

**GENERAL NOTES**

1. Do Not Scale
2. The contractor is to check and verify all buildings and site dimensions and levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
3. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work
4. This drawing is to be read in conjunction with and checked against all other drawings, Engineering Details, Specification and any structural, geotechnical or other specialist document provided.
5. Any anomaly or contradiction between any of the above is to be reported to the Engineer.
6. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.

**ROAD AND SEWER ADOPTION NOTES**

1. All works for adoption under a Section 38 agreement shall be carried out to the approval of the Newport City Council.
2. All works for adoption under a section 104 agreement shall be carried out to the national water council guide "sewers for adoption" 7th edition (SIA7) and the requirements of Dwr Cymru Welsh Water as the statutory sewerage undertaker and the Welsh Ministers build standard.
3. A Section 106 application to connect must be made to DCWW, the developer shall give 21 days notice prior to connection, the works may only be undertaken by a DCWW health & safety approved contractor.
4. An accredited contractor by the British Plastics Federation will be used to lay any adoptable plastics pipes, a copy of the accreditation certificate to be supplied to DCWW before any order is placed or work commences on site.
5. Streetlighting positions to be pegged on site and agreed by the Local Authority PRIOR to erection commencing.

**DRAINAGE SPECIFICATION NOTES**

1. The planning, design and construction of sewers shall be in accordance with the SFA7 and the Civil Engineering Specification for the Water Industry (CESWI) and DCWW amendments to CESWI.
2. All Adoptable sewers within adoptable highway with less than 1.2m cover to have concrete surround with flexible joints. All areas with greater cover than the minimum required to have type S bed and surround.
3. MH covers & frames shall be ductile iron with a minimum square opening of 675x675mm and comply with the relevant provisions of BS EN 124, BS 7903 and DMRB document HA104/09. Covers shall be double triangle for 675mm square openings and be provided with loose bolted connections. Frame depths shall be 150mm but in any case all frames shall comply with SFA. Sealed and lockable covers to be supplied where specified on manhole schedule.
4. Where sewers and manholes are located in the highway, the outside of the sewer should be in the vehicle carriageway and be at least 1m from the kerb line. External faces of manholes should be at least 0.5m for the kerb line.
5. Use of this drawing does not absolve the client from his responsibilities under the Health and Safety: The Construction Design and Management Regulations 2015. The Principle Designer is required to contact PHG Consulting prior to permitting this drawing to be used in connection with any construction works.
6. All private drainage to comply with current Building Regulations, BS EN-752 Drain and Sewer systems outside Buildings and other relevant British Standards and Codes of Practices.
7. The minimum size of sewer where guide bars, safety chains, or other safety devices are required in Manholes shall be 450mm diameter. All safety chains shall comply with SFA.
8. All sewers to be laid soffit to soffit unless otherwise shown.
9. Prior to laying any material the subgrade must be inspected and any soft spots removed and filled with Type 1 material to SHW Clause 803
10. It is the Contractors responsibility to locate existing services on site accurately.
11. The Contractor should comply with hs(g) 47 "Avoiding Danger from Underground Services" when excavating around existing services.
12. The Contractor is to verify the line, level and diameter of existing sewers before commencing drainage works.
13. The first manhole upstream of the connection and at locations as shown on drawings, the contractor must fit debris screens in order to prevent debris entering the public sewer. The screen should not be removed until immediately prior to the occupation of the premises to be served by the sewer.
14. All in-situ concrete and precast concrete components to be manufactured using Sulphate Resisting Portland Cement, (SRPC) to BS 4027, if required, subject to soil conditions.
15. All Manholes/Inspection Chambers should have a concrete surround. Concrete rings shall be sealed using "Tokstrip" and lifting eyes pointed with resin modified mortar.
16. Any Clay pipes and fittings are to be Vitrified Clay and comply with SFA and the relevant sections of BS EN 295-1 and BS 5911.
17. All Concrete pipes and fittings must comply with SFA and the relevant sections of BS EN 1916-1 and BS 5911.
18. Thermoplastic pipes and fittings to be PVC complying with SFA and the relevant sections of BS EN 1401-1, BS EN 1852, BS EN 12666-1, BS EN 13476-1.
19. Subject to drainage authority approval plastic pipes for gravity sewer, 150mm - 300mm are to be either:-  
 Marley twinwall system  
 Uponor ultrarib system  
 Osmo ultrarib system  
 Polysewer twinwall system  
 Plastic pipes approval by down for larger diameter gravity sewers are:  
 Polypipe - rigisewer (400mm-600mm)  
 Polypipe - rigistorm xl (750mm-900mm)  
 any proposed changes to the material must be authorised by DCWW, all flexible pipes shall have a limit of 6% deformation (calculations may be obtained from manufacturer) and comply with the relevant sections of SFA.
20. Precast Concrete Manholes must comply with SFA and the relevant sections of BS EN 1917 and BS 5911-3.
21. All levels are to OS datum.
22. Compliance with Health & Safety matters on any trench/manhole is obligatory and a permit to enter a confined space is required when connecting site drainage to the existing public sewerage system. A permit to enter a confined space will be obtained from DCWW prior to the works commencing on any public sewerage system, refer to The Classification and Management of Confined Space Entries.
23. The use of ladders or steps in manholes, wet wells and valve chambers shall comply with the following: Steel plastic encapsulated MH single steps shall not be used in MHs of a greater depth than 1.0m. Steel plastic encapsulated double steps shall be provided in MHs up to 3.0m in depth. Ladders shall be provided in accordance with BS 4211 in MHs between 3.0 & 6.0m deep. MHs greater than 6.0m deep shall be specially designed and have intermediate landings. Access holes in intermediate landings shall be provided with galvanised mild steel gratings to prevent persons falling through. The design of deep MHs shall permit the use of a winch or lifting gear mounted at ground level in case of emergencies.
24. Only low carbon steel or stainless steel ladders for vertical fixing to MHs will be acceptable.
25. Proposed adoptable sewers are only permitted to have other sewer/gully connections and other services laid at an angle of between 45° and 90° across the line with a vertical clearance in excess of 300mm.
26. All ironwork to be kite marked by BSI or certified by equal inspection authority. Foul water manholes to be badged "FW". Surface water manholes to be badged "SW".
27. Red coloured plastic marker tape at least 150mm wide shall be laid at a minimum of 200mm above the soffit of the pipe. The tape shall be printed with the words GRAVITY SEWER in bold capital letters throughout its length and at intervals not exceeding 700mm and shall incorporate a corrosion resistant tracing system for non-metallic pipes.
28. Where the proposed site drainage connects to the public sewerage system either by new junction, new manhole or at an existing manhole, DCWW must be notified prior to works commencing.

**Legend**

- Proposed Surface Water Sewer Diversion (Section 185)
- Proposed Welsh Water Foul Sewer (Section 104)
- Proposed Welsh Water Sewer Diversion (Section 185)
- Existing Welsh Water Sewer Removed (Section 185)
- Existing Welsh Water Foul Water Sewer
- Existing Welsh Water Surface Water Sewer
- Proposed Hydrobrake flow control (SAB)
- Proposed SAB Surface Water Drain (SAB)
- SuDS Swale (adoptable by the SAB)
- SuDS Permeable Paving (private only serving a single plot) 60mm block, 50mm grit, 350mm subbase
- SuDS Permeable Paving (To be retained by Housing Association) 80mm block, 50mm grit, subbase as noted
- SuDS Permeable Paving (Adoptable) 80mm block, 50mm grit, subbase as noted
- Service Strip (Adoptable)
- RainGarden
- Proposed Cellular Attenuation
- Finished Floor Level (FFL)
- Retaining Wall
- Underbuild
- Road gully & connection
- Existing highway
- Steps (R = riser (maximum rise 150mm) G = going (minimum going 280mm) maximum of 12 steps per flight)
- SuDS planter
- Precast headwall
- Raingarden overflow
- Rainwater Butt (with overflow)
- Rainwater Pipe
- Private surface water inspection chamber <3.0m deep with restricted access depths over 1.2m.
- Rodding eye (450mm deep unless noted otherwise)
- Catchpit
- Channel / Aco drain or similar approved (150mm wide at garage threshold)
- SuDS swale inlet
- Existing watercourse
- Building Regulations Part M level landing (1200 x 1200, to be graded away from threshold at 1:60)
- Permeable paving under drain
- Adoptable foul lateral drain (1000 unless shown otherwise) (SFA7th)
- Adoptable foul inspection chamber <3.0m deep with restricted access depths over 1.2m (Refer to lateral schedule - SFA7th).
- Private foul drain (1000 unless shown otherwise)
- Private foul inspection chamber <3.0m deep with restricted access depths over 1.2m (700mm deep unless noted)



LAND DRAINAGE CONSENT REQUIRED TO AMENDED LEVELS OVER EXISTING CULVERT

NO WALLS TO BE CONSTRUCTED OVER SEWER / EASEMENT

OPEN WATERCOURSE

CLIENT: **WILLIS CONSTRUCTION**

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REV	DATE	DETAILS	AMENDMENTS	BY	CHK
J	29/04/2025	Layout, drainage and levels amended		TOR	SJD
H	18/02/2025	Raingarden outside plot 1 amended		TOR	SJD
G	29/01/2025	Layout Updated		TOR	SJD
F	22/11/2024	Issued for Pre-SAB		TOR	SJD
E	09/10/2024	Layout revised		TOR	SJD
D	30/09/2024	Layout revised		TOR	SJD
C	29/08/2023	Layout revised		TOR	SJD
B	08/07/2023	Layout revised		TOR	SJD
A	09/03/2023	Layout revised		TOR	SJD

PROJECT: **Willis Construction Open Hearth Hendre Farm Drive, Newport**

DRAWING TITLE: **Engineering Appraisal**

DRAWN	CHK	STATUS	SCALE
TOR	SJD	Information	1:250 @ A1

DATE	JOB NO.	DWG. NO.	REV.
Oct 2022	2307	100	J