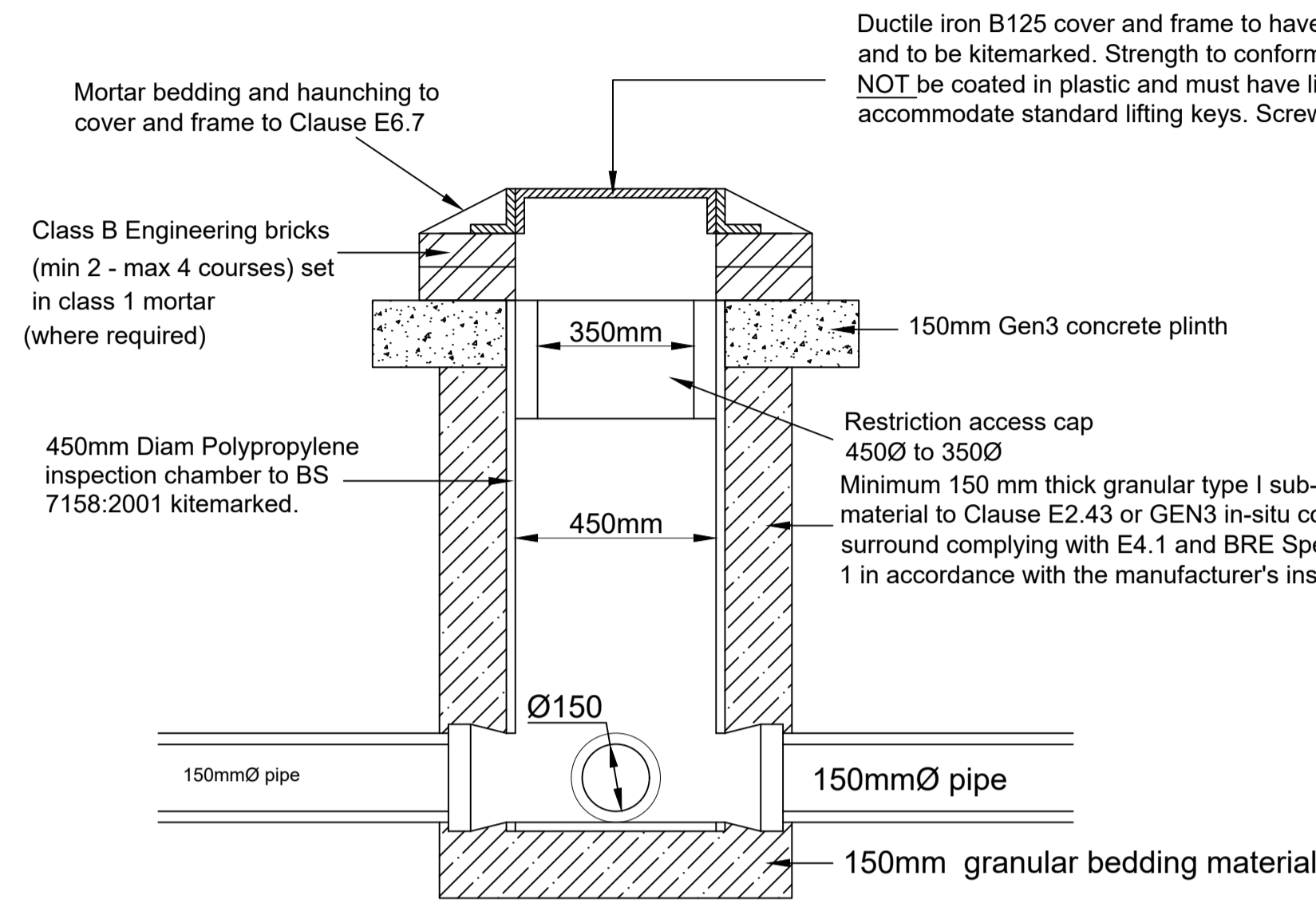


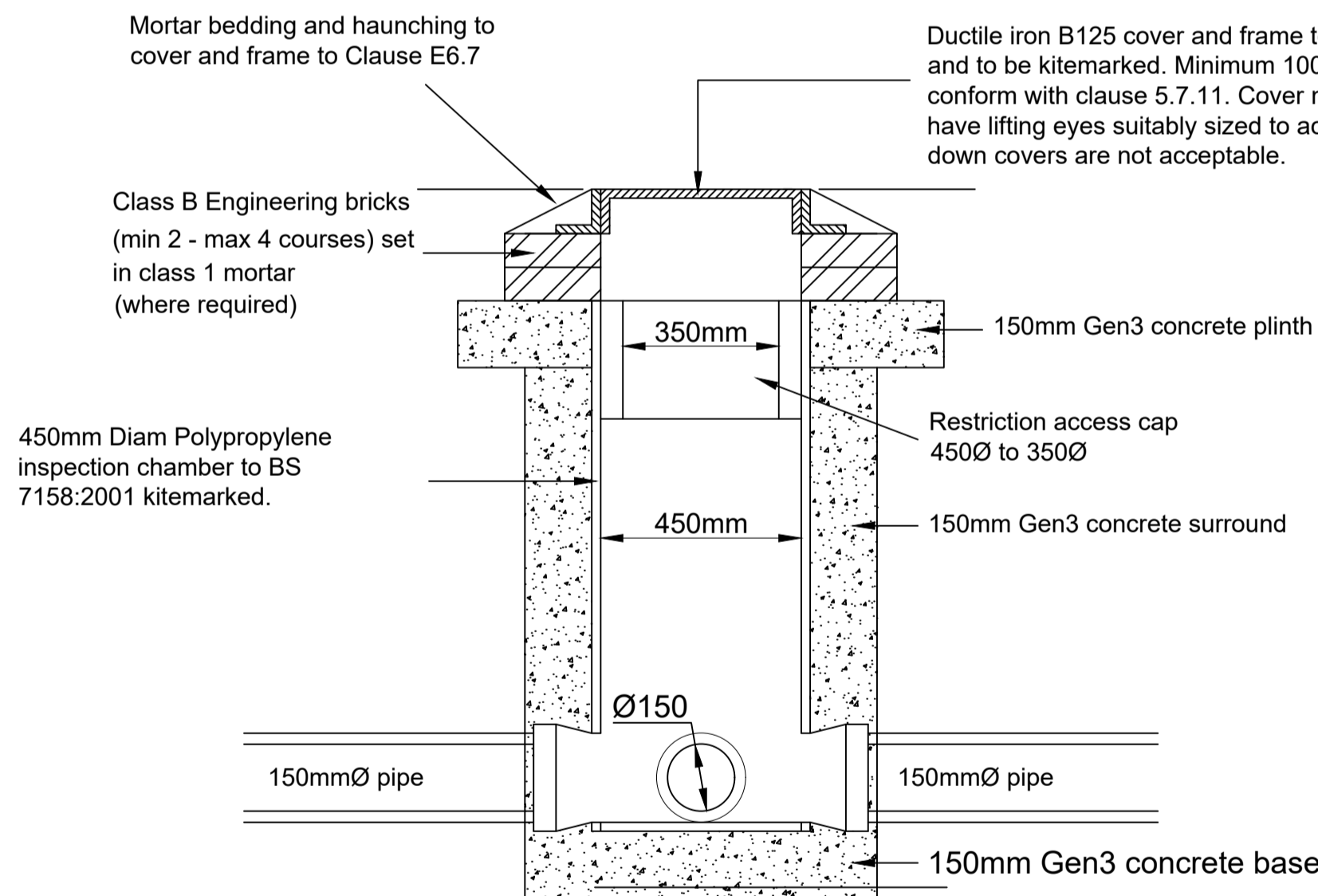
DEMARCATON CHAMBER LOCATED IN GARDENS

For depth of chamber greater than 1200mm maximum depth 3000mm



DEMARCATON CHAMBER LOCATED IN DRIVEWAY

For depth of chamber greater than 1200mm maximum depth 3000mm



Pipes

| Diameter (mm) | Gradient | |
|---------------|----------|------|
| | Foul | S.W. |
| 100 | 1:80 | - |
| 150 | 1:80 | 1:80 |

Vitrified clay pipes to BS EN 295 kitemarked.
Unplasticised PVC pipes to BS 4660:200 & BS EN 1401-1 kitemarked.
Structured Wall Unplasticised PVC pipes to WIS 4-35-01 kitemarked.

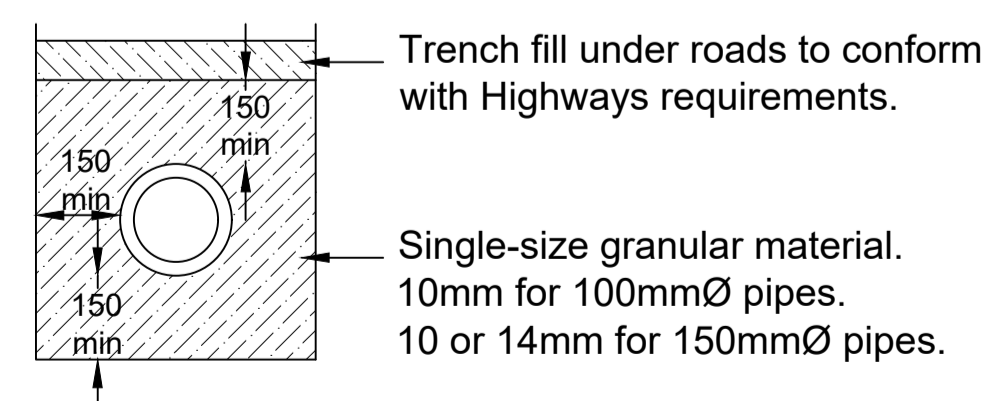
Demarcation chamber covers & frames

| Surface | Class (Loading in kN) | Loading |
|--------------------|-----------------------|----------------------------|
| Road | D400 | Vehicle Impact |
| Footway & Driveway | B125 | Occasional vehicle loading |
| Gardens | B125 | Pedestrian/cyclist |

Minimum depth of Lateral drains

| Location | Minimum Depth (m) |
|------------------------------|-------------------|
| Gardens | 0.9 |
| Agricultural/Open spaces | 0.9 |
| Driveways (trafficked areas) | 1.2 (see detail) |

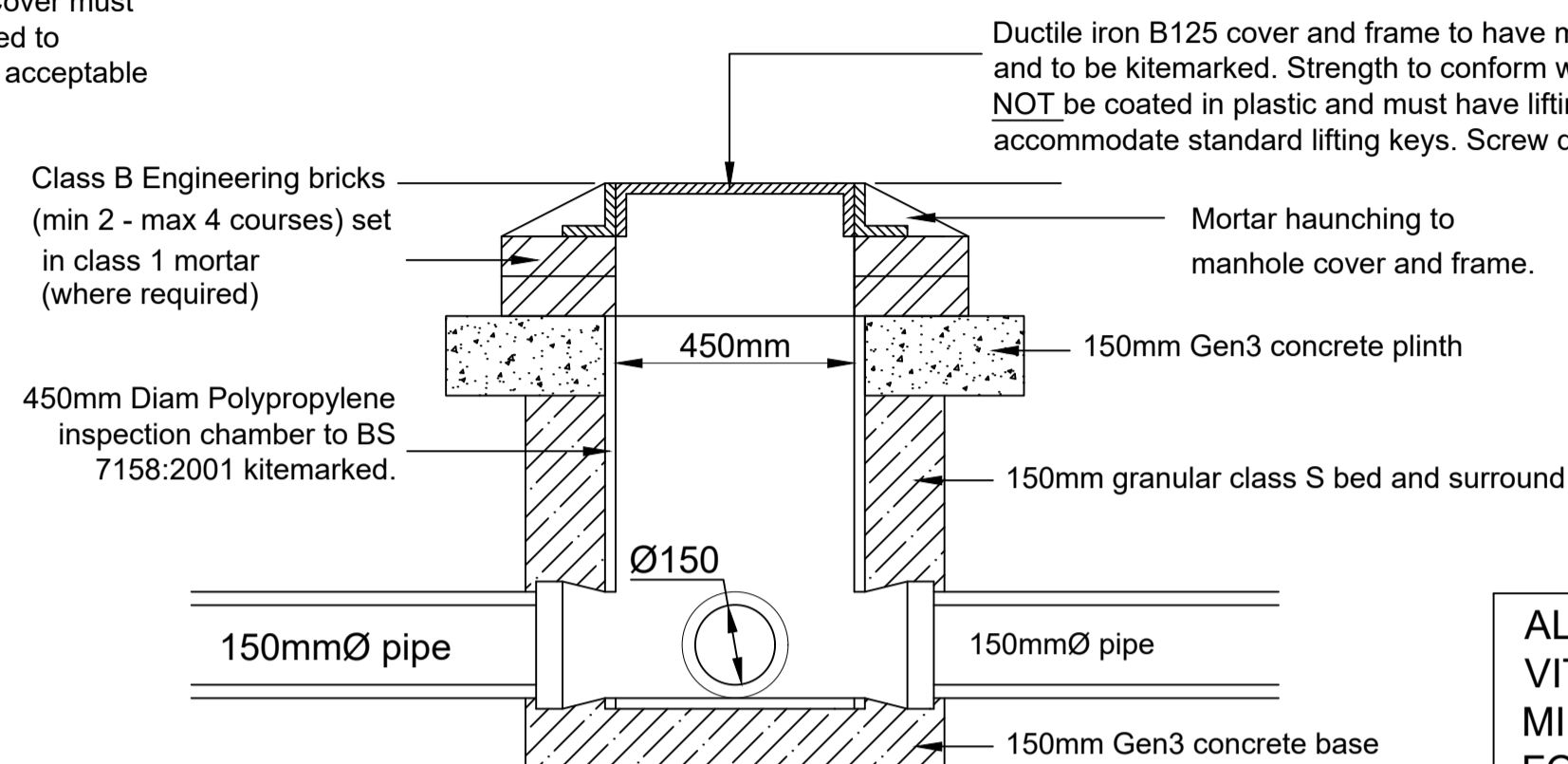
LATERAL DRAIN BEDDING DETAIL



For all clause and table references please refer to Design and Construction Guidance contained within the Code for Adoption 2.0 published 10th March 2020

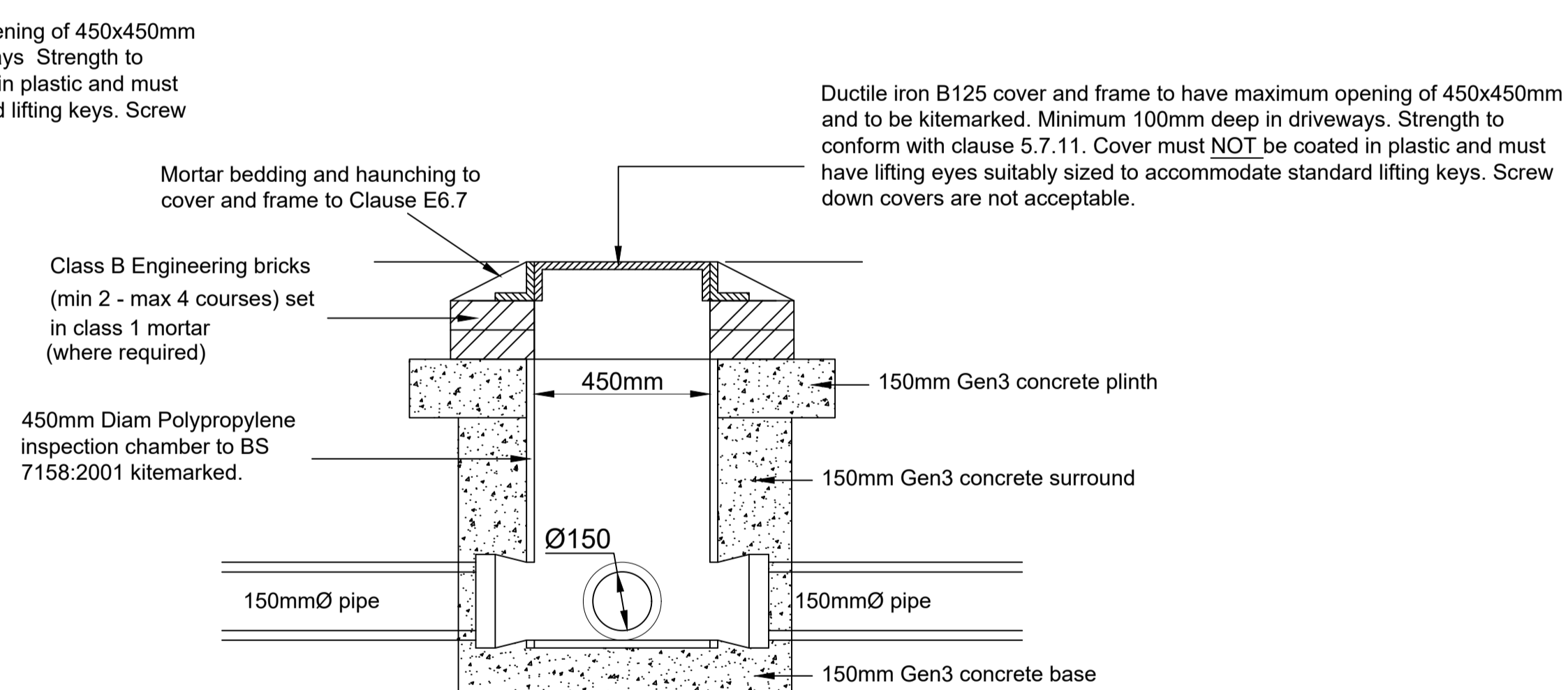
DEMARCATON CHAMBER LOCATED IN GARDENS

Depth from cover level to invert level of pipe chamber less than 1200mm.



DEMARCATON CHAMBER LOCATED IN DRIVEWAY

Depth from cover level to invert level of pipe chamber less than 1200mm.



ALL PIPEWORK 300mm DIAM OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 65. MINIMUM CRUSHING STRENGTHS TO BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA 40kN/m, 225mm DIA 45kN/m, 300mm DIA 72kN/m.
ALL PIPEWORK 375mm DIAM OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
ADAPTABLE SEWERS TO BE LAID IN CLASS 'S' GRANULAR BED & SURROUND.

- All adoptable sewer works and material to be in accordance with "Code for Adoption 2.0 published 10th March 2020". The Relevant British/European and Independent Water Networks Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
- Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
- Filled ground must be filled and consolidated under the supervision and to the satisfaction of Independent Water Networks before any sewer works are carried out.
- Independent Water Networks is not obliged to accept filler drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section regarding the disposal of the filler drain/land drainage run-off.
- The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
- Sewers must have 5 metres clearance from trees and hedges or the width of the canopy at mature height.
- Sewers to be laid in Class "S" Bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in nonvehicular access areas) then a concrete slab should be provided above granular bed and surround.
- Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
- Independent Water Networks policy is that Type "C" brick manholes and 1050mm diameter manhole rings are not preferred. Instead, it is preferred that you use a type "B" manhole with 1200mm diameter or 1500mm diameter rings, with the opening sited over the channel where depth of cover to pipe soffit is 1 - 1.5m.
- Adoptable plastic sewer pipes to be BS1 Kitemarked (certified to WIS 4-35-01 and BS EN 13476). Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and Independent Water Networks would require clayware channels in manholes.
- The minimum crushing strength for clay pipes should be as follows: 100mm dia. 40kN/m, 150mm dia. 40kN/m, 225mm dia. 45kN/m and 300mm dia. 72kN/m. The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1:2002). Plastic pipes should conform to WIS 4-35-01 and BS EN 13476.
- Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
- There must be enough clearance at crossovers to accommodate bedding to both pipes, approx. 300mm: if crossover is near the rocker then the clearance needed may need to be increased.
- Cover slabs must carry the BSI kitemark and British Standard number or will be rejected by Independent Water Networks inspector. Where the clear opening of the kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600x600mm for the Independent Water Networks specified cover size. Please refer to concrete pipe systems association (cpsa), 'technical bulletin' issued autumn 2004 for kitemarked cover slab opening sizes.
- All highway works and material to conform with Kirklees MDC specification.
- Gully cover and frames shall be D400 ductile iron and comply with European standard BS EN 124. Those sighted in accessways and mews courts must be suitable for use in pedestrian areas.
- Precast concrete manhole units and their components shall comply with the relevant provisions of BS EN 1917 and BS 5911-3 and shall be manufactured from concrete with a Design Chemical Class DC-4 unless satisfactory evidence through soil analysis can be provided that a lower class will resist attack from soils and ground water.
- Precast concrete manhole components shall comply with the relevant provisions of BS EN 1917 and BS 5911-3.
- Corbel slabs shall comply with the requirements of BS 5911-3:2010+A1:2014 Table 5 and Figure 8.
- Cover slabs should be installed with a minimum 300mm cover to finished levels to comply with National Specifications.

| RISK ASSESSMENT SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT | LEVEL OF RISK (H/M) | SUGGESTED ACTION |
|---|---------------------|---|
| DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS | HIGH | ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS |
| HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES | HIGH | USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR APPROPRIATE PROTECTIVE CLOTHING/WEAR CORRECT PPE |
| CONTACT WITH SEWAGE | MED | OPERATIVES TO USE CORRECT BREATHING EQUIPMENT CORRECT PPE |
| NOISE | MED | OPERATIVES TO USE CORRECT EAR PROTECTION CORRECT PPE |
| DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES | HIGH | ENSURE CORRECT SUPPORTS ARE PROVIDED TO TRENCHES AND BUILDINGS WHERE REQUIRED |
| DRAINAGE EXCAVATION IN PUBLIC HIGHWAY | HIGH | ENSURE CORRECT USE OF TRENCH SUPPORTS IN EXCAVATION AND SCREEN BARRIERS TO PROTECT MEMBERS OF THE PUBLIC |
| MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS | HIGH | ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE THE PUBLIC AWAY FROM THE WORK |
| DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES | HIGH | ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA |
| WORKING IN CONFINED SPACES: WORKING IN DRAINS AND MANHOLES | HIGH | CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORKS UNDER A PERMITS TO WORK SCHEME IMPLEMENTED BY CONTRACTOR. GAS TESTING TO TAKE PLACE BEFORE ALL ENTRIES TO CONFINED SPACES |
| WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT | HIGH | ALL WORKS TO BE SIGNED AND FENCED FROM NORMAL VEHICULAR TRAFFIC. ALL WORKERS TO WEAR HIGH VISIBILITY CLOTHING. ALL PLANT TO HAVE VISUAL AND AUDIBLE WARNING SYSTEMS |
| ROAD AND DRAINAGE CONSTRUCTION | HIGH | ALL EXCAVATIONS TO BE ADEQUATELY FENCED OFF AND SUPPORTED DURING CONSTRUCTION. ALL OPERATIVES TO BE TRAINED IN CORRECT METHODS OF LIFTING AND WORK IN ACCORDANCE WITH LOLER REGS |

IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE

| Rev | Description | Date | Initials |
|-----|----------------------------------|----------|----------|
| A | Notes updated for IWNL adoption. | 18.12.24 | JM |

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Client
HOMES BY HONEY

Project
PENISTONE ROAD, FENAY BRIDGE

Detail
STANDARD LATERAL MANHOLE DETAILS

Dwg No. E23/8060/006_03A
Date NOV'2024
Scale NTS