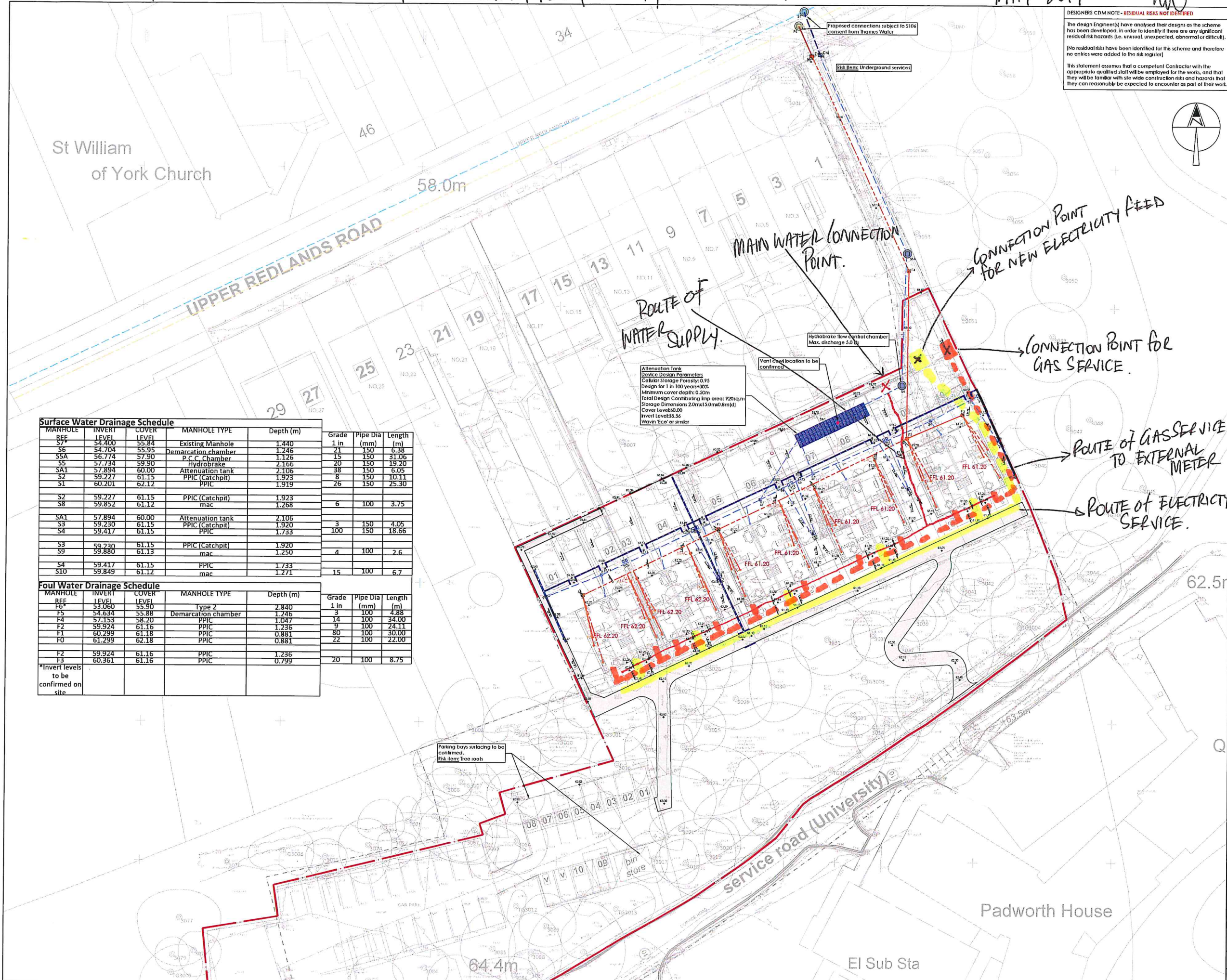


MARK UP OF SERVICE ROUTES - GAS/ELECTRICITY/FOUL/STORM/WATER - REV 1

MAY 2017

##



Surface Water Drainage Schedule						
MANHOLE	INVERT	COVER	MANHOLE TYPE	Depth (m)	Grade	Pipe Dia
REF	LEVEL	LEVEL			1 in	(mm)
S7	54.400	55.84	Existing Manhole	1.440	21	150
S6	54.704	55.95	Demarcation chamber	1.246	15	150
SSA	56.774	57.90	P.C.C. Chamber	1.126	20	150
S5	57.734	59.90	Hydrobrake	2.166	20	150
SA1	57.894	60.00	Attenuation tank	2.106	38	150
S2	59.227	61.15	PPIC (Catchpit)	1.923	8	150
S1	60.201	62.12	PPIC	1.919	26	150
S2	59.227	61.15	PPIC (Catchpit)	1.923		
S8	59.852	61.12	mac	1.268	6	100
SA1	57.894	60.00	Attenuation tank	2.106		
S3	59.230	61.15	PPIC (Catchpit)	1.920	3	150
S4	59.417	61.15	PPIC	1.733	100	150
S3	59.230	61.15	PPIC (Catchpit)	1.920		
S9	59.880	61.13	mac	1.250	4	100
S4	59.417	61.15	PPIC	1.733		
S10	59.849	61.12	mac	1.271	15	100
Foul Water Drainage Schedule						
MANHOLE	INVERT	COVER	MANHOLE TYPE	Depth (m)	Grade	Pipe Dia
REF	LEVEL	LEVEL			1 in	(mm)
F5	54.634	55.30	Demarcation chamber	1.246	21	150
F4	57.153	58.20	PPIC	1.047	14	100
F2	59.924	61.16	PPIC	1.236	9	100
F1	60.299	61.18	PPIC	0.881	80	100
F0	61.299	62.18	PPIC	0.881	22	100
F2	59.924	61.16	PPIC	1.236		
F3	60.361	61.16	PPIC	0.799	20	100
*Invert levels to be confirmed on site						

DESIGNERS CDM NOTE - RESIDUAL RISKS NOT IDENTIFIED

The design Engineer(s) have analysed their designs as the scheme has been developed. In order to identify if there are any significant residual risk hazards (i.e. unusual, unexpected, abnormal or difficult), [No residual risks have been identified for this scheme and therefore no entries were added to the risk register]

This statement assumes that a competent Contractor with the appropriate qualified staff will be employed for the works, and that they will be familiar with site wide construction risks and hazards that they can reasonably be expected to encounter as part of their work.

DESIGNERS CDM NOTE

THERE ARE NO SUBSTANTIAL RESIDUAL RISK ITEMS IDENTIFIED

GENERAL NOTES

- All dimensions in millimetres and levels in metres
- This drawing is to be read in conjunction with the relevant Architect/Engineer's drawings, specifications and CDM documentation
- This drawings has been produced electronically and may have been photo reduced or enlarged when copied. Work to figured dimensions only (DO NOT SCALE). All dimensions to be checked on site. Any errors or omissions to be reported to the engineer immediately.
- This drawing contains coloured lines / information that may not be clear if printed / reproduced in monochrome

KEY

- Foul drain (private/non adoptable)
- Surface water drain (private/non-adoptable)
- Foul sewer (Adoptable)
- Surface water drain (Adoptable)
- Highway Drain (Adoptable)
- Existing Private Foul drain
- Existing Private Surface water drain
- Existing Adoptable Foul sewer
- Existing Adoptable Surface water sewer
- Existing Adoptable Combined water sewer

CHAMBER DETAILS

- Depth - 0.4m or less Mini access chamber MAC (300mmØ)
- Depth - 0.45m to 1.25m PPIC (475mmØ)
- Depth - 0.45m to 1.25m 400x450 P.C.C. units/brick (proven type for trafficked areas)
- Adoptable demarcation manhole within 1m of boundary 600mm x 450mm (size to be confirmed by adoption authority) P.C.C. or brick construction NOT plastic.
- Manhole Depth - 1.25 to 1.5m (1050mmØ P.C.C. ring)
- Depth - 1.55 to 3.0m (1200mmØ P.C.C. ring)

RE Surface water rodding eye

F1 Manhole number

Entrance into building

Soil Vent Pipe/Soil Stack

Rain water down pipe (roddable access)

Yard gully (225mmØ trapped)

Road gully (trapped) C250 hinged cover & frame

Floor Gully

Linear Drainage channel

Crate storage (Refer to drawing for sizes)

FFLXXX.XX Finished floor level

Retaining Wall

Site Boundary

Porous asphalt footpath construction

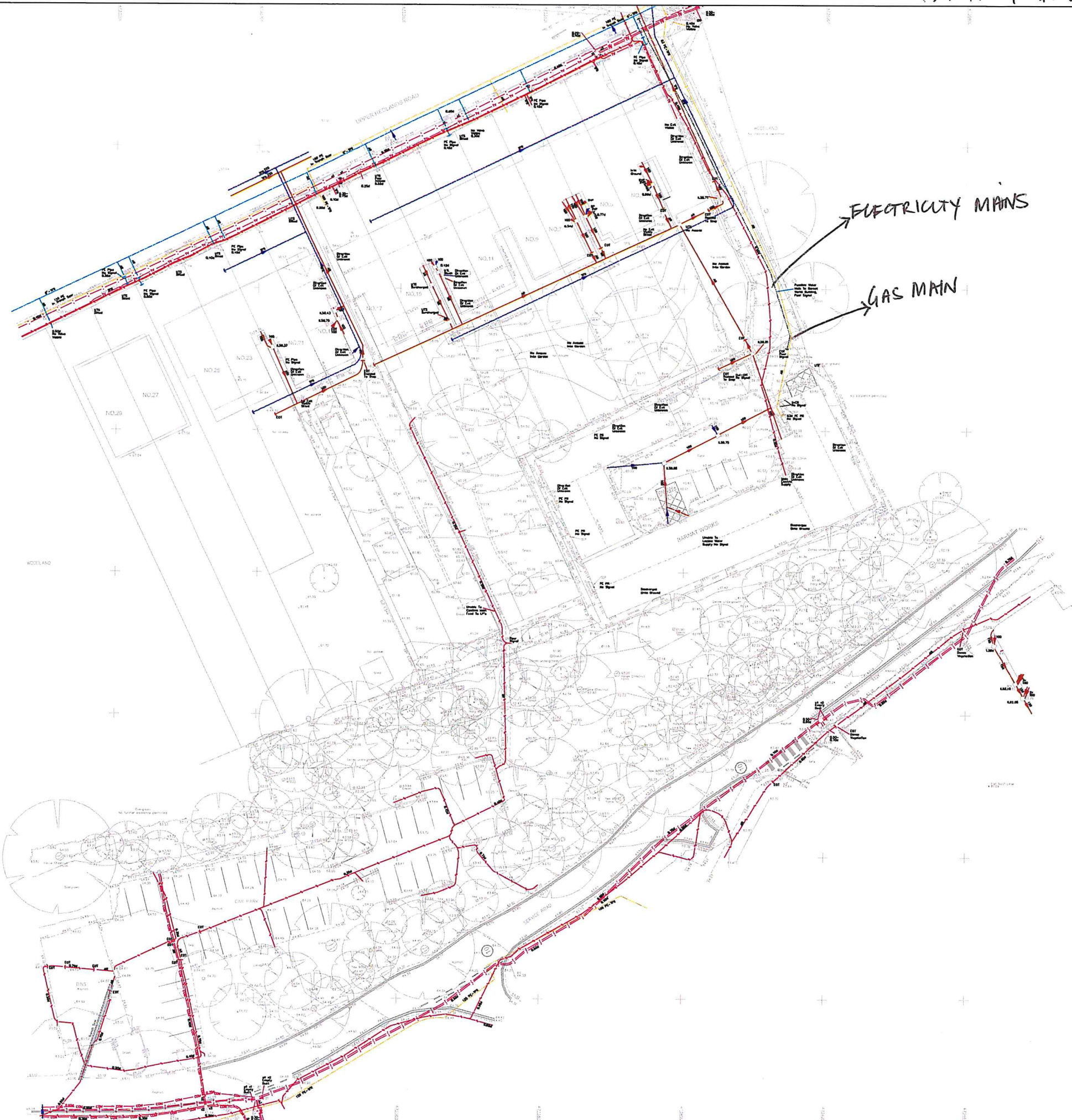
Vent cowl

It is strongly recommended that where possible all drainage runs are laid commencing from the outfall, especially where the outfall depth is shallow.

NOTE: SERVICES PROVIDER TO KEEP A MAX OF 2M AWAY FROM BUILDINGS TO ENSURE TREE PROTECTION ZONE IS MISSED.

P4	Foul and surface water arrangement amended to avoid the tree protection zone	25/04/17	PI
P3	Site plan amended	20/02/17	PI
P2	Footpath surfacing construction amended	09/02/17	PI
P1	Preliminary Issue	03/02/17	PI
REV	REVISION DETAILS	DATE	DRAWN BY
CLIENT	ORIGINATOR		
PROJECT	1A Upper Redlands Road Reading	TITLE	Proposed Drainage Layout
SCALE	1:250 @A1	DRAWN	PI
CHECKED	SW	APPROVED	SW
PROJECT	ORIGINATOR	ZONE	LEVEL
4265	GDL	XX	D
ROLE	DR	C	003
JOB NO.	PURPOSE OF ISSUE	STATUS	REVISION
4265	FOR COMMENT	S3	P4

EXISTING SERVICES DWG.



- NOTES**

 1. Service routes have been identified by:
Reference to service records.
Visual site inspection.
Lifting of manhole covers and visual inspection from the surface.
Tracing by EML (Electromagnetic location) techniques.
Ground Penetrating Radar (GPR) techniques.
 2. For safety reasons, drainage pipe sizers have been determined from the surface and should be treated as approximate only.
 3. This drawing is provided for guidance only and it is highly recommended that trial holes are dug to confirm the position and depth of any underground services.
 4. Drainage pipe sizes are diameters (millimetre units)
 5. See topographic detail on sheet as a grey background. Reference drawing CS2140602/7100.
 6. Unable to gain access into rear gardens of properties 18-21 of 111 of GPM. Unable to locate PG Gas main to Barnet. Works building, no access to assumed only. BT supplied overhead from TC to buildings.

KEY	
	ELECTRIC CABLE
	TELEPHONE CABLE
	CABLE TELEVISION
	COMMUNICATION CABLE
	WATER PIPE
	GAS
	FOUL DRAINAGE
	SURFACE DRAINAGE
	COMBINED DRAINAGE
	FUEL PIPE
	VENT PIPE
	OFFSET FULL PIPE
	GAUGE LINE
	VAPOUR RECOVERY
	SEWERAGE DUCT
	UNIDENTIFIED
	END OF TRACE
	CABLE / PVC RISER
	BACKDROP / TRAP

[illegible]

DISCLOSURE

Decryption techniques and/or ground penetrating radar (GPR) have been used in the detection of underground services the results are not reliable and the accuracy of the results is not known. The services identification, positioning and particularly depths are not reliable. The use of GPR has been found to be accurate in providing overhead radar readings, however, the correlation of the results to the information services are guaranteed. The methods of survey data are not reliable between the ground services and so each of services should be located by hand.

Where services are non-metallic materials may be taken from records, trench scans or surface detail. Where there are no records or surface detail, the use of the centre of the service. Details to ground surveys and depths are generally to level above services are located.

Flare sites which cannot be identified by survey party (SP) from recent drawings or other public domain evidence.

Where ground penetrating radar has been used it is not possible to identify the results of the survey. It is possible on the site to identify underground structures/locations. The use of GPR has been found to be accurate in providing overhead radar readings, however, the correlation of the results to the information services are not guaranteed. The methods of survey data are not reliable between the ground services and so each of services should be located by hand.



Ref.	Description	Date	Closed
 Glanville Cornerstone House 62 Foxhall Road, Didcot Oxon, OX11 7AD Tel: 01235 935550 Fax: 01235 817789 admin@glanville.com www.glanville.com			
Client :			
UNIVERSITY OF READING			
Project :			
1A UPPER REDLANDS ROAD WHITEKNIGHTS CAMPUS READING			
Title :			
SERVICES			
Project Engineer : AS Scale : 1/2000/AD			
Project Director : CE		Date : July 2014	
Status :			
Drawing No. GS8 140602/200		Rev	