

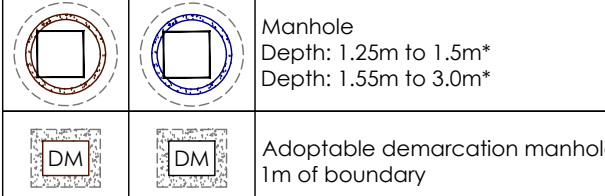
NOTES

- This drawing shall be read in conjunction with the civil engineering specification, and all relevant Architect's and Engineer's drawings.
- This document must not be altered, reproduced or distributed without prior written consent of the originator.
- Do not scale from this document - use figured dimensions only. All dimensions must be checked on site prior to commencement of any related works.
- Contractor to provide and have an approved method statement prior to works.
- All setting out to be in accordance with the Architects drawings. Any discrepancies between QED Structures and the Architects drawings to be referred to the Architect before proceeding. Dimensions must not be scaled.
- All levels are in metres above Ordnance datum.
- The Contractor is to comply full with CDM regulations in the course of constructing the works.
- At the commencement of the works, the Contractor is to carry out trial pits and liaise with utility companies in order to establish the exact position of all existing utility plant in the vicinity of the works and take adequate precautions for their protection.
- The Contractor is to refer to Health and Safety Executive Note 47 - Avoiding Danger from Underground Services' and Document G56 - Avoiding Danger from Overhead Electric Lines.'
- Works on or adjacent to existing public highway will be executed in accordance with the Traffic Safety Code for Road Works and Traffic Signs Manual: Chapter 8.
- The Contractor will ascertain the CBR value of the subgrade in order to determine the required sub-base / capping thickness. Prior to laying any material, the subgrade must be inspected and any soft spots removed and filled with #2 capping material.
- Prior to the construction of any drainage works, the Contractor is to confirm the invert levels of existing manholes, drains and sewers. Any variations from the designed levels shown on the drawings must be reported to the Drainage Engineer in advance of construction works commencing. All new sewers and drains are to be laid in sequence starting from the outfall location.
- All drainage to be installed in accordance with relevant Building Regulation documents and current Sewage Sector Guidance. Connections to public sewers are to be agreed and inspected by the Water Authority.
- All drain and sewer pipes are Ø100mm and laid soffit to soffit, unless shown otherwise.
- Invert to base of soil stock bends to be 450mm below lowest branch connection for up to three storey buildings; for buildings up to five storeys, the invert to the base of soil stock bends should not be less than 750mm. All foul and surface water drainage stacks are to have above ground rodding access. Refer to above ground drainage layout(s) by others.
- All below ground connections are to match above ground outlet size, minimum Ø100mm. SVPs are to project 100mm above finished floor level.
- All internal manholes and inspection chambers to have double sealed recessed covers to suit floor finishes as defined by the Architect.
- All external covers in non-asphalt areas are to have recessed covers to suit the paving material.
- A CCTV survey and report in WINCAM format for all new drainage will be required prior to 'as built' drawing being issued.
- The Contractor is responsible for the traffic safety and management associated with the construction of the works. Works will not commence on the existing highway until their traffic management proposals have been agreed with Highway Authority.
- Where the works involve the obstruction of a footway, the Contractor will provide an alternative safe footway properly signed, guarded and lit.
- Where one-way traffic is unavoidable, traffic will be controlled by a proper system of vehicle-actuated traffic signals or manual stop / go signs and during the hours of darkness, by a proper system of vehicle-actuated traffic signals, all to the approval of Highway Authority.
- 65mm Minimum thickness tactile paving, coloured buff will be incorporated at all pedestrian crossings in accordance with the Department for Transport and Regions document "Guidance on the Use of Tactile Paving Surfaces." (DETR No. 1998)
- All signs and road markings will be in accordance with the "Traffic Signs Regulations and General Directions 2016". (TSRGD 2016)
- All excavation and backfilling work in the existing highway to be in accordance with the provisions of the New Street Works Act 1991 or that specified on the working drawings.
- All highways works to be carried out in accordance with Highway Authority's highway standards, to the satisfaction of the Highway Authority Section 278 Inspector and in accordance with the Specification for Highway Works.
- Gullies, gully connections, drains, manholes, catch pit, soakaways, headwalls and other drainage structures intended to convey only highway water are to be constructed in accordance with the specification of Highway Authority and to the satisfaction of the Highway Inspector.
- Where existing junctions and accesses are to remain in operation within the works during the construction process, the Contractor will ensure that access to these units remains available at all times.
- Highways in the vicinity of the works must be kept free from mud, debris and dust falling from vehicles or wheels of vehicles connected with the works. Where the deposits of debris and mud are unavoidable, warning signs must be displayed whilst work is in progress and affected carriageways / footways must be regularly cleaned.

Drainage Legend

- Surface water sewer (Adaptable)
- Existing foul water sewer
- Existing surface water sewer

FW - SW Chambers Legend



\* General note  
(Refer to standard details & longitudinal sections for chamber sizes. Size may need to increase dependant on number of incoming pipes/size of incoming pipes)

Planning Site Boundary

**DESIGNER NOTE**  
Topographic Survey to Arbitrary Grid and Datum. Approx. 25.0m above OS Datum

All adoptable drainage works to be constructed as detailed in the Code for Adoption Design and Construction Guidance and Southern Water Local practice.

BURIED UTILITIES RISK NOTE

- Buried utilities are present on and in the vicinity of the site.
- The Contractor must satisfy themselves that they have seen utility returns for the area and that appropriate Risk Assessment Method Statement (RAMS) are in place and implemented to ensure that buried and/or overhead services are located prior to any works taking place.
- Any RAMS shall address safe procedures for protection and working in the proximity of services.

Construction Note

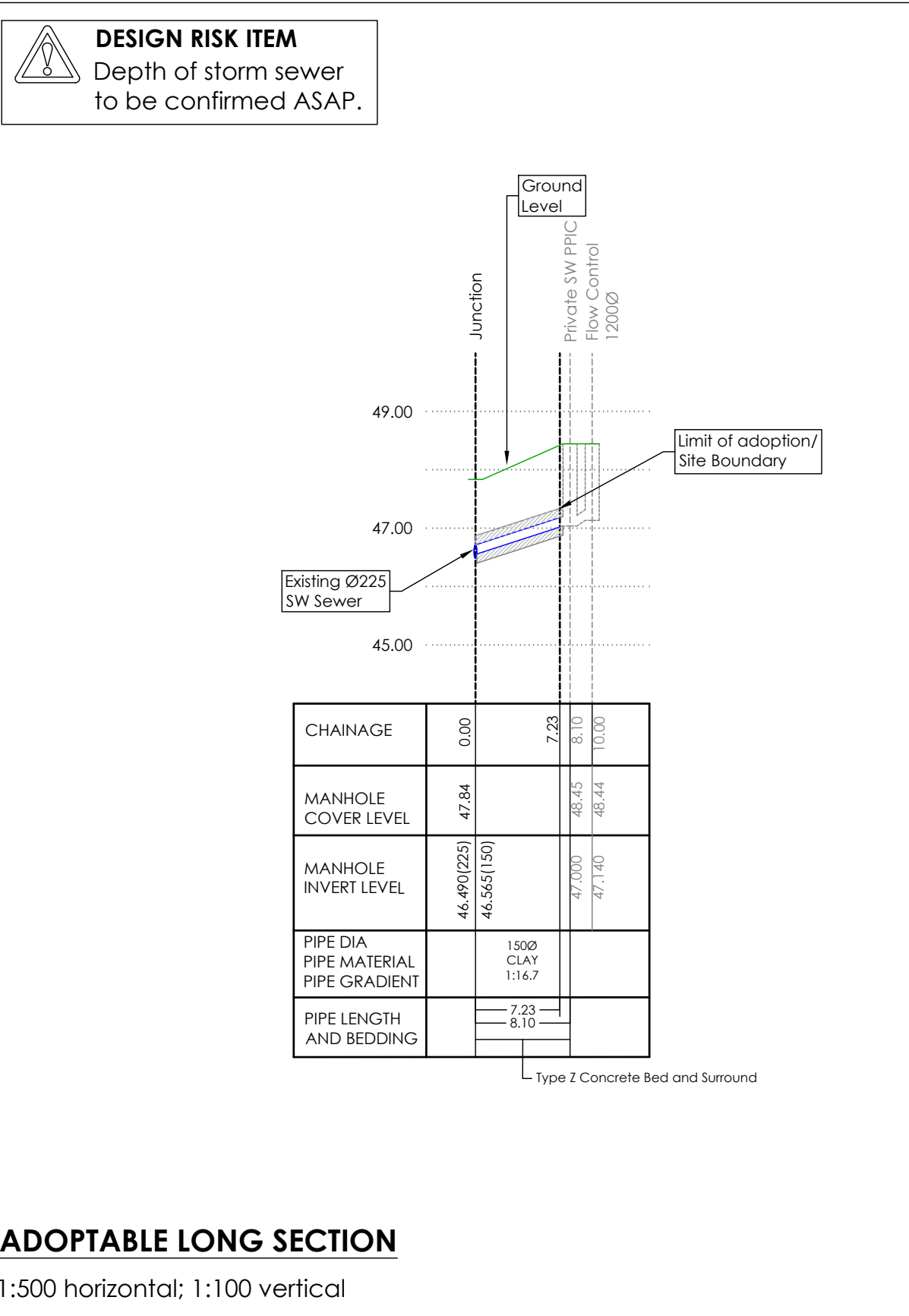
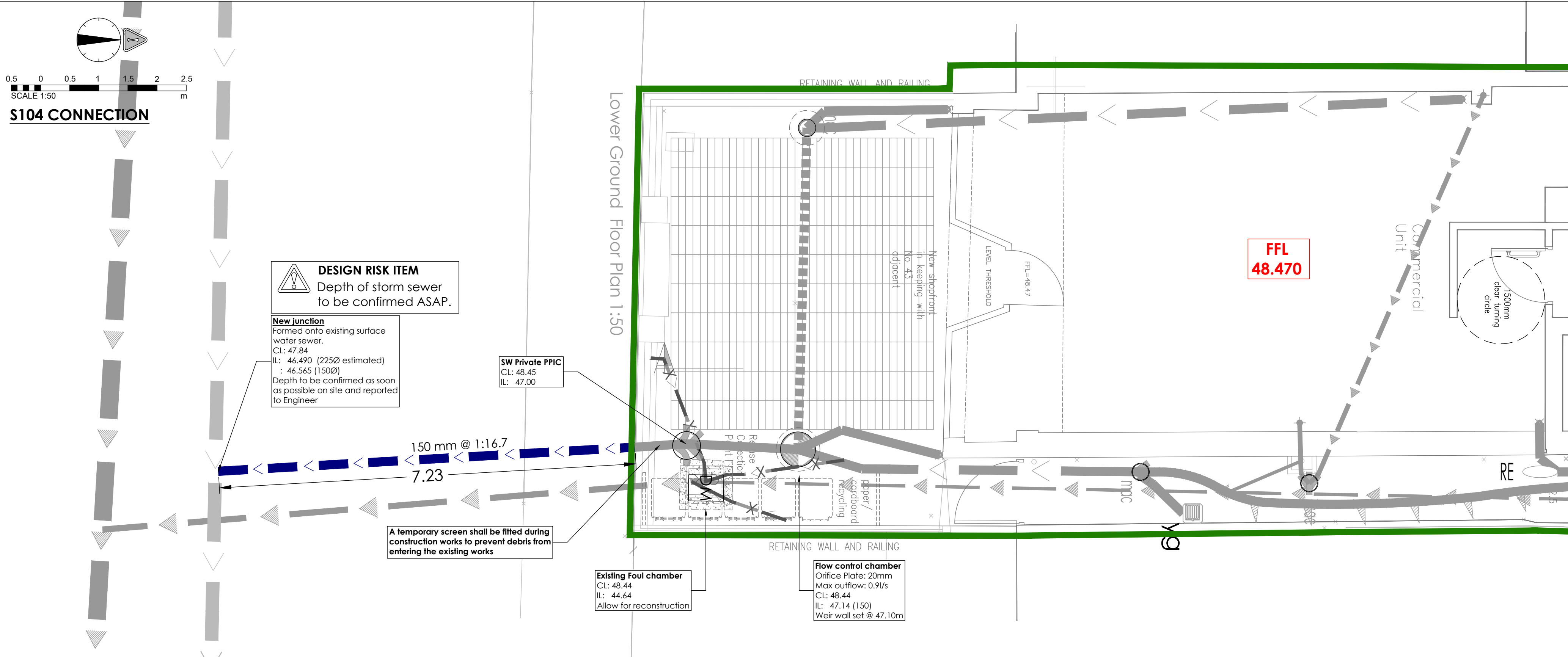
It is essential that new drainage associated with the development is laid from the outfall(s) into the site. This is essential to avoid unforeseen obstructions where encountered (such as services). If the drainage is laid from the site out to the outfall it can result in significant abortive works to relay and overcome such obstructions.

Location of Public Sewers have been taken from record drawings which should be fully substantiated by the contractor prior to commencing works on site

All manholes covers located within carriageways shall have no slip covers to prevent motorcycles/cycles losing control

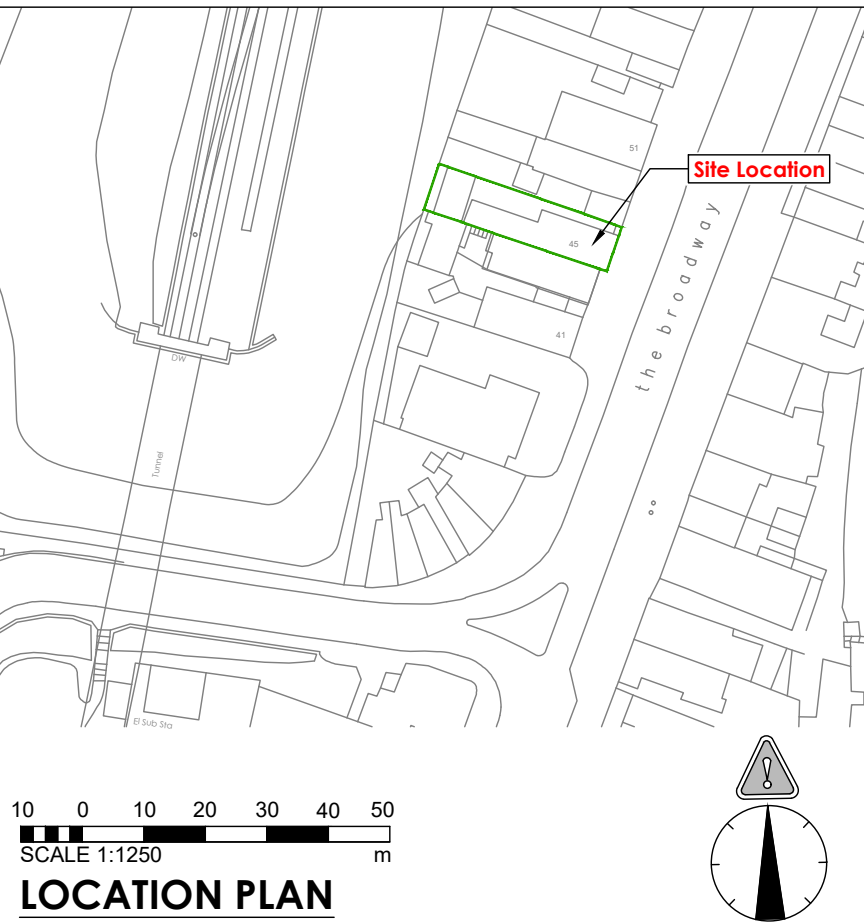
Manhole schedules - Invert level shown related to the deepest pipe within the chamber

All adoptable drainage works to follow the requirements of Water UK - Design and Construction Guide (DCG).



**DESIGNER NOTE**  
Surface Water system designed for a 1 in 100 year event plus an allowance of 40% for climate change and a Cv value of 1.0 has been used for the calculations. There is insufficient space greater than 5m from the building to allow infiltration, and as such BRE365 testing has not been carried out.

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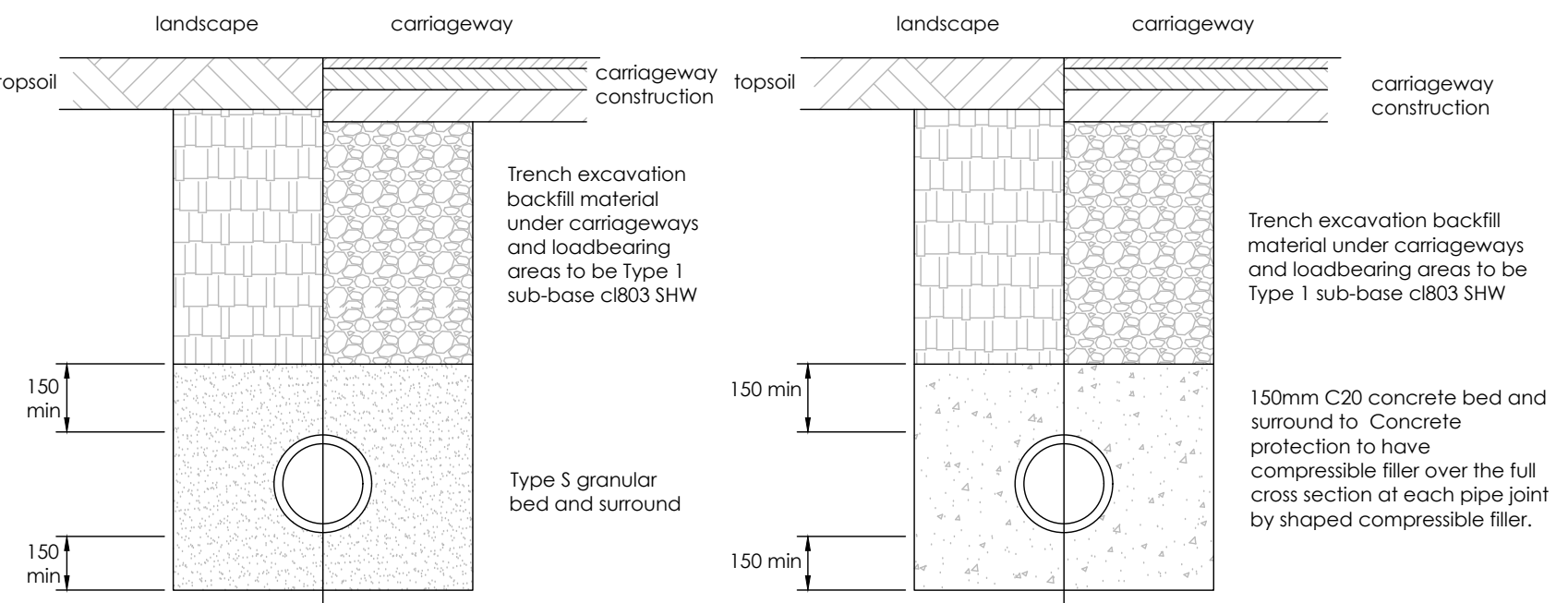


| Nominal Bore of Pipe (mm) | Alternative Aggregate Sizes (mm) |                               | CF Value Max |
|---------------------------|----------------------------------|-------------------------------|--------------|
|                           | Single-Sized                     | Graded                        |              |
| 100-150                   | 10                               | 14 to 5                       | 0.2          |
| 225-300                   | 10 or 14                         | 14 to 5                       | 0.2          |
| 375-525                   | 10,14 or 20 14 or 20             | 14 to 5 or 20 to 5            | 0.2          |
| Exceeding                 | 14,20 or 40                      | 14 to 5 or 20 to 5 or 40 to 5 | 0.15         |
|                           |                                  | or 40 to 5                    | 0.5          |

PIPE BEDDING TABLE

| Pipe nominal size (DN) | Pipe Bedding Requirement (mm)                                                               |
|------------------------|---------------------------------------------------------------------------------------------|
| 100                    | 10 nominal single size                                                                      |
| over100-150            | 10 or 14mm nominal single size or 14mm to 5mm graded                                        |
| over150-300            | 10, 14 or 20mm nominal single-size or 14mm to 5mm graded or 20mm to 5mm graded              |
| over 300 to 550        | 14, 20 or 40mm nominal single-size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded |
| over 550               | 14, 20 or 40mm nominal single-size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded |

GRANULAR BEDDING AND SIDEFILL MATERIAL GRADINGS



**TYPE S GRANULAR SURROUND BED**  
To be used where cover to pipe soffit is greater than 900mm in vehicular areas and greater than 600mm in non-trafficked areas (ie footpaths, verges, etc)

| PIPE DIA | TRENCH WIDTH | Tw | PIPE DIA | TRENCH WIDTH | Tw |
|----------|--------------|----|----------|--------------|----|
| 150      | 600          |    | 675      | 1450         |    |
| 225      | 700          |    | 750      | 1500         |    |
| 300      | 750          |    | 825      | 1600         |    |
| 375      | 1050         |    | 900      | 1900         |    |
| 450      | 1150         |    | 1050     | 2050         |    |
| 525      | 1200         |    | 1200     | 2300         |    |
| 600      | 1350         |    |          |              |    |

**TYPE Z CONCRETE BED AND SURROUND**  
To be used where cover to pipe soffit is less than 900mm in vehicular areas and 600mm in non-trafficked areas (ie footpaths, verges, etc)

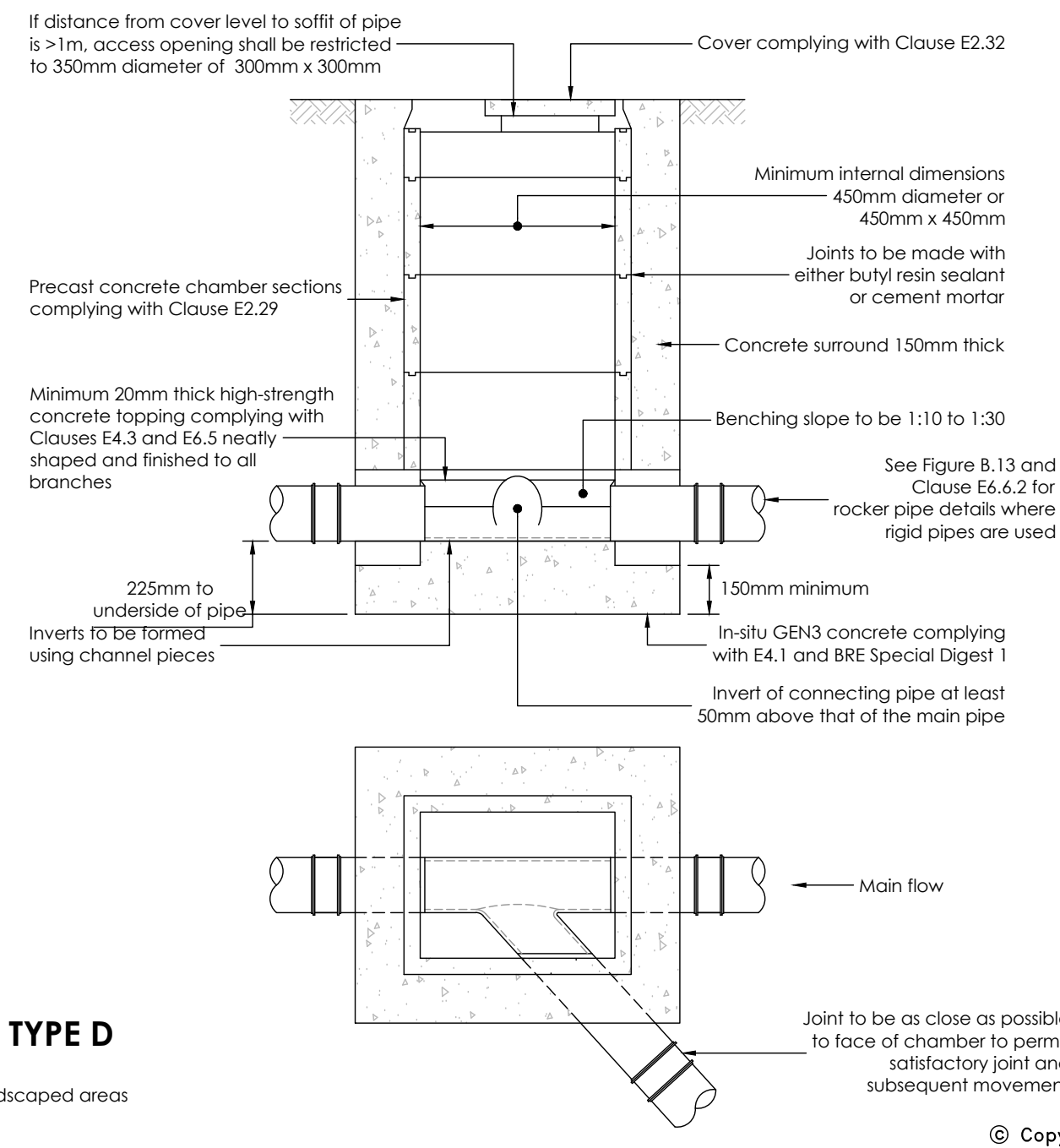
Note: Where the access is in the highway (including any footway), the highway authority can have specific requirements

FIGURE B40  
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

Depth from cover level to soffit of pipe up to 3m  
Rigid material construction for use in areas subject to vehicle loading or landscaped areas

ADOPTABLE LONG SECTION

1:500 horizontal; 1:100 vertical



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