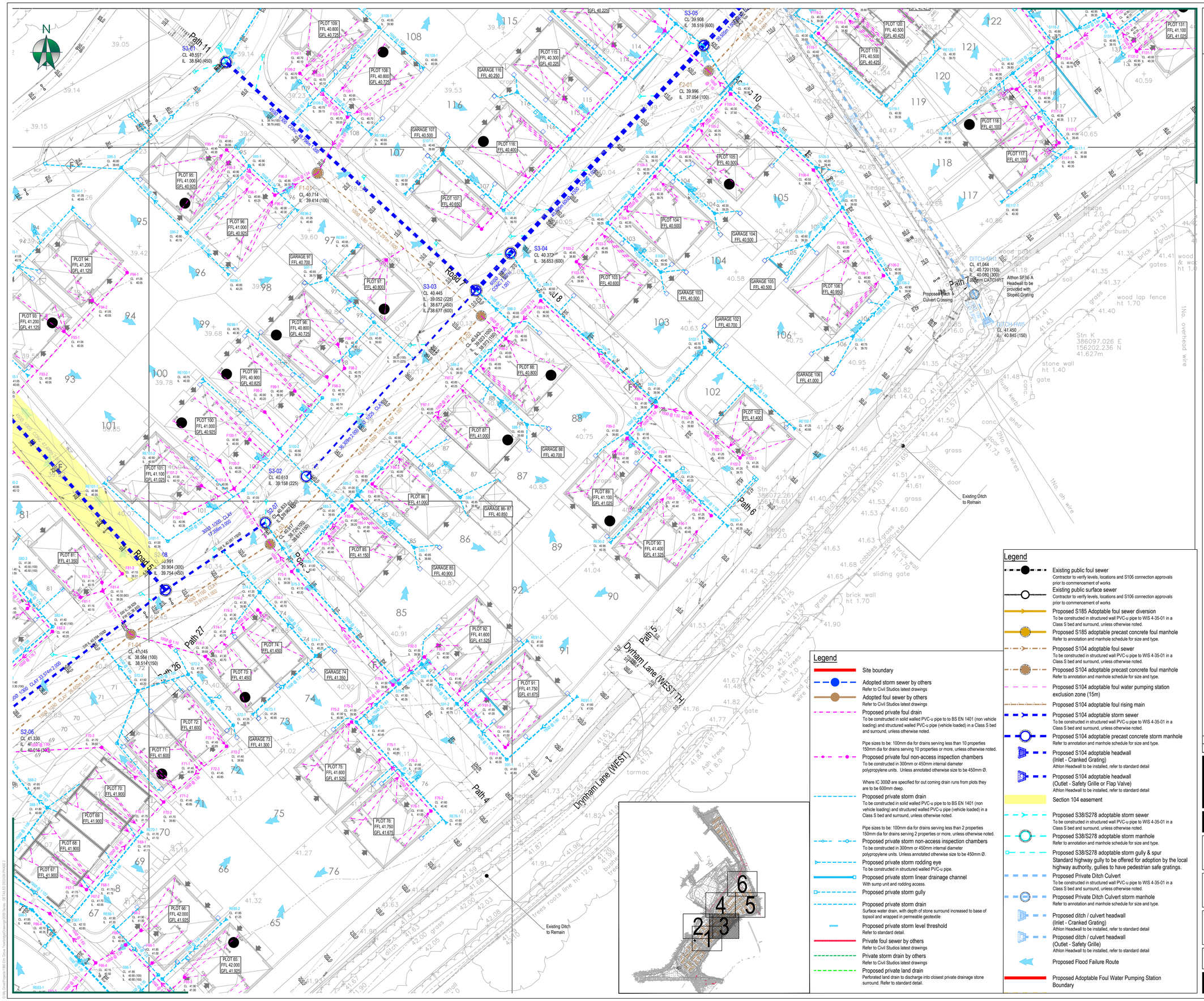

CDM: Significant Hazards

Health and Safety hazards are identified by the designer as abnormal in pursuance of the current Construction Design and Management regulations. It is assumed that all works will be carried out by competent & adequately resourced contractor(s) working to safe systems of work.

General Notes

1. DO NOT SCALE FROM THIS DRAWING FOR CONSTRUCTION. Scaling from this drawing or obtaining dimensions electronically may not provide accurate information and should be avoided, therefore work only from figured dimensions and contact JRC Consulting Engineers.
2. This drawing is to be read in conjunction with all other relevant Architect's, Engineers & Specialist drawings, details, Specification and the relevant Health and Safety Plan (as appropriate to the project). All discrepancies to be reported to the Engineer immediately for verification.

Drainage Notes

1. The planning, design and construction of sewers shall be in accordance with Sewers Sector Guidance (SSG) a design and construction guide for developers.
2. The minimum size of sewer where guide bars, safety chains, or other safety devices are required in manholes shall be 375mm diameter.
3. All type A & B manholes should have a concrete surround. Concrete rings shall be sealed using 'tokstrip' and lifting eyes pointed with resin modified mortar.
4. 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 SWW ltd prior to the works commencing on any public sewerage system.
5. Where the proposed site drainage connects to the public sewerage system either by new junction, new manhole or at an existing manhole, it will require the submission of an application for sewer connection form to SWW ltd prior to works commencing.
6. MH covers and frames shall be ductile iron with a minimum square opening of 675x675mm. Covers shall be double triangle for 675mm square openings and be provided with loose bolted connections. Frame depth shall be 150mm. Covers to PPICS shall be in accordance with SSG. Type C manholes to be provided with 1220 x 685mm covers and opening.
7. 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 MH'S of a greater depth than 1.0m. Steel plastic encapsulated double steps may be provided in MH'S up to 3.0m deep. Ladders shall be provided in accordance with BS 4211 in MH'S between 3.0m & 6.0m deep. MH'S 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 manholes shall permit the use of a winch or lifting gear mounted at ground level in case of emergencies.
8. Only low carbon steel or stainless-steel ladders for vertical fixing to manholes will be acceptable.
9. Proposed adoptable sewers are only permitted to have other sewer/gully connections and other services laid at an angle of between 45 degrees and 90 degrees across the line with a vertical clearance more than 300mm.
10. All ironwork to be kite marked by BSI or certified by equal inspection authority.
11. 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.
12. Minimum backdrop height shall be 1m.
13. On new drainage schemes, the first manhole upstream from the connection to the existing foul water sewer shall be fitted with a suitable screen, which will remain in place until the new sewer becomes live.

Drainage Notes - DCG

1. Drawings to be read in conjuction with all design drawings and building regulations
2. All levels are to Ordnance Survey datum levels.
3. All materials used in connection with this design must:
   - Not be detrimental to health & safety or adversely affect durability of the construction.
   - Where applicable, be compliant to current British/European Standards, Codes of Practice and good building practice.
4. The planning, design and construction of sewers shall be in accordance with Design and Construction Guidance (DCG) for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies in England.
5. The minimum size of sewer where guide bars, safety chains, or other safety devices are required in manholes shall be 375mm diameter.
6. All type A & B manholes should have a concrete surround. Concrete rings shall be sealed using 'tokstrip' and lifting eyes pointed with resin modified mortar. PPICS should be installed in accordance with The DCG.
7. 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 the local water company prior to the works commencing on any public sewerage system.
8. Where the proposed site drainage connects to the public sewerage system either by new junction, new manhole or at an existing manhole, it will require the submission of an application for sewer connection form to the local water company prior to works commencing.
9. MH covers and frames shall be ductile iron with a minimum square opening of 675x675mm. Covers shall be double triangle for 675mm square openings and be provided with loose bolted connections. Frame depth shall be 150mm. Covers to PPICS shall be in accordance with the DCG.
10. 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 MH'S of a greater depth than 1.0m. Steel plastic encapsulated double steps may be provided in MH'S up to 3.0m deep. Ladders shall be provided in accordance with BS 4211 in MH'S between 3.0m & 6.0m deep. MH'S 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 manholes shall permit the use of a winch or lifting gear mounted at ground level in case of emergencies.
11. Only low carbon steel or stainless-steel ladders for vertical fixing to manholes will be acceptable.
12. Proposed adoptable sewers are only permitted to have other sewer/gully connections and other services laid at an angle of between 45 degrees and 90 degrees across the line with a vertical clearance more than 300mm.
13. All ironwork to be kite marked by BSI or certified by equal inspection authority.
14. 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.
15. Minimum backdrop height shall be 1m.
16. On new drainage schemes, the first manhole upstream from the connection to the existing foul water sewer shall be fitted with a suitable screen, which will remain in place until the new sewer becomes live. For type 3 manholes, outlet to be bunged with suitable stopper and chain which can be removed on completion of work.
17. Adopted pipework bed/surround:

Vehicular access:	<1200 cover	Class Z concrete
	>1200 cover	Class S granular
Non-vehicular access:	<900 Cover	Class Z concrete
	>900 Cover	Class S granular

Legend

- Existing public foul sewer — Contractor to verify levels, locations and S106 connection approvals prior to commencement of works
- Existing public surface sewer — Contractor to verify levels, locations and S106 connection approvals prior to commencement of works
- Proposed S185 Adoptable foul sewer diversion — To be constructed in structured wall PVC-u pipe to WIS 4-35-01 in a Class S bed and surround, unless otherwise noted.
- Proposed S185 adoptable precast concrete foul manhole — Refer to annotation and manhole schedule for size and type.
- Proposed S104 adoptable foul sewer — To be constructed in structured wall PVC-u pipe to WIS 4-35-01 in a Class S bed and surround, unless otherwise noted.
- Proposed S104 adoptable precast concrete foul manhole — Refer to annotation and manhole schedule for size and type.
- Proposed S104 adoptable foul water pumping station exclusion zone (15m)
- Proposed S104 adoptable foul rising main
- Proposed S104 adoptable storm sewer — To be constructed in structured wall PVC-u pipe to WIS 4-35-01 in a Class S bed and surround, unless otherwise noted.
- Proposed S104 adoptable precast concrete storm manhole — Refer to annotation and manhole schedule for size and type.
- Proposed S104 adoptable headwall (Inlet - Cranked Grating) — Athlon Headwall to be installed, refer to standard detail
- Proposed S104 adoptable headwall (Outlet - Safety Grille or Flap Valve) — Athlon Headwall to be installed, refer to standard detail
- Section 104 easement
- Proposed S38/S278 adoptable storm sewer — To be constructed in structured wall PVC-u pipe to WIS 4-35-01 in a Class S bed and surround, unless otherwise noted.
- Proposed S38/S278 adoptable storm manhole — Refer to annotation and manhole schedule for size and type.
- Proposed S38/S278 adoptable storm gully & spur — Standard highway gully to be offered for adoption by the local highway authority, gullies to have pedestrian safe gratings.
- Proposed Private Ditch Culvert — To be constructed in structured wall PVC-u pipe to WIS 4-35-01 in a Class S bed and surround, unless otherwise noted.
- Proposed Private Ditch Culvert storm manhole — Refer to annotation and manhole schedule for size and type.
- Proposed ditch / culvert headwall (Inlet - Cranked Grating) — Athlon Headwall to be installed, refer to standard detail
- Proposed ditch / culvert headwall (Outlet - Safety Grille) — Athlon Headwall to be installed, refer to standard detail
- Proposed Flood Failure Route
- Proposed Adoptable Foul Water Pumping Station Boundary

Legend

- Site boundary
- Adopted storm sewer by others — Refer to Civil Studios latest drawings
- Adopted foul sewer by others — Refer to Civil Studios latest drawings
- Proposed private foul drain — To be constructed in solid walled PVC-u pipe to to BS EN 1401 (non vehicle loading) and structured walled PVC-u pipe (vehicle loaded) in a Class S bed and surround, unless otherwise noted.

  Pipe sizes to be: 100mm dia for drains serving less than 10 properties 150mm dia for drains serving 10 properties or more, unless otherwise noted.
- Proposed private foul non-access inspection chambers — To be constructed in 300mm or 450mm internal diameter polypropylene units. Unless annotated otherwise size to be 450mm Ø.

  Where IC 300Ø are specified for out coming drain runs from plots they are to be 600mm deep.
- Proposed private storm drain — To be constructed in solid walled PVC-u pipe to to BS EN 1401 (non vehicle loading) and structured walled PVC-u pipe (vehicle loaded) in a Class S bed and surround, unless otherwise noted.

  Pipe sizes to be: 100mm dia for drains serving less than 2 properties 150mm dia for drains serving 2 properties or more, unless otherwise noted.
- Proposed private storm non-access inspection chambers — To be constructed in 300mm or 450mm internal diameter polypropylene units. Unless annotated otherwise size to be 450mm Ø.
- Proposed private storm rodding eye — To be constructed in structured walled PVC-u pipe.
- Proposed private storm linear drainage channel — With sump unit and rodding access.
- Proposed private storm gully
- Proposed private storm drain — Surface water drain, with depth of stone surround increased to base of topsoil and wrapped in permeable geotextile
- Proposed private storm level threshold — Refer to standard detail.
- Private foul sewer by others — Refer to Civil Studios latest drawings
- Private storm drain by others — Refer to Civil Studios latest drawings
- Proposed private land drain — Perforated land drain to discharge into closest private drainage stone surround. Refer to standard detail.

REV.	DATE	DETAILS	BY	CKD.
C1	30.09.25	First Issue	JDC	DWJP

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DRAWING STATUS: FOR CONSTRUCTION

PROJECT: ELM GROVE TROWBRIDGE

CLIENT: REDROW

DRAWING TITLE: DRAINAGE LAYOUT PHASE 2 SHEET 3

SCALE @ A1: 1:250 (0m – 10m) | SIZE: A1 | DATE: SEP 25

PROJECT NUMBER	DRAWING NUMBER	REVISION
1960	2503	C1

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