

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.

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.

Discharge options

- Connection to foul sewer- suspected combined- under common lane. (shown) TBC with STW.
- Discharge to local watercourse- 240m west of site, subject to third party approval.

Phase 1 site appraisal indicates 'shallow soils are impermeable superficial clays' so soakaways likely not feasible. Subject to penetrative tests.

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

Storm Design Details
 Attenuated area: 1049m²

Private Storage:
 Cellular Attenuated Tank Storage design based upon 1 in 100 year + 40% storm event

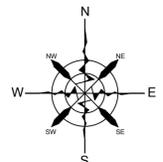
Attenuation tank based on discharge to foul sewer 3l/s- subject to approval
 49m³ = 4.5m x 18.5m x 0.4m deep + 2.5m x 18m x 0.4m deep

Flow Control: 1200 ϕ FCC with Hydro-Brake Vortex device.
 Restricting to 3 l/s

Farmers Field

Lower Farm

Church Farm



KEY

- Existing Levels
- Proposed Levels
- Finished Floor Level (FFL 155.00)
- Foul Drain
- Foul Inspection Chamber
- Storm Drain
- Storm Manhole
- Gully
- Storm Rodding Eye
- Existing Foul Sewer
- Retaining Feature

NOTE
 Preliminary scheme only for comment & review. Based upon information provided / available at the time. Scheme will be subject to full review and amendment as further information becomes available.
 Scheme will be subject to amendment following receipt of comments from the Development Control, LA Planning Authority, Environment Agency, LA Highways department and the Sewerage Undertaker.
 Following receipt of further information and comments the scheme may require a re-design.

- Any existing details which are shown on this drawing are for guidance only and are to be checked on site by the contractor. Any variations are to be recorded and reported to the engineer immediately.
- Design is subject to Building Regulation Sewerage Undertaker and Highways Department approval.
- 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.
- All subgrade structures and unconsolidated material, within the construction width of the highway, are to be removed.
- Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
- The developer shall take CBR test of road formation levels and results to be made available to the Engineer for approval.
- Approved weedkiller to be applied as recommended to footway formation and sub-base. Application by trained operative wearing PPE and complying with COSHH requirements.
- Any soft spots discovered after proof rolling shall be removed and replaced with suitable engineering fill. The surface tolerances to the sub base layer thickness should be no more than +5mm or -30mm.
- New road levels to be in smoothly with existing road. Levels to be confirmed prior to construction and reported to the Engineer.
- Tarmac road construction to comply with BS EN 130108.
- Threshold drainage is required where levels fall towards a building entrance. Architect to confirm if not required.
- Yard Gully positions are indicative and should be adjusted on site to suit proposed levels.
- All gully positions to suit low points and to be trapped.
- Drainage channel detailed design to be undertaken by manufacturers. Alternative channels may be used, subject to Engineers approval.

- GENERAL NOTES**
- THIS DRAWING IS COPYRIGHT AND SHOULD NOT BE REPRODUCED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF PATRICK PARSONS LTD.
 - DO NOT SCALE FROM THIS DRAWING.
 - 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 Patrick Parsons so that a Section 185 Agreement can be prepared to divert these sewers.
 - The survey information used in the preparation of this drawing is not warranted. The contractor shall check all dimensions and levels on site. 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.
 - 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.
 - 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.
 - Should any surplus excavated material require disposal off site, it should be taken to a suitably licensed landfill site.
 - Setting out to be confirmed by the Architect.
 - 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.
 - All existing sewers and manholes abandoned due to the proposed works are to be either removed, and suitably backfilled or grouted up.
 - All external drainage works shall be constructed in accordance with civil engineering specification for the water industry and Sewers for Adoption 6th Edition for adoptable drainage, for private drainage in accordance with the Building regulations Part H and BS EN 752.
 - 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.
 - Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
 - 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 E500 in areas of heavy loading, Class D400 in heavy trafficked areas (roads, services yards), Class C250 lightly trafficked areas (car parks), Class E125 in landscape and non trafficked areas (min. 100mm dp frame).
 - Drainage pipes 100mm ϕ unless stated otherwise.
 - Pipes to be: Vitrified clay to BS EN 252 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.
 - All pipes to be laid with soffits level, unless noted otherwise.
 - Where cover to pipes is less than 1200mm under cartage-way - concrete bed and surround or concrete protection slab is required.
 - 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.
 - 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.
 - 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.
 - Ventilation shall be provided at the head of the foul drainage runs.
 - For setting out of svp and rwp, see architects layout.
 - Threshold drainage is required where levels fall towards a building entrance. Architect to confirm if not required.
 - Yard Gully positions are indicative, should be adjusted on site to suit levels.
 - All gully positions to suit low points and to be trapped.
 - Road gullies shall be trapped 4500 x 900mm deep with Class D 400 frame and grating to BS EN 124.
 - Drainage channel detailed design to be undertaken by manufacturers. Alternative channels may be used, subject to Engineers approval.
 - 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.
 - All manholes, pipe trenches etc to be backfilled with imported granular fill to Class SF 1-BF 5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
 - All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.
 - Demarcation manholes and lateral drains need to be constructed in accordance with the Water UK WRC "Sewers For Adoption 6th Edition".
 - All works to sewers/manholes being offered for adoption on an existing public sewers should be in accordance with "Sewers for Adoption 6th Edition" and the Adopting Water Authority's recommendations.
 - Requirement for Land Drains to be assessed on site by the Site Manager.

P1	Design amended	20.12.19	HP	KTY
P0	Initial Issue	19.12.19	AB	KTY
Rev.	Amendments	Date	Dr	Chk

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Client

Project
 Common Lane
 Bednall

Drawing
 Drainage Strategy

Scales 1:250 At original size A1

Date 19.12.2019 Drawn by AB Checked by

Status **PRELIMINARY**

Drawing No. B18357-210 Rev. P1

