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Client: Mr Charles Richards on behalf of Fishguard & Goodwick United Ltd

Flood Risk Assessment for the Proposed Development at Messom Mews, Grosvenor Road, Twickenham

July 2024

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Contents Amendment Record

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Contents Page

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1 Scope of Appraisal

Herrington Consulting has been commissioned by **Mr Charles Richards on behalf of Fishguard & Goodwick United Ltd** to prepare a Flood Risk Assessment (FRA) for the proposed development at **Messom Mews, Grosvenor Road, Twickenham, Middlesex, TW1 4DP.**

Flooding is a major issue in the United Kingdom. The impacts can be devastating in terms of the cost of repairs, replacement of damaged property and loss of business. The objectives of the Flood Risk Assessment (FRA) are therefore to establish the following:

- whether a proposed development is likely to be affected by current or future flooding from any source.
- whether the development will increase flood risk elsewhere within the floodplain.
- whether the measures proposed to address these effects and risks are appropriate.
- whether the site will pass Part B of the Exception Test (where applicable).

A Flood Risk Assessment (FRA) appraises the risk of flooding to development at a site specific scale and recommends appropriate mitigation measures to reduce the impact of flooding to both the site and the surrounding area.

This appraisal has been undertaken in accordance with the requirements of the National Planning Policy Framework (2023) and the National Planning Practice Guidance Suite (August 2022) that has been published by the Department for Communities and Local Government. The *Flood Risk and Coastal Change* planning practice guidance included within the Suite represents the most contemporary technical guidance on preparing FRAs. In addition, reference has also been made to Local Planning Policy.

To ensure that due account is taken of industry best practice, this FRA has been carried out in line with the CIRIA Report C624 ‘Development and flood risk - guidance for the construction industry’.

2 Background Information

2.1 Site Location and Existing Use

The site is located at Ordnance Survey (OS) coordinates 516110, 173416 off Grosvenor Road in Twickenham. The site covers an area of approximately 0.14 hectares (ha) and currently comprises office development and associated parking area. The location of the site, in relation to the surrounding area, is shown in Figure 2.1 below.

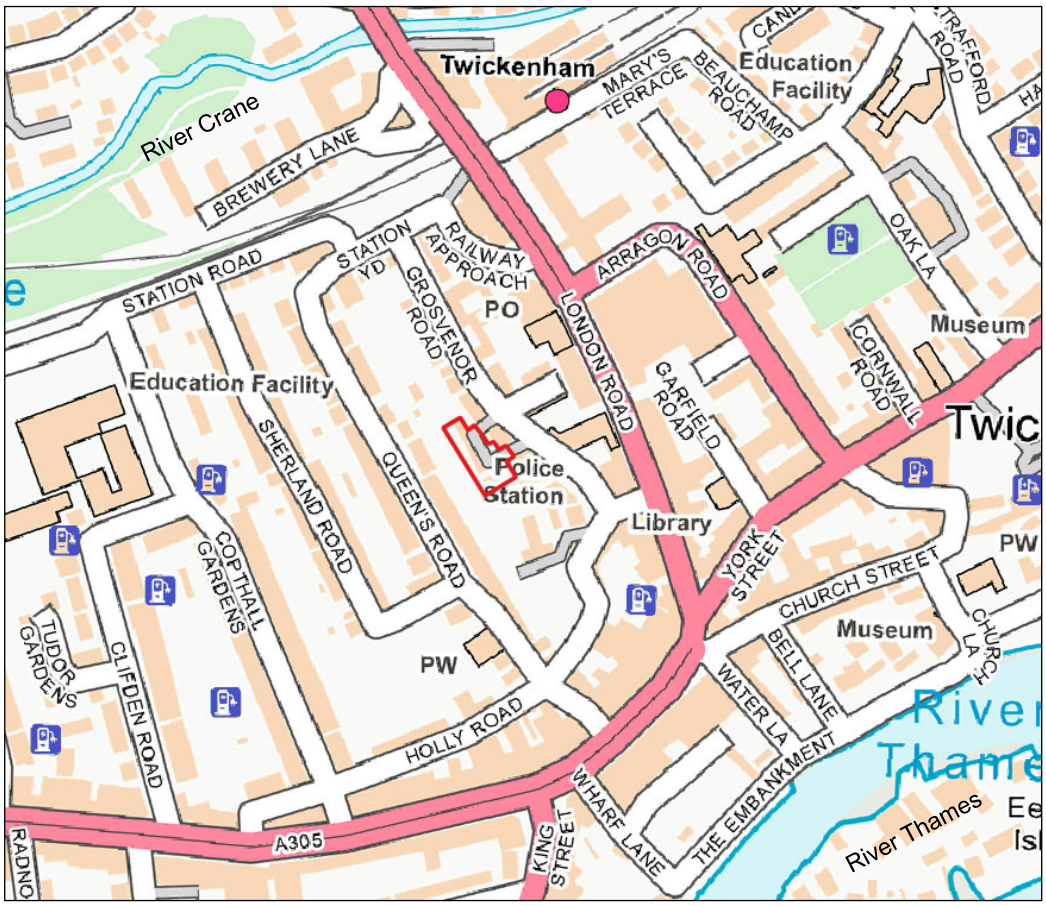

Figure 2.1 – Location map (contains Ordnance Survey data © Crown copyright and database right 2024).

2.2 Proposed Development

The development proposals comprise of a change of use from a office use (Use Class E) to a residential development (Use Class C3) to accommodate 4no. 2-bedroom units and 2no. 3-bedroom units. The development will also include one office unit and associated parking and amenity spaces.

Figure 2.2 – Top image: Ground floor plans. Bottom image: First floor plans.

Further drawings of the proposed scheme are included in Appendix A.1 of this report.

2.3 Planning Policy and Context

For any new development situated within Flood Zones 2 and 3 of a main river or the sea, or for sites greater than 1ha in size, the National Planning Policy Framework (NPPF) requires a detailed FRA to be undertaken. Inspection of the Environment Agency's (EA's) 'Flood Map for Planning' shows that the site is located within Flood Zone 1 and is smaller than 1ha in size (Figure 2.3). Consequently, a FRA would not typically be required.

Notwithstanding this, in certain circumstances the Local Planning Authority (LPA) can request that a FRA is submitted for other circumstances. In this case, the proposed development is being submitted under a Class MA Permitted Development, which requires Prior Approval. For Prior Approval Application, it is necessary to appraise the risk of flooding. Consequently, a FRA is required to support the planning application.

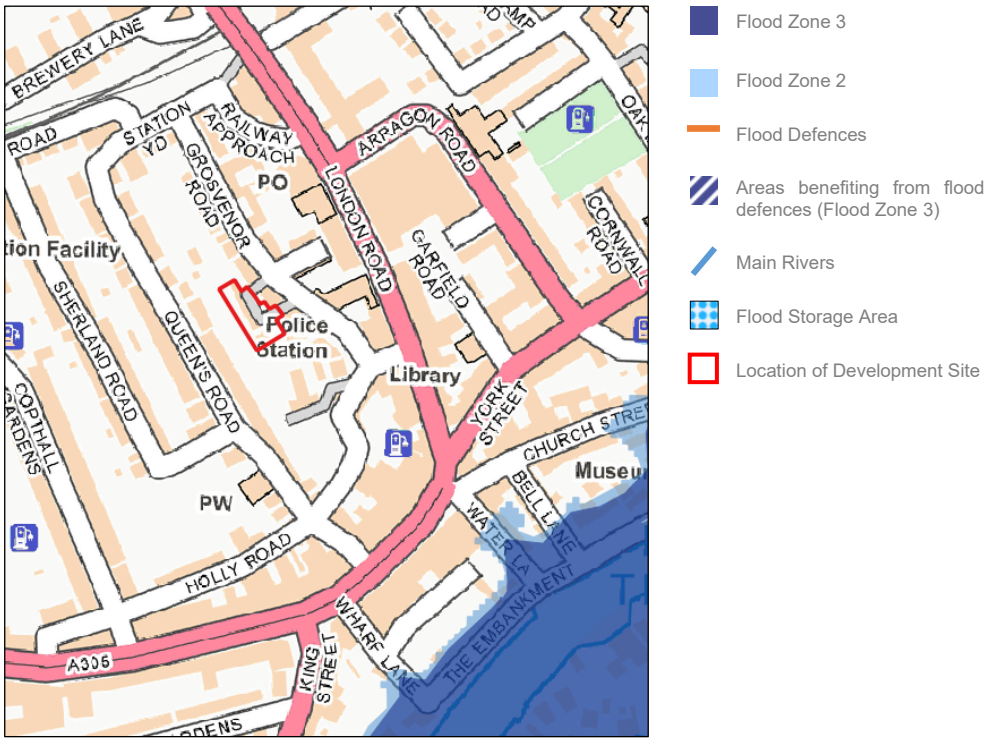

Figure 2.3 – EA's 'Flood Map for Planning' (© Environment Agency, mapping contains Ordnance Survey Data © Crown copyright and database right 2024).

2.4 Site Specific Information

Information from a wide range of sources has been referenced to appraise the true risk of flooding at this location. This section summarises the additional information collected as part of this FRA.

Information contained within the SFRA – The London Brough of Richmond upon Thames SFRA (2020) contains detailed mapping showing historic flood records for a wide range of sources. This document has been referenced as part of this site-specific FRA.

Information on localised flooding contained within the SWMP – A Surface Water Management Plan (SWMP) is a study to understand the risk of flooding that arises from local surface water flooding, which is defined by the Flood and Water Management Act 2010 as flooding from surface runoff, groundwater, and ordinary watercourses. Such a document has been prepared for the London Borough of Richmond upon Thames (2011) and has therefore been referenced as part of this site-specific FRA.

Information provided by Thames Water – Thames Water has provided the results of an asset location search for the site. The response is included in Appendix A.2.

Site specific topographic surveys – A site-specific topographic survey has not been undertaken at this stage; however, inspection of aerial height data (LiDAR) records show that the land levels of the site vary between 8.27m and 10.23m Above Ordnance Datum Newlyn (AODN). Land levels at the site and the surrounding area fall gradually in a southeast direction towards the River Thames.

Geology – Reference to the British Geological Survey (BGS) map shows that the underlying solid geology in the location of the subject site is London Clay Formation (clay and silt). Overlying this are superficial deposits of Langley Silt Member (clay and silt).

Historic flooding – Information provided by London Borough of Richmond upon Thames SFRA reveals that there are no recorded incidents of flooding at the site or the immediate area. Furthermore, the EA's Historic Flood Map GIS data shows that there are no historic records of flooding at the site.

2.5 Climate Change

The global climate is constantly changing but it is widely recognised that we are now entering a period of accelerating change. Over the last few decades there have been numerous studies into the impact of potential future changes in the climate and there is now an increasing body of scientific evidence which supports the fact that the global climate is changing as a result of human activity. Past, present and future emissions of greenhouse gases are expected to cause significant global climate change during this century.

The nature of climate change at a regional level will vary. For the UK, projections of future climate change indicate that more frequent short-duration, high-intensity rainfall, and more frequent periods of long-duration rainfall (of the type responsible for the recent UK flooding), could be expected.

These effects will tend to increase the size of flood zones associated with rivers and the amount of flooding experienced from other inland sources. Consequently, the following section of this report takes into consideration the impacts of climate change and references the most contemporary guidance that is applicable to the development site.

Planning Horizon

To ensure that any recommended mitigation measures are sustainable and effective throughout the lifetime of the development, it is necessary to base the appraisal on climate change predictions that are commensurate with the planning horizon for the proposed development. The NPPF and supporting Planning Practice Guidance Suite (August 2021) state that residential development should be considered for a minimum of 100 years, but that the lifetime of a non-residential development depends on the characteristics of the development. The development that is the subject of this assessment is classified as both commercial and residential and therefore, a design life of 100 years has been assumed.

Potential Changes in Climate

Recognising that the impact of climate change will vary across the UK, the allowances were updated in May 2022 to show the anticipated changes to peak rainfall across a series of management catchments. The proposed development site is located in the **London Management Catchment**, as defined by the 'Peak Rainfall Allowance' maps, hosted by the Department for Environment, Food and Rural Affairs. Guidance provided by the EA states that this mapping should be used for site-scale applications (e.g. drainage design), in small catchments (less than 5km^2), or urbanised drainage catchments. For large rural catchments, the peak river flow allowances should be used.

The development site lies within an urbanised drainage catchment and therefore, the Peak Rainfall Allowances for the London Management Catchment should be applied.

For each Management Catchment, a range of climate change allowances are provided for two time epochs and for each epoch, there are two climate change allowances defined. These represent different levels of statistical confidence in the possible scenarios on which they are calculated. The two levels are as follows:

- Central: based on the 50th percentile
- Upper End: based on the 90th percentile

The EA has provided guidance regarding the application of the climate change allowances and how they should be applied in the planning process. The range of allowances for the Management Catchment in which the development site is located are shown in Table 2.1 below.

Management Catchment Name	Annual exceedance probability	Allowance Category	2050s	2070s
London	3.3 %	Central	20%	20%
		Upper End	35%	35%
	1 %	Central	20%	20%
		Upper End	40%	40%

Table 2.1 – Recommended peak rainfall intensity allowances for each epoch for the London Management Catchment.

For a development with a design life of 100 years the Upper End climate change allowance is recommended to assesses whether:

- there is no increase in flood risk elsewhere, and;
- the development will be safe from surface water flooding.

From Table 2.1 above, it can be seen that the recommended climate change allowance for this site is a 40% increase in peak rainfall.

3 Potential Sources of Flooding

The main sources of flooding have been assessed as part of this appraisal. The specific issues relating to each one and its impact on this development are discussed below. Table 3.1 at the end of this section summarises the risks associated with each of the sources of flooding.

3.1 Flooding from Rivers, Ordinary or Man-Made Watercourses

Inspection of Ordnance Survey (OS) mapping identifies that there are two watercourses near to the site, the River Thames which is approximately 379m southeast of the site and the River Crane which is approximately 318m northwest of the site. However, further inspection the EA's flood model data has located the site within Flood Zone 1 of both the River Crane and River Thames, which is the lowest flood risk zone, see Figure 2.3. Consequently, the risk of flooding to the site from rivers is considered to be *low.*

3.2 Flooding from the Sea

The site is located a significant distance inland and is elevated above predicted extreme tide levels. Consequently, the risk of flooding from this source is considered to be *low.*

3.3 Flooding from Surface Water

Surface water, or overland flooding, typically occurs in natural valley bottoms as normally dry areas become covered in flowing water and in low spots where water may pond. This mechanism of flooding can occur almost anywhere but is likely to be of particular concern in any topographical low spot, or where the pathway for runoff is restricted by terrain or man-made obstructions.

The EA's 'Flood Risk from Surface Water' map (Figure 3.1) shows the development site is located in an area classified as having between a 'very low' to 'low' risk of surface water flooding.

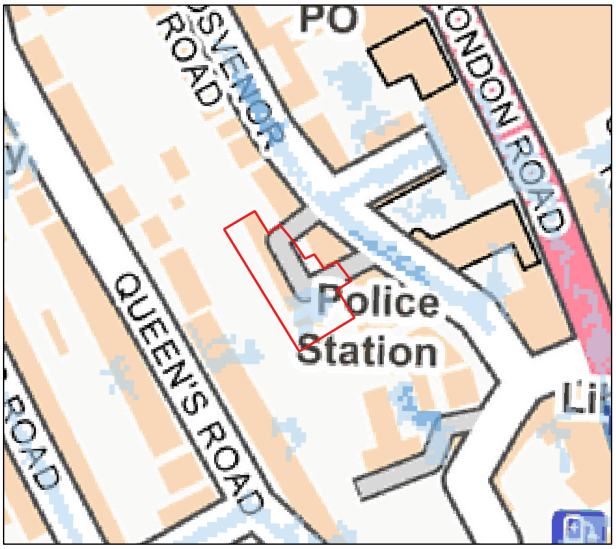

Figure 3.1 – EA's 'Flood Risk from Surface Water' map (© Environment Agency, mapping contains Ordnance Survey Data © Crown copyright and database right 2024).

When appraising the risk of flooding from surface water, it is necessary to consider the impact of climate change over the lifetime of the proposed development (refer to Section 2.5). Whist the map presented in Figure 3.1 does not include an allowance for climate change, it does include an event which typically exceeds the design event. This exceedance event is represented by the 1 in 1000 year rainfall event, categorised as the 'low' likelihood of occurrence event. The 'low likelihood of occurrence' scenario is likely to overestimate the risk of flooding at the site, nevertheless, in the absence of any other data, this extreme scenario has been considered further in order to appraise the potential impact of climate change to the proposed development.

Under this scenario, only a small, localised area in the southeast of the site is shown to be at 'low' risk of flooding, which is shown to have a maximum flood depth of 600mm. However, this will be limited to rain falling directly onto the site itself. Inspection of satellite imagery shows that there are numerous gullies, approximately 4.5m by 3.3m in size at this location. Further inspection of satellite imagery and the asset location data suggests that the gullies connect to the foul sewer which runs across the site. These gullies could aid in drainage by intercepting any water before reaching the proposed development.

Furthermore, inspection of the London Borough of Richmond upon Thames SWMP shows that there are no historic records of surface water flooding. Therefore, taking the above into consideration it can be concluded that risk of flooding from this source is *low*.

Nevertheless, even though the risk of surface water flooding to the site is shown to be low, as the EA's mapping reveals the site has a potential to flood under the 1 in 1000 year return period event it is recommended to include mitigation measures within the scheme as a precautionary approach and in line with best practice (refer to Section 4).

3.4 Flooding from Groundwater

Water levels below the ground rise during wet winter months and fall again in the summer as water flows out into rivers. In very wet winters, rising water levels may lead to the flooding of normally dry land, as well as reactivating flow in 'bournes' (streams that only flow for part of the year).

The underlying geology in this area is London Clay Formation, with overlaying superficial deposits of Langley Silt Member. Whilst the underlying bedrock is typically impermeable, water could flow within the more permeable superficial silt deposits. However, land levels fall away from the site in a southeastern direction. Therefore, it is these lower lying regions to the southeast where groundwater emergence is more likely to occur. This is supported by mapping provided as part of the Defra Groundwater Flood Scoping Study (May 2004), which shows that no groundwater flooding events were recorded near the site during the very wet periods of 2000/01 or 2002/03. The mapping also identifies that the site itself is not located within an area where groundwater emergence is predicted.

Additionally, the London Borough of Richmond upon Thames Strategic Flood Risk Assessment (SFRA) mapping shows the site to be located in area at low risk of groundwater flooding. Consequently, the risk of flooding from this source is considered to be *low*.

3.5 Flooding from Sewers

In urban areas, rainwater is typically drained into surface water sewers or sewers containing both surface and wastewater known as "combined sewers". Flooding can result when the sewer is overwhelmed by heavy rainfall, becomes blocked, or has inadequate capacity; this will continue until the water drains away.

Inspection of the asset location mapping provided by Thames Water (Figure 3.2) identifies that the sewers in this area are foul and surface water.

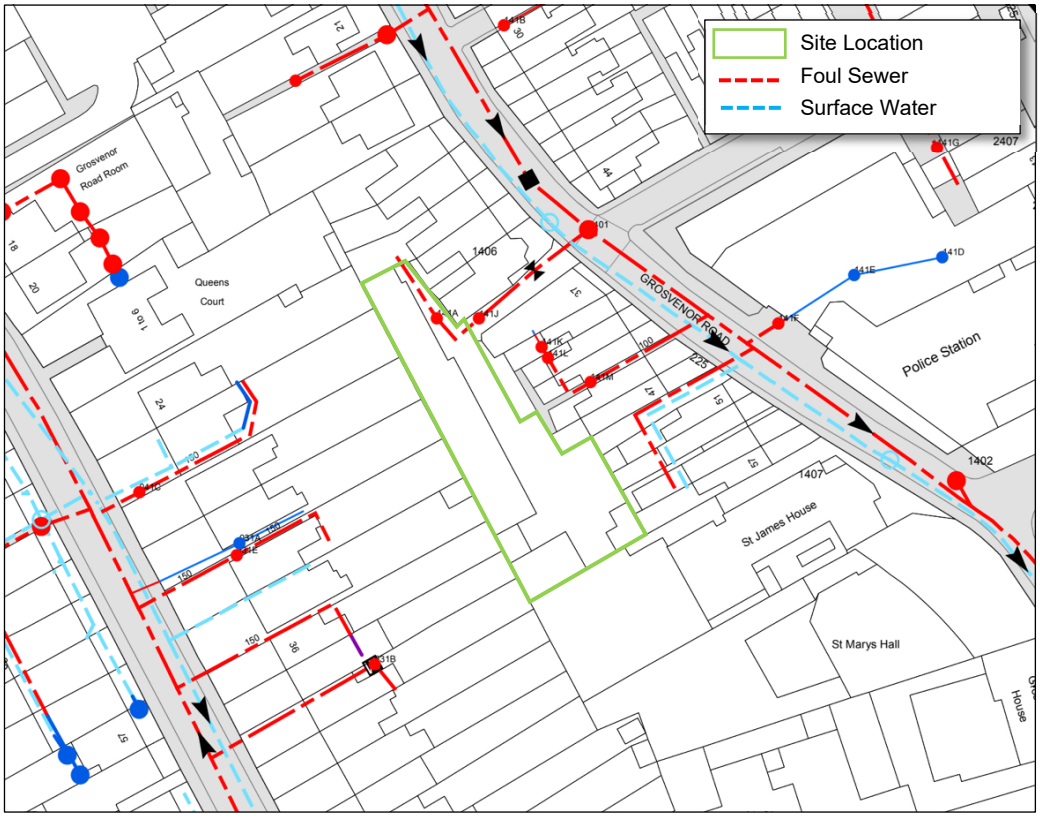

Figure 3.2 - Asset location mapping provided by Thames Water (a full scale copy can be found in Appendix A.2).

Figure 3.2 above shows that there is a foul sewer on site that runs adjacent to the proposed development, as well as a surface water sewer along Grosvenor Road, which may cause flooding to the site. However, inspection of aerial height data reveals that if water was to exit the sewer network i.e., as a result of a blockage or exceedance of capacity, it would occur further southeast of the site, where land levels are lower.

In addition, even in the unlikely event flooding was to occur onsite, inspection of land levels reveals that floodwater away from the site in a southeast direction the natural topography of the land towards the River Thames. This is supported by the London Borough of Richmond upon Thames SFRA, which shows there are no known records of flooding from sewers in this area. Consequently, the risk of flooding from this source is considered to be *low*.

3.6 Flooding from Reservoirs, Canals and Other Artificial Sources

Non-natural or artificial sources of flooding can include reservoirs, canals, and lakes, where water is retained above natural ground level. In addition, operational and redundant industrial processes including mining, quarrying, sand and/or gravel extraction, may also increase the depth of floodwater in areas adjacent to these features.

The potential effects of flood risk management infrastructure and other structures also needs to be considered. For example, reservoir or canal flooding may occur as a result of the facility being overwhelmed and/or as a result of dam or bank failure.

Inspection of the OS mapping for the area shows that there are no artificial sources of flooding within close proximity to the site.

However, the EA's 'Flood Risk from Reservoirs' website shows that the site is located within an area considered to be at risk of flooding from one reservoir – Queen Elizabeth II, which is over 6km from the site (Figure 3.3). When considering the risk of flooding from this source, it is necessary to take into account the fact that these reservoirs are located a significant distance from the site and are owned and operated by the relevant water company, who have a duty under the Reservoirs Act to ensure that they are maintained in good working order and are inspected regularly. Consequently, due to the high standard of protection, the risk of flooding from these man-made water bodies is considered to be *low.*

Figure 3.3 – EA's 'Risk of Flooding from Reservoirs' map (© Environment Agency, mapping contains Ordnance Survey Data © Crown copyright and database right 2024).

3.7 Summary of Flood Risk

A summary of the overall risk of flooding from each source is provided in Table 3.1 below.

Source of Flooding	Initial Level of Risk	Appraisal method applied at the initial flood risk assessment stage
Rivers, Ordinary and Man-Made Watercourses	Low	OS mapping and the EA's 'Flood Map for Planning'
Sea	Low	OS mapping and the EA's 'Flood Map for Planning'
Surface Water	Low	EA's 'Flood Risk from Surface Water' map, historic records contained within the London Borough of Richmond upon Thames SFRA, aerial height data, OS mapping
Groundwater	Low	BGS groundwater flood hazard maps, Defra Groundwater Flood Scoping Study,, aerial height data, OS mapping, and historic records in the London Borough of Richmond upon Thames
Sewers	Low	Aerial height data, OS mapping, , historic records from the EA, asset location data provided by Thames Water and historic sewer records contained within the SFRA
Reservoirs, Canals and Other Artificial Sources	Low	OS mapping and EA's 'Flood Risk from Reservoirs' map

Table 3.1 – Summary of flood sources and risks.

From the analysis above, it can be seen that **the risk of flooding to the site from all sources is low.** Notwithstanding this, to ensure that the development meets the requirements of the NPPF, the following section of the report recommends mitigation measures, where appropriate, to ensure the risk of flooding offsite does not increase as a result of the proposals.

4 Flood Mitigation Measures

4.1 Application of the Sequential Approach at a Local Scale

The sequential approach to flood risk management can also be adopted on a site-based scale and this can often be the most effective form of mitigation. For example, on a large scheme this would mean locating the more vulnerable dwellings on the higher parts of the site and placing parking, recreational land or commercial buildings in the lower lying and higher risk areas.

For the development that is the subject of this FRA it can be seen that the proposed development is being submitted as a Change of Use under a Prior Approval Application, meaning that there is limited opportunity to apply this approach. Nevertheless, as the entire site is located in Flood Zone 1, and is at *low* risk of flooding from all sources, it can be considered that this approach has been adopted and the more vulnerable units are located outside of the higher risk areas.

4.2 Flood Resistance and Resilience

Flood Resistance or 'dry proofing', where flood water is prevented from entering the building. For example, using flood barriers across doorways and airbricks, or raising floor levels. These measures are considered appropriate for 'more vulnerable' development where recovery from internal flooding is not considered to be practical.

Flood Resilience or 'wet proofing', accepts that flood water will enter the building and allows for this situation through careful internal design for example raising electrical sockets and fitting tiled floors. The finishes and services are such that the building can quickly be returned to use after the flood. Such measures are generally only considered appropriate for some 'less vulnerable' uses and where the use of an existing building is to be changed and it can be demonstrated that no other measure is practicable.

It has been shown that the risk of flooding to the proposed development is low and therefore in this instance the use of flood resilience or flood resistance measures is not considered to be strictly necessary. Instead, it is recommended that these measures are considered for inclusion within the development as a precautionary measure only.

To retrofit flood resistant and resilient measures into an existing building requires a survey of the flood performance of the existing building to identify potential locations where floodwater could ingress. Details of an appropriately qualified surveyor can be found at the Blue Pages, hosted on the National Flood Forum website:

http://bluepages.org.uk/

The National Flood Forum provides advice to property owners on flood resistance and resilience measures which can be retrofitted into an existing building. Advice can be found on their website at:

https://nationalfloodforum.org.uk/.

A Code of Practice (CoP) for Property Flood Resilience (PFR) has been put in place to provide a standardised approach for the delivery and management of PFR. Further information on the CoP and guidance on how to make a property more flood resilient can be accessed, and downloaded, from the Construction Industry Research and Information Association (CIRIA) Website:

https://www.ciria.org/Resources/Free_publications/CoP_for_PFR_resource.aspx

4.3 Flood Warning

The risk of flooding from all sources has shown to be *low,* however, the EA's mapping identifies that the access road could be subject to flooding from surface water. Consequently, whilst the residents will have safe refuge within the building, access to the wider area may not be possible during an extreme rainfall event. Occupants of the dwellings are therefore recommended to monitor the Met Office's Weather Warnings to provide forewarning of weather conditions which could result in surface water flooding:

www.metoffice.gov.uk/weather/uk/uk_forecast_warnings.html

5 Conclusions and Recommendations

The overarching objective of this report is to appraise the risk of flooding at Messom Mews, Grosvenor Road, Twickenham, to ensure that the proposals for development are acceptable in this location and that any risk of flooding to the residents of the dwelling is appropriately mitigated. In addition, the NPPF also requires the risk of flooding offsite to be managed, to prevent any increase in flood risk as a result of the development. This report has therefore been prepared to appraise the risk of flooding from all sources in accordance with the NPPF.

The proposed development is for a change of use from an office development (Use Class E) to a residential development (Use Class C3) and will be submitted under a Prior Approval Application. As part of the Prior Approval Application, it is necessary to examine the impact of flooding from all sources on the development, which has been the focus of this site-specific FRA.

The risk of flooding has been considered for a wide range of sources and it has been considered for a wide range of sources and is has been identified that the risk to the proposed development is *low*.

The EA's 'Risk of Flooding from Surface Water' maps shows a small, localised area of surface water accumulation in the southeast portion of the site after considering the impacts of climate change. Nevertheless, further analysis of the EA's maps shows floodwater is unlikely to ingress into the proposed development. Flood mitigation measures have been recommended as a precautionary approach but are not considered strictly necessary to be implemented.

However, consideration could be given to include flood resistance and resilience measures into the design scheme where possible as a precautionary approach (examples in Section 4.2). In addition, the owner and residents of the proposed development should monitor the Met Office "Weather Warnings". These flood warnings provide residents with updates of weather events that could cause surface water flooding in the wider area and prevent access.

In conclusion, following the recommendations of this report, the occupants of the development will be safe, and the development will not increase the risk of flooding elsewhere. Consequently, the proposals will meet the requirements of the NPPF and local planning policy.

6 Appendices

Appendix A.1 – Drawings

Appendix A.2 – Thames Water Asset Location Data

Appendix A.1 – Drawings

EXISTING & PROPOSED

drawing status: issued for planning

scale bar
0 2m 10m 20m

notes

title: EXISTING & PROPOSED SITE PLAN @ GROUND LEVEL
scale: 1:100@A1 / 1:200@A3
date: 13.05.24
client: Charles Richards
drawn: GT
checked:

project: Office Conversion
Messom Mews, 33 - 57 Grosvenor Road
Twickenham, Middlesex TW1 4AD

drawing number: 2402.002.a

Genevieve Theriault Architecture & Interiors
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk

EXISTING & PROPOSED

do not scale from this drawing.

verify all dimensions by site measurement.

errors and omissions to be reported to the architect.

copyright.

drawing status: issued for planning

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notes

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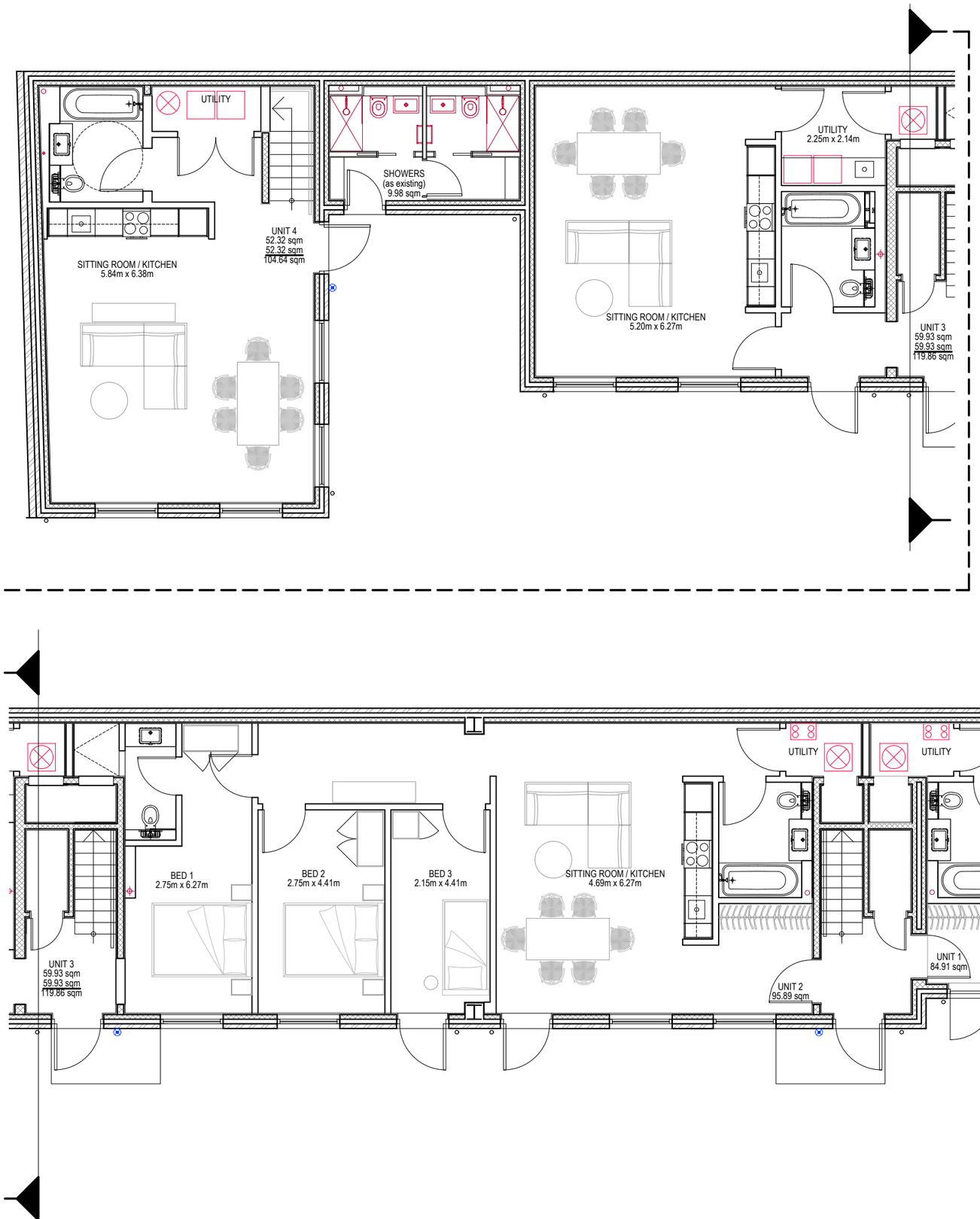
scale: 1:100@A1 / 1:200@A3	drawn: GT		
date: 13.05.24	checked:	Genevieve Theriault Architecture & Interiors 19 Seymour Place, London W1H 5BG t : 07904 974 066 e : mail@gtai.co.uk	



ACCOMMODATION SCHEDULE

UNIT NO.	TYPE	AREA (SQM)	NOTES
UNIT 1	FLAT	84.91	2 DOUBLE BEDROOMS + STUDY
UNIT 2	FLAT	95.89	2 DOUBLE BEDROOMS + 1 SINGLE BEDROOM
UNIT 3	HOUSE	119.86	2-STOREY, 2 DOUBLE BEDROOMS
UNIT 4	HOUSE	104.64	2-STOREY, 2 DOUBLE BEDROOMS + STUDY
UNIT 5	FLAT	73.56	2 DOUBLE BEDROOMS
UNIT 6	FLAT	95.89	2 DOUBLE BEDROOMS + 1 SINGLE BEDROOM
--	SHOWERS	9.98	AS EXISTING

drawing status: issued for planning

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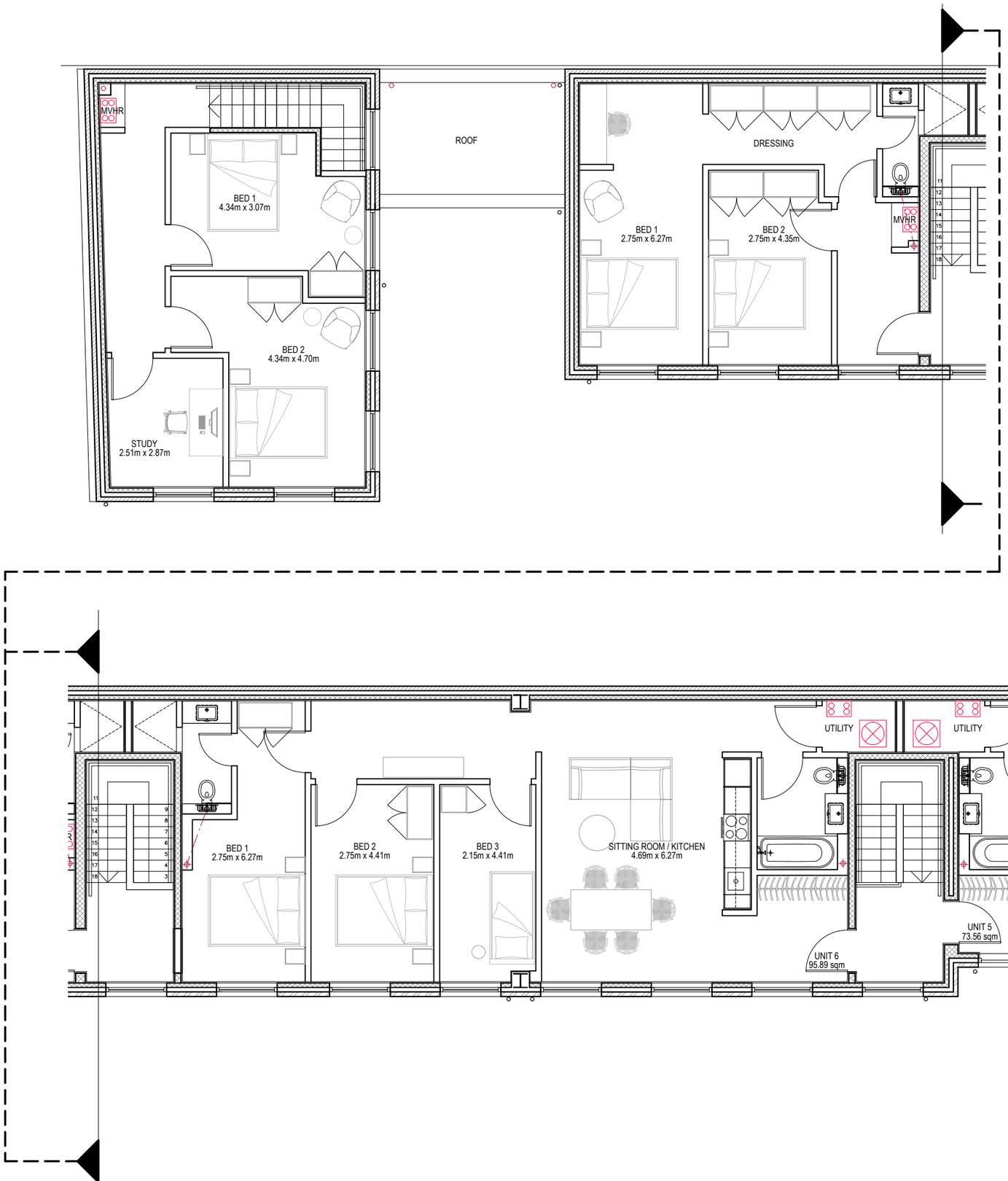
notes

title: Proposed Ground Floor Plan
scale: 1:50@A1 / 1:100@A3
date: 13.05.24
client: Charles Richards
drawn: GT
checked:

project: Office Conversion
Messom Mews, 33 - 57 Grosvenor Road
Twickenham, Middlesex TW1 4AD
Genevieve Theriault Architecture & Interiors
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk

drawing number: 2402.200.b



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--	SHOWERS	9.98	AS EXISTING

drawing status: issued for planning

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client: Charles Richards
drawn: GT
checked:

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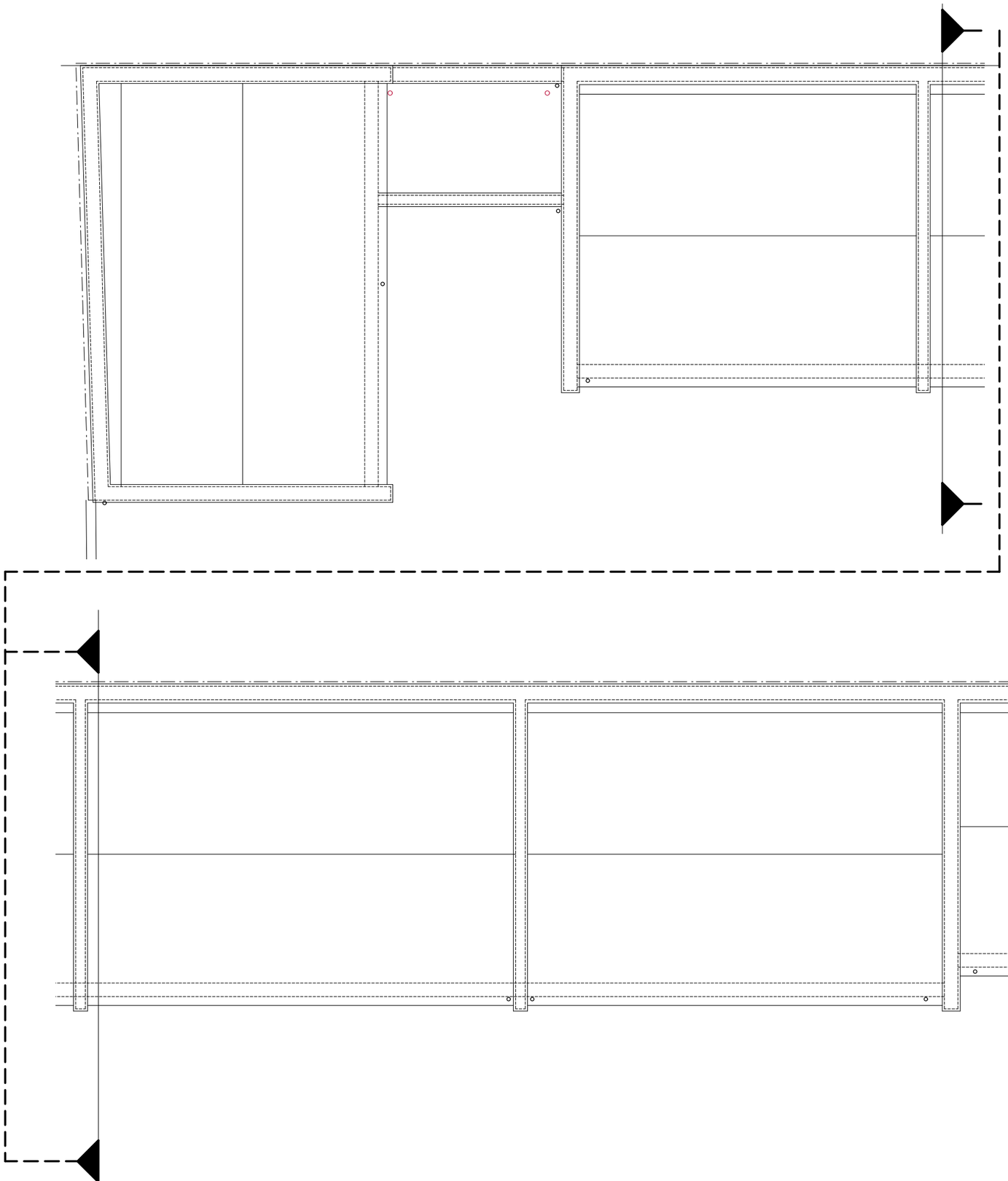
drawing number: 2402.201.a



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errors and omissions to be reported to the architect.

drawing status

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notes

title
Existing Roof Plan

scale
1:50@A1 / 1:100@A3

date

client
Charles Richards

drawn
GT

checked

project
Office Conversion
Messom Mews, 33 - 57 Grosvenor Road
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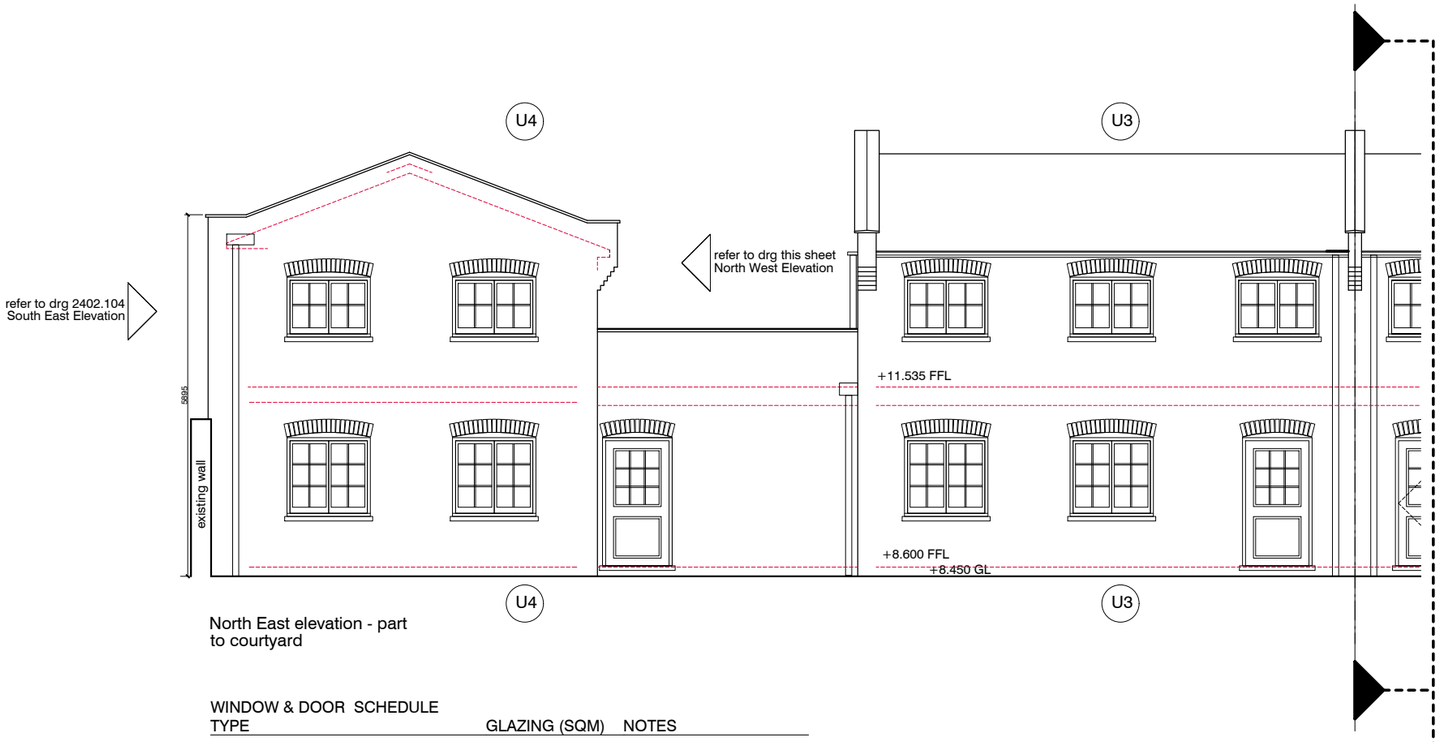
Genevieve Theriault Architecture & Interiors
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk

drawing number
2402.102

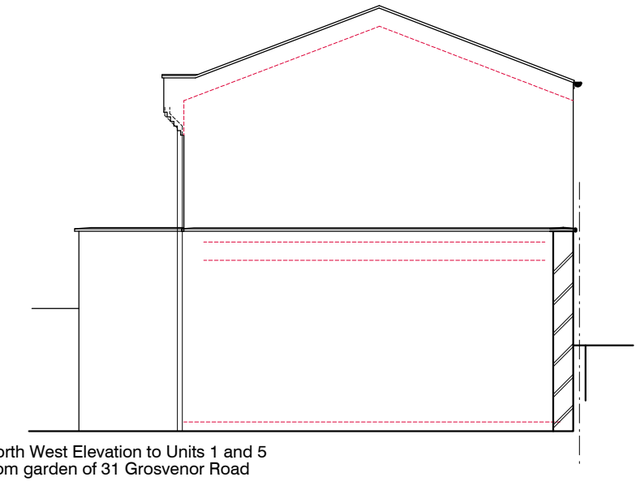


North East elevation - part
to courtyard

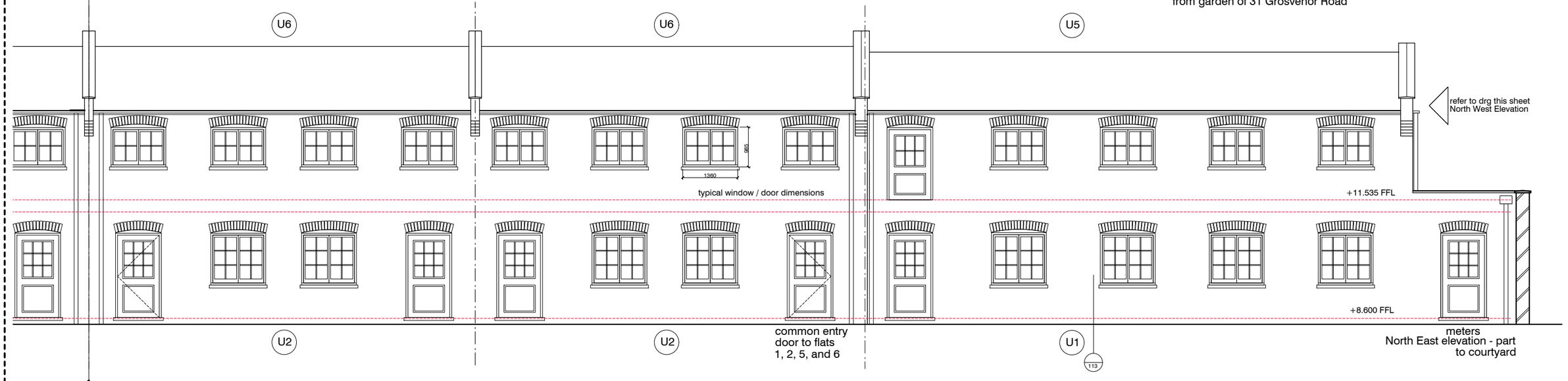
WINDOW & DOOR SCHEDULE

TYPE	GLAZING (SQM)	NOTES
HALF-GLAZED DOOR	0.75	TYPICAL EXTERIOR DOOR
DOUBLE CASEMENT WINDOW	0.94	TYPICAL GROUND FLOOR WINDOW
DOUBLE CASEMENT WINDOW	0.68	TYPICAL GROUND FLOOR WINDOW

Proposed North West Elevation
(to courtyard)



North West Elevation to Units 1 and 5
from garden of 31 Grosvenor Road



common entry
door to flats
1, 2, 5, and 6

meters
North East elevation - part
to courtyard

do not scale from this drawing.

verify all dimensions by site measurement.

errors and omissions to be reported to the architect.

copyright.

drawing status: issued for planning

scale bar
0 1m 5m 10m

notes

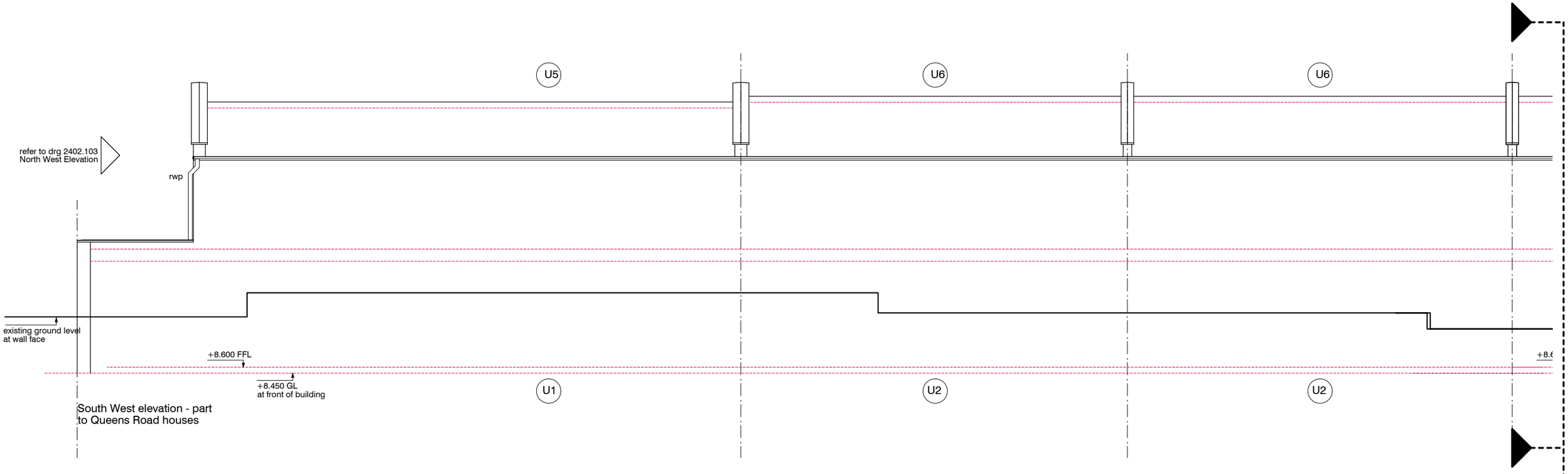
title: Existing & Proposed Front Elevations
scale: 1:50@A1 / 1:100@A3
date: 13.05.24

client: Charles Richards
drawn: GT
checked:

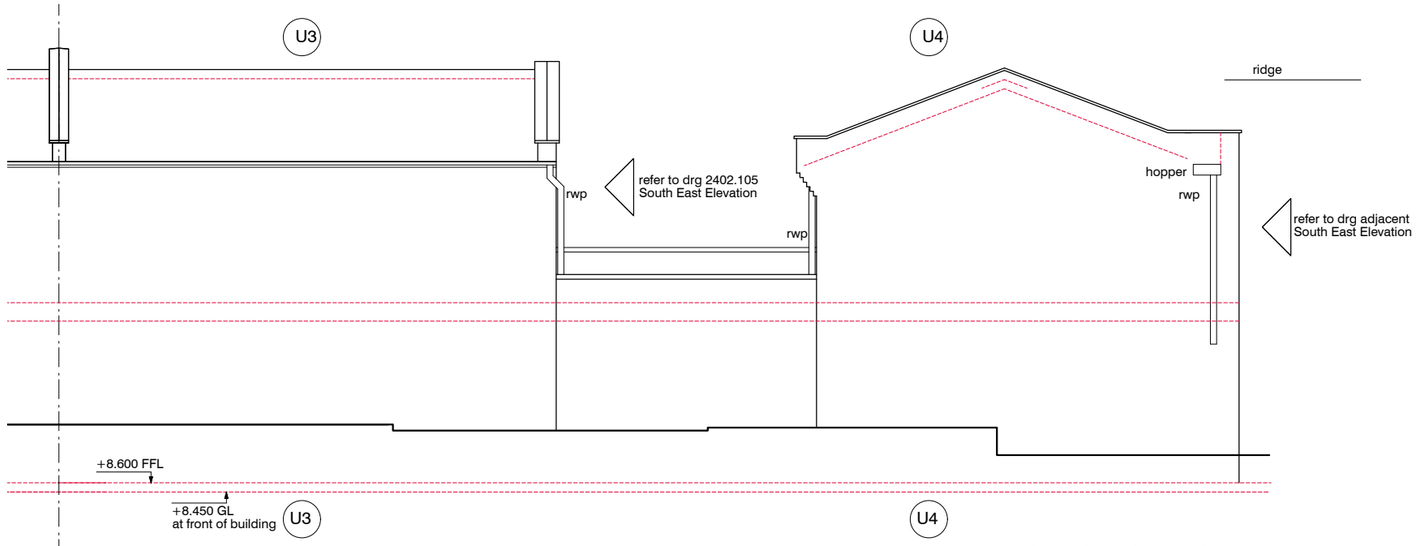
project: Office Conversion
Messom Mews, 33 - 57 Grosvenor Road
Twickenham, Middlesex TW1 4AD

Genevieve Theriault Architecture & Interiors
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk

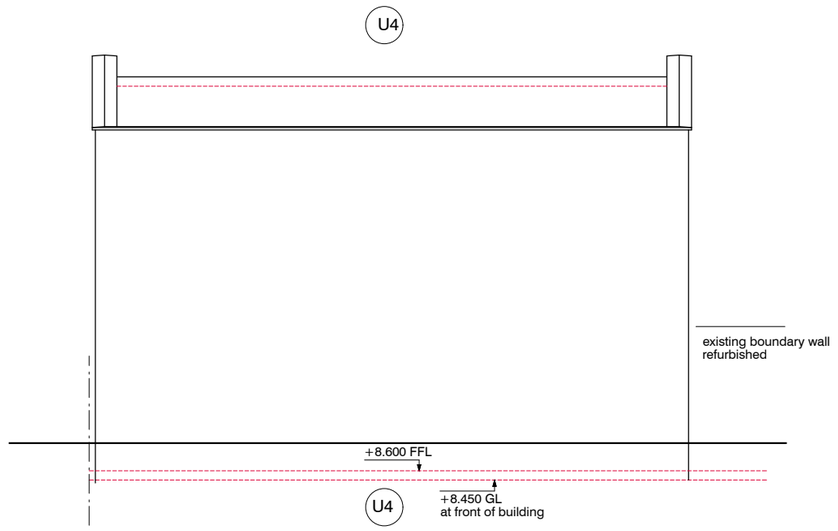
drawing number: 2402.103.a



South West elevation - part
to Queens Road houses



South West elevation - part
to Queens Road houses



South East elevation
to Unit 4 from St James House

drawing status: issued for planning

scale bar
0 1m 5m 10m

notes

title: Existing Rear Elevations	client: Charles Richards	project: Office Conversion Messom Mews, 33 - 57 Grosvenor Road Twickenham, Middlesex TW1 4AD	drawing number: 2402.104.a
scale: 1:50@A1 / 1:100@A3	drawn: GT		
date: 13.05.24	checked:		

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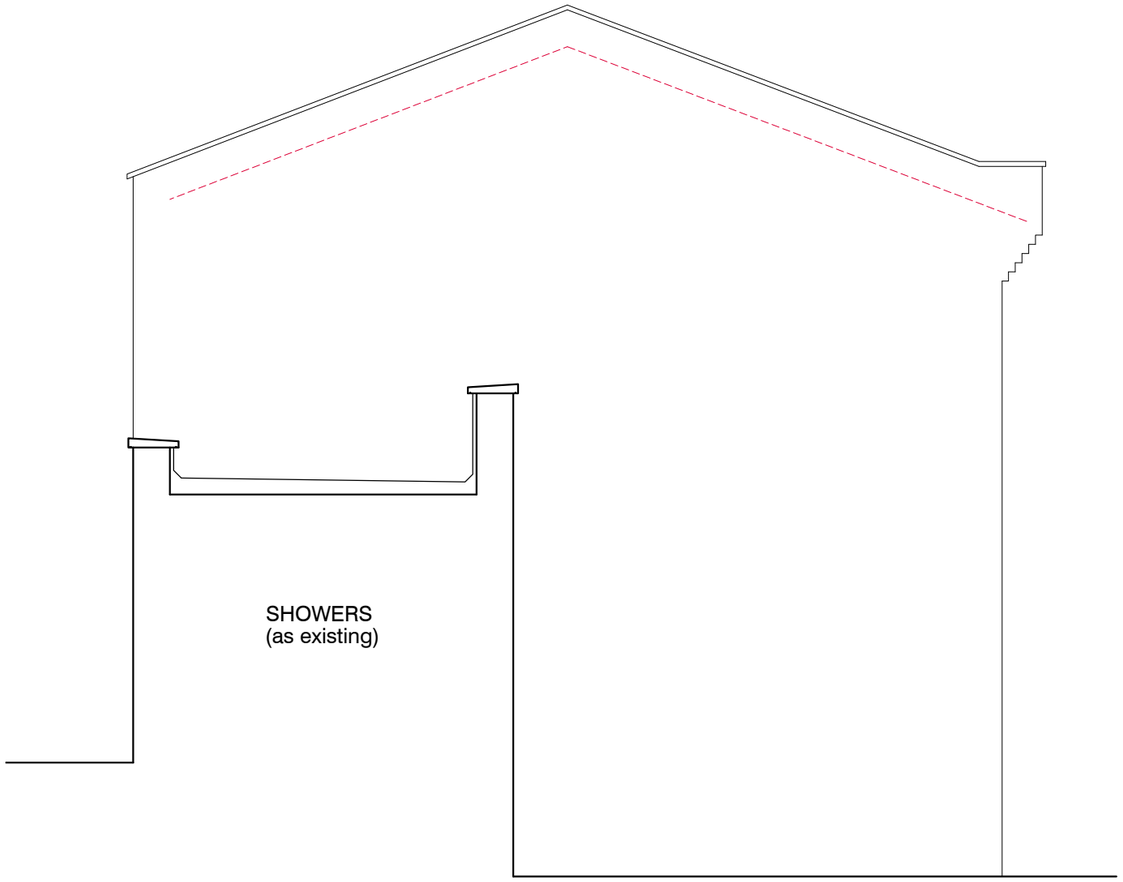
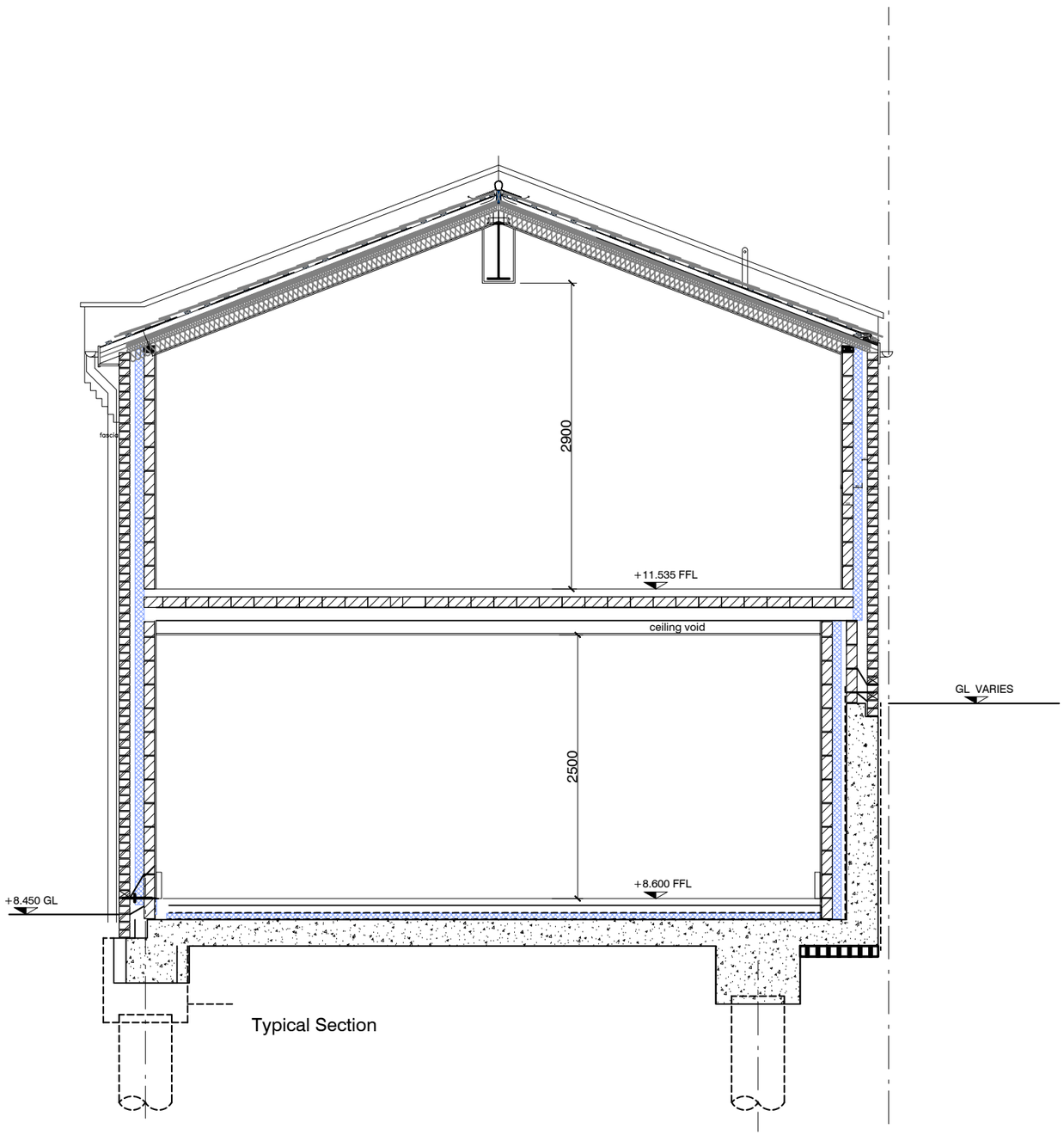
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk



South East elevation to Main Building



Typical Section

do not scale from this drawing.
verify all dimensions by site measurement.
errors and omissions to be reported to the architect.
copyright.

drawing status: issued for planning

scale bar: 0 1m 2.5m 5m

notes

title: Existing Side Elevation & Existing Typical Section
scale: 1:25@A1 / 1:50@A3
date: 13.05.24
client: Charles Richards
drawn: GT
checked:

project: Office Conversion
Messom Mews, 33 - 57 Grosvenor Road
Twickenham, Middlesex TW1 4AD

Genevieve Theriault Architecture & Interiors
19 Seymour Place, London W1H 5BG
t : 07904 974 066 e : mail@gtai.co.uk

drawing number: 2402.105.a

Appendix A.2 –Thames Water Asset Location Data

Asset Location Search

Thames Water Property Searches

Herrington Consulting Limited
Barham Business Park,Unit 6 Barham Business Park

CANTERBURY
CT4 6DQ

Search address supplied Land rear of 37-57 Grosvenor Road
33-57
Grosvenor Road
Twickenham
TW1 4AD

Your reference 4047/JA

Our reference ALS/ALS Standard/2024_5004402

Search date 12 June 2024

Notification of Price Changes

From 1st April 2024 Thames Water Property Searches will be increasing the prices of its CON29DW Residential and Commercial searches along with the Asset Location Search. Costs will rise in line with RPI as per previous years, which is sat at 6%.

Customers will be emailed with the new prices by February 28th 2024.

Any orders received with a higher payment prior to the 1st April 2024 will be non-refundable. For further details on the price increase please visit our website at www.thameswater-propertysearches.co.uk.

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0800 009 4540

Asset Location Search

Property Searches

Search address supplied: Land rear of 37-57 Grosvenor Road, 33-57, Grosvenor Road, Twickenham, TW1 4AD

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 search provides 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 0800 009 4540, 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

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

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.

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: 0800 009 3921
Email: developer.services@thameswater.co.uk

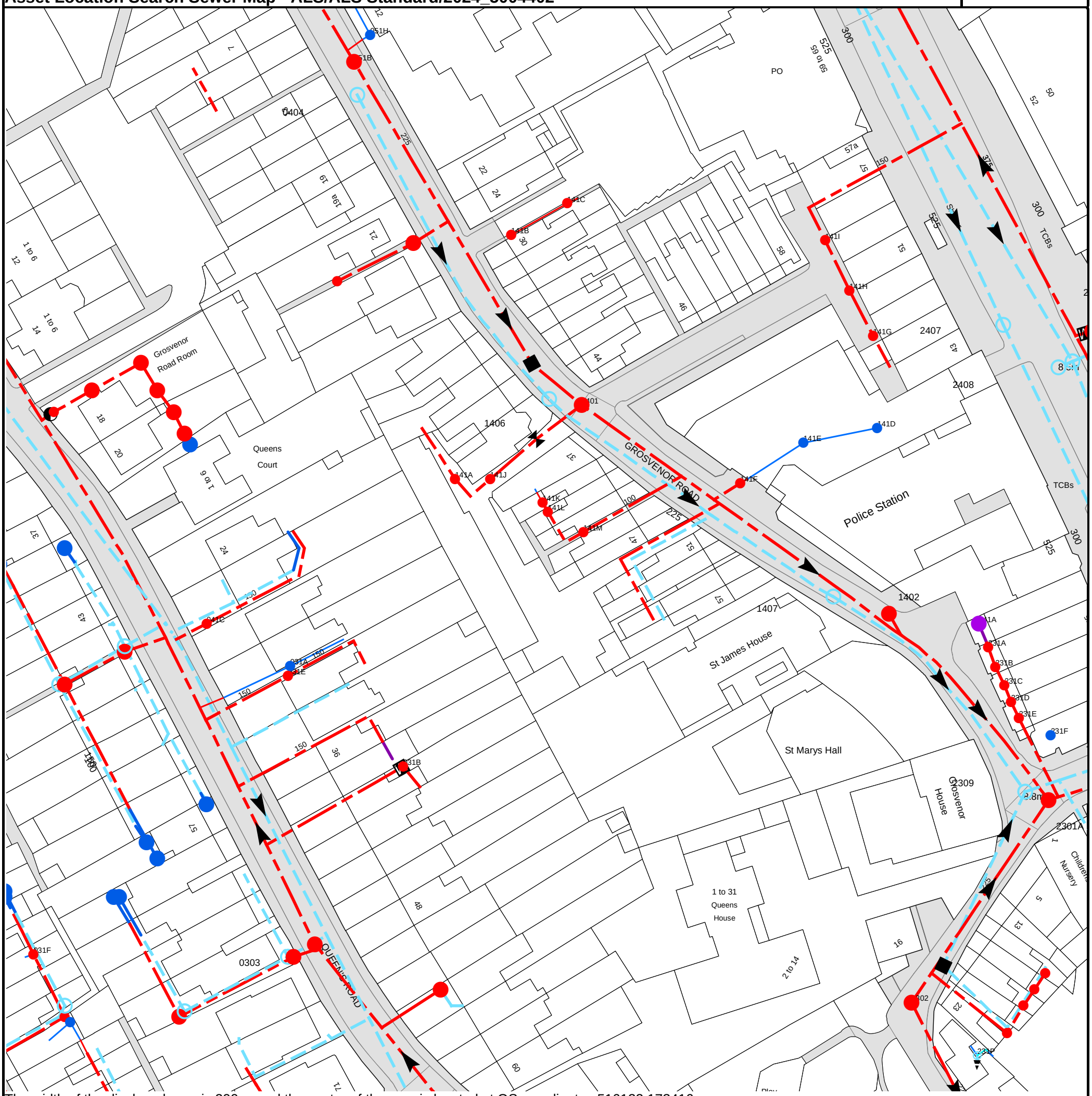
Clean Water queries

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: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2024_5004402



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 516122,173416

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.

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
2408	n/a	n/a
2409	8.41	5.06
2402	8.32	4.59
2407	8.41	5.1
2301A	8.76	5.11
2309	8.88	6.16
231F	n/a	n/a
231E	n/a	n/a
231D	n/a	n/a
231C	n/a	n/a
231B	n/a	n/a
231A	n/a	n/a
241A	n/a	n/a
231P	n/a	n/a
23ND	n/a	n/a
23LM	n/a	n/a
1302	8.68	5.04
23LN	n/a	n/a
23NE	n/a	n/a
03KF	n/a	n/a
03KM	n/a	n/a
13MM	n/a	n/a
03KL	n/a	n/a
03KE	n/a	n/a
0303	8.79	1.25
03HN	n/a	n/a
031B	n/a	n/a
031E	n/a	n/a
031A	n/a	n/a
041C	n/a	n/a
1402	8.42	6.39
1407	8.43	6.4
141M	n/a	n/a
141L	n/a	n/a
141K	n/a	n/a
141F	n/a	n/a
141J	n/a	n/a
141A	n/a	n/a
04MM	n/a	n/a
141E	n/a	n/a
04ML	n/a	n/a
141D	n/a	n/a
04ME	n/a	n/a
04MF	n/a	n/a
04MH	n/a	n/a
04MJ	n/a	n/a
04MK	n/a	n/a
04MC	n/a	n/a
051B	n/a	n/a
0404	8.6	6.89
051H	n/a	n/a
04LN	n/a	n/a
141B	n/a	n/a
1406	8.57	6.52
141C	n/a	n/a
1401	8.56	5.66
141I	n/a	n/a
141H	n/a	n/a
141G	n/a	n/a
03ME	n/a	n/a
03FD	n/a	n/a
03EK	n/a	n/a
031F	n/a	n/a
03LC	n/a	n/a
03KJ	n/a	n/a
03FF	n/a	n/a
03EM	n/a	n/a
03JJ	n/a	n/a
03JD	n/a	n/a
03JF	n/a	n/a
03JL	n/a	n/a
03JK	n/a	n/a
03JE	n/a	n/a
04LD	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.

Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

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

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

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

- Storm Sewer
- Sludge Sewer
- Foul Trunk Sewer
- Surface Trunk Sewer
- Combined Trunk Sewer
- Foul Rising Main
- Surface Water Rising Main
- Combined Rising Main
- Vacuum
- Thames Water Proposed
- Vent Pipe
- Gallery

Other Sewer Types (Not operated and maintained by Thames Water)

- Sewer
- Culverted Watercourse
- Proposed
- Decommissioned Sewer
- Content of this drainage network is currently unknown
- Ownership of this drainage network is currently unknown

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
- Meter
- Dam Chase
- Vent
- Fitting

Operational Controls

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

- Ancillary
- Drop Pipe
- Control Valve
- 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.

- Inlet
- Outfall
- Undefined End

Other Symbols

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

- Change of Characteristic Indicator
- Public / Private Pumping Station
- Invert Level
- Summit

Areas

Lines denoting areas of underground surveys, etc.

- Agreement
- Chamber
- Operational Site

Ducts or Crossings

- Casement

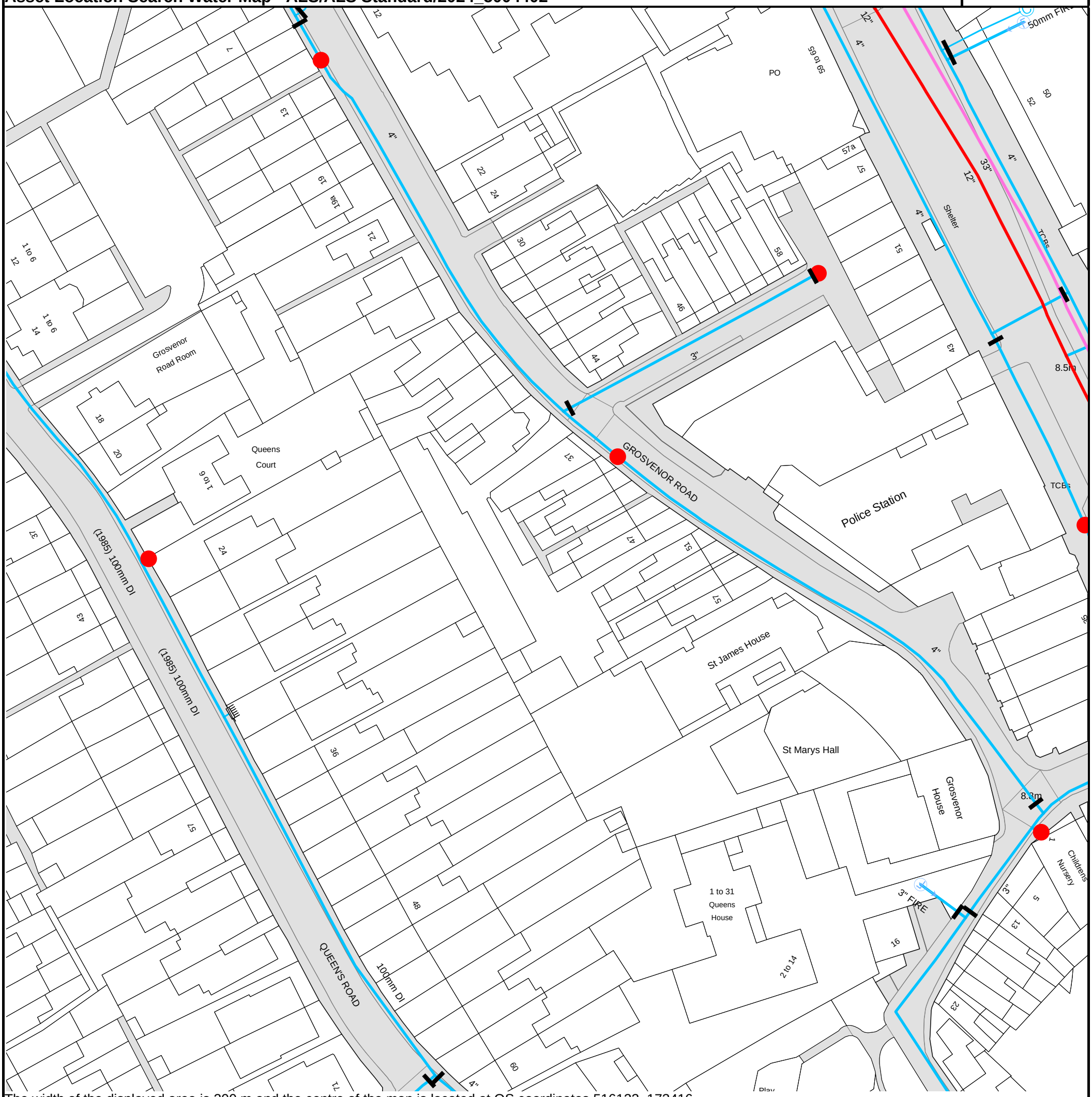
Ducts may contain high voltage cables. Please check with Thames Water.

- Conduit Bridge
- Subway
- Tunnel

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plan are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the 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 indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. 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, please contact Property Searches on 0800 009 4540.

Asset Location Search Water Map - ALS/ALS Standard/2024_5004402



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 516122, 173416.

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.

Asset Location Search - Water 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.

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')

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

Casement: Ducts may contain high voltage cables. Please check with Thames Water.

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.

Payment 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 within 14 days of the 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. 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'.
5. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
6. 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 980 8800.

If you are unhappy with our service, you can speak to your original goods or customer service provider. If you are still not satisfied with the outcome provided, we will refer the matter to a Senior Manager for resolution who will provide you with a response.

If you are still dissatisfied with our final response, and in certain circumstances such as you are buying a residential property or commercial property within certain parameters, The Property Ombudsman will investigate your case and give an independent view. The Ombudsman can award compensation of up to £25,000 to you if he finds that you have suffered actual financial loss and/or aggravation, distress, or inconvenience because of your search not keeping to the Code. Further information can be obtained by visiting www.tpos.co.uk or by sending an email to admin@tpos.co.uk.

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 0300 034 2222 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**
Please Call **0800 009 4540** 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

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.