Low Flow Channel
Basin 2
Bed Level 101.000
Max Water level 101.900
Top of Bank 102.200
Max slope 1:3
Volume 723m³
Permanent Wet Area IL = 100.500m
Forebay IL = 100.800m
Headwall IL 101.000
Headwall IL 101.200
S82-3000Ø Flow Control CL 102.500 IL 100.985
225Ø OVERFLOW @ 1 in 137, L=15.795m
1.016 300Ø @ 1 in 17, L=24.987m
S202-1200Ø CL 102.070 IL 101.100
Headwall IL 100.800 (Ditch level tbc)
F25-1200Ø CL 102.608 IL 100.500
Existing water bodies
U28
U27
T93
T94
LEICESTER ROAD
F62-1200Ø CL 115.500 IL 114.150
Foul Outfall
MAGNETIC NORTH
N
E
W
S
Scale 1:250

Existing ditchcourse to be culverted under proposed highway - subject to LLFA approval - further survey of ditch to be carried out to ascertain invert levels

Rising Main to be designed by Pumping Station Manufacturer/Specialist.

STW S106 Approval required prior to any connections works to public sewer.

Drainage Strategy Design Assumptions and Recommendations
System 2 (West)

Proposed Discharge Rate 8.1L/S

(based on QBAR for developable area as outlined within RSK Flood Risk Assessment subject to LLFA Approval )

Total impermeable area is calculated at 0.998ha (including 10% for Urban Creep)

Therefore, the following detention pond have been calculated.

| Return Period | Type | Volume attenuated |
|---|---|---|
| 1 in 100 years + 40% | Pond 1 | 723 m³ |

Trees Protection
1. In order to protect trees, a protection zone should be set-up around each tree (i.e. fencing) before starting construction work. Extent of protection zone needs to be agreed with Local Authority Tree Officer.
2. Careful planning and communication with LA Tree Officer, landscape designers and contractors prior to works, to reduce tree damage.
3. Must adhere to British Standard BS5837: 2004.

Invert Level needs to be determined prior to any drainage works and reported back to the Engineer

All sewer diversions and discharges to public sewers are indicative only and are subject to approval by the Sewerage Undertaker

Any drainage within proximity of existing or proposed trees is subject to Yorkshire Water and LA approval, additional protection or relocation may be required.

All drainage locations indicated on this drawing are preliminary only. Architect is to provide detailed drawings confirming all proposed foul outlet and rwp positions for all units.

EX MH's invert level and location need to be checked prior to any drainage works. Any differences between actual and drawn details are to be reported immediately

All existing public sewers on the site to be CCTV surveyed to check for third party connections

Invert Levels for existing manholes have been taken from Sewer Records. Any differences between actual and drawn details are to be reported immediately to the Engineers prior to any sewage diversion works.

All existing public sewers are shown indicative only. All locations and levels to be checked prior to any detailed drainage design or on-site works.

The requirement of land drainage / drainage channels within rear gardens to be assessed on site by site manager and Groundworker

Additional Public Sewers may now be available post October 2011 'Transfer of Private Sewers'. Further onsite investigation required to ascertain suitability of making a Section 106 connection. Possible 3rd party land crossings required.

# Notes

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Drawings must not be scaled. Work to figured dimensions only

1. Due to a change in legislation on 1st October 2011, there could be formally private sewers which have transferred over to the responsibility of the Sewerage Undertaker. If such sewers are located on site during construction works, please contact Mucklow & Harris Ltd so that a Section 185 Agreement can be prepared to divert these sewers.
2. The survey information used in the preparation of this drawing is not warranted. The contractor shall check all dimensions and levels on site.
3. This drawing must be read in conjunction with the site investigation report. Before work commences contractor should consult the engineer and the SI report regarding any contamination issues. All necessary Health and Safety measures to be taken.
4. Before work commences, the contractor shall liaise with all Statutory Authorities to determine the exact location of all apparatus and take all precautions deemed necessary to locate, protect and where necessary divert such equipment.
5. This drawing is subject to approval by Local Authority, Building Control, Sewerage Undertaker and the Environment Agency. Any works undertaken prior to the granting of these approvals is carried out at risk to others.
6. Should any surplus excavated material require disposal off site, it should be taken to a suitably licensed landfill site.
7. The contractor shall check all dimensions and levels on site.
8. Setting out to be confirmed by the Architect.
9. Prior to commencing work on the drainage, all existing drains, sewers manholes and outfalls to remain shall be located, identified and a CCTV condition survey carried out. Where necessary, protection to the existing drainage infrastructure shall be provided.
10. All existing sewers and manholes abandoned due to the proposed works are to be either removed and suitably backfilled or grouted up.
11. All external drainage works shall be constructed in accordance with civil engineering specification for the water industry and Design Construction Guidance for adoptable drainage, for private drainage in accordance with the Building regulations Part H and BS.EN 752.
12. All existing drainage levels, diameters & locations need to be checked on site prior to any drainage works, and any discrepancies need to be reported back to the Engineer.
13. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
14. All manhole and drainage covers shall comply with BS.EN124. Manhole covers within block paved area and buildings shall be recessed. Cover strengths to be:-
    Class E600 in areas of heavy loading.
    Class D400 in heavy trafficked areas (roads, services yards).
    Class C250 Lightly trafficked areas (car parks).
    Class B125 in landscape and non trafficked areas (min. 100mm dp frame).
15. Drainage pipes 100mm diameter unless stated otherwise.
16. Pipes to be :- Vitrified clay to BS EN 295 or Concrete to BS 5911 or UPVC pipes to BS EN 1452 or Thermoplastic Structured wall pipes complying with WIS 4-35-01. BSI Kitemarked. Class 8kM/m² nominal short term ring stiffness.
17. All pipes to be laid with soffits level, unless noted otherwise.
18. Where cover to pipes is less than 1200mm under carriageway - concrete bed and surround or concrete protection slab is required.
19. All pipes beneath buildings to be B&S in concrete. Where cover is less than 300mm the concrete is to be cast integrally with the floor slab.
20. Pipes Penetrating Walls.
    An opening is to be formed through walls to give pipes at least 50mm clearance all round. Brickwork over shall be supported by a lintel. Opening to be masked each side with rigid sheet material.
    Pipes embedded in walls shall have joints formed within 150mm of either wall face. Adjacent rocker pipes of max 600mm length with flexible joints shall continue the pipework.
21. Pipe runs near Buildings.
    If a trench is within 1m of a building it shall be filled with concrete up to the lowest level of the adjacent foundation. If a trench is greater than 1m from a building the trench shall be filled with concrete up to a level below the building equal to the distance from the building less 150mm.
22. Ventilation shall be provided at the head of the foul drainage runs.
23. For setting out of SVP and RWP, see architects layout.
24. Threshold drainage is required where levels fall towards a building entrance. Architect to confirm if not required.
25. Yard Gully positions are indicative, should be adjusted on site to suit levels.
26. All gully positions to suit low points and to be trapped.
27. Road gullies shall be trapped 450 diameter x 900mm deep with Class D 400 frame and grating to BS EN 124.
28. Drainage channel detailed design to be undertaken by manufactures. Alternative channels may be used, subject to Engineers approval.
29. All concrete to drainage, manholes bases, surrounds etc to be in accordance with the BRE special digest 1 - Concrete in aggressive ground. Refer to site investigation report for sulphate requirements.
30. All manholes, pipe trenches etc. to be backfilled with imported granular fill to Class 6F1-6F5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
31. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.
32. Demarcation manholes and lateral drains need to be constructed in accordance with the Water UK/WRc "Design Construction Guidance".
33. All works to sewers/ manholes being offered for adoption or on existing public sewers should be in accordance with "Design Construction Guidance" and the Adopting Water Authority's recommendations.
34. Requirement for Land Drains to be assessed on site by the Site Manager.

## KEY

Existing Storm Drain
Existing Storm Drain Abandoned
Foul Drain
Foul Inspection Chamber
Foul Drainage Offered for Adoption
Foul Manhole Offered for Adoption
Storm Drain
Storm Inspection Chamber (Private)
Storm Manhole (Private)
Storm Drainage Offered for Adoption
Storm Manhole Offered for Adoption
Drainage Channel
Gully
Storm Rodding Eye
🟨 Sewer Easement
Foul Rising Main

| REV | DATE | AMENDMENT | BY |
|---|---|---|---|
| D | 14.01.2025 | Update drainage proposals in line with latest hydraulic calculations | AJM |
| C | 29.11.2024 | Updated to latest layout and detailed design | DJH |
| B | 28.11.2024 | Updated to latest layout | BPL |
| A | 24.10.2024 | Updated to latest layout and levels | BPL |

**MUCKLOW & HARRIS**
CONSULTING CIVIL & STRUCTURAL ENGINEERS

DRAWING STATUS:
PRELIMINARY

CLIENT
Vistry Partnerships

PROJECT
Leicester Road,
Earl Shilton

TITLE
Proposed Drainage Layout
Sheet 2 of 2

| | | | |
|---|---|---|---|
| DATE<br>03.05.2024 | | DRAWN<br>AM | |
| SCALE<br>1:250 | SIZE<br>A0 | CHECKED<br>DJH | |
| DRAWING NUMBER<br>24000-103 | | | REVISION<br>D |