

Site Details

302m² / 0.030ha : Development area

302m² / 0.030ha : Existing impermeable area

302m² / 0.030ha : Proposed impermeable area (not including 10% Urban Creep)

2.00 l/s : Existing Brownfield Qbar storm discharge rate

9.80 l/s : Existing Brownfield Q30 storm discharge rate

12.70 l/s : Existing Brownfield Q100 storm discharge rate

2.00 l/s : Proposed Q100+40% climate change (+10% urban creep) storm discharge rate to existing sewer to be agreed with LLFA / Thames Water

Development impermeable areas to be drained into the storm drain via permeable paving with minimum SUDs treatment to Ciri753, via gravity sewers.

All proposed surface water discharge rates are subject to Thames Water approval.

Contractor to validate existing drainage invert and cover levels prior to start of construction works and report result to Engineer

Existing services, those to be retained or relocated, to be located by Contractor and protected for the duration of the works

Drainage Layout subject to confirmation of RWP and SVP locations by Architect

All existing connections to the Thames Water sewer from the site that are to be reused, where feasible.

Existing drainage beneath proposed storage unit is to be built over and maintained

- General Notes
- DO NOT SCALE.
 - This drawing is to be read in conjunction with all other relevant drawings and details.
 - Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be informed PRIOR to construction on site.
 - Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given it is entirely at their own risk.
 - Sketch proposals are for illustrative purposes only and as such are subject to detailed site investigation including ground conditions / contaminants, drainage, design and planning / density negotiations.
 - All dimensions are in millimetres unless otherwise stated.
 - The Farrow Walsh Consulting Designers Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.


- NOTES**
- Information shown is for PLANNING purposes only and is not to be used for construction.
 - This drawing to be read in conjunction with all other relevant Engineers and Architect's details.
 - All work is to be carried out in accordance with the current British Standards, codes of practice and building regulations.
 - The exact position, level, size and use of existing sewers to be confirmed on site. Any discrepancies to be reported to the engineer prior to commencement of works.
 - All uncovered and shallow pipework to be protected against construction traffic as part of the contractors temporary works requirements.
 - Proposed drainage passing through new foundations to be sleeved with cast-in oversized pipework.
 - Exact location line and level of existing stubs to existing manholes in the road to be confirmed on site prior to construction.
 - Cover levels shown are approximate only, subject to the Architect's external works and landscaping scheme.
 - See Architect's details for all setting out dimensions to buildings and boundaries etc
 - All connections to road gullies and channels shall be 150mm nominal bore pipework. Connections to RWPs to be 100mm nominal bore pipework subject to confirmation of RWP sizes and/or design flow. No pipe work to be downsized in the direction of flow.
 - Connections to foul terminal fittings to be 100mm nominal bore pipework subject to confirmation of above ground pipe diameters and/or design flow. No pipe work to be downsized in the direction of flow.
 - All pipework to be U-PVC type in accordance with WIS 4-35-01 unless otherwise noted.
 - All pipes connecting to adopted manholes up to and including 300mm dia. to be Wavin Ultrab or similar approved.
 - All pipes connecting to adopted manholes greater than 300mm dia. to be Concrete.
 - All pipes under buildings without suspended floors shall have Class S bedding.
 - All pipework entering and exiting manholes to be connected with pipe soffits level.
 - Pre-formed channels to be used at all manholes.
 - High strength concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the specification.

- LEGEND**
- Development Boundary
 - Permeable paving with min 500mm thick Type 3 voided stone attenuation
 - Linear Drain
 - Existing Foul Drainage
 - Existing Surface Water Drainage
 - Existing Combined Drainage
 - Proposed Surface Water Drainage
 - Proposed Foul Drainage
 - Proposed Foul Lateral Connection
 - Proposed Surface Water Lateral Connection
 - Perforated Pipe
 - 450mm dia. IC Max Depth 3.0m
 - 600mm Dia. Catch Pit (storm only) (with 400mm depth sump)
 - 1200mm Dia. Inspection Chamber

- 1** Proposed S106 Connection
New surface water connection into existing sewer subject to S106 application approval by Thames Water
- 2** Mesh Screening
Mesh screen to be placed over the outlet pipe of chambers during site construction works and removed immediately prior to the first occupancy of the dwellings served by the sewers.
- 3** Existing Sewer
Invert levels and location of the existing sewer to be validated prior to any construction works by the Contractor
- 4** Discharge Rate
Storm discharge from site restricted to 2.0 l/s for up to a 1 in 100 year +40% climate change (+10% urban creep) storm event, using a flow control chamber.
- 5** Linear Drain
To stop exceedance flows running towards the highway
- 6** Permeable Paving
Permeable paving is to be used as the first form of treatment for surface water run off in the main access drive and parking bays. The paving is to be used as a form of attenuation with 500mm of voided stone below.

| A2 | Updated to suit the latest site Layout | JR | PU | JD | 17/08/23 |
|-----|--|-------|---------|------|----------|
| A1 | Issued for Approval. | JR | PU | DM | 26/07/23 |
| Rev | Description of updates | Drawn | Checked | Appd | Date |

Revision Schedule



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FOR APPROVAL

Client: Atlas Planning

Project: Friar Stile Road, Richmond

Title: Drainage Strategy

| | | | | |
|-----------|-------------|--------------|-----------------|-------------------|
| Drawn: JR | Checked: PU | Approved: DM | Date: July 2023 | Scale: 1:100 @ A1 |
|-----------|-------------|--------------|-----------------|-------------------|

Drawing No: **FW2352-C-400** Revision: **A2**

Minimum pipe cover to soffits to be per the Sewer Sector Guidance Appendix C B5.1.7:

- 0.35m - domestic gardens and pathways without vehicle access
- 0.5m - domestic driveways, parking areas and yards for vehicles <7.5T gross weight
- 0.9m - domestic driveways, parking areas, shared spaces with limited access for vehicles >7.5T gross weight
- 0.9m - agricultural land and public open space
- 1.2m - highway and parking areas with unrestricted access for vehicles >7.5T gross weight

Any pipes with cover to soffit less than those stated above are to have a Class Z concrete pipe bed & surround.

Internal foul drain pipe minimum gradients:

- 1:80 from SVP & WC to IC
- 1:40 from Basin & Sink to IC

Refer to Architect's/M&E drawings for pipe sizes and setting-out information.

Maximum Drainage Chamber Depths:

- Ø315mm PPIC - 1.2m - Type 4 (BS EN 13598-2)
- Ø450mm PPIC - 3.0m - Type 3/4 (BS EN 13598-2)
- Ø600mm PPIC - 3.0m - Type 3 (BS EN 13598-2)
- Ø1200mm Concrete - 6.0m (with standard detail)

All drainage to be constructed in accordance with Sewer Sector Guidance and Building Regulations Part H.

A CCTV and level survey of the as-built drainage to OS Datum and Grid is to be undertaken by the Contractor and provided to the Engineer for final approval.

Sewer details shown have been taken from Thames Water sewer records and utility survey undertaken by Amber Utilities Ltd, dated June 2023. Contractor to validate drainage locations and levels prior to commencement of the works.

Construction Note:
It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions along drainage route (such as unrecorded services). If the drainage is laid from the site out to the outfall, it can result in significant abortive works to relay and overcome such obstructions.

SAFETY, HEALTH AND ENVIRONMENTAL HAZARD INFORMATION BOX

THE HAZARDS NOTED BELOW ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPES OF WORKS DETAILED ON THIS DRAWING.

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| CONSTRUCTION RISKS |
| WORKING WITH LIVE SERVICES AND SEWER. WORKING WITHIN HIGHWAY. |
| MAINTENANCE / CLEANING RISKS |
| NONE RELEVANT TO THIS DRAWING. |
| DEMOLITION RISKS |
| NONE RELEVANT TO THIS DRAWING. |

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