

UNDER CARRIAGEWAY
Backfill to underside of
formation with D.O.T.
Type 1, to clause 803

Granular Bedding
see note 1
and Sewers for Adoption
CI 5.2

SEE NOTE 3

Trench backfilled with Granular sub-base
6F1 / 6F2

Concrete Grade GEN3 (16 /20)
bed and surround (to CI E5.3)

Pipe wall

Grade GEN3

Flexcell (or similar
approved)
bitumen impregnated
joint
filler

BEDDING DETAIL

FLEXIBLE JOINT FOR USE WITH
CONCRETE PIPES

CONCRETE BEDDING AND SURROUND

DEPTH IN ROAD LESS THAN 1.2m to CROWN

UNDER CARRIAGEWAY

approved
as=dug material

Granular Bedding
see note 1
and Sewers for Adoption
CI 5.2

NOT UNDER ROAD

approved
as=dug material

Granular Bedding
see note 1

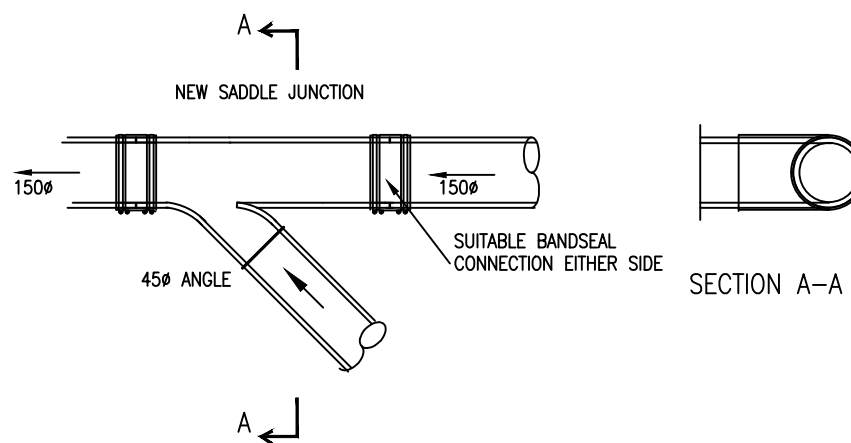
INSUFFICIENT BEDDING BUT NOT
UNDER ROAD

BEDDING CLASS S

BEDDING DETAIL FOR ADOPTABLE MAIN DRAINAGE

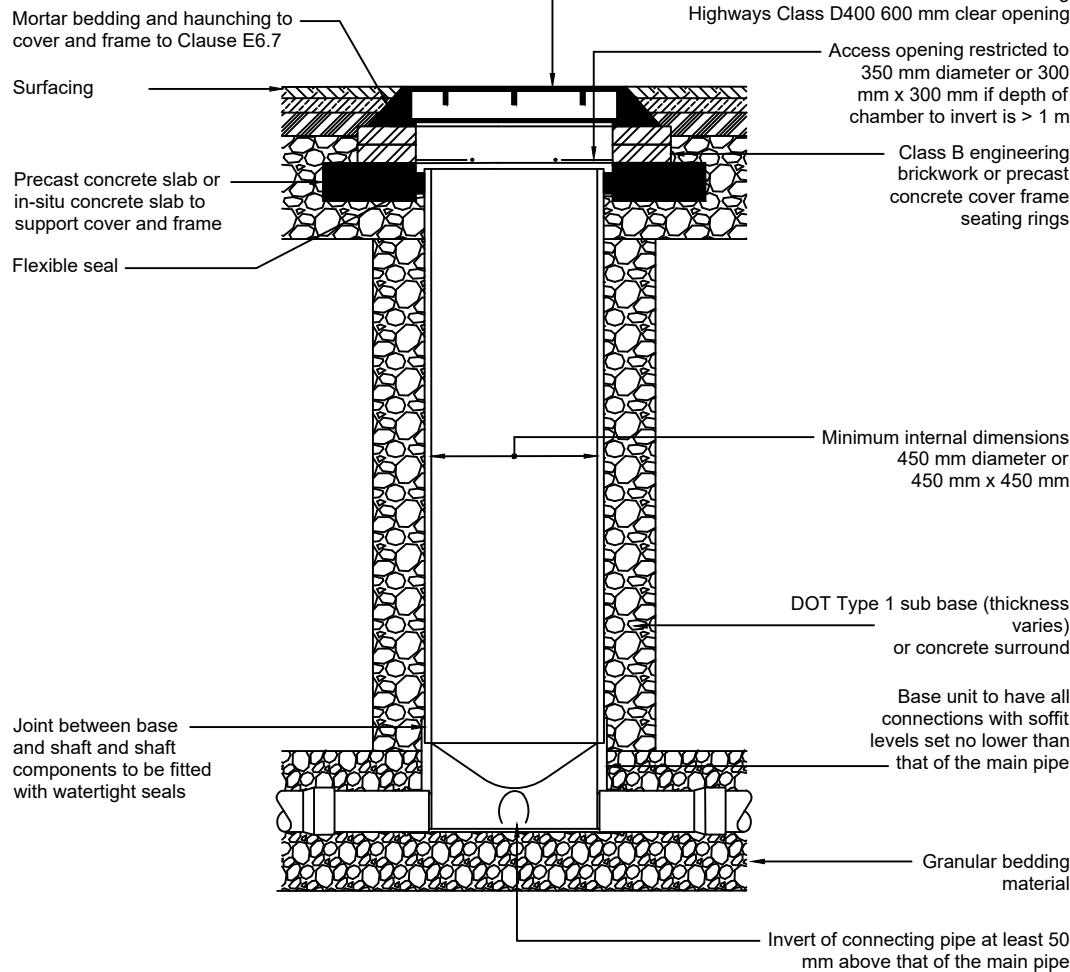
COVER CRITERIA:

MINIMUM COVER REQUIRED TO CROWN FOR ADOPTABLE DRAINAGE:
DOMESTIC GARDENS AND PATHS 0.35m
DRIVEWAYS LIGHT PARKING AREAS 0.5m (NO ACCESS TO VEHICLES OVER 7.5t)
DRIVEWAYS LIGHT PARKING AREAS 0.9m (ACCESS TO VEHICLES OVER 7.5t)
PUBLIC OPEN SPACE 0.9m
ROADS 1.2m
COVER LESS THAN ABOVE WILL REQUIRE PROTECTION.



ADOPTABLE SADDLE DETAIL

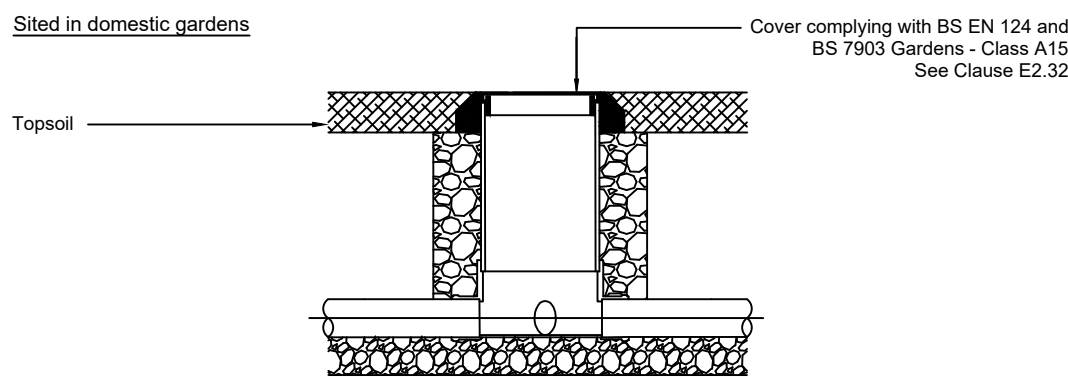
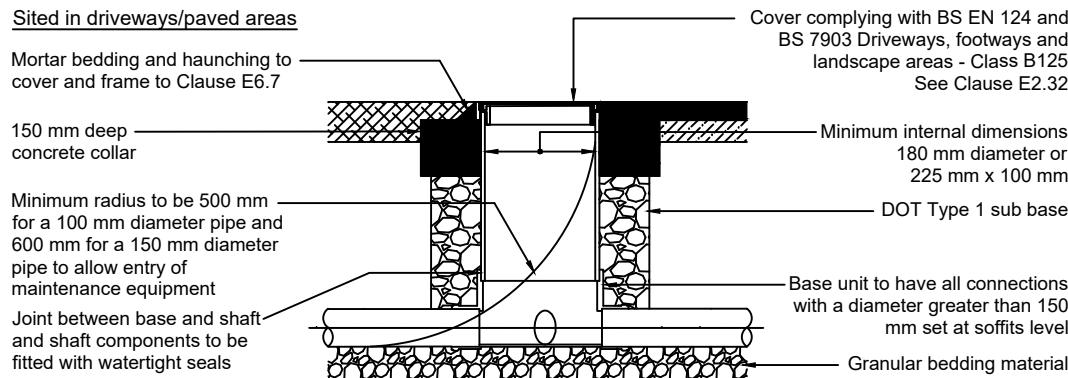
Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3

(Flexible material detail)
(Maximum depth from cover level to soffit of pipe
in areas subject to vehicle loading 3 m, non-entry)

Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4

(Flexible material detail)
(Maximum depth from cover level to soffit of pipe 2 m, non-entry)

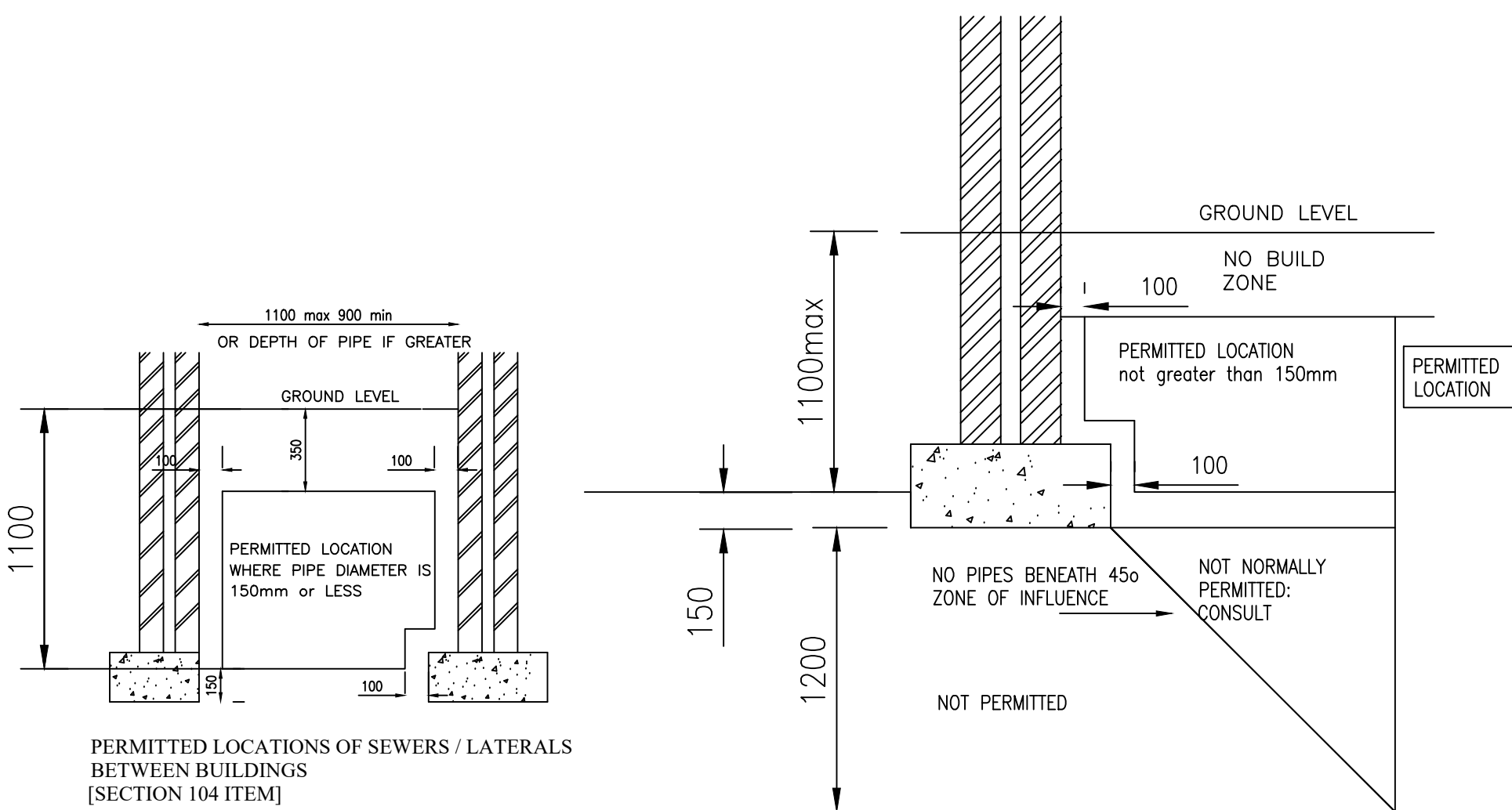
MANHOLE / CHAMBERS:

HIGHWAY AUTHORITY/LOADING CONDITIONS MAY REQUIRE CONCRETE RINGS.

OTHERWISE:
OVER 3m DEEP TYPE 1 CONCRETE RINGS
NOT OVER 3m, SERVING 10 OR MORE PROPERTIES TYPE 2 CONCRETE RINGS
OVER 2m/NOT OVER 3m DEEP/ MORE THAN 3 PROPERTIES TYPE 3 PPIC CHAMBER
2m DEEP OR LESS, SERVING LESS THAN 4 PROPERTIES TYPE 4 PPIC CHAMBER

BACKFILL:
TYPE 1: TYPE 2, 150mm CONCRETE SURROUND [WELSH WATER]
TYPE 3: DOT-TYPE 1 SUB-BASE SURROUND
TYPE 4: DOT-TYPE 1 SUB-BASE SURROUND

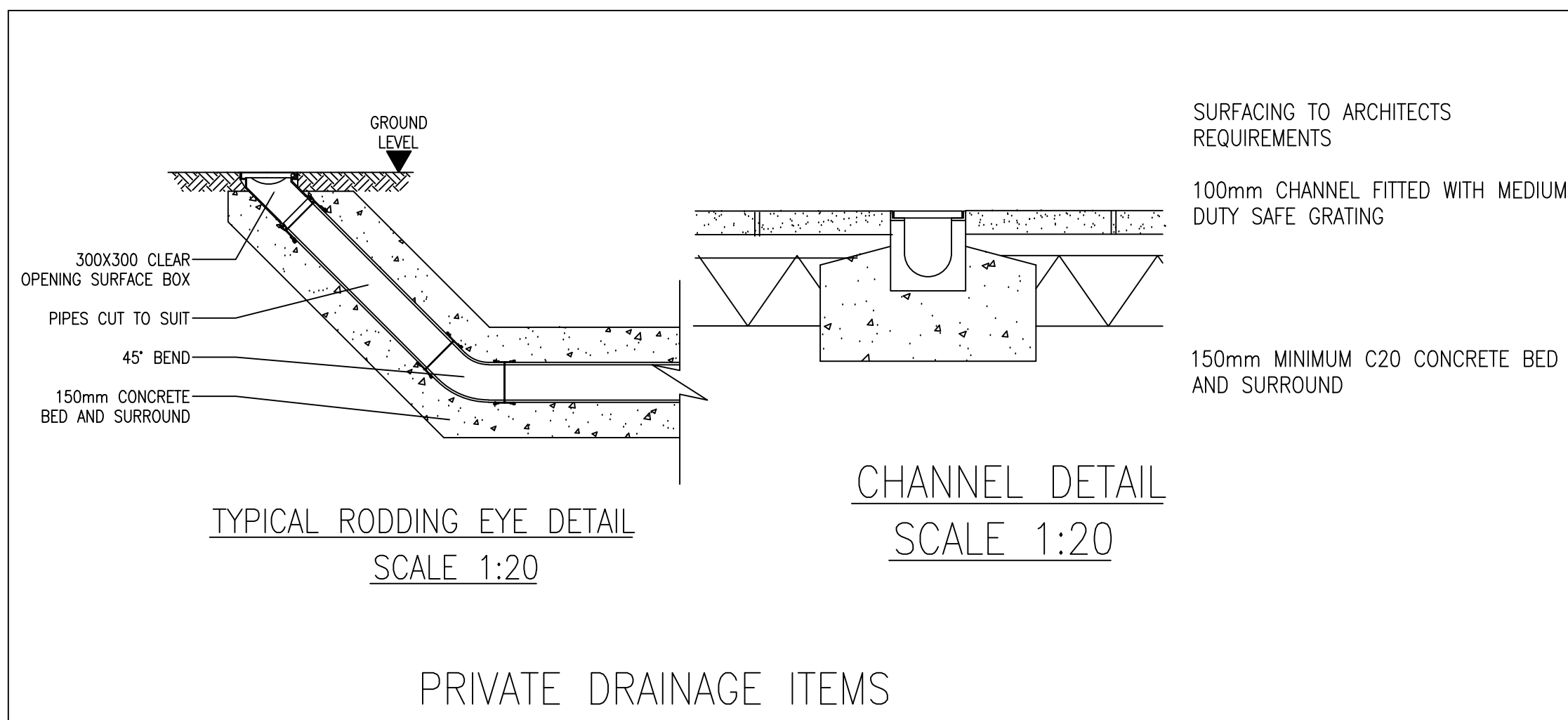
2 INLETS PER SIDE, (5 IN/ONE OUT) 450mm MIN. DIAMETER
ONE INLET PER SIDE 180 MIN DIAMETER (MINI-ACCESS CHAMBER=MAC)
WHERE SIDE BRANCHES ARE NOT TO BE USED STOPPER TO BE
INSERTED TO BLANK OFF CONNECTION



PERMITTED LOCATIONS OF SEWERS / LATERALS
BETWEEN BUILDINGS
[SECTION 104 ITEM]

PIPES ARE NOT PERMITTED
LESS THAN 150mm ABOVE
AND BELOW THE FOUNDATION
LEVEL
OR WITHIN 100mm OF THE
STRUCTURE

PERMITTED LOCATIONS OF SEWERS / LATERALS
IN PROXIMITY TO BUILDINGS
[SECTION 104 ITEM]



TYPICAL RODDING EYE DETAIL
SCALE 1:20

CHANNEL DETAIL
SCALE 1:20

PRIVATE DRAINAGE ITEMS

GENERAL NOTES

1. GRANULAR BEDDING

SINGLE SIZED OR GRADED IN ACCORDANCE WITH
ACCOMPANYING TABLE.
AGGREGATES TO B.S. 882.

NOMINAL BORE OF PIPE (mm)	SINGLE-SIZED (mm)	GRADED (mm)
100-125	10	-
150-200	10 OR 14	14-5
225-300	10, 14 OR 20	14-5 OR 20-5
375-500	14 OR 20	14-5 OR 20-5
EXCEEDING 500	14, 20 OR 40	14-5, 20-5 OR 40-5

2. SELECTED BACKFILL

TO BE IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION
FOR THE WATER INDUSTRY, CLAUSE 2.46.3 AND SEWERS FOR
ADOPTION (7th EDITION) 4.2.24 AND 4.5.2.

3. TABLE WIDTH LIMITS

NOMINAL INTERNAL PIPE DIA (mm)	MINIMAL TRENCH WIDTH (mm)	MAXIMUM TRENCH WIDTH UP TO 300mm ABOVE CROWN OF PIPE (mm)
100	410	-
150	600	750
225	600	825
300	650	900
375	725	975
450	800	1050
600	950	1200

4. DEPTH OF BEDDING BELOW PIPE

- * SLEEVE JOINTED PIPES: GREATER THAN 50mm OR 1/6 DIA.
- * SOCKET JOINTED PIPES: GREATER THAN 100mm OR 1/6 DIA.

IN ROCK/HARD MATERIAL

- * SLEEVE JOINTED PIPES: GREATER THAN 150mm OR 1/4 DIA.
- * SOCKET JOINTED PIPES: GREATER THAN 200mm OR 1/4 DIA.

5. FOR PIPE STRENGTH AND TYPE SEE NOTES ON
DRG. No. 1437/21

6. ALL IN SITU CONCRETE SHALL COMPLY WITH B.S. 5328: 1991
TO MEET CLASS 1 SOIL CONDITIONS.

PENDING WELSH WATER APPROVAL
PRELIMINARY

A	PERMITTED LOCATION DETAILS AMENDED	03-06-19	AK	AK
Rev	Description	Date	Drwn	Chkd

KANE DESIGN
Civil Engineering Design

15 Winchester Way
Gresford
Wrexham
LL12 8HH

Tel: 01 978 855888

Client

NIGEL COPELAND

Project
PROPOSED DEVELOPMENT at BEDWELL ROAD
CROSS LANES, WREXHAM LL13 0TR

Title

DRAINAGE DETAILS

DRAWING NUMBER	SCALE	AS NOTED	@ A1
1437/05	DATE	18.02.19	REVISION
	DRAWN	AK	A
	CHECKED	AK	