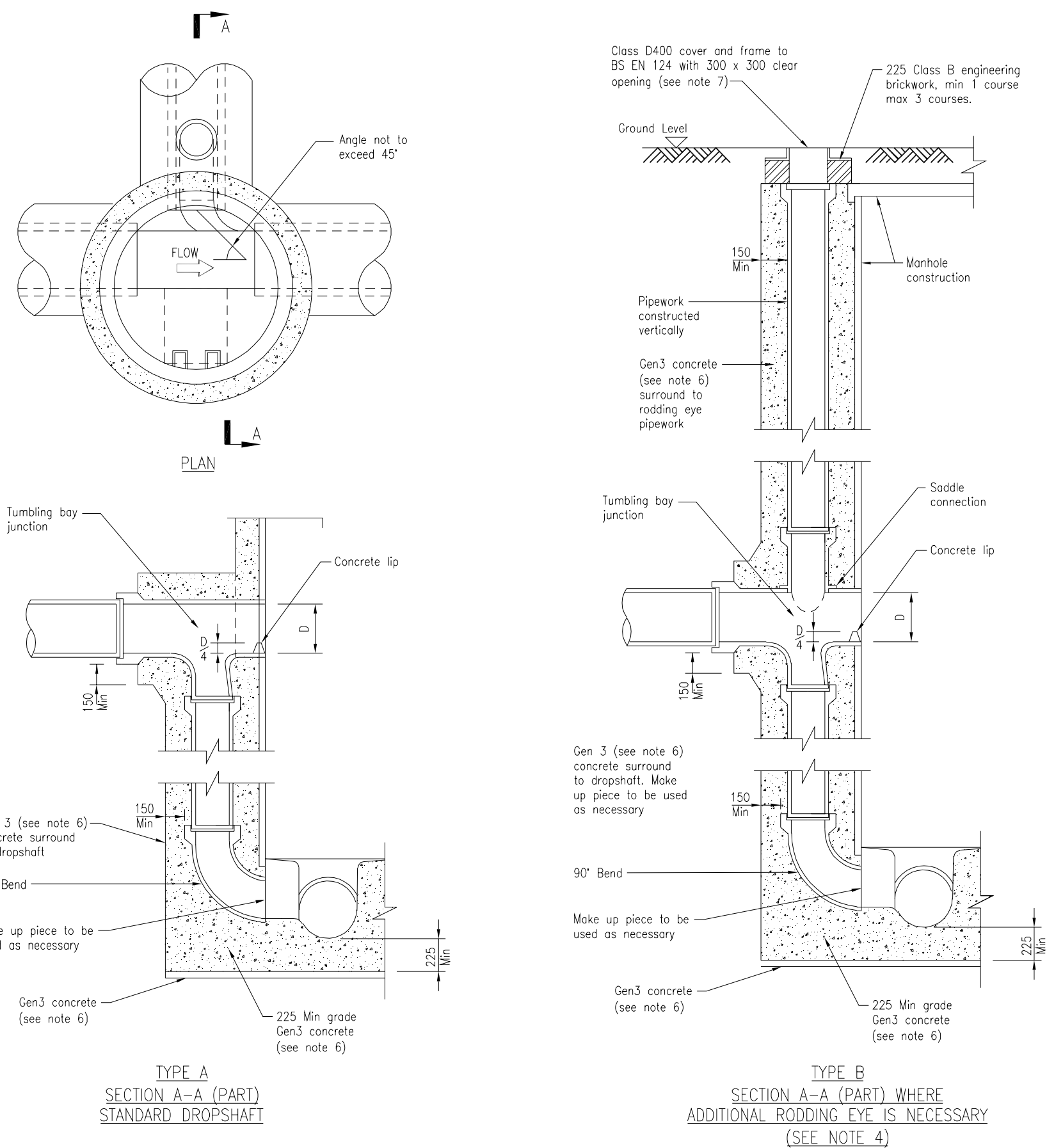
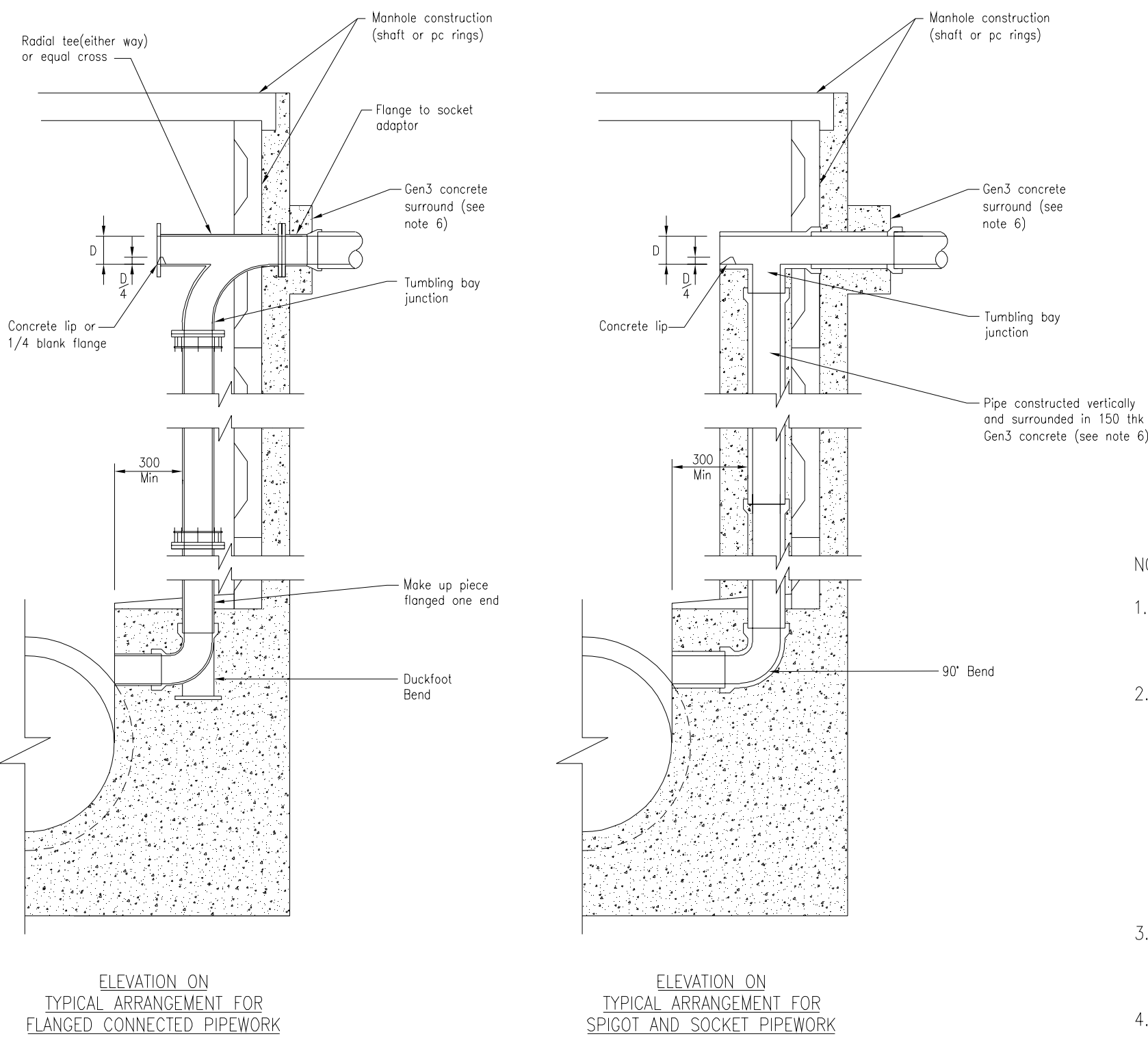




**TYPICAL DETAIL A
EXTERNAL BACKDROP
TO MANHOLE**

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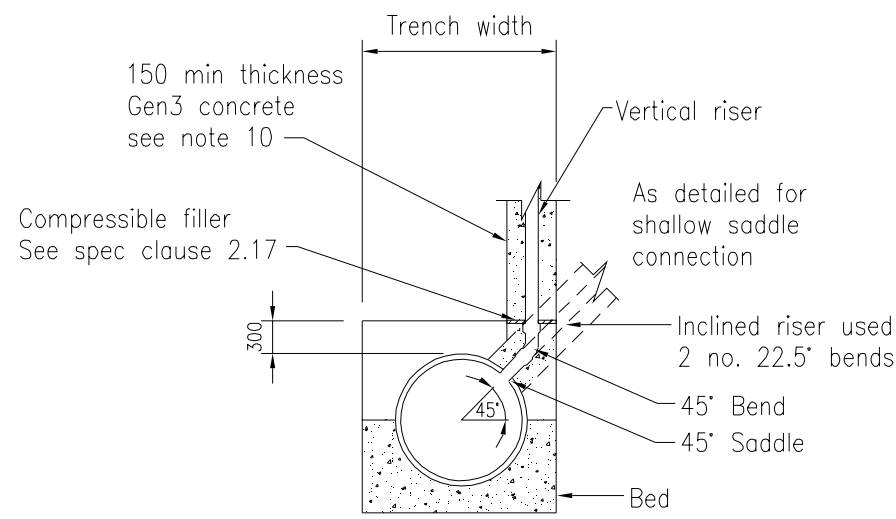


**TYPICAL DETAIL B
INTERNAL BACKDROP
TO MANHOLE**

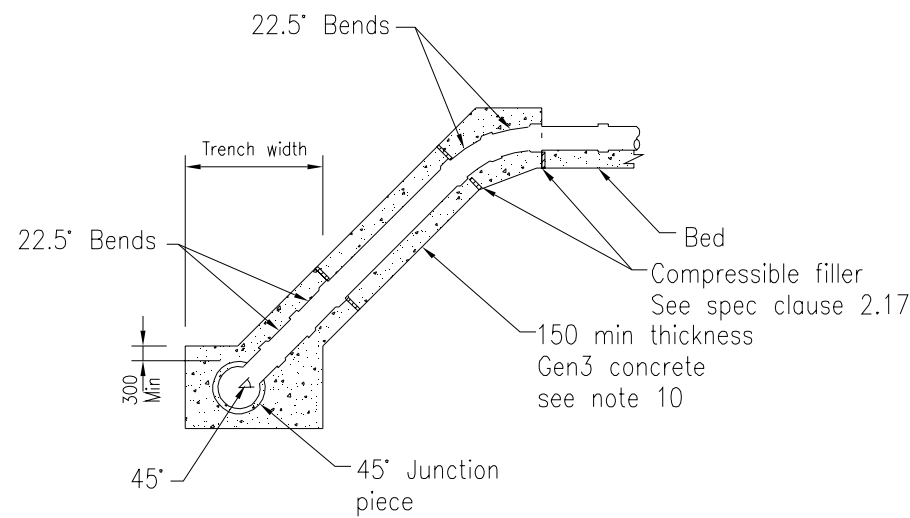
Formerly Drg No 0000/256/W101 Version E

NOTES:

- Where the tumbling bay is more than 1.5m above benching special consideration for maintenance shall be given.
- | SEWER DIAMETER (mm) | DROPSHAFT DIAMETER (mm) |
|---------------------|-------------------------|
| 225-300 | 225 |
| 375 | 300 |
| 450 | 375 |
| 525-600 | 450 |
| 675 | 525 |
| 750-900 | 600 |
- The connection at the bottom of the back drop is to be made at soffit level in a manhole Type 1 and at the springing level in a manhole Type 2.
- The vertical rodding eye may be required in situations where blockages are a high risk, (Type B).
- The tumbling bay shall be built into the manhole chamber below the reducing slab.
- Designated mix reference FND3, FND4A and FND4B to be used in soil conditions with sulphate classes 3, 4A and 4B respectively (refer to specification clause 4.3.1).
- 150mm deep covers are to be used in Category 1, 2 and 3 roads, 100mm deep covers are to be used in Category 4 roads.
- Specification clause references relate to CESWI 5th Edition.

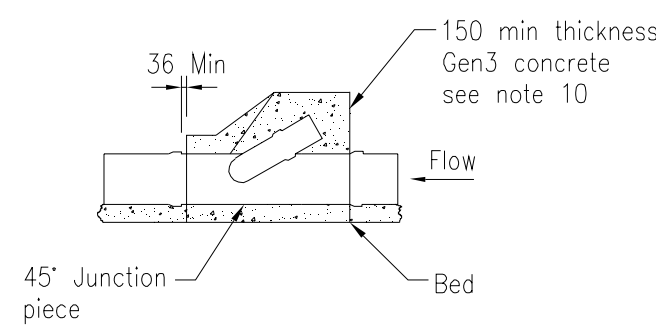


**VERTICAL AND INCLINED RISER
SADDLE CONNECTION**

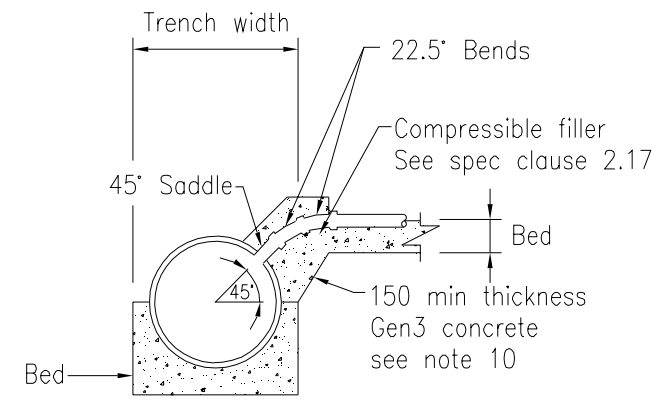


INCLINED RISER JUNCTION CONNECTION

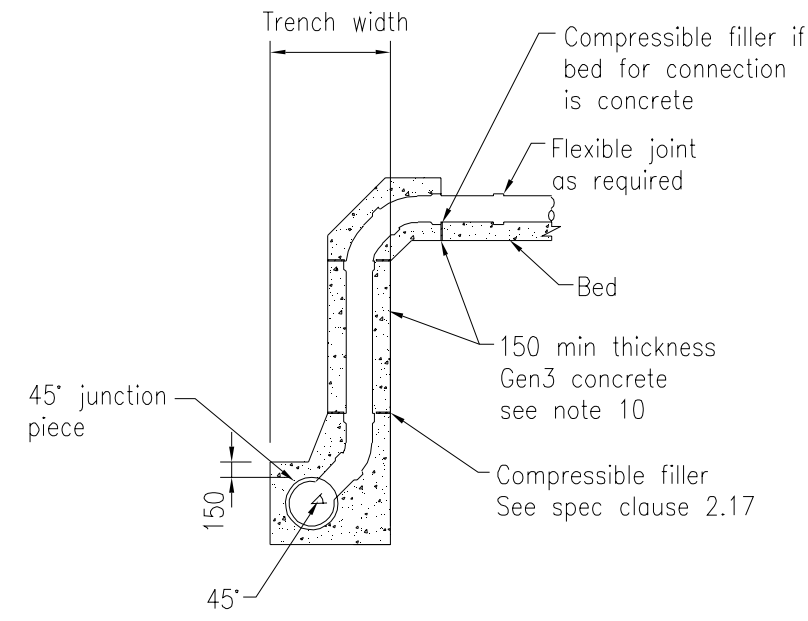
(To apply where an existing connection pipe is not intersected within the trench limit or the difference in invert levels is less than 3000)



SECTION A-A

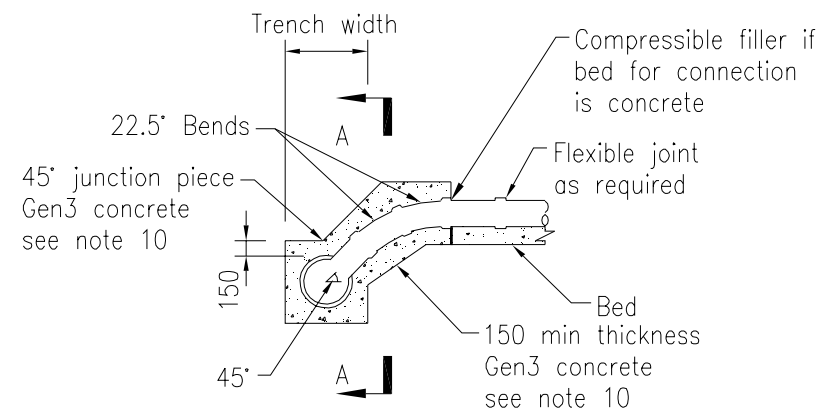


SHALLOW SADDLE CONNECTION



VERTICAL RISER JUNCTION CONNECTION

(To apply where an existing connection pipe is not intersected within the trench limit or the difference in invert levels is greater than or equal to 3000)



SHALLOW JUNCTION CONNECTION

NOTES:

- All dimensions in mm unless stated otherwise.
- Where the diameter of the connection pipe is less than or equal to 600mm the min thickness of Gen 3 concrete surround to the connection pipe shall be 150mm.
- Where the diameter of the main sewer is less than or equal to 525mm and the diameter of the connection is greater than or equal to 225mm a junction piece must be used.
- Lobster back bends must not be used.
- All concrete to be vibrated against adequate shutters.
- See specification clause for restrictions on backfilling.
- Drilling of pipework for connections is to be performed by an approved core drilling machine unless otherwise stated in writing by the Engineer.
- Where appropriate a 90° bend may be used in lieu of 2 No. 45° bends.
- Pipe saddles to have Class M1 mortar bed and fillet.
- Designated mix preferences FND3, FND4A and FND4B to be used in soil conditions with sulphate classes 3, 4A and 4B respectively, (refer to specification clause 4.3.1).
- Clause references refer to CESWI 5th Edition.

**TYPICAL DETAIL C
TYPICAL CONNECTION DETAILS**

Formerly Drg No 0000/254/W102 Version E

CURRENT ISSUE INFORMATION

30.05.02	JL	DHA	MR	B	FOR INFORMATION
15.03.01	PH	DHA	MJR	A	APPROVED
DATE	DRWN	CHKD	REVD	ISSUE	



UNITED UTILITIES PLC
STANDARD DETAILS
NETWORKS
TYPICAL DETAILS A, B AND C
EXTERNAL AND INTERNAL BACKDROPS
AND CONNECTION DETAILS

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