	0.36462	280.27E-6	0.0	-34.757E-6	-	389370.	0 (Negligible)

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	0.0054116	0.0	210.83E-6	2.5161	0.0053003	0.0	210.83E-6	6157.2	34489.	0 (Negligible)

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

Vertical Offset from Line for	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal	Max Gradient of Vertical	Min Radius of Curvature	Min Radius of Curvature	Damage Category

Oasys
RSK GROUP
18-21 Hand Court
Building Damage
Demolition

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 24-May-2018	Checked

Vertical Movement Calculations				Displacement Curve		Curve	(Hogging)	(Sagging)	
[m]	[%]	[%]		[mm]	[%]		[m]	[m]	
0.0	0.0062615	0.0	-498.58E-6	2.2675	0.0090711	0.0 -498.58E-6	-	6872.0	0 (Negligible)

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	-16.690E-6	0.13525	0.0	0.0	-16.690E-6	-	-	0 (Negligible)

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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]	

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]	
Mid City Place_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
Mid City Place_2	Max Slope	Mid City Place_2	2	36.981	65.336	Hogging	**15.759E-6**	0.34742	449.43E-6	661830.	-	0 (Negligible)
	Max Settlement	Mid City Place_2	2	36.981	65.336	Hogging	15.759E-6	**0.34742**	449.43E-6	661830.	-	0 (Negligible)
	Max Tensile Strain	Mid City Place_2	2	36.981	65.336	Hogging	15.759E-6	0.34742	**449.43E-6**	661830.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_2	2	36.981	65.336	Hogging	15.759E-6	0.34742	449.43E-6	**661830.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	Mid City Place_2	3	65.336	73.000	Sagging	15.759E-6	0.21260	67.770E-6	-	**1.1047E+6**	0 (Negligible)
Mid City Place_3	Max Slope	Mid City Place_3	1	0.0	7.7233	Sagging	**14.642E-6**	0.20760	60.689E-6	-	1.1827E+6	0 (Negligible)
	Max Settlement	Mid City Place_3	2	7.7233	9.0000	Hogging	14.548E-6	**0.22617**	0.0	5.6874E+6	-	0 (Negligible)
	Max Tensile Strain	Mid City Place_3	1	0.0	7.7233	Sagging	14.642E-6	0.20760	**60.689E-6**	-	1.1827E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_3	2	7.7233	9.0000	Hogging	14.548E-6	0.22617	0.0	**5.6874E+6**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	Mid City Place_3	1	0.0	7.7233	Sagging	14.642E-6	0.20760	60.689E-6	-	**1.1827E+6**	0 (Negligible)
Mid City Place_4	Max Slope	Mid City Place_4	1	0.0	5.6250	Sagging	**28.708E-6**	0.22617	225.91E-6	-	229160.	0 (Negligible)
	Max Settlement	Mid City Place_4	1	0.0	5.6250	Sagging	28.708E-6	**0.22617**	225.91E-6	-	229160.	0 (Negligible)
	Max Tensile Strain	Mid City Place_4	1	0.0	5.6250	Sagging	28.708E-6	0.22617	**225.91E-6**	-	229160.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	Mid City Place_4	1	0.0	5.6250	Sagging	28.708E-6	0.22617	225.91E-6	-	**229160.**	0 (Negligible)
Mid City Place_5	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
Mid City Place_6	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 1_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 1_2	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 1_3	Max Slope	High Holborn House 1_3	1	3.9840	17.927	Sagging	**181.14E-6**	1.1335	0.0025511	-	32190.	0 (Negligible)
	Max Settlement	High Holborn House 1_3	1	3.9840	17.927	Sagging	181.14E-6	**1.1335**	0.0025511	-	32190.	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_3	1	3.9840	17.927	Sagging	181.14E-6	1.1335	**0.0025511**	-	32190.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 1_3	1	3.9840	17.927	Sagging	181.14E-6	1.1335	0.0025511	-	**32190.**	0 (Negligible)
High Holborn House 1_4	Max Slope	High Holborn House 1_4	1	0.0	16.667	Hogging	**136.94E-6**	1.5523	0.0031476	28050.	-	0 (Negligible)
	Max Settlement	High Holborn House 1_4	1	0.0	16.667	Hogging	136.94E-6	**1.5523**	0.0031476	28050.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_4	1	0.0	16.667	Hogging	136.94E-6	1.5523	**0.0031476**	28050.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 1_4	1	0.0	16.667	Hogging	136.94E-6	1.5523	0.0031476	**28050.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_2	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											

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
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_3	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_4	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_5	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_6	Max Slope	High Holborn House 2_6	1	14.000	18.000	Sagging	**19.949E-6**	0.17840	116.55E-6	-	394580.	0 (Negligible)
	Max Settlement	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	**0.17840**	116.55E-6	-	394580.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	0.17840	**116.55E-6**	-	394580.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	0.17840	116.55E-6	-	**394580.**	0 (Negligible)
High Holborn House 2_7	Max Slope	High Holborn House 2_7	1	0.0	10.438	Sagging	**200.43E-6**	1.0876	0.0024765	-	19015.	0 (Negligible)
	Max Settlement	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	**1.0876**	0.0024765	-	19015.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	1.0876	**0.0024765**	-	19015.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	1.0876	0.0024765	-	**19015.**	0 (Negligible)
High Holborn House 2_8	Max Slope	High Holborn House 2_8	1	0.0	7.6869	Hogging	**204.18E-6**	1.6770	0.0041020	13059.	-	0 (Negligible)
	Max Settlement	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	**1.6770**	0.0041020	13059.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	1.6770	**0.0041020**	13059.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	1.6770	0.0041020	**13059.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 2_8	2	7.6869	12.608	Sagging	78.473E-6	1.5329	932.30E-6	-	**69220.**	0 (Negligible)
High Holborn House 2_9	Max Slope	High Holborn House 2_9	1	0.0	4.6170	Sagging	**89.644E-6**	0.72398	579.32E-6	-	97697.	0 (Negligible)
	Max Settlement	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	**0.72398**	579.32E-6	-	97697.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	0.72398	**579.32E-6**	-	97697.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	0.72398	579.32E-6	-	**97697.**	0 (Negligible)
High Holborn House 2_10	Max Slope	High Holborn House 2_10	1	0.0	9.7021	Sagging	**34.757E-6**	0.36462	280.27E-6	-	389370.	0 (Negligible)
	Max Settlement	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	**0.36462**	280.27E-6	-	389370.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	0.36462	**280.27E-6**	-	389370.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	0.36462	280.27E-6	-	**389370.**	0 (Negligible)
High Holborn House 3_1	Max Slope	High Holborn House 3_1	1	0.0	5.1994	Hogging	**210.83E-6**	1.6442	0.0040546	13875.	-	0 (Negligible)
	Max Settlement	High Holborn House 3_1	3	11.404	17.129	Hogging	130.94E-6	**2.5161**	0.0053003	6157.2	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_1	3	11.404	17.129	Hogging	130.94E-6	2.5161	**0.0053003**	6157.2	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 3_1	3	11.404	17.129	Hogging	130.94E-6	2.5161	0.0053003	**6157.2**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 3_1	2	5.1994	11.404	Sagging	116.89E-6	2.0839	0.0019748	-	**34489.**	0 (Negligible)
High Holborn House 3_2	Max Slope	High Holborn House 3_2	1	0.0	14.477	Sagging	**498.58E-6**	2.2675	0.0090711	-	6872.0	0 (Negligible)
	Max Settlement	High Holborn House 3_2	1	0.0	14.477	Sagging	498.58E-6	**2.2675**	0.0090711	-	6872.0	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_2	1	0.0	14.477	Sagging	498.58E-6	2.2675	**0.0090711**	-	6872.0	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 3_2	1	0.0	14.477	Sagging	498.58E-6	2.2675	0.0090711	-	**6872.0**	0 (Negligible)
High Holborn House 3_3	Max Slope	High Holborn House 3_3	1	0.0	1.8503	Sagging	**16.690E-6**	0.13525	0.0	-	425210.	0 (Negligible)
	Max Settlement	High Holborn House 3_3	1	0.0	1.8503	Sagging	16.690E-6	**0.13525**	0.0	-	425210.	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_3	1	0.0	1.8503	Sagging	16.690E-6	0.13525	**0.0**	-	425210.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-		-	-	-	-	-
	Min Radius of Curvature (Sagging)		-	-	-	-		-	-	-	-	-
High Holborn House 3_4	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											

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]			
Line	Mid City Place_1	-	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	-	-	Yes	Surface
Line	Mid City Place_2	-	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	-	-	Yes	Surface
Line	Mid City Place_3	-	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	-	-	Yes	Surface
Line	Mid City Place_4	-	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	-	-	Yes	Surface
Line	Mid City Place_5	-	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	-	-	Yes	Surface
Line	Mid City Place_6	-	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	-	-	Yes	Surface
Line	High Holborn House 1_1	-	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 1_2	-	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	-	-	Yes	Surface
Line	High Holborn House 1_3	-	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	-	-	Yes	Surface
Line	High Holborn House 1_4	-	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 2_1	-	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	-	-	Yes	Surface
Line	High Holborn House 2_2	-	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	-	-	Yes	Surface
Line	High Holborn House 2_3	-	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	-	-	Yes	Surface
Line	High Holborn House 2_4	-	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_5	-	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	-	-	Yes	Surface
Line	High Holborn House 2_6	-	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	-	-	Yes	Surface
Line	High Holborn House 2_7	-	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	-	-	Yes	Surface
Line	High Holborn House 2_8	-	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_9	-	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	-	-	Yes	Surface
Line	High Holborn House 2_10	-	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	-	-	Yes	Surface
Line	High Holborn House 3_1	-	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	-	-	Yes	Surface
Line	High Holborn House 3_2	-	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	-	-	Yes	Surface
Line	High Holborn House 3_3	-	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	-	-	Yes	Surface
Line	High Holborn House 3_4	-	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	-	-	Yes	Surface

Imported Displacements

The following data points and displacements were found in the import file Demo undrained.csv.

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
1	1.00000	79.00000	24.00000	0.00000	0.00000	0.00861	1,2,6
2	2.96774	79.00000	24.00000	0.00000	0.00000	0.00877	1,2,6
3	4.93548	79.00000	24.00000	0.00000	0.00000	0.00893	1,2,6
4	6.90323	79.00000	24.00000	0.00000	0.00000	0.00909	1,2,6
5	8.87097	79.00000	24.00000	0.00000	0.00000	0.00923	1,2,6
6	10.83871	79.00000	24.00000	0.00000	0.00000	0.00936	1,2,6
7	12.80645	79.00000	24.00000	0.00000	0.00000	0.00948	1,2,6
8	14.77419	79.00000	24.00000	0.00000	0.00000	0.00959	1,2,6
9	16.74194	79.00000	24.00000	0.00000	0.00000	0.00969	1,2,6
10	18.70968	79.00000	24.00000	0.00000	0.00000	0.00976	1,2,6
11	20.67742	79.00000	24.00000	0.00000	0.00000	0.00982	1,2,6
12	22.64516	79.00000	24.00000	0.00000	0.00000	0.00986	1,2,6
13	24.61290	79.00000	24.00000	0.00000	0.00000	0.00987	1,2,6
14	26.58065	79.00000	24.00000	0.00000	0.00000	0.00986	1,2,6
15	28.54839	79.00000	24.00000	0.00000	0.00000	0.00982	1,2,6
16	30.51613	79.00000	24.00000	0.00000	0.00000	0.00974	1,2,6
17	32.48387	79.00000	24.00000	0.00000	0.00000	0.00964	1,2,6
18	34.45161	79.00000	24.00000	0.00000	0.00000	0.00950	1,2,6
19	36.41935	79.00000	24.00000	0.00000	0.00000	0.00932	1,2,6
20	38.38710	79.00000	24.00000	0.00000	0.00000	0.00911	1,2,6
21	40.35484	79.00000	24.00000	0.00000	0.00000	0.00885	1,2,6
22	42.32258	79.00000	24.00000	0.00000	0.00000	0.00856	1,2,6
23	44.29032	79.00000	24.00000	0.00000	0.00000	0.00822	1,2,6
24	46.25806	79.00000	24.00000	0.00000	0.00000	0.00784	1,2,6
25	48.22581	79.00000	24.00000	0.00000	0.00000	0.00742	1,2,6
26	50.19355	79.00000	24.00000	0.00000	0.00000	0.00697	1,2,6
27	52.16129	79.00000	24.00000	0.00000	0.00000	0.00648	1,2,6
28	54.12903	79.00000	24.00000	0.00000	0.00000	0.00596	1,2,6
29	56.09677	79.00000	24.00000	0.00000	0.00000	0.00542	1,2,6
30	58.06452	79.00000	24.00000	0.00000	0.00000	0.00487	1,2,6
31	60.03226	79.00000	24.00000	0.00000	0.00000	0.00430	1,2,6
32	62.00000	79.00000	24.00000	0.00000	0.00000	0.00374	1,2,6
33	62.00000	77.02703	24.00000	0.00000	0.00000	0.00209	1,2,6
34	62.00000	75.05405	24.00000	0.00000	0.00000	0.00010	1,2,6
35	62.00000	73.08108	24.00000	0.00000	0.00000	-0.00229	1,2,6
36	62.00000	71.10811	24.00000	0.00000	0.00000	-0.00517	1,2,6
37	62.00000	69.13514	24.00000	0.00000	0.00000	-0.00863	1,2,6
38	62.00000	67.16216	24.00000	0.00000	0.00000	-0.01278	1,2,6
39	62.00000	65.18919	24.00000	0.00000	0.00000	-0.01776	1,2,6
40	62.00000	63.21622	24.00000	0.00000	0.00000	-0.02373	1,2,6
41	62.00000	61.24324	24.00000	0.00000	0.00000	-0.03091	1,2,6
42	62.00000	59.27027	24.00000	0.00000	0.00000	-0.03953	1,2,6
43	62.00000	57.29730	24.00000	0.00000	0.00000	-0.04989	1,2,6
44	62.00000	55.32432	24.00000	0.00000	0.00000	-0.06231	1,2,6
45	62.00000	53.35135	24.00000	0.00000	0.00000	-0.07715	1,2,6
46	62.00000	51.37838	24.00000	0.00000	0.00000	-0.09476	1,2,6
47	62.00000	49.40541	24.00000	0.00000	0.00000	-0.11545	1,2,6
48	62.00000	47.43243	24.00000	0.00000	0.00000	-0.13934	1,2,6
49	62.00000	45.45946	24.00000	0.00000	0.00000	-0.16626	1,2,6
50	62.00000	43.48649	24.00000	0.00000	0.00000	-0.19558	1,2,6
51	62.00000	41.51351	24.00000	0.00000	0.00000	-0.22617	1,2,6
52	62.00000	39.54054	24.00000	0.00000	0.00000	-0.25643	1,2,6
53	62.00000	37.56757	24.00000	0.00000	0.00000	-0.28448	1,2,6
54	62.00000	35.59459	24.00000	0.00000	0.00000	-0.30851	1,2,6
55	62.00000	33.62162	24.00000	0.00000	0.00000	-0.32713	1,2,6
56	62.00000	31.64865	24.00000	0.00000	0.00000	-0.33973	1,2,6
57	62.00000	29.67568	24.00000	0.00000	0.00000	-0.34636	1,2,6
58	62.00000	27.70270	24.00000	0.00000	0.00000	-0.34743	1,2,6
59	62.00000	25.72973	24.00000	0.00000	0.00000	-0.34331	1,2,6
60	62.00000	23.75676	24.00000	0.00000	0.00000	-0.33418	1,2,6
61	62.00000	21.78378	24.00000	0.00000	0.00000	-0.31994	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
62	62.00000	19.81081	24.00000	0.00000	0.00000	-0.30042	1,2,6
63	62.00000	17.83784	24.00000	0.00000	0.00000	-0.27583	1,2,6
64	62.00000	15.86486	24.00000	0.00000	0.00000	-0.24715	1,2,6
65	62.00000	13.89189	24.00000	0.00000	0.00000	-0.21618	1,2,6
66	62.00000	11.91892	24.00000	0.00000	0.00000	-0.18509	1,2,6
67	62.00000	9.94595	24.00000	0.00000	0.00000	-0.15572	1,2,6
68	62.00000	7.97297	24.00000	0.00000	0.00000	-0.12926	1,2,6
69	62.00000	6.00000	24.00000	0.00000	0.00000	-0.10619	1,2,6
70	63.80000	6.00000	24.00000	0.00000	0.00000	-0.12613	1,2,6
71	65.60000	6.00000	24.00000	0.00000	0.00000	-0.14872	1,2,6
72	67.40000	6.00000	24.00000	0.00000	0.00000	-0.17363	1,2,6
73	69.20000	6.00000	24.00000	0.00000	0.00000	-0.19999	1,2,6
74	71.00000	6.00000	24.00000	0.00000	0.00000	-0.22617	1,2,6
75	71.00000	4.12500	24.00000	0.00000	0.00000	-0.17235	1,2,6
76	71.00000	2.25000	24.00000	0.00000	0.00000	-0.13276	1,2,6
77	71.00000	0.37500	24.00000	0.00000	0.00000	-0.10303	1,2,6
78	71.00000	-1.50000	24.00000	0.00000	0.00000	-0.08030	1,2,6
79	71.00000	-3.37500	24.00000	0.00000	0.00000	-0.06266	1,2,6
80	71.00000	-5.25000	24.00000	0.00000	0.00000	-0.04879	1,2,6
81	71.00000	-7.12500	24.00000	0.00000	0.00000	-0.03776	1,2,6
82	71.00000	-9.00000	24.00000	0.00000	0.00000	-0.02890	1,2,6
83	69.00000	-8.74286	24.00000	0.00000	0.00000	-0.02769	1,2,6
84	67.00000	-8.48571	24.00000	0.00000	0.00000	-0.02607	1,2,6
85	65.00000	-8.22857	24.00000	0.00000	0.00000	-0.02409	1,2,6
86	63.00000	-7.97143	24.00000	0.00000	0.00000	-0.02185	1,2,6
87	61.00000	-7.71429	24.00000	0.00000	0.00000	-0.01943	1,2,6
88	59.00000	-7.45714	24.00000	0.00000	0.00000	-0.01692	1,2,6
89	57.00000	-7.20000	24.00000	0.00000	0.00000	-0.01438	1,2,6
90	55.00000	-6.94286	24.00000	0.00000	0.00000	-0.01187	1,2,6
91	53.00000	-6.68571	24.00000	0.00000	0.00000	-0.00945	1,2,6
92	51.00000	-6.42857	24.00000	0.00000	0.00000	-0.00715	1,2,6
93	49.00000	-6.17143	24.00000	0.00000	0.00000	-0.00500	1,2,6
94	47.00000	-5.91429	24.00000	0.00000	0.00000	-0.00301	1,2,6
95	45.00000	-5.65714	24.00000	0.00000	0.00000	-0.00118	1,2,6
96	43.00000	-5.40000	24.00000	0.00000	0.00000	0.00047	1,2,6
97	41.00000	-5.14286	24.00000	0.00000	0.00000	0.00195	1,2,6
98	39.00000	-4.88571	24.00000	0.00000	0.00000	0.00327	1,2,6
99	37.00000	-4.62857	24.00000	0.00000	0.00000	0.00444	1,2,6
100	35.00000	-4.37143	24.00000	0.00000	0.00000	0.00546	1,2,6
101	33.00000	-4.11429	24.00000	0.00000	0.00000	0.00634	1,2,6
102	31.00000	-3.85714	24.00000	0.00000	0.00000	0.00710	1,2,6
103	29.00000	-3.60000	24.00000	0.00000	0.00000	0.00775	1,2,6
104	27.00000	-3.34286	24.00000	0.00000	0.00000	0.00829	1,2,6
105	25.00000	-3.08571	24.00000	0.00000	0.00000	0.00873	1,2,6
106	23.00000	-2.82857	24.00000	0.00000	0.00000	0.00909	1,2,6
107	21.00000	-2.57143	24.00000	0.00000	0.00000	0.00938	1,2,6
108	19.00000	-2.31429	24.00000	0.00000	0.00000	0.00959	1,2,6
109	17.00000	-2.05714	24.00000	0.00000	0.00000	0.00975	1,2,6
110	15.00000	-1.80000	24.00000	0.00000	0.00000	0.00985	1,2,6
111	13.00000	-1.54286	24.00000	0.00000	0.00000	0.00990	1,2,6
112	11.00000	-1.28571	24.00000	0.00000	0.00000	0.00992	1,2,6
113	9.00000	-1.02857	24.00000	0.00000	0.00000	0.00989	1,2,6
114	7.00000	-0.77143	24.00000	0.00000	0.00000	0.00984	1,2,6
115	5.00000	-0.51429	24.00000	0.00000	0.00000	0.00976	1,2,6
116	3.00000	-0.25714	24.00000	0.00000	0.00000	0.00965	1,2,6
117	1.00000	0.00000	24.00000	0.00000	0.00000	0.00953	1,2,6
118	1.00000	1.97500	24.00000	0.00000	0.00000	0.00958	1,2,6
119	1.00000	3.95000	24.00000	0.00000	0.00000	0.00962	1,2,6
120	1.00000	5.92500	24.00000	0.00000	0.00000	0.00966	1,2,6
121	1.00000	7.9000	24.00000	0.00000	0.00000	0.00969	1,2,6
122	1.00000	9.87500	24.00000	0.00000	0.00000	0.00972	1,2,6
123	1.00000	11.85000	24.00000	0.00000	0.00000	0.00975	1,2,6
124	1.00000	13.82500	24.00000	0.00000	0.00000	0.00977	1,2,6
125	1.00000	15.80000	24.00000	0.00000	0.00000	0.00979	1,2,6
126	1.00000	17.77500	24.00000	0.00000	0.00000	0.00980	1,2,6
127	1.00000	19.75000	24.00000	0.00000	0.00000	0.00982	1,2,6
128	1.00000	21.72500	24.00000	0.00000	0.00000	0.00983	1,2,6
129	1.00000	23.70000	24.00000	0.00000	0.00000	0.00983	1,2,6
130	1.00000	25.67500	24.00000	0.00000	0.00000	0.00984	1,2,6
131	1.00000	27.65000	24.00000	0.00000	0.00000	0.00984	1,2,6
132	1.00000	29.62500	24.00000	0.00000	0.00000	0.00984	1,2,6
133	1.00000	31.60000	24.00000	0.00000	0.00000	0.00984	1,2,6
134	1.00000	33.57500	24.00000	0.00000	0.00000	0.00983	1,2,6
135	1.00000	35.55000	24.00000	0.00000	0.00000	0.00982	1,2,6
136	1.00000	37.52500	24.00000	0.00000	0.00000	0.00981	1,2,6
137	1.00000	39.50000	24.00000	0.00000	0.00000	0.00980	1,2,6
138	1.00000	41.47500	24.00000	0.00000	0.00000	0.00978	1,2,6
139	1.00000	43.45000	24.00000	0.00000	0.00000	0.00976	1,2,6
140	1.00000	45.42500	24.00000	0.00000	0.00000	0.00974	1,2,6
141	1.00000	47.40000	24.00000	0.00000	0.00000	0.00971	1,2,6
142	1.00000	49.37500	24.00000	0.00000	0.00000	0.00968	1,2,6
143	1.00000	51.35000	24.00000	0.00000	0.00000	0.00964	1,2,6
144	1.00000	53.32500	24.00000	0.00000	0.00000	0.00960	1,2,6
145	1.00000	55.30000	24.00000	0.00000	0.00000	0.00956	1,2,6
146	1.00000	57.27500	24.00000	0.00000	0.00000	0.00951	1,2,6
147	1.00000	59.25000	24.00000	0.00000	0.00000	0.00945	1,2,6
148	1.00000	61.22500	24.00000	0.00000	0.00000	0.00939	1,2,6
149	1.00000	63.20000	24.00000	0.00000	0.00000	0.00932	1,2,6
150	1.00000	65.17500	24.00000	0.00000	0.00000	0.00925	1,2,6
151	1.00000	67.15000	24.00000	0.00000	0.00000	0.00918	1,2,6
152	1.00000	69.12500	24.00000	0.00000	0.00000	0.00909	1,2,6
153	1.00000	71.10000	24.00000	0.00000	0.00000	0.00901	1,2,6
154	1.00000	73.07500	24.00000	0.00000	0.00000	0.00892	1,2,6
155	1.00000	75.05000	24.00000	0.00000	0.00000	0.00882	1,2,6
156	1.00000	77.02500	24.00000	0.00000	0.00000	0.00872	1,2,6
157	93.00000	57.00000	20.27000	0.00000	0.00000	-0.07600	1,2,6
158	91.00000	57.37500	20.27000	0.00000	0.00000	-0.08161	1,2,6
159	89.00000	57.75000	20.27000	0.00000	0.00000	-0.08590	1,2,6
160	87.00000	58.12500	20.27000	0.00000	0.00000	-0.08856	1,2,6
161	85.00000	58.50000	20.27000	0.00000	0.00000	-0.08941	1,2,6
162	83.00000	58.87500	20.27000	0.00000	0.00000	-0.08842	1,2,6
163	81.00000	59.25000	20.27000	0.00000	0.00000	-0.08566	1,2,6
164	79.00000	59.62500	20.27000	0.00000	0.00000	-0.08135	1,2,6
165	77.00000	60.00000	20.27000	0.00000	0.00000	-0.07579	1,2,6
166	75.16667	60.00000	20.27000	0.00000	0.00000	-0.07326	1,2,6
167	73.33333	60.00000	20.27000	0.00000	0.00000	-0.06972	1,2,6
168	71.50000	60.00000	20.27000	0.00000	0.00000	-0.06533	1,2,6
169	71.61111	58.01111	20.27000	0.00000	0.00000	-0.08556	1,2,6
170	71.72222	56.02222	20.27000	0.00000	0.00000	-0.11235	1,2,6
171	71.83333	54.03333	20.27000	0.00000	0.00000	-0.14846	1,2,6
172	71.94444	52.04444	20.27000	0.00000	0.00000	-0.19825	1,2,6
173	72.05556	50.05556	20.27000	0.00000	0.00000	-0.26876	1,2,6
174	72.16667	48.06667	20.27000	0.00000	0.00000	-0.37186	1,2,6
175	72.27778	46.07778	20.27000	0.00000	0.00000	-0.52821	1,2,6
176	72.38889	44.08889	20.27000	0.00000	0.00000	-0.77280	1,2,6
177	72.50000	42.10000	20.27000	0.00000	0.00000	-1.13363	1,2,6
178	74.57500	42.28750	20.27000	0.00000	0.00000	-1.41894	1,2,6
179	76.65000	42.47500	20.27000	0.00000	0.00000	-1.55244	1,2,6
180	78.72500	42.66250	20.27000	0.00000	0.00000	-1.54584	1,2,6
181	80.80000	42.85000	20.27000	0.00000	0.00000	-1.43521	1,2,6
182	82.87500	43.03750	20.27000	0.00000	0.00000	-1.29882	1,2,6
183	84.95000	43.22500	20.27000	0.00000	0.00000	-1.15302	1,2,6
184	87.02500	43.41250	20.27000	0.00000	0.00000	-0.97158	1,2,6
185	89.10000	43.60000	20.27000	0.00000	0.00000	-0.74121	1,2,6
186	92.00000	75.00000	18.69000	0.00000	0.00000	-0.00396	1,2,6
187	93.91667	74.58333	18.69000	0.00000	0.00000	-0.00372	1,2,6
188	95.83333	74.16667	18.69000	0.00000	0.00000	-0.00336	1,2,6
189	97.75000	73.75000	18.69000	0.00000	0.00000	-0.00288	1,2,6

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
190	99.66667	73.33333	18.69000	0.00000	0.00000	-0.00231	1,2,6
191	101.58333	72.91667	18.69000	0.00000	0.00000	-0.00166	1,2,6
192	103.50000	72.50000	18.69000	0.00000	0.00000	-0.00095	1,2,6
193	105.41667	72.08333	18.69000	0.00000	0.00000	-0.00018	1,2,6
194	107.33333	71.66667	18.69000	0.00000	0.00000	0.00061	1,2,6
195	109.25000	71.25000	18.69000	0.00000	0.00000	0.00141	1,2,6
196	111.16667	70.83333	18.69000	0.00000	0.00000	0.00221	1,2,6
197	113.08333	70.41667	18.69000	0.00000	0.00000	0.00299	1,2,6
198	115.00000	70.00000	18.69000	0.00000	0.00000	0.00375	1,2,6
199	115.10714	68.00000	18.69000	0.00000	0.00000	0.00261	1,2,6
200	115.21429	66.00000	18.69000	0.00000	0.00000	0.00132	1,2,6
201	115.32143	64.00000	18.69000	0.00000	0.00000	-0.00011	1,2,6
202	115.42857	62.00000	18.69000	0.00000	0.00000	-0.00169	1,2,6
203	115.53571	60.00000	18.69000	0.00000	0.00000	-0.00340	1,2,6
204	115.64286	58.00000	18.69000	0.00000	0.00000	-0.00526	1,2,6
205	115.75000	56.00000	18.69000	0.00000	0.00000	-0.00724	1,2,6
206	115.85714	54.00000	18.69000	0.00000	0.00000	-0.00932	1,2,6
207	115.96429	52.00000	18.69000	0.00000	0.00000	-0.01148	1,2,6
208	116.07143	50.00000	18.69000	0.00000	0.00000	-0.01369	1,2,6
209	116.17857	48.00000	18.69000	0.00000	0.00000	-0.01590	1,2,6
210	116.28571	46.00000	18.69000	0.00000	0.00000	-0.01807	1,2,6
211	116.39286	44.00000	18.69000	0.00000	0.00000	-0.02015	1,2,6
212	116.50000	42.00000	18.69000	0.00000	0.00000	-0.02209	1,2,6
213	116.60714	40.00000	18.69000	0.00000	0.00000	-0.02383	1,2,6
214	116.71429	38.00000	18.69000	0.00000	0.00000	-0.02533	1,2,6
215	116.82143	36.00000	18.69000	0.00000	0.00000	-0.02652	1,2,6
216	116.92857	34.00000	18.69000	0.00000	0.00000	-0.02739	1,2,6
217	117.03571	32.00000	18.69000	0.00000	0.00000	-0.02790	1,2,6
218	117.14286	30.00000	18.69000	0.00000	0.00000	-0.02803	1,2,6
219	117.25000	28.00000	18.69000	0.00000	0.00000	-0.02778	1,2,6
220	117.35714	26.00000	18.69000	0.00000	0.00000	-0.02715	1,2,6
221	117.46429	24.00000	18.69000	0.00000	0.00000	-0.02617	1,2,6
222	117.57143	22.00000	18.69000	0.00000	0.00000	-0.02486	1,2,6
223	117.67857	20.00000	18.69000	0.00000	0.00000	-0.02327	1,2,6
224	117.78571	18.00000	18.69000	0.00000	0.00000	-0.02144	1,2,6
225	117.89286	16.00000	18.69000	0.00000	0.00000	-0.01944	1,2,6
226	118.00000	14.00000	18.69000	0.00000	0.00000	-0.01731	1,2,6
227	116.00000	14.00000	18.69000	0.00000	0.00000	-0.02350	1,2,6
228	114.00000	14.00000	18.69000	0.00000	0.00000	-0.03110	1,2,6
229	112.00000	14.00000	18.69000	0.00000	0.00000	-0.04047	1,2,6
230	110.00000	14.00000	18.69000	0.00000	0.00000	-0.05212	1,2,6
231	109.85714	12.00000	18.69000	0.00000	0.00000	-0.04754	1,2,6
232	109.71429	10.00000	18.69000	0.00000	0.00000	-0.04272	1,2,6
233	109.57143	8.00000	18.69000	0.00000	0.00000	-0.03781	1,2,6
234	109.42857	6.00000	18.69000	0.00000	0.00000	-0.03294	1,2,6
235	109.28571	4.00000	18.69000	0.00000	0.00000	-0.02825	1,2,6
236	109.14286	2.00000	18.69000	0.00000	0.00000	-0.02380	1,2,6
237	109.00000	0.00000	18.69000	0.00000	0.00000	-0.01966	1,2,6
238	108.85714	-2.00000	18.69000	0.00000	0.00000	-0.01585	1,2,6
239	108.71429	-4.00000	18.69000	0.00000	0.00000	-0.01238	1,2,6
240	108.57143	-6.00000	18.69000	0.00000	0.00000	-0.00927	1,2,6
241	108.42857	-8.00000	18.69000	0.00000	0.00000	-0.00648	1,2,6
242	108.28571	-10.00000	18.69000	0.00000	0.00000	-0.00401	1,2,6
243	108.14286	-12.00000	18.69000	0.00000	0.00000	-0.00183	1,2,6
244	108.00000	-14.00000	18.69000	0.00000	0.00000	0.00007	1,2,6
245	106.00000	-13.75000	18.69000	0.00000	0.00000	-0.00156	1,2,6
246	104.00000	-13.50000	18.69000	0.00000	0.00000	-0.00335	1,2,6
247	102.00000	-13.25000	18.69000	0.00000	0.00000	-0.00530	1,2,6
248	100.00000	-13.00000	18.69000	0.00000	0.00000	-0.00741	1,2,6
249	98.00000	-12.75000	18.69000	0.00000	0.00000	-0.00965	1,2,6
250	96.00000	-12.50000	18.69000	0.00000	0.00000	-0.01201	1,2,6
251	94.00000	-12.25000	18.69000	0.00000	0.00000	-0.01445	1,2,6
252	92.00000	-12.00000	18.69000	0.00000	0.00000	-0.01692	1,2,6
253	92.00000	-10.00000	18.69000	0.00000	0.00000	-0.02308	1,2,6
254	92.00000	-8.00000	18.69000	0.00000	0.00000	-0.03064	1,2,6
255	92.00000	-6.00000	18.69000	0.00000	0.00000	-0.03998	1,2,6
256	92.00000	-4.00000	18.69000	0.00000	0.00000	-0.05160	1,2,6
257	92.00000	-2.00000	18.69000	0.00000	0.00000	-0.06616	1,2,6
258	92.00000	0.00000	18.69000	0.00000	0.00000	-0.08457	1,2,6
259	92.00000	2.00000	18.69000	0.00000	0.00000	-0.10809	1,2,6
260	92.00000	4.00000	18.69000	0.00000	0.00000	-0.13850	1,2,6
261	92.00000	6.00000	18.69000	0.00000	0.00000	-0.17640	1,2,6
262	91.82000	8.08000	18.69000	0.00000	0.00000	-0.23771	1,2,6
263	91.64000	10.16000	18.69000	0.00000	0.00000	-0.32272	1,2,6
264	91.46000	12.24000	18.69000	0.00000	0.00000	-0.45188	1,2,6
265	91.28000	14.32000	18.69000	0.00000	0.00000	-0.66933	1,2,6
266	91.10000	16.40000	18.69000	0.00000	0.00000	-1.08780	1,2,6
267	90.95714	18.34286	18.69000	0.00000	0.00000	-1.48556	1,2,6
268	90.81429	20.28571	18.69000	0.00000	0.00000	-1.63104	1,2,6
269	90.67143	22.22857	18.69000	0.00000	0.00000	-1.67752	1,2,6
270	90.52857	24.17143	18.69000	0.00000	0.00000	-1.52464	1,2,6
271	90.38571	26.11429	18.69000	0.00000	0.00000	-1.44775	1,2,6
272	90.24286	28.05714	18.69000	0.00000	0.00000	-1.44239	1,2,6
273	90.10000	30.00000	18.69000	0.00000	0.00000	-1.43888	1,2,6
274	89.95714	31.94286	18.69000	0.00000	0.00000	-1.41565	1,2,6
275	89.81429	33.88571	18.69000	0.00000	0.00000	-1.36788	1,2,6
276	89.67143	35.82857	18.69000	0.00000	0.00000	-1.29805	1,2,6
277	89.52857	37.77143	18.69000	0.00000	0.00000	-1.20811	1,2,6
278	89.38571	39.71429	18.69000	0.00000	0.00000	-1.08639	1,2,6
279	89.24286	41.65714	18.69000	0.00000	0.00000	-0.92005	1,2,6
280	89.10000	43.60000	18.69000	0.00000	0.00000	-0.72398	1,2,6
281	91.40000	43.80000	18.69000	0.00000	0.00000	-0.51702	1,2,6
282	93.70000	44.00000	18.69000	0.00000	0.00000	-0.36462	1,2,6
283	93.59375	45.93750	18.69000	0.00000	0.00000	-0.29717	1,2,6
284	93.48750	47.87500	18.69000	0.00000	0.00000	-0.23826	1,2,6
285	93.38125	49.81250	18.69000	0.00000	0.00000	-0.18965	1,2,6
286	93.27500	51.75000	18.69000	0.00000	0.00000	-0.15062	1,2,6
287	93.16875	53.68750	18.69000	0.00000	0.00000	-0.11958	1,2,6
288	93.06250	55.62500	18.69000	0.00000	0.00000	-0.09491	1,2,6
289	92.95625	57.56250	18.69000	0.00000	0.00000	-0.07523	1,2,6
290	92.85000	59.50000	18.69000	0.00000	0.00000	-0.05947	1,2,6
291	92.74375	61.43750	18.69000	0.00000	0.00000	-0.04677	1,2,6
292	92.63750	63.37500	18.69000	0.00000	0.00000	-0.03647	1,2,6
293	92.53125	65.31250	18.69000	0.00000	0.00000	-0.02809	1,2,6
294	92.42500	67.25000	18.69000	0.00000	0.00000	-0.02124	1,2,6
295	92.31875	69.18750	18.69000	0.00000	0.00000	-0.01560	1,2,6
296	92.21250	71.12500	18.69000	0.00000	0.00000	-0.01096	1,2,6
297	92.10625	73.06250	18.69000	0.00000	0.00000	-0.00713	1,2,6
298	91.10000	16.40000	19.10000	0.00000	0.00000	-1.09333	1,2,6
299	89.20000	16.28889	19.10000	0.00000	0.00000	-1.49459	1,2,6
300	87.30000	16.17778	19.10000	0.00000	0.00000	-1.64504	1,2,6
301	85.40000	16.06667	19.10000	0.00000	0.00000	-1.58567	1,2,6
302	83.50000	15.95556	19.10000	0.00000	0.00000	-1.65335	1,2,6
303	81.60000	15.84444	19.10000	0.00000	0.00000	-1.87583	1,2,6
304	79.70000	15.73333	19.10000	0.00000	0.00000	-2.08555	1,2,6
305	77.80000	15.62222	19.10000	0.00000	0.00000	-2.29695	1,2,6
306	75.90000	15.51111	19.10000	0.00000	0.00000	-2.51669	1,2,6
307	74.00000	15.40000	19.10000	0.00000	0.00000	-2.26747	1,2,6
308	74.21429	13.34286	19.10000	0.00000	0.00000	-1.23628	1,2,6
309	74.42857	11.28571	19.10000	0.00000	0.00000	-0.74930	1,2,6
310	74.64286	9.22857	19.10000	0.00000	0.00000	-0.49341	1,2,6
311	74.85714	7.17143	19.10000	0.00000	0.00000	-0.34254	1,2,6
312	75.07143	5.11429	19.10000	0.00000	0.00000	-0.24613	1,2,6
313	75.28571	3.05714	19.10000	0.00000	0.00000	-0.18101	1,2,6
314	75.50000	1.00000	19.10000	0.00000	0.00000	-0.13525	1,2,6
315	75.25000	-0.83333	19.10000	0.00000	0.00000	-0.10437	1,2,6
316	75.00000	-2.66667	19.10000	0.00000	0.00000	-0.08100	1,2,6
317	74.75000	-4.50000	19.10000	0.00000	0.00000	-0.06302	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
318	74.50000	-6.33333	19.10000	0.00000	0.00000	-0.04897	1,2,6
319	74.25000	-8.16667	19.10000	0.00000	0.00000	-0.03786	1,2,6
320	74.00000	-10.00000	19.10000	0.00000	0.00000	-0.02897	1,2,6
321	76.00000	-10.22222	19.10000	0.00000	0.00000	-0.02909	1,2,6
322	78.00000	-10.44444	19.10000	0.00000	0.00000	-0.02873	1,2,6
323	80.00000	-10.66667	19.10000	0.00000	0.00000	-0.02791	1,2,6
324	82.00000	-10.88889	19.10000	0.00000	0.00000	-0.02668	1,2,6
325	84.00000	-11.11111	19.10000	0.00000	0.00000	-0.02509	1,2,6
326	86.00000	-11.33333	19.10000	0.00000	0.00000	-0.02320	1,2,6
327	88.00000	-11.55556	19.10000	0.00000	0.00000	-0.02109	1,2,6
328	90.00000	-11.77778	19.10000	0.00000	0.00000	-0.01883	1,2,6
329	92.00000	-12.00000	19.10000	0.00000	0.00000	-0.01647	1,2,6

1 - Data point coincident with displacement data. Its displacement has been added to those calculated by Xdisp.
2 - Data point coincident with horizontal movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.
6 - Data point coincident with vertical movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.

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 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 = $-1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2$
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 = $-2.6455E-3x^4 + 2.8495E-2x^3 - 1.0051E-1x^2 + 1.0569E-1x + 3.8990E-2$
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 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

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:	New Excavation
Surface level [m]:	24.000
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	18.690

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
1	72.500	42.000	89.000	43.500	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	89.000	43.500	91.000	16.500	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	91.000	16.500	90.000	16.400	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	90.000	16.400	74.000	15.500	No vertical ground movement	No horizontal ground movement
5	74.000	15.500	72.500	42.000	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:	Walls
Surface level [m]:	24.000
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	18.690

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
1	72.500	42.000	89.000	43.500	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	89.000	43.500	91.000	16.500	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	91.000	16.500	90.000	16.400	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	90.000	16.400	74.000	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))
5	74.000	15.500	72.500	42.000	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
Mid City Place_1	Mid City Place_1	Mid City Place_1	0.00000	61.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_2	Mid City Place_2	Mid City Place_2	0.00000	73.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_3	Mid City Place_3	Mid City Place_3	0.00000	9.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_4	Mid City Place_4	Mid City Place_4	0.00000	15.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_5	Mid City Place_5	Mid City Place_5	0.00000	70.57600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_6	Mid City Place_6	Mid City Place_6	0.00000	79.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_1	High Holborn House 1_1	High Holborn House 1_1	0.00000	16.27800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_2	High Holborn House 1_2	High Holborn House 1_2	0.00000	5.50000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_3	High Holborn House 1_3	High Holborn House 1_3	0.00000	17.92700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_4	High Holborn House 1_4	High Holborn House 1_4	0.00000	16.66700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_1	High Holborn House 2_1	High Holborn House 2_1	0.00000	23.53700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_2	High Holborn House 2_2	High Holborn House 2_2	0.00000	56.08000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_3	High Holborn House 2_3	High Holborn House 2_3	0.00000	8.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_4	High Holborn House 2_4	High Holborn House 2_4	0.00000	28.07100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_5	High Holborn House 2_5	High Holborn House 2_5	0.00000	16.12400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_6	High Holborn House 2_6	High Holborn House 2_6	0.00000	18.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_7	High Holborn House 2_7	High Holborn House 2_7	0.00000	10.43800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_8	High Holborn House 2_8	High Holborn House 2_8	0.00000	27.27300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_9	High Holborn House 2_9	High Holborn House 2_9	0.00000	4.61700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_10	High Holborn House 2_10	High Holborn House 2_10	0.00000	31.04600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_1	High Holborn House 3_1	High Holborn House 3_1	0.00000	17.12900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_2	High Holborn House 3_2	High Holborn House 3_2	0.00000	14.47700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_3	High Holborn House 3_3	High Holborn House 3_3	0.00000	11.10100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_4	High Holborn House 3_4	High Holborn House 3_4	0.00000	18.11000	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]
Mid City Place_1	Mid City Place_1	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_2	Mid City Place_2	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_3	Mid City Place_3	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_4	Mid City Place_4	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000

Structure Name	Sub-Structure Name	Height	Default Properties	Hogging 2nd Moment of Area	Hogging Distance of Bending	Hogging Distance of N.A.	Sagging 2nd Moment of Area	Sagging Distance of Bending	Sagging Distance of N.A.
Mid City Place_5	Mid City Place_5	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_6	Mid City Place_6	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
High Holborn House 1_1	High Holborn House 1_1	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_2	High Holborn House 1_2	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_3	High Holborn House 1_3	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_4	High Holborn House 1_4	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 2_1	High Holborn House 2_1	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_2	High Holborn House 2_2	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_3	High Holborn House 2_3	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_4	High Holborn House 2_4	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_5	High Holborn House 2_5	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_6	High Holborn House 2_6	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_7	High Holborn House 2_7	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_8	High Holborn House 2_8	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_9	High Holborn House 2_9	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_10	High Holborn House 2_10	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 3_1	High Holborn House 3_1	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_2	High Holborn House 3_2	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_3	High Holborn House 3_3	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_4	High Holborn House 3_4	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000

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).

Errors

None

Displacement and Strain Results

Name	Type/No. Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	Horizontal displacement along Line [mm]	Horizontal displacement perpendicular to Line [mm]	Angle of Line to x Axis [°]
Mid City Place_1	Line 1	1.00000	79.00000	24.00000	0.0	0.0	0.0086106	0.0	0.0	0.0 *
	1.9677	2.96774	79.00000	24.00000	0.0	0.0	0.0087749	0.0	0.0	0.0 *
	3.9355	4.93548	79.00000	24.00000	0.0	0.0	0.0089335	0.0	0.0	0.0 *
	5.9032	6.90323	79.00000	24.00000	0.0	0.0	0.0090852	0.0	0.0	0.0 *
	7.8710	8.87097	79.00000	24.00000	0.0	0.0	0.0092285	0.0	0.0	0.0 *
	9.8387	10.83871	79.00000	24.00000	0.0	0.0	0.0093621	0.0	0.0	0.0 *
	11.806	12.80645	79.00000	24.00000	0.0	0.0	0.0094842	0.0	0.0	0.0 *
	13.774	14.77419	79.00000	24.00000	0.0	0.0	0.0095931	0.0	0.0	0.0 *
	15.742	16.74194	79.00000	24.00000	0.0	0.0	0.0096870	0.0	0.0	0.0 *
	17.710	18.70968	79.00000	24.00000	0.0	0.0	0.0097638	0.0	0.0	0.0 *
	19.677	20.67742	79.00000	24.00000	0.0	0.0	0.0098215	0.0	0.0	0.0 *
	21.645	22.64516	79.00000	24.00000	0.0	0.0	0.0098579	0.0	0.0	0.0 *
	23.613	24.61290	79.00000	24.00000	0.0	0.0	0.0098707	0.0	0.0	0.0 *
	25.581	26.58065	79.00000	24.00000	0.0	0.0	0.0098576	0.0	0.0	0.0 *
	27.548	28.54839	79.00000	24.00000	0.0	0.0	0.0098162	0.0	0.0	0.0 *
	29.516	30.51613	79.00000	24.00000	0.0	0.0	0.0097442	0.0	0.0	0.0 *
	31.484	32.48387	79.00000	24.00000	0.0	0.0	0.0096393	0.0	0.0	0.0 *
	33.452	34.45161	79.00000	24.00000	0.0	0.0	0.0094995	0.0	0.0	0.0 *
	35.419	36.41935	79.00000	24.00000	0.0	0.0	0.0093226	0.0	0.0	0.0 *
	37.387	38.38710	79.00000	24.00000	0.0	0.0	0.0091072	0.0	0.0	0.0 *
	39.355	40.35484	79.00000	24.00000	0.0	0.0	0.0088517	0.0	0.0	0.0 *
	41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0085554	0.0	0.0	0.0 *
	43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0082180	0.0	0.0	0.0 *
	45.258	46.25806	79.00000	24.00000	0.0	0.0	0.0078399	0.0	0.0	0.0 *
	47.226	48.22581	79.00000	24.00000	0.0	0.0	0.0074224	0.0	0.0	0.0 *
	49.194	50.19355	79.00000	24.00000	0.0	0.0	0.0069679	0.0	0.0	0.0 *
	51.161	52.16129	79.00000	24.00000	0.0	0.0	0.0064797	0.0	0.0	0.0 *
	53.129	54.12903	79.00000	24.00000	0.0	0.0	0.0059623	0.0	0.0	0.0 *
	55.097	56.09677	79.00000	24.00000	0.0	0.0	0.0054218	0.0	0.0	0.0 *
	57.065	58.06452	79.00000	24.00000	0.0	0.0	0.0048652	0.0	0.0	0.0 *
	59.032	60.03226	79.00000	24.00000	0.0	0.0	0.0043013	0.0	0.0	0.0 *
	61.000	62.00000	79.00000	24.00000	0.0	0.0	0.0037398	0.0	0.0	0.0 *
Mid City Place_2	Line 2	62.00000	79.00000	24.00000	0.0	0.0	0.0037398	0.0	0.0	270.00 *
	1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.0020925	0.0	0.0	270.00 *
	3.9459	62.00000	75.05405	24.00000	0.0	0.0	102.65E-6	0.0	0.0	270.00 *
	5.9189	62.00000	73.08108	24.00000	0.0	0.0	-0.0022936	0.0	0.0	270.00 *
	7.8919	62.00000	71.10811	24.00000	0.0	0.0	-0.0051735	0.0	0.0	270.00 *
	9.8649	62.00000	69.13514	24.00000	0.0	0.0	-0.0086306	0.0	0.0	270.00 *
	11.838	62.00000	67.16216	24.00000	0.0	0.0	-0.012779	0.0	0.0	270.00 *
	13.811	62.00000	65.18919	24.00000	0.0	0.0	-0.017756	0.0	0.0	270.00 *
	15.784	62.00000	63.21622	24.00000	0.0	0.0	-0.023731	0.0	0.0	270.00 *
	17.757	62.00000	61.24324	24.00000	0.0	0.0	-0.030908	0.0	0.0	270.00 *
	19.730	62.00000	59.27027	24.00000	0.13871	-0.26371	0.025912	0.26371	0.13871	270.00 *
	21.703	62.00000	57.29730	24.00000	0.39518	-0.65066	0.081047	0.65066	0.39518	270.00 *
	23.676	62.00000	55.32432	24.00000	0.69150	-0.96349	0.17072	0.96349	0.69150	270.00 *
	25.649	62.00000	53.35135	24.00000	1.0355	-1.1845	0.34210	1.1845	1.0355	270.00 *
	27.622	62.00000	51.37838	24.00000	1.4349	-1.2931	0.59838	1.2931	1.4349	270.00 *
	29.595	62.00000	49.40541	24.00000	1.8946	-1.2678	0.90824	1.2678	1.8946	270.00 *
	31.568	62.00000	47.43243	24.00000	2.4119	-1.0920	1.2187	1.0920	2.4119	270.00 *
	33.541	62.00000	45.45946	24.00000	2.9674	-0.76455	1.4709	0.76455	2.9674	270.00 *
	35.514	62.00000	43.48649	24.00000	3.5173	-0.31318	1.6148	0.31318	3.5173	270.00 *
	37.486	62.00000	41.51351	24.00000	3.9925	0.19914	1.6208	-0.19914	3.9925	270.00 *
	39.459	62.00000	39.54054	24.00000	3.9322	0.22258	1.5149	-0.22258	3.9322	270.00 *

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

Name	Type/No. Dist. [m]	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	Horizontal displacement [mm]	Horizontal displacement [mm]	Angle of Line to x Axis [°]
	41.432	62.00000	37.56757	24.00000	3.8449	0.21764	1.4099	-0.21764	3.8449	270.00 *
	43.405	62.00000	35.59459	24.00000	3.7576	0.21269	1.3098	-0.21269	3.7576	270.00 *
	45.378	62.00000	33.62162	24.00000	3.6703	0.20775	1.2162	-0.20775	3.6703	270.00 *
	47.351	62.00000	31.64865	24.00000	3.5830	0.20281	1.1296	-0.20281	3.5830	270.00 *
	49.324	62.00000	29.67568	24.00000	3.4957	0.19787	1.0503	-0.19787	3.4957	270.00 *
	51.297	62.00000	27.70270	24.00000	3.4083	0.19293	0.97775	-0.19293	3.4083	270.00 *
	53.270	62.00000	25.72973	24.00000	3.3210	0.18798	0.91178	-0.18798	3.3210	270.00 *
	55.243	62.00000	23.75676	24.00000	3.2337	0.18304	0.85230	-0.18304	3.2337	270.00 *
	57.216	62.00000	21.78378	24.00000	3.1464	0.17810	0.79947	-0.17810	3.1464	270.00 *
	59.189	62.00000	19.81081	24.00000	3.0591	0.17316	0.75357	-0.17316	3.0591	270.00 *
	61.162	62.00000	17.83784	24.00000	2.9718	0.16821	0.71447	-0.16821	2.9718	270.00 *
	63.135	62.00000	15.86486	24.00000	2.8845	0.16327	0.68128	-0.16327	2.8845	270.00 *
	65.108	62.00000	13.89189	24.00000	2.6683	0.15104	0.61224	-0.15104	2.6683	270.00 *
	67.081	62.00000	11.91892	24.00000	2.2557	0.12768	0.45896	-0.12768	2.2557	270.00 *
	69.054	62.00000	9.94595	24.00000	1.8145	0.10271	0.29013	-0.10271	1.8145	270.00 *
	71.027	62.00000	7.97297	24.00000	1.3822	0.07823 6	0.14507	-0.07823 6	1.3822	270.00 *
	73.000	62.00000	6.00000	24.00000	0.98022	0.055484	0.045810	-0.055484	0.98022	270.00 *
Mid City Place_3	Line 3	62.00000	6.00000	24.00000	0.98022	0.055484	0.045810	0.98022	0.055484	0.0 *
	1.8000	63.80000	6.00000	24.00000	1.1838	0.067007	0.12132	1.1838	0.067007	0.0 *
	3.6000	65.60000	6.00000	24.00000	1.2870	0.072847	0.20681	1.2870	0.072847	0.0 *
	5.4000	67.40000	6.00000	24.00000	1.2703	0.071906	0.26311	1.2703	0.071906	0.0 *
	7.2000	69.20000	6.00000	24.00000	1.1189	0.063336	0.24963	1.1189	0.063336	0.0 *
	9.0000	71.00000	6.00000	24.00000	0.83191	0.047089	0.14317	0.83191	0.047089	0.0 *
Mid City Place_4	Line 4	71.00000	6.00000	24.00000	0.83191	0.047089	0.14317	-0.047089	0.83191	270.00 *
	1.8750	71.00000	4.12500	24.00000	0.58670	0.033210	0.022191	-0.033210	0.58670	270.00 *
	3.7500	71.00000	2.25000	24.00000	0.39985	0.022633	-0.042175	-0.022633	0.39985	270.00 *
	5.6250	71.00000	0.37500	24.00000	0.25114	0.014216	-0.064924	-0.014216	0.25114	270.00 *
	7.5000	71.00000	-1.50000	24.00000	0.12864	0.0072817	-0.063432	-0.0072817	0.12864	270.00 *
	9.3750	71.00000	-3.37500	24.00000	0.024879	0.0014083	-0.057612	-0.0014083	0.024879	270.00 *
	11.250	71.00000	-5.25000	24.00000	0.0	0.0	-0.048787	0.0	0.0	270.00 *
	13.125	71.00000	-7.12500	24.00000	0.0	0.0	-0.037756	0.0	0.0	270.00 *
	15.000	71.00000	-9.00000	24.00000	0.0	0.0	-0.028899	0.0	0.0	270.00 *
Mid City Place_5	Line 5	71.00000	-9.00000	24.00000	0.0	0.0	-0.028899	0.0	0.0	172.67 *
	2.0165	69.00000	-8.74286	24.00000	0.0	0.0	-0.027692	0.0	0.0	172.67 *
	4.0329	67.00000	-8.48571	24.00000	0.0	0.0	-0.026066	0.0	0.0	172.67 *
	6.0494	65.00000	-8.22857	24.00000	0.0	0.0	-0.024092	0.0	0.0	172.67 *
	8.0659	63.00000	-7.97143	24.00000	0.0	0.0	-0.021853	0.0	0.0	172.67 *
	10.082	61.00000	-7.71429	24.00000	0.0	0.0	-0.019434	0.0	0.0	172.67 *
	12.099	59.00000	-7.45714	24.00000	0.0	0.0	-0.016918	0.0	0.0	172.67 *
	14.115	57.00000	-7.20000	24.00000	0.0	0.0	-0.014376	0.0	0.0	172.67 *
	16.132	55.00000	-6.94286	24.00000	0.0	0.0	-0.011871	0.0	0.0	172.67 *
	18.148	53.00000	-6.68571	24.00000	0.0	0.0	-0.0094501	0.0	0.0	172.67 *
	20.165	51.00000	-6.42857	24.00000	0.0	0.0	-0.0071507	0.0	0.0	172.67 *
	22.181	49.00000	-6.17143	24.00000	0.0	0.0	-0.0049974	0.0	0.0	172.67 *
	24.198	47.00000	-5.91429	24.00000	0.0	0.0	-0.0030055	0.0	0.0	172.67 *
	26.214	45.00000	-5.65714	24.00000	0.0	0.0	-0.0011829	0.0	0.0	172.67 *
	28.230	43.00000	-5.40000	24.00000	0.0	0.0	468.61E-6	0.0	0.0	172.67 *
	30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.0019516	0.0	0.0	172.67 *
	32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.0032718	0.0	0.0	172.67 *
	34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.0044372	0.0	0.0	172.67 *
	36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.0054570	0.0	0.0	172.67 *
	38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.0063414	0.0	0.0	172.67 *
	40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.0071008	0.0	0.0	172.67 *
	42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.0077455	0.0	0.0	172.67 *
	44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0082859	0.0	0.0	172.67 *
	46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0087317	0.0	0.0	172.67 *
	48.395	23.00000	-2.82857	24.00000	0.0	0.0	0.0090922	0.0	0.0	172.67 *
	50.412	21.00000	-2.57143	24.00000	0.0	0.0	0.0093763	0.0	0.0	172.67 *
	52.428	19.00000	-2.31429	24.00000	0.0	0.0	0.0095921	0.0	0.0	172.67 *
	54.444	17.00000	-2.05714	24.00000	0.0	0.0	0.0097472	0.0	0.0	172.67 *
	56.461	15.00000	-1.80000	24.00000	0.0	0.0	0.0098487	0.0	0.0	172.67 *
	58.477	13.00000	-1.54286	24.00000	0.0	0.0	0.0099030	0.0	0.0	172.67 *
	60.494	11.00000	-1.28571	24.00000	0.0	0.0	0.0099158	0.0	0.0	172.67 *
	62.510	9.00000	-1.02857	24.00000	0.0	0.0	0.0098926	0.0	0.0	172.67 *
	64.527	7.00000	-0.77143	24.00000	0.0	0.0	0.0098380	0.0	0.0	172.67 *
	66.543	5.00000	-0.51429	24.00000	0.0	0.0	0.0097566	0.0	0.0	172.67 *
	68.560	3.00000	-0.25714	24.00000	0.0	0.0	0.0096520	0.0	0.0	172.67 *
	70.576	1.00000	0.00000	24.00000	0.0	0.0	0.0095280	0.0	0.0	172.67 *
Mid City Place_6	Line 6	1.00000	0.00000	24.00000	0.0	0.0	0.0095280	0.0	0.0	90.000 *
	1.9750	1.00000	1.97500	24.00000	0.0	0.0	0.0095760	0.0	0.0	90.000 *
	3.9500	1.00000	3.95000	24.00000	0.0	0.0	0.0096191	0.0	0.0	90.000 *
	5.9250	1.00000	5.92500	24.00000	0.0	0.0	0.0096577	0.0	0.0	90.000 *
	7.9000	1.00000	7.90000	24.00000	0.0	0.0	0.0096918	0.0	0.0	90.000 *
	9.8750	1.00000	9.87500	24.00000	0.0	0.0	0.0097217	0.0	0.0	90.000 *
	11.850	1.00000	11.85000	24.00000	0.0	0.0	0.0097477	0.0	0.0	90.000 *
	13.825	1.00000	13.82500	24.00000	0.0	0.0	0.0097700	0.0	0.0	90.000 *
	15.800	1.00000	15.80000	24.00000	0.0	0.0	0.0097889	0.0	0.0	90.000 *
	17.775	1.00000	17.77500	24.00000	0.0	0.0	0.0098046	0.0	0.0	90.000 *
	19.750	1.00000	19.75000	24.00000	0.0	0.0	0.0098172	0.0	0.0	90.000 *
	21.725	1.00000	21.72500	24.00000	0.0	0.0	0.0098271	0.0	0.0	90.000 *
	23.700	1.00000	23.70000	24.00000	0.0	0.0	0.0098343	0.0	0.0	90.000 *
	25.675	1.00000	25.67500	24.00000	0.0	0.0	0.0098389	0.0	0.0	90.000 *
	27.650	1.00000	27.65000	24.00000	0.0	0.0	0.0098411	0.0	0.0	90.000 *
	29.625	1.00000	29.62500	24.00000	0.0	0.0	0.0098408	0.0	0.0	90.000 *
	31.600	1.00000	31.60000	24.00000	0.0	0.0	0.0098380	0.0	0.0	90.000 *
	33.575	1.00000	33.57500	24.00000	0.0	0.0	0.0098327	0.0	0.0	90.000 *
	35.550	1.00000	35.55000	24.00000	0.0	0.0	0.0098248	0.0	0.0	90.000 *
	37.525	1.00000	37.52500	24.00000	0.0	0.0	0.0098141	0.0	0.0	90.000 *
	39.500	1.00000	39.50000	24.00000	0.0	0.0	0.0098005	0.0	0.0	90.000 *
	41.475	1.00000	41.47500	24.00000	0.0	0.0	0.0097836	0.0	0.0	90.000 *
	43.450	1.00000	43.45000	24.00000	0.0	0.0	0.0097635	0.0	0.0	90.000 *
	45.425	1.00000	45.42500	24.00000	0.0	0.0	0.0097396	0.0	0.0	90.000 *
	47.400	1.00000	47.40000	24.00000	0.0	0.0	0.0097119	0.0	0.0	90.000 *
	49.375	1.00000	49.37500	24.00000	0.0	0.0	0.0096801	0.0	0.0	90.000 *
	51.350	1.00000	51.35000	24.00000	0.0	0.0	0.0096439	0.0	0.0	90.000 *
	53.325	1.00000	53.32500	24.00000	0.0	0.0	0.0096032	0.0	0.0	90.000 *
	55.300	1.00000	55.30000	24.00000	0.0	0.0	0.0095576	0.0	0.0	90.000 *
	57.275	1.00000	57.27500	24.00000	0.0	0.0	0.0095071	0.0	0.0	90.000 *
	59.250	1.00000	59.25000	24.00000	0.0	0.0	0.0094514	0.0	0.0	90.000 *
	61.225	1.00000	61.22500	24.00000	0.0	0.0	0.0093906	0.0	0.0	90.000 *
	63.200	1.00000	63.20000	24.00000	0.0	0.0	0.0093244	0.0	0.0	90.000 *
	65.175	1.00000	65.17500	24.00000	0.0	0.0	0.0092530	0.0	0.0	90.000 *
	67.150	1.00000	67.15000	24.00000	0.0	0.0	0.0091763	0.0	0.0	90.000 *
	69.125	1.00000	69.12500	24.00000	0.0	0.0	0.0090943	0.0	0.0	90.000 *
	71.100	1.00000	71.10000	24.00000	0.0	0.0	0.0090072	0.0	0.0	90.000 *
	73.075	1.00000	73.07500	24.00000	0.0	0.0	0.0089151	0.0	0.0	90.000 *
	75.050	1.00000	75.05000	24.00000	0.0	0.0	0.0088182	0.0	0.0	90.000 *
	77.025	1.00000	77.02500	24.00000	0.0	0.0	0.0087166	0.0	0.0	90.000 *
	79.000	1.00000	79.00000	24.00000	0.0	0.0	0.0086106	0.0	0.0	90.000 *
High Holborn House 1_1	Line 7	93.00000	57.00000	20.27000	-0.45367	-2.0834	0.61676	0.061964	2.1313	169.38 *
	2.0349	91.00000	57.37500	20.27000	-0.18871	-2.3292	0.62579	-0.24378	2.3241	169.38 *
	4.0697	89.00000	57.75000	20.27000	0.074479	-2.4725	0.56764	-0.52885	2.4164	169.38 *
	6.1046	87.00000	58.12500	20.27000	0.22048	-2.4252	0.45953	-0.66365	2.3431	169.38 *
	8.1394	85.00000	58.50000	20.27000	0.20165	-2.2182	0.35662	-0.60698	2.1430	169.38 *
	10.174	83.00000	58.87500	20.27000	0.18282	-2.0111	0.27178	-0.55031	1.9429	169.38 *
	12.209	81.00000	59.25000	20.27000	0.16400	-1.8040	0.20398	-0.49364	1.7428	169.38 *
	14.244	79.00000	59.62500	20.27000	0.14517	-1.5969	0.15169	-0.43697	1.5428	169.38 *
	16.279	77.00000	60.00000	20.27000	0.12634	-1.3898	0.11289	-0.38030	1.3427	169.38 *
High Holborn House 1_2	Line 8	77.00000	60.00000	20.27000	0.12634	-1.3898	0.11289	-0.12634	1.3898	180.00 *
	1.8333	75.16667	60.00000	20.27000	0.12071	-1.3278	0.10420	-0.12071	1.3278	180.00 *
	3.6667	73.33333	60.00000	20.27000	0.11507	-1.2658	0.097390	-0.11507	1.2658	180.00 *
	5.5000	71.50000	60.00000	20.27000	0.10944	-1.2038	0.092190	-0.10944	1.2038	180.00 *
High Holborn House 1_3	Line 9	71.50000	60.00000	20.27000	0.10944	-1.2038	0.092190	1.2080	0.042119	273.20 *
	1.9920	71.61111	58.01111	20.27000	0.17703	-1.9473	0.25133	1.9541	0.068133	273.20 *
	3.9840	71.72222	56.02222	20.27000	0.24461	-2.6908	0.59109	2.7002	0.094146	273.20 *
	5.9760	71.83333	54.03333	20.27000	0.31220	-3.4342	1.1332	3.4463	0.12016	273.20 *
	7.9680	71.94444	52.04444	20.27000	0.37979	-4.1777	1.8311	4.1924	0.14617	273.20 *
	9.9600	72.05556	50.05556	20.27000	0.44738	-4.9212	2.5691	4.9385	0.17219	273.20 *
	11.952	72.16667	48.06667	20.27000	0.57210	-6.2931	3.2717	6.3152	0.22019	273.20 *
	13.944	72.27778	46.07778	20.27000	0.69977	-7.6974	3.8371	7.7245	0.26932	273.20 *
	15.936	72.38889	44.08889	20.27000	0.82744	-9.1018	4.1247	9.1338	0.31846	273.20 *

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	17.928	72.50000	42.10000	20.27000	0.95510	-10.506	3.6291	10.543	0.36760	273.20 *
High Holborn House 1_4	Line 10	72.50000	42.10000	20.27000	0.95510	-10.506	3.6291	0.0057303	-10.549	5.1633 *
	2.0835	74.57500	42.28750	20.27000	0.95518	-10.507	3.3433	0.0057307	-10.550	5.1633 *
	4.1669	76.65000	42.47500	20.27000	0.95525	-10.508	3.2094	0.0057312	-10.551	5.1633 *
	6.2504	78.72500	42.66250	20.27000	0.95532	-10.509	3.2156	0.0057316	-10.552	5.1633 *
	8.3338	80.80000	42.85000	20.27000	0.95539	-10.509	3.3258	0.0057320	-10.553	5.1633 *
	10.417	82.87500	43.03750	20.27000	0.95547	-10.510	3.4618	0.0057325	-10.553	5.1633 *
	12.501	84.95000	43.22500	20.27000	0.95554	-10.511	3.6072	0.0057329	-10.554	5.1633 *
	14.584	87.02500	43.41250	20.27000	0.95561	-10.512	3.7882	0.0057333	-10.555	5.1633 *
	16.668	89.10000	43.60000	20.27000	-5.3626	-5.1240	4.0363	-5.8020	-4.6206	5.1633 *
High Holborn House 2_1	Line 11	92.00000	75.00000	18.69000	0.0	0.0	-0.0039551	0.0	0.0	347.74 *
	1.9614	93.91667	74.58333	18.69000	0.0	0.0	-0.0037166	0.0	0.0	347.74 *
	3.9229	95.83333	74.16667	18.69000	0.0	0.0	-0.0033554	0.0	0.0	347.74 *
	5.8843	97.75000	73.75000	18.69000	0.0	0.0	-0.0028827	0.0	0.0	347.74 *
	7.8457	99.66667	73.33333	18.69000	0.0	0.0	-0.0023125	0.0	0.0	347.74 *
	9.8072	101.58333	72.91667	18.69000	0.0	0.0	-0.0016612	0.0	0.0	347.74 *
	11.769	103.50000	72.50000	18.69000	0.0	0.0	-945.95E-6	0.0	0.0	347.74 *
	13.730	105.41667	72.08333	18.69000	0.0	0.0	-184.60E-6	0.0	0.0	347.74 *
	15.691	107.33333	71.66667	18.69000	0.0	0.0	605.55E-6	0.0	0.0	347.74 *
	17.653	109.25000	71.25000	18.69000	0.0	0.0	0.0014082	0.0	0.0	347.74 *
	19.614	111.16667	70.83333	18.69000	0.0	0.0	0.0022088	0.0	0.0	347.74 *
	21.576	113.08333	70.41667	18.69000	0.0	0.0	0.0029942	0.0	0.0	347.74 *
	23.537	115.00000	70.00000	18.69000	0.0	0.0	0.0037535	0.0	0.0	347.74 *
High Holborn House 2_2	Line 12	115.00000	70.00000	18.69000	0.0	0.0	0.0037535	0.0	0.0	273.07 *
	2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.0026071	0.0	0.0	273.07 *
	4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.0013205	0.0	0.0	273.07 *
	6.0086	115.32143	64.00000	18.69000	0.0	0.0	-110.14E-6	0.0	0.0	273.07 *
	8.0115	115.42857	62.00000	18.69000	0.0	0.0	-0.0016860	0.0	0.0	273.07 *
	10.014	115.53571	60.00000	18.69000	0.0	0.0	-0.0034048	0.0	0.0	273.07 *
	12.017	115.64286	58.00000	18.69000	0.0	0.0	-0.0052593	0.0	0.0	273.07 *
	14.020	115.75000	56.00000	18.69000	0.0	0.0	-0.0072372	0.0	0.0	273.07 *
	16.023	115.85714	54.00000	18.69000	0.0	0.0	-0.0093195	0.0	0.0	273.07 *
	18.026	115.96429	52.00000	18.69000	0.0	0.0	-0.011481	0.0	0.0	273.07 *
	20.029	116.07143	50.00000	18.69000	0.0	0.0	-0.013687	0.0	0.0	273.07 *
	22.032	116.17857	48.00000	18.69000	0.0	0.0	-0.015900	0.0	0.0	273.07 *
	24.034	116.28571	46.00000	18.69000	0.0	0.0	-0.018073	0.0	0.0	273.07 *
	26.037	116.39286	44.00000	18.69000	0.0	0.0	-0.020154	0.0	0.0	273.07 *
	28.040	116.50000	42.00000	18.69000	0.0	0.0	-0.022092	0.0	0.0	273.07 *
	30.043	116.60714	40.00000	18.69000	0.0	0.0	-0.023833	0.0	0.0	273.07 *
	32.046	116.71429	38.00000	18.69000	0.0	0.0	-0.025326	0.0	0.0	273.07 *
	34.049	116.82143	36.00000	18.69000	0.0	0.0	-0.026525	0.0	0.0	273.07 *
	36.052	116.92857	34.00000	18.69000	0.0	0.0	-0.027392	0.0	0.0	273.07 *
	38.054	117.03571	32.00000	18.69000	0.0	0.0	-0.027900	0.0	0.0	273.07 *
	40.057	117.14286	30.00000	18.69000	0.0	0.0	-0.028029	0.0	0.0	273.07 *
	42.060	117.25000	28.00000	18.69000	0.0	0.0	-0.027777	0.0	0.0	273.07 *
	44.063	117.35714	26.00000	18.69000	0.0	0.0	-0.027149	0.0	0.0	273.07 *
	46.066	117.46429	24.00000	18.69000	0.0	0.0	-0.026166	0.0	0.0	273.07 *
	48.069	117.57143	22.00000	18.69000	0.0	0.0	-0.024859	0.0	0.0	273.07 *
	50.072	117.67857	20.00000	18.69000	0.0	0.0	-0.023268	0.0	0.0	273.07 *
	52.075	117.78571	18.00000	18.69000	0.0	0.0	-0.021444	0.0	0.0	273.07 *
	54.077	117.89286	16.00000	18.69000	0.0	0.0	-0.019438	0.0	0.0	273.07 *
	56.080	118.00000	14.00000	18.69000	0.0	0.0	-0.017306	0.0	0.0	273.07 *
High Holborn House 2_3	Line 13	118.00000	14.00000	18.69000	0.0	0.0	-0.017306	0.0	0.0	180.00 *
	2.0000	116.00000	14.00000	18.69000	0.0	0.0	-0.023500	0.0	0.0	180.00 *
	4.0000	114.00000	14.00000	18.69000	0.0	0.0	-0.031097	0.0	0.0	180.00 *
	6.0000	112.00000	14.00000	18.69000	0.0	0.0	-0.040470	0.0	0.0	180.00 *
	8.0000	110.00000	14.00000	18.69000	0.0	0.0	-0.052118	0.0	0.0	180.00 *
High Holborn House 2_4	Line 14	110.00000	14.00000	18.69000	0.0	0.0	-0.052118	0.0	0.0	265.91 *
	2.0051	109.85714	12.00000	18.69000	0.0	0.0	-0.047545	0.0	0.0	265.91 *
	4.0102	109.71429	10.00000	18.69000	0.0	0.0	-0.042719	0.0	0.0	265.91 *
	6.0153	109.57143	8.00000	18.69000	0.0	0.0	-0.037805	0.0	0.0	265.91 *
	8.0204	109.42857	6.00000	18.69000	0.0	0.0	-0.032944	0.0	0.0	265.91 *
	10.025	109.28571	4.00000	18.69000	0.0	0.0	-0.028248	0.0	0.0	265.91 *
	12.031	109.14286	2.00000	18.69000	0.0	0.0	-0.023800	0.0	0.0	265.91 *
	14.036	109.00000	0.00000	18.69000	0.0	0.0	-0.019657	0.0	0.0	265.91 *
	16.041	108.85714	-2.00000	18.69000	0.0	0.0	-0.015847	0.0	0.0	265.91 *
	18.046	108.71429	-4.00000	18.69000	0.0	0.0	-0.012384	0.0	0.0	265.91 *
	20.051	108.57143	-6.00000	18.69000	0.0	0.0	-0.0092659	0.0	0.0	265.91 *
	22.056	108.42857	-8.00000	18.69000	0.0	0.0	-0.0064806	0.0	0.0	265.91 *
	24.061	108.28571	-10.00000	18.69000	0.0	0.0	-0.0040107	0.0	0.0	265.91 *
	26.066	108.14286	-12.00000	18.69000	0.0	0.0	-0.0018350	0.0	0.0	265.91 *
	28.071	108.00000	-14.00000	18.69000	0.0	0.0	69.638E-6	0.0	0.0	265.91 *
High Holborn House 2_5	Line 15	108.00000	-14.00000	18.69000	0.0	0.0	69.638E-6	0.0	0.0	172.87 *
	2.0156	106.00000	-13.75000	18.69000	0.0	0.0	-0.0015592	0.0	0.0	172.87 *
	4.0311	104.00000	-13.50000	18.69000	0.0	0.0	-0.0033517	0.0	0.0	172.87 *
	6.0467	102.00000	-13.25000	18.69000	0.0	0.0	-0.0053049	0.0	0.0	172.87 *
	8.0623	100.00000	-13.00000	18.69000	0.0	0.0	-0.0074103	0.0	0.0	172.87 *
	10.078	98.00000	-12.75000	18.69000	0.0	0.0	-0.0096527	0.0	0.0	172.87 *
	12.093	96.00000	-12.50000	18.69000	0.0	0.0	-0.012009	0.0	0.0	172.87 *
	14.109	94.00000	-12.25000	18.69000	0.0	0.0	-0.014447	0.0	0.0	172.87 *
	16.125	92.00000	-12.00000	18.69000	0.0	0.0	-0.016924	0.0	0.0	172.87 *
High Holborn House 2_6	Line 16	92.00000	-12.00000	18.69000	0.0	0.0	-0.016924	0.0	0.0	90.000 *
	2.0000	92.00000	-10.00000	18.69000	0.0	0.0	-0.023079	0.0	0.0	90.000 *
	4.0000	92.00000	-8.00000	18.69000	0.0	0.0	-0.030642	0.0	0.0	90.000 *
	6.0000	92.00000	-6.00000	18.69000	0.0	0.0	-0.039984	0.0	0.0	90.000 *
	8.0000	92.00000	-4.00000	18.69000	0.0	0.0	-0.051603	0.0	0.0	90.000 *
	10.000	92.00000	-2.00000	18.69000	0.0	0.0	-0.066164	0.0	0.0	90.000 *
	12.000	92.00000	0.00000	18.69000	0.0	0.0	-0.084574	0.0	0.0	90.000 *
	14.000	92.00000	2.00000	18.69000	0.0	0.0	-0.10809	0.0	0.0	90.000 *
	16.000	92.00000	4.00000	18.69000	0.0	0.0	-0.13850	0.0	0.0	90.000 *
	18.000	92.00000	6.00000	18.69000	0.0	0.0	-0.17840	0.0	0.0	90.000 *
High Holborn House 2_7	Line 17	92.00000	6.00000	18.69000	0.0	0.0	-0.17840	0.0	0.0	94.946 *
	2.0878	91.82000	8.08000	18.69000	0.0	0.0	-0.23771	0.0	0.0	94.946 *
	4.1755	91.64000	10.16000	18.69000	0.0	0.0	-0.32272	0.0	0.0	94.946 *
	6.2633	91.46000	12.24000	18.69000	0.0	0.0	-0.45188	0.0	0.0	94.946 *
	8.3511	91.28000	14.32000	18.69000	0.0	0.0	-0.66933	0.0	0.0	94.946 *
	10.439	91.10000	16.40000	18.69000	0.0	0.0	-1.0878	0.0	0.0	94.946 *
High Holborn House 2_8	Line 18	91.10000	16.40000	18.69000	0.0	0.0	-1.0878	0.0	0.0	94.205 *
	1.9481	90.95714	18.34286	18.69000	0.0	0.0	-1.4856	0.0	0.0	94.205 *
	3.8962	90.81429	20.28571	18.69000	0.0	0.0	-1.6310	0.0	0.0	94.205 *
	5.8443	90.67143	22.22857	18.69000	0.0	0.0	-1.6775	0.0	0.0	94.205 *
	7.7924	90.52857	24.17143	18.69000	0.0	0.0	-1.5246	0.0	0.0	94.205 *
	9.7405	90.38571	26.11429	18.69000	0.0	0.0	-1.4478	0.0	0.0	94.205 *
	11.689	90.24286	28.05714	18.69000	0.0	0.0	-1.4424	0.0	0.0	94.205 *
	13.637	90.10000	30.00000	18.69000	0.0	0.0	-1.4389	0.0	0.0	94.205 *
	15.585	89.95714	31.94286	18.69000	0.0	0.0	-1.4156	0.0	0.0	94.205 *
	17.533	89.81429	33.88571	18.69000	0.0	0.0	-1.3679	0.0	0.0	94.205 *
	19.481	89.67143	35.82857	18.69000	0.0	0.0	-1.2981	0.0	0.0	94.205 *
	21.429	89.52857	37.77143	18.69000	0.0	0.0	-1.2081	0.0	0.0	94.205 *
	23.377	89.38571	39.71429	18.69000	0.0	0.0	-1.0864	0.0	0.0	94.205 *
	25.325	89.24286	41.65714	18.69000	0.0	0.0	-0.92005	0.0	0.0	94.205 *
	27.273	89.10000	43.60000	18.69000	0.0	0.0	-0.72398	0.0	0.0	94.205 *
High Holborn House 2_9	Line 19	89.10000	43.60000	18.69000	0.0	0.0	-0.72398	0.0	0.0	4.9697 *
	2.3087	91.40000	43.80000	18.69000	0.0	0.0	-0.51702	0.0	0.0	4.9697 *
	4.6174	93.70000	44.00000	18.69000	0.0	0.0	-0.36462	0.0	0.0	4.9697 *
High Holborn House 2_10	Line 20	93.70000	44.00000	18.69000	0.0	0.0	-0.36462	0.0	0.0	93.139 *
	1.9404	93.59375	45.93750	18.69000	0.0	0.0	-0.29717	0.0	0.0	93.139 *
	3.8808	93.48750	47.87500	18.69000	0.0	0.0	-0.23826	0.0	0.0	93.139 *
	5.8212	93.38125	49.81250	18.69000	0.0	0.0	-0.18965	0.0	0.0	93.139 *

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	7.7616	93.27500	51.75000	18.69000	0.0	0.0	-0.15062	0.0	0.0	93.139 *
	9.7021	93.16875	53.68750	18.69000	0.0	0.0	-0.11958	0.0	0.0	93.139 *
	11.642	93.06250	55.62500	18.69000	0.0	0.0	-0.094906	0.0	0.0	93.139 *
	13.583	92.95625	57.56250	18.69000	0.0	0.0	-0.075233	0.0	0.0	93.139 *
	15.523	92.85000	59.50000	18.69000	0.0	0.0	-0.059468	0.0	0.0	93.139 *
	17.464	92.74375	61.43750	18.69000	0.0	0.0	-0.046765	0.0	0.0	93.139 *
	19.404	92.63750	63.37500	18.69000	0.0	0.0	-0.036473	0.0	0.0	93.139 *
	21.345	92.53125	65.31250	18.69000	0.0	0.0	-0.028092	0.0	0.0	93.139 *
	23.285	92.42500	67.25000	18.69000	0.0	0.0	-0.021235	0.0	0.0	93.139 *
	25.225	92.31875	69.18750	18.69000	0.0	0.0	-0.015603	0.0	0.0	93.139 *
	27.166	92.21250	71.12500	18.69000	0.0	0.0	-0.010962	0.0	0.0	93.139 *
	29.106	92.10625	73.06250	18.69000	0.0	0.0	-0.0071276	0.0	0.0	93.139 *
	31.047	92.00000	75.00000	18.69000	0.0	0.0	-0.0039551	0.0	0.0	93.139 *
High Holborn House 3_1	Line 21	91.10000	16.40000	19.10000	-5.2383	5.4770	3.6842	4.9096	-5.7735	183.35 *
	1.9032	89.20000	16.28889	19.10000	-0.13636	2.4242	0.91143	-0.0053955	-2.4280	183.35 *
	3.8065	87.30000	16.17778	19.10000	-0.13628	2.4228	0.75820	-0.0053924	-2.4266	183.35 *
	5.7097	85.40000	16.06667	19.10000	-0.13620	2.4214	0.81480	-0.0053893	-2.4252	183.35 *
	7.6130	83.50000	15.95556	19.10000	-0.13612	2.4199	0.74433	-0.0053861	-2.4238	183.35 *
	9.5162	81.60000	15.84444	19.10000	-0.13604	2.4185	0.51908	-0.0053830	-2.4224	183.35 *
	11.419	79.70000	15.73333	19.10000	-0.13596	2.4171	0.30658	-0.0053799	-2.4209	183.35 *
	13.323	77.80000	15.62222	19.10000	-0.13588	2.4157	0.092402	-0.0053767	-2.4195	183.35 *
	15.226	75.90000	15.51111	19.10000	-0.13581	2.4143	-0.13012	-0.0053736	-2.4181	183.35 *
	17.129	74.00000	15.40000	19.10000	0.13036	2.3413	0.10300	-0.26682	-2.3297	183.35 *
High Holborn House 3_2	Line 22	74.00000	15.40000	19.10000	0.13036	2.3413	0.10300	-2.3152	0.37223	275.95 *
	2.0683	74.21429	13.34286	19.10000	-0.097051	1.7253	-0.11152	-1.7261	0.082228	275.95 *
	4.1365	74.42857	11.28571	19.10000	-0.058376	1.0378	-0.42025	-1.0383	0.049460	275.95 *
	6.2048	74.64286	9.22857	19.10000	-0.019701	0.35023	-0.44052	-0.35039	0.016692	275.95 *
	8.2731	74.85714	7.17143	19.10000	0.0	0.0	-0.34254	0.0	0.0	275.95 *
	10.341	75.07143	5.11429	19.10000	0.0	0.0	-0.24613	0.0	0.0	275.95 *
	12.410	75.28571	3.05714	19.10000	0.0	0.0	-0.18101	0.0	0.0	275.95 *
	14.478	75.50000	1.00000	19.10000	0.0	0.0	-0.13525	0.0	0.0	275.95 *
High Holborn House 3_3	Line 23	75.50000	1.00000	19.10000	0.0	0.0	-0.13525	0.0	0.0	262.23 *
	1.8503	75.25000	-0.83333	19.10000	0.0	0.0	-0.10437	0.0	0.0	262.23 *
	3.7006	75.00000	-2.66667	19.10000	402.33E-6	22.773E-6	-0.080941	-76.924E-6	395.56E-6	262.23 *
	5.5509	74.75000	-4.50000	19.10000	0.0	0.0	-0.063017	0.0	0.0	262.23 *
	7.4012	74.50000	-6.33333	19.10000	0.0	0.0	-0.048968	0.0	0.0	262.23 *
	9.2515	74.25000	-8.16667	19.10000	0.0	0.0	-0.037856	0.0	0.0	262.23 *
	11.102	74.00000	-10.00000	19.10000	0.0	0.0	-0.028972	0.0	0.0	262.23 *
High Holborn House 3_4	Line 24	74.00000	-10.00000	19.10000	0.0	0.0	-0.028972	0.0	0.0	353.66 *
	2.0123	76.00000	-10.22222	19.10000	0.0	0.0	-0.029090	0.0	0.0	353.66 *
	4.0246	78.00000	-10.44444	19.10000	0.0	0.0	-0.028730	0.0	0.0	353.66 *
	6.0369	80.00000	-10.66667	19.10000	0.0	0.0	-0.027913	0.0	0.0	353.66 *
	8.0492	82.00000	-10.88889	19.10000	0.0	0.0	-0.026681	0.0	0.0	353.66 *
	10.062	84.00000	-11.11111	19.10000	0.0	0.0	-0.025088	0.0	0.0	353.66 *
	12.074	86.00000	-11.33333	19.10000	0.0	0.0	-0.023202	0.0	0.0	353.66 *
	14.086	88.00000	-11.55556	19.10000	0.0	0.0	-0.021091	0.0	0.0	353.66 *
	16.098	90.00000	-11.77778	19.10000	0.0	0.0	-0.018826	0.0	0.0	353.66 *
	18.111	92.00000	-12.00000	19.10000	0.0	0.0	-0.016473	0.0	0.0	353.66 *

* Result includes imported displacement(s).

Specific Building Damage Results - Horizontal Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9677	2.96774	79.00000	24.00000	0.0	0.0	0.0	0.0 d
3.9355	4.93548	79.00000	24.00000	0.0	0.0	0.0	0.0 d
5.9032	6.90323	79.00000	24.00000	0.0	0.0	0.0	0.0 d
7.8710	8.87097	79.00000	24.00000	0.0	0.0	0.0	0.0 d
9.8387	10.83871	79.00000	24.00000	0.0	0.0	0.0	0.0 d
11.806	12.80645	79.00000	24.00000	0.0	0.0	0.0	0.0 d
13.774	14.77419	79.00000	24.00000	0.0	0.0	0.0	0.0 d
15.742	16.74194	79.00000	24.00000	0.0	0.0	0.0	0.0 d
17.710	18.70968	79.00000	24.00000	0.0	0.0	0.0	0.0 d
19.677	20.67742	79.00000	24.00000	0.0	0.0	0.0	0.0 d
21.645	22.64516	79.00000	24.00000	0.0	0.0	0.0	0.0 d
23.613	24.61290	79.00000	24.00000	0.0	0.0	0.0	0.0 d
25.581	26.58065	79.00000	24.00000	0.0	0.0	0.0	0.0 d
27.548	28.54839	79.00000	24.00000	0.0	0.0	0.0	0.0 d
29.516	30.51613	79.00000	24.00000	0.0	0.0	0.0	0.0 d
31.484	32.48387	79.00000	24.00000	0.0	0.0	0.0	0.0 d
33.452	34.45161	79.00000	24.00000	0.0	0.0	0.0	0.0 d
35.419	36.41935	79.00000	24.00000	0.0	0.0	0.0	0.0 d
37.387	38.38710	79.00000	24.00000	0.0	0.0	0.0	0.0 d
39.355	40.35484	79.00000	24.00000	0.0	0.0	0.0	0.0 d
41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0	0.0 d
43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0	0.0 d
45.258	46.25806	79.00000	24.00000	0.0	0.0	0.0	0.0 d
47.226	48.22581	79.00000	24.00000	0.0	0.0	0.0	0.0 d
49.194	50.19355	79.00000	24.00000	0.0	0.0	0.0	0.0 d
51.161	52.16129	79.00000	24.00000	0.0	0.0	0.0	0.0 d
53.129	54.12903	79.00000	24.00000	0.0	0.0	0.0	0.0 d
55.097	56.09677	79.00000	24.00000	0.0	0.0	0.0	0.0 d
57.065	58.06452	79.00000	24.00000	0.0	0.0	0.0	0.0 d
59.032	60.03226	79.00000	24.00000	0.0	0.0	0.0	0.0 d
61.000	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_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	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.0	0.0 d
3.9459	62.00000	75.05405	24.00000	0.0	0.0	0.0	0.0 d
5.9189	62.00000	73.08108	24.00000	0.0	0.0	0.0	0.0 d
7.8919	62.00000	71.10811	24.00000	0.0	0.0	0.0	0.0 d
9.8649	62.00000	69.13514	24.00000	0.0	0.0	0.0	0.0 d
11.838	62.00000	67.16216	24.00000	0.0	0.0	0.0	0.0 d
13.811	62.00000	65.18919	24.00000	0.0	0.0	0.0	0.0 d
15.784	62.00000	63.21622	24.00000	0.0	0.0	0.0	0.0 d
17.757	62.00000	61.24324	24.00000	0.0	0.0	0.0	0.0 d
19.730	62.00000	59.27027	24.00000	0.13871	-0.26371	0.26371	0.13871 d
21.703	62.00000	57.29730	24.00000	0.39518	-0.65066	0.65066	0.39518 d
23.676	62.00000	55.32432	24.00000	0.69150	-0.96349	0.96349	0.69150 d
25.649	62.00000	53.35135	24.00000	1.0355	-1.1845	1.1845	1.0355 d
27.622	62.00000	51.37838	24.00000	1.4349	-1.2931	1.2931	1.4349 d
29.595	62.00000	49.40541	24.00000	1.8946	-1.2678	1.2678	1.8946 d
31.568	62.00000	47.43243	24.00000	2.4119	-1.0920	1.0920	2.4119 d
33.541	62.00000	45.45946	24.00000	2.9674	-0.76455	0.76455	2.9674 d
35.514	62.00000	43.48649	24.00000	3.5173	-0.31318	0.31318	3.5173 d
37.486	62.00000	41.51351	24.00000	3.9925	0.19914	-0.19914	3.9925 d
39.459	62.00000	39.54054	24.00000	3.9322	0.22258	-0.22258	3.9322 d
41.432	62.00000	37.56757	24.00000	3.8449	0.21764	-0.21764	3.8449 d
43.405	62.00000	35.59459	24.00000	3.7576	0.21269	-0.21269	3.7576 d
45.378	62.00000	33.62162	24.00000	3.6703	0.20775	-0.20775	3.6703 d
47.351	62.00000	31.64865	24.00000	3.5830	0.20281	-0.20281	3.5830 d
49.324	62.00000	29.67568	24.00000	3.4957	0.19787	-0.19787	3.4957 d
51.297	62.00000	27.70270	24.00000	3.4083	0.19293	-0.19293	3.4083 d

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
53.270	62.00000	25.72973	24.00000	3.3210	0.18798	-0.18798	3.3210 d
55.243	62.00000	23.75676	24.00000	3.2337	0.18304	-0.18304	3.2337 d
57.216	62.00000	21.78378	24.00000	3.1464	0.17810	-0.17810	3.1464 d
59.189	62.00000	19.81081	24.00000	3.0591	0.17316	-0.17316	3.0591 d
61.162	62.00000	17.83784	24.00000	2.9718	0.16821	-0.16821	2.9718 d
63.135	62.00000	15.86486	24.00000	2.8845	0.16327	-0.16327	2.8845 d
65.108	62.00000	13.89189	24.00000	2.6683	0.15104	-0.15104	2.6683 d
67.081	62.00000	11.91892	24.00000	2.2557	0.12768	-0.12768	2.2557 d
69.054	62.00000	9.94595	24.00000	1.8145	0.10271	-0.10271	1.8145 d
71.027	62.00000	7.97297	24.00000	1.3822	0.078236	-0.078236	1.3822 d
73.000	62.00000	6.00000	24.00000	0.98022	0.055484	-0.055484	0.98022 d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	62.00000	6.00000	24.00000	0.98022	0.055484	0.98022	0.055484 d
1.8000	63.80000	6.00000	24.00000	1.1838	0.067007	1.1838	0.067007 d
3.6000	65.60000	6.00000	24.00000	1.2870	0.072847	1.2870	0.072847 d
5.4000	67.40000	6.00000	24.00000	1.2703	0.071906	1.2703	0.071906 d
7.2000	69.20000	6.00000	24.00000	1.1189	0.063336	1.1189	0.063336 d
9.0000	71.00000	6.00000	24.00000	0.83191	0.047089	0.83191	0.047089 d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	71.00000	6.00000	24.00000	0.83191	0.047089	-0.047089	0.83191 d
1.8750	71.00000	4.12500	24.00000	0.58670	0.033210	-0.033210	0.58670 d
3.7500	71.00000	2.25000	24.00000	0.39985	0.022633	-0.022633	0.39985 d
5.6250	71.00000	0.37500	24.00000	0.25114	0.014216	-0.014216	0.25114 d
7.5000	71.00000	-1.50000	24.00000	0.12864	0.0072817	-0.0072817	0.12864 d
9.3750	71.00000	-3.37500	24.00000	0.024879	0.0014083	-0.0014083	0.024879 d
11.250	71.00000	-5.25000	24.00000	0.0	0.0	0.0	0.0 d
13.125	71.00000	-7.12500	24.00000	0.0	0.0	0.0	0.0 d
15.000	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0 d
2.0165	69.00000	-8.74286	24.00000	0.0	0.0	0.0	0.0 d
4.0329	67.00000	-8.48571	24.00000	0.0	0.0	0.0	0.0 d
6.0494	65.00000	-8.22857	24.00000	0.0	0.0	0.0	0.0 d
8.0659	63.00000	-7.97143	24.00000	0.0	0.0	0.0	0.0 d
10.082	61.00000	-7.71429	24.00000	0.0	0.0	0.0	0.0 d
12.099	59.00000	-7.45714	24.00000	0.0	0.0	0.0	0.0 d
14.115	57.00000	-7.20000	24.00000	0.0	0.0	0.0	0.0 d
16.132	55.00000	-6.94286	24.00000	0.0	0.0	0.0	0.0 d
18.148	53.00000	-6.68571	24.00000	0.0	0.0	0.0	0.0 d
20.165	51.00000	-6.42857	24.00000	0.0	0.0	0.0	0.0 d
22.181	49.00000	-6.17143	24.00000	0.0	0.0	0.0	0.0 d
24.198	47.00000	-5.91429	24.00000	0.0	0.0	0.0	0.0 d
26.214	45.00000	-5.65714	24.00000	0.0	0.0	0.0	0.0 d
28.230	43.00000	-5.40000	24.00000	0.0	0.0	0.0	0.0 d
30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.0	0.0 d
32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.0	0.0 d
34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.0	0.0 d
36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.0	0.0 d
38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.0	0.0 d
40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.0	0.0 d
42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.0	0.0 d
44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0	0.0 d
46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0	0.0 d
48.395	23.00000	-2.82857	24.00000	0.0	0.0	0.0	0.0 d
50.412	21.00000	-2.57143	24.00000	0.0	0.0	0.0	0.0 d
52.428	19.00000	-2.31429	24.00000	0.0	0.0	0.0	0.0 d
54.444	17.00000	-2.05714	24.00000	0.0	0.0	0.0	0.0 d
56.461	15.00000	-1.80000	24.00000	0.0	0.0	0.0	0.0 d
58.477	13.00000	-1.54286	24.00000	0.0	0.0	0.0	0.0 d
60.494	11.00000	-1.28571	24.00000	0.0	0.0	0.0	0.0 d
62.510	9.00000	-1.02857	24.00000	0.0	0.0	0.0	0.0 d
64.527	7.00000	-0.77143	24.00000	0.0	0.0	0.0	0.0 d
66.543	5.00000	-0.51429	24.00000	0.0	0.0	0.0	0.0 d
68.560	3.00000	-0.25714	24.00000	0.0	0.0	0.0	0.0 d
70.576	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

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	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9750	1.00000	1.97500	24.00000	0.0	0.0	0.0	0.0 d
3.9500	1.00000	3.95000	24.00000	0.0	0.0	0.0	0.0 d
5.9250	1.00000	5.92500	24.00000	0.0	0.0	0.0	0.0 d
7.9000	1.00000	7.90000	24.00000	0.0	0.0	0.0	0.0 d
9.8750	1.00000	9.87500	24.00000	0.0	0.0	0.0	0.0 d
11.850	1.00000	11.85000	24.00000	0.0	0.0	0.0	0.0 d
13.825	1.00000	13.82500	24.00000	0.0	0.0	0.0	0.0 d
15.800	1.00000	15.80000	24.00000	0.0	0.0	0.0	0.0 d
17.775	1.00000	17.77500	24.00000	0.0	0.0	0.0	0.0 d
19.750	1.00000	19.75000	24.00000	0.0	0.0	0.0	0.0 d
21.725	1.00000	21.72500	24.00000	0.0	0.0	0.0	0.0 d
23.700	1.00000	23.70000	24.00000	0.0	0.0	0.0	0.0 d
25.675	1.00000	25.67500	24.00000	0.0	0.0	0.0	0.0 d
27.650	1.00000	27.65000	24.00000	0.0	0.0	0.0	0.0 d
29.625	1.00000	29.62500	24.00000	0.0	0.0	0.0	0.0 d
31.600	1.00000	31.60000	24.00000	0.0	0.0	0.0	0.0 d
33.575	1.00000	33.57500	24.00000	0.0	0.0	0.0	0.0 d
35.550	1.00000	35.55000	24.00000	0.0	0.0	0.0	0.0 d
37.525	1.00000	37.52500	24.00000	0.0	0.0	0.0	0.0 d
39.500	1.00000	39.50000	24.00000	0.0	0.0	0.0	0.0 d
41.475	1.00000	41.47500	24.00000	0.0	0.0	0.0	0.0 d
43.450	1.00000	43.45000	24.00000	0.0	0.0	0.0	0.0 d
45.425	1.00000	45.42500	24.00000	0.0	0.0	0.0	0.0 d
47.400	1.00000	47.40000	24.00000	0.0	0.0	0.0	0.0 d
49.375	1.00000	49.37500	24.00000	0.0	0.0	0.0	0.0 d
51.350	1.00000	51.35000	24.00000	0.0	0.0	0.0	0.0 d
53.325	1.00000	53.32500	24.00000	0.0	0.0	0.0	0.0 d
55.300	1.00000	55.30000	24.00000	0.0	0.0	0.0	0.0 d
57.275	1.00000	57.27500	24.00000	0.0	0.0	0.0	0.0 d
59.250	1.00000	59.25000	24.00000	0.0	0.0	0.0	0.0 d
61.225	1.00000	61.22500	24.00000	0.0	0.0	0.0	0.0 d
63.200	1.00000	63.20000	24.00000	0.0	0.0	0.0	0.0 d

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
65.175	1.00000	65.17500	24.00000	0.0	0.0	0.0	0.0 d
67.150	1.00000	67.15000	24.00000	0.0	0.0	0.0	0.0 d
69.125	1.00000	69.12500	24.00000	0.0	0.0	0.0	0.0 d
71.100	1.00000	71.10000	24.00000	0.0	0.0	0.0	0.0 d
73.075	1.00000	73.07500	24.00000	0.0	0.0	0.0	0.0 d
75.050	1.00000	75.05000	24.00000	0.0	0.0	0.0	0.0 d
77.025	1.00000	77.02500	24.00000	0.0	0.0	0.0	0.0 d
79.000	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_1

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	93.00000	57.00000	20.27000	-0.45367	-2.0834	0.061964	2.1313 d
2.0349	91.00000	57.37500	20.27000	-0.18871	-2.3292	-0.24378	2.3241 d
4.0697	89.00000	57.75000	20.27000	0.074479	-2.4725	-0.52885	2.4164 d
6.1046	87.00000	58.12500	20.27000	0.22048	-2.4252	-0.66365	2.3431 d
8.1394	85.00000	58.50000	20.27000	0.20165	-2.2182	-0.60698	2.1430 d
10.174	83.00000	58.87500	20.27000	0.18282	-2.0111	-0.55031	1.9429 d
12.209	81.00000	59.25000	20.27000	0.16400	-1.8040	-0.49364	1.7428 d
14.244	79.00000	59.62500	20.27000	0.14517	-1.5969	-0.43697	1.5428 d
16.279	77.00000	60.00000	20.27000	0.12634	-1.3898	-0.38030	1.3427 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

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	75.00000	60.00000	20.27000	0.12634	-1.3898	-0.12634	1.3898 d
1.8333	75.16667	60.00000	20.27000	0.12071	-1.3278	-0.12071	1.3278 d
3.6667	73.33333	60.00000	20.27000	0.11507	-1.2658	-0.11507	1.2658 d
5.5000	71.50000	60.00000	20.27000	0.10944	-1.2038	-0.10944	1.2038 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	71.50000	60.00000	20.27000	0.10944	-1.2038	1.2080	0.042119 d
1.9920	71.61111	58.01111	20.27000	0.17703	-1.9473	1.9541	0.068133 d
3.9840	71.72222	56.02222	20.27000	0.24461	-2.6908	2.7002	0.094146 d
5.9760	71.83333	54.03333	20.27000	0.31220	-3.4342	3.4463	0.12016 d
7.9680	71.94444	52.04444	20.27000	0.37979	-4.1777	4.1924	0.14617 d
9.9600	72.05556	50.05556	20.27000	0.44738	-4.9212	4.9385	0.17219 d
11.952	72.16667	48.06667	20.27000	0.57210	-6.2931	6.3152	0.22019 d
13.944	72.27778	46.07778	20.27000	0.69977	-7.6974	7.7245	0.26932 d
15.936	72.38889	44.08889	20.27000	0.82744	-9.1018	9.1338	0.31846 d
17.928	72.50000	42.10000	20.27000	0.95510	-10.506	10.543	0.36760 d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	72.50000	42.10000	20.27000	0.95510	-10.506	0.0057303	-10.549 d
2.0835	74.57500	42.28750	20.27000	0.95518	-10.507	0.0057307	-10.550 d
4.1669	76.65000	42.47500	20.27000	0.95525	-10.508	0.0057312	-10.551 d
6.2504	78.72500	42.66250	20.27000	0.95532	-10.509	0.0057316	-10.552 d
8.3338	80.80000	42.85000	20.27000	0.95539	-10.509	0.0057320	-10.553 d
10.417	82.87500	43.03750	20.27000	0.95547	-10.510	0.0057325	-10.553 d
12.501	84.95000	43.22500	20.27000	0.95554	-10.511	0.0057329	-10.554 d
14.584	87.02500	43.41250	20.27000	0.95561	-10.512	0.0057333	-10.555 d
16.668	89.10000	43.60000	20.27000	-5.3626	-5.1240	-5.8020	-4.6206 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_1

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	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0 d
1.9614	93.91667	74.58333	18.69000	0.0	0.0	0.0	0.0 d
3.9229	95.83333	74.16667	18.69000	0.0	0.0	0.0	0.0 d
5.8843	97.75000	73.75000	18.69000	0.0	0.0	0.0	0.0 d
7.8457	99.66667	73.33333	18.69000	0.0	0.0	0.0	0.0 d
9.8072	101.58333	72.91667	18.69000	0.0	0.0	0.0	0.0 d
11.769	103.50000	72.50000	18.69000	0.0	0.0	0.0	0.0 d
13.730	105.41667	72.08333	18.69000	0.0	0.0	0.0	0.0 d
15.691	107.33333	71.66667	18.69000	0.0	0.0	0.0	0.0 d
17.653	109.25000	71.25000	18.69000	0.0	0.0	0.0	0.0 d
19.614	111.16667	70.83333	18.69000	0.0	0.0	0.0	0.0 d
21.576	113.08333	70.41667	18.69000	0.0	0.0	0.0	0.0 d
23.537	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

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	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0 d
2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.0	0.0 d
4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.0	0.0 d
6.0086	115.32143	64.00000	18.69000	0.0	0.0	0.0	0.0 d
8.0115	115.42857	62.00000	18.69000	0.0	0.0	0.0	0.0 d
10.014	115.53571	60.00000	18.69000	0.0	0.0	0.0	0.0 d
12.017	115.64286	58.00000	18.69000	0.0	0.0	0.0	0.0 d
14.020	115.75000	56.00000	18.69000	0.0	0.0	0.0	0.0 d
16.023	115.85714	54.00000	18.69000	0.0	0.0	0.0	0.0 d
18.026	115.96429	52.00000	18.69000	0.0	0.0	0.0	0.0 d
20.029	116.07143	50.00000	18.69000	0.0	0.0	0.0	0.0 d
22.032	116.17857	48.00000	18.69000	0.0	0.0	0.0	0.0 d
24.034	116.28571	46.00000	18.69000	0.0	0.0	0.0	0.0 d
26.037	116.39286	44.00000	18.69000	0.0	0.0	0.0	0.0 d
28.040	116.50000	42.00000	18.69000	0.0	0.0	0.0	0.0 d
30.043	116.60714	40.00000	18.69000	0.0	0.0	0.0	0.0 d
32.046	116.71429	38.00000	18.69000	0.0	0.0	0.0	0.0 d
34.049	116.82143	36.00000	18.69000	0.0	0.0	0.0	0.0 d
36.052	116.92857	34.00000	18.69000	0.0	0.0	0.0	0.0 d
38.054	117.03571	32.00000	18.69000	0.0	0.0	0.0	0.0 d

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
						[mm]	[mm]	
40.057	117.14286	30.00000	18.69000	0.0	0.0	0.0	0.0	d
42.060	117.25000	28.00000	18.69000	0.0	0.0	0.0	0.0	d
44.063	117.35714	26.00000	18.69000	0.0	0.0	0.0	0.0	d
46.066	117.46429	24.00000	18.69000	0.0	0.0	0.0	0.0	d
48.069	117.57143	22.00000	18.69000	0.0	0.0	0.0	0.0	d
50.072	117.67857	20.00000	18.69000	0.0	0.0	0.0	0.0	d
52.075	117.78571	18.00000	18.69000	0.0	0.0	0.0	0.0	d
54.077	117.89286	16.00000	18.69000	0.0	0.0	0.0	0.0	d
56.080	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0000	116.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0000	114.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0000	112.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0000	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0051	109.85714	12.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0102	109.71429	10.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0153	109.57143	8.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0204	109.42857	6.00000	18.69000	0.0	0.0	0.0	0.0	d
10.025	109.28571	4.00000	18.69000	0.0	0.0	0.0	0.0	d
12.031	109.14286	2.00000	18.69000	0.0	0.0	0.0	0.0	d
14.036	109.00000	0.00000	18.69000	0.0	0.0	0.0	0.0	d
16.041	108.85714	-2.00000	18.69000	0.0	0.0	0.0	0.0	d
18.046	108.71429	-4.00000	18.69000	0.0	0.0	0.0	0.0	d
20.051	108.57143	-6.00000	18.69000	0.0	0.0	0.0	0.0	d
22.056	108.42857	-8.00000	18.69000	0.0	0.0	0.0	0.0	d
24.061	108.28571	-10.00000	18.69000	0.0	0.0	0.0	0.0	d
26.066	108.14286	-12.00000	18.69000	0.0	0.0	0.0	0.0	d
28.071	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0156	106.00000	-13.75000	18.69000	0.0	0.0	0.0	0.0	d
4.0311	104.00000	-13.50000	18.69000	0.0	0.0	0.0	0.0	d
6.0467	102.00000	-13.25000	18.69000	0.0	0.0	0.0	0.0	d
8.0623	100.00000	-13.00000	18.69000	0.0	0.0	0.0	0.0	d
10.078	98.00000	-12.75000	18.69000	0.0	0.0	0.0	0.0	d
12.093	96.00000	-12.50000	18.69000	0.0	0.0	0.0	0.0	d
14.109	94.00000	-12.25000	18.69000	0.0	0.0	0.0	0.0	d
16.125	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0000	92.00000	-10.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0000	92.00000	-8.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0000	92.00000	-6.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0000	92.00000	-4.00000	18.69000	0.0	0.0	0.0	0.0	d
10.000	92.00000	-2.00000	18.69000	0.0	0.0	0.0	0.0	d
12.000	92.00000	0.00000	18.69000	0.0	0.0	0.0	0.0	d
14.000	92.00000	2.00000	18.69000	0.0	0.0	0.0	0.0	d
16.000	92.00000	4.00000	18.69000	0.0	0.0	0.0	0.0	d
18.000	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0878	91.82000	8.08000	18.69000	0.0	0.0	0.0	0.0	d
4.1755	91.64000	10.16000	18.69000	0.0	0.0	0.0	0.0	d
6.2633	91.46000	12.24000	18.69000	0.0	0.0	0.0	0.0	d
8.3511	91.28000	14.32000	18.69000	0.0	0.0	0.0	0.0	d
10.439	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0	d
1.9481	90.95714	18.34286	18.69000	0.0	0.0	0.0	0.0	d
3.8962	90.81429	20.28571	18.69000	0.0	0.0	0.0	0.0	d
5.8443	90.67143	22.22857	18.69000	0.0	0.0	0.0	0.0	d
7.7924	90.52857	24.17143	18.69000	0.0	0.0	0.0	0.0	d
9.7405	90.38571	26.11429	18.69000	0.0	0.0	0.0	0.0	d
11.689	90.24286	28.05714	18.69000	0.0	0.0	0.0	0.0	d
13.637	90.10000	30.00000	18.69000	0.0	0.0	0.0	0.0	d
15.585	89.95714	31.94286	18.69000	0.0	0.0	0.0	0.0	d
17.533	89.81429	33.88571	18.69000	0.0	0.0	0.0	0.0	d
19.481	89.67143	35.82857	18.69000	0.0	0.0	0.0	0.0	d
21.429	89.52857	37.77143	18.69000	0.0	0.0	0.0	0.0	d
23.377	89.38571	39.71429	18.69000	0.0	0.0	0.0	0.0	d
25.325	89.24286	41.65714	18.69000	0.0	0.0	0.0	0.0	d
27.273	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0	d
2.3087	91.40000	43.80000	18.69000	0.0	0.0	0.0	0.0	d
4.6174	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0	d
1.9404	93.59375	45.93750	18.69000	0.0	0.0	0.0	0.0	d
3.8808	93.48750	47.87500	18.69000	0.0	0.0	0.0	0.0	d
5.8212	93.38125	49.81250	18.69000	0.0	0.0	0.0	0.0	d
7.7616	93.27500	51.75000	18.69000	0.0	0.0	0.0	0.0	d
9.7021	93.16875	53.68750	18.69000	0.0	0.0	0.0	0.0	d
11.642	93.06250	55.62500	18.69000	0.0	0.0	0.0	0.0	d
13.583	92.95625	57.56250	18.69000	0.0	0.0	0.0	0.0	d
15.523	92.85000	59.50000	18.69000	0.0	0.0	0.0	0.0	d
17.464	92.74375	61.43750	18.69000	0.0	0.0	0.0	0.0	d
19.404	92.63750	63.37500	18.69000	0.0	0.0	0.0	0.0	d
21.345	92.53125	65.31250	18.69000	0.0	0.0	0.0	0.0	d
23.285	92.42500	67.25000	18.69000	0.0	0.0	0.0	0.0	d
25.225	92.31875	69.18750	18.69000	0.0	0.0	0.0	0.0	d
27.166	92.21250	71.12500	18.69000	0.0	0.0	0.0	0.0	d
29.106	92.10625	73.06250	18.69000	0.0	0.0	0.0	0.0	d
31.047	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

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	91.10000	16.40000	19.10000	-5.2383	5.4770	4.9096	-5.7735	d
1.9032	89.20000	16.28889	19.10000	-0.13636	2.4242	-0.0053955	-2.4280	d
3.8065	87.30000	16.17778	19.10000	-0.13628	2.4228	-0.0053924	-2.4266	d
5.7097	85.40000	16.06667	19.10000	-0.13620	2.4214	-0.0053893	-2.4252	d
7.6130	83.50000	15.95556	19.10000	-0.13612	2.4199	-0.0053861	-2.4238	d
9.5162	81.60000	15.84444	19.10000	-0.13604	2.4185	-0.0053830	-2.4224	d
11.419	79.70000	15.73333	19.10000	-0.13596	2.4171	-0.0053799	-2.4209	d
13.323	77.80000	15.62222	19.10000	-0.13588	2.4157	-0.0053767	-2.4195	d
15.226	75.90000	15.51111	19.10000	-0.13581	2.4143	-0.0053736	-2.4181	d
17.129	74.00000	15.40000	19.10000	0.13036	2.3413	-0.26682	-2.3297	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

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	74.00000	15.40000	19.10000	0.13036	2.3413	-2.3152	0.37223	d
2.0683	74.21429	13.34286	19.10000	-0.097051	1.7253	-1.7261	0.082228	d
4.1365	74.42857	11.28571	19.10000	-0.058376	1.0378	-1.0383	0.049460	d
6.2048	74.64286	9.22857	19.10000	-0.019701	0.35023	-0.35039	0.016692	d
8.2731	74.85714	7.17143	19.10000	0.0	0.0	0.0	0.0	d
10.341	75.07143	5.11429	19.10000	0.0	0.0	0.0	0.0	d
12.410	75.28571	3.05714	19.10000	0.0	0.0	0.0	0.0	d
14.478	75.50000	1.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	75.50000	1.00000	19.10000	0.0	0.0	0.0	0.0	d
1.8503	75.25000	-0.83333	19.10000	0.0	0.0	0.0	0.0	d
3.7006	75.00000	-2.66667	19.10000	402.33E-6	22.773E-6	-76.924E-6	395.56E-6	d
5.5509	74.75000	-4.50000	19.10000	0.0	0.0	0.0	0.0	d
7.4012	74.50000	-6.33333	19.10000	0.0	0.0	0.0	0.0	d
9.2515	74.25000	-8.16667	19.10000	0.0	0.0	0.0	0.0	d
11.102	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d
2.0123	76.00000	-10.22222	19.10000	0.0	0.0	0.0	0.0	d
4.0246	78.00000	-10.44444	19.10000	0.0	0.0	0.0	0.0	d
6.0369	80.00000	-10.66667	19.10000	0.0	0.0	0.0	0.0	d
8.0492	82.00000	-10.88889	19.10000	0.0	0.0	0.0	0.0	d
10.062	84.00000	-11.11111	19.10000	0.0	0.0	0.0	0.0	d
12.074	86.00000	-11.33333	19.10000	0.0	0.0	0.0	0.0	d
14.086	88.00000	-11.55556	19.10000	0.0	0.0	0.0	0.0	d
16.098	90.00000	-11.77778	19.10000	0.0	0.0	0.0	0.0	d
18.111	92.00000	-12.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Specific Building Damage Results - Vertical Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_1

Dist.	Coordinates x	y	z	Displacements z	
[m]	[m]	[m]	[m]	[mm]	
Vertical Offset 1					
0.0	1.00000	79.00000	24.00000	0.0086106	d
1.9677	2.96774	79.00000	24.00000	0.0087749	d
3.9355	4.93548	79.00000	24.00000	0.0089335	d
5.9032	6.90323	79.00000	24.00000	0.0090852	d
7.8710	8.87097	79.00000	24.00000	0.0092285	d
9.8387	10.83871	79.00000	24.00000	0.0093621	d
11.806	12.80645	79.00000	24.00000	0.0094842	d
13.774	14.77419	79.00000	24.00000	0.0095931	d

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
15.742	16.74194	79.00000	24.00000	0.0096870	d
17.710	18.70968	79.00000	24.00000	0.0097638	d
19.677	20.67742	79.00000	24.00000	0.0098215	d
21.645	22.64516	79.00000	24.00000	0.0098579	d
23.613	24.61290	79.00000	24.00000	0.0098707	d
25.581	26.58065	79.00000	24.00000	0.0098576	d
27.548	28.54839	79.00000	24.00000	0.0098162	d
29.516	30.51613	79.00000	24.00000	0.0097442	d
31.484	32.48387	79.00000	24.00000	0.0096393	d
33.452	34.45161	79.00000	24.00000	0.0094995	d
35.419	36.41935	79.00000	24.00000	0.0093226	d
37.387	38.38710	79.00000	24.00000	0.0091072	d
39.355	40.35484	79.00000	24.00000	0.0088517	d
41.323	42.32258	79.00000	24.00000	0.0085554	d
43.290	44.29032	79.00000	24.00000	0.0082180	d
45.258	46.25806	79.00000	24.00000	0.0078399	d
47.226	48.22581	79.00000	24.00000	0.0074224	d
49.194	50.19355	79.00000	24.00000	0.0069679	d
51.161	52.16129	79.00000	24.00000	0.0064797	d
53.129	54.12903	79.00000	24.00000	0.0059623	d
55.097	56.09677	79.00000	24.00000	0.0054218	d
57.065	58.06452	79.00000	24.00000	0.0048652	d
59.032	60.03226	79.00000	24.00000	0.0043013	d
61.000	62.00000	79.00000	24.00000	0.0037398	d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	62.00000	79.00000	24.00000	0.0037398	d
1.9730	62.00000	77.02703	24.00000	0.0020925	d
3.9459	62.00000	75.05405	24.00000	102.65E-6	d
5.9189	62.00000	73.08108	24.00000	-0.0022936	d
7.8919	62.00000	71.10811	24.00000	-0.0051735	d
9.8649	62.00000	69.13514	24.00000	-0.0086306	d
11.838	62.00000	67.16216	24.00000	-0.012779	d
13.811	62.00000	65.18919	24.00000	-0.017756	d
15.784	62.00000	63.21622	24.00000	-0.023731	d
17.757	62.00000	61.24324	24.00000	-0.030908	d
19.730	62.00000	59.27027	24.00000	0.025912	d
21.703	62.00000	57.29730	24.00000	0.081047	d
23.676	62.00000	55.32432	24.00000	0.17072	d
25.649	62.00000	53.35135	24.00000	0.34210	d
27.622	62.00000	51.37838	24.00000	0.59838	d
29.595	62.00000	49.40541	24.00000	0.90824	d
31.568	62.00000	47.43243	24.00000	1.2187	d
33.541	62.00000	45.45946	24.00000	1.4709	d
35.514	62.00000	43.48649	24.00000	1.6148	d
37.486	62.00000	41.51351	24.00000	1.6208	d
39.459	62.00000	39.54054	24.00000	1.5149	d
41.432	62.00000	37.56757	24.00000	1.4099	d
43.405	62.00000	35.59459	24.00000	1.3098	d
45.378	62.00000	33.62162	24.00000	1.2162	d
47.351	62.00000	31.64865	24.00000	1.1296	d
49.324	62.00000	29.67568	24.00000	1.0503	d
51.297	62.00000	27.70270	24.00000	0.97775	d
53.270	62.00000	25.72973	24.00000	0.91178	d
55.243	62.00000	23.75676	24.00000	0.85230	d
57.216	62.00000	21.78378	24.00000	0.79947	d
59.189	62.00000	19.81081	24.00000	0.75357	d
61.162	62.00000	17.83784	24.00000	0.71447	d
63.135	62.00000	15.86486	24.00000	0.68128	d
65.108	62.00000	13.89189	24.00000	0.61224	d
67.081	62.00000	11.91892	24.00000	0.45896	d
69.054	62.00000	9.94595	24.00000	0.29013	d
71.027	62.00000	7.97297	24.00000	0.14507	d
73.000	62.00000	6.00000	24.00000	0.045810	d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	62.00000	6.00000	24.00000	0.045810	d
1.8000	63.80000	6.00000	24.00000	0.12132	d
3.6000	65.60000	6.00000	24.00000	0.20681	d
5.4000	67.40000	6.00000	24.00000	0.26311	d
7.2000	69.20000	6.00000	24.00000	0.24963	d
9.0000	71.00000	6.00000	24.00000	0.14317	d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.00000	6.00000	24.00000	0.14317	d
1.8750	71.00000	4.12500	24.00000	0.022191	d
3.7500	71.00000	2.25000	24.00000	-0.042175	d
5.6250	71.00000	0.37500	24.00000	-0.064924	d
7.5000	71.00000	-1.50000	24.00000	-0.063432	d
9.3750	71.00000	-3.37500	24.00000	-0.057612	d
11.250	71.00000	-5.25000	24.00000	-0.048787	d
13.125	71.00000	-7.12500	24.00000	-0.037756	d
15.000	71.00000	-9.00000	24.00000	-0.028899	d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.00000	-9.00000	24.00000	-0.028899	d
2.0165	69.00000	-8.74286	24.00000	-0.027692	d
4.0329	67.00000	-8.48571	24.00000	-0.026066	d
6.0494	65.00000	-8.22857	24.00000	-0.024092	d
8.0659	63.00000	-7.97143	24.00000	-0.021853	d
10.082	61.00000	-7.71429	24.00000	-0.019434	d
12.099	59.00000	-7.45714	24.00000	-0.016918	d
14.115	57.00000	-7.20000	24.00000	-0.014376	d
16.132	55.00000	-6.94286	24.00000	-0.011871	d
18.148	53.00000	-6.68571	24.00000	-0.0094501	d
20.165	51.00000	-6.42857	24.00000	-0.0071507	d
22.181	49.00000	-6.17143	24.00000	-0.0049974	d
24.198	47.00000	-5.91429	24.00000	-0.0030055	d
26.214	45.00000	-5.65714	24.00000	-0.0011829	d
28.230	43.00000	-5.40000	24.00000	468.61E-6	d
30.247	41.00000	-5.14286	24.00000	0.0019516	d
32.263	39.00000	-4.88571	24.00000	0.0032718	d
34.280	37.00000	-4.62857	24.00000	0.0044372	d
36.296	35.00000	-4.37143	24.00000	0.0054570	d
38.313	33.00000	-4.11429	24.00000	0.0063414	d
40.329	31.00000	-3.85714	24.00000	0.0071008	d
42.346	29.00000	-3.60000	24.00000	0.0077455	d
44.362	27.00000	-3.34286	24.00000	0.0082859	d

RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		

Drg. Ref.

Made by	Date	Checked
ADJT	25-May-2018	

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
46.379	25.00000	-3.08571	24.00000	0.0087317	d
48.395	23.00000	-2.82857	24.00000	0.0090922	d
50.412	21.00000	-2.57143	24.00000	0.0093763	d
52.428	19.00000	-2.31429	24.00000	0.0095921	d
54.444	17.00000	-2.05714	24.00000	0.0097472	d
56.461	15.00000	-1.80000	24.00000	0.0098487	d
58.477	13.00000	-1.54286	24.00000	0.0099030	d
60.494	11.00000	-1.28571	24.00000	0.0099158	d
62.510	9.00000	-1.02857	24.00000	0.0098926	d
64.527	7.00000	-0.77143	24.00000	0.0098380	d
66.543	5.00000	-0.51429	24.00000	0.0097566	d
68.560	3.00000	-0.25714	24.00000	0.0096520	d
70.576	1.00000	0.00000	24.00000	0.0095280	d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	1.00000	0.00000	24.00000	0.0095280	d
1.9750	1.00000	1.97500	24.00000	0.0095760	d
3.9500	1.00000	3.95000	24.00000	0.0096191	d
5.9250	1.00000	5.92500	24.00000	0.0096577	d
7.9000	1.00000	7.90000	24.00000	0.0096918	d
9.8750	1.00000	9.87500	24.00000	0.0097217	d
11.850	1.00000	11.85000	24.00000	0.0097477	d
13.825	1.00000	13.82500	24.00000	0.0097700	d
15.800	1.00000	15.80000	24.00000	0.0097889	d
17.775	1.00000	17.77500	24.00000	0.0098046	d
19.750	1.00000	19.75000	24.00000	0.0098172	d
21.725	1.00000	21.72500	24.00000	0.0098271	d
23.700	1.00000	23.70000	24.00000	0.0098343	d
25.675	1.00000	25.67500	24.00000	0.0098389	d
27.650	1.00000	27.65000	24.00000	0.0098411	d
29.625	1.00000	29.62500	24.00000	0.0098408	d
31.600	1.00000	31.60000	24.00000	0.0098380	d
33.575	1.00000	33.57500	24.00000	0.0098327	d
35.550	1.00000	35.55000	24.00000	0.0098248	d
37.525	1.00000	37.52500	24.00000	0.0098141	d
39.500	1.00000	39.50000	24.00000	0.0098005	d
41.475	1.00000	41.47500	24.00000	0.0097836	d
43.450	1.00000	43.45000	24.00000	0.0097635	d
45.425	1.00000	45.42500	24.00000	0.0097396	d
47.400	1.00000	47.40000	24.00000	0.0097119	d
49.375	1.00000	49.37500	24.00000	0.0096801	d
51.350	1.00000	51.35000	24.00000	0.0096439	d
53.325	1.00000	53.32500	24.00000	0.0096032	d
55.300	1.00000	55.30000	24.00000	0.0095576	d
57.275	1.00000	57.27500	24.00000	0.0095071	d
59.250	1.00000	59.25000	24.00000	0.0094514	d
61.225	1.00000	61.22500	24.00000	0.0093906	d
63.200	1.00000	63.20000	24.00000	0.0093244	d
65.175	1.00000	65.17500	24.00000	0.0092530	d
67.150	1.00000	67.15000	24.00000	0.0091763	d
69.125	1.00000	69.12500	24.00000	0.0090943	d
71.100	1.00000	71.10000	24.00000	0.0090072	d
73.075	1.00000	73.07500	24.00000	0.0089151	d
75.050	1.00000	75.05000	24.00000	0.0088182	d
77.025	1.00000	77.02500	24.00000	0.0087166	d
79.000	1.00000	79.00000	24.00000	0.0086106	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	93.00000	57.00000	20.27000	0.61676	d
2.0349	91.00000	57.37500	20.27000	0.62579	d
4.0697	89.00000	57.75000	20.27000	0.56764	d
6.1046	87.00000	58.12500	20.27000	0.45953	d
8.1394	85.00000	58.50000	20.27000	0.35662	d
10.174	83.00000	58.87500	20.27000	0.27178	d
12.209	81.00000	59.25000	20.27000	0.20398	d
14.244	79.00000	59.62500	20.27000	0.15169	d
16.279	77.00000	60.00000	20.27000	0.11289	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	77.00000	60.00000	20.27000	0.11289	d
1.8333	75.16667	60.00000	20.27000	0.10420	d
3.6667	73.33333	60.00000	20.27000	0.097390	d
5.5000	71.50000	60.00000	20.27000	0.092190	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.50000	60.00000	20.27000	0.092190	d
1.9920	71.61111	58.01111	20.27000	0.25133	d
3.9840	71.72222	56.02222	20.27000	0.59109	d
5.9760	71.83333	54.03333	20.27000	1.1332	d
7.9680	71.94444	52.04444	20.27000	1.8311	d
9.9600	72.05556	50.05556	20.27000	2.5691	d
11.952	72.16667	48.06667	20.27000	3.2717	d
13.944	72.27778	46.07778	20.27000	3.8371	d
15.936	72.38889	44.08889	20.27000	4.1247	d
17.928	72.50000	42.10000	20.27000	3.6291	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	72.50000	42.10000	20.27000	3.6291	d
2.0835	74.57500	42.28750	20.27000	3.3433	d
4.1669	76.65000	42.47500	20.27000	3.2094	d
6.2504	78.72500	42.66250	20.27000	3.2156	d
8.3338	80.80000	42.85000	20.27000	3.3258	d
10.417	82.87500	43.03750	20.27000	3.4618	d
12.501	84.95000	43.22500	20.27000	3.6072	d
14.584	87.02500	43.41250	20.27000	3.7882	d
16.668	89.10000	43.60000	20.27000	4.0363	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_1

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

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	75.00000	18.69000	-0.0039551	d
1.9614	93.91667	74.58333	18.69000	-0.0037166	d
3.9229	95.83333	74.16667	18.69000	-0.0033554	d
5.8843	97.75000	73.75000	18.69000	-0.0028827	d
7.8457	99.66667	73.33333	18.69000	-0.0023125	d
9.8072	101.58333	72.91667	18.69000	-0.0016612	d
11.769	103.50000	72.50000	18.69000	-945.95E-6	d
13.730	105.41667	72.08333	18.69000	-184.60E-6	d
15.691	107.33333	71.66667	18.69000	605.55E-6	d
17.653	109.25000	71.25000	18.69000	0.0014082	d
19.614	111.16667	70.83333	18.69000	0.0022088	d
21.576	113.08333	70.41667	18.69000	0.0029942	d
23.537	115.00000	70.00000	18.69000	0.0037535	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	115.00000	70.00000	18.69000	0.0037535	d
2.0029	115.10714	68.00000	18.69000	0.0026071	d
4.0057	115.21429	66.00000	18.69000	0.0013205	d
6.0086	115.32143	64.00000	18.69000	-110.14E-6	d
8.0115	115.42857	62.00000	18.69000	-0.0016860	d
10.014	115.53571	60.00000	18.69000	-0.0034048	d
12.017	115.64286	58.00000	18.69000	-0.0052593	d
14.020	115.75000	56.00000	18.69000	-0.0072372	d
16.023	115.85714	54.00000	18.69000	-0.0093195	d
18.026	115.96429	52.00000	18.69000	-0.011481	d
20.029	116.07143	50.00000	18.69000	-0.013687	d
22.032	116.17857	48.00000	18.69000	-0.015900	d
24.034	116.28571	46.00000	18.69000	-0.018073	d
26.037	116.39286	44.00000	18.69000	-0.020154	d
28.040	116.50000	42.00000	18.69000	-0.022092	d
30.043	116.60714	40.00000	18.69000	-0.023833	d
32.046	116.71429	38.00000	18.69000	-0.025326	d
34.049	116.82143	36.00000	18.69000	-0.026525	d
36.052	116.92857	34.00000	18.69000	-0.027392	d
38.054	117.03571	32.00000	18.69000	-0.027900	d
40.057	117.14286	30.00000	18.69000	-0.028029	d
42.060	117.25000	28.00000	18.69000	-0.027777	d
44.063	117.35714	26.00000	18.69000	-0.027149	d
46.066	117.46429	24.00000	18.69000	-0.026166	d
48.069	117.57143	22.00000	18.69000	-0.024859	d
50.072	117.67857	20.00000	18.69000	-0.023268	d
52.075	117.78571	18.00000	18.69000	-0.021444	d
54.077	117.89286	16.00000	18.69000	-0.019438	d
56.080	118.00000	14.00000	18.69000	-0.017306	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	118.00000	14.00000	18.69000	-0.017306	d
2.0000	116.00000	14.00000	18.69000	-0.023500	d
4.0000	114.00000	14.00000	18.69000	-0.031097	d
6.0000	112.00000	14.00000	18.69000	-0.040470	d
8.0000	110.00000	14.00000	18.69000	-0.052118	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	110.00000	14.00000	18.69000	-0.052118	d
2.0051	109.85714	12.00000	18.69000	-0.047545	d
4.0102	109.71429	10.00000	18.69000	-0.042719	d
6.0153	109.57143	8.00000	18.69000	-0.037805	d
8.0204	109.42857	6.00000	18.69000	-0.032944	d
10.025	109.28571	4.00000	18.69000	-0.028248	d
12.031	109.14286	2.00000	18.69000	-0.023800	d
14.036	109.00000	0.00000	18.69000	-0.019657	d
16.041	108.85714	-2.00000	18.69000	-0.015847	d
18.046	108.71429	-4.00000	18.69000	-0.012384	d
20.051	108.57143	-6.00000	18.69000	-0.009259	d
22.056	108.42857	-8.00000	18.69000	-0.0064806	d
24.061	108.28571	-10.00000	18.69000	-0.0040107	d
26.066	108.14286	-12.00000	18.69000	-0.0018350	d
28.071	108.00000	-14.00000	18.69000	69.638E-6	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	108.00000	-14.00000	18.69000	69.638E-6	d
2.0156	106.00000	-13.75000	18.69000	-0.0015592	d
4.0311	104.00000	-13.50000	18.69000	-0.003517	d
6.0467	102.00000	-13.25000	18.69000	-0.0053049	d
8.0623	100.00000	-13.00000	18.69000	-0.0074103	d
10.078	98.00000	-12.75000	18.69000	-0.0096527	d
12.093	96.00000	-12.50000	18.69000	-0.012009	d
14.109	94.00000	-12.25000	18.69000	-0.014447	d
16.125	92.00000	-12.00000	18.69000	-0.016924	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	-12.00000	18.69000	-0.016924	d
2.0000	92.00000	-10.00000	18.69000	-0.023079	d
4.0000	92.00000	-8.00000	18.69000	-0.030642	d
6.0000	92.00000	-6.00000	18.69000	-0.039984	d
8.0000	92.00000	-4.00000	18.69000	-0.051603	d
10.000	92.00000	-2.00000	18.69000	-0.066164	d
12.000	92.00000	0.00000	18.69000	-0.084574	d
14.000	92.00000	2.00000	18.69000	-0.10809	d
16.000	92.00000	4.00000	18.69000	-0.13850	d
18.000	92.00000	6.00000	18.69000	-0.17840	d

d - Displacements include imported displacements.

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No. 371547 | Sheet No. | Rev.
Drg. Ref.
Made by ADJT | Date 25-May-2018 | Checked

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

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	6.00000	18.69000	-0.17840	d
2.0878	91.82000	8.08000	18.69000	-0.23771	d
4.1755	91.64000	10.16000	18.69000	-0.32272	d
6.2633	91.46000	12.24000	18.69000	-0.45188	d
8.3511	91.28000	14.32000	18.69000	-0.66933	d
10.439	91.10000	16.40000	18.69000	-1.0878	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	91.10000	16.40000	18.69000	-1.0878	d
1.9481	90.95714	18.34286	18.69000	-1.4856	d
3.8962	90.81429	20.28571	18.69000	-1.6310	d
5.8443	90.67143	22.22857	18.69000	-1.6775	d
7.7924	90.52857	24.17143	18.69000	-1.5246	d
9.7405	90.38571	26.11429	18.69000	-1.4478	d
11.689	90.24286	28.05714	18.69000	-1.4424	d
13.637	90.10000	30.00000	18.69000	-1.4389	d
15.585	89.95714	31.94286	18.69000	-1.4156	d
17.533	89.81429	33.88571	18.69000	-1.3679	d
19.481	89.67143	35.82857	18.69000	-1.2981	d
21.429	89.52857	37.77143	18.69000	-1.2081	d
23.377	89.38571	39.71429	18.69000	-1.0864	d
25.325	89.24286	41.65714	18.69000	-0.92005	d
27.273	89.10000	43.60000	18.69000	-0.72398	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	89.10000	43.60000	18.69000	-0.72398	d
2.3087	91.40000	43.80000	18.69000	-0.51702	d
4.6174	93.70000	44.00000	18.69000	-0.36462	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	93.70000	44.00000	18.69000	-0.36462	d
1.9404	93.59375	45.93750	18.69000	-0.29717	d
3.8808	93.48750	47.87500	18.69000	-0.23826	d
5.8212	93.38125	49.81250	18.69000	-0.18965	d
7.7616	93.27500	51.75000	18.69000	-0.15062	d
9.7021	93.16875	53.68750	18.69000	-0.11958	d
11.642	93.06250	55.62500	18.69000	-0.094906	d
13.583	92.95625	57.56250	18.69000	-0.075233	d
15.523	92.85000	59.50000	18.69000	-0.059468	d
17.464	92.74375	61.43750	18.69000	-0.046765	d
19.404	92.63750	63.37500	18.69000	-0.036473	d
21.345	92.53125	65.31250	18.69000	-0.028092	d
23.285	92.42500	67.25000	18.69000	-0.021235	d
25.225	92.31875	69.18750	18.69000	-0.015603	d
27.166	92.21250	71.12500	18.69000	-0.010962	d
29.106	92.10625	73.06250	18.69000	-0.0071276	d
31.047	92.00000	75.00000	18.69000	-0.0039551	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	91.10000	16.40000	19.10000	3.6842	d
1.9032	89.20000	16.28889	19.10000	0.91143	d
3.8065	87.30000	16.17778	19.10000	0.75820	d
5.7097	85.40000	16.06667	19.10000	0.81480	d
7.6130	83.50000	15.95556	19.10000	0.74433	d
9.5162	81.60000	15.84444	19.10000	0.51908	d
11.419	79.70000	15.73333	19.10000	0.30658	d
13.323	77.80000	15.62222	19.10000	0.092402	d
15.226	75.90000	15.51111	19.10000	-0.13012	d
17.129	74.00000	15.40000	19.10000	0.10300	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	74.00000	15.40000	19.10000	0.10300	d
2.0683	74.21429	13.34286	19.10000	-0.11152	d
4.1365	74.42857	11.28571	19.10000	-0.42025	d
6.2048	74.64286	9.22857	19.10000	-0.44052	d
8.2731	74.85714	7.17143	19.10000	-0.34254	d
10.341	75.07143	5.11429	19.10000	-0.24613	d
12.410	75.28571	3.05714	19.10000	-0.18101	d
14.478	75.50000	1.00000	19.10000	-0.13525	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	75.50000	1.00000	19.10000	-0.13525	d
1.8503	75.25000	-0.83333	19.10000	-0.10437	d
3.7006	75.00000	-2.66667	19.10000	-0.080941	d
5.5509	74.75000	-4.50000	19.10000	-0.063017	d
7.4012	74.50000	-6.33333	19.10000	-0.048968	d
9.2515	74.25000	-8.16667	19.10000	-0.037856	d
11.102	74.00000	-10.00000	19.10000	-0.028972	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

Dist.	Coordinates			Displacements	

	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	74.00000	-10.00000	19.10000	-0.028972 d
2.0123	76.00000	-10.22222	19.10000	-0.029090 d
4.0246	78.00000	-10.44444	19.10000	-0.028730 d
6.0369	80.00000	-10.66667	19.10000	-0.027913 d
8.0492	82.00000	-10.88889	19.10000	-0.026681 d
10.062	84.00000	-11.11111	19.10000	-0.025088 d
12.074	86.00000	-11.33333	19.10000	-0.023202 d
14.086	88.00000	-11.55556	19.10000	-0.021091 d
16.098	90.00000	-11.77778	19.10000	-0.018826 d
18.111	92.00000	-12.00000	19.10000	-0.016473 d

d - Displacements include imported displacements.

Specific Building Damage Results - All Segments

Structure: Mid City Place_1 | Sub-structure: Mid City Place_1

Vertical Offset from Line for Vertical Movement Calculations	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: Mid City Place_2 | Sub-structure: Mid City Place_2

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	23.676	5.8843	Hogging	0.0012547	0.0051789	0.0054220	-158.53E-6	-157.05E-6	51060.	0 (Negligible)
	2	29.560	11.595	Sagging	0.0038229	-0.012821	0.0034224	259.74E-6	-157.39E-6	31472.	0 (Negligible)
	3	41.155	19.228	Hogging	418.27E-6	250.50E-6	538.27E-6	-2.5050E-6	53.219E-6	550520.	0 (Negligible)
	4	60.383	7.7645	Sagging	0.0013205	721.05E-6	0.0016647	-12.659E-6	85.570E-6	71037.	0 (Negligible)
	5	68.148	2.8791	Hogging	258.45E-6	0.0012484	0.0012917	-12.659E-6	85.570E-6	96603.	0 (Negligible)

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

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	1.8000	0.011492	Sagging	0.0	0.0057316	0.0057316	-113.08E-6	-47.490E-6	17.069E+6	0 (Negligible)
	2	1.8115	7.1885	Sagging	0.0018109	-0.0049043	0.0014848	159.48E-6	59.151E-6	32791.	0 (Negligible)

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

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	0.0	None	0.0	0.0	0.0	-7.4023E-6	64.524E-6	58239.	0 (Negligible)

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

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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: Mid City Place_6 | Sub-structure: Mid City Place_6

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: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	6.6517	Sagging	985.64E-6	-0.010680	0.0022054	150.27E-6	53.135E-6	57904.	0 (Negligible)
	2	6.6517	9.6263	Hogging	454.35E-6	0.0027850	0.0029845	-27.849E-6	50.570E-6	245160.	0 (Negligible)

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

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

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	1.8333	Hogging	0.0	307.38E-6	307.38E-6	-3.0738E-6	4.7377E-6	1.7365E+6	0 (Negligible)

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

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

Vertical Movement Calculations [m]					Strain [%]	Strain [%]	Horizontal Displacement Curve [%]	Displacement Curve [%]		[m]	
0.0	1	1.9920	7.0592	Hogging	0.0033374	0.037454	0.038540	-374.40E-6	-370.34E-6	21345.	0 (Negligible)
	2	9.0512	8.8758	Sagging	0.0093923	0.066972	0.074208	-706.97E-6	-370.34E-6	4367.5	1 (Very Slight)

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

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	16.667	Hogging	0.0033953	-0.034835	0.0072085	0.0027953	137.14E-6	28050.	0 (Negligible)

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

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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	All settlements are less than the Settlement Trough Limit Sensitivity.										

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

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

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: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	14.000	4.0000	Sagging	117.40E-6	0.0	116.55E-6	0.0	19.949E-6	394580.	0 (Negligible)

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

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	10.438	Sagging	0.0025966	0.0	0.0024765	0.0	200.43E-6	19015.	0 (Negligible)

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

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	7.6869	Hogging	0.0041290	0.0	0.0041020	0.0	204.18E-6	13059.	0 (Negligible)
	2	7.6869	4.9209	Sagging	942.32E-6	0.0	932.30E-6	0.0	-78.473E-6	69220.	0 (Negligible)
	3	12.608	14.665	Hogging	0.0013519	0.0	0.0013203	0.0	-100.65E-6	100960.	0 (Negligible)

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

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	4.6170	Sagging	584.81E-6	0.0	579.32E-6	0.0	-89.644E-6	97697.	0 (Negligible)

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

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

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	9.7021	Sagging	291.98E-6	0.0	280.27E-6	0.0	-34.757E-6	389370.	0 (Negligible)

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

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	5.5884	Hogging	0.032017	-0.087951	0.026220	0.0025891	0.0014606	1119.9	0 (Negligible)
	2	5.5884	5.8160	Sagging	0.0018434	0.0	0.0016963	0.0	118.35E-6	34444.	0 (Negligible)
	3	11.404	5.7247	Hogging	0.0052563	-0.0045664	0.0040053	137.39E-6	-122.50E-6	6335.8	0 (Negligible)

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

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_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	2.0525	Sagging	0.0	0.028482	0.028482	-284.74E-6	103.69E-6	22544.	0 (Negligible)
	2	2.0525	7.2565	Hogging	0.0035376	0.023849	0.025759	-332.47E-6	149.22E-6	28564.	0 (Negligible)
	3	9.3090	5.1680	Sagging	345.23E-6	0.0	323.12E-6	0.0	-46.615E-6	191590.	0 (Negligible)

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

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	1.8503	None	0.0	0.0	0.0	0.0	-16.690E-6	430870.	0 (Negligible)

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

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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.

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

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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]	

Structure: Mid City Place_2 | Sub-structure: Mid City Place_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	0.0038229	-0.012821	-157.39E-6		1.6206	0.0054220	259.74E-6	-157.39E-6	51060.	31472.	0 (Negligible)

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	0.0018109	0.0057316	59.151E-6		0.26280	0.0057316	159.48E-6	59.151E-6	-	32791.	0 (Negligible)

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	64.524E-6		0.14317	0.0	-7.4023E-6	64.524E-6	-	-	0 (Negligible)

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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]	

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No. 371547 | Sheet No. | Rev.
Drg. Ref.
Made by ADJT | Date 25-May-2018 | Checked

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: Mid City Place_6 | Sub-structure: Mid City Place_6

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: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	985.64E-6	-0.010680	53.135E-6		0.62571	0.0029845	150.27E-6	53.135E-6	245160.	57904.	0 (Negligible)

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_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	307.38E-6	4.7377E-6		0.11289	307.38E-6	-3.0738E-6	4.7377E-6	1.7365E+6	-	0 (Negligible)

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	0.0093923	0.066972	-370.34E-6		4.1200	0.074208	-706.97E-6	-370.34E-6	21345.	4367.5	1 (Very Slight)

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	0.0033953	-0.034835	137.14E-6		4.0362	0.0072085	0.0027953	137.14E-6	28050.	-	0 (Negligible)

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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]	

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_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]	

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	117.40E-6	0.0	19.949E-6		0.17840	116.55E-6	0.0	19.949E-6	-	394580.	0 (Negligible)

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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 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	0.0025966	0.0	200.43E-6	1.0876	0.0024765	0.0	200.43E-6	-	19015.	0 (Negligible)

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	0.0041290	0.0	204.18E-6	1.6770	0.0041020	0.0	204.18E-6	13059.	69220.	0 (Negligible)

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	584.81E-6	0.0	-89.644E-6	0.72398	579.32E-6	0.0	-89.644E-6	-	97697.	0 (Negligible)

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	291.98E-6	0.0	-34.757E-6	0.36462	280.27E-6	0.0	-34.757E-6	-	389370.	0 (Negligible)

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	0.032017	-0.087951	0.0014606	3.6842	0.026220	0.0025891	0.0014606	1119.9	34444.	0 (Negligible)

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_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	0.0035376	0.028482	149.22E-6	0.44005	0.028482	-332.47E-6	149.22E-6	28564.	22544.	0 (Negligible)

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	-16.690E-6	0.13525	0.0	0.0	-16.690E-6	-	-	0 (Negligible)

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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]	

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]	
Mid City Place_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
Mid City Place_2	Max Slope	Mid City Place_2	2	29.560	41.155	Sagging	**157.39E-6**	1.6206	0.0034224	-	31472.	0 (Negligible)
	Max Settlement	Mid City Place_2	2	29.560	41.155	Sagging	157.39E-6	**1.6206**	0.0034224	-	31472.	0 (Negligible)
	Max Tensile Strain	Mid City Place_2	1	23.676	29.560	Hogging	157.05E-6	0.90280	**0.0054220**	51060.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_2	1	23.676	29.560	Hogging	157.05E-6	0.90280	0.0054220	**51060.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	Mid City Place_2	2	29.560	41.155	Sagging	157.39E-6	1.6206	0.0034224	-	**31472.**	0 (Negligible)
Mid City Place_3	Max Slope	Mid City Place_3	2	1.8115	9.0000	Sagging	**59.151E-6**	0.26280	0.0014848	-	32791.	0 (Negligible)
	Max Settlement	Mid City Place_3	2	1.8115	9.0000	Sagging	59.151E-6	**0.26280**	0.0014848	-	32791.	0 (Negligible)
	Max Tensile Strain	Mid City Place_3	1	1.8000	1.8115	Sagging	47.490E-6	0.12187	**0.0057316**	-	17.069E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	Mid City Place_3	2	1.8115	9.0000	Sagging	59.151E-6	0.26280	0.0014848	-	**32791.**	0 (Negligible)
Mid City Place_4	Max Slope	Mid City Place_4	1	0.0	0.0	Sagging	**64.524E-6**	0.14317	0.0	-	58239.	0 (Negligible)
	Max Settlement	Mid City Place_4	1	0.0	0.0	Sagging	64.524E-6	**0.14317**	0.0	-	58239.	0 (Negligible)
	Max Tensile Strain	Mid City Place_4	1	0.0	0.0	Sagging	64.524E-6	0.14317	**0.0**	-	58239.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
Mid City	All settlements are less than the Settlement Trough Limit Sensitivity.											

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Basement Construction - wall installation

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by ADJT	Date 25-May-2018	Checked

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
Place_5												
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
Mid City Place_6	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 1_1	Max Slope	High Holborn House 1_1	1	0.0	6.6517	Sagging	**53.135E-6**	0.62571	0.0022054	-	57904.	0 (Negligible)
	Max Settlement	High Holborn House 1_1	1	0.0	6.6517	Sagging	53.135E-6	**0.62571**	0.0022054	-	57904.	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_1	2	6.6517	16.278	Hogging	50.570E-6	0.43186	**0.0029845**	245160.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 1_1	2	6.6517	16.278	Hogging	50.570E-6	0.43186	0.0029845	**245160.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 1_1	1	0.0	6.6517	Sagging	53.135E-6	0.62571	0.0022054	-	**57904.**	0 (Negligible)
High Holborn House 1_2	Max Slope	High Holborn House 1_2	1	0.0	1.8333	Hogging	**4.7377E-6**	0.11289	307.38E-6	1.7365E+6	-	0 (Negligible)
	Max Settlement	High Holborn House 1_2	1	0.0	1.8333	Hogging	4.7377E-6	**0.11289**	307.38E-6	1.7365E+6	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_2	1	0.0	1.8333	Hogging	4.7377E-6	0.11289	**307.38E-6**	1.7365E+6	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 1_2	1	0.0	1.8333	Hogging	4.7377E-6	0.11289	307.38E-6	**1.7365E+6**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 1_3	Max Slope	High Holborn House 1_3	1	1.9920	9.0512	Hogging	**370.34E-6**	2.2324	0.038540	21345.	-	0 (Negligible)
	Max Settlement	High Holborn House 1_3	2	9.0512	17.927	Sagging	370.34E-6	**4.1200**	0.074208	-	4367.5	1 (Very Slight)
	Max Tensile Strain	High Holborn House 1_3	2	9.0512	17.927	Sagging	370.34E-6	4.1200	**0.074208**	-	4367.5	1 (Very Slight)
	Min Radius of Curvature (Hogging)	High Holborn House 1_3	1	1.9920	9.0512	Hogging	370.34E-6	2.2324	0.038540	**21345.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 1_3	2	9.0512	17.927	Sagging	370.34E-6	4.1200	0.074208	-	**4367.5**	1 (Very Slight)
High Holborn House 1_4	Max Slope	High Holborn House 1_4	1	0.0	16.667	Hogging	**137.14E-6**	4.0362	0.0072085	28050.	-	0 (Negligible)
	Max Settlement	High Holborn House 1_4	1	0.0	16.667	Hogging	137.14E-6	**4.0362**	0.0072085	28050.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_4	1	0.0	16.667	Hogging	137.14E-6	4.0362	**0.0072085**	28050.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 1_4	1	0.0	16.667	Hogging	137.14E-6	4.0362	0.0072085	**28050.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_2	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_3	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_4	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_5	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 2_6	Max Slope	High Holborn House 2_6	1	14.000	18.000	Sagging	**19.949E-6**	0.17840	116.55E-6	-	394580.	0 (Negligible)
	Max Settlement	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	**0.17840**	116.55E-6	-	394580.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	0.17840	**116.55E-6**	-	394580.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_6	1	14.000	18.000	Sagging	19.949E-6	0.17840	116.55E-6	-	**394580.**	0 (Negligible)
High Holborn House 2_7	Max Slope	High Holborn House 2_7	1	0.0	10.438	Sagging	**200.43E-6**	1.0876	0.0024765	-	19015.	0 (Negligible)
	Max Settlement	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	**1.0876**	0.0024765	-	19015.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	1.0876	**0.0024765**	-	19015.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_7	1	0.0	10.438	Sagging	200.43E-6	1.0876	0.0024765	-	**19015.**	0 (Negligible)
High Holborn House 2_8	Max Slope	High Holborn House 2_8	1	0.0	7.6869	Hogging	**204.18E-6**	1.6770	0.0041020	13059.	-	0 (Negligible)
	Max Settlement	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	**1.6770**	0.0041020	13059.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	1.6770	**0.0041020**	13059.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_8	1	0.0	7.6869	Hogging	204.18E-6	1.6770	0.0041020	**13059.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 2_8	2	7.6869	12.608	Sagging	78.473E-6	1.5329	932.30E-6	-	**69220.**	0 (Negligible)
High Holborn House 2_9	Max Slope	High Holborn House 2_9	1	0.0	4.6170	Sagging	**89.644E-6**	0.72398	579.32E-6	-	97697.	0 (Negligible)
	Max Settlement	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	**0.72398**	579.32E-6	-	97697.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	0.72398	**579.32E-6**	-	97697.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_9	1	0.0	4.6170	Sagging	89.644E-6	0.72398	579.32E-6	-	**97697.**	0 (Negligible)
High Holborn	Max Slope	High Holborn	1	0.0	9.7021	Sagging	**34.757E-6**	0.36462	280.27E-6	-	389370.	0 (Negligible)

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
House 2_10		House 2_10										
	Max Settlement	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	**0.36462**	280.27E-6	-	389370.	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	0.36462	**280.27E-6**	-	389370.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_10	1	0.0	9.7021	Sagging	34.757E-6	0.36462	280.27E-6	-	**389370.**	0 (Negligible)
High Holborn House 3_1	Max Slope	High Holborn House 3_1	1	0.0	5.5884	Hogging	**0.0014606**	3.6842	0.026220	1119.9	-	0 (Negligible)
	Max Settlement	High Holborn House 3_1	1	0.0	5.5884	Hogging	0.0014606	**3.6842**	0.026220	1119.9	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_1	1	0.0	5.5884	Hogging	0.0014606	3.6842	**0.026220**	1119.9	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 3_1	1	0.0	5.5884	Hogging	0.0014606	3.6842	0.026220	**1119.9**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 3_1	2	5.5884	11.404	Sagging	118.35E-6	0.81468	0.0016963	-	**34444.**	0 (Negligible)
High Holborn House 3_2	Max Slope	High Holborn House 3_2	2	2.0525	9.3090	Hogging	**149.22E-6**	0.44005	0.025759	28564.	-	0 (Negligible)
	Max Settlement	High Holborn House 3_2	2	2.0525	9.3090	Hogging	149.22E-6	**0.44005**	0.025759	28564.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_2	1	0.0	2.0525	Sagging	103.69E-6	0.10988	**0.028482**	-	22544.	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 3_2	2	2.0525	9.3090	Hogging	149.22E-6	0.44005	0.025759	**28564.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 3_2	1	0.0	2.0525	Sagging	103.69E-6	0.10988	0.028482	-	**22544.**	0 (Negligible)
High Holborn House 3_3	Max Slope	High Holborn House 3_3	1	0.0	1.8503	Sagging	**16.690E-6**	0.13525	0.0	-	430870.	0 (Negligible)
	Max Settlement	High Holborn House 3_3	1	0.0	1.8503	Sagging	16.690E-6	**0.13525**	0.0	-	430870.	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_3	1	0.0	1.8503	Sagging	16.690E-6	0.13525	**0.0**	-	430870.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 3_4	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											

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 X [m]	First point Y [m]	First point Z(level) [m]	Second point X [m]	Second point Y [m]	Second point Z(level) [m]		[m]			
Line	Mid City Place_1	-	1.00000	79.00000	24.00000	62.00000	79.00000	24.00000	31	-	-	Yes	Surface
Line	Mid City Place_2	-	62.00000	79.00000	24.00000	62.00000	6.00000	24.00000	37	-	-	Yes	Surface
Line	Mid City Place_3	-	62.00000	6.00000	24.00000	71.00000	6.00000	24.00000	5	-	-	Yes	Surface
Line	Mid City Place_4	-	71.00000	6.00000	24.00000	71.00000	-9.00000	24.00000	8	-	-	Yes	Surface
Line	Mid City Place_5	-	71.00000	-9.00000	24.00000	1.00000	0.00000	24.00000	35	-	-	Yes	Surface
Line	Mid City Place_6	-	1.00000	0.00000	24.00000	1.00000	79.00000	24.00000	40	-	-	Yes	Surface
Line	High Holborn House 1_1	-	93.00000	57.00000	20.27000	77.00000	60.00000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 1_2	-	77.00000	60.00000	20.27000	71.50000	60.00000	20.27000	3	-	-	Yes	Surface
Line	High Holborn House 1_3	-	71.50000	60.00000	20.27000	72.50000	42.10000	20.27000	9	-	-	Yes	Surface
Line	High Holborn House 1_4	-	72.50000	42.10000	20.27000	89.10000	43.60000	20.27000	8	-	-	Yes	Surface
Line	High Holborn House 2_1	-	92.00000	75.00000	18.69000	115.00000	70.00000	18.69000	12	-	-	Yes	Surface
Line	High Holborn House 2_2	-	115.00000	70.00000	18.69000	118.00000	14.00000	18.69000	28	-	-	Yes	Surface
Line	High Holborn House 2_3	-	118.00000	14.00000	18.69000	110.00000	14.00000	18.69000	4	-	-	Yes	Surface
Line	High Holborn House 2_4	-	110.00000	14.00000	18.69000	108.00000	-14.00000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_5	-	108.00000	-14.00000	18.69000	92.00000	-12.00000	18.69000	8	-	-	Yes	Surface
Line	High Holborn House 2_6	-	92.00000	-12.00000	18.69000	92.00000	6.00000	18.69000	9	-	-	Yes	Surface
Line	High Holborn House 2_7	-	92.00000	6.00000	18.69000	91.10000	16.40000	18.69000	5	-	-	Yes	Surface
Line	High Holborn House 2_8	-	91.10000	16.40000	18.69000	89.10000	43.60000	18.69000	14	-	-	Yes	Surface
Line	High Holborn House 2_9	-	89.10000	43.60000	18.69000	93.70000	44.00000	18.69000	2	-	-	Yes	Surface
Line	High Holborn House 2_10	-	93.70000	44.00000	18.69000	92.00000	75.00000	18.69000	16	-	-	Yes	Surface
Line	High Holborn House 3_1	-	91.10000	16.40000	19.10000	74.00000	15.40000	19.10000	9	-	-	Yes	Surface
Line	High Holborn House 3_2	-	74.00000	15.40000	19.10000	75.50000	1.00000	19.10000	7	-	-	Yes	Surface
Line	High Holborn House 3_3	-	75.50000	1.00000	19.10000	74.00000	-10.00000	19.10000	6	-	-	Yes	Surface
Line	High Holborn House 3_4	-	74.00000	-10.00000	19.10000	92.00000	-12.00000	19.10000	9	-	-	Yes	Surface

Imported Displacements

The following data points and displacements were found in the import file Long Term.csv.

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
1	1.00000	79.00000	24.00000	0.00000	0.00000	-0.02473	1,2,6
2	2.96774	79.00000	24.00000	0.00000	0.00000	-0.02477	1,2,6
3	4.93548	79.00000	24.00000	0.00000	0.00000	-0.02474	1,2,6
4	6.90323	79.00000	24.00000	0.00000	0.00000	-0.02463	1,2,6
5	8.87097	79.00000	24.00000	0.00000	0.00000	-0.02443	1,2,6
6	10.83871	79.00000	24.00000	0.00000	0.00000	-0.02414	1,2,6
7	12.80645	79.00000	24.00000	0.00000	0.00000	-0.02374	1,2,6
8	14.77419	79.00000	24.00000	0.00000	0.00000	-0.02322	1,2,6
9	16.74194	79.00000	24.00000	0.00000	0.00000	-0.02257	1,2,6
10	18.70968	79.00000	24.00000	0.00000	0.00000	-0.02178	1,2,6
11	20.67742	79.00000	24.00000	0.00000	0.00000	-0.02083	1,2,6
12	22.64516	79.00000	24.00000	0.00000	0.00000	-0.01971	1,2,6
13	24.61290	79.00000	24.00000	0.00000	0.00000	-0.01840	1,2,6
14	26.58065	79.00000	24.00000	0.00000	0.00000	-0.01689	1,2,6
15	28.54839	79.00000	24.00000	0.00000	0.00000	-0.01516	1,2,6
16	30.51613	79.00000	24.00000	0.00000	0.00000	-0.01320	1,2,6
17	32.48387	79.00000	24.00000	0.00000	0.00000	-0.01099	1,2,6
18	34.45161	79.00000	24.00000	0.00000	0.00000	-0.00853	1,2,6
19	36.41935	79.00000	24.00000	0.00000	0.00000	-0.00580	1,2,6
20	38.38710	79.00000	24.00000	0.00000	0.00000	-0.00278	1,2,6
21	40.35484	79.00000	24.00000	0.00000	0.00000	0.00052	1,2,6
22	42.32258	79.00000	24.00000	0.00000	0.00000	0.00412	1,2,6
23	44.29032	79.00000	24.00000	0.00000	0.00000	0.00801	1,2,6
24	46.25806	79.00000	24.00000	0.00000	0.00000	0.01219	1,2,6
25	48.22581	79.00000	24.00000	0.00000	0.00000	0.01665	1,2,6
26	50.19355	79.00000	24.00000	0.00000	0.00000	0.02137	1,2,6
27	52.16129	79.00000	24.00000	0.00000	0.00000	0.02633	1,2,6
28	54.12903	79.00000	24.00000	0.00000	0.00000	0.03149	1,2,6
29	56.09677	79.00000	24.00000	0.00000	0.00000	0.03682	1,2,6
30	58.06452	79.00000	24.00000	0.00000	0.00000	0.04226	1,2,6
31	60.03226	79.00000	24.00000	0.00000	0.00000	0.04774	1,2,6
32	62.00000	79.00000	24.00000	0.00000	0.00000	0.05321	1,2,6
33	62.00000	77.02703	24.00000	0.00000	0.00000	0.06739	1,2,6
34	62.00000	75.05405	24.00000	0.00000	0.00000	0.08382	1,2,6
35	62.00000	73.08108	24.00000	0.00000	0.00000	0.10286	1,2,6
36	62.00000	71.10811	24.00000	0.00000	0.00000	0.12492	1,2,6
37	62.00000	69.13514	24.00000	0.00000	0.00000	0.15049	1,2,6
38	62.00000	67.16216	24.00000	0.00000	0.00000	0.18014	1,2,6
39	62.00000	65.18919	24.00000	0.00000	0.00000	0.21455	1,2,6
40	62.00000	63.21622	24.00000	0.00000	0.00000	0.25450	1,2,6
41	62.00000	61.24324	24.00000	0.00000	0.00000	0.30092	1,2,6
42	62.00000	59.27027	24.00000	0.00000	0.00000	0.35485	1,2,6
43	62.00000	57.29730	24.00000	0.00000	0.00000	0.41747	1,2,6
44	62.00000	55.32432	24.00000	0.00000	0.00000	0.49002	1,2,6
45	62.00000	53.35135	24.00000	0.00000	0.00000	0.57374	1,2,6
46	62.00000	51.37838	24.00000	0.00000	0.00000	0.66964	1,2,6
47	62.00000	49.40541	24.00000	0.00000	0.00000	0.77816	1,2,6
48	62.00000	47.43243	24.00000	0.00000	0.00000	0.89863	1,2,6
49	62.00000	45.45946	24.00000	0.00000	0.00000	1.02862	1,2,6
50	62.00000	43.48649	24.00000	0.00000	0.00000	1.16347	1,2,6
51	62.00000	41.51351	24.00000	0.00000	0.00000	1.29641	1,2,6
52	62.00000	39.54054	24.00000	0.00000	0.00000	1.41991	1,2,6
53	62.00000	37.56757	24.00000	0.00000	0.00000	1.52741	1,2,6
54	62.00000	35.59459	24.00000	0.00000	0.00000	1.61435	1,2,6
55	62.00000	33.62162	24.00000	0.00000	0.00000	1.67794	1,2,6
56	62.00000	31.64865	24.00000	0.00000	0.00000	1.71632	1,2,6
57	62.00000	29.67568	24.00000	0.00000	0.00000	1.72823	1,2,6
58	62.00000	27.70270	24.00000	0.00000	0.00000	1.71311	1,2,6
59	62.00000	25.72973	24.00000	0.00000	0.00000	1.67148	1,2,6
60	62.00000	23.75676	24.00000	0.00000	0.00000	1.60524	1,2,6
61	62.00000	21.78378	24.00000	0.00000	0.00000	1.51777	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
62	62.00000	19.81081	24.00000	0.00000	0.00000	1.41384	1,2,6
63	62.00000	17.83784	24.00000	0.00000	0.00000	1.29902	1,2,6
64	62.00000	15.86486	24.00000	0.00000	0.00000	1.17888	1,2,6
65	62.00000	13.89189	24.00000	0.00000	0.00000	1.05827	1,2,6
66	62.00000	11.91892	24.00000	0.00000	0.00000	0.94102	1,2,6
67	62.00000	9.94595	24.00000	0.00000	0.00000	0.82996	1,2,6
68	62.00000	7.97297	24.00000	0.00000	0.00000	0.72705	1,2,6
69	62.00000	6.00000	24.00000	0.00000	0.00000	0.63337	1,2,6
70	63.80000	6.00000	24.00000	0.00000	0.00000	0.72402	1,2,6
71	65.60000	6.00000	24.00000	0.00000	0.00000	0.82615	1,2,6
72	67.40000	6.00000	24.00000	0.00000	0.00000	0.94031	1,2,6
73	69.20000	6.00000	24.00000	0.00000	0.00000	1.06626	1,2,6
74	71.00000	6.00000	24.00000	0.00000	0.00000	1.20231	1,2,6
75	71.00000	4.12500	24.00000	0.00000	0.00000	0.99180	1,2,6
76	71.00000	2.25000	24.00000	0.00000	0.00000	0.82209	1,2,6
77	71.00000	0.37500	24.00000	0.00000	0.00000	0.68444	1,2,6
78	71.00000	-1.50000	24.00000	0.00000	0.00000	0.57200	1,2,6
79	71.00000	-3.37500	24.00000	0.00000	0.00000	0.47950	1,2,6
80	71.00000	-5.25000	24.00000	0.00000	0.00000	0.40289	1,2,6
81	71.00000	-7.12500	24.00000	0.00000	0.00000	0.33901	1,2,6
82	71.00000	-9.00000	24.00000	0.00000	0.00000	0.28544	1,2,6
83	69.00000	-8.74286	24.00000	0.00000	0.00000	0.27344	1,2,6
84	67.00000	-8.48571	24.00000	0.00000	0.00000	0.25937	1,2,6
85	65.00000	-8.22857	24.00000	0.00000	0.00000	0.24373	1,2,6
86	63.00000	-7.97143	24.00000	0.00000	0.00000	0.22700	1,2,6
87	61.00000	-7.71429	24.00000	0.00000	0.00000	0.20963	1,2,6
88	59.00000	-7.45714	24.00000	0.00000	0.00000	0.19203	1,2,6
89	57.00000	-7.20000	24.00000	0.00000	0.00000	0.17454	1,2,6
90	55.00000	-6.94286	24.00000	0.00000	0.00000	0.15743	1,2,6
91	53.00000	-6.68571	24.00000	0.00000	0.00000	0.14093	1,2,6
92	51.00000	-6.42857	24.00000	0.00000	0.00000	0.12518	1,2,6
93	49.00000	-6.17143	24.00000	0.00000	0.00000	0.11030	1,2,6
94	47.00000	-5.91429	24.00000	0.00000	0.00000	0.09636	1,2,6
95	45.00000	-5.65714	24.00000	0.00000	0.00000	0.08340	1,2,6
96	43.00000	-5.40000	24.00000	0.00000	0.00000	0.07143	1,2,6
97	41.00000	-5.14286	24.00000	0.00000	0.00000	0.06044	1,2,6
98	39.00000	-4.88571	24.00000	0.00000	0.00000	0.05040	1,2,6
99	37.00000	-4.62857	24.00000	0.00000	0.00000	0.04127	1,2,6
100	35.00000	-4.37143	24.00000	0.00000	0.00000	0.03301	1,2,6
101	33.00000	-4.11429	24.00000	0.00000	0.00000	0.02557	1,2,6
102	31.00000	-3.85714	24.00000	0.00000	0.00000	0.01890	1,2,6
103	29.00000	-3.60000	24.00000	0.00000	0.00000	0.01293	1,2,6
104	27.00000	-3.34286	24.00000	0.00000	0.00000	0.00763	1,2,6
105	25.00000	-3.08571	24.00000	0.00000	0.00000	0.00293	1,2,6
106	23.00000	-2.82857	24.00000	0.00000	0.00000	-0.00121	1,2,6
107	21.00000	-2.57143	24.00000	0.00000	0.00000	-0.00485	1,2,6
108	19.00000	-2.31429	24.00000	0.00000	0.00000	-0.00802	1,2,6
109	17.00000	-2.05714	24.00000	0.00000	0.00000	-0.01078	1,2,6
110	15.00000	-1.80000	24.00000	0.00000	0.00000	-0.01317	1,2,6
111	13.00000	-1.54286	24.00000	0.00000	0.00000	-0.01522	1,2,6
112	11.00000	-1.28571	24.00000	0.00000	0.00000	-0.01696	1,2,6
113	9.00000	-1.02857	24.00000	0.00000	0.00000	-0.01843	1,2,6
114	7.00000	-0.77143	24.00000	0.00000	0.00000	-0.01965	1,2,6
115	5.00000	-0.51429	24.00000	0.00000	0.00000	-0.02066	1,2,6
116	3.00000	-0.25714	24.00000	0.00000	0.00000	-0.02148	1,2,6
117	1.00000	0.00000	24.00000	0.00000	0.00000	-0.02212	1,2,6
118	1.00000	1.97500	24.00000	0.00000	0.00000	-0.02197	1,2,6
119	1.00000	3.95000	24.00000	0.00000	0.00000	-0.02182	1,2,6
120	1.00000	5.92500	24.00000	0.00000	0.00000	-0.02167	1,2,6
121	1.00000	7.90000	24.00000	0.00000	0.00000	-0.02152	1,2,6
122	1.00000	9.87500	24.00000	0.00000	0.00000	-0.02138	1,2,6
123	1.00000	11.85000	24.00000	0.00000	0.00000	-0.02125	1,2,6
124	1.00000	13.82500	24.00000	0.00000	0.00000	-0.02113	1,2,6
125	1.00000	15.80000	24.00000	0.00000	0.00000	-0.02102	1,2,6
126	1.00000	17.77500	24.00000	0.00000	0.00000	-0.02094	1,2,6
127	1.00000	19.75000	24.00000	0.00000	0.00000	-0.02087	1,2,6
128	1.00000	21.72500	24.00000	0.00000	0.00000	-0.02082	1,2,6
129	1.00000	23.70000	24.00000	0.00000	0.00000	-0.02080	1,2,6
130	1.00000	25.67500	24.00000	0.00000	0.00000	-0.02080	1,2,6
131	1.00000	27.65000	24.00000	0.00000	0.00000	-0.02083	1,2,6
132	1.00000	29.62500	24.00000	0.00000	0.00000	-0.02088	1,2,6
133	1.00000	31.60000	24.00000	0.00000	0.00000	-0.02096	1,2,6
134	1.00000	33.57500	24.00000	0.00000	0.00000	-0.02107	1,2,6
135	1.00000	35.55000	24.00000	0.00000	0.00000	-0.02119	1,2,6
136	1.00000	37.52500	24.00000	0.00000	0.00000	-0.02134	1,2,6
137	1.00000	39.50000	24.00000	0.00000	0.00000	-0.02151	1,2,6
138	1.00000	41.47500	24.00000	0.00000	0.00000	-0.02169	1,2,6
139	1.00000	43.45000	24.00000	0.00000	0.00000	-0.02189	1,2,6
140	1.00000	45.42500	24.00000	0.00000	0.00000	-0.02211	1,2,6
141	1.00000	47.40000	24.00000	0.00000	0.00000	-0.02233	1,2,6
142	1.00000	49.37500	24.00000	0.00000	0.00000	-0.02255	1,2,6
143	1.00000	51.35000	24.00000	0.00000	0.00000	-0.02278	1,2,6
144	1.00000	53.32500	24.00000	0.00000	0.00000	-0.02301	1,2,6
145	1.00000	55.30000	24.00000	0.00000	0.00000	-0.02324	1,2,6
146	1.00000	57.27500	24.00000	0.00000	0.00000	-0.02346	1,2,6
147	1.00000	59.25000	24.00000	0.00000	0.00000	-0.02367	1,2,6
148	1.00000	61.22500	24.00000	0.00000	0.00000	-0.02386	1,2,6
149	1.00000	63.20000	24.00000	0.00000	0.00000	-0.02404	1,2,6
150	1.00000	65.17500	24.00000	0.00000	0.00000	-0.02421	1,2,6
151	1.00000	67.15000	24.00000	0.00000	0.00000	-0.02435	1,2,6
152	1.00000	69.12500	24.00000	0.00000	0.00000	-0.02447	1,2,6
153	1.00000	71.10000	24.00000	0.00000	0.00000	-0.02457	1,2,6
154	1.00000	73.07500	24.00000	0.00000	0.00000	-0.02465	1,2,6
155	1.00000	75.05000	24.00000	0.00000	0.00000	-0.02470	1,2,6
156	1.00000	77.02500	24.00000	0.00000	0.00000	-0.02473	1,2,6
157	93.00000	57.00000	20.27000	0.00000	0.00000	0.71108	1,2,6
158	91.00000	57.37500	20.27000	0.00000	0.00000	0.74326	1,2,6
159	89.00000	57.75000	20.27000	0.00000	0.00000	0.76277	1,2,6
160	87.00000	58.12500	20.27000	0.00000	0.00000	0.76824	1,2,6
161	85.00000	58.50000	20.27000	0.00000	0.00000	0.75964	1,2,6
162	83.00000	58.87500	20.27000	0.00000	0.00000	0.73813	1,2,6
163	81.00000	59.25000	20.27000	0.00000	0.00000	0.70568	1,2,6
164	79.00000	59.62500	20.27000	0.00000	0.00000	0.66469	1,2,6
165	77.00000	60.00000	20.27000	0.00000	0.00000	0.61767	1,2,6
166	75.16667	60.00000	20.27000	0.00000	0.00000	0.59255	1,2,6
167	73.33333	60.00000	20.27000	0.00000	0.00000	0.56214	1,2,6
168	71.50000	60.00000	20.27000	0.00000	0.00000	0.52776	1,2,6
169	71.61111	58.01111	20.27000	0.00000	0.00000	0.64936	1,2,6
170	71.72222	56.02222	20.27000	0.00000	0.00000	0.80466	1,2,6
171	71.83333	54.03333	20.27000	0.00000	0.00000	1.00650	1,2,6
172	71.94444	52.04444	20.27000	0.00000	0.00000	1.27456	1,2,6
173	72.05556	50.05556	20.27000	0.00000	0.00000	1.64099	1,2,6
174	72.16667	48.06667	20.27000	0.00000	0.00000	2.16346	1,2,6
175	72.27778	46.07778	20.27000	0.00000	0.00000	2.96048	1,2,6
176	72.38889	44.08889	20.27000	0.00000	0.00000	4.32102	1,2,6
177	72.50000	42.10000	20.27000	0.00000	0.00000	7.09968	1,2,6
178	74.57500	42.28750	20.27000	0.00000	0.00000	9.46663	1,2,6
179	76.65000	42.47500	20.27000	0.00000	0.00000	10.13468	1,2,6
180	78.72500	42.66250	20.27000	0.00000	0.00000	10.54072	1,2,6
181	80.80000	42.85000	20.27000	0.00000	0.00000	10.81366	1,2,6
182	82.87500	43.03750	20.27000	0.00000	0.00000	10.91354	1,2,6
183	84.95000	43.22500	20.27000	0.00000	0.00000	10.87884	1,2,6
184	87.02500	43.41250	20.27000	0.00000	0.00000	10.79936	1,2,6
185	89.10000	43.60000	20.27000	0.00000	0.00000	7.70836	1,2,6
186	92.00000	75.00000	18.69000	0.00000	0.00000	0.12061	1,2,6
187	93.91667	74.58333	18.69000	0.00000	0.00000	0.11977	1,2,6
188	95.83333	74.16667	18.69000	0.00000	0.00000	0.11783	1,2,6
189	97.75000	73.75000	18.69000	0.00000	0.00000	0.11484	1,2,6

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 25-May-2018	Checked

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
190	99.66667	73.33333	18.69000	0.00000	0.00000	0.11088	1,2,6
191	101.58333	72.91667	18.69000	0.00000	0.00000	0.10608	1,2,6
192	103.50000	72.50000	18.69000	0.00000	0.00000	0.10054	1,2,6
193	105.41667	72.08333	18.69000	0.00000	0.00000	0.09441	1,2,6
194	107.33333	71.66667	18.69000	0.00000	0.00000	0.08782	1,2,6
195	109.25000	71.25000	18.69000	0.00000	0.00000	0.08092	1,2,6
196	111.16667	70.83333	18.69000	0.00000	0.00000	0.07382	1,2,6
197	113.08333	70.41667	18.69000	0.00000	0.00000	0.06666	1,2,6
198	115.00000	70.00000	18.69000	0.00000	0.00000	0.05952	1,2,6
199	115.10714	68.00000	18.69000	0.00000	0.00000	0.07136	1,2,6
200	115.21429	66.00000	18.69000	0.00000	0.00000	0.08433	1,2,6
201	115.32143	64.00000	18.69000	0.00000	0.00000	0.09845	1,2,6
202	115.42857	62.00000	18.69000	0.00000	0.00000	0.11371	1,2,6
203	115.53571	60.00000	18.69000	0.00000	0.00000	0.13008	1,2,6
204	115.64286	58.00000	18.69000	0.00000	0.00000	0.14748	1,2,6
205	115.75000	56.00000	18.69000	0.00000	0.00000	0.16577	1,2,6
206	115.85714	54.00000	18.69000	0.00000	0.00000	0.18480	1,2,6
207	115.96429	52.00000	18.69000	0.00000	0.00000	0.20432	1,2,6
208	116.07143	50.00000	18.69000	0.00000	0.00000	0.22403	1,2,6
209	116.17857	48.00000	18.69000	0.00000	0.00000	0.24361	1,2,6
210	116.28571	46.00000	18.69000	0.00000	0.00000	0.26266	1,2,6
211	116.39286	44.00000	18.69000	0.00000	0.00000	0.28076	1,2,6
212	116.50000	42.00000	18.69000	0.00000	0.00000	0.29749	1,2,6
213	116.60714	40.00000	18.69000	0.00000	0.00000	0.31243	1,2,6
214	116.71429	38.00000	18.69000	0.00000	0.00000	0.32518	1,2,6
215	116.82143	36.00000	18.69000	0.00000	0.00000	0.33541	1,2,6
216	116.92857	34.00000	18.69000	0.00000	0.00000	0.34284	1,2,6
217	117.03571	32.00000	18.69000	0.00000	0.00000	0.34726	1,2,6
218	117.14286	30.00000	18.69000	0.00000	0.00000	0.34854	1,2,6
219	117.25000	28.00000	18.69000	0.00000	0.00000	0.34665	1,2,6
220	117.35714	26.00000	18.69000	0.00000	0.00000	0.34163	1,2,6
221	117.46429	24.00000	18.69000	0.00000	0.00000	0.33364	1,2,6
222	117.57143	22.00000	18.69000	0.00000	0.00000	0.32289	1,2,6
223	117.67857	20.00000	18.69000	0.00000	0.00000	0.30970	1,2,6
224	117.78571	18.00000	18.69000	0.00000	0.00000	0.29442	1,2,6
225	117.89286	16.00000	18.69000	0.00000	0.00000	0.27746	1,2,6
226	118.00000	14.00000	18.69000	0.00000	0.00000	0.25927	1,2,6
227	116.00000	14.00000	18.69000	0.00000	0.00000	0.31075	1,2,6
228	114.00000	14.00000	18.69000	0.00000	0.00000	0.37240	1,2,6
229	112.00000	14.00000	18.69000	0.00000	0.00000	0.44678	1,2,6
230	110.00000	14.00000	18.69000	0.00000	0.00000	0.53722	1,2,6
231	109.85714	12.00000	18.69000	0.00000	0.00000	0.50080	1,2,6
232	109.71429	10.00000	18.69000	0.00000	0.00000	0.46205	1,2,6
233	109.57143	8.00000	18.69000	0.00000	0.00000	0.42224	1,2,6
234	109.42857	6.00000	18.69000	0.00000	0.00000	0.38251	1,2,6
235	109.28571	4.00000	18.69000	0.00000	0.00000	0.34379	1,2,6
236	109.14286	2.00000	18.69000	0.00000	0.00000	0.30676	1,2,6
237	109.00000	0.00000	18.69000	0.00000	0.00000	0.27191	1,2,6
238	108.85714	-2.00000	18.69000	0.00000	0.00000	0.23953	1,2,6
239	108.71429	-4.00000	18.69000	0.00000	0.00000	0.20974	1,2,6
240	108.57143	-6.00000	18.69000	0.00000	0.00000	0.18257	1,2,6
241	108.42857	-8.00000	18.69000	0.00000	0.00000	0.15796	1,2,6
242	108.28571	-10.00000	18.69000	0.00000	0.00000	0.13579	1,2,6
243	108.14286	-12.00000	18.69000	0.00000	0.00000	0.11592	1,2,6
244	108.00000	-14.00000	18.69000	0.00000	0.00000	0.09816	1,2,6
245	106.00000	-13.75000	18.69000	0.00000	0.00000	0.11230	1,2,6
246	104.00000	-13.50000	18.69000	0.00000	0.00000	0.12735	1,2,6
247	102.00000	-13.25000	18.69000	0.00000	0.00000	0.14322	1,2,6
248	100.00000	-13.00000	18.69000	0.00000	0.00000	0.15977	1,2,6
249	98.00000	-12.75000	18.69000	0.00000	0.00000	0.17680	1,2,6
250	96.00000	-12.50000	18.69000	0.00000	0.00000	0.19406	1,2,6
251	94.00000	-12.25000	18.69000	0.00000	0.00000	0.21123	1,2,6
252	92.00000	-12.00000	18.69000	0.00000	0.00000	0.22792	1,2,6
253	92.00000	-10.00000	18.69000	0.00000	0.00000	0.27500	1,2,6
254	92.00000	-8.00000	18.69000	0.00000	0.00000	0.33181	1,2,6
255	92.00000	-6.00000	18.69000	0.00000	0.00000	0.40086	1,2,6
256	92.00000	-4.00000	18.69000	0.00000	0.00000	0.48553	1,2,6
257	92.00000	-2.00000	18.69000	0.00000	0.00000	0.59036	1,2,6
258	92.00000	0.00000	18.69000	0.00000	0.00000	0.72161	1,2,6
259	92.00000	2.00000	18.69000	0.00000	0.00000	0.88804	1,2,6
260	92.00000	4.00000	18.69000	0.00000	0.00000	1.10214	1,2,6
261	92.00000	6.00000	18.69000	0.00000	0.00000	1.38213	1,2,6
262	91.82000	8.08000	18.69000	0.00000	0.00000	1.79437	1,2,6
263	91.64000	10.16000	18.69000	0.00000	0.00000	2.38242	1,2,6
264	91.46000	12.24000	18.69000	0.00000	0.00000	3.26356	1,2,6
265	91.28000	14.32000	18.69000	0.00000	0.00000	4.68143	1,2,6
266	91.10000	16.40000	18.69000	0.00000	0.00000	7.11999	1,2,6
267	90.95714	18.34286	18.69000	0.00000	0.00000	9.76493	1,2,6
268	90.81429	20.28571	18.69000	0.00000	0.00000	11.31948	1,2,6
269	90.67143	22.22857	18.69000	0.00000	0.00000	11.99492	1,2,6
270	90.52857	24.17143	18.69000	0.00000	0.00000	12.32360	1,2,6
271	90.38571	26.11429	18.69000	0.00000	0.00000	12.61512	1,2,6
272	90.24286	28.05714	18.69000	0.00000	0.00000	13.27225	1,2,6
273	90.10000	30.00000	18.69000	0.00000	0.00000	13.81855	1,2,6
274	89.95714	31.94286	18.69000	0.00000	0.00000	13.95206	1,2,6
275	89.81429	33.88571	18.69000	0.00000	0.00000	13.87390	1,2,6
276	89.67143	35.82857	18.69000	0.00000	0.00000	13.74021	1,2,6
277	89.52857	37.77143	18.69000	0.00000	0.00000	13.21773	1,2,6
278	89.38571	39.71429	18.69000	0.00000	0.00000	12.40509	1,2,6
279	89.24286	41.65714	18.69000	0.00000	0.00000	11.06114	1,2,6
280	89.10000	43.60000	18.69000	0.00000	0.00000	7.88654	1,2,6
281	91.40000	43.80000	18.69000	0.00000	0.00000	4.60756	1,2,6
282	93.70000	44.00000	18.69000	0.00000	0.00000	3.02749	1,2,6
283	93.59375	45.93750	18.69000	0.00000	0.00000	2.45721	1,2,6
284	93.48750	47.87500	18.69000	0.00000	0.00000	1.96223	1,2,6
285	93.38125	49.81250	18.69000	0.00000	0.00000	1.56485	1,2,6
286	93.27500	51.75000	18.69000	0.00000	0.00000	1.25455	1,2,6
287	93.16875	53.68750	18.69000	0.00000	0.00000	1.01301	1,2,6
288	93.06250	55.62500	18.69000	0.00000	0.00000	0.82376	1,2,6
289	92.95625	57.56250	18.69000	0.00000	0.00000	0.67406	1,2,6
290	92.85000	59.50000	18.69000	0.00000	0.00000	0.55441	1,2,6
291	92.74375	61.43750	18.69000	0.00000	0.00000	0.45782	1,2,6
292	92.63750	63.37500	18.69000	0.00000	0.00000	0.37911	1,2,6
293	92.53125	65.31250	18.69000	0.00000	0.00000	0.31443	1,2,6
294	92.42500	67.25000	18.69000	0.00000	0.00000	0.26087	1,2,6
295	92.31875	69.18750	18.69000	0.00000	0.00000	0.21622	1,2,6
296	92.21250	71.12500	18.69000	0.00000	0.00000	0.17880	1,2,6
297	92.10625	73.06250	18.69000	0.00000	0.00000	0.14727	1,2,6
298	91.10000	16.40000	19.10000	0.00000	0.00000	7.10235	1,2,6
299	89.20000	16.28889	19.10000	0.00000	0.00000	9.59065	1,2,6
300	87.30000	16.17778	19.10000	0.00000	0.00000	11.21276	1,2,6
301	85.40000	16.06667	19.10000	0.00000	0.00000	12.58467	1,2,6
302	83.50000	15.95556	19.10000	0.00000	0.00000	13.26705	1,2,6
303	81.60000	15.84444	19.10000	0.00000	0.00000	13.25350	1,2,6
304	79.70000	15.73333	19.10000	0.00000	0.00000	12.45208	1,2,6
305	77.80000	15.62222	19.10000	0.00000	0.00000	10.78524	1,2,6
306	75.90000	15.51111	19.10000	0.00000	0.00000	8.59684	1,2,6
307	74.00000	15.40000	19.10000	0.00000	0.00000	5.62020	1,2,6
308	74.21429	13.34286	19.10000	0.00000	0.00000	4.00424	1,2,6
309	74.42857	11.28571	19.10000	0.00000	0.00000	2.95961	1,2,6
310	74.64286	9.22857	19.10000	0.00000	0.00000	2.24483	1,2,6
311	74.85714	7.17143	19.10000	0.00000	0.00000	1.73499	1,2,6
312	75.07143	5.11429	19.10000	0.00000	0.00000	1.36106	1,2,6
313	75.28571	3.05714	19.10000	0.00000	0.00000	1.08086	1,2,6
314	75.50000	1.00000	19.10000	0.00000	0.00000	0.86709	1,2,6
315	75.25000	-0.83333	19.10000	0.00000	0.00000	0.70853	1,2,6
316	75.00000	-2.66667	19.10000	0.00000	0.00000	0.58348	1,2,6
317	74.75000	-4.50000	19.10000	0.00000	0.00000	0.48340	1,2,6

Ref.	Coordinates x [m]	y [m]	z [m]	Displacements x [mm]	y [mm]	z [mm]	
318	74.50000	-6.33333	19.10000	0.00000	0.00000	0.40227	1,2,6
319	74.25000	-8.16667	19.10000	0.00000	0.00000	0.33579	1,2,6
320	74.00000	-10.00000	19.10000	0.00000	0.00000	0.28081	1,2,6
321	76.00000	-10.22222	19.10000	0.00000	0.00000	0.28624	1,2,6
322	78.00000	-10.44444	19.10000	0.00000	0.00000	0.28865	1,2,6
323	80.00000	-10.66667	19.10000	0.00000	0.00000	0.28793	1,2,6
324	82.00000	-10.88889	19.10000	0.00000	0.00000	0.28410	1,2,6
325	84.00000	-11.11111	19.10000	0.00000	0.00000	0.27732	1,2,6
326	86.00000	-11.33333	19.10000	0.00000	0.00000	0.26786	1,2,6
327	88.00000	-11.55556	19.10000	0.00000	0.00000	0.25607	1,2,6
328	90.00000	-11.77778	19.10000	0.00000	0.00000	0.24240	1,2,6
329	92.00000	-12.00000	19.10000	0.00000	0.00000	0.22728	1,2,6

1 - Data point coincident with displacement data. Its displacement has been added to those calculated by Xdisp.
2 - Data point coincident with horizontal movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.
6 - Data point coincident with vertical movement calculation point for a specific building. Its displacement has been added before performing building damage calculations.

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 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 = $-1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2$
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 = $-2.6455E-3x^4 + 2.8495E-2x^3 - 1.0051E-1x^2 + 1.0569E-1x + 3.8990E-2$
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 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

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:	New Excavation
Surface level [m]:	24.000
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	18.690

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Oasys RSK GROUP
18-21 Hand Court
Building Damage
Final Condition_drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 25-May-2018	Checked

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
1	72.500	42.000	89.000	43.500	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	89.000	43.500	91.000	16.500	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	91.000	16.500	90.000	16.400	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	90.000	16.400	74.000	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))
5	74.000	15.500	72.500	42.000	No vertical ground movement	No horizontal ground movement

Excavation Name:	Walls
Surface level [m]:	24.000
Contribution:	Positive
Enabled:	Yes
Surface movement curves which are selected are applied between surface and [m]:	18.690

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	72.500	42.000	18.690	No	-	-	-	-	-	-
2	89.000	43.500	18.690	No	-	-	-	-	-	-
3	91.000	16.500	18.690	No	-	-	-	-	-	-
4	90.000	16.400	19.100	No	-	-	-	-	-	-
5	74.000	15.500	19.100	No	-	-	-	-	-	-

Side	Corner 1 x [m]	Corner 1 y [m]	Corner 2 x [m]	Corner 2 y [m]	Ground Movement Curve Vertical	Ground Movement Curve Horizontal
1	72.500	42.000	89.000	43.500	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	89.000	43.500	91.000	16.500	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	91.000	16.500	90.000	16.400	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	90.000	16.400	74.000	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))
5	74.000	15.500	72.500	42.000	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
Mid City Place_1	Mid City Place_1	Mid City Place_1	0.00000	61.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_2	Mid City Place_2	Mid City Place_2	0.00000	73.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_3	Mid City Place_3	Mid City Place_3	0.00000	9.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_4	Mid City Place_4	Mid City Place_4	0.00000	15.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_5	Mid City Place_5	Mid City Place_5	0.00000	70.57600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
Mid City Place_6	Mid City Place_6	Mid City Place_6	0.00000	79.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_1	High Holborn House 1_1	High Holborn House 1_1	0.00000	16.27800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_2	High Holborn House 1_2	High Holborn House 1_2	0.00000	5.50000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_3	High Holborn House 1_3	High Holborn House 1_3	0.00000	17.92700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 1_4	High Holborn House 1_4	High Holborn House 1_4	0.00000	16.66700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_1	High Holborn House 2_1	High Holborn House 2_1	0.00000	23.53700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_2	High Holborn House 2_2	High Holborn House 2_2	0.00000	56.08000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_3	High Holborn House 2_3	High Holborn House 2_3	0.00000	8.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_4	High Holborn House 2_4	High Holborn House 2_4	0.00000	28.07100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_5	High Holborn House 2_5	High Holborn House 2_5	0.00000	16.12400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_6	High Holborn House 2_6	High Holborn House 2_6	0.00000	18.00000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_7	High Holborn House 2_7	High Holborn House 2_7	0.00000	10.43800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_8	High Holborn House 2_8	High Holborn House 2_8	0.00000	27.27300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_9	High Holborn House 2_9	High Holborn House 2_9	0.00000	4.61700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 2_10	High Holborn House 2_10	High Holborn House 2_10	0.00000	31.04600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_1	High Holborn House 3_1	High Holborn House 3_1	0.00000	17.12900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_2	High Holborn House 3_2	High Holborn House 3_2	0.00000	14.47700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_3	High Holborn House 3_3	High Holborn House 3_3	0.00000	11.10100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
High Holborn House 3_4	High Holborn House 3_4	High Holborn House 3_4	0.00000	18.11000	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]
Mid City Place_1	Mid City Place_1	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_2	Mid City Place_2	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_3	Mid City Place_3	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_4	Mid City Place_4	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000

Structure Name	Sub-Structure Name	Height	Default Properties	Hogging			Sagging		
				2nd Moment of Area	Distance of Bending	Distance of N.A.	2nd Moment of Area	Distance of Bending	Distance of N.A.
Mid City Place_5	Mid City Place_5	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
Mid City Place_6	Mid City Place_6	38.000	Yes	18291.	38.000	38.000	4572.7	19.000	19.000
High Holborn House 1_1	High Holborn House 1_1	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_2	High Holborn House 1_2	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_3	High Holborn House 1_3	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 1_4	High Holborn House 1_4	16.500	Yes	1497.4	16.500	16.500	374.34	8.2500	8.2500
High Holborn House 2_1	High Holborn House 2_1	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_2	High Holborn House 2_2	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_3	High Holborn House 2_3	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_4	High Holborn House 2_4	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_5	High Holborn House 2_5	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_6	High Holborn House 2_6	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_7	High Holborn House 2_7	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_8	High Holborn House 2_8	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_9	High Holborn House 2_9	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 2_10	High Holborn House 2_10	24.000	Yes	4608.0	24.000	24.000	1152.0	12.000	12.000
High Holborn House 3_1	High Holborn House 3_1	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_2	High Holborn House 3_2	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_3	High Holborn House 3_3	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000
High Holborn House 3_4	High Holborn House 3_4	10.000	Yes	333.33	10.000	10.000	83.333	5.0000	5.0000

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).

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]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]
Mid City Place_1	Line 1	1.00000	79.00000	24.00000	0.0	0.0	-0.024730	0.0	0.0	0.0 *
	1.9677	2.96774	79.00000	24.00000	0.0	0.0	-0.024767	0.0	0.0	0.0 *
	3.9355	4.93548	79.00000	24.00000	0.0	0.0	-0.024736	0.0	0.0	0.0 *
	5.9032	6.90323	79.00000	24.00000	0.0	0.0	-0.024628	0.0	0.0	0.0 *
	7.8710	8.87097	79.00000	24.00000	0.0	0.0	-0.024433	0.0	0.0	0.0 *
	9.8387	10.83871	79.00000	24.00000	0.0	0.0	-0.024141	0.0	0.0	0.0 *
	11.806	12.80645	79.00000	24.00000	0.0	0.0	-0.023742	0.0	0.0	0.0 *
	13.774	14.77419	79.00000	24.00000	0.0	0.0	-0.023224	0.0	0.0	0.0 *
	15.742	16.74194	79.00000	24.00000	0.0	0.0	-0.022575	0.0	0.0	0.0 *
	17.710	18.70968	79.00000	24.00000	0.0	0.0	-0.021782	0.0	0.0	0.0 *
	19.677	20.67742	79.00000	24.00000	0.0	0.0	-0.020830	0.0	0.0	0.0 *
	21.645	22.64516	79.00000	24.00000	0.0	0.0	-0.019707	0.0	0.0	0.0 *
	23.613	24.61290	79.00000	24.00000	0.0	0.0	-0.018397	0.0	0.0	0.0 *
	25.581	26.58065	79.00000	24.00000	0.0	0.0	-0.016886	0.0	0.0	0.0 *
	27.548	28.54839	79.00000	24.00000	0.0	0.0	-0.015158	0.0	0.0	0.0 *
	29.516	30.51613	79.00000	24.00000	0.0	0.0	-0.013199	0.0	0.0	0.0 *
	31.484	32.48387	79.00000	24.00000	0.0	0.0	-0.010994	0.0	0.0	0.0 *
	33.452	34.45161	79.00000	24.00000	0.0	0.0	-0.0085309	0.0	0.0	0.0 *
	35.419	36.41935	79.00000	24.00000	0.0	0.0	-0.0057967	0.0	0.0	0.0 *
	37.387	38.38710	79.00000	24.00000	0.0	0.0	-0.0027815	0.0	0.0	0.0 *
	39.355	40.35484	79.00000	24.00000	0.0	0.0	522.45E-6	0.0	0.0	0.0 *
	41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0041195	0.0	0.0	0.0 *
	43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0080102	0.0	0.0	0.0 *
	45.258	46.25806	79.00000	24.00000	0.0	0.0	0.012190	0.0	0.0	0.0 *
	47.226	48.22581	79.00000	24.00000	0.0	0.0	0.016649	0.0	0.0	0.0 *
	49.194	50.19355	79.00000	24.00000	0.0	0.0	0.021370	0.0	0.0	0.0 *
	51.161	52.16129	79.00000	24.00000	0.0	0.0	0.026329	0.0	0.0	0.0 *
	53.129	54.12903	79.00000	24.00000	0.0	0.0	0.031493	0.0	0.0	0.0 *
	55.097	56.09677	79.00000	24.00000	0.0	0.0	0.036819	0.0	0.0	0.0 *
	57.065	58.06452	79.00000	24.00000	0.0	0.0	0.042256	0.0	0.0	0.0 *
	59.032	60.03226	79.00000	24.00000	0.0	0.0	0.047742	0.0	0.0	0.0 *
	61.000	62.00000	79.00000	24.00000	0.0	0.0	0.053207	0.0	0.0	0.0 *
Mid City Place_2	Line 2	62.00000	79.00000	24.00000	0.0	0.0	0.053207	0.0	0.0	270.00 *
	1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.067386	0.0	0.0	270.00 *
	3.9459	62.00000	75.05405	24.00000	0.0	0.0	0.083818	0.0	0.0	270.00 *
	5.9189	62.00000	73.08108	24.00000	0.0	0.0	0.10286	0.0	0.0	270.00 *
	7.8919	62.00000	71.10811	24.00000	0.0	0.0	0.12492	0.0	0.0	270.00 *
	9.8649	62.00000	69.13514	24.00000	0.0	0.0	0.15049	0.0	0.0	270.00 *
	11.838	62.00000	67.16216	24.00000	0.0	0.0	0.18014	0.0	0.0	270.00 *
	13.811	62.00000	65.18919	24.00000	0.0	0.0	0.21455	0.0	0.0	270.00 *
	15.784	62.00000	63.21622	24.00000	0.0	0.0	0.25450	0.0	0.0	270.00 *
	17.757	62.00000	61.24324	24.00000	0.0	0.0	0.30092	0.0	0.0	270.00 *
	19.730	62.00000	59.27027	24.00000	0.024561	-0.27017	0.40089	0.27017	0.024561	270.00 *
	21.703	62.00000	57.29730	24.00000	0.060871	-0.66958	0.50487	0.66958	0.060871	270.00 *
	23.676	62.00000	55.32432	24.00000	0.090681	-0.99750	0.63559	0.99750	0.090681	270.00 *
	25.649	62.00000	53.35135	24.00000	0.11243	-1.2368	0.81407	1.2368	0.11243	270.00 *
	27.622	62.00000	51.37838	24.00000	0.12430	-1.3673	1.0240	1.3673	0.12430	270.00 *
	29.595	62.00000	49.40541	24.00000	0.12436	-1.3680	1.2250	1.3680	0.12436	270.00 *
	31.568	62.00000	47.43243	24.00000	0.11111	-1.2222	1.3706	1.2222	0.11111	270.00 *
	33.541	62.00000	45.45946	24.00000	0.084341	-0.92775	1.4279	0.92775	0.084341	270.00 *
	35.514	62.00000	43.48649	24.00000	0.046332	-0.50965	1.3958	0.50965	0.046332	270.00 *
	37.486	62.00000	41.51351	24.00000	0.0024283	-0.026712	1.3087	0.026712	0.0024283	270.00 *
	39.459	62.00000	39.54054	24.00000	0.0	0.0	1.4199	0.0	0.0	270.00 *

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 25-May-2018	Checked

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	
	41.432	62.00000	37.56757	24.00000	0.0	0.0	1.5274	0.0	0.0	270.00 *
	43.405	62.00000	35.59459	24.00000	0.0	0.0	1.6143	0.0	0.0	270.00 *
	45.378	62.00000	33.62162	24.00000	0.0	0.0	1.6779	0.0	0.0	270.00 *
	47.351	62.00000	31.64865	24.00000	0.0	0.0	1.7163	0.0	0.0	270.00 *
	49.324	62.00000	29.67568	24.00000	0.0	0.0	1.7282	0.0	0.0	270.00 *
	51.297	62.00000	27.70270	24.00000	0.0	0.0	1.7131	0.0	0.0	270.00 *
	53.270	62.00000	25.72973	24.00000	0.0	0.0	1.6715	0.0	0.0	270.00 *
	55.243	62.00000	23.75676	24.00000	0.0	0.0	1.6052	0.0	0.0	270.00 *
	57.216	62.00000	21.78378	24.00000	0.0	0.0	1.5178	0.0	0.0	270.00 *
	59.189	62.00000	19.81081	24.00000	0.0	0.0	1.4138	0.0	0.0	270.00 *
	61.162	62.00000	17.83784	24.00000	0.0	0.0	1.2990	0.0	0.0	270.00 *
	63.135	62.00000	15.86486	24.00000	0.0	0.0	1.1789	0.0	0.0	270.00 *
	65.108	62.00000	13.89189	24.00000	-0.0077041	0.13696	1.1008	-0.13696	-0.0077041	270.00 *
	67.081	62.00000	11.91892	24.00000	-0.022158	0.39391	1.0535	-0.39391	-0.022158	270.00 *
	69.054	62.00000	9.94595	24.00000	-0.032235	0.57307	0.97077	-0.57307	-0.032235	270.00 *
	71.027	62.00000	7.97297	24.00000	-0.036709	0.65260	0.85657	-0.65260	-0.036709	270.00 *
	73.000	62.00000	6.00000	24.00000	-0.035311	0.62776	0.73072	-0.62776	-0.035311	270.00 *
Mid City Place_3	Line 3	62.00000	6.00000	24.00000	-0.035311	0.62776	0.73072	-0.035311	0.62776	0.0 *
	1.8000	63.80000	6.00000	24.00000	-0.052638	0.93578	0.91962	-0.052638	0.93578	0.0 *
	3.6000	65.60000	6.00000	24.00000	-0.073322	1.3035	1.1862	-0.073322	1.3035	0.0 *
	5.4000	67.40000	6.00000	24.00000	-0.097708	1.7370	1.5375	-0.097708	1.7370	0.0 *
	7.2000	69.20000	6.00000	24.00000	-0.12568	2.2343	1.9641	-0.12568	2.2343	0.0 *
	9.0000	71.00000	6.00000	24.00000	-0.15618	2.7765	2.4350	-0.15618	2.7765	0.0 *
Mid City Place_4	Line 4	71.00000	6.00000	24.00000	-0.15618	2.7765	2.4350	-2.7765	-0.15618	270.00 *
	1.8750	71.00000	4.12500	24.00000	-0.13203	2.3472	1.7701	-2.3472	-0.13203	270.00 *
	3.7500	71.00000	2.25000	24.00000	-0.10418	1.8521	1.2417	-1.8521	-0.10418	270.00 *
	5.6250	71.00000	0.37500	24.00000	-0.073913	1.3140	0.88382	-1.3140	-0.073913	270.00 *
	7.5000	71.00000	-1.50000	24.00000	-0.041989	0.74647	0.66989	-0.74647	-0.041989	270.00 *
	9.3750	71.00000	-3.37500	24.00000	-0.0088796	0.15786	0.51153	-0.15786	-0.0088796	270.00 *
	11.250	71.00000	-5.25000	24.00000	0.0	0.0	0.40289	0.0	0.0	270.00 *
	13.125	71.00000	-7.12500	24.00000	0.0	0.0	0.33901	0.0	0.0	270.00 *
	15.000	71.00000	-9.00000	24.00000	0.0	0.0	0.28544	0.0	0.0	270.00 *
Mid City Place_5	Line 5	71.00000	-9.00000	24.00000	0.0	0.0	0.28544	0.0	0.0	172.67 *
	2.0165	69.00000	-8.74286	24.00000	0.0	0.0	0.27344	0.0	0.0	172.67 *
	4.0329	67.00000	-8.48571	24.00000	0.0	0.0	0.25937	0.0	0.0	172.67 *
	6.0494	65.00000	-8.22857	24.00000	0.0	0.0	0.24373	0.0	0.0	172.67 *
	8.0659	63.00000	-7.97143	24.00000	0.0	0.0	0.22700	0.0	0.0	172.67 *
	10.082	61.00000	-7.71429	24.00000	0.0	0.0	0.20963	0.0	0.0	172.67 *
	12.099	59.00000	-7.45714	24.00000	0.0	0.0	0.19203	0.0	0.0	172.67 *
	14.115	57.00000	-7.20000	24.00000	0.0	0.0	0.17454	0.0	0.0	172.67 *
	16.132	55.00000	-6.94286	24.00000	0.0	0.0	0.15743	0.0	0.0	172.67 *
	18.148	53.00000	-6.68571	24.00000	0.0	0.0	0.14093	0.0	0.0	172.67 *
	20.165	51.00000	-6.42857	24.00000	0.0	0.0	0.12518	0.0	0.0	172.67 *
	22.181	49.00000	-6.17143	24.00000	0.0	0.0	0.11030	0.0	0.0	172.67 *
	24.198	47.00000	-5.91429	24.00000	0.0	0.0	0.096362	0.0	0.0	172.67 *
	26.214	45.00000	-5.65714	24.00000	0.0	0.0	0.083403	0.0	0.0	172.67 *
	28.230	43.00000	-5.40000	24.00000	0.0	0.0	0.071432	0.0	0.0	172.67 *
	30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.060438	0.0	0.0	172.67 *
	32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.050395	0.0	0.0	172.67 *
	34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.041267	0.0	0.0	172.67 *
	36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.033008	0.0	0.0	172.67 *
	38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.025568	0.0	0.0	172.67 *
	40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.018895	0.0	0.0	172.67 *
	42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.012934	0.0	0.0	172.67 *
	44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0076310	0.0	0.0	172.67 *
	46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0029336	0.0	0.0	172.67 *
	48.395	23.00000	-2.82857	24.00000	0.0	0.0	-0.0012092	0.0	0.0	172.67 *
	50.412	21.00000	-2.57143	24.00000	0.0	0.0	-0.0048463	0.0	0.0	172.67 *
	52.428	19.00000	-2.31429	24.00000	0.0	0.0	-0.0080237	0.0	0.0	172.67 *
	54.444	17.00000	-2.05714	24.00000	0.0	0.0	-0.010785	0.0	0.0	172.67 *
	56.461	15.00000	-1.80000	24.00000	0.0	0.0	-0.013169	0.0	0.0	172.67 *
	58.477	13.00000	-1.54286	24.00000	0.0	0.0	-0.015215	0.0	0.0	172.67 *
	60.494	11.00000	-1.28571	24.00000	0.0	0.0	-0.016957	0.0	0.0	172.67 *
	62.510	9.00000	-1.02857	24.00000	0.0	0.0	-0.018426	0.0	0.0	172.67 *
	64.527	7.00000	-0.77143	24.00000	0.0	0.0	-0.019652	0.0	0.0	172.67 *
	66.543	5.00000	-0.51429	24.00000	0.0	0.0	-0.020661	0.0	0.0	172.67 *
	68.560	3.00000	-0.25714	24.00000	0.0	0.0	-0.021477	0.0	0.0	172.67 *
	70.576	1.00000	0.00000	24.00000	0.0	0.0	-0.022123	0.0	0.0	172.67 *
Mid City Place_6	Line 6	1.00000	0.00000	24.00000	0.0	0.0	-0.022123	0.0	0.0	90.000 *
	1.9750	1.00000	1.97500	24.00000	0.0	0.0	-0.021973	0.0	0.0	90.000 *
	3.9500	1.00000	3.95000	24.00000	0.0	0.0	-0.021820	0.0	0.0	90.000 *
	5.9250	1.00000	5.92500	24.00000	0.0	0.0	-0.021668	0.0	0.0	90.000 *
	7.9000	1.00000	7.90000	24.00000	0.0	0.0	-0.021520	0.0	0.0	90.000 *
	9.8750	1.00000	9.87500	24.00000	0.0	0.0	-0.021379	0.0	0.0	90.000 *
	11.850	1.00000	11.85000	24.00000	0.0	0.0	-0.021247	0.0	0.0	90.000 *
	13.825	1.00000	13.82500	24.00000	0.0	0.0	-0.021127	0.0	0.0	90.000 *
	15.800	1.00000	15.80000	24.00000	0.0	0.0	-0.021023	0.0	0.0	90.000 *
	17.775	1.00000	17.77500	24.00000	0.0	0.0	-0.020936	0.0	0.0	90.000 *
	19.750	1.00000	19.75000	24.00000	0.0	0.0	-0.020869	0.0	0.0	90.000 *
	21.725	1.00000	21.72500	24.00000	0.0	0.0	-0.020823	0.0	0.0	90.000 *
	23.700	1.00000	23.70000	24.00000	0.0	0.0	-0.020801	0.0	0.0	90.000 *
	25.675	1.00000	25.67500	24.00000	0.0	0.0	-0.020804	0.0	0.0	90.000 *
	27.650	1.00000	27.65000	24.00000	0.0	0.0	-0.020832	0.0	0.0	90.000 *
	29.625	1.00000	29.62500	24.00000	0.0	0.0	-0.020885	0.0	0.0	90.000 *
	31.600	1.00000	31.60000	24.00000	0.0	0.0	-0.020963	0.0	0.0	90.000 *
	33.575	1.00000	33.57500	24.00000	0.0	0.0	-0.021065	0.0	0.0	90.000 *
	35.550	1.00000	35.55000	24.00000	0.0	0.0	-0.021191	0.0	0.0	90.000 *
	37.525	1.00000	37.52500	24.00000	0.0	0.0	-0.021339	0.0	0.0	90.000 *
	39.500	1.00000	39.50000	24.00000	0.0	0.0	-0.021507	0.0	0.0	90.000 *
	41.475	1.00000	41.47500	24.00000	0.0	0.0	-0.021693	0.0	0.0	90.000 *
	43.450	1.00000	43.45000	24.00000	0.0	0.0	-0.021893	0.0	0.0	90.000 *
	45.425	1.00000	45.42500	24.00000	0.0	0.0	-0.022105	0.0	0.0	90.000 *
	47.400	1.00000	47.40000	24.00000	0.0	0.0	-0.022327	0.0	0.0	90.000 *
	49.375	1.00000	49.37500	24.00000	0.0	0.0	-0.022554	0.0	0.0	90.000 *
	51.350	1.00000	51.35000	24.00000	0.0	0.0	-0.022784	0.0	0.0	90.000 *
	53.325	1.00000	53.32500	24.00000	0.0	0.0	-0.023014	0.0	0.0	90.000 *
	55.300	1.00000	55.30000	24.00000	0.0	0.0	-0.023239	0.0	0.0	90.000 *
	57.275	1.00000	57.27500	24.00000	0.0	0.0	-0.023458	0.0	0.0	90.000 *
	59.250	1.00000	59.25000	24.00000	0.0	0.0	-0.023667	0.0	0.0	90.000 *
	61.225	1.00000	61.22500	24.00000	0.0	0.0	-0.023863	0.0	0.0	90.000 *
	63.200	1.00000	63.20000	24.00000	0.0	0.0	-0.024044	0.0	0.0	90.000 *
	65.175	1.00000	65.17500	24.00000	0.0	0.0	-0.024207	0.0	0.0	90.000 *
	67.150	1.00000	67.15000	24.00000	0.0	0.0	-0.024351	0.0	0.0	90.000 *
	69.125	1.00000	69.12500	24.00000	0.0	0.0	-0.024474	0.0	0.0	90.000 *
	71.100	1.00000	71.10000	24.00000	0.0	0.0	-0.024574	0.0	0.0	90.000 *
	73.075	1.00000	73.07500	24.00000	0.0	0.0	-0.024651	0.0	0.0	90.000 *
	75.050	1.00000	75.05000	24.00000	0.0	0.0	-0.024702	0.0	0.0	90.000 *
	77.025	1.00000	77.02500	24.00000	0.0	0.0	-0.024729	0.0	0.0	90.000 *
	79.000	1.00000	79.00000	24.00000	0.0	0.0	-0.024730	0.0	0.0	90.000 *
High Holborn House 1_1	Line 7	93.00000	57.00000	20.27000	-0.45367	-2.0834	1.4038	0.061964	2.1313	169.38 *
	2.0349	91.00000	57.37500	20.27000	-0.18871	-2.3292	1.4507	-0.24378	2.3241	169.38 *
	4.0697	89.00000	57.75000	20.27000	0.074479	-2.4725	1.4163	-0.52885	2.4164	169.38 *
	6.1046	87.00000	58.12500	20.27000	0.22048	-2.4252	1.3163	-0.66365	2.3431	169.38 *
	8.1394	85.00000	58.50000	20.27000	0.20165	-2.2182	1.2057	-0.60698	2.1430	169.38 *
	10.174	83.00000	58.87500	20.27000	0.18282	-2.0111	1.0983	-0.55031	1.9429	169.38 *
	12.209	81.00000	59.25000	20.27000	0.16400	-1.8040	0.99532	-0.49364	1.7428	169.38 *
	14.244	79.00000	59.62500	20.27000	0.14517	-1.5969	0.89773	-0.43697	1.5428	169.38 *
	16.279	77.00000	60.00000	20.27000	0.12634	-1.3898	0.80635	-0.38030	1.3427	169.38 *
High Holborn House 1_2	Line 8	77.00000	60.00000	20.27000	0.12634	-1.3898	0.80635	-0.12634	1.3898	180.00 *
	1.8333	75.16667	60.00000	20.27000	0.12071	-1.3278	0.77002	-0.12071	1.3278	180.00 *
	3.6667	73.33333	60.00000	20.27000	0.11507	-1.2658	0.72925	-0.11507	1.2658	180.00 *
	5.5000	71.50000	60.00000	20.27000	0.10944	-1.2038	0.68528	-0.10944	1.2038	180.00 *
High Holborn House 1_3	Line 9	71.50000	60.00000	20.27000	0.10944	-1.2038	0.68528	1.2080	0.042119	273.20 *
	1.9920	71.61111	58.01111	20.27000	0.17703	-1.9473	0.98625	1.9541	0.068133	273.20 *
	3.9840	71.72222	56.02222	20.27000	0.24461	-2.6908	1.5081	2.7002	0.094146	273.20 *
	5.9760	71.83333	54.03333	20.27000	0.31220	-3.4342	2.2881	3.4463	0.12016	273.20 *
	7.9680	71.94444	52.04444	20.27000	0.37979	-4.1777	3.3039	4.1924	0.14617	273.20 *
	9.9600	72.05556	50.05556	20.27000	0.44738	-4.9212	4.4788	4.9385	0.17219	273.20 *
	11.952	72.16667	48.06667	20.27000	0.57210	-6.2931	5.8070	6.3152	0.22019	273.20 *
	13.944	72.27778	46.07778	20.27000	0.69977	-7.6974	7.3258	7.7245	0.26932	273.20 *
	15.936	72.38889	44.08889	20.27000	0.82744	-9.1018	9.2185	9.1338	0.31846	273.20 *

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	17.928	72.50000	42.10000	20.27000	0.95510	-10.506	11.862	10.543	0.36760	273.20 *
High Holborn House 1_4	Line 10	72.50000	42.10000	20.27000	0.95510	-10.506	11.862	0.0057303	-10.549	5.1633 *
	2.0835	74.57500	42.28750	20.27000	0.95518	-10.507	14.229	0.0057307	-10.550	5.1633 *
	4.1669	76.65000	42.47500	20.27000	0.95525	-10.508	14.897	0.0057312	-10.551	5.1633 *
	6.2504	78.72500	42.66250	20.27000	0.95532	-10.509	15.302	0.0057316	-10.552	5.1633 *
	8.3338	80.80000	42.85000	20.27000	0.95539	-10.509	15.575	0.0057320	-10.553	5.1633 *
	10.417	82.87500	43.03750	20.27000	0.95547	-10.510	15.674	0.0057325	-10.553	5.1633 *
	12.501	84.95000	43.22500	20.27000	0.95554	-10.511	15.639	0.0057329	-10.554	5.1633 *
	14.584	87.02500	43.41250	20.27000	0.95561	-10.512	15.559	0.0057333	-10.555	5.1633 *
	16.668	89.10000	43.60000	20.27000	-5.3626	-5.1240	12.486	-5.8020	-4.6206	5.1633 *
High Holborn House 2_1	Line 11	92.00000	75.00000	18.69000	0.0	0.0	0.12061	0.0	0.0	347.74 *
	1.9614	93.91667	74.58333	18.69000	0.0	0.0	0.11977	0.0	0.0	347.74 *
	3.9229	95.83333	74.16667	18.69000	0.0	0.0	0.11783	0.0	0.0	347.74 *
	5.8843	97.75000	73.75000	18.69000	0.0	0.0	0.11484	0.0	0.0	347.74 *
	7.8457	99.66667	73.33333	18.69000	0.0	0.0	0.11088	0.0	0.0	347.74 *
	9.8072	101.58333	72.91667	18.69000	0.0	0.0	0.10608	0.0	0.0	347.74 *
	11.769	103.50000	72.50000	18.69000	0.0	0.0	0.10054	0.0	0.0	347.74 *
	13.730	105.41667	72.08333	18.69000	0.0	0.0	0.094407	0.0	0.0	347.74 *
	15.691	107.33333	71.66667	18.69000	0.0	0.0	0.087822	0.0	0.0	347.74 *
	17.653	109.25000	71.25000	18.69000	0.0	0.0	0.080918	0.0	0.0	347.74 *
	19.614	111.16667	70.83333	18.69000	0.0	0.0	0.073824	0.0	0.0	347.74 *
	21.576	113.08333	70.41667	18.69000	0.0	0.0	0.066658	0.0	0.0	347.74 *
	23.537	115.00000	70.00000	18.69000	0.0	0.0	0.059524	0.0	0.0	347.74 *
High Holborn House 2_2	Line 12	115.00000	70.00000	18.69000	0.0	0.0	0.059524	0.0	0.0	273.07 *
	2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.071363	0.0	0.0	273.07 *
	4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.084332	0.0	0.0	273.07 *
	6.0086	115.32143	64.00000	18.69000	0.0	0.0	0.098451	0.0	0.0	273.07 *
	8.0115	115.42857	62.00000	18.69000	0.0	0.0	0.11371	0.0	0.0	273.07 *
	10.014	115.53571	60.00000	18.69000	0.0	0.0	0.13008	0.0	0.0	273.07 *
	12.017	115.64286	58.00000	18.69000	0.0	0.0	0.14748	0.0	0.0	273.07 *
	14.020	115.75000	56.00000	18.69000	0.0	0.0	0.16577	0.0	0.0	273.07 *
	16.023	115.85714	54.00000	18.69000	0.0	0.0	0.18480	0.0	0.0	273.07 *
	18.026	115.96429	52.00000	18.69000	0.0	0.0	0.20432	0.0	0.0	273.07 *
	20.029	116.07143	50.00000	18.69000	0.0	0.0	0.22403	0.0	0.0	273.07 *
	22.032	116.17857	48.00000	18.69000	0.0	0.0	0.24361	0.0	0.0	273.07 *
	24.034	116.28571	46.00000	18.69000	0.0	0.0	0.26266	0.0	0.0	273.07 *
	26.037	116.39286	44.00000	18.69000	0.0	0.0	0.28076	0.0	0.0	273.07 *
	28.040	116.50000	42.00000	18.69000	0.0	0.0	0.29749	0.0	0.0	273.07 *
	30.043	116.60714	40.00000	18.69000	0.0	0.0	0.31243	0.0	0.0	273.07 *
	32.046	116.71429	38.00000	18.69000	0.0	0.0	0.32518	0.0	0.0	273.07 *
	34.049	116.82143	36.00000	18.69000	0.0	0.0	0.33541	0.0	0.0	273.07 *
	36.052	116.92857	34.00000	18.69000	0.0	0.0	0.34284	0.0	0.0	273.07 *
	38.054	117.03571	32.00000	18.69000	0.0	0.0	0.34726	0.0	0.0	273.07 *
	40.057	117.14286	30.00000	18.69000	0.0	0.0	0.34854	0.0	0.0	273.07 *
	42.060	117.25000	28.00000	18.69000	0.0	0.0	0.34665	0.0	0.0	273.07 *
	44.063	117.35714	26.00000	18.69000	0.0	0.0	0.34163	0.0	0.0	273.07 *
	46.066	117.46429	24.00000	18.69000	0.0	0.0	0.33364	0.0	0.0	273.07 *
	48.069	117.57143	22.00000	18.69000	0.0	0.0	0.32289	0.0	0.0	273.07 *
	50.072	117.67857	20.00000	18.69000	0.0	0.0	0.30970	0.0	0.0	273.07 *
	52.075	117.78571	18.00000	18.69000	0.0	0.0	0.29442	0.0	0.0	273.07 *
	54.077	117.89286	16.00000	18.69000	0.0	0.0	0.27746	0.0	0.0	273.07 *
	56.080	118.00000	14.00000	18.69000	0.0	0.0	0.25927	0.0	0.0	273.07 *
High Holborn House 2_3	Line 13	118.00000	14.00000	18.69000	0.0	0.0	0.25927	0.0	0.0	180.00 *
	2.0000	116.00000	14.00000	18.69000	0.0	0.0	0.31075	0.0	0.0	180.00 *
	4.0000	114.00000	14.00000	18.69000	0.0	0.0	0.37240	0.0	0.0	180.00 *
	6.0000	112.00000	14.00000	18.69000	0.0	0.0	0.44678	0.0	0.0	180.00 *
	8.0000	110.00000	14.00000	18.69000	0.0	0.0	0.53722	0.0	0.0	180.00 *
High Holborn House 2_4	Line 14	110.00000	14.00000	18.69000	0.0	0.0	0.53722	0.0	0.0	265.91 *
	2.0051	109.85714	12.00000	18.69000	0.0	0.0	0.50080	0.0	0.0	265.91 *
	4.0102	109.71429	10.00000	18.69000	0.0	0.0	0.46205	0.0	0.0	265.91 *
	6.0153	109.57143	8.00000	18.69000	0.0	0.0	0.42224	0.0	0.0	265.91 *
	8.0204	109.42857	6.00000	18.69000	0.0	0.0	0.38251	0.0	0.0	265.91 *
	10.025	109.28571	4.00000	18.69000	0.0	0.0	0.34379	0.0	0.0	265.91 *
	12.031	109.14286	2.00000	18.69000	0.0	0.0	0.30676	0.0	0.0	265.91 *
	14.036	109.00000	0.00000	18.69000	0.0	0.0	0.27191	0.0	0.0	265.91 *
	16.041	108.85714	-2.00000	18.69000	0.0	0.0	0.23953	0.0	0.0	265.91 *
	18.046	108.71429	-4.00000	18.69000	0.0	0.0	0.20974	0.0	0.0	265.91 *
	20.051	108.57143	-6.00000	18.69000	0.0	0.0	0.18257	0.0	0.0	265.91 *
	22.056	108.42857	-8.00000	18.69000	0.0	0.0	0.15796	0.0	0.0	265.91 *
	24.061	108.28571	-10.00000	18.69000	0.0	0.0	0.13579	0.0	0.0	265.91 *
	26.066	108.14286	-12.00000	18.69000	0.0	0.0	0.11592	0.0	0.0	265.91 *
	28.071	108.00000	-14.00000	18.69000	0.0	0.0	0.098165	0.0	0.0	265.91 *
High Holborn House 2_5	Line 15	108.00000	-14.00000	18.69000	0.0	0.0	0.098165	0.0	0.0	172.87 *
	2.0156	106.00000	-13.75000	18.69000	0.0	0.0	0.11230	0.0	0.0	172.87 *
	4.0311	104.00000	-13.50000	18.69000	0.0	0.0	0.12735	0.0	0.0	172.87 *
	6.0467	102.00000	-13.25000	18.69000	0.0	0.0	0.14322	0.0	0.0	172.87 *
	8.0623	100.00000	-13.00000	18.69000	0.0	0.0	0.15977	0.0	0.0	172.87 *
	10.078	98.00000	-12.75000	18.69000	0.0	0.0	0.17680	0.0	0.0	172.87 *
	12.093	96.00000	-12.50000	18.69000	0.0	0.0	0.19406	0.0	0.0	172.87 *
	14.109	94.00000	-12.25000	18.69000	0.0	0.0	0.21123	0.0	0.0	172.87 *
	16.125	92.00000	-12.00000	18.69000	0.0	0.0	0.22792	0.0	0.0	172.87 *
High Holborn House 2_6	Line 16	92.00000	-12.00000	18.69000	0.0	0.0	0.22792	0.0	0.0	90.000 *
	2.0000	92.00000	-10.00000	18.69000	0.0	0.0	0.27500	0.0	0.0	90.000 *
	4.0000	92.00000	-8.00000	18.69000	0.0	0.0	0.33181	0.0	0.0	90.000 *
	6.0000	92.00000	-6.00000	18.69000	0.0	0.0	0.40086	0.0	0.0	90.000 *
	8.0000	92.00000	-4.00000	18.69000	0.0	0.0	0.48553	0.0	0.0	90.000 *
	10.000	92.00000	-2.00000	18.69000	0.0	0.0	0.59036	0.0	0.0	90.000 *
	12.000	92.00000	0.00000	18.69000	0.0	0.0	0.72161	0.0	0.0	90.000 *
	14.000	92.00000	2.00000	18.69000	0.0	0.0	0.88804	0.0	0.0	90.000 *
	16.000	92.00000	4.00000	18.69000	0.0	0.0	1.1021	0.0	0.0	90.000 *
	18.000	92.00000	6.00000	18.69000	0.0	0.0	1.3821	0.0	0.0	90.000 *
High Holborn House 2_7	Line 17	92.00000	6.00000	18.69000	0.0	0.0	1.3821	0.0	0.0	94.946 *
	2.0878	91.82000	8.08000	18.69000	0.0	0.0	1.7944	0.0	0.0	94.946 *
	4.1755	91.64000	10.16000	18.69000	0.0	0.0	2.3824	0.0	0.0	94.946 *
	6.2633	91.46000	12.24000	18.69000	0.0	0.0	3.2636	0.0	0.0	94.946 *
	8.3511	91.28000	14.32000	18.69000	0.0	0.0	4.6814	0.0	0.0	94.946 *
	10.439	91.10000	16.40000	18.69000	0.0	0.0	7.1200	0.0	0.0	94.946 *
High Holborn House 2_8	Line 18	91.10000	16.40000	18.69000	0.0	0.0	7.1200	0.0	0.0	94.205 *
	1.9481	90.95714	18.34286	18.69000	0.0	0.0	9.7649	0.0	0.0	94.205 *
	3.8962	90.81429	20.28571	18.69000	0.0	0.0	11.319	0.0	0.0	94.205 *
	5.8443	90.67143	22.22857	18.69000	0.0	0.0	11.995	0.0	0.0	94.205 *
	7.7924	90.52857	24.17143	18.69000	0.0	0.0	12.324	0.0	0.0	94.205 *
	9.7405	90.38571	26.11429	18.69000	0.0	0.0	12.615	0.0	0.0	94.205 *
	11.689	90.24286	28.05714	18.69000	0.0	0.0	13.272	0.0	0.0	94.205 *
	13.637	90.10000	30.00000	18.69000	0.0	0.0	13.819	0.0	0.0	94.205 *
	15.585	89.95714	31.94286	18.69000	0.0	0.0	13.952	0.0	0.0	94.205 *
	17.533	89.81429	33.88571	18.69000	0.0	0.0	13.874	0.0	0.0	94.205 *
	19.481	89.67143	35.82857	18.69000	0.0	0.0	13.740	0.0	0.0	94.205 *
	21.429	89.52857	37.77143	18.69000	0.0	0.0	13.218	0.0	0.0	94.205 *
	23.377	89.38571	39.71429	18.69000	0.0	0.0	12.405	0.0	0.0	94.205 *
	25.325	89.24286	41.65714	18.69000	0.0	0.0	11.061	0.0	0.0	94.205 *
	27.273	89.10000	43.60000	18.69000	0.0	0.0	7.8865	0.0	0.0	94.205 *
High Holborn House 2_9	Line 19	89.10000	43.60000	18.69000	0.0	0.0	7.8865	0.0	0.0	4.9697 *
	2.3087	91.40000	43.80000	18.69000	0.0	0.0	4.6076	0.0	0.0	4.9697 *
	4.6174	93.70000	44.00000	18.69000	0.0	0.0	3.0275	0.0	0.0	4.9697 *
High Holborn House 2_10	Line 20	93.70000	44.00000	18.69000	0.0	0.0	3.0275	0.0	0.0	93.139 *
	1.9404	93.59375	45.93750	18.69000	0.0	0.0	2.4572	0.0	0.0	93.139 *
	3.8808	93.48750	47.87500	18.69000	0.0	0.0	1.9622	0.0	0.0	93.139 *
	5.8212	93.38125	49.81250	18.69000	0.0	0.0	1.5648	0.0	0.0	93.139 *

Type/No. Name	Dist.	Coordinates x	y	z	Displacements x	y	z	Horizontal displacement	Horizontal displacement	Angle of Line to x Axis
	7.7616	93.27500	51.75000	18.69000	0.0	0.0	1.2546	0.0	0.0	93.139 *
	9.7021	93.16875	53.68750	18.69000	0.0	0.0	1.0130	0.0	0.0	93.139 *
	11.642	93.06250	55.62500	18.69000	0.0	0.0	0.82376	0.0	0.0	93.139 *
	13.583	92.95625	57.56250	18.69000	0.0	0.0	0.67406	0.0	0.0	93.139 *
	15.523	92.85000	59.50000	18.69000	0.0	0.0	0.55441	0.0	0.0	93.139 *
	17.464	92.74375	61.43750	18.69000	0.0	0.0	0.45782	0.0	0.0	93.139 *
	19.404	92.63750	63.37500	18.69000	0.0	0.0	0.37911	0.0	0.0	93.139 *
	21.345	92.53125	65.31250	18.69000	0.0	0.0	0.31443	0.0	0.0	93.139 *
	23.285	92.42500	67.25000	18.69000	0.0	0.0	0.26087	0.0	0.0	93.139 *
	25.225	92.31875	69.18750	18.69000	0.0	0.0	0.21622	0.0	0.0	93.139 *
	27.166	92.21250	71.12500	18.69000	0.0	0.0	0.17880	0.0	0.0	93.139 *
	29.106	92.10625	73.06250	18.69000	0.0	0.0	0.14727	0.0	0.0	93.139 *
	31.047	92.00000	75.00000	18.69000	0.0	0.0	0.12061	0.0	0.0	93.139 *
High Holborn House 3_1	Line 21	91.10000	16.40000	19.10000	-5.2383	5.4770	11.880	4.9096	-5.7735	183.35 *
	1.9032	89.20000	16.28889	19.10000	-0.54775	9.7379	13.976	-0.021674	-9.7532	183.35 *
	3.8065	87.30000	16.17778	19.10000	-0.54759	9.7349	15.600	-0.021667	-9.7502	183.35 *
	5.7097	85.40000	16.06667	19.10000	-0.54742	9.7319	16.973	-0.021661	-9.7472	183.35 *
	7.6130	83.50000	15.95556	19.10000	-0.54725	9.7289	17.657	-0.021654	-9.7442	183.35 *
	9.5162	81.60000	15.84444	19.10000	-0.54708	9.7259	17.645	-0.021647	-9.7412	183.35 *
	11.419	79.70000	15.73333	19.10000	-0.54691	9.7229	16.845	-0.021641	-9.7382	183.35 *
	13.323	77.80000	15.62222	19.10000	-0.54674	9.7199	15.180	-0.021634	-9.7352	183.35 *
	15.226	75.90000	15.51111	19.10000	-0.54658	9.7169	12.993	-0.021627	-9.7323	183.35 *
	17.129	74.00000	15.40000	19.10000	-0.52685	9.3662	9.8607	-0.020847	-9.3810	183.35 *
High Holborn House 3_2	Line 22	74.00000	15.40000	19.10000	-0.52685	9.3662	9.8607	-9.3704	0.44638	275.95 *
	2.0683	74.21429	13.34286	19.10000	-0.46422	8.2529	8.4821	-8.2565	0.39332	275.95 *
	4.1365	74.42857	11.28571	19.10000	-0.38204	6.7918	6.8259	-6.7948	0.32369	275.95 *
	6.2048	74.64286	9.22857	19.10000	-0.29985	5.3307	5.3400	-5.3331	0.25406	275.95 *
	8.2731	74.85714	7.17143	19.10000	-0.23664	4.2070	3.9803	-4.2089	0.20050	275.95 *
	10.341	75.07143	5.11429	19.10000	-0.19314	3.4335	2.7867	-3.4350	0.16364	275.95 *
	12.410	75.28571	3.05714	19.10000	-0.14963	2.6600	1.8446	-2.6612	0.12677	275.95 *
	14.478	75.50000	1.00000	19.10000	-0.10612	1.8865	1.2094	-1.8874	0.089909	275.95 *
High Holborn House 3_3	Line 23	75.50000	1.00000	19.10000	-0.10612	1.8865	1.2094	-1.8549	-0.36004	262.23 *
	1.8503	75.25000	-0.83333	19.10000	-0.067862	1.2064	0.86855	-1.1862	-0.23024	262.23 *
	3.7006	75.00000	-2.66667	19.10000	-0.029585	0.52595	0.66254	-0.51713	-0.10038	262.23 *
	5.5509	74.75000	-4.50000	19.10000	0.0	0.0	0.48340	0.0	0.0	262.23 *
	7.4012	74.50000	-6.33333	19.10000	0.0	0.0	0.40227	0.0	0.0	262.23 *
	9.2515	74.25000	-8.16667	19.10000	0.0	0.0	0.33579	0.0	0.0	262.23 *
	11.102	74.00000	-10.00000	19.10000	0.0	0.0	0.28081	0.0	0.0	262.23 *
High Holborn House 3_4	Line 24	74.00000	-10.00000	19.10000	0.0	0.0	0.28081	0.0	0.0	353.66 *
	2.0123	76.00000	-10.22222	19.10000	0.0	0.0	0.28624	0.0	0.0	353.66 *
	4.0246	78.00000	-10.44444	19.10000	0.0	0.0	0.28865	0.0	0.0	353.66 *
	6.0369	80.00000	-10.66667	19.10000	0.0	0.0	0.28793	0.0	0.0	353.66 *
	8.0492	82.00000	-10.88889	19.10000	0.0	0.0	0.28410	0.0	0.0	353.66 *
	10.062	84.00000	-11.11111	19.10000	0.0	0.0	0.27732	0.0	0.0	353.66 *
	12.074	86.00000	-11.33333	19.10000	0.0	0.0	0.26786	0.0	0.0	353.66 *
	14.086	88.00000	-11.55556	19.10000	0.0	0.0	0.25607	0.0	0.0	353.66 *
	16.098	90.00000	-11.77778	19.10000	0.0	0.0	0.24240	0.0	0.0	353.66 *
	18.111	92.00000	-12.00000	19.10000	0.0	0.0	0.22728	0.0	0.0	353.66 *

* Result includes imported displacement(s).

Specific Building Damage Results - Horizontal Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9677	2.96774	79.00000	24.00000	0.0	0.0	0.0	0.0 d
3.9355	4.93548	79.00000	24.00000	0.0	0.0	0.0	0.0 d
5.9032	6.90323	79.00000	24.00000	0.0	0.0	0.0	0.0 d
7.8710	8.87097	79.00000	24.00000	0.0	0.0	0.0	0.0 d
9.8387	10.83871	79.00000	24.00000	0.0	0.0	0.0	0.0 d
11.806	12.80645	79.00000	24.00000	0.0	0.0	0.0	0.0 d
13.774	14.77419	79.00000	24.00000	0.0	0.0	0.0	0.0 d
15.742	16.74194	79.00000	24.00000	0.0	0.0	0.0	0.0 d
17.710	18.70968	79.00000	24.00000	0.0	0.0	0.0	0.0 d
19.677	20.67742	79.00000	24.00000	0.0	0.0	0.0	0.0 d
21.645	22.64516	79.00000	24.00000	0.0	0.0	0.0	0.0 d
23.613	24.61290	79.00000	24.00000	0.0	0.0	0.0	0.0 d
25.581	26.58065	79.00000	24.00000	0.0	0.0	0.0	0.0 d
27.548	28.54839	79.00000	24.00000	0.0	0.0	0.0	0.0 d
29.516	30.51613	79.00000	24.00000	0.0	0.0	0.0	0.0 d
31.484	32.48387	79.00000	24.00000	0.0	0.0	0.0	0.0 d
33.452	34.45161	79.00000	24.00000	0.0	0.0	0.0	0.0 d
35.419	36.41935	79.00000	24.00000	0.0	0.0	0.0	0.0 d
37.387	38.38710	79.00000	24.00000	0.0	0.0	0.0	0.0 d
39.355	40.35484	79.00000	24.00000	0.0	0.0	0.0	0.0 d
41.323	42.32258	79.00000	24.00000	0.0	0.0	0.0	0.0 d
43.290	44.29032	79.00000	24.00000	0.0	0.0	0.0	0.0 d
45.258	46.25806	79.00000	24.00000	0.0	0.0	0.0	0.0 d
47.226	48.22581	79.00000	24.00000	0.0	0.0	0.0	0.0 d
49.194	50.19355	79.00000	24.00000	0.0	0.0	0.0	0.0 d
51.161	52.16129	79.00000	24.00000	0.0	0.0	0.0	0.0 d
53.129	54.12903	79.00000	24.00000	0.0	0.0	0.0	0.0 d
55.097	56.09677	79.00000	24.00000	0.0	0.0	0.0	0.0 d
57.065	58.06452	79.00000	24.00000	0.0	0.0	0.0	0.0 d
59.032	60.03226	79.00000	24.00000	0.0	0.0	0.0	0.0 d
61.000	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_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	62.00000	79.00000	24.00000	0.0	0.0	0.0	0.0 d
1.9730	62.00000	77.02703	24.00000	0.0	0.0	0.0	0.0 d
3.9459	62.00000	75.05405	24.00000	0.0	0.0	0.0	0.0 d
5.9189	62.00000	73.08108	24.00000	0.0	0.0	0.0	0.0 d
7.8919	62.00000	71.10811	24.00000	0.0	0.0	0.0	0.0 d
9.8649	62.00000	69.13514	24.00000	0.0	0.0	0.0	0.0 d
11.838	62.00000	67.16216	24.00000	0.0	0.0	0.0	0.0 d
13.811	62.00000	65.18919	24.00000	0.0	0.0	0.0	0.0 d
15.784	62.00000	63.21622	24.00000	0.0	0.0	0.0	0.0 d
17.757	62.00000	61.24324	24.00000	0.0	0.0	0.0	0.0 d
19.730	62.00000	59.27027	24.00000	0.024561	-0.27017	0.27017	0.024561 d
21.703	62.00000	57.29730	24.00000	0.060871	-0.66958	0.66958	0.060871 d
23.676	62.00000	55.32432	24.00000	0.090681	-0.99750	0.99750	0.090681 d
25.649	62.00000	53.35135	24.00000	0.11243	-1.2368	1.2368	0.11243 d
27.622	62.00000	51.37838	24.00000	0.12430	-1.3673	1.3673	0.12430 d
29.595	62.00000	49.40541	24.00000	0.12436	-1.3680	1.3680	0.12436 d
31.568	62.00000	47.43243	24.00000	0.11111	-1.2222	1.2222	0.11111 d
33.541	62.00000	45.45946	24.00000	0.084341	-0.92775	0.92775	0.084341 d
35.514	62.00000	43.48649	24.00000	0.046332	-0.50965	0.50965	0.046332 d
37.486	62.00000	41.51351	24.00000	0.0024283	-0.026712	0.026712	0.0024283 d
39.459	62.00000	39.54054	24.00000	0.0	0.0	0.0	0.0 d
41.432	62.00000	37.56757	24.00000	0.0	0.0	0.0	0.0 d
43.405	62.00000	35.59459	24.00000	0.0	0.0	0.0	0.0 d
45.378	62.00000	33.62162	24.00000	0.0	0.0	0.0	0.0 d
47.351	62.00000	31.64865	24.00000	0.0	0.0	0.0	0.0 d
49.324	62.00000	29.67568	24.00000	0.0	0.0	0.0	0.0 d
51.297	62.00000	27.70270	24.00000	0.0	0.0	0.0	0.0 d

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the	Horizontal displacement perpendicular	
53.270	62.00000	25.72973	24.00000	0.0	0.0	0.0	0.0	d
55.243	62.00000	23.75676	24.00000	0.0	0.0	0.0	0.0	d
57.216	62.00000	21.78378	24.00000	0.0	0.0	0.0	0.0	d
59.189	62.00000	19.81081	24.00000	0.0	0.0	0.0	0.0	d
61.162	62.00000	17.83784	24.00000	0.0	0.0	0.0	0.0	d
63.135	62.00000	15.86486	24.00000	0.0	0.0	0.0	0.0	d
65.108	62.00000	13.89189	24.00000	-0.0077041	0.13696	-0.13696	-0.0077041	d
67.081	62.00000	11.91892	24.00000	-0.022158	0.39391	-0.39391	-0.022158	d
69.054	62.00000	9.94595	24.00000	-0.032235	0.57307	-0.57307	-0.032235	d
71.027	62.00000	7.97297	24.00000	-0.036709	0.65260	-0.65260	-0.036709	d
73.000	62.00000	6.00000	24.00000	-0.035311	0.62776	-0.62776	-0.035311	d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	62.00000	6.00000	24.00000	-0.035311	0.62776	-0.035311	0.62776	d
1.8000	63.80000	6.00000	24.00000	-0.052638	0.93578	-0.052638	0.93578	d
3.6000	65.60000	6.00000	24.00000	-0.073322	1.3035	-0.073322	1.3035	d
5.4000	67.40000	6.00000	24.00000	-0.097708	1.7370	-0.097708	1.7370	d
7.2000	69.20000	6.00000	24.00000	-0.12568	2.2343	-0.12568	2.2343	d
9.0000	71.00000	6.00000	24.00000	-0.15618	2.7765	-0.15618	2.7765	d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	71.00000	6.00000	24.00000	-0.15618	2.7765	-2.7765	-0.15618	d
1.8750	71.00000	4.12500	24.00000	-0.13203	2.3472	-2.3472	-0.13203	d
3.7500	71.00000	2.25000	24.00000	-0.10418	1.8521	-1.8521	-0.10418	d
5.6250	71.00000	0.37500	24.00000	-0.073913	1.3140	-1.3140	-0.073913	d
7.5000	71.00000	-1.50000	24.00000	-0.041989	0.74647	-0.74647	-0.041989	d
9.3750	71.00000	-3.37500	24.00000	-0.0088796	0.15786	-0.15786	-0.0088796	d
11.250	71.00000	-5.25000	24.00000	0.0	0.0	0.0	0.0	d
13.125	71.00000	-7.12500	24.00000	0.0	0.0	0.0	0.0	d
15.000	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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	71.00000	-9.00000	24.00000	0.0	0.0	0.0	0.0	d
2.0165	69.00000	-8.74286	24.00000	0.0	0.0	0.0	0.0	d
4.0329	67.00000	-8.48571	24.00000	0.0	0.0	0.0	0.0	d
6.0494	65.00000	-8.22857	24.00000	0.0	0.0	0.0	0.0	d
8.0659	63.00000	-7.97143	24.00000	0.0	0.0	0.0	0.0	d
10.082	61.00000	-7.71429	24.00000	0.0	0.0	0.0	0.0	d
12.099	59.00000	-7.45714	24.00000	0.0	0.0	0.0	0.0	d
14.115	57.00000	-7.20000	24.00000	0.0	0.0	0.0	0.0	d
16.132	55.00000	-6.94286	24.00000	0.0	0.0	0.0	0.0	d
18.148	53.00000	-6.68571	24.00000	0.0	0.0	0.0	0.0	d
20.165	51.00000	-6.42857	24.00000	0.0	0.0	0.0	0.0	d
22.181	49.00000	-6.17143	24.00000	0.0	0.0	0.0	0.0	d
24.198	47.00000	-5.91429	24.00000	0.0	0.0	0.0	0.0	d
26.214	45.00000	-5.65714	24.00000	0.0	0.0	0.0	0.0	d
28.230	43.00000	-5.40000	24.00000	0.0	0.0	0.0	0.0	d
30.247	41.00000	-5.14286	24.00000	0.0	0.0	0.0	0.0	d
32.263	39.00000	-4.88571	24.00000	0.0	0.0	0.0	0.0	d
34.280	37.00000	-4.62857	24.00000	0.0	0.0	0.0	0.0	d
36.296	35.00000	-4.37143	24.00000	0.0	0.0	0.0	0.0	d
38.313	33.00000	-4.11429	24.00000	0.0	0.0	0.0	0.0	d
40.329	31.00000	-3.85714	24.00000	0.0	0.0	0.0	0.0	d
42.346	29.00000	-3.60000	24.00000	0.0	0.0	0.0	0.0	d
44.362	27.00000	-3.34286	24.00000	0.0	0.0	0.0	0.0	d
46.379	25.00000	-3.08571	24.00000	0.0	0.0	0.0	0.0	d
48.395	23.00000	-2.82857	24.00000	0.0	0.0	0.0	0.0	d
50.412	21.00000	-2.57143	24.00000	0.0	0.0	0.0	0.0	d
52.428	19.00000	-2.31429	24.00000	0.0	0.0	0.0	0.0	d
54.444	17.00000	-2.05714	24.00000	0.0	0.0	0.0	0.0	d
56.461	15.00000	-1.80000	24.00000	0.0	0.0	0.0	0.0	d
58.477	13.00000	-1.54286	24.00000	0.0	0.0	0.0	0.0	d
60.494	11.00000	-1.28571	24.00000	0.0	0.0	0.0	0.0	d
62.510	9.00000	-1.02857	24.00000	0.0	0.0	0.0	0.0	d
64.527	7.00000	-0.77143	24.00000	0.0	0.0	0.0	0.0	d
66.543	5.00000	-0.51429	24.00000	0.0	0.0	0.0	0.0	d
68.560	3.00000	-0.25714	24.00000	0.0	0.0	0.0	0.0	d
70.576	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
0.0	1.00000	0.00000	24.00000	0.0	0.0	0.0	0.0	d
1.9750	1.00000	1.97500	24.00000	0.0	0.0	0.0	0.0	d
3.9500	1.00000	3.95000	24.00000	0.0	0.0	0.0	0.0	d
5.9250	1.00000	5.92500	24.00000	0.0	0.0	0.0	0.0	d
7.9000	1.00000	7.90000	24.00000	0.0	0.0	0.0	0.0	d
9.8750	1.00000	9.87500	24.00000	0.0	0.0	0.0	0.0	d
11.850	1.00000	11.85000	24.00000	0.0	0.0	0.0	0.0	d
13.825	1.00000	13.82500	24.00000	0.0	0.0	0.0	0.0	d
15.800	1.00000	15.80000	24.00000	0.0	0.0	0.0	0.0	d
17.775	1.00000	17.77500	24.00000	0.0	0.0	0.0	0.0	d
19.750	1.00000	19.75000	24.00000	0.0	0.0	0.0	0.0	d
21.725	1.00000	21.72500	24.00000	0.0	0.0	0.0	0.0	d
23.700	1.00000	23.70000	24.00000	0.0	0.0	0.0	0.0	d
25.675	1.00000	25.67500	24.00000	0.0	0.0	0.0	0.0	d
27.650	1.00000	27.65000	24.00000	0.0	0.0	0.0	0.0	d
29.625	1.00000	29.62500	24.00000	0.0	0.0	0.0	0.0	d
31.600	1.00000	31.60000	24.00000	0.0	0.0	0.0	0.0	d
33.575	1.00000	33.57500	24.00000	0.0	0.0	0.0	0.0	d
35.550	1.00000	35.55000	24.00000	0.0	0.0	0.0	0.0	d
37.525	1.00000	37.52500	24.00000	0.0	0.0	0.0	0.0	d
39.500	1.00000	39.50000	24.00000	0.0	0.0	0.0	0.0	d
41.475	1.00000	41.47500	24.00000	0.0	0.0	0.0	0.0	d
43.450	1.00000	43.45000	24.00000	0.0	0.0	0.0	0.0	d
45.425	1.00000	45.42500	24.00000	0.0	0.0	0.0	0.0	d
47.400	1.00000	47.40000	24.00000	0.0	0.0	0.0	0.0	d
49.375	1.00000	49.37500	24.00000	0.0	0.0	0.0	0.0	d
51.350	1.00000	51.35000	24.00000	0.0	0.0	0.0	0.0	d
53.325	1.00000	53.32500	24.00000	0.0	0.0	0.0	0.0	d
55.300	1.00000	55.30000	24.00000	0.0	0.0	0.0	0.0	d
57.275	1.00000	57.27500	24.00000	0.0	0.0	0.0	0.0	d
59.250	1.00000	59.25000	24.00000	0.0	0.0	0.0	0.0	d
61.225	1.00000	61.22500	24.00000	0.0	0.0	0.0	0.0	d
63.200	1.00000	63.20000	24.00000	0.0	0.0	0.0	0.0	d

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 25-May-2018	Checked

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the	Horizontal displacement perpendicular	
65.175	1.00000	65.17500	24.00000	0.0	0.0	0.0	0.0	d
67.150	1.00000	67.15000	24.00000	0.0	0.0	0.0	0.0	d
69.125	1.00000	69.12500	24.00000	0.0	0.0	0.0	0.0	d
71.100	1.00000	71.10000	24.00000	0.0	0.0	0.0	0.0	d
73.075	1.00000	73.07500	24.00000	0.0	0.0	0.0	0.0	d
75.050	1.00000	75.05000	24.00000	0.0	0.0	0.0	0.0	d
77.025	1.00000	77.02500	24.00000	0.0	0.0	0.0	0.0	d
79.000	1.00000	79.00000	24.00000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	93.00000	57.00000	20.27000	-0.45367	-2.0834	0.061964	2.1313	d
2.0349	91.00000	57.37500	20.27000	-0.18871	-2.3292	-0.24378	2.3241	d
4.0697	89.00000	57.75000	20.27000	0.074479	-2.4725	-0.52885	2.4164	d
6.1046	87.00000	58.12500	20.27000	0.22048	-2.4252	-0.66365	2.3431	d
8.1394	85.00000	58.50000	20.27000	0.20165	-2.2182	-0.60698	2.1430	d
10.174	83.00000	58.87500	20.27000	0.18282	-2.0111	-0.55031	1.9429	d
12.209	81.00000	59.25000	20.27000	0.16400	-1.8040	-0.49364	1.7428	d
14.244	79.00000	59.62500	20.27000	0.14517	-1.5969	-0.43697	1.5428	d
16.279	77.00000	60.00000	20.27000	0.12634	-1.3898	-0.38030	1.3427	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_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	77.00000	60.00000	20.27000	0.12634	-1.3898	-0.12634	1.3898	d
1.8333	75.16667	60.00000	20.27000	0.12071	-1.3278	-0.12071	1.3278	d
3.6667	73.33333	60.00000	20.27000	0.11507	-1.2658	-0.11507	1.2658	d
5.5000	71.50000	60.00000	20.27000	0.10944	-1.2038	-0.10944	1.2038	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	71.50000	60.00000	20.27000	0.10944	-1.2038	1.2080	0.042119	d
1.9920	71.61111	58.01111	20.27000	0.17703	-1.9473	1.9541	0.068133	d
3.9840	71.72222	56.02222	20.27000	0.24461	-2.6908	2.7002	0.094146	d
5.9760	71.83333	54.03333	20.27000	0.31220	-3.4342	3.4463	0.12016	d
7.9680	71.94444	52.04444	20.27000	0.37979	-4.1777	4.1924	0.14617	d
9.9600	72.05556	50.05556	20.27000	0.44738	-4.9212	4.9385	0.17219	d
11.952	72.16667	48.06667	20.27000	0.57210	-6.2931	6.3152	0.22019	d
13.944	72.27778	46.07778	20.27000	0.69977	-7.6974	7.7245	0.26932	d
15.936	72.38889	44.08889	20.27000	0.82744	-9.1018	9.1338	0.31846	d
17.928	72.50000	42.10000	20.27000	0.95510	-10.506	10.543	0.36760	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	72.50000	42.10000	20.27000	0.95510	-10.506	0.0057303	-10.549	d
2.0835	74.57500	42.28750	20.27000	0.95518	-10.507	0.0057307	-10.550	d
4.1669	76.65000	42.47500	20.27000	0.95525	-10.508	0.0057312	-10.551	d
6.2504	78.72500	42.66250	20.27000	0.95532	-10.509	0.0057316	-10.552	d
8.3338	80.80000	42.85000	20.27000	0.95539	-10.509	0.0057320	-10.553	d
10.417	82.87500	43.03750	20.27000	0.95547	-10.510	0.0057325	-10.553	d
12.501	84.95000	43.22500	20.27000	0.95554	-10.511	0.0057329	-10.554	d
14.584	87.02500	43.41250	20.27000	0.95561	-10.512	0.0057333	-10.555	d
16.668	89.10000	43.60000	20.27000	-5.3626	-5.1240	-5.8020	-4.6206	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0	d
1.9614	93.91667	74.58333	18.69000	0.0	0.0	0.0	0.0	d
3.9229	95.83333	74.16667	18.69000	0.0	0.0	0.0	0.0	d
5.8843	97.75000	73.75000	18.69000	0.0	0.0	0.0	0.0	d
7.8457	99.66667	73.33333	18.69000	0.0	0.0	0.0	0.0	d
9.8072	101.58333	72.91667	18.69000	0.0	0.0	0.0	0.0	d
11.769	103.50000	72.50000	18.69000	0.0	0.0	0.0	0.0	d
13.730	105.41667	72.08333	18.69000	0.0	0.0	0.0	0.0	d
15.691	107.33333	71.66667	18.69000	0.0	0.0	0.0	0.0	d
17.653	109.25000	71.25000	18.69000	0.0	0.0	0.0	0.0	d
19.614	111.16667	70.83333	18.69000	0.0	0.0	0.0	0.0	d
21.576	113.08333	70.41667	18.69000	0.0	0.0	0.0	0.0	d
23.537	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_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	115.00000	70.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0029	115.10714	68.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0057	115.21429	66.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0086	115.32143	64.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0115	115.42857	62.00000	18.69000	0.0	0.0	0.0	0.0	d
10.014	115.53571	60.00000	18.69000	0.0	0.0	0.0	0.0	d
12.017	115.64286	58.00000	18.69000	0.0	0.0	0.0	0.0	d
14.020	115.75000	56.00000	18.69000	0.0	0.0	0.0	0.0	d
16.023	115.85714	54.00000	18.69000	0.0	0.0	0.0	0.0	d
18.026	115.96429	52.00000	18.69000	0.0	0.0	0.0	0.0	d
20.029	116.07143	50.00000	18.69000	0.0	0.0	0.0	0.0	d
22.032	116.17857	48.00000	18.69000	0.0	0.0	0.0	0.0	d
24.034	116.28571	46.00000	18.69000	0.0	0.0	0.0	0.0	d
26.037	116.39286	44.00000	18.69000	0.0	0.0	0.0	0.0	d
28.040	116.50000	42.00000	18.69000	0.0	0.0	0.0	0.0	d
30.043	116.60714	40.00000	18.69000	0.0	0.0	0.0	0.0	d
32.046	116.71429	38.00000	18.69000	0.0	0.0	0.0	0.0	d
34.049	116.82143	36.00000	18.69000	0.0	0.0	0.0	0.0	d
36.052	116.92857	34.00000	18.69000	0.0	0.0	0.0	0.0	d
38.054	117.03571	32.00000	18.69000	0.0	0.0	0.0	0.0	d

Dist.	Coordinates x	y	z	Displacements x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
40.057	117.14286	30.00000	18.69000	0.0	0.0	0.0	0.0	d
42.060	117.25000	28.00000	18.69000	0.0	0.0	0.0	0.0	d
44.063	117.35714	26.00000	18.69000	0.0	0.0	0.0	0.0	d
46.066	117.46429	24.00000	18.69000	0.0	0.0	0.0	0.0	d
48.069	117.57143	22.00000	18.69000	0.0	0.0	0.0	0.0	d
50.072	117.67857	20.00000	18.69000	0.0	0.0	0.0	0.0	d
52.075	117.78571	18.00000	18.69000	0.0	0.0	0.0	0.0	d
54.077	117.89286	16.00000	18.69000	0.0	0.0	0.0	0.0	d
56.080	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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	118.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0000	116.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0000	114.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0000	112.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0000	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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	110.00000	14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0051	109.85714	12.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0102	109.71429	10.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0153	109.57143	8.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0204	109.42857	6.00000	18.69000	0.0	0.0	0.0	0.0	d
10.025	109.28571	4.00000	18.69000	0.0	0.0	0.0	0.0	d
12.031	109.14286	2.00000	18.69000	0.0	0.0	0.0	0.0	d
14.036	109.00000	0.00000	18.69000	0.0	0.0	0.0	0.0	d
16.041	108.85714	-2.00000	18.69000	0.0	0.0	0.0	0.0	d
18.046	108.71429	-4.00000	18.69000	0.0	0.0	0.0	0.0	d
20.051	108.57143	-6.00000	18.69000	0.0	0.0	0.0	0.0	d
22.056	108.42857	-8.00000	18.69000	0.0	0.0	0.0	0.0	d
24.061	108.28571	-10.00000	18.69000	0.0	0.0	0.0	0.0	d
26.066	108.14286	-12.00000	18.69000	0.0	0.0	0.0	0.0	d
28.071	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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	108.00000	-14.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0156	106.00000	-13.75000	18.69000	0.0	0.0	0.0	0.0	d
4.0311	104.00000	-13.50000	18.69000	0.0	0.0	0.0	0.0	d
6.0467	102.00000	-13.25000	18.69000	0.0	0.0	0.0	0.0	d
8.0623	100.00000	-13.00000	18.69000	0.0	0.0	0.0	0.0	d
10.078	98.00000	-12.75000	18.69000	0.0	0.0	0.0	0.0	d
12.093	96.00000	-12.50000	18.69000	0.0	0.0	0.0	0.0	d
14.109	94.00000	-12.25000	18.69000	0.0	0.0	0.0	0.0	d
16.125	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	92.00000	-12.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0000	92.00000	-10.00000	18.69000	0.0	0.0	0.0	0.0	d
4.0000	92.00000	-8.00000	18.69000	0.0	0.0	0.0	0.0	d
6.0000	92.00000	-6.00000	18.69000	0.0	0.0	0.0	0.0	d
8.0000	92.00000	-4.00000	18.69000	0.0	0.0	0.0	0.0	d
10.000	92.00000	-2.00000	18.69000	0.0	0.0	0.0	0.0	d
12.000	92.00000	0.00000	18.69000	0.0	0.0	0.0	0.0	d
14.000	92.00000	2.00000	18.69000	0.0	0.0	0.0	0.0	d
16.000	92.00000	4.00000	18.69000	0.0	0.0	0.0	0.0	d
18.000	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	92.00000	6.00000	18.69000	0.0	0.0	0.0	0.0	d
2.0878	91.82000	8.08000	18.69000	0.0	0.0	0.0	0.0	d
4.1755	91.64000	10.16000	18.69000	0.0	0.0	0.0	0.0	d
6.2633	91.46000	12.24000	18.69000	0.0	0.0	0.0	0.0	d
8.3511	91.28000	14.32000	18.69000	0.0	0.0	0.0	0.0	d
10.439	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	91.10000	16.40000	18.69000	0.0	0.0	0.0	0.0	d
1.9481	90.95714	18.34286	18.69000	0.0	0.0	0.0	0.0	d
3.8962	90.81429	20.28571	18.69000	0.0	0.0	0.0	0.0	d
5.8443	90.67143	22.22857	18.69000	0.0	0.0	0.0	0.0	d
7.7924	90.52857	24.17143	18.69000	0.0	0.0	0.0	0.0	d
9.7405	90.38571	26.11429	18.69000	0.0	0.0	0.0	0.0	d
11.689	90.24286	28.05714	18.69000	0.0	0.0	0.0	0.0	d
13.637	90.10000	30.00000	18.69000	0.0	0.0	0.0	0.0	d
15.585	89.95714	31.94286	18.69000	0.0	0.0	0.0	0.0	d
17.533	89.81429	33.88571	18.69000	0.0	0.0	0.0	0.0	d
19.481	89.67143	35.82857	18.69000	0.0	0.0	0.0	0.0	d
21.429	89.52857	37.77143	18.69000	0.0	0.0	0.0	0.0	d
23.377	89.38571	39.71429	18.69000	0.0	0.0	0.0	0.0	d
25.325	89.24286	41.65714	18.69000	0.0	0.0	0.0	0.0	d
27.273	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No. 371547 | Sheet No. | Rev.
Drg. Ref.
Made by CS | Date 25-May-2018 | Checked

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	89.10000	43.60000	18.69000	0.0	0.0	0.0	0.0	d
2.3087	91.40000	43.80000	18.69000	0.0	0.0	0.0	0.0	d
4.6174	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	93.70000	44.00000	18.69000	0.0	0.0	0.0	0.0	d
1.9404	93.59375	45.93750	18.69000	0.0	0.0	0.0	0.0	d
3.8808	93.48750	47.87500	18.69000	0.0	0.0	0.0	0.0	d
5.8212	93.38125	49.81250	18.69000	0.0	0.0	0.0	0.0	d
7.7616	93.27500	51.75000	18.69000	0.0	0.0	0.0	0.0	d
9.7021	93.16875	53.68750	18.69000	0.0	0.0	0.0	0.0	d
11.642	93.06250	55.62500	18.69000	0.0	0.0	0.0	0.0	d
13.583	92.95625	57.56250	18.69000	0.0	0.0	0.0	0.0	d
15.523	92.85000	59.50000	18.69000	0.0	0.0	0.0	0.0	d
17.464	92.74375	61.43750	18.69000	0.0	0.0	0.0	0.0	d
19.404	92.63750	63.37500	18.69000	0.0	0.0	0.0	0.0	d
21.345	92.53125	65.31250	18.69000	0.0	0.0	0.0	0.0	d
23.285	92.42500	67.25000	18.69000	0.0	0.0	0.0	0.0	d
25.225	92.31875	69.18750	18.69000	0.0	0.0	0.0	0.0	d
27.166	92.21250	71.12500	18.69000	0.0	0.0	0.0	0.0	d
29.106	92.10625	73.06250	18.69000	0.0	0.0	0.0	0.0	d
31.047	92.00000	75.00000	18.69000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

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	91.10000	16.40000	19.10000	-5.2383	5.4770	4.9096	-5.7735	d
1.9032	89.20000	16.28889	19.10000	-0.54775	9.7379	-0.021674	-9.7532	d
3.8065	87.30000	16.17778	19.10000	-0.54759	9.7349	-0.021667	-9.7502	d
5.7097	85.40000	16.06667	19.10000	-0.54742	9.7319	-0.021661	-9.7472	d
7.6130	83.50000	15.95556	19.10000	-0.54725	9.7289	-0.021654	-9.7442	d
9.5162	81.60000	15.84444	19.10000	-0.54708	9.7259	-0.021647	-9.7412	d
11.419	79.70000	15.73333	19.10000	-0.54691	9.7229	-0.021641	-9.7382	d
13.323	77.80000	15.62222	19.10000	-0.54674	9.7199	-0.021634	-9.7352	d
15.226	75.90000	15.51111	19.10000	-0.54658	9.7169	-0.021627	-9.7323	d
17.129	74.00000	15.40000	19.10000	-0.52685	9.3662	-0.020847	-9.3810	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

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	74.00000	15.40000	19.10000	-0.52685	9.3662	-9.3704	0.44638	d
2.0683	74.21429	13.34286	19.10000	-0.46422	8.2529	-8.2565	0.39332	d
4.1365	74.42857	11.28571	19.10000	-0.38204	6.7918	-6.7948	0.32369	d
6.2048	74.64286	9.22857	19.10000	-0.29985	5.3307	-5.3331	0.25406	d
8.2731	74.85714	7.17143	19.10000	-0.23664	4.2070	-4.2089	0.20050	d
10.341	75.07143	5.11429	19.10000	-0.19314	3.4335	-3.4350	0.16364	d
12.410	75.28571	3.05714	19.10000	-0.14963	2.6600	-2.6612	0.12677	d
14.478	75.50000	1.00000	19.10000	-0.10612	1.8865	-1.8874	0.089909	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	75.50000	1.00000	19.10000	-0.10612	1.8865	-1.8549	-0.36004	d
1.8503	75.25000	-0.83333	19.10000	-0.067862	1.2064	-1.1862	-0.23024	d
3.7006	75.00000	-2.66667	19.10000	-0.029585	0.52595	-0.51713	-0.10038	d
5.5509	74.75000	-4.50000	19.10000	0.0	0.0	0.0	0.0	d
7.4012	74.50000	-6.33333	19.10000	0.0	0.0	0.0	0.0	d
9.2515	74.25000	-8.16667	19.10000	0.0	0.0	0.0	0.0	d
11.102	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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	74.00000	-10.00000	19.10000	0.0	0.0	0.0	0.0	d
2.0123	76.00000	-10.22222	19.10000	0.0	0.0	0.0	0.0	d
4.0246	78.00000	-10.44444	19.10000	0.0	0.0	0.0	0.0	d
6.0369	80.00000	-10.66667	19.10000	0.0	0.0	0.0	0.0	d
8.0492	82.00000	-10.88889	19.10000	0.0	0.0	0.0	0.0	d
10.062	84.00000	-11.11111	19.10000	0.0	0.0	0.0	0.0	d
12.074	86.00000	-11.33333	19.10000	0.0	0.0	0.0	0.0	d
14.086	88.00000	-11.55556	19.10000	0.0	0.0	0.0	0.0	d
16.098	90.00000	-11.77778	19.10000	0.0	0.0	0.0	0.0	d
18.111	92.00000	-12.00000	19.10000	0.0	0.0	0.0	0.0	d

d - Displacements include imported displacements.

Specific Building Damage Results - Vertical Displacements

Structure: Mid City Place_1 | Sub-structure: Mid City Place_1

Dist.	Coordinates x	y	z	Displacements z	
[m]	[m]	[m]	[m]	[mm]	
Vertical Offset 1					
0.0	1.00000	79.00000	24.00000	-0.024730	d
1.9677	2.96774	79.00000	24.00000	-0.024767	d
3.9355	4.93548	79.00000	24.00000	-0.024736	d
5.9032	6.90323	79.00000	24.00000	-0.024628	d
7.8710	8.87097	79.00000	24.00000	-0.024433	d
9.8387	10.83871	79.00000	24.00000	-0.024141	d
11.806	12.80645	79.00000	24.00000	-0.023742	d
13.774	14.77419	79.00000	24.00000	-0.023224	d

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
15.742	16.74194	79.00000	24.00000	-0.022575	d
17.710	18.70968	79.00000	24.00000	-0.021782	d
19.677	20.67742	79.00000	24.00000	-0.020830	d
21.645	22.64516	79.00000	24.00000	-0.019707	d
23.613	24.61290	79.00000	24.00000	-0.018397	d
25.581	26.58065	79.00000	24.00000	-0.016886	d
27.548	28.54839	79.00000	24.00000	-0.015158	d
29.516	30.51613	79.00000	24.00000	-0.013199	d
31.484	32.48387	79.00000	24.00000	-0.010994	d
33.452	34.45161	79.00000	24.00000	-0.0085309	d
35.419	36.41935	79.00000	24.00000	-0.0057967	d
37.387	38.38710	79.00000	24.00000	-0.0027815	d
39.355	40.35484	79.00000	24.00000	522.45E-6	d
41.323	42.32258	79.00000	24.00000	0.0041195	d
43.290	44.29032	79.00000	24.00000	0.0080102	d
45.258	46.25806	79.00000	24.00000	0.012190	d
47.226	48.22581	79.00000	24.00000	0.016649	d
49.194	50.19355	79.00000	24.00000	0.021370	d
51.161	52.16129	79.00000	24.00000	0.026329	d
53.129	54.12903	79.00000	24.00000	0.031493	d
55.097	56.09677	79.00000	24.00000	0.036819	d
57.065	58.06452	79.00000	24.00000	0.042256	d
59.032	60.03226	79.00000	24.00000	0.047742	d
61.000	62.00000	79.00000	24.00000	0.053207	d

d - Displacements include imported displacements.

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	62.00000	79.00000	24.00000	0.053207	d
1.9730	62.00000	77.02703	24.00000	0.067386	d
3.9459	62.00000	75.05405	24.00000	0.083818	d
5.9189	62.00000	73.08108	24.00000	0.10286	d
7.8919	62.00000	71.10811	24.00000	0.12492	d
9.8649	62.00000	69.13514	24.00000	0.15049	d
11.838	62.00000	67.16216	24.00000	0.18014	d
13.811	62.00000	65.18919	24.00000	0.21455	d
15.784	62.00000	63.21622	24.00000	0.25450	d
17.757	62.00000	61.24324	24.00000	0.30092	d
19.730	62.00000	59.27027	24.00000	0.40089	d
21.703	62.00000	57.29730	24.00000	0.50487	d
23.676	62.00000	55.32432	24.00000	0.63559	d
25.649	62.00000	53.35135	24.00000	0.81407	d
27.622	62.00000	51.37838	24.00000	1.0240	d
29.595	62.00000	49.40541	24.00000	1.2250	d
31.568	62.00000	47.43243	24.00000	1.3706	d
33.541	62.00000	45.45946	24.00000	1.4279	d
35.514	62.00000	43.48649	24.00000	1.3958	d
37.486	62.00000	41.51351	24.00000	1.3087	d
39.459	62.00000	39.54054	24.00000	1.4199	d
41.432	62.00000	37.56757	24.00000	1.5274	d
43.405	62.00000	35.59459	24.00000	1.6143	d
45.378	62.00000	33.62162	24.00000	1.6779	d
47.351	62.00000	31.64865	24.00000	1.7163	d
49.324	62.00000	29.67568	24.00000	1.7282	d
51.297	62.00000	27.70270	24.00000	1.7131	d
53.270	62.00000	25.72973	24.00000	1.6715	d
55.243	62.00000	23.75676	24.00000	1.6052	d
57.216	62.00000	21.78378	24.00000	1.5178	d
59.189	62.00000	19.81081	24.00000	1.4138	d
61.162	62.00000	17.83784	24.00000	1.2990	d
63.135	62.00000	15.86486	24.00000	1.1789	d
65.108	62.00000	13.89189	24.00000	1.1008	d
67.081	62.00000	11.91892	24.00000	1.0535	d
69.054	62.00000	9.94595	24.00000	0.97077	d
71.027	62.00000	7.97297	24.00000	0.85657	d
73.000	62.00000	6.00000	24.00000	0.73072	d

d - Displacements include imported displacements.

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	62.00000	6.00000	24.00000	0.73072	d
1.8000	63.80000	6.00000	24.00000	0.91962	d
3.6000	65.60000	6.00000	24.00000	1.1862	d
5.4000	67.40000	6.00000	24.00000	1.5375	d
7.2000	69.20000	6.00000	24.00000	1.9641	d
9.0000	71.00000	6.00000	24.00000	2.4350	d

d - Displacements include imported displacements.

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.00000	6.00000	24.00000	2.4350	d
1.8750	71.00000	4.12500	24.00000	1.7701	d
3.7500	71.00000	2.25000	24.00000	1.2417	d
5.6250	71.00000	0.37500	24.00000	0.88382	d
7.5000	71.00000	-1.50000	24.00000	0.66989	d
9.3750	71.00000	-3.37500	24.00000	0.51153	d
11.250	71.00000	-5.25000	24.00000	0.40289	d
13.125	71.00000	-7.12500	24.00000	0.33901	d
15.000	71.00000	-9.00000	24.00000	0.28544	d

d - Displacements include imported displacements.

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.00000	-9.00000	24.00000	0.28544	d
2.0165	69.00000	-8.74286	24.00000	0.27344	d
4.0329	67.00000	-8.48571	24.00000	0.25937	d
6.0494	65.00000	-8.22857	24.00000	0.24373	d
8.0659	63.00000	-7.97143	24.00000	0.22700	d
10.082	61.00000	-7.71429	24.00000	0.20963	d
12.099	59.00000	-7.45714	24.00000	0.19203	d
14.115	57.00000	-7.20000	24.00000	0.17454	d
16.132	55.00000	-6.94286	24.00000	0.15743	d
18.148	53.00000	-6.68571	24.00000	0.14093	d
20.165	51.00000	-6.42857	24.00000	0.12518	d
22.181	49.00000	-6.17143	24.00000	0.11030	d
24.198	47.00000	-5.91429	24.00000	0.096362	d
26.214	45.00000	-5.65714	24.00000	0.083403	d
28.230	43.00000	-5.40000	24.00000	0.071432	d
30.247	41.00000	-5.14286	24.00000	0.060438	d
32.263	39.00000	-4.88571	24.00000	0.050395	d
34.280	37.00000	-4.62857	24.00000	0.041267	d
36.296	35.00000	-4.37143	24.00000	0.033008	d
38.313	33.00000	-4.11429	24.00000	0.025568	d
40.329	31.00000	-3.85714	24.00000	0.018895	d
42.346	29.00000	-3.60000	24.00000	0.012934	d
44.362	27.00000	-3.34286	24.00000	0.0076310	d

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No.	Sheet No.	Rev.
371547		
Drg. Ref.		
Made by CS	Date 25-May-2018	Checked

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
46.379	25.00000	-3.08571	24.00000	0.0029336	d
48.395	23.00000	-2.82857	24.00000	-0.0012092	d
50.412	21.00000	-2.57143	24.00000	-0.0048463	d
52.428	19.00000	-2.31429	24.00000	-0.0080237	d
54.444	17.00000	-2.05714	24.00000	-0.010785	d
56.461	15.00000	-1.80000	24.00000	-0.013169	d
58.477	13.00000	-1.54286	24.00000	-0.015215	d
60.494	11.00000	-1.28571	24.00000	-0.016957	d
62.510	9.00000	-1.02857	24.00000	-0.018426	d
64.527	7.00000	-0.77143	24.00000	-0.019652	d
66.543	5.00000	-0.51429	24.00000	-0.020661	d
68.560	3.00000	-0.25714	24.00000	-0.021477	d
70.576	1.00000	0.00000	24.00000	-0.022123	d

d - Displacements include imported displacements.

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	1.00000	0.00000	24.00000	-0.022123	d
1.9750	1.00000	1.97500	24.00000	-0.021973	d
3.9500	1.00000	3.95000	24.00000	-0.021820	d
5.9250	1.00000	5.92500	24.00000	-0.021668	d
7.9000	1.00000	7.90000	24.00000	-0.021520	d
9.8750	1.00000	9.87500	24.00000	-0.021379	d
11.850	1.00000	11.85000	24.00000	-0.021247	d
13.825	1.00000	13.82500	24.00000	-0.021127	d
15.800	1.00000	15.80000	24.00000	-0.021023	d
17.775	1.00000	17.77500	24.00000	-0.020936	d
19.750	1.00000	19.75000	24.00000	-0.020869	d
21.725	1.00000	21.72500	24.00000	-0.020823	d
23.700	1.00000	23.70000	24.00000	-0.020801	d
25.675	1.00000	25.67500	24.00000	-0.020804	d
27.650	1.00000	27.65000	24.00000	-0.020832	d
29.625	1.00000	29.62500	24.00000	-0.020885	d
31.600	1.00000	31.60000	24.00000	-0.020963	d
33.575	1.00000	33.57500	24.00000	-0.021065	d
35.550	1.00000	35.55000	24.00000	-0.021191	d
37.525	1.00000	37.52500	24.00000	-0.021339	d
39.500	1.00000	39.50000	24.00000	-0.021507	d
41.475	1.00000	41.47500	24.00000	-0.021693	d
43.450	1.00000	43.45000	24.00000	-0.021893	d
45.425	1.00000	45.42500	24.00000	-0.022105	d
47.400	1.00000	47.40000	24.00000	-0.022327	d
49.375	1.00000	49.37500	24.00000	-0.022554	d
51.350	1.00000	51.35000	24.00000	-0.022784	d
53.325	1.00000	53.32500	24.00000	-0.023014	d
55.300	1.00000	55.30000	24.00000	-0.023239	d
57.275	1.00000	57.27500	24.00000	-0.023458	d
59.250	1.00000	59.25000	24.00000	-0.023667	d
61.225	1.00000	61.22500	24.00000	-0.023863	d
63.200	1.00000	63.20000	24.00000	-0.024044	d
65.175	1.00000	65.17500	24.00000	-0.024207	d
67.150	1.00000	67.15000	24.00000	-0.024351	d
69.125	1.00000	69.12500	24.00000	-0.024474	d
71.100	1.00000	71.10000	24.00000	-0.024574	d
73.075	1.00000	73.07500	24.00000	-0.024651	d
75.050	1.00000	75.05000	24.00000	-0.024702	d
77.025	1.00000	77.02500	24.00000	-0.024729	d
79.000	1.00000	79.00000	24.00000	-0.024730	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_1 | Sub-structure: High Holborn House 1_1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	93.00000	57.00000	20.27000	1.4038	d
2.0349	91.00000	57.37500	20.27000	1.4507	d
4.0697	89.00000	57.75000	20.27000	1.4163	d
6.1046	87.00000	58.12500	20.27000	1.3163	d
8.1394	85.00000	58.50000	20.27000	1.2057	d
10.174	83.00000	58.87500	20.27000	1.0983	d
12.209	81.00000	59.25000	20.27000	0.99532	d
14.244	79.00000	59.62500	20.27000	0.89773	d
16.279	77.00000	60.00000	20.27000	0.80635	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	77.00000	60.00000	20.27000	0.80635	d
1.8333	75.16667	60.00000	20.27000	0.77002	d
3.6667	73.33333	60.00000	20.27000	0.72925	d
5.5000	71.50000	60.00000	20.27000	0.68528	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	71.50000	60.00000	20.27000	0.68528	d
1.9920	71.61111	58.01111	20.27000	0.98625	d
3.9840	71.72222	56.02222	20.27000	1.5081	d
5.9760	71.83333	54.03333	20.27000	2.2881	d
7.9680	71.94444	52.04444	20.27000	3.3039	d
9.9600	72.05556	50.05556	20.27000	4.4788	d
11.952	72.16667	48.06667	20.27000	5.8070	d
13.944	72.27778	46.07778	20.27000	7.3258	d
15.936	72.38889	44.08889	20.27000	9.2185	d
17.928	72.50000	42.10000	20.27000	11.862	d

d - Displacements include imported displacements.

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	72.50000	42.10000	20.27000	11.862	d
2.0835	74.57500	42.28750	20.27000	14.229	d
4.1669	76.65000	42.47500	20.27000	14.897	d
6.2504	78.72500	42.66250	20.27000	15.302	d
8.3338	80.80000	42.85000	20.27000	15.575	d
10.417	82.87500	43.03750	20.27000	15.674	d
12.501	84.95000	43.22500	20.27000	15.639	d
14.584	87.02500	43.41250	20.27000	15.559	d
16.668	89.10000	43.60000	20.27000	12.486	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_1

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

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	75.00000	18.69000	0.12061	d
1.9614	93.91667	74.58333	18.69000	0.11977	d
3.9229	95.83333	74.16667	18.69000	0.11783	d
5.8843	97.75000	73.75000	18.69000	0.11484	d
7.8457	99.66667	73.33333	18.69000	0.11088	d
9.8072	101.58333	72.91667	18.69000	0.10608	d
11.769	103.50000	72.50000	18.69000	0.10054	d
13.730	105.41667	72.08333	18.69000	0.094407	d
15.691	107.33333	71.66667	18.69000	0.087822	d
17.653	109.25000	71.25000	18.69000	0.080918	d
19.614	111.16667	70.83333	18.69000	0.073824	d
21.576	113.08333	70.41667	18.69000	0.066658	d
23.537	115.00000	70.00000	18.69000	0.059524	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	115.00000	70.00000	18.69000	0.059524	d
2.0029	115.10714	68.00000	18.69000	0.071363	d
4.0057	115.21429	66.00000	18.69000	0.084332	d
6.0086	115.32143	64.00000	18.69000	0.098451	d
8.0115	115.42857	62.00000	18.69000	0.11371	d
10.014	115.53571	60.00000	18.69000	0.13008	d
12.017	115.64286	58.00000	18.69000	0.14748	d
14.020	115.75000	56.00000	18.69000	0.16577	d
16.023	115.85714	54.00000	18.69000	0.18480	d
18.026	115.96429	52.00000	18.69000	0.20432	d
20.029	116.07143	50.00000	18.69000	0.22403	d
22.032	116.17857	48.00000	18.69000	0.24361	d
24.034	116.28571	46.00000	18.69000	0.26266	d
26.037	116.39286	44.00000	18.69000	0.28076	d
28.040	116.50000	42.00000	18.69000	0.29749	d
30.043	116.60714	40.00000	18.69000	0.31243	d
32.046	116.71429	38.00000	18.69000	0.32518	d
34.049	116.82143	36.00000	18.69000	0.33541	d
36.052	116.92857	34.00000	18.69000	0.34284	d
38.054	117.03571	32.00000	18.69000	0.34726	d
40.057	117.14286	30.00000	18.69000	0.34854	d
42.060	117.25000	28.00000	18.69000	0.34665	d
44.063	117.35714	26.00000	18.69000	0.34163	d
46.066	117.46429	24.00000	18.69000	0.33364	d
48.069	117.57143	22.00000	18.69000	0.32289	d
50.072	117.67857	20.00000	18.69000	0.30970	d
52.075	117.78571	18.00000	18.69000	0.29442	d
54.077	117.89286	16.00000	18.69000	0.27746	d
56.080	118.00000	14.00000	18.69000	0.25927	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	118.00000	14.00000	18.69000	0.25927	d
2.0000	116.00000	14.00000	18.69000	0.31075	d
4.0000	114.00000	14.00000	18.69000	0.37240	d
6.0000	112.00000	14.00000	18.69000	0.44678	d
8.0000	110.00000	14.00000	18.69000	0.53722	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	110.00000	14.00000	18.69000	0.53722	d
2.0051	109.85714	12.00000	18.69000	0.50080	d
4.0102	109.71429	10.00000	18.69000	0.46205	d
6.0153	109.57143	8.00000	18.69000	0.42224	d
8.0204	109.42857	6.00000	18.69000	0.38251	d
10.025	109.28571	4.00000	18.69000	0.34379	d
12.031	109.14286	2.00000	18.69000	0.30676	d
14.036	109.00000	0.00000	18.69000	0.27191	d
16.041	108.85714	-2.00000	18.69000	0.23953	d
18.046	108.71429	-4.00000	18.69000	0.20974	d
20.051	108.57143	-6.00000	18.69000	0.18257	d
22.056	108.42857	-8.00000	18.69000	0.15796	d
24.061	108.28571	-10.00000	18.69000	0.13579	d
26.066	108.14286	-12.00000	18.69000	0.11592	d
28.071	108.00000	-14.00000	18.69000	0.098165	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	108.00000	-14.00000	18.69000	0.098165	d
2.0156	106.00000	-13.75000	18.69000	0.11230	d
4.0311	104.00000	-13.50000	18.69000	0.12735	d
6.0467	102.00000	-13.25000	18.69000	0.14322	d
8.0623	100.00000	-13.00000	18.69000	0.15977	d
10.078	98.00000	-12.75000	18.69000	0.17680	d
12.093	96.00000	-12.50000	18.69000	0.19406	d
14.109	94.00000	-12.25000	18.69000	0.21123	d
16.125	92.00000	-12.00000	18.69000	0.22792	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	-12.00000	18.69000	0.22792	d
2.0000	92.00000	-10.00000	18.69000	0.27500	d
4.0000	92.00000	-8.00000	18.69000	0.33181	d
6.0000	92.00000	-6.00000	18.69000	0.40086	d
8.0000	92.00000	-4.00000	18.69000	0.48553	d
10.000	92.00000	-2.00000	18.69000	0.59036	d
12.000	92.00000	0.00000	18.69000	0.72161	d
14.000	92.00000	2.00000	18.69000	0.88804	d
16.000	92.00000	4.00000	18.69000	1.1021	d
18.000	92.00000	6.00000	18.69000	1.3821	d

d - Displacements include imported displacements.

Oasys RSK GROUP

18-21 Hand Court
Building Damage
Final Condition_drained

Job No. 371547 | Sheet No. | Rev.
Drg. Ref.
Made by CS | Date 25-May-2018 | Checked

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

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	92.00000	6.00000	18.69000	1.3821	d
2.0878	91.82000	8.08000	18.69000	1.7944	d
4.1755	91.64000	10.16000	18.69000	2.3824	d
6.2633	91.46000	12.24000	18.69000	3.2636	d
8.3511	91.28000	14.32000	18.69000	4.6814	d
10.439	91.10000	16.40000	18.69000	7.1200	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	91.10000	16.40000	18.69000	7.1200	d
1.9481	90.95714	18.34286	18.69000	9.7649	d
3.8962	90.81429	20.28571	18.69000	11.319	d
5.8443	90.67143	22.22857	18.69000	11.995	d
7.7924	90.52857	24.17143	18.69000	12.324	d
9.7405	90.38571	26.11429	18.69000	12.615	d
11.689	90.24286	28.05714	18.69000	13.272	d
13.637	90.10000	30.00000	18.69000	13.819	d
15.585	89.95714	31.94286	18.69000	13.952	d
17.533	89.81429	33.88571	18.69000	13.874	d
19.481	89.67143	35.82857	18.69000	13.740	d
21.429	89.52857	37.77143	18.69000	13.218	d
23.377	89.38571	39.71429	18.69000	12.405	d
25.325	89.24286	41.65714	18.69000	11.061	d
27.273	89.10000	43.60000	18.69000	7.8865	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	89.10000	43.60000	18.69000	7.8865	d
2.3087	91.40000	43.80000	18.69000	4.6076	d
4.6174	93.70000	44.00000	18.69000	3.0275	d

d - Displacements include imported displacements.

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	93.70000	44.00000	18.69000	3.0275	d
1.9404	93.59375	45.93750	18.69000	2.4572	d
3.8808	93.48750	47.87500	18.69000	1.9622	d
5.8212	93.38125	49.81250	18.69000	1.5648	d
7.7616	93.27500	51.75000	18.69000	1.2546	d
9.7021	93.16875	53.68750	18.69000	1.0130	d
11.642	93.06250	55.62500	18.69000	0.82376	d
13.583	92.95625	57.56250	18.69000	0.67406	d
15.523	92.85000	59.50000	18.69000	0.55441	d
17.464	92.74375	61.43750	18.69000	0.45782	d
19.404	92.63750	63.37500	18.69000	0.37911	d
21.345	92.53125	65.31250	18.69000	0.31443	d
23.285	92.42500	67.25000	18.69000	0.26087	d
25.225	92.31875	69.18750	18.69000	0.21622	d
27.166	92.21250	71.12500	18.69000	0.17880	d
29.106	92.10625	73.06250	18.69000	0.14727	d
31.047	92.00000	75.00000	18.69000	0.12061	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_1

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	91.10000	16.40000	19.10000	11.880	d
1.9032	89.20000	16.28889	19.10000	13.976	d
3.8065	87.30000	16.17778	19.10000	15.600	d
5.7097	85.40000	16.06667	19.10000	16.973	d
7.6130	83.50000	15.95556	19.10000	17.657	d
9.5162	81.60000	15.84444	19.10000	17.645	d
11.419	79.70000	15.73333	19.10000	16.845	d
13.323	77.80000	15.62222	19.10000	15.180	d
15.226	75.90000	15.51111	19.10000	12.993	d
17.129	74.00000	15.40000	19.10000	9.8607	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_2

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	74.00000	15.40000	19.10000	9.8607	d
2.0683	74.21429	13.34286	19.10000	8.4821	d
4.1365	74.42857	11.28571	19.10000	6.8259	d
6.2048	74.64286	9.22857	19.10000	5.3400	d
8.2731	74.85714	7.17143	19.10000	3.9803	d
10.341	75.07143	5.11429	19.10000	2.7867	d
12.410	75.28571	3.05714	19.10000	1.8446	d
14.478	75.50000	1.00000	19.10000	1.2094	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

Dist.	Coordinates x [m]	y [m]	z [m]	Displacements z [mm]	
Vertical Offset 1					
0.0	75.50000	1.00000	19.10000	1.2094	d
1.8503	75.25000	-0.83333	19.10000	0.86855	d
3.7006	75.00000	-2.66667	19.10000	0.66254	d
5.5509	74.75000	-4.50000	19.10000	0.48340	d
7.4012	74.50000	-6.33333	19.10000	0.40227	d
9.2515	74.25000	-8.16667	19.10000	0.33579	d
11.102	74.00000	-10.00000	19.10000	0.28081	d

d - Displacements include imported displacements.

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

Dist.	Coordinates			Displacements	

	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1

0.0	74.00000	-10.00000	19.10000	0.28081 d
2.0123	76.00000	-10.22222	19.10000	0.28624 d
4.0246	78.00000	-10.44444	19.10000	0.28865 d
6.0369	80.00000	-10.66667	19.10000	0.28793 d
8.0492	82.00000	-10.88889	19.10000	0.28410 d
10.062	84.00000	-11.11111	19.10000	0.27732 d
12.074	86.00000	-11.33333	19.10000	0.26786 d
14.086	88.00000	-11.55556	19.10000	0.25607 d
16.098	90.00000	-11.77778	19.10000	0.24240 d
18.111	92.00000	-12.00000	19.10000	0.22728 d

d - Displacements include imported displacements.

Specific Building Damage Results - All Segments

Structure: Mid City Place_1 | Sub-structure: Mid City Place_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	All settlements are less than the Settlement Trough Limit Sensitivity.										

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

Structure: Mid City Place_2 | Sub-structure: Mid City Place_2

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	5.9189	21.128	Hogging	0.0013376	0.0062914	0.0068524	-202.40E-6	-106.39E-6	102010.	0 (Negligible)
	2	27.047	8.4725	Sagging	0.0020837	-0.0096923	0.0022917	244.84E-6	-106.39E-6	48325.	0 (Negligible)
	3	35.520	5.3488	Hogging	0.0022950	-0.0094994	0.0023435	244.84E-6	-56.357E-6	46453.	0 (Negligible)
	4	40.869	19.662	Sagging	0.0015345	0.0	0.0014359	0.0	58.195E-6	145590.	0 (Negligible)
	5	60.530	5.5409	Hogging	638.73E-6	-0.0047355	0.0010178	130.25E-6	60.890E-6	142840.	0 (Negligible)
	6	66.071	6.9288	Sagging	609.58E-6	-0.0052732	0.0011118	130.25E-6	63.789E-6	142270.	0 (Negligible)

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

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	9.0000	Hogging	0.0025108	-0.0013429	0.0020912	16.942E-6	-261.63E-6	40228.	0 (Negligible)

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

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	15.000	Hogging	0.0049598	0.018510	0.020001	-313.83E-6	354.55E-6	22716.	0 (Negligible)

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

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

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	11.557	Sagging	42.154E-6	0.0	41.163E-6	0.0	8.7282E-6	1.8583E+6	0 (Negligible)
	2	11.557	10.624	Hogging	20.647E-6	0.0	20.564E-6	0.0	8.7282E-6	4.3600E+6	0 (Negligible)

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

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

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: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	8.1326	Sagging	0.0013664	-0.0082278	0.0018104	150.27E-6	54.377E-6	48666.	0 (Negligible)
	2	8.1326	8.1454	Hogging	131.01E-6	0.0027850	0.0028340	-27.849E-6	54.377E-6	646810.	0 (Negligible)

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

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_2

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	5.5000	Sagging	73.164E-6	307.38E-6	343.86E-6	-3.0738E-6	23.982E-6	707690.	0 (Negligible)

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

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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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	17.927	Hogging	0.013462	0.052069	0.062529	-706.97E-6	-0.0013263	4699.4	1 (Very Slight)

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

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	16.667	Sagging	0.020529	-0.034835	0.012554	0.0027953	0.0014792	1158.8	0 (Negligible)

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

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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	11.769	Sagging	36.149E-6	0.0	34.082E-6	0.0	3.1258E-6	3.4377E+6	0 (Negligible)

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

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_2

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	8.0115	11.119	Hogging	25.144E-6	0.0	24.784E-6	0.0	-9.8452E-6	3.6624E+6	0 (Negligible)
	2	19.131	36.949	Sagging	296.16E-6	0.0	436.27E-6	0.0	-9.8452E-6	1.2734E+6	0 (Negligible)

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

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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	8.0000	Hogging	321.73E-6	0.0	319.47E-6	0.0	-45.220E-6	236560.	0 (Negligible)

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

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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	5.9707	Sagging	31.628E-6	0.0	31.149E-6	0.0	19.853E-6	1.5143E+6	0 (Negligible)
	2	5.9707	20.096	Hogging	147.40E-6	0.0	141.08E-6	0.0	19.853E-6	1.5483E+6	0 (Negligible)

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

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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	2.0156	9.3923	Hogging	17.519E-6	0.0	17.345E-6	0.0	-8.5626E-6	4.5512E+6	0 (Negligible)
	2	11.408	4.7161	Sagging	5.9661E-6	0.0	5.9009E-6	0.0	-8.5626E-6	7.1812E+6	0 (Negligible)

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

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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	18.000	Hogging	0.0015488	0.0	0.0014949	0.0	-140.00E-6	56765.	0 (Negligible)

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

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	10.438	Hogging	0.014902	0.0	0.014724	0.0	-0.0011680	3817.1	0 (Negligible)

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

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	7.9616	Sagging	0.020542	0.0	0.019979	0.0	-0.0013577	3319.7	0 (Negligible)
	2	7.9616	3.1123	Hogging	0.0045508	0.0	0.0045459	0.0	-337.32E-6	26286.	0 (Negligible)
	3	11.074	16.199	Sagging	0.021361	0.0	0.019861	0.0	0.0016296	1760.5	0 (Negligible)

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

Vertical Offset from Line for Vertical Movement	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.6170	Hogging	0.018213	0.0	0.018170	0.0	0.0014203	3137.1	0 (Negligible)

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

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	31.046	Hogging	0.0035865	0.0	0.0032391	0.0	293.90E-6	42322.	0 (Negligible)

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

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	17.129	Sagging	0.040212	-0.028784	0.031689	0.0025977	0.0016458	3444.6	0 (Negligible)

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

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_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	3.6768	Sagging	0.0032733	0.061213	0.063002	-706.23E-6	800.18E-6	11007.	1 (Very Slight)
	2	3.6768	10.800	Hogging	0.0066084	0.048444	0.053552	-706.23E-6	800.18E-6	13352.	1 (Very Slight)

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

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	11.101	Hogging	0.0023493	0.016709	0.018568	-361.47E-6	184.14E-6	21172.	0 (Negligible)

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

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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	18.110	Sagging	149.56E-6	0.0	226.34E-6	0.0	7.5132E-6	1.3064E+6	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: Mid City Place_1 | Sub-structure: Mid City Place_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]	

Structure: Mid City Place_2 | Sub-structure: Mid City Place_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	0.0022950	-0.0096923	-106.39E-6	1.7276	0.0068524	244.84E-6	-106.39E-6	46453.	48325.	0 (Negligible)

Structure: Mid City Place_3 | Sub-structure: Mid City Place_3

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	0.0025108	-0.0013429	-261.63E-6	2.4350	0.0020912	16.942E-6	-261.63E-6	40228.	-	0 (Negligible)

Structure: Mid City Place_4 | Sub-structure: Mid City Place_4

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	0.0049598	0.018510	354.55E-6	2.4350	0.020001	-313.83E-6	354.55E-6	22716.	-	0 (Negligible)

Structure: Mid City Place_5 | Sub-structure: Mid City Place_5

Vertical Offset from	Deflection Ratio	Average Horizontal	Max Slope	Max Settlement	Max Tensile	Max Gradient of	Max Gradient of Vertical	Min Radius of	Min Radius of	Damage Category

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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	42.154E-6	0.0	8.7282E-6	0.28544	41.163E-6	0.0	8.7282E-6	4.3600E+6	1.8583E+6	0 (Negligible)

Structure: Mid City Place_6 | Sub-structure: Mid City Place_6

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: High Holborn House 1_1 | Sub-structure: High Holborn House 1_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	0.0013664	-0.0082278	54.377E-6	1.4503	0.0028340	150.27E-6	54.377E-6	646810.	48666.	0 (Negligible)

Structure: High Holborn House 1_2 | Sub-structure: High Holborn House 1_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	73.164E-6	307.38E-6	23.982E-6	0.80635	343.86E-6	-3.0738E-6	23.982E-6	-	707690.	0 (Negligible)

Structure: High Holborn House 1_3 | Sub-structure: High Holborn House 1_3

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	0.013462	0.052069	-0.0013263	11.861	0.062529	-706.97E-6	-0.0013263	4699.4	-	1 (Very Slight)

Structure: High Holborn House 1_4 | Sub-structure: High Holborn House 1_4

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	0.020529	-0.034835	0.0014792	15.674	0.012554	0.0027953	0.0014792	-	1158.8	0 (Negligible)

Structure: High Holborn House 2_1 | Sub-structure: High Holborn House 2_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	36.149E-6	0.0	3.1258E-6	0.12061	34.082E-6	0.0	3.1258E-6	-	3.4377E+6	0 (Negligible)

Structure: High Holborn House 2_2 | Sub-structure: High Holborn House 2_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	296.16E-6	0.0	-9.8452E-6	0.34852	436.27E-6	0.0	-9.8452E-6	3.6624E+6	1.2734E+6	0 (Negligible)

Structure: High Holborn House 2_3 | Sub-structure: High Holborn House 2_3

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	321.73E-6	0.0	-45.220E-6	0.53722	319.47E-6	0.0	-45.220E-6	236560.	-	0 (Negligible)

Structure: High Holborn House 2_4 | Sub-structure: High Holborn House 2_4

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	147.40E-6	0.0	19.853E-6	0.53722	141.08E-6	0.0	19.853E-6	1.5483E+6	1.5143E+6	0 (Negligible)

Structure: High Holborn House 2_5 | Sub-structure: High Holborn House 2_5

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	17.519E-6	0.0	-8.5626E-6	0.22792	17.345E-6	0.0	-8.5626E-6	4.5512E+6	7.1812E+6	0 (Negligible)

Structure: High Holborn House 2_6 | Sub-structure: High Holborn House 2_6

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 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	0.0015488	0.0	-140.00E-6	1.3821	0.0014949	0.0	-140.00E-6	56765.	-	0 (Negligible)

Structure: High Holborn House 2_7 | Sub-structure: High Holborn House 2_7

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	0.014902	0.0	-0.0011680	7.1190	0.014724	0.0	-0.0011680	3817.1	-	0 (Negligible)

Structure: High Holborn House 2_8 | Sub-structure: High Holborn House 2_8

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	0.021361	0.0	0.0016296	13.949	0.019979	0.0	0.0016296	26286.	1760.5	0 (Negligible)

Structure: High Holborn House 2_9 | Sub-structure: High Holborn House 2_9

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	0.018213	0.0	0.0014203	7.8865	0.018170	0.0	0.0014203	3137.1	-	0 (Negligible)

Structure: High Holborn House 2_10 | Sub-structure: High Holborn House 2_10

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	0.0035865	0.0	293.90E-6	3.0275	0.0032391	0.0	293.90E-6	42322.	-	0 (Negligible)

Structure: High Holborn House 3_1 | Sub-structure: High Holborn House 3_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	0.040212	-0.028784	0.0016458	17.657	0.031689	0.0025977	0.0016458	-	3444.6	0 (Negligible)

Structure: High Holborn House 3_2 | Sub-structure: High Holborn House 3_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	0.0066084	0.061213	800.18E-6	9.8607	0.063002	-706.23E-6	800.18E-6	13352.	11007.	1 (Very Slight)

Structure: High Holborn House 3_3 | Sub-structure: High Holborn House 3_3

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	0.0023493	0.016709	184.14E-6	1.2094	0.018568	-361.47E-6	184.14E-6	21172.	-	0 (Negligible)

Structure: High Holborn House 3_4 | Sub-structure: High Holborn House 3_4

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	149.56E-6	0.0	7.5132E-6	0.28865	226.34E-6	0.0	7.5132E-6	-	1.3064E+6	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]	
Mid City Place_1	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
Mid City Place_2	Max Slope	Mid City Place_2	1	5.9189	27.047	Hogging	**106.39E-6**	0.96288	0.0068524	102010.	-	0 (Negligible)
	Max Settlement	Mid City Place_2	4	40.869	60.530	Sagging	58.195E-6	**1.7276**	0.0014359	-	145590.	0 (Negligible)
	Max Tensile Strain	Mid City Place_2	1	5.9189	27.047	Hogging	106.39E-6	0.96288	**0.0068524**	102010.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_2	3	35.520	40.869	Hogging	56.357E-6	1.4967	0.0023435	**46453.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	Mid City Place_2	2	27.047	35.520	Sagging	106.39E-6	1.4278	0.0022917	-	**48325.**	0 (Negligible)
Mid City Place_3	Max Slope	Mid City Place_3	1	0.0	9.0000	Hogging	**261.63E-6**	2.4350	0.0020912	40228.	-	0 (Negligible)
	Max Settlement	Mid City Place_3	1	0.0	9.0000	Hogging	261.63E-6	**2.4350**	0.0020912	40228.	-	0 (Negligible)
	Max Tensile Strain	Mid City Place_3	1	0.0	9.0000	Hogging	261.63E-6	2.4350	**0.0020912**	40228.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_3	1	0.0	9.0000	Hogging	261.63E-6	2.4350	0.0020912	**40228.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-

Oasys RSK GROUP

Job No. 371547 | Sheet No. | Rev.

18-21 Hand Court
Building Damage
Final Condition_drained

Drg. Ref.

Made by CS | Date 25-May-2018 | Checked

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
Mid City Place_4	Max Slope	Mid City Place_4	1	0.0	15.000	Hogging	**354.55E-6**	2.4350	0.020001	22716.	-	0 (Negligible)
	Max Settlement	Mid City Place_4	1	0.0	15.000	Hogging	354.55E-6	**2.4350**	0.020001	22716.	-	0 (Negligible)
	Max Tensile Strain	Mid City Place_4	1	0.0	15.000	Hogging	354.55E-6	2.4350	**0.020001**	22716.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_4	1	0.0	15.000	Hogging	354.55E-6	2.4350	0.020001	**22716.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
Mid City Place_5	Max Slope	Mid City Place_5	1	0.0	11.557	Sagging	**8.7282E-6**	0.28544	41.163E-6	-	1.8583E+6	0 (Negligible)
	Max Settlement	Mid City Place_5	1	0.0	11.557	Sagging	8.7282E-6	**0.28544**	41.163E-6	-	1.8583E+6	0 (Negligible)
	Max Tensile Strain	Mid City Place_5	1	0.0	11.557	Sagging	8.7282E-6	0.28544	**41.163E-6**	-	1.8583E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)	Mid City Place_5	2	11.557	22.181	Hogging	8.7282E-6	0.19676	20.564E-6	**4.3600E+6**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	Mid City Place_5	1	0.0	11.557	Sagging	8.7282E-6	0.28544	41.163E-6	-	**1.8583E+6**	0 (Negligible)
Mid City Place_6	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
	All settlements are less than the Settlement Trough Limit Sensitivity.											
High Holborn House 1_1	Max Slope	High Holborn House 1_1	1	0.0	8.1326	Sagging	**54.377E-6**	1.4503	0.0018104	-	48666.	0 (Negligible)
	Max Settlement	High Holborn House 1_1	1	0.0	8.1326	Sagging	54.377E-6	**1.4503**	0.0018104	-	48666.	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_1	2	8.1326	16.278	Hogging	54.377E-6	1.2061	**0.0028340**	646810.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 1_1	2	8.1326	16.278	Hogging	54.377E-6	1.2061	0.0028340	**646810.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 1_1	1	0.0	8.1326	Sagging	54.377E-6	1.4503	0.0018104	-	**48666.**	0 (Negligible)
High Holborn House 1_2	Max Slope	High Holborn House 1_2	1	0.0	5.5000	Sagging	**23.982E-6**	0.80635	343.86E-6	-	707690.	0 (Negligible)
	Max Settlement	High Holborn House 1_2	1	0.0	5.5000	Sagging	23.982E-6	**0.80635**	343.86E-6	-	707690.	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_2	1	0.0	5.5000	Sagging	23.982E-6	0.80635	**343.86E-6**	-	707690.	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 1_2	1	0.0	5.5000	Sagging	23.982E-6	0.80635	343.86E-6	-	**707690.**	0 (Negligible)
High Holborn House 1_3	Max Slope	High Holborn House 1_3	1	0.0	17.927	Hogging	**0.0013263**	11.861	0.062529	4699.4	-	1 (Very Slight)
	Max Settlement	High Holborn House 1_3	1	0.0	17.927	Hogging	0.0013263	**11.861**	0.062529	4699.4	-	1 (Very Slight)
	Max Tensile Strain	High Holborn House 1_3	1	0.0	17.927	Hogging	0.0013263	11.861	**0.062529**	4699.4	-	1 (Very Slight)
	Min Radius of Curvature (Hogging)	High Holborn House 1_3	1	0.0	17.927	Hogging	0.0013263	11.861	0.062529	**4699.4**	-	1 (Very Slight)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 1_4	Max Slope	High Holborn House 1_4	1	0.0	16.667	Sagging	**0.0014792**	15.674	0.012554	-	1158.8	0 (Negligible)
	Max Settlement	High Holborn House 1_4	1	0.0	16.667	Sagging	0.0014792	**15.674**	0.012554	-	1158.8	0 (Negligible)
	Max Tensile Strain	High Holborn House 1_4	1	0.0	16.667	Sagging	0.0014792	15.674	**0.012554**	-	1158.8	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 1_4	1	0.0	16.667	Sagging	0.0014792	15.674	0.012554	-	**1158.8**	0 (Negligible)
High Holborn House 2_1	Max Slope	High Holborn House 2_1	1	0.0	11.769	Sagging	**3.1258E-6**	0.12061	34.082E-6	-	3.4377E+6	0 (Negligible)
	Max Settlement	High Holborn House 2_1	1	0.0	11.769	Sagging	3.1258E-6	**0.12061**	34.082E-6	-	3.4377E+6	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_1	1	0.0	11.769	Sagging	3.1258E-6	0.12061	**34.082E-6**	-	3.4377E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 2_1	1	0.0	11.769	Sagging	3.1258E-6	0.12061	34.082E-6	-	**3.4377E+6**	0 (Negligible)
High Holborn House 2_2	Max Slope	High Holborn House 2_2	1	8.0115	19.131	Hogging	**9.8452E-6**	0.21519	24.784E-6	3.6624E+6	-	0 (Negligible)
	Max Settlement	High Holborn House 2_2	2	19.131	56.080	Sagging	9.8452E-6	**0.34852**	436.27E-6	-	1.2734E+6	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_2	2	19.131	56.080	Sagging	9.8452E-6	0.34852	**436.27E-6**	-	1.2734E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_2	1	8.0115	19.131	Hogging	9.8452E-6	0.21519	24.784E-6	**3.6624E+6**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 2_2	2	19.131	56.080	Sagging	9.8452E-6	0.34852	436.27E-6	-	**1.2734E+6**	0 (Negligible)
High Holborn House 2_3	Max Slope	High Holborn House 2_3	1	0.0	8.0000	Hogging	**45.220E-6**	0.53722	319.47E-6	236560.	-	0 (Negligible)
	Max Settlement	High Holborn House 2_3	1	0.0	8.0000	Hogging	45.220E-6	**0.53722**	319.47E-6	236560.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_3	1	0.0	8.0000	Hogging	45.220E-6	0.53722	**319.47E-6**	236560.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_3	1	0.0	8.0000	Hogging	45.220E-6	0.53722	319.47E-6	**236560.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_4	Max Slope	High Holborn House 2_4	1	0.0	5.9707	Sagging	**19.853E-6**	0.53722	31.149E-6	-	1.5143E+6	0 (Negligible)
	Max Settlement	High Holborn House 2_4	1	0.0	5.9707	Sagging	19.853E-6	**0.53722**	31.149E-6	-	1.5143E+6	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_4	2	5.9707	26.066	Hogging	19.853E-6	0.42313	**141.08E-6**	1.5483E+6	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_4	2	5.9707	26.066	Hogging	19.853E-6	0.42313	141.08E-6	**1.5483E+6**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 2_4	1	0.0	5.9707	Sagging	19.853E-6	0.53722	31.149E-6	-	**1.5143E+6**	0 (Negligible)
High Holborn House 2_5	Max Slope	High Holborn House 2_5	1	2.0156	11.408	Hogging	**8.5626E-6**	0.18819	17.345E-6	4.5512E+6	-	0 (Negligible)
	Max Settlement	High Holborn House 2_5	2	11.408	16.124	Sagging	8.5626E-6	**0.22792**	5.9009E-6	-	7.1812E+6	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_5	1	2.0156	11.408	Hogging	8.5626E-6	0.18819	**17.345E-6**	4.5512E+6	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_5	1	2.0156	11.408	Hogging	8.5626E-6	0.18819	17.345E-6	**4.5512E+6**	-	0 (Negligible)
	Min Radius of Curvature	High Holborn House 2_5	2	11.408	16.124	Sagging	8.5626E-6	0.22792	5.9009E-6	-	**7.1812E+6**	0 (Negligible)

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
High Holborn House 2_6	Max Slope	High Holborn House 2_6	1	0.0	18.000	Hogging	**140.00E-6**	1.3821	0.0014949	56765.	-	0 (Negligible)
	Max Settlement	High Holborn House 2_6	1	0.0	18.000	Hogging	140.00E-6	**1.3821**	0.0014949	56765.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_6	1	0.0	18.000	Hogging	140.00E-6	1.3821	**0.0014949**	56765.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_6	1	0.0	18.000	Hogging	140.00E-6	1.3821	0.0014949	**56765.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_7	Max Slope	High Holborn House 2_7	1	0.0	10.438	Hogging	**0.0011680**	7.1190	0.014724	3817.1	-	0 (Negligible)
	Max Settlement	High Holborn House 2_7	1	0.0	10.438	Hogging	0.0011680	**7.1190**	0.014724	3817.1	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_7	1	0.0	10.438	Hogging	0.0011680	7.1190	**0.014724**	3817.1	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_7	1	0.0	10.438	Hogging	0.0011680	7.1190	0.014724	**3817.1**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_8	Max Slope	High Holborn House 2_8	3	11.074	27.273	Sagging	**0.0016296**	13.949	0.019861	-	1760.5	0 (Negligible)
	Max Settlement	High Holborn House 2_8	3	11.074	27.273	Sagging	0.0016296	**13.949**	0.019861	-	1760.5	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_8	1	0.0	7.9616	Sagging	0.0013577	12.349	**0.019979**	-	3319.7	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_8	2	7.9616	11.074	Hogging	337.32E-6	13.065	0.0045459	**26286.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	High Holborn House 2_8	3	11.074	27.273	Sagging	0.0016296	13.949	0.019861	-	**1760.5**	0 (Negligible)
High Holborn House 2_9	Max Slope	High Holborn House 2_9	1	0.0	4.6170	Hogging	**0.0014203**	7.8865	0.018170	3137.1	-	0 (Negligible)
	Max Settlement	High Holborn House 2_9	1	0.0	4.6170	Hogging	0.0014203	**7.8865**	0.018170	3137.1	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_9	1	0.0	4.6170	Hogging	0.0014203	7.8865	**0.018170**	3137.1	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_9	1	0.0	4.6170	Hogging	0.0014203	7.8865	0.018170	**3137.1**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 2_10	Max Slope	High Holborn House 2_10	1	0.0	31.046	Hogging	**293.90E-6**	3.0275	0.0032391	42322.	-	0 (Negligible)
	Max Settlement	High Holborn House 2_10	1	0.0	31.046	Hogging	293.90E-6	**3.0275**	0.0032391	42322.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 2_10	1	0.0	31.046	Hogging	293.90E-6	3.0275	**0.0032391**	42322.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 2_10	1	0.0	31.046	Hogging	293.90E-6	3.0275	0.0032391	**42322.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 3_1	Max Slope	High Holborn House 3_1	1	0.0	17.129	Sagging	**0.0016458**	17.657	0.031689	-	3444.6	0 (Negligible)
	Max Settlement	High Holborn House 3_1	1	0.0	17.129	Sagging	0.0016458	**17.657**	0.031689	-	3444.6	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_1	1	0.0	17.129	Sagging	0.0016458	17.657	**0.031689**	-	3444.6	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 3_1	1	0.0	17.129	Sagging	0.0016458	17.657	0.031689	-	**3444.6**	0 (Negligible)
High Holborn House 3_2	Max Slope	High Holborn House 3_2	1	0.0	3.6768	Sagging	**800.18E-6**	9.8607	0.063002	-	11007.	1 (Very Slight)
	Max Settlement	High Holborn House 3_2	1	0.0	3.6768	Sagging	800.18E-6	**9.8607**	0.063002	-	11007.	1 (Very Slight)
	Max Tensile Strain	High Holborn House 3_2	1	0.0	3.6768	Sagging	800.18E-6	9.8607	**0.063002**	-	11007.	1 (Very Slight)
	Min Radius of Curvature (Hogging)	High Holborn House 3_2	2	3.6768	14.477	Hogging	800.18E-6	7.1941	0.053552	**13352.**	-	1 (Very Slight)
	Min Radius of Curvature (Sagging)	High Holborn House 3_2	1	0.0	3.6768	Sagging	800.18E-6	9.8607	0.063002	-	**11007.**	1 (Very Slight)
High Holborn House 3_3	Max Slope	High Holborn House 3_3	1	0.0	11.101	Hogging	**184.14E-6**	1.2094	0.018568	21172.	-	0 (Negligible)
	Max Settlement	High Holborn House 3_3	1	0.0	11.101	Hogging	184.14E-6	**1.2094**	0.018568	21172.	-	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_3	1	0.0	11.101	Hogging	184.14E-6	1.2094	**0.018568**	21172.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	High Holborn House 3_3	1	0.0	11.101	Hogging	184.14E-6	1.2094	0.018568	**21172.**	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-
High Holborn House 3_4	Max Slope	High Holborn House 3_4	1	0.0	18.110	Sagging	**7.5132E-6**	0.28865	226.34E-6	-	1.3064E+6	0 (Negligible)
	Max Settlement	High Holborn House 3_4	1	0.0	18.110	Sagging	7.5132E-6	**0.28865**	226.34E-6	-	1.3064E+6	0 (Negligible)
	Max Tensile Strain	High Holborn House 3_4	1	0.0	18.110	Sagging	7.5132E-6	0.28865	**226.34E-6**	-	1.3064E+6	0 (Negligible)
	Min Radius of Curvature (Hogging)		-	-	-	-	-	-	-	-	-	-
	Min Radius of Curvature (Sagging)	High Holborn House 3_4	1	0.0	18.110	Sagging	7.5132E-6	0.28865	226.34E-6	-	**1.3064E+6**	0 (Negligible)

RSK

APPENDIX F
THAMES WATER INFORMATION

Asset Location Search

RSK Environment Limited
18Frogmore Road Frogmore Road In
HEMEL HEMPSTEAD
HP3 9RT

Search address supplied Ardners
18
Hand Court
London
WC1V 6JF

Your reference 371547

Our reference ALS/ALS Standard/2017_3531967

Search date 21 March 2017

Notification of Price Changes…

From **1 September 2016** Thames Water Property Searches will be increasing the prices of its Asset Location Searches. This will be the first price rise in three years and is in line with the RPI at 1.84%. The increase follows significant capital investment in improving our systems and infrastructure.

Enquiries received with a higher payment prior to 1 September 2016 will be non-refundable. For further details on the price increase please visit our website at

www.thameswater-propertysearches.co.uk

Asset Location Search

Search address supplied: Ardners, 18, Hand Court, London, WC1V 6JF

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This searchprovides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Asset Location Search

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and

Asset Location Search

pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Asset Location Search

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2017_3531967



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 530833,181643

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
9803	n/a	n/a
9801	21.06	17.43
9802	21.17	17.49
0801	21.15	17.54
0805	n/a	n/a
9403	20.23	19.44
9405	20.16	16.2
9404	19.97	19.26
9401	19.79	19.03
9406	20.08	15.58
9407	20.27	15.42
0403	19.42	18.43
0402	19.29	18.2
0406	20.13	15.16
0401	19.25	18.11
0408	19.94	14.95
0404	19.41	14.46
0407	19.96	14.98
9501	21.13	16.15
0502	21.17	16.36
9633	22.14	n/a
9603	22.96	18.33
0602	19.33	16.19
9604	22.76	18.8
9605	n/a	n/a
0604	19.43	18.07
0701	19.48	16.56
9702	n/a	n/a
9703	21.03	17.5
0702	19.59	16.39
0703	20.79	17.08
0704	20.9	17.3
0706	n/a	n/a
6411	n/a	n/a
9402	20.33	16.61
6413	n/a	n/a
6406	22.58	17.06
6412	n/a	n/a
641C	n/a	n/a
6407	23.03	18.16
641B	n/a	n/a
641D	n/a	n/a
641A	n/a	n/a
8401	22.02	20.89
7401	22.85	17.99
8402	22.14	19.95
8403	22.63	18.28
7402	n/a	n/a
6514	23.7	21.1
8512	n/a	n/a
8502	23.39	n/a
6703	24.67	20.7
8710	n/a	n/a
87BG	n/a	n/a
87BE	n/a	n/a
87BF	n/a	n/a
9711	n/a	n/a
6704	24.63	20.02
9712	n/a	n/a
9710	n/a	n/a
6705	24.57	20.23
8712	n/a	n/a
7702	24.67	17.8
7705	n/a	n/a
8711	n/a	n/a
9704	23.25	18.84
6706	24.11	19.81
8802	23.59	18.77
7801	24.75	19.32
7822	24.5	n/a
6801	n/a	n/a
8803	23.51	19.76
6802	n/a	n/a
8804	23.5	20.09
5803	24.2	19.04
6513	23.45	20.17
651A	n/a	n/a
8504	23.49	20.05
6511	23.71	n/a
6512	24.12	n/a
6502	23.93	19.35
7510	24.18	n/a
8513	23.03	9.26
6602	n/a	n/a
8601	23.79	19.34
6601	25.09	20.83
6604	24.71	n/a
8602	23.09	19.08
761A	n/a	n/a
8603	24.68	21.15
661A	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
7603	24.91	20.92
8605	23.87	19.98
8606	24.6	20.63
9701	22.47	18.41
7701	n/a	n/a
8702	23.78	20.87
6702	24.83	21.52
8709	n/a	n/a
5414	n/a	n/a
5415	n/a	17.56
5594	n/a	n/a
6515	n/a	n/a

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