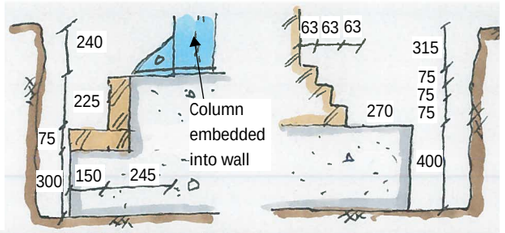
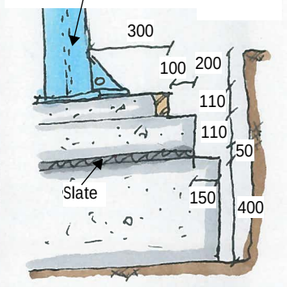
NOTES:
- All dimensions based on site measurements
- All columns observed appeared to have riveted connections and thought to be of cast iron construction. To be confirmed through material testing.



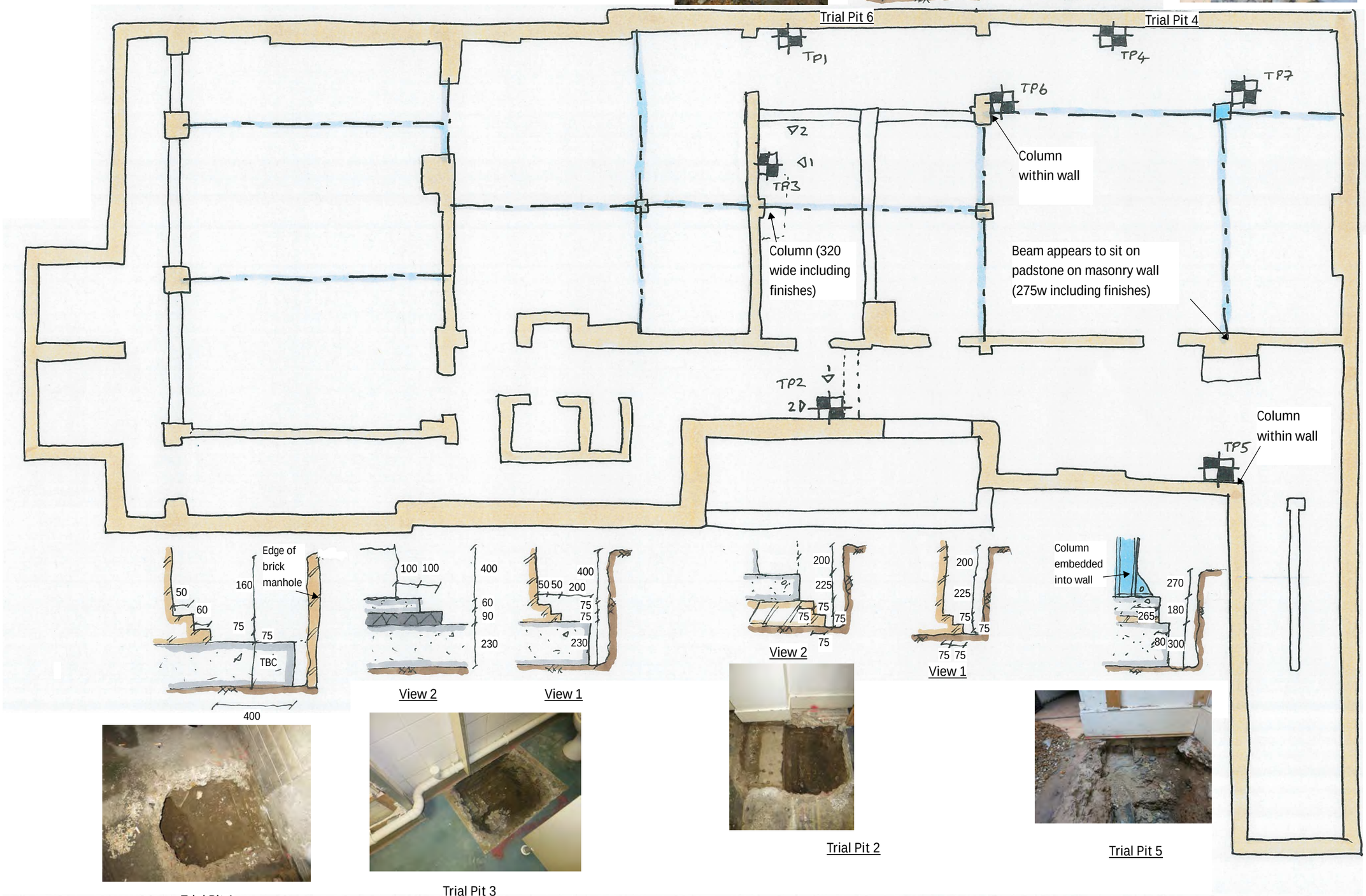
255x230 H column central on pier with stiffener plate at base



Trial Pit 7

Trial Pit 6

Trial Pit 4



View 2

View 1

View 2

View 1

Trial Pit 1

Trial Pit 3

Trial Pit 2

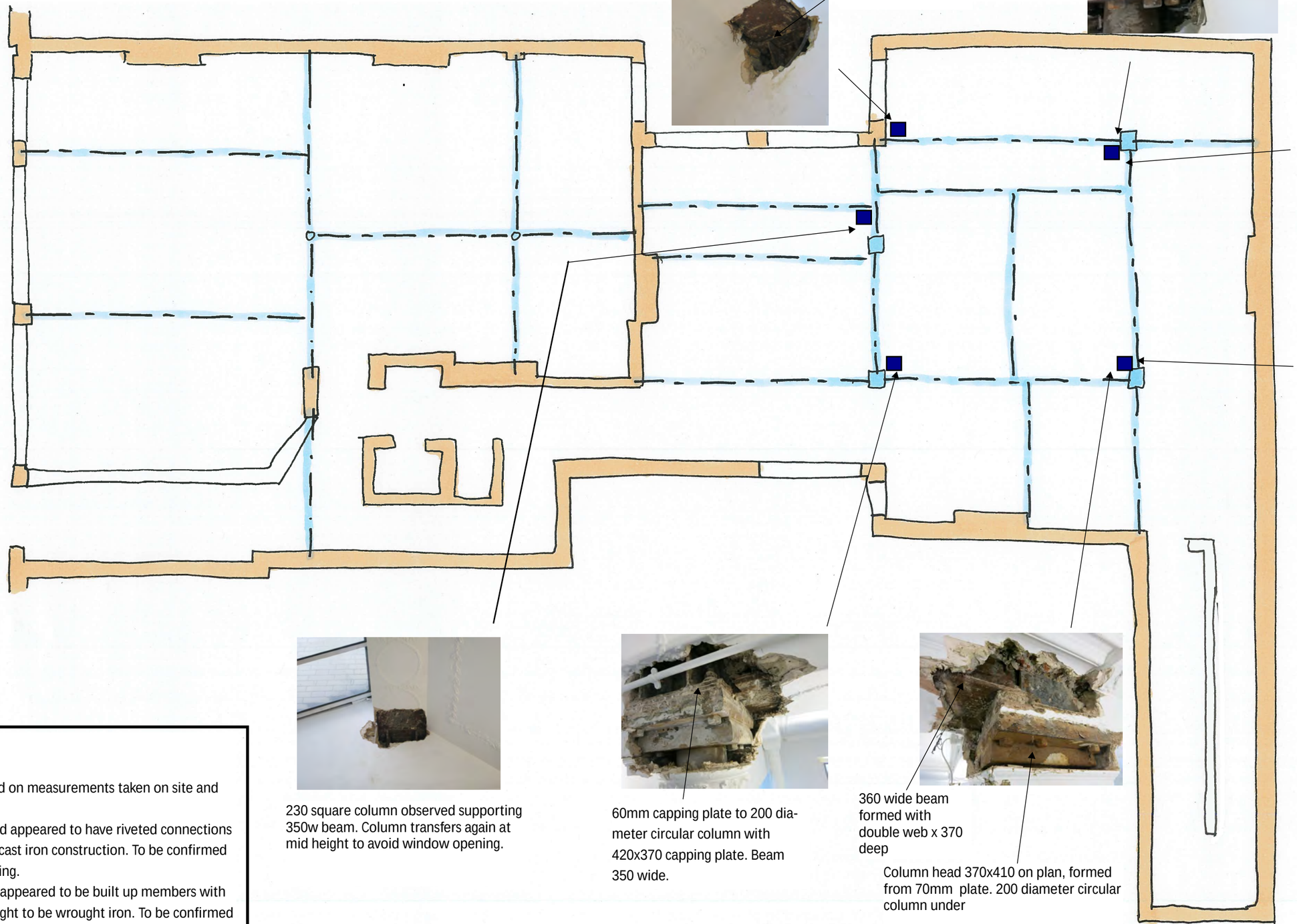
Trial Pit 5

Job	Minerva House	Date	12/02/16
Title	Basement investigation summary	Eng.	RM
Job No.	1387 Sheet SK18	Rev.	

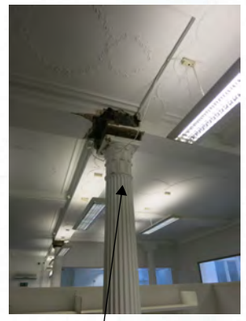
HEYNE TILLETT STEEL

160 square column supporting 355mm wide double webbed beam

160 diameter circular column, with 320x360x60thk capping plate



350mm deep beamx300 wide formed with double web.



200 diameter circular column in hollow casing

230 square column observed supporting 350w beam. Column transfers again at mid height to avoid window opening.

60mm capping plate to 200 diameter circular column with 420x370 capping plate. Beam 350 wide.

360 wide beam formed with double web x 370 deep

Column head 370x410 on plan, formed from 70mm plate. 200 diameter circular column under

NOTES:

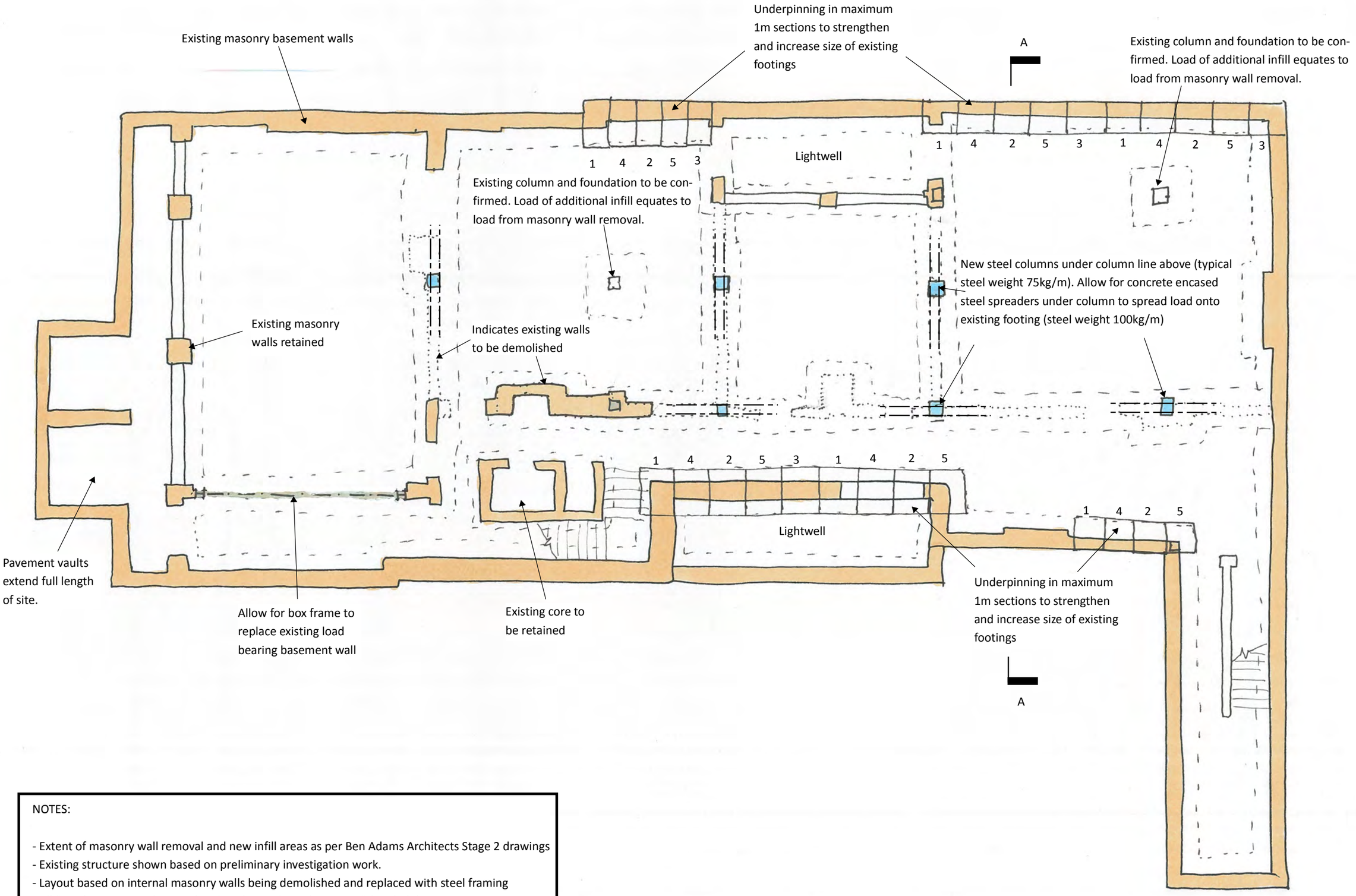
- All dimensions based on measurements taken on site and may not be accurate
- All columns observed appeared to have riveted connections and thought to be of cast iron construction. To be confirmed through material testing.
- All beams observed appeared to be built up members with double web and thought to be wrought iron. To be confirmed through material testing.

Job	Minerva House	Date	12/02/16
Title	Ground floor investigation summary	Eng.	RM
Job No.	1387	Sheet SK19	Rev.

HEYNE TILLETT STEEL

Appendix D

Proposed Plans

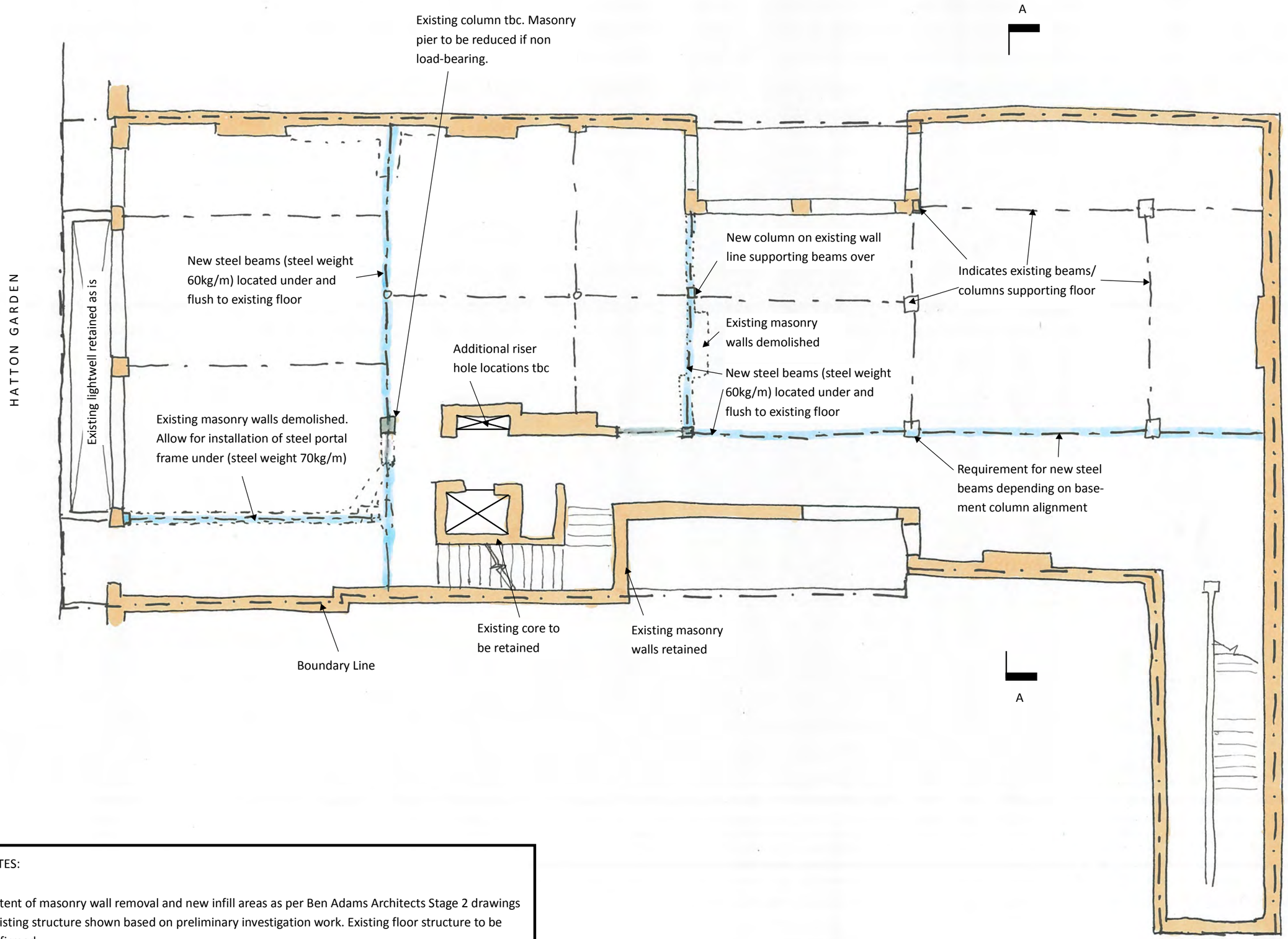


NOTES:

- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- Existing structure shown based on preliminary investigation work.
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All foundation strengthening details to be confirmed as part of detailed design process
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All beams shown are at or below basement level, encased in concrete

Job	Minerva House			Date	25/11/15
Title	Refurb and single storey extension - Basement Plan			Eng.	RM
Job No.	1387	Sheet	SK12	Rev.	A

HEYNE TILLETT STEEL

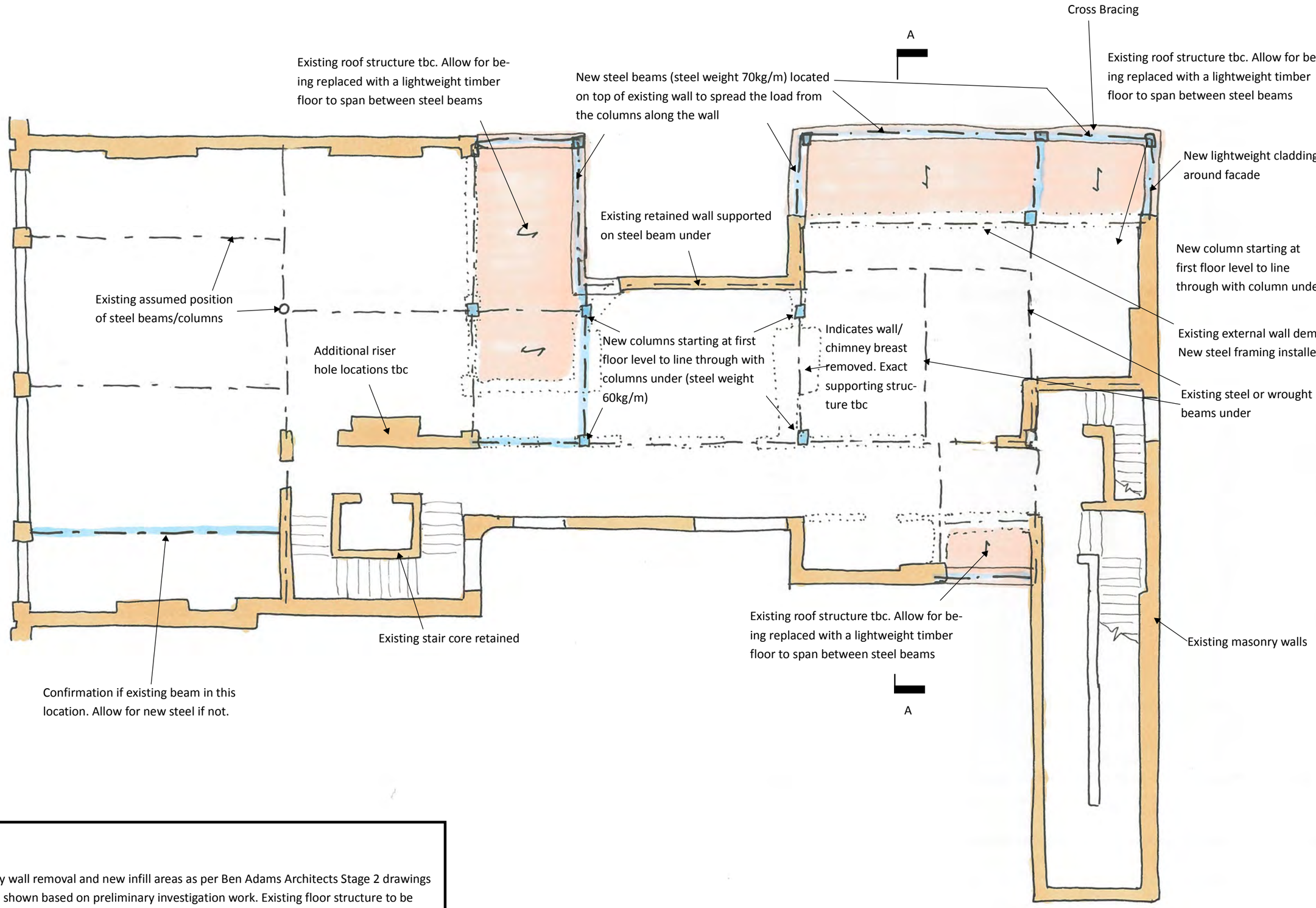


NOTES:

- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- Existing structure shown based on preliminary investigation work. Existing floor structure to be confirmed.
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All beams shown are at or below ground floor level

Job	Minerva House			Date	25/11/15
Title	Refurb and single storey extension - Ground Floor Plan			Eng.	RM
Job No.	1387	Sheet	SK13	Rev.	A

HEYNE TILLETT STEEL

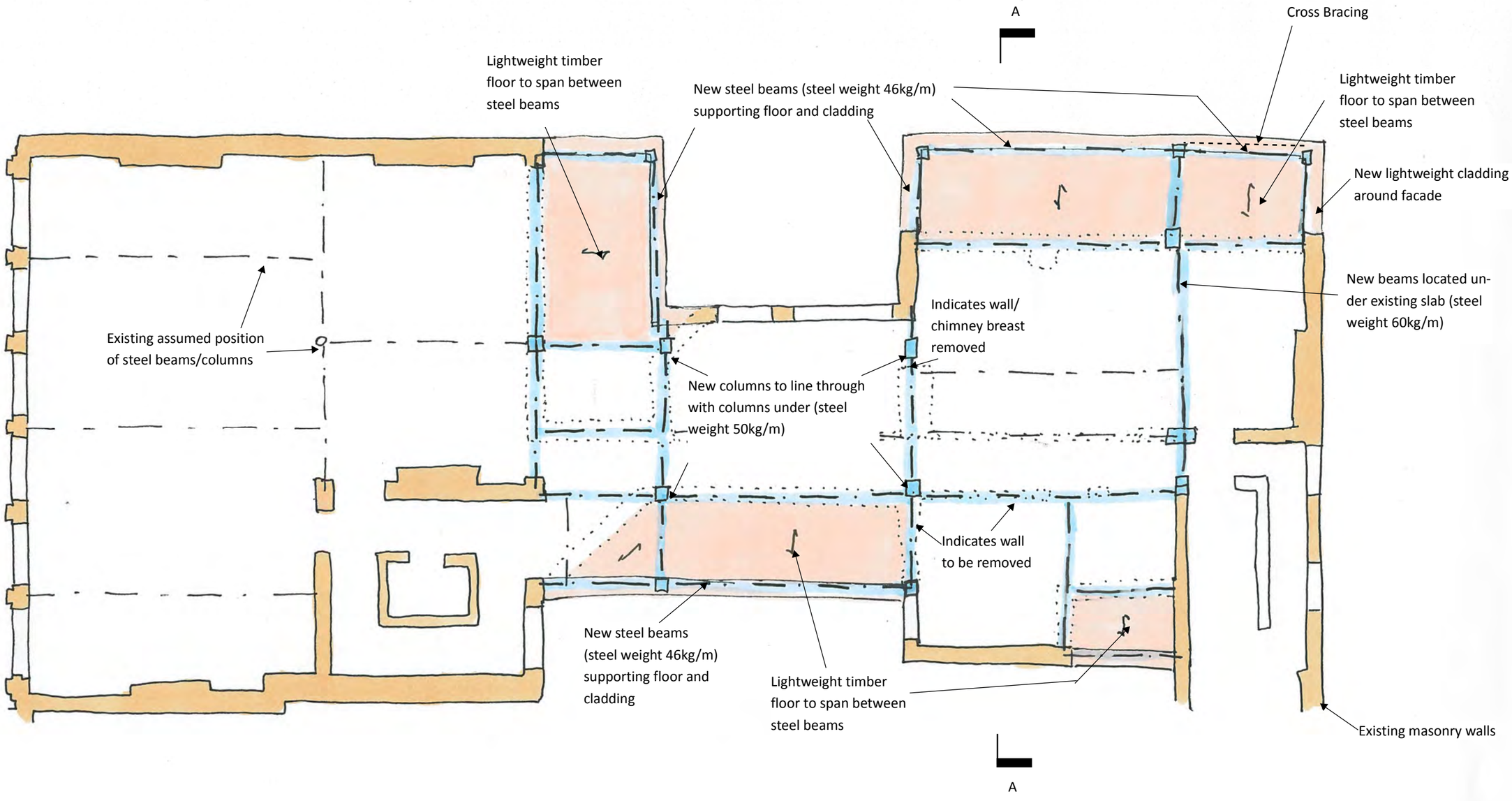


NOTES:

- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- Existing structure shown based on preliminary investigation work. Existing floor structure to be confirmed.
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All beams shown are at or below first floor level

Job	Minerva House			Date	25/11/15
Title	Refurb and single storey extension - First Floor Plan			Eng.	RM
Job No.	1387	Sheet	SK14	Rev.	A

HEYNE TILLETT STEEL

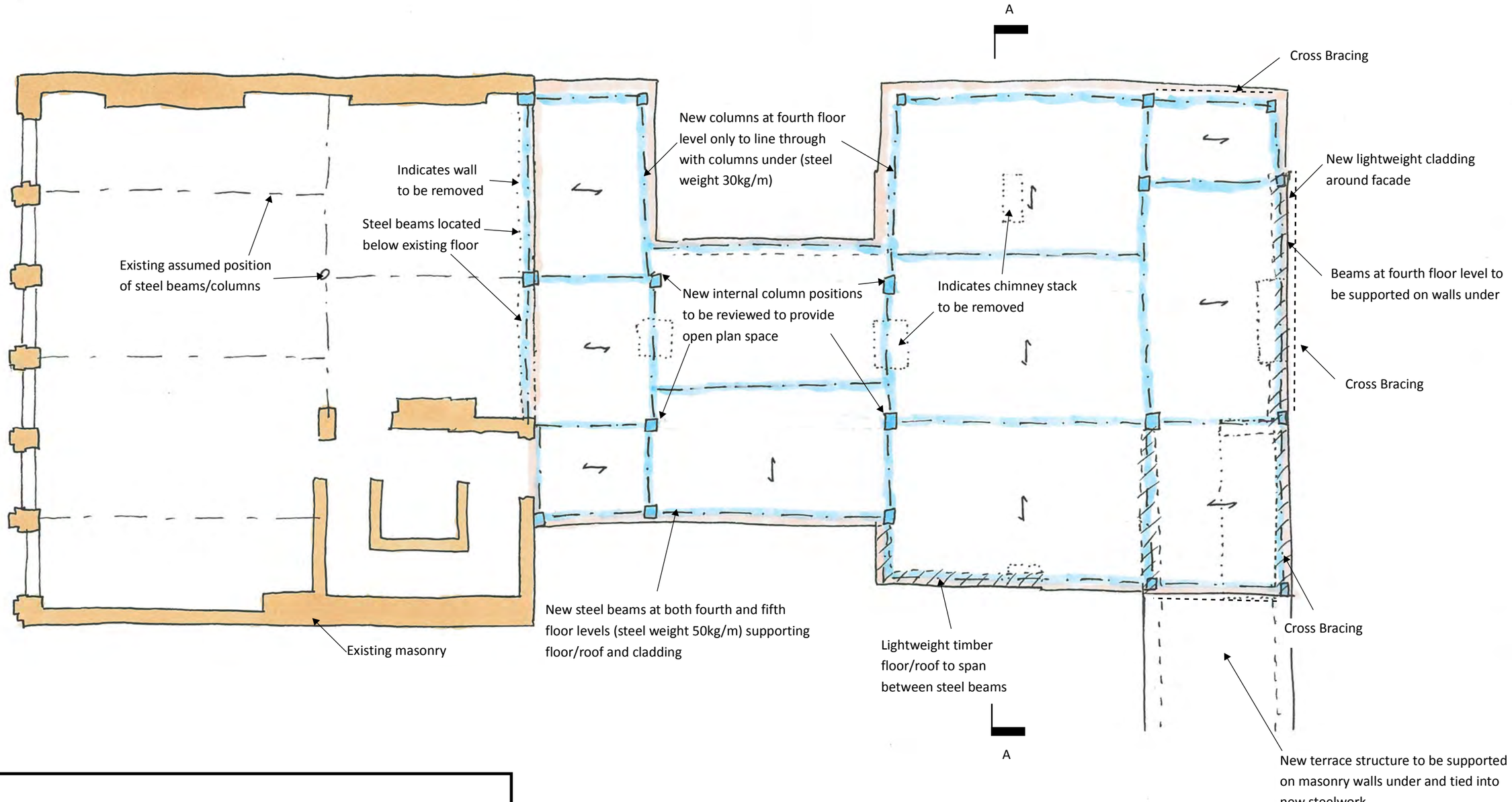


NOTES:

- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- Existing structure shown based on preliminary investigation work. Existing floor structure to be confirmed.
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All beams shown are at or below second/third floor level

Job	Minerva House	Date	25/11/15
Title	Refurb and single storey extension - Second/Third Floor Plan	Eng.	RM
Job No.	1387 Sheet SK15	Rev.	A

HEYNE TILLETT STEEL

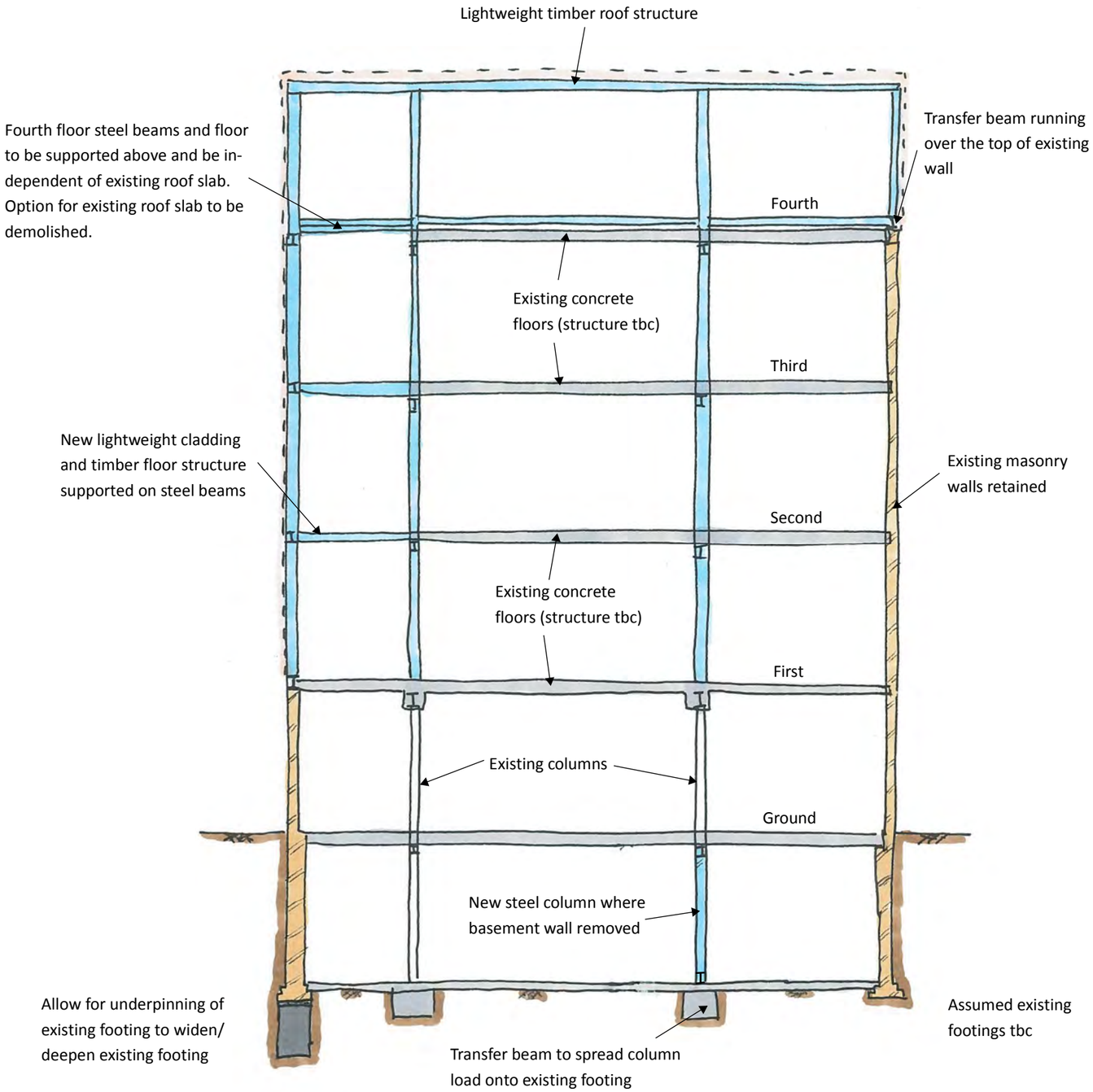


NOTES:

- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- Existing structure shown based on preliminary investigation work. Existing floor structure to be confirmed.
- Layout based on internal masonry walls and chimney stacks being demolished and replaced with steel framing
- Beams at fourth floor level are to form independent deck above existing fourth floor roof level. To maintain level access, allow for existing fourth floor roof slab to be demolished
- Extent of terrace and plant areas at 5th floor level to be confirmed

Job	Minerva House	Date	25/11/15
Title	Refurb and single storey extension - Fourth/Fifth Floor Plan	Eng.	RM
Job No.	1387 Sheet SK16	Rev.	A

HEYNE TILLETT STEEL



NOTES:

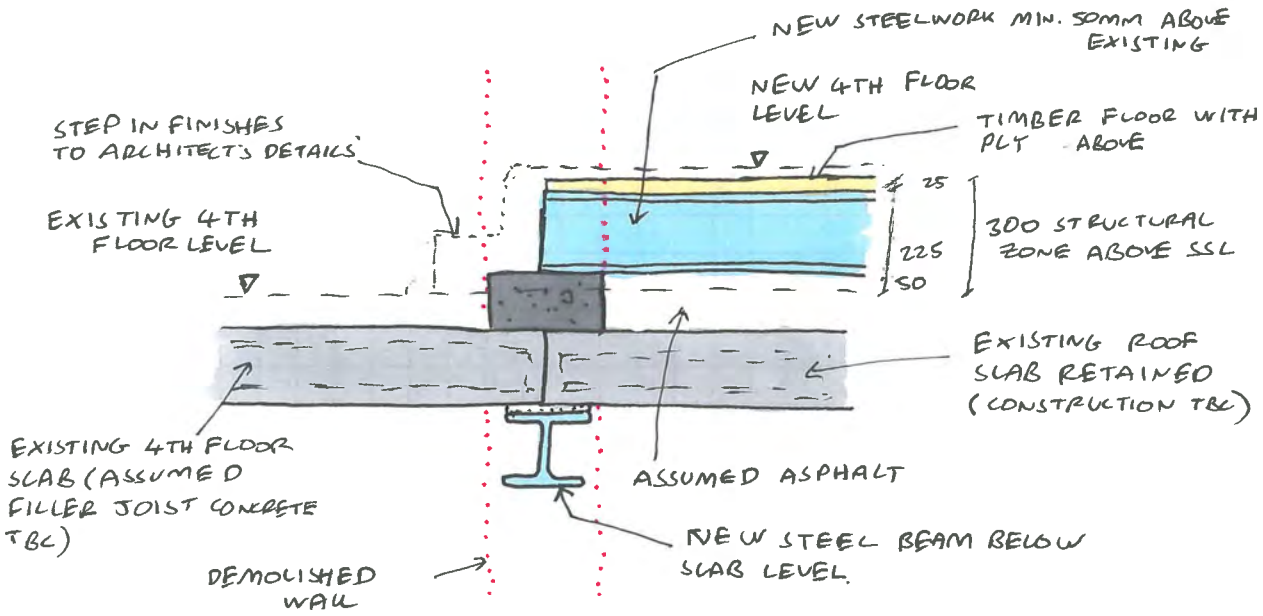
- Extent of masonry wall removal and new infill areas as per Ben Adams Architects Stage 2 drawings
- All foundation strengthening details to be confirmed following trial pit investigations on site.
- All existing structure shown is approximated from initial trial pit/structural investigations
- Layout based on internal masonry walls being demolished and replaced with steel framing
- All beams shown supporting existing floor are under floor structure

Job	Minerva House			Date	25/11/15
Title	Refurb and single storey extension - Section A-A			Eng.	RM
Job No.	1387	Sheet	SK17	Rev.	A

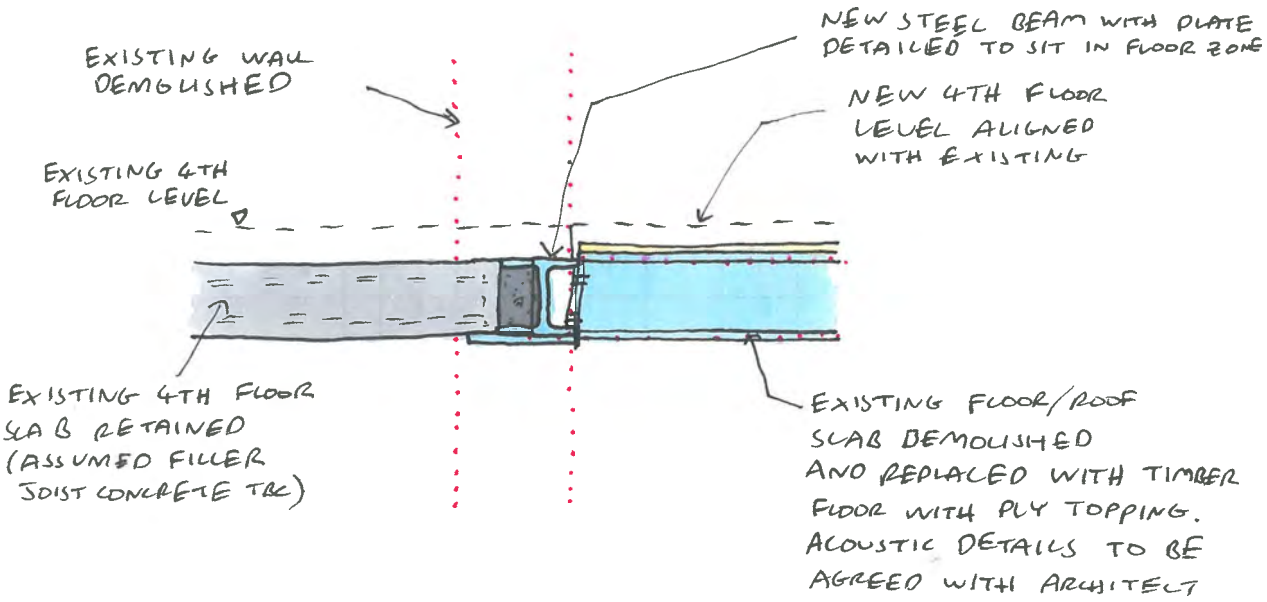
HEYNE TILLETT STEEL

Job	MINERVA HOUSE	Date	22/03/16
Title	STRUCTURAL FLOOR ZONES	Eng.	RM
Job No.	1387	Sheet	SK20
		Rev.	

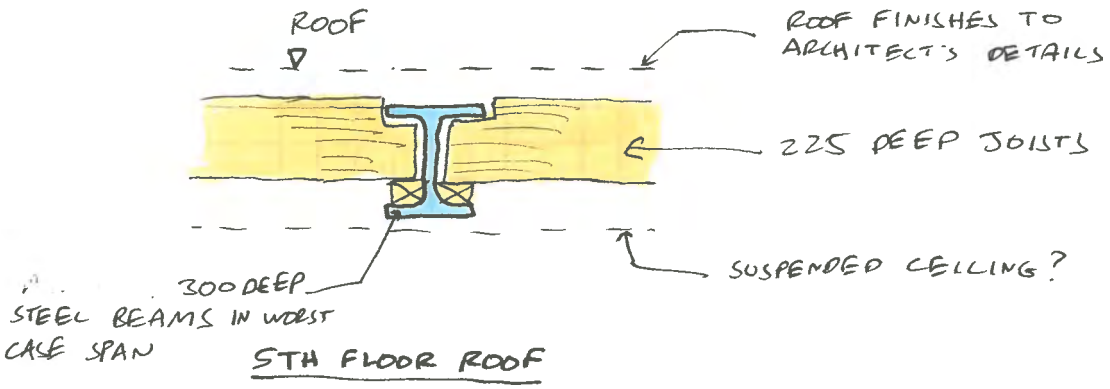
HEYNE TILLETT STEEL



4TH FLOOR - OPTION 1



4TH FLOOR - OPTION 2



5TH FLOOR ROOF

Appendix E

Geotechnical Report Summary

Trentside Geotechnical Testing
Graham Wing
Highlands Farm, Southend Road
Rettendon, Essex
CM3 8EB

TGT1585/MAG/001/JK

01st February 2016

To/
Graham Strudwick

Mag2 Construction Ltd
Hillview
Ashford Road
Newingreen
Hythe
Kent
CT21 4JB

Attn: Graham Strudwick

26/27 Hatton Gardens – Minerva House – Site Investigation

We refer to quote Q1141 dated 22nd January 2016 requesting an interpretive summary report giving recommendations for suitable bearing capacity etc for the provision of potential development on site.

We have visited the site on 26th January 2016 and all our recommendations are based entirely on the information obtained which is a site plan, the logs of 1 x 10m borehole and in situ geotechnical testing carried out on site by a TGT representative.

We have checked the Geology of Great Britain maps for the site and this indicates that the naturally occurring subsoil is Hackney Gravels consisting of sand and gravels with localised lenses of clay overlaying the London Clay formation.

The location of the site and the subsequent borehole is indicated on the appended site plan.

Borehole 1 was put down towards the office room within the basement area of the site. All measurements are taken from Ground Level within the basement. BH1 was found to have a laminate / parquet floor over a concrete floor slab to 0.3m. Made Ground was encountered to around 1.4m in depth where the expected Hackney Gravel was found to approximately 2.7m on top of around 0.5m of stiff grey clay which would be assumed to be the start of the London Clay layer. Between 3.2m and the proven depth of 10m, a very stiff grey clay which we assume to be natural London Clay.

There were no roots observed in the borehole put down.

In-situ testing by hand held vane test and/or Mackintosh Probe were carried out at regular depths in each of the boreholes and the results are indicated on the logs.

Mackintosh Probes carried out in BH1 at 1.0m & 2.0m indicate medium dense to dense compact ground.

The shear strengths at 3.0m are shown to be around 120kpa which equates to a safe bearing capacity in the region of 240kN/m^2

The Shear Strengths taken at 4.0m to full depth of 10m are shown to be >140kpa which equates to a safe bearing capacity greater than 280kN/m^2

Considering the results shown, this shows the ground to have “good” load bearing characteristics.

Any conventional shallow strip or pad foundations should be set below any MADE GROUND and within the definitive underlying natural material of good load bearing characteristics, approximately 1.5m below existing ground level

Based on the ground investigation, ground water could be present at around 2.7m. In circumstances when it must be assumed that the design water level could be higher than 1.00m above any proposed slab level, de-watering will be required during construction

If due to the magnitude of the anticipated loads, the presence of groundwater, or for any other economic reason that shallow foundations are not deemed as an alternative, the installation of a combination of secant/contiguous piles around the perimeter of the site in order to construct the development could be undertaken. It is assumed that the pile heads would be restrained in the permanent condition by a pile cap that will be formed of reinforced concrete and the pile walls will have a concrete inner liner wall.

Piles at this site would need to be bored or driven through any MADE GROUND and upper soft to firm stratum to support the foundation loads. Piles would be suggested to be driven to a depth of at least 4.0m

It is beyond our brief to provide a full and detailed pile design and the advice of a specialist piling contractor should be sought in this respect. All pile design is of course the responsibility of the selected piling contractor, and thus the soil parameters/assumptions listed below are given for guidance purposes only. These soil parameters/assumptions relate to "static design" for vertically loaded single and contiguous bored/cfa piles:

Made Ground

Bulk unit weight, γ_b :	17kN/m^3
Effective angle of internal friction, φ' :	Zero
Undrained shear strength, Su/Cu :	Zero

Granular Material

Bulk unit weight, γ_b :	19kN/m^3
Effective angle of internal friction, φ' :	38° - Based on CPT results and research by Peck, Hanson & Thorburn
Effective angle of wall friction, δ' :	Piling contractor's advice, but typically 0.70 to 0.80
Undrained shear strength, Su/Cu :	Zero
Bearing Capacity Factor, Nc :	Relates to pile and size – normal to utilise research by Berezantsev

Clay

Bulk unit weight, γ_b :	20kN/m^3
Undrained shear strength, Su/Cu :	Varying between approximately 185-285kN/m^2 (interpreted from SPT results and Stroud (1989))
Adhesion Factor, α :	Piling contractor's advice, but within the range 0.45 to 0.60
Effective angle of internal friction, φ' :	15-20°
Bearing Capacity Factor, Nc :	9

Again, it is recommended that the advice of competent piling contractors is sought as to the most suitable pile type at this site and for confirmation of the order of working load achievable given the ground conditions encountered and the proprietary pile type selected.

Settlements of such piles can be expected to be small, typically less than 5-10mm

With regard to the possible downward migration of contaminants the recommendations given in the Environment Agency Document *"Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination : Guidance on Pollution Prevention"* National Groundwater and Contaminated Land Centre Report NC/99/73, May 2001, or similar updated guidance, should be followed when assessing pile design at this site

The boreholes were open on completion although some difficulty may be encountered with any potential excavation due to the granular nature of the found soils above 2.7m . Any excavation of foundation pads or trenches, the sides of which should be supported to allow for construction.

With regard to the installation of any future water supply pipe work, reference should be made to the Water Regulations Advisory Service (WRAS) information and guidance notes It is recommended that the results of the contamination testing undertaken on the site should be provided to the water supplier in order to ensure that any pipe provided complies with their requirements.

As always, the above recommendations are based on a selected number of representative samples and further testing may be required if any other contamination is suspected or encountered during future ground works

We trust that you will find the enclosed information of value but should you have any queries please do not hesitate to contact the writer at the above noted address.

Yours faithfully,

John Kitridge BEng (Hons) EngTech TMICE MCIHT
Senior Engineer

Conditions

a) This report has been prepared for the purpose of providing advice to the client pursuant to its appointment of Trentside Geotechnical as a summarizer.

b) Save for the client no duty is undertaken or warranty or representation made to any party in respect of the opinions, advice, recommendations or conclusions herein set out.

c) All work carried out in preparing this report has used, and is based upon, our professional knowledge and understanding of the current relevant English and European Community standards, approved codes of practice, technology and legislation.

d) Changes in the above may cause the opinion, advice, recommendations or conclusions set out in this report to become inappropriate or incorrect. However, in giving its opinions, advice, recommendations and conclusions, TGT has considered pending changes to environmental legislation and regulations of which it is currently aware. Following delivery of this report, we will have no obligation to advise the client of any such changes, or of their repercussions.

e) TGT acknowledges that it is being retained, in part, because of its knowledge and experience with respect to environmental matters. TGT will consider and analyse all information provided to it in the context of our knowledge and experience and all other relevant information known to us. To the extent that the information provided to us is not inconsistent or incompatible therewith, TGT shall be entitled to rely upon and assume, without independent verification, the accuracy and completeness of such information.

f) The content of this report represents the professional opinion of experienced environmental consultants. TGT does not provide specialist legal advice and the advice of lawyers may be required.

g) In the Summary and Recommendations sections of this report, TGT has set out our key findings and provided a summary and overview of our advice, opinions and recommendations. However, other parts of this report will often indicate the limitations of the information obtained by TGT and therefore any advice, opinions or recommendations set out in the Executive Summary, Summary and Recommendations sections ought not to be relied upon unless they are considered in the context of the whole report.

h) The assessments made in this report are based on the ground conditions as revealed by walkover survey and/or intrusive investigations, together with the results of any field or laboratory testing or chemical analysis undertaken and other relevant data, which may have been obtained including previous site investigations. In any event, ground contamination often exists as small discrete areas of contamination (hot spots) and there can be no certainty that any or all such areas have been located and/or sampled.

i) There may be special conditions appertaining to the site, which have not been taken into account in the report. The assessment may be subject to amendment in light of additional information becoming available.

j) Where any data supplied by the client or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by TGT for inaccuracies within the data supplied by other parties.

k) Whilst the report may express an opinion on possible ground conditions between or beyond trial pit or borehole locations, or on the possible presence of features based on either visual, verbal or published evidence this is for guidance only and no liability can be accepted for the accuracy thereof.

l) Comments on groundwater conditions are based on observations made at the time of the investigation unless otherwise stated. Groundwater conditions may vary due to seasonal or other effects.

m) This report is prepared and written in the context of the agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate a reinterpretation of the report in whole or part after its original submission.

n) The copyright in the written materials shall remain the property of the TGT but with a royalty-free perpetual license to the client deemed to be granted on payment in full to TGT by the client of the outstanding amounts.

o) These terms apply in addition to the TGT Standard Terms of Engagement (or in addition to another written contract which may be in place instead thereof) unless specifically agreed in writing. (In the event of a conflict between these terms and the said Standard Terms of Engagement the said Standard Terms of Engagement shall prevail). In the absence of such a written contract the Standard Terms of Engagement will apply.

p) This report is issued on the condition that TGT will under no circumstances be liable for any loss arising directly or indirectly from subsequent information arising but not presented or discussed within the current Report.

q) In addition TGT will not be liable for any loss whatsoever arising directly or indirectly from any opinion within this report.

Trentside Geotechnical Testing

Highlands Farm, Southend Road
Rettendon, Essex, CM3 8EB
Telephone/Fax: 020 34880311 **Mobile:** 07508 853739
Email: info@trentsidegeotechnical.co.uk **Website**: www.trentsidegeotechnical.co.uk

Factual Report

Client : Mag2 Construction Ltd
Site Name : 26 - 27 Hatton Gardens, Minerva House
Client Reference : Q1141
Laboratory Reference : TGT1585
Date of Completion : 01-Feb

Content Summary

Lab Reference : TGT1585

Client Reference : Q1141

For the attention of : Graham Strudwick

This report comprises of the following : 1 Site Plan

1 Borehole Logs

1 Limitations of Report

Notes :

General

Please refer to report summary notes for details pertaining to methods undertaken and their subsequent accreditations

Samples were supplied by Customer

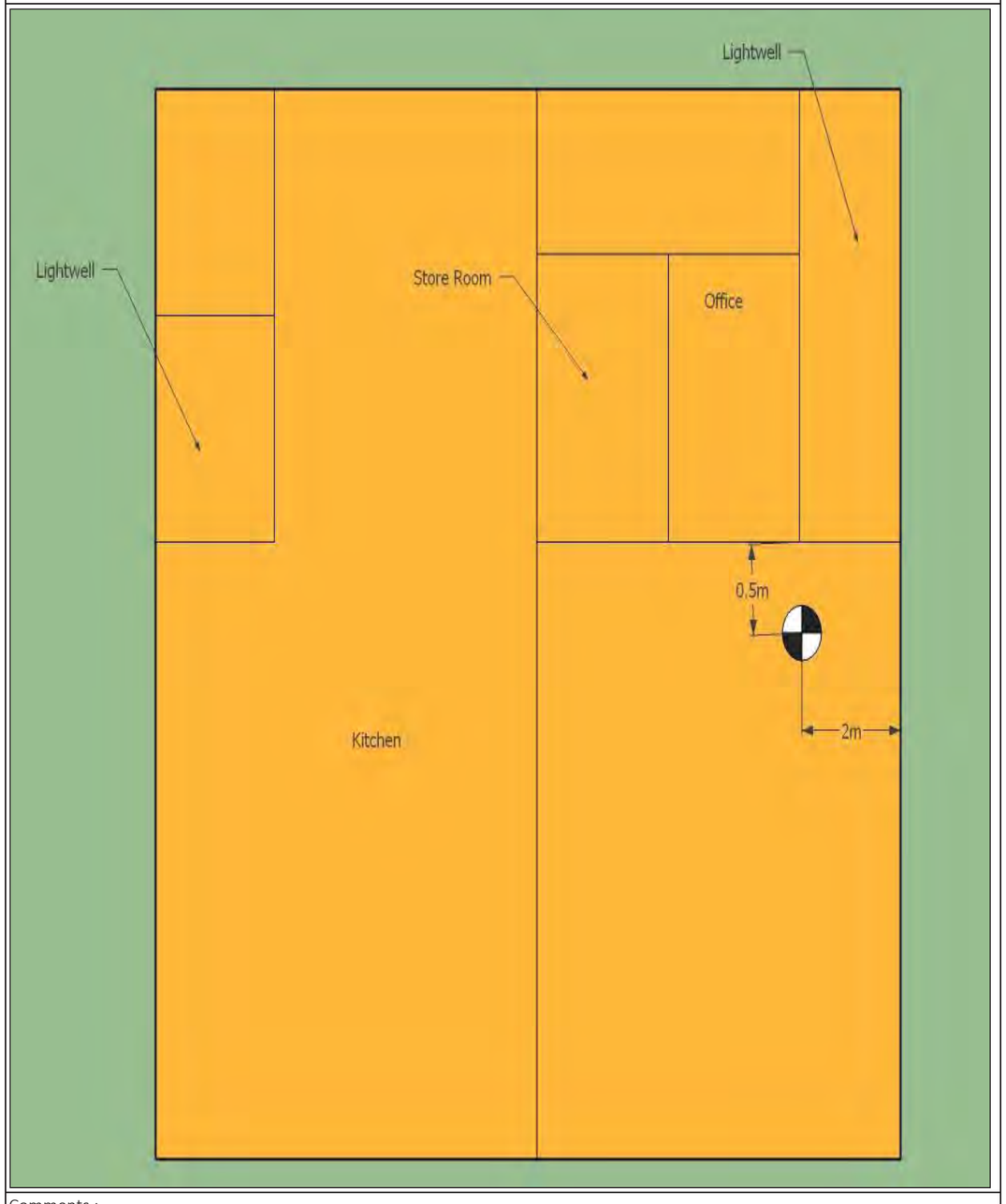
All tests performed in-house unless otherwise stated

Deviant Samples

Samples were received in suitable containers	Yes
A date and time of sampling was provided	Yes
Arrived damage/denaturing free	Yes

Fieldwork / Site Plan

Project Title:	Minerva House	Project Ref:	TGT1585	Date:	26-Jan
Client:	Mag2 Construction Ltd	Scale:	Not to Scale		



Comments :

Drawn By:	KW			Checked By:	GW

Trentside Geotechnical Testing & Site Investigations Ltd

BOREHOLE LOG

Project Name :	26 - 27 Hatton Gardens, Minerva House	Location Ref : BH1	Drilling Method : CFA	Job No : TGT1585	Performed By : MM
				Date : 27/01/16	Checked By : GW

Depth (m)	Description of Strata	Soil Sample Type Taken	InSitu Test (Type & Result)	N Value*	Allowable Bearing Capacity kN/m²**	Comments & Water Depths
GL - 0.06	Laminate Flooring over underlay and Parquet Flooring					
0.06 - 0.30	Concrete Floor Slab	ENV - 0.30				
0.3 - 0.9	Made Ground - Medium compact to compact dark brown silty sand and gravel with numourous small gravel sized fragments of concrete and brick.	D - 0.5				
0.9 - 1.4	Made Ground - Medium compact to compact dark brown sand and gravel with occasional brick fragments	D - 1.0	M 49 > 50 > 50	50+	400+	
1.4 - 1.9	Medium dense to dense mid brown / orange coarse SAND & GRAVEL	D - 1.5				
1.9 - 2.7	Medium dense to dense moist mid brown / orange coarse SAND & GRAVEL	D - 2.0	M > 50 > 50	50+	400+	
		D - 2.5				Water Strike @ 2.7m
2.7 - 3.2	Stiff mid brown grey viened silty CLAY with partings of orange and brown silt and fine sand	D - 3.0	V 114 124	35 - 50	240	
		D - 4.0	V > 140 > 140	50+	> 280	
		D - 5.0	V > 140 > 140	50+	> 280	
		D - 6.0	V 140+ 140+	50+	> 280	
3.2 - 10.0	Very stiff, mid grey silty CLAY with partings of grey silt and fine sand	D - 7.0	V 140+ 140+	50+	> 280	
		D - 8.0	V > 140 > 140	50+	> 280	
		D - 9.0	V 140+ 140	50+	> 280	
		D - 10.0	V 140+ 140+	50+	> 280	

BOREHOLE COMPLETED TO 10m - Open and Water Standing @ 2.7m on completion

KEY					Notes :	Sheet Number : 1 of 1
	D	Disturbed Sample	M	Mackintosh Probe		Weather : Dry
	U	Undisturbed Sample	V		*Mackintosh N75 x 0.38 = SPT N Value	Scale : NTS
	B	Bulk Sample		Shear Vane	** Terzaghi & Peck 1996 assuming 2x2m footing	
	W	Water Sample				

Appendix F

Crossrail Map

HEYNE TILLETT STEEL

Hammersmith & City line
Circle line
Metropolitan line

Clerkenwell Road
Bank
THAMESLINK
Tummill Street
Britton Street
St Johns Lane
St John Street
Wolfson Institute
Goswell Road
Medical College of St Bartholomew's Hospital
Hotel
London Borough of Islington
London Borough of Camden
Farringdon Road
Farringdon Eastern Ticket Hall at Street Level
Thameslink Ticket Hall opened in 2011
Charterhouse Square
Barbican Station
St Cross Street
Kirby Street
Hatton Garden
Leather Lane
Farringdon Station
Cowcross Street
Vertical Circulation to Crossrail Platforms
Cardinal House Worksite
CROSSRAIL PLATFORM
CROSSRAIL PLATFORM
Crossrail
Crossrail
East Smithfield Market
Development above by others
Development above by others
Charterhouse Street
West Smithfield Market
Lindsey Street Worksite
Aldersgate Street
Farringdon Western Ticket Hall Extension
Poultry Market
City of London
West Smithfield
General Market
Farringdon Rd
Charterhouse Street
Access to Worksite
Holborn
Central line
Holborn Circus
THAMESLINK
Lorry Holding Area
Snow Hill
Fetter Lane
SEE SHEET 9
SEE SHEET 11

N

Crossrail Route in Tunnel
Extent of Land to be Acquired or Used
Other Network Rail Tracks
LU Route (Relevant Colour)
Borough Boundary
Crossrail Station Entrance
Grout Shaft
Surface Structure
Sub Surface Structure
Ticket Hall authorised by Thameslink
Worksite
Area no longer to be used

50m 0 50m 100m 150m 200m 250m

Scale 1:2500 @A3

Worksite boundaries to be confirmed.

S4 Fit for authorisation

RESTRICTED

Copy Approved for Design - Created: 27-NOV-2013

MOVING LONDON FORWARD

Farringdon Station
Crossrail Proposals

This plan is indicative of proposals by Crossrail Limited and its delivery partners for the construction activity and completed works in the area shown. The size, detail and position of works are subject to alteration, as a result of design development, within the powers granted by the Crossrail Act 2008.

SHEET 10

November 2013

CRL1-XRL-Z1-DDA-CRG03-00010 P04

Appendix G

Thames Water Asset Search

Asset Location Search

Heyne Tillett Steel Limited
4

LONDON
EC1R 0DS

Search address supplied Minerva House 26-27
Hatton Garden
London
EC1N 8BR

Your reference 1387

Our reference ALS/ALS Standard/2015_3097799

Search date 16 July 2015

You are now able to order your Asset Location Search requests online by visiting
www.thameswater-propertysearches.co.uk

Asset Location Search

Search address supplied: Minerva House 26-27, Hatton Garden, London, EC1N 8BR

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

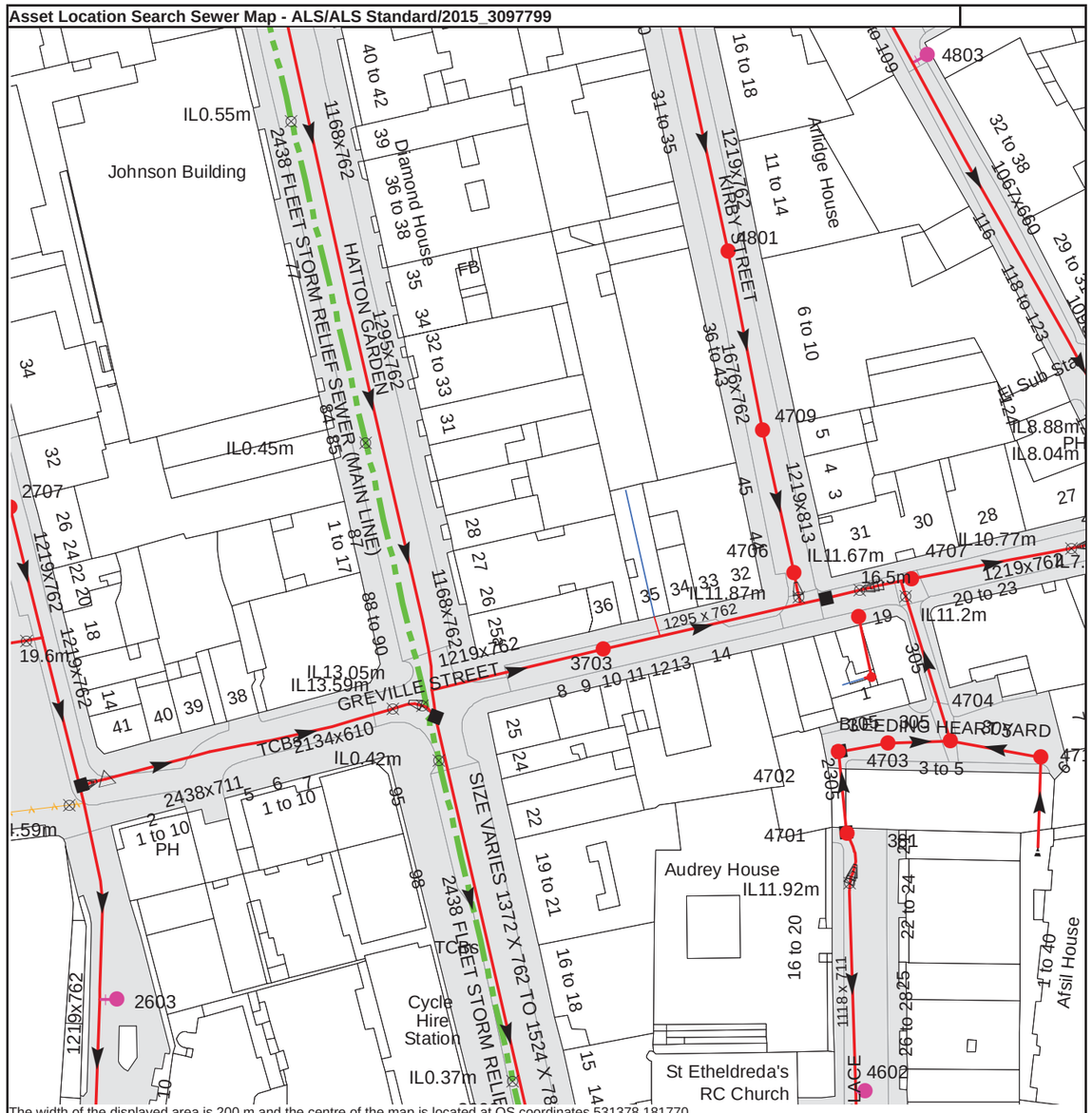
Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

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



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
4803	n/a	n/a
4706	16.58	12.02
4709	16.61	12.38
4801	16.68	13.06
2603	n/a	n/a
3703	17.33	12.28
4702	16.32	11.8
4701	16.23	12.12
47FA	n/a	n/a
4602	15.71	n/a
47EI	n/a	n/a
4703	16.17	11.66
4707	15.76	11.05
4704	15.93	11.57
4710	n/a	n/a

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.

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

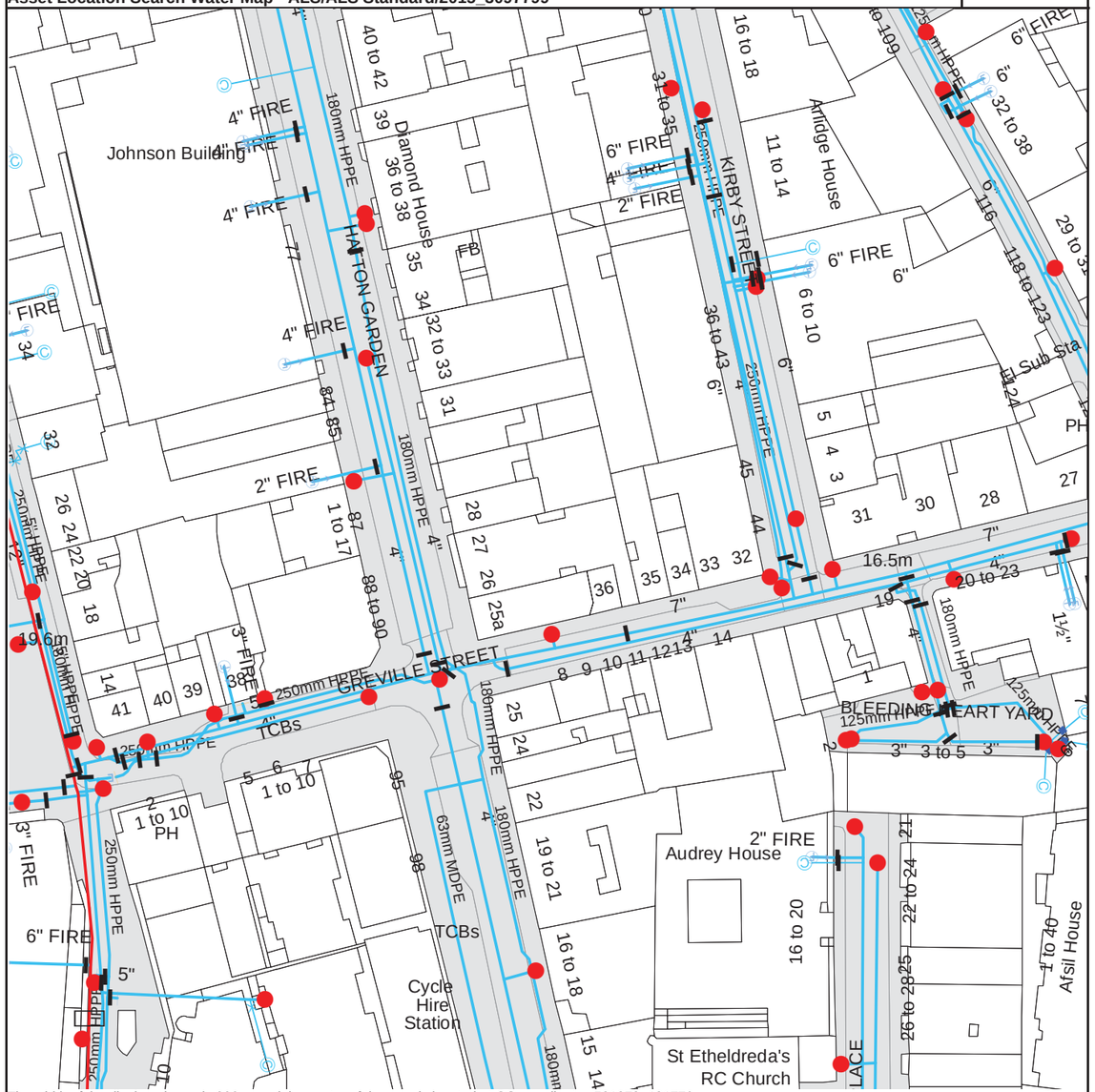
Proposed

Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plans are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole level indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Asset Location Search Water Map - ALS/ALS Standard/2015_3097799



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 531378, 181770.

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.

ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Other Water Pipes (Not Operated or Maintained by Thames Water)

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indiates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL`s terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to him at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	**BACS Payment**	**Telephone Banking**	**Cheque**
Call **0845 070 9148** quoting your invoice number starting CBA or ADS.	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number	Made payable to '**Thames Water Utilities Ltd**' Write your Thames Water account number on the back. Send to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW** or by DX to **151280 Slough 13**

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles
Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints
If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details
The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Appendix H

Historical Maps

HEYNE TILLETT STEEL