

Our Ref: 16038

5th September 2016

106 HIGHGATE ROAD NW5 1PB

STRUCTURAL REPORT TO ACCOMPANY PLANNING APPLICATION

1.0 Project Information

- 1.1 The site is on the East side of Highgate Road, just south of the junction with Little green Street and North of the junction with lady Somerset Road
- 1.2 Michael Chester & Partners have been appointed to carry out an appraisal of the structural and slope stability aspects of the Basement Impact Assessment (BIA). The BIA follows the slope stability screening and scoping flowchart format as recommended by Arup in their report "Guidance for Subterranean Development" prepared for London Borough of Camden.
- 1.3 The present Grade 2 listed terraced building and its neighbours all have their front entrances at Lower Ground Floor approximately 600mm below street level. At the rear the gardens are made up to approximately 1200mm above Lower Ground floor level.

2.0 Questions arising from BIA Slope Stability Screening Flowchart

Following the flow chart for Slope stability the questions have been evaluated and the responses are as follows –

Q1: Does the existing site include slopes, natural or man-made, greater than 7 degrees (approximately 1 in 8)?

No. The rear garden is approximately 1200mm above floor level and the street is approximately 600mm above floor level. Hence the difference is approximately 600mm in 9000mm equivalent to 1:15

Q2: Will the proposed re-profiling of the landscaping at site change slopes at the property boundary level to more than 7 degrees (approximately 1 in 8)?

No.

Q3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7 degrees (approximately 1 in 8)?

No.

Q4: Is the site within a wider hillside setting in which the general slope is greater than 7 degrees (approximately 1 in 8)?

No.

Q5: Is the London Clay the shallowest strata on the site?

Yes. BGS website confirms no superficial deposits above the London Clay.

Q6: Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?

No trees will be felled. There are trees in neighbouring gardens within 2 metres which will not be affected. See arboricultural report by Simon Pryce.

Q7: Is there a history of seasonal shrinkage-swell subsidence in the local area, and/or evidence of such effects on the site?

Unknown, but, as Q5, the site is underlain by London Clay, as is a very large part of North London. London Clay are a highly plastic materials readily susceptible to volume changes as a result of changes in its moisture content. There were, however, no obvious signs that the existing buildings or those directly adjacent were suffering from the effects of this.

Q8: Is the site within 100m of a watercourse or a potential spring line?

No. See hydrology report 65145R1 by ESI

Q9: Is the site within an area of previously worked ground?

The site investigation showed up to 900 mm of made ground in the rear garden overlying the London Clay. The made ground does not extend down to footing level of the houses. Other than that, the investigations do not suggest significant amounts of previously worked ground.

Q10: Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?

No. See hydrology report 65145R1 by ESI

Q11: Is the site within 50m of the Hampstead Heath ponds?

No. See hydrology report 65145R1 by ESI

Q12: Is the site within 5m of a highway or pedestrian right of way?

No.

Q13: Will the proposed basement significantly increase the differential depth of foundations relative to the neighbouring properties?

No. Foundations for the 'box framed' opening in the rear wall will be 200mm deeper than the adjacent abutting rear wall footings which is not considered to be significant and is not within a 45 degree spread of neighbours footings. The foundations to NHBC depths for Building Near Trees will place new strip footing 400mm deeper than existing footings but not with in a 45 degree spread line.

Q14: Is the site over (or within the exclusion zone of) any tunnels, eg railway lines.

No.

3.0 Slope stability "scoping"

The screening process has not identified any slope stability issue to be of particular importance:

It is proposed to maintain a 'margin' between the new construction and the existing original construction.

4.0 Basement Impact Assessment

4.1 The proposed 'basement' is an extension of the existing lower ground floor level out into the rear garden.

4.2 On the 104 side the neighbour has already made such an extension although it does not extend quite as far to the rear as proposed for No 106.

- 4.3 On the 108 side there is a small 'rear area' then the garden levels are original.
- 4.4 The proposed extension does not project far enough at the rear to affect rear neighbours.
- 4.5 It is proposed to construct a reinforced concrete trough to form the extension. The trough walls underpinning the existing garden boundary walls each side. The floor of the trough will be supported on strip footings to a depth dictated by NHBC guidelines and remote from the existing buildings foundations.
- 4.6 Construction will be in bays no more than 1200mm wide, carefully sequenced, across the width of the rear garden in what is essentially an underpinning operation of the garden boundary walls. The sections will be united into a monolithic structure using 'KWIKASTRIP' reinforcement continuity strips.
- 4.7 Heave of adjacent ground at remaining garden levels, due to removal of about 1200mm of overburden will be modest and not of significance to the affected gardens. There should be negligible effect on the soils supporting the existing heavily loaded house walls which are founded deeper than the general excavations.
- 4.8 There should be no problems from ground water, however a pump should be kept on side in case of temporary flooding from rainstorms etc during the excavations..

Signed,

Michael Chester

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Michael Chester and Partners LLP
Consulting Civil and Structural Engineers

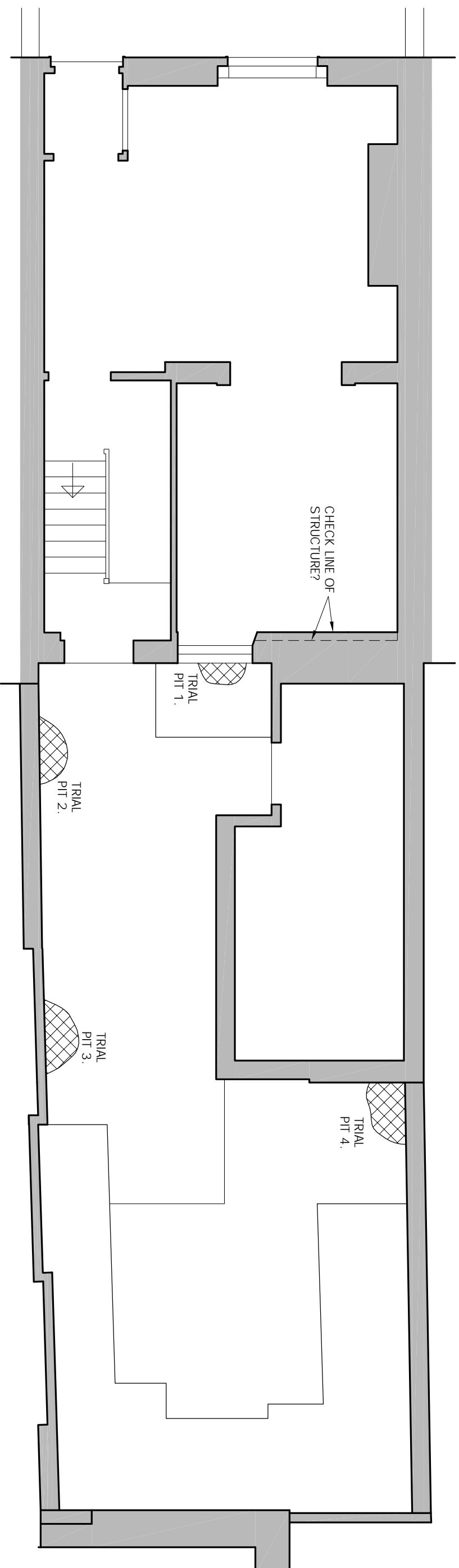
APPENDIX A

106 Highgate Road NW5

DRAWINGS BY MICHAEL CHESTER & PARTNERS

16038/ S1 Site Investigation Plan

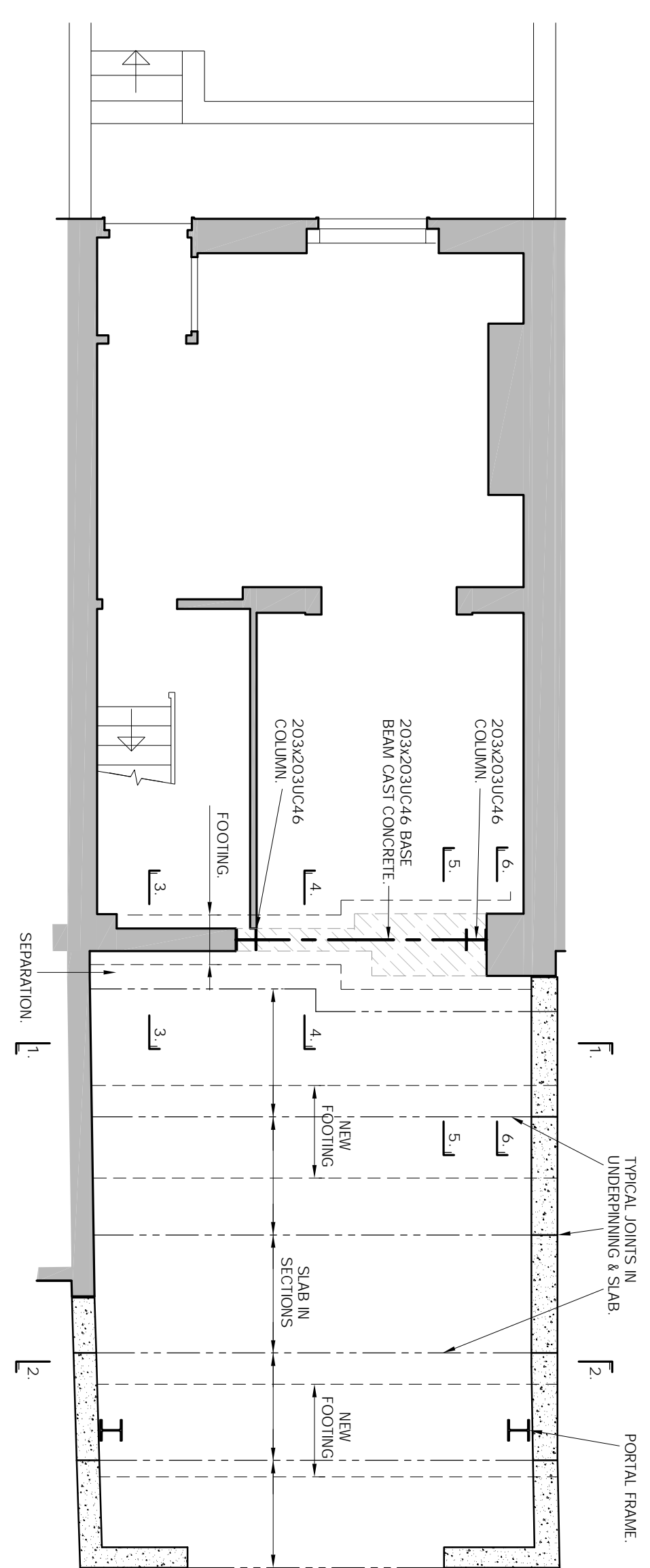
16038/ 20 Proposed Plans and Sections



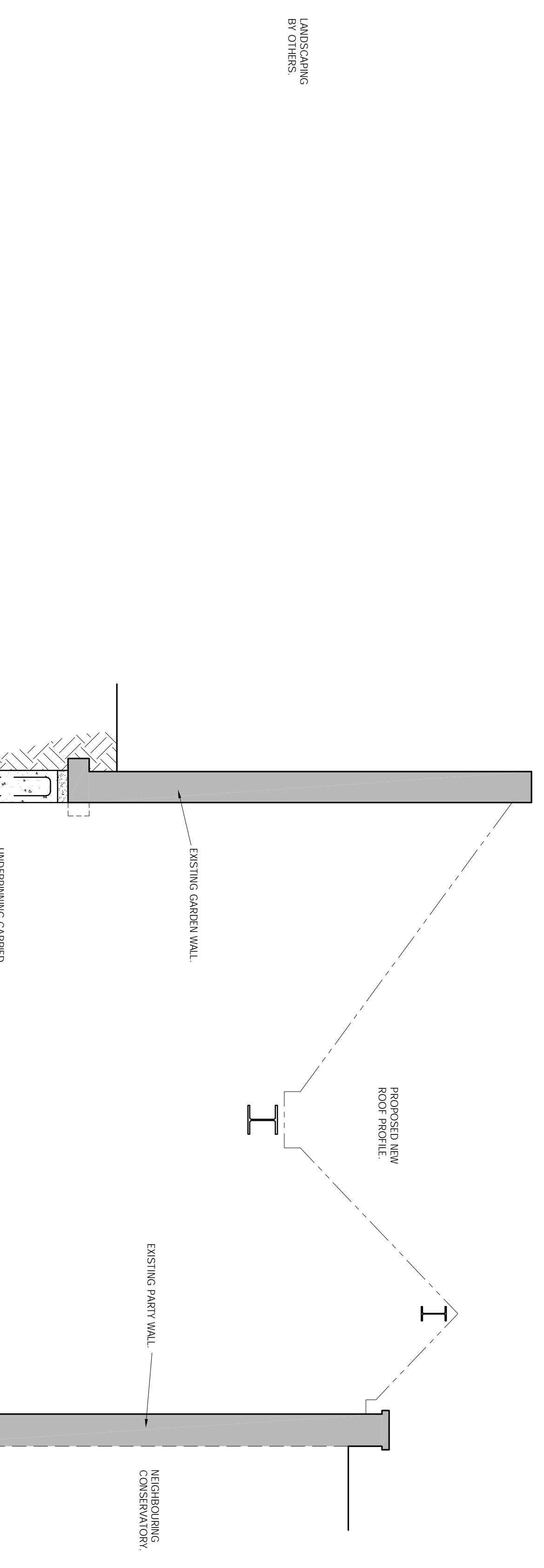
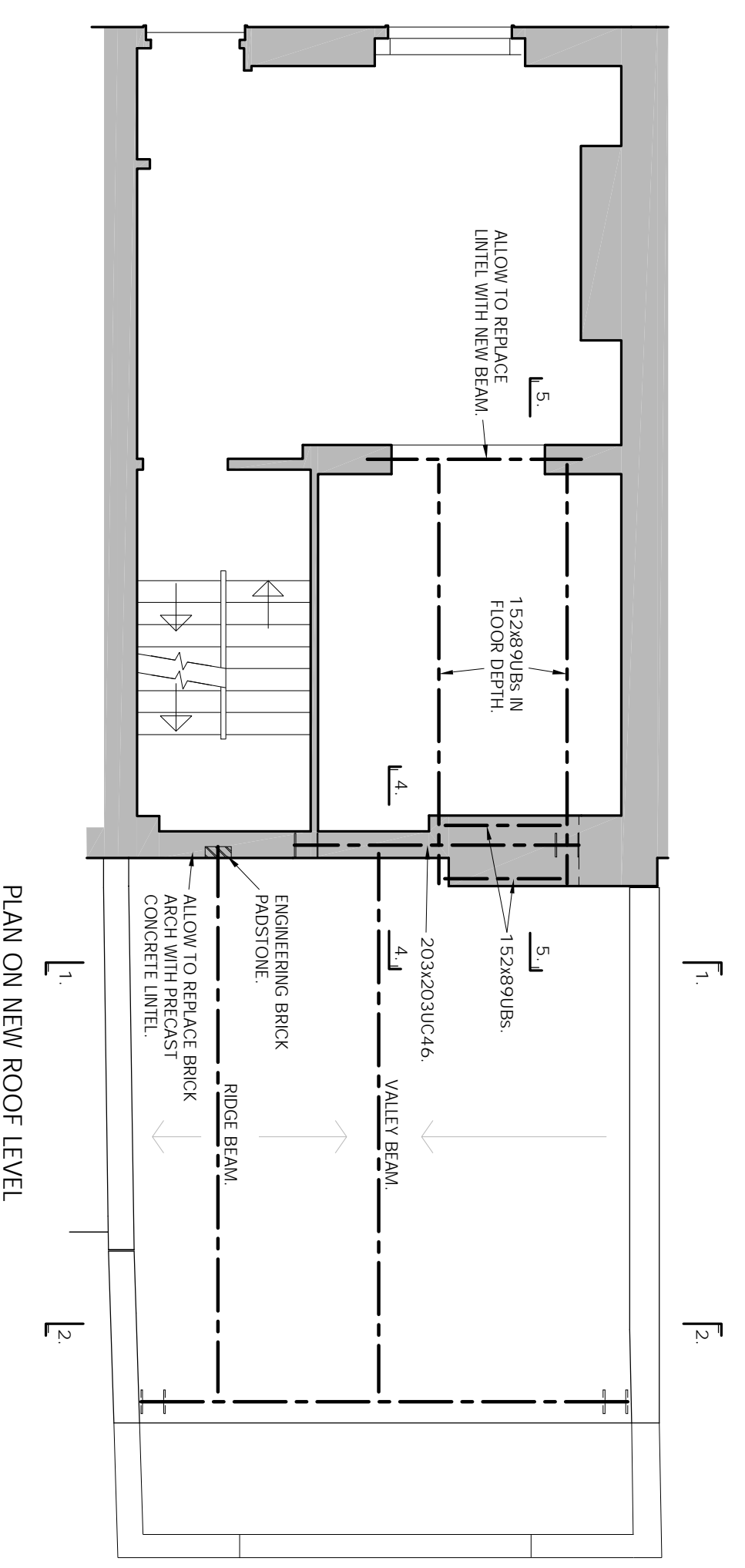
EXCAVATE 4 NO. TRIAL PITS AS SHOWN TO ESTABLISH DIMENSIONS AND DEPTH OF FOOTINGS, AND SUBSOILS.

Rev	Date	Alteration			
MICHAEL CHESTER & PARTNERS Consulting Civil and Structural Engineers					
8 Hale Lane London NW7 3NX tel 020 8959 9119 fax 020 8959 9662					
SITE INVESTIGATIONS			Date MAR 16 Drawn VP Scale 1:50		
SITE INVESTIGATIONS			Project 106 HIGHGATE ROAD LONDON NW5		Drg No 16038/SI
					Rev A:

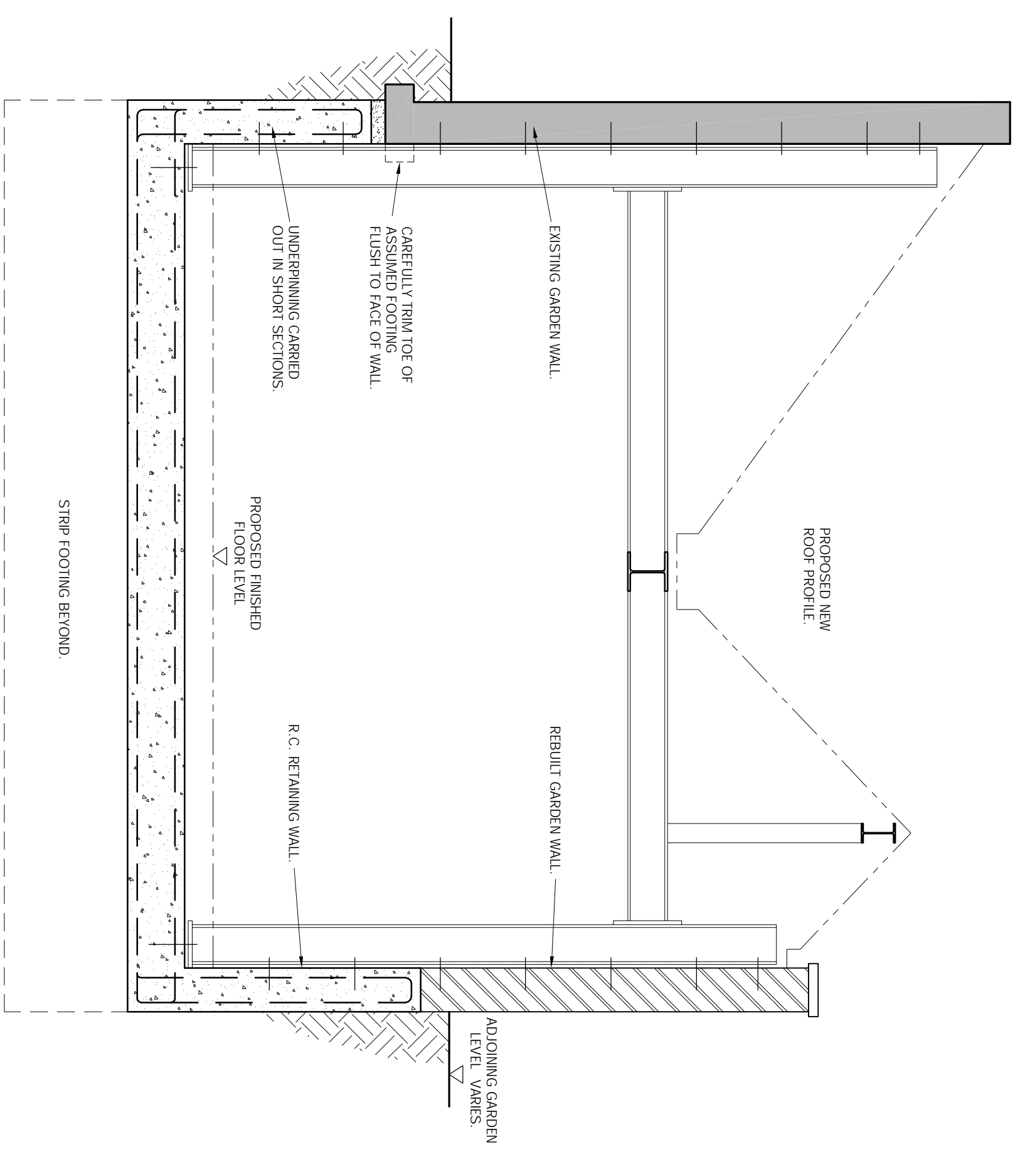
Do not scale from this drawing. Dimensions given are in millimetres unless noted otherwise. This drawing must be read in conjunction with all relevant drawings and specifications.



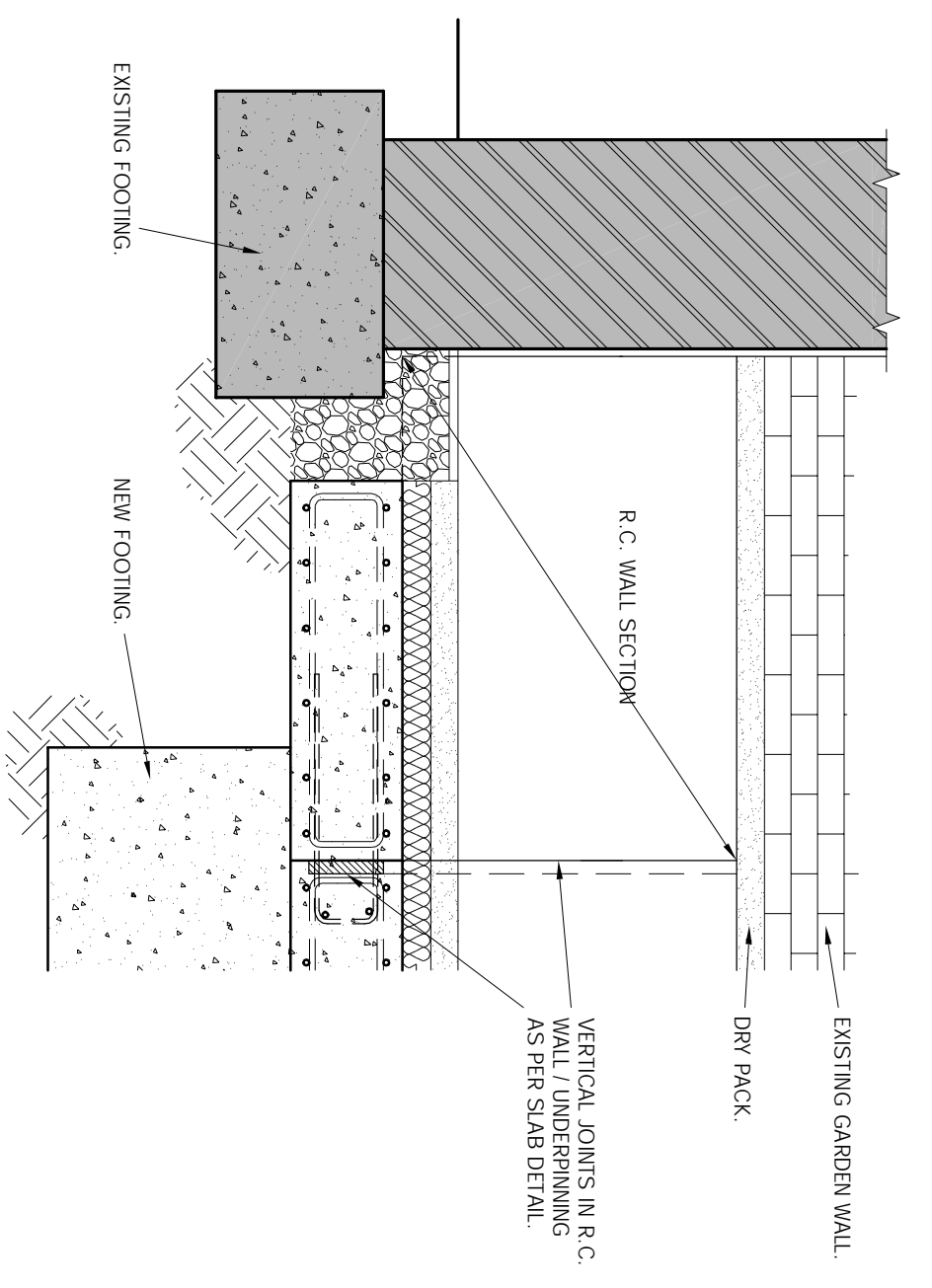
LANDSCAPING BY OTHERS.



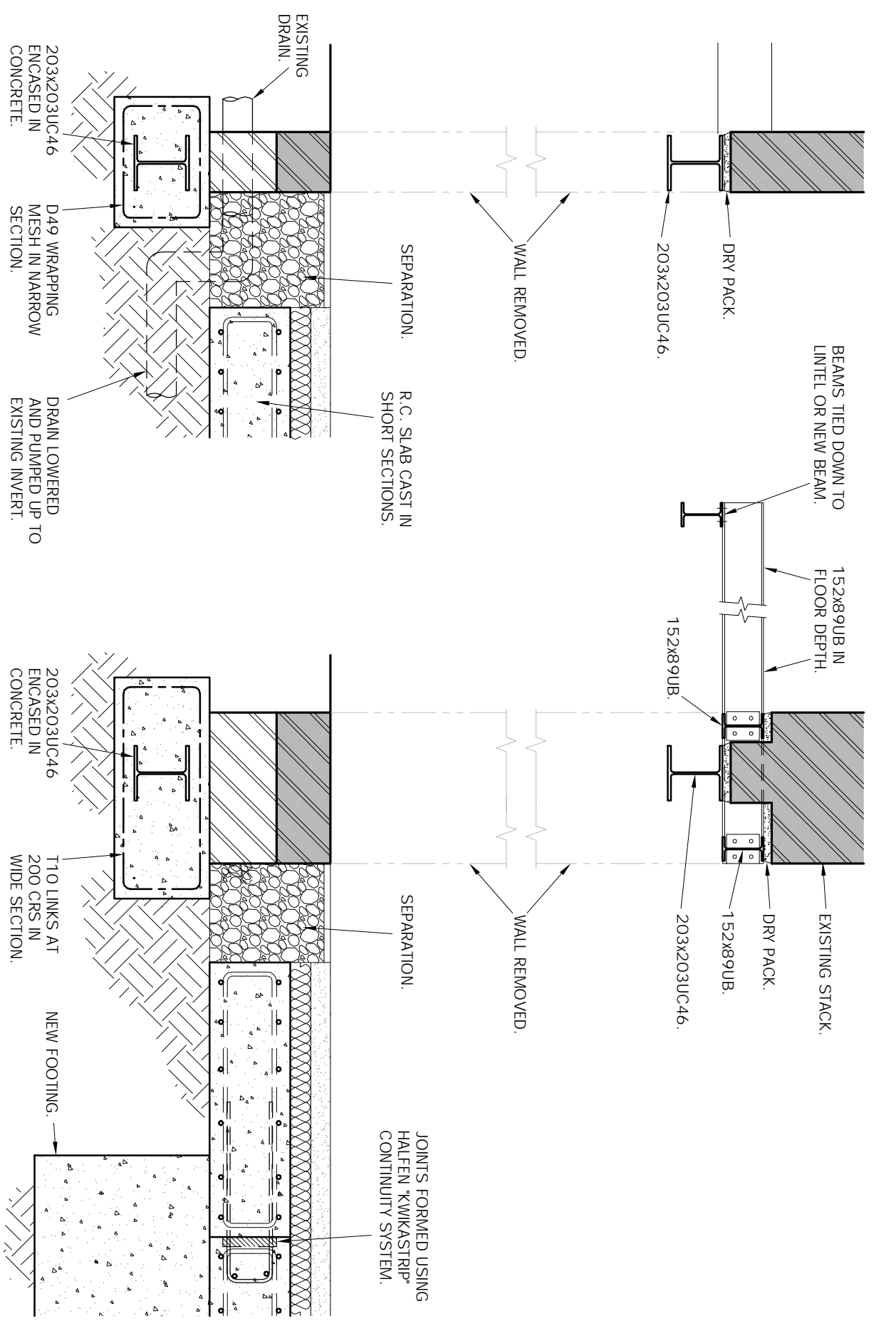
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(SCALE 1:25)



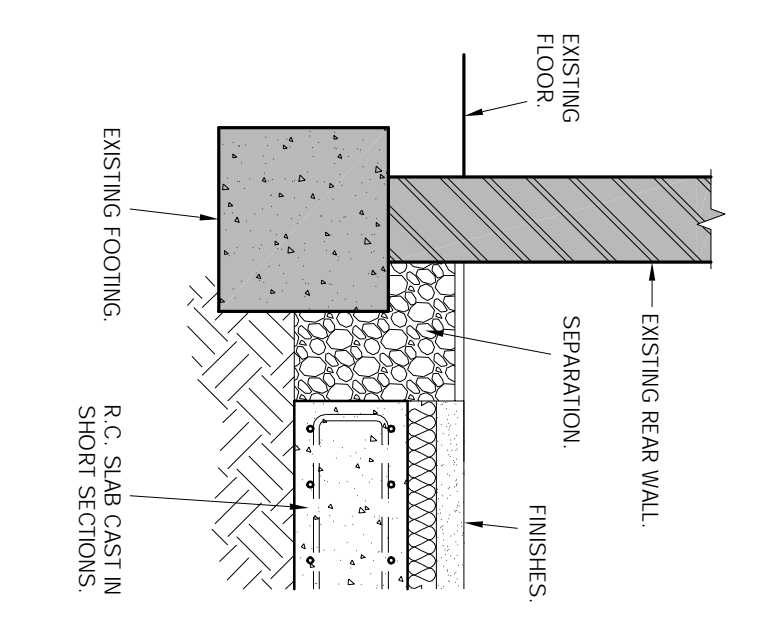
SECTION 2 - 2
(SCALE 1:25)



SECTION 6 - 6
(SCALE 1:20)



SECTION 5 - 5
(SCALE 1:20)



SECTION 3 - 3
(SCALE 1:20)

SECTION 4 - 4
(SCALE 1:20)

Rev	Date	Alteration	Date	By	Scale	Drawn	Checked
			JUL 16	VP	1:50	VP	VP

MICHAEL CHESTER & PARTNERS
 Consulting Civil and Structural Engineers
 8 Hale Lane London NW7 3NX Tel: 020 8699 9119 Fax: 020 8699 8862
 Project: 106 HIGHGATE ROAD LONDON NW5
BASEMENT IMPACT ASSESSMENT
 16038 / 20
PRELIMINARY

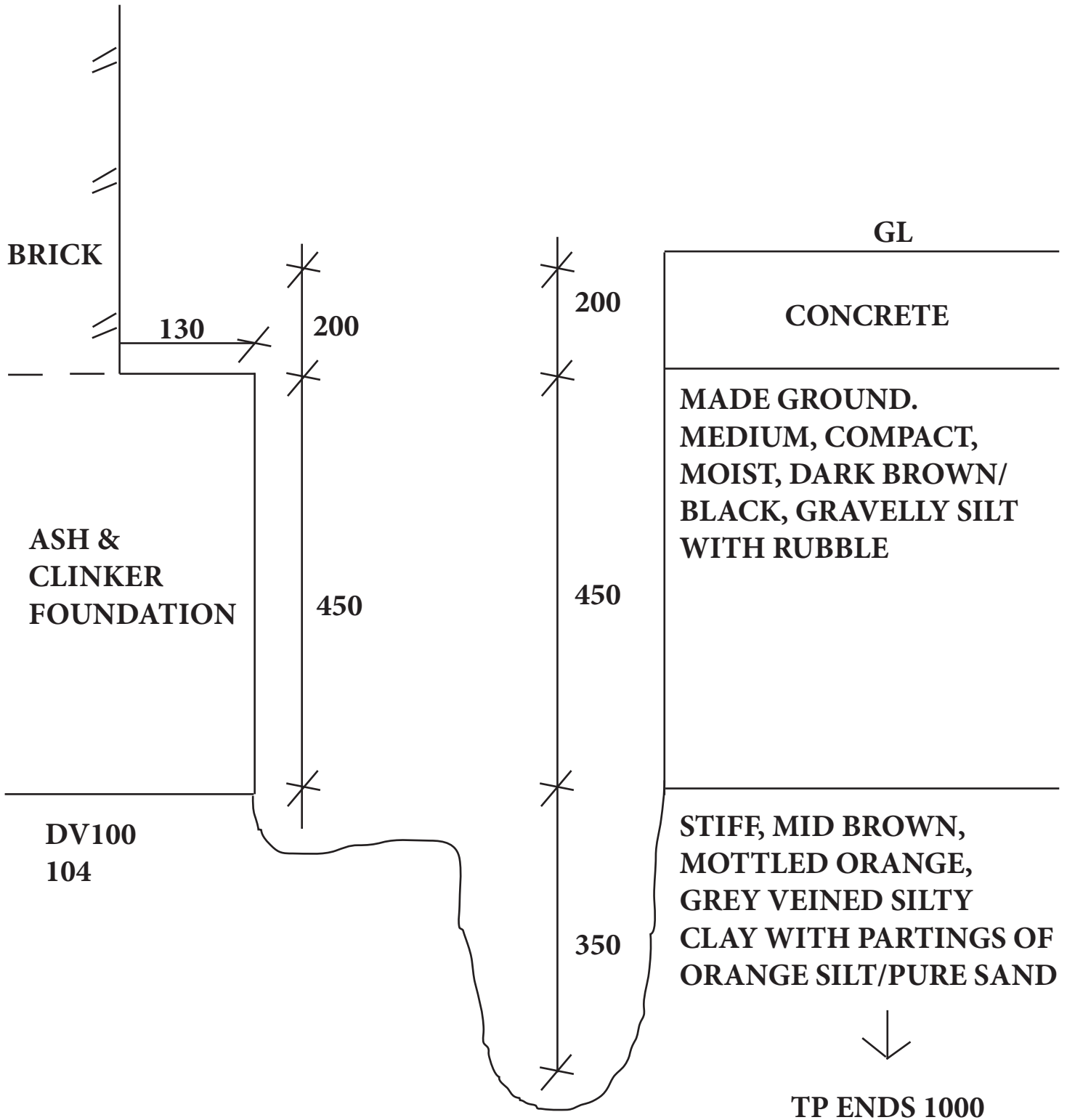
APPENDIX B

106 HIGHGSATE ROAD NW5

SITE INVESTIGATION BY S CHICK INVESTIGATIONS

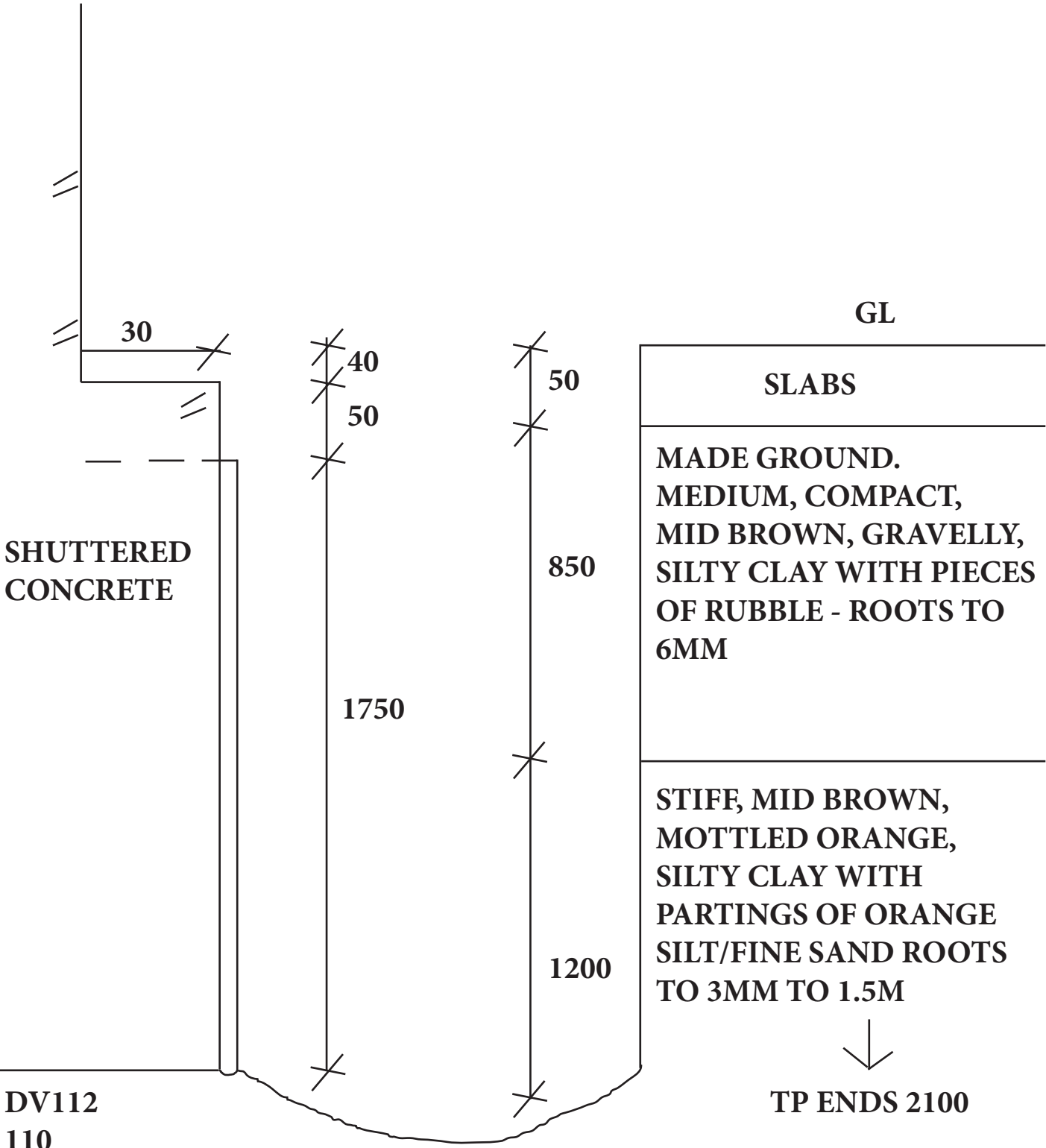
TRIAL PIT LOGS 1 to 4

TP No: 1	Sheet: 1 of 1	S Chick Investigations
Client: CHESTERS	Date: 19/07/16	Site: 106 HIGHGATE ROAD NW5



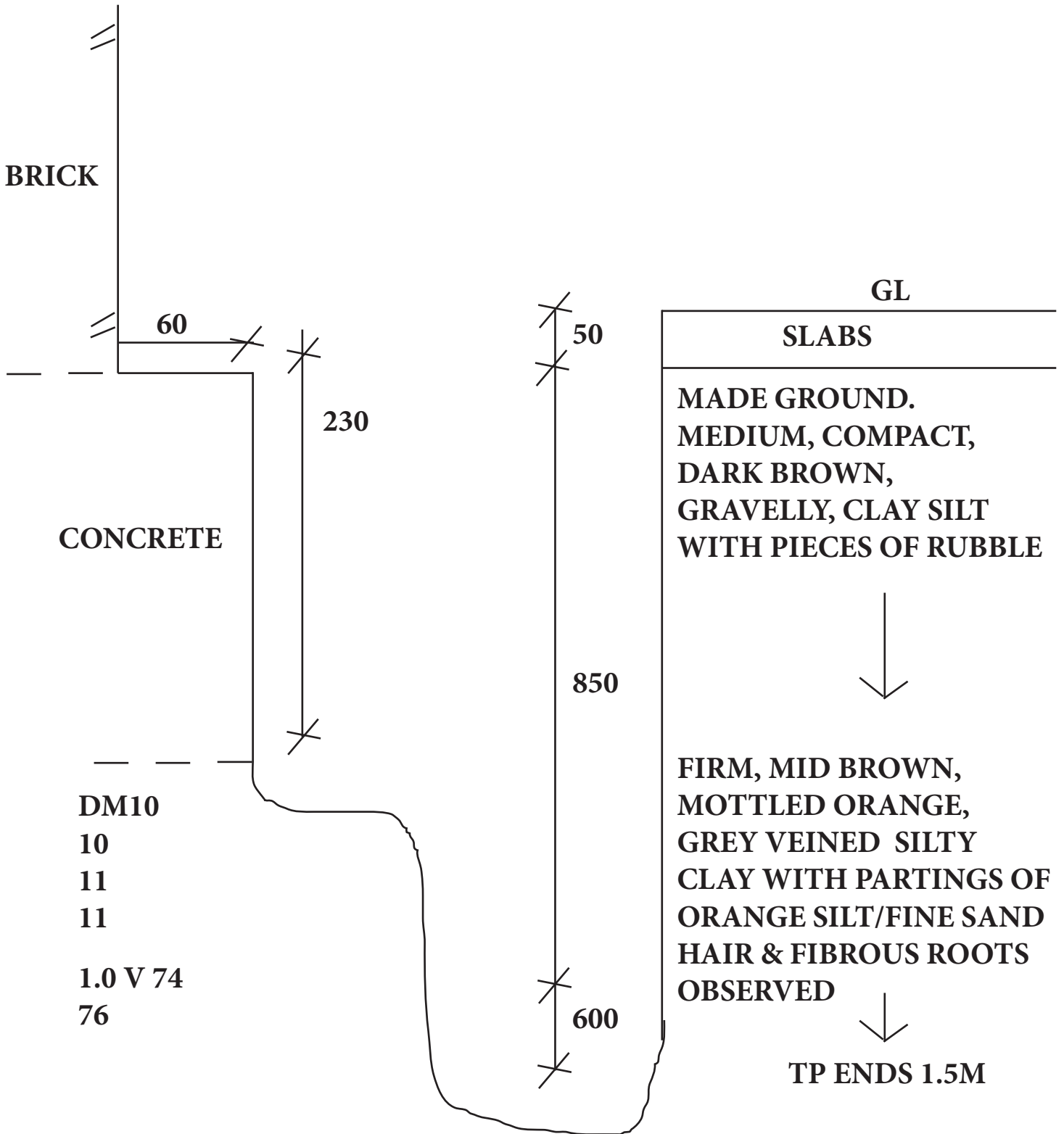
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Logged:	Checked:	Approved:
Scale:	NTS	Weather:

TP No: 2	Sheet: 1 of 1	S Chick Investigations
Client: CHESTERS	Date: 19/07/16	Site: 106 HIGHGATE ROAD NW5



Remarks: X(Y)=X blows for Ymm penetration.	Key: D Small disturbed sample B Bulk disturbed sample W Water Sample	T.D.T.D. Too Dense to Drive J Jar sample V Pileon Vane (kPa) M Mackintosh Probe
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Scale:	NTS	Weather:

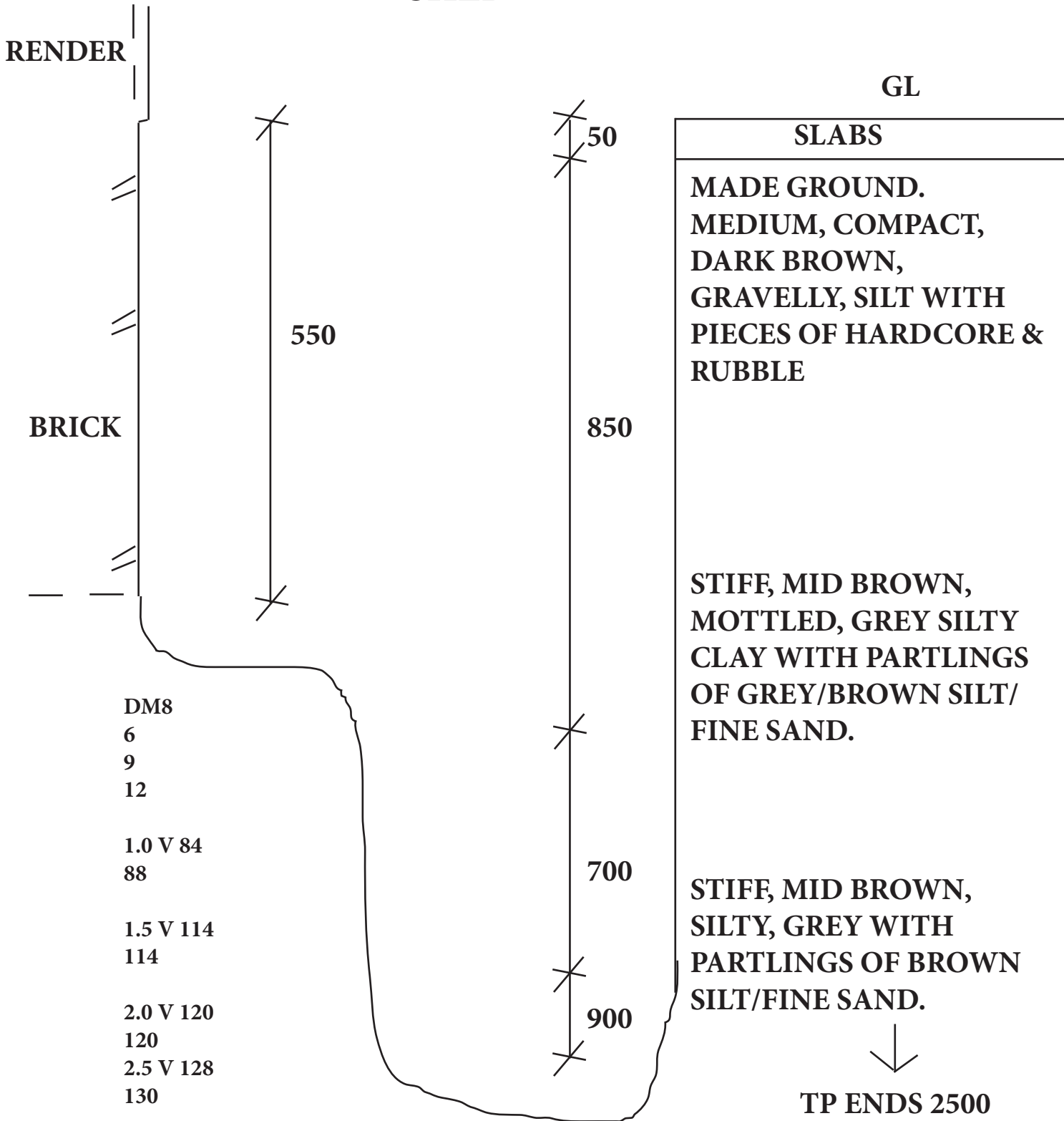
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Client: CHESTERS	Date: 19/07/16	



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	D Small disturbed sample	J Jar sample
Logged: Checked: Approved:	B Bulk disturbed sample	V Pileon Vane (kPa)
	W Water Sample	M Mackintosh Probe
Scale: NTS Weather:		

TP No: 4	Sheet: 1 of 1	S Chick Investigations
Client: CHESTERS	Date: 19/07/16	Site: 106 HIGHGATE ROAD NW5

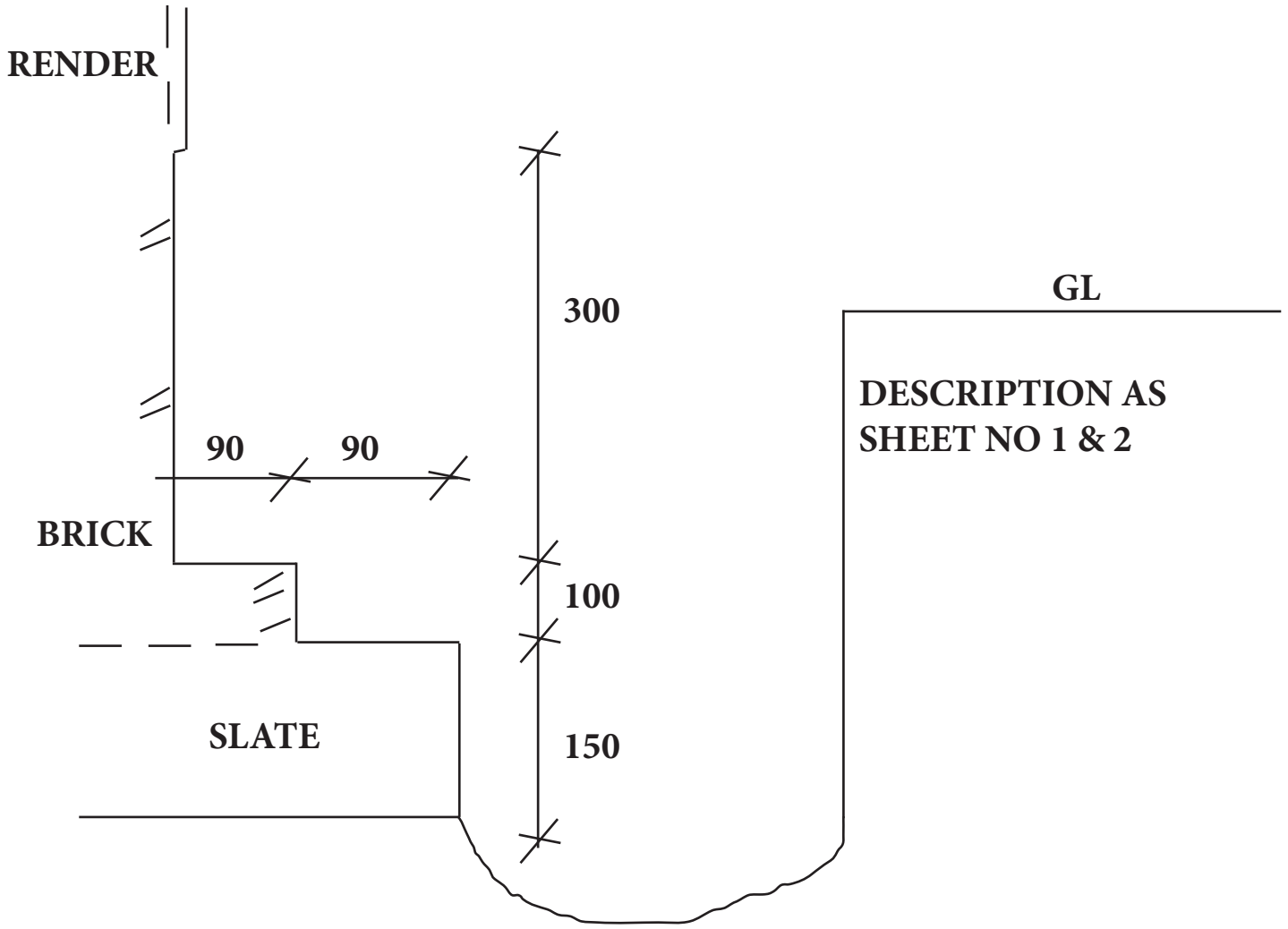
SHED



Remarks:	Key: T.D.T.D. Too Dense to Drive
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	B Bulk disturbed sample V Pileon Vane (kPa)
	W Water Sample M Mackintosh Probe
Logged:	Checked:
Approved:	Scale: NTS
	Weather:

TP No: 4	Sheet: 1 of 1	S Chick Investigations
Client: CHESTERS	Date: 19/07/16	Site: 106 HIGHGATE ROAD NW5

GARDEN WALL



Remarks: X(Y)=X blows for Ymm penetration.	Key: D Small disturbed sample B Bulk disturbed sample W Water Sample	T.D.T.D. Too Dense to Drive J Jar sample V Pileon Vane (kPa) M Mackintosh Probe
Logged:	Checked:	Approved:
Scale: NTS		Weather: