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18 LINKSWAY NORTHWOOD

BASEMENT IMPACT ASSESSMENT

DATE: FEB 21

**CLIENT: DUSEK DESIGN
ASSOCIATES**

JOB NO:202285

1. Background

The proposed development comprises a new dwelling over 4 floors, including a basement with associated swimming pool, ground floor, first floor and second floor with associated surface and underground car parking with the basement.

The site currently consists an existing property known as "No.18 Linksway Northwood", the site has a cross fall of approximately 0.5m and a fall from the rear boundary to the front garden of 4m, the site comprises various mature trees including oak, cypress, yew and fruit trees. (Planning scheme see appendix c)

2. Ground Model

A desk top study of the site revealed that the site has been occupied by the existing residential property for the entirety of its developed history.

Referring to geological records and site investigation encountered at No.20 Linksway the site geological conditions can be summarised as follows:-

- Shallow top soil / made ground
- Overlying
- Reading Bed formation, comprising Stiff Orange- Brown mottled grey clay 0.4-3.2m
- Overlying
- Upnor formation comprising Dense Dark Brown fine and medium sand and gravel 3.2-13m
- Overlying
- Upper Chalk Deposits 13-20m and not penetrated

During all of the fieldwork no ground water was encountered to a depth of 20m in depth. (see Appendix A for borehole records)

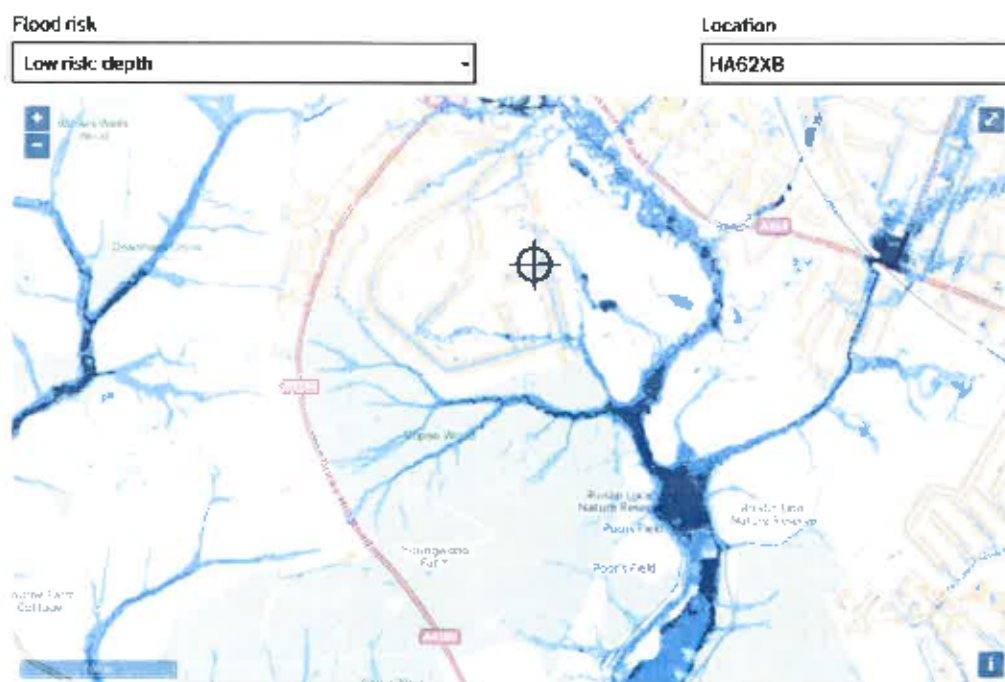
3. Flood Risk Assessment

Referring to Enviroment Agency Database the site lies in floor zone 1, an area with a low probability of flooding. (see appendix B for records)

The floor risk detailed assessment for 1:100+ year storm event, indicates the site is outside any area for flooding.

Learn more about this area's flood risk

Select the type of flood risk information you're interested in. The map will then update.



4. Proposed Basement Construction

In view of the depth of the basement construction and the associated depth of basement excavations, precautions will be required in order to safe guard the neighbouring properties as outlined below:-

- No.20 Linksway Northwood is a new build which comprises an basement construction and was approved under planning application ref: 2203/APP/ 2013/1820.
- No.16 Linksway Northwood is of older construction and the presence of a basement is not known, for the purposes of this assessment has not been assumed to be present.

In order to construct the proposed new build basement a bored pile wall will be constructed around the proposed basement foot print to enable the basement excavation and works to progress in a safe environment, protecting the neighbouring properties from any potential settlement.

The proposed method of construction and relationship to the adjoining properties is illustrated in Appendix D of this report.

Due to the fact that no ground water was encountered during the adjacent site investigation works it is considered only localised pumping will be required to deal with ground water collected during times of rainfall.

We would point out that prior to commencement on site, that a series of ground water standpipes should be installed and monitored.

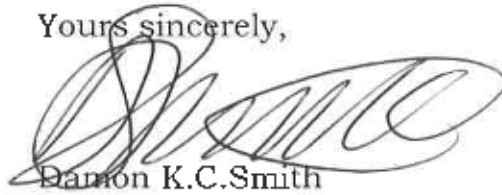
5. Ground Water Flooding and Drainage Risks.

Due to the fact that no ground water was encountered during the adjacent site investigation works , and the desk top study highlighted the site to be contained within a flood zone 1 with no flooding risk during a 1:100+ year storm event. It is considered that the risk of the proposed development causing any flooding or drainage issues are negligible.

We would point out that prior to commencement on site, that a series of ground water standpipes should be installed and monitored.

We trust the above is of assistance and should you require anything further please contact the writer.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Damon K.C. Smith', written over a horizontal line.

Damon K.C. Smith

APPENDIX A : SI DATA

							Site 20 Links Way, Northwood, Middlesex HA6 2XB	Borehole Number BH1	
							Client S. S.	Job Number	
							Engineer S. S.	Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Layal (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.88 10.50	SPT 80/775 D11	10.50	10.00	9,9/21,26,33					
12.00-12.45 12.00	SPT N=53 D12	12.00	11.30	7,10/12,12,14,15		12.20 (1.10)	Very dense bluish green mottled brown fine to medium SAND with black rounded cobbles		
13.30-13.95 13.50	SPT N=29 D13	13.50	DRY	8,8/7,7,7,8		13.30	CHALK; recovered as strong medium to high density white with black specks CHALK with occasional flints and orange-brown staining		
15.00-15.45 15.00	SPT N=41 D14	13.50	DRY	5,5/7,12,12,10					
16.50-16.95 16.50	SPT N=41 D15	13.50	DRY	6,7/10,10,11,10		(6.70)			
18.00-18.30 18.00	SPT 65/150 D16	13.50	DRY	7,20/30,35			Cobble sized flint at 18.2 m		
19.50-19.95 19.50	SPT N=48 D17	13.50	DRY	6,7/10,12,11,13		20.00			
Remarks							Scale (approx) 1:50	Logged By ML	Figure No. J13109.BH1

B C							Site 20 Linka Way, Northwood, Middlesex HA6 2XB		Borehole Number BH1	
							Client		Job Number	
							Engineer		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.70	D1					(0.15) 0.15 (0.25) 0.40	Tarmac Made Ground (crushed roadstone and brick sub-base) Soft becoming firm and stiff brown mottled bluish grey, reddish brown and greenish blue silty CLAY			
1.20-1.65 1.20	SPT (C) N=3 B1	1.20	DRY	1,0/1,0,1,1						
1.80	D2					(2.80)				
2.00-2.15	U1									
2.40	D3									
2.70	D4									
3.00-3.45 3.00	SPT N=55 D5	3.00	DRY	3,5/7,11,17,20		3.20	Very dense orange-brown fine to medium SAND			
4.00-4.45 4.00	SPT N=63 D6	4.00	3.70	5,7/10,13,18,22						
						(2.90)				
5.00-5.30 5.00	SPT 41/150 D7	5.00	4.80	6,10/13,28						
6.00-6.30 6.00	SPT 58/150 D8	6.00	5.40	6,20/20,38		6.10	Very dense greenish brown fine glauconitic SAND			
7.50-7.65 7.50	SPT 11/75 49/75 D9	7.50	6.90	11/49						
9.00-9.23 9.00	SPT 10/75 78/150 D10	9.00	8.20	10/38,40		(8.10)				
Remarks Excavating services inspection pit from GL to 1.2 m for 30 mins. Groundwater not encountered. Water added to aid drilling through the sand from 3.2 m to 13.3 m. Groundwater monitoring standpipe installed to 6.00 m. 1 hr spent collecting water								Scale (approx) 1:50	Logged By ML	
								Figure No. J13109.3H1		

E C S						Site		Number	
						20 Links Way, Northwood, Middlessex HA6 2XB		BH2	
						Client		Job Number	
						Engineer		Sheet	
								1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.20	D1				(0.30) 0.30	Made Ground (brown silty slightly sandy clay with gravel, rootlets, brick and coal fragments)			
0.50	D2					Soft orange-brown mottled grey silty CLAY with decayed roots and pockets of calcareous excretions			
1.00-1.45	SPT N=8	DRY	0,1/2,2,2,2		(1.20)				
1.50	D3				1.50	Firm rapidly becoming stiff reddish brown mottled grey and dark orange-brown silty CLAY with abundant calcareous nodules and occasional pyrite			
2.00-2.45	SPT N=19	DRY	2,3/1,4,5,7		(1.00)				
2.50	D4				2.50 (0.30)	Hard orange-brown mottled greenish grey slightly cemented silty CLAY with calcareous nodules			
3.00-3.15	SPT N=42	DRY	3,5/6,8,11,17		2.80 (0.50)	Very stiff fissured reddish brown mottled greenish grey and yellowish brown silty glauconitic CLAY			
3.30	D5				3.30	Very dense dark orange-brown mottled pale orange-brown and reddish brown fine to medium, locally cemented, SAND with occasional pyrite nodules			
3.50	D6								
4.00-4.31	SPT 25/145 50/160	DRY	9,16/21,24,5		(2.05)				
4.50	D7								
4.90-5.17	SPT 25/145 50/125	DRY	10,15/30,20		5.35	Terminated at 5.35m			
Remarks Groundwater not encountered. Groundwater monitoring standpipe installed in borehole to a depth of 5.00 m. Borehole terminated due to the density of the sand.						Scale (approx) 1:50		Logged By ML	
						Figure No. J13109.BH2			

					Site 20 Links Way, Northwood, Middlesux HA6 2XB	Number BH3		
					Client 	Job Number 		
					Engineer 	Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.20)	Topsoil (dark brown clayey silt with abundant roots, organic content and fine gravel)		
0.40	D2				0.20	Soft orange-brown mottled grey silty CLAY with rootlets to 0.6 m and abundant calcareous excretions		
					(1.80)			
1.50	D3				2.00	Stiff becoming very stiff dark orange-brown becoming reddish brown mottled greenish gray and yellowish brown silty CLAY with occasional calcareous nodules		
2.50	D4				(1.50)			
3.50	D5				3.50	Hard greenish grey mottled reddish brown and orange-brown cemented glauconitic silty CLAY with calcareous nodules		
					(0.50)			
					4.00	Very stiff reddish brown mottled orange-brown and grey silty slightly sandy CLAY with occasional black specks		
4.40	D6				(0.50)			
4.60	D7				4.50	Very dense dark orange-brown fine to medium, locally cemented, SAND with occasional pyrite		
					(0.50)			
					5.00	Terminated at 5.00m		
Remarks Groundwater not encountered. Borehole terminated due to the density of the sand.							Scale (approx) 1:50	Logged By ML
							Figure No. J13109.BH3	

						Site	Number	
						20 Links Way, Northwood, Middlesex HA8 2XB	BH4	
						Client	Job Number	
						Engineer	Sheet	
							1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.30)	Make Ground (brown silty slightly sandy clay with gravel, rootlets, brick and coal fragments)		
0.50	D2				(0.30)	Soft orange-brown mottled grey silty CLAY with decayed roots and pockets of calcareous excretions		
1.00-1.45	SPT N=10	DRY	1,1/2,3,2,3		(1.20)			
1.50	D3				1.50	Firm rapidly becoming stiff reddish brown mottled grey and dark orange-brown silty CLAY with abundant calcareous nodules and occasional pyrite		
2.00-2.45	SPT N=16	DRY	2,2/3,3,5,5		(1.20)			
2.50	D4				2.70	Hard orange-brown mottled greenish grey slightly cemented silty CLAY with calcareous nodules		
2.80	D5				(0.50)			
3.00-3.45	SPT N=37	DRY	3,5/7,8,9,13		3.20 (0.20)	Very stiff fissured reddish brown mottled greenish grey and yellowish brown silty glauconitic CLAY		
3.50	D6				3.40	Very dense dark orange-brown mottled pale orange-brown fine to medium, locally cemented, SAND with occasional pyrite nodules		
4.00-4.34	SPT 50/190	DRY	6,13/17,21,12		(1.95)			
4.50	D7							
4.90-5.22	SPT 25/145 50/170	DRY	10,15/20,22,8		5.35	Terminated at 5.35m		
Remarks Groundwater not encountered. Groundwater monitoring standpipe installed in borehole to a depth of 5.0 m. Borehole terminated due to the density of the sand.						Scale (approx)	Logged By	
						1:50	ML	
						Figure No. J13109.BH4		

APPENDIX B : FLOOD RISK DESK TOP STUDY

Flood map for planning

Your reference
HA62XB

Location (easting/northing)
508467/190752

Created
15 Feb 2021 17:13

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

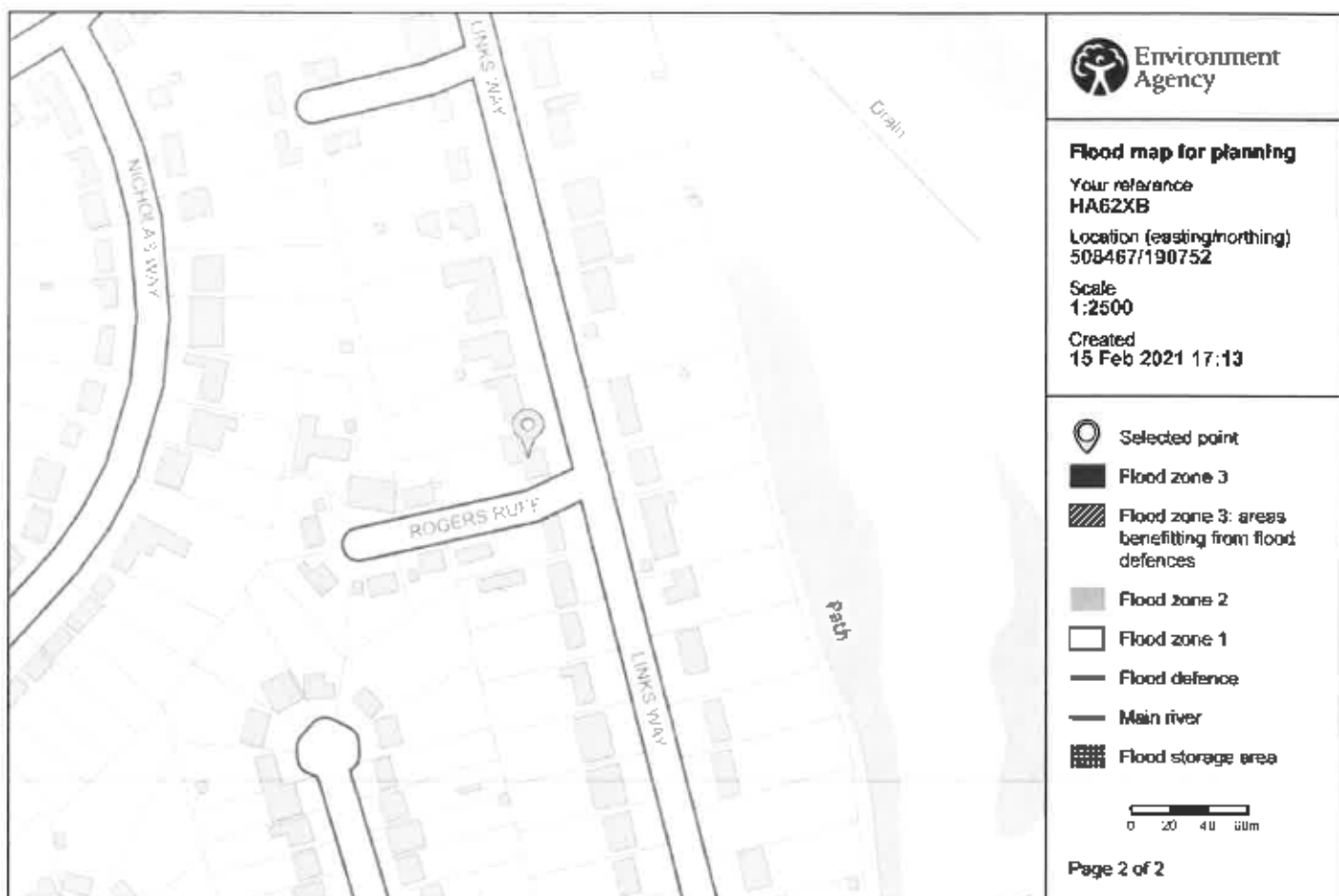
- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

The Open Government Licence sets out the terms and conditions for using government data.
<https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>



APPENDIX C: PROPOSED PLANNING SCHEME

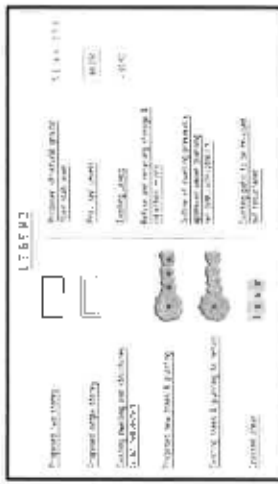
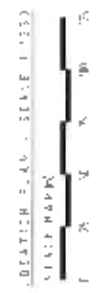
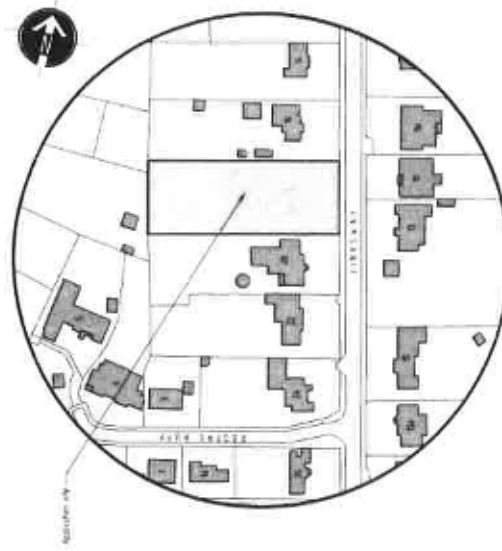
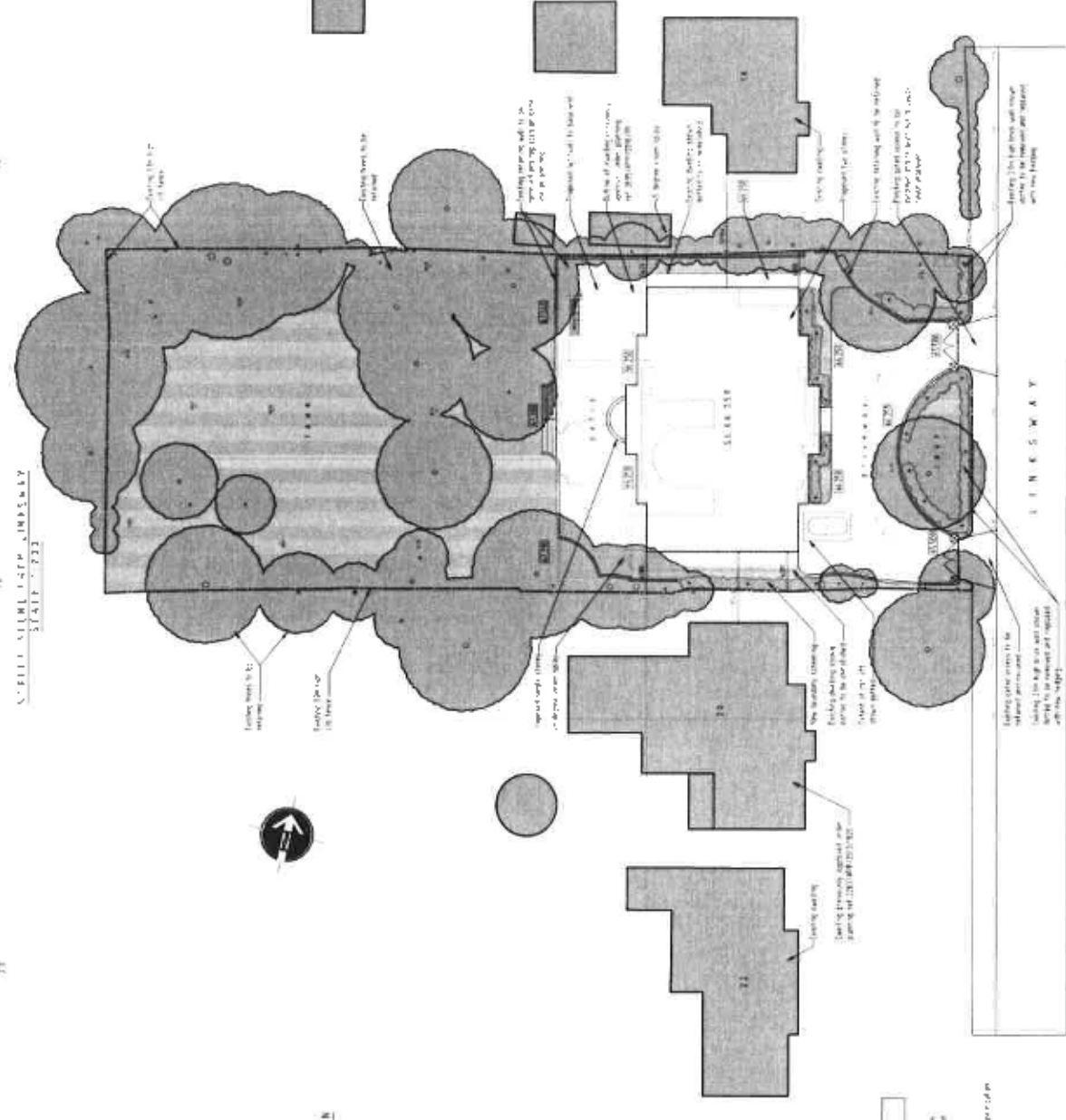
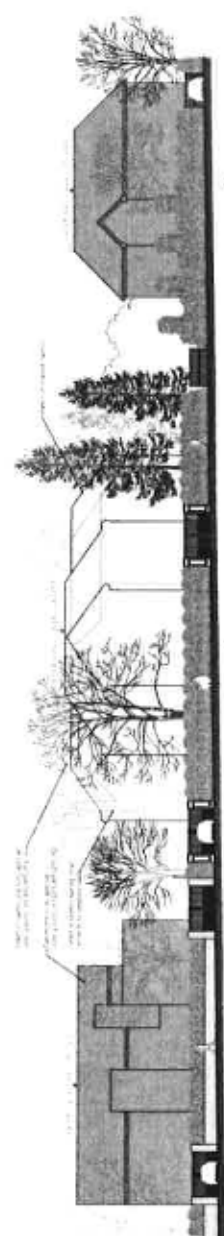
The authors thank Dr. David L. Johnson, University of Illinois at Chicago, for his helpful comments on earlier drafts of this manuscript.

Quarantined by a single man, we spent the night from top of canyon.

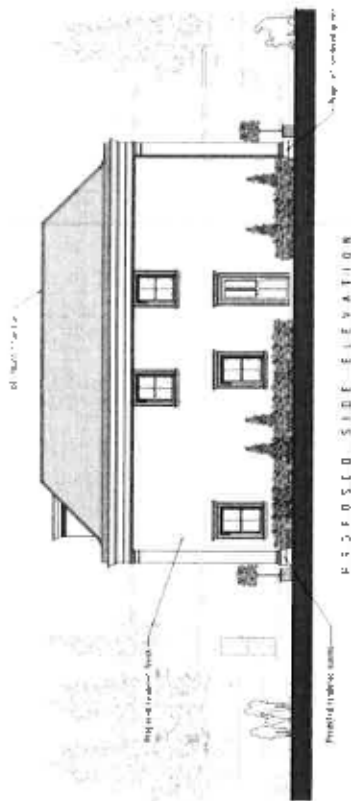
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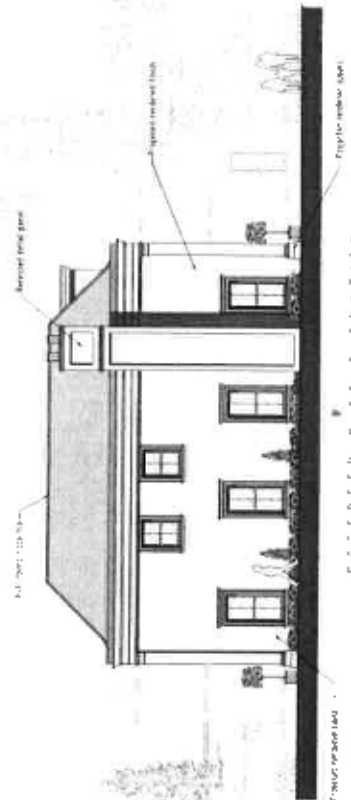
Received 26-11-96; accepted 1-2-97; published 1-3-97

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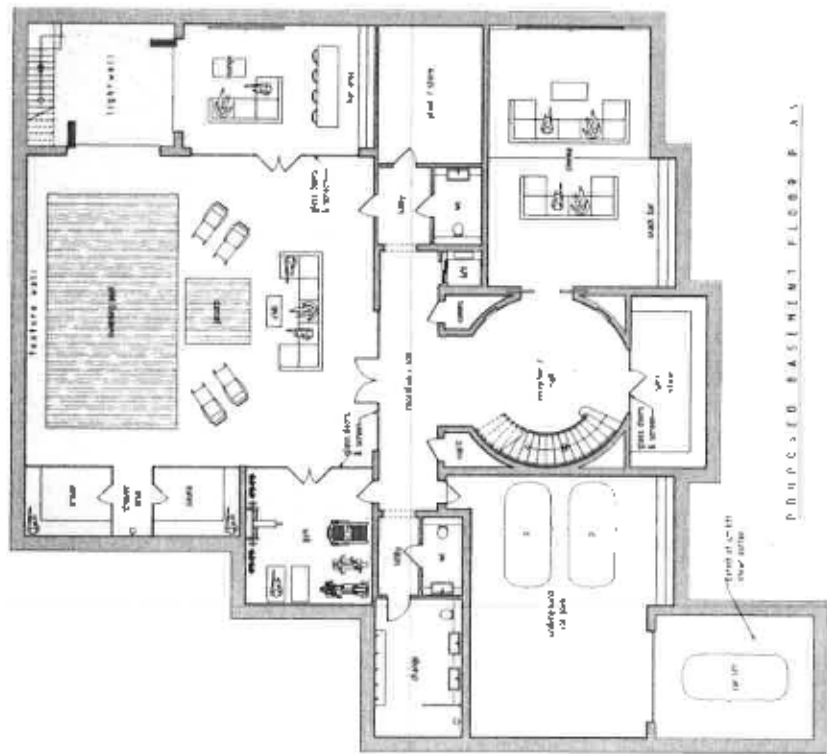
physical therapy services
are not covered by the
plan. See page 10.



PROPOSED SIDE ELEVATION



PROPOSED FRONT ELEVATION



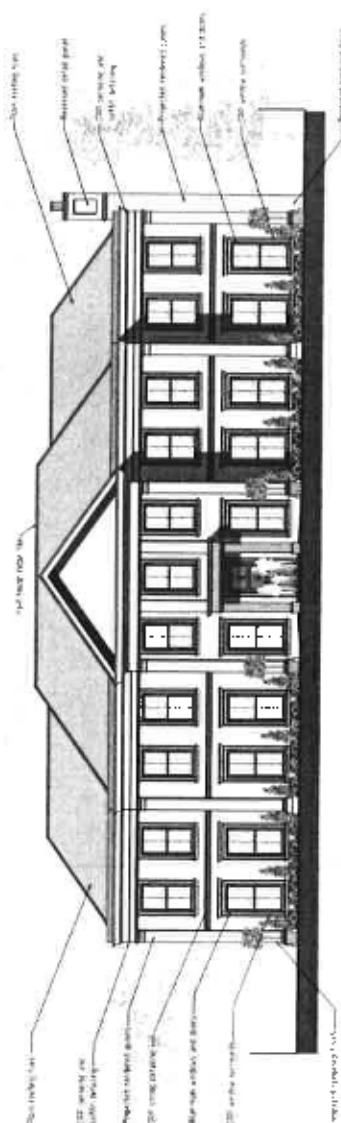
PROPOSED BASEMENT FLOOR PLAN

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10	01/11/08	ISSUED FOR PERMIT

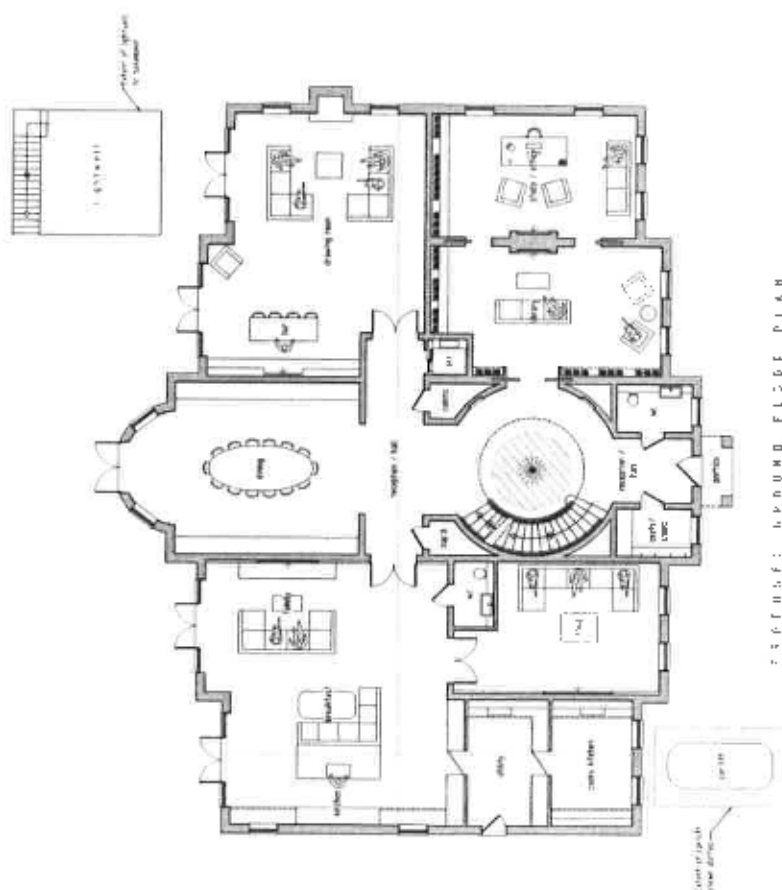
DDA

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PROJECT NO.	1000 10th Avenue
CLIENT	DAVID D. ANDERSON ASSOCIATES LTD.
DATE	01/11/08
SCALE	AS SHOWN



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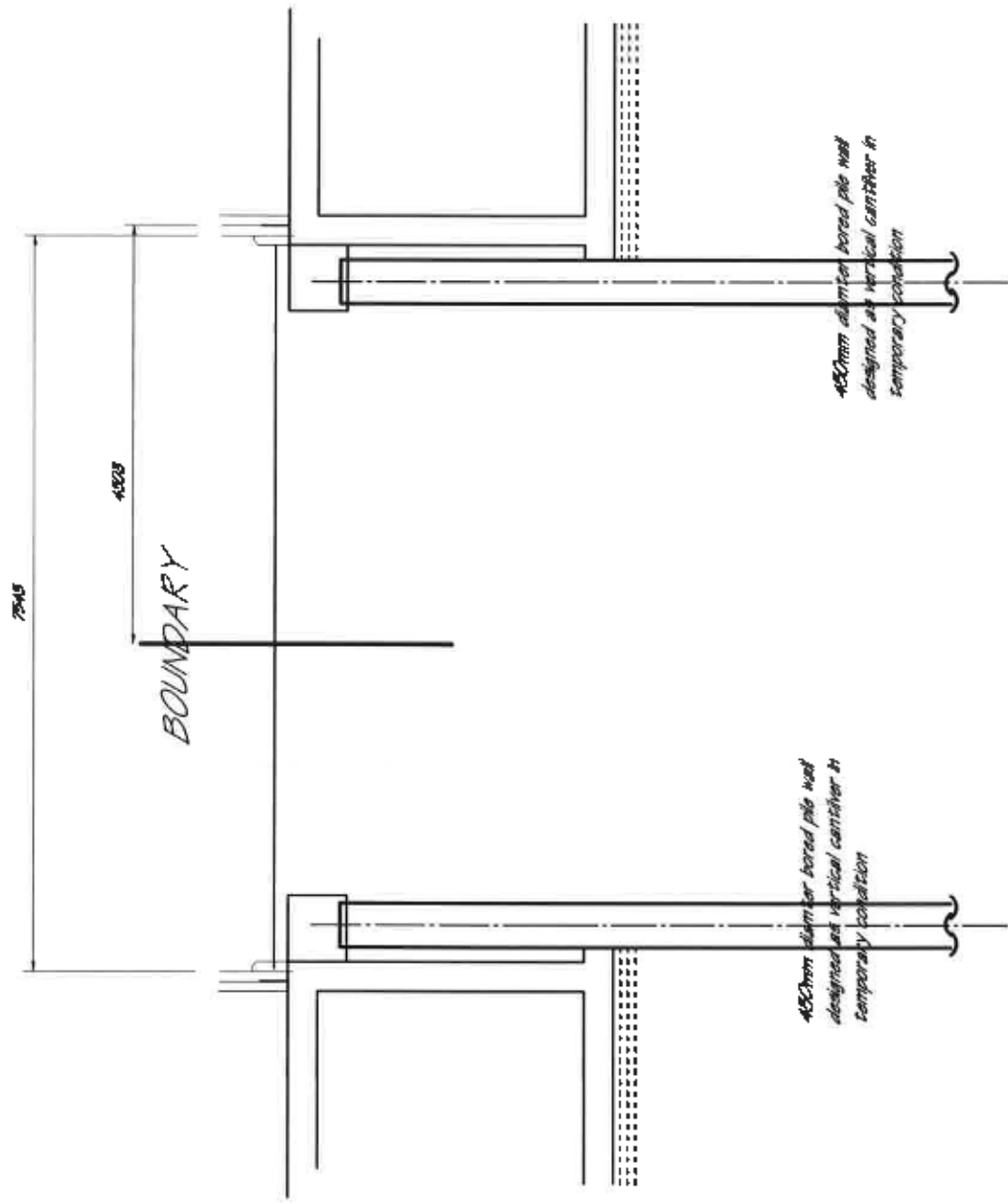


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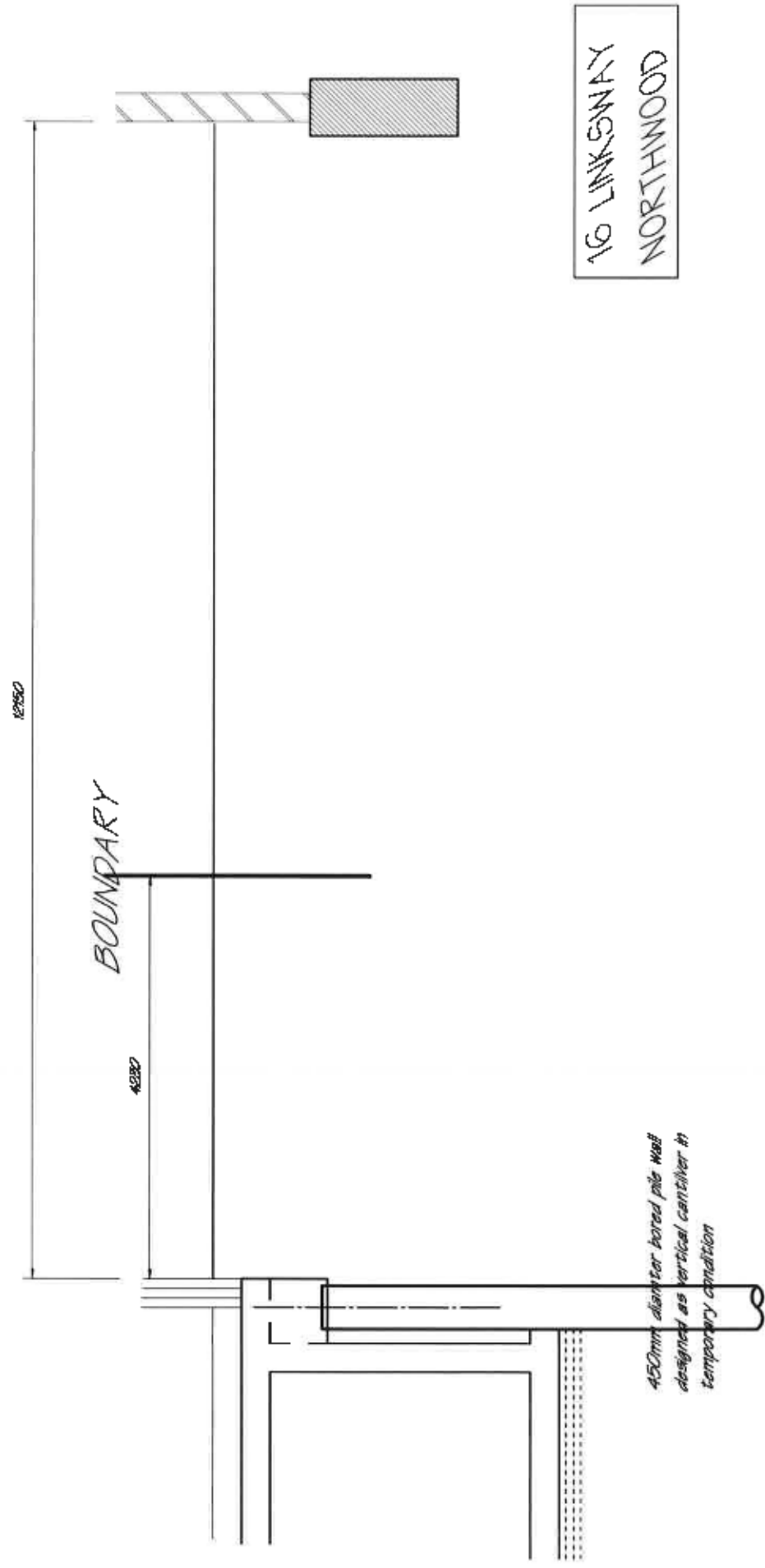
APPENDIX D : PROPOSED BASEMENT SECTIONS



18 LINKSWAY
NORTHWOOD

20 LINKSWAY
NORTHWOOD

BOUNDARY SECTION



BOUNDARY SECTION