

**Notes**

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A02. This drawing to be read in conjunction with all other relevant engineers and architects drawings.

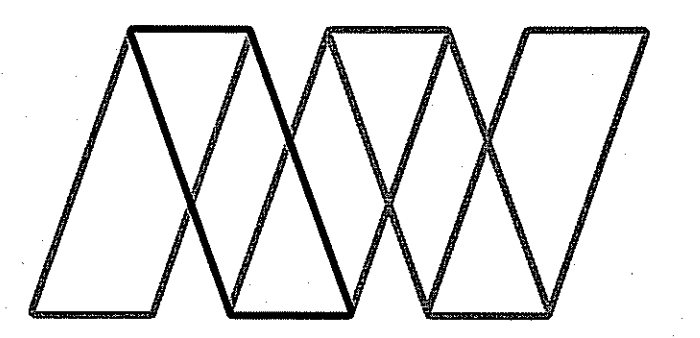
A03. Drawings not to be scaled. All dimensions to be checked on site by the contractor. Any discrepancies to be notified to the Engineer and further instructions obtained before work is commenced.

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- DRAINAGE**
- D01. Pipework to be vitrified clay- Hepworth Super Sleeve or similar.
  - D02. All stacks, downpipes and gullies to be roddable.
  - D03. Sulphate Resisting Portland Cement to be used in all cases (including precast concrete) except for concrete having an equivalent compressive strength less than 20N/mm<sup>2</sup>.
  - D04. Any increase in trench width from that shown on drawing SPA/JS must be approved by the Engineer and may require upgraded pipe class and/or bedding class at the contractor's expense.
  - D05. Where sewers have less than 0.6m of cover in soft landscaped / grassed areas a 150mm (C20P) concrete bed and surround to be provided. Elsewhere where sewers have less than 1.2m of cover a 150mm (C20P) concrete bed and surround to be provided.
  - D06. Where two sewers cross, the lower sewer to be provided with a 150mm (C20P) concrete bed and surround.
  - D07. Sewers 300mm diameter or greater shall be Class M spun concrete (SRC).
  - D08. Minimum falls:  
Foul branches 1:40  
Between foul access chambers 1:80  
Surface water generally 1:100
  - D09. Pipe diameters 100mm minimum or as shown.
  - D10. Branch connections to enter access chambers at half pipe level.
  - D11. Internal access chambers to have double seal covers.
  - D12. External gullies to be fitted with silt buckets.
  - D13. Access chambers, connections and pipework are shown approximately. Final positions to suit internal and external finishes.
  - D14. TD Denotes Threshold Drain - drain details to Architect details (system may drain to ground locally or connect into drainage system).
  - D15. All RWPs to have roddable gullies fitted.
  - D16. For rigid pipework use class S bedding detail u.n.o. For plastic pipework in non-trafficked areas use flexible class bedding detail u.n.o.

Rev	Description	Date	Drn.	Chk
B	FFL LEVELS AMENDED	16.05.12	KPD	PS
A	UPDATES TO MTG 01.05.12	03.05.12	KPD	PS



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Project: **SCRAPER LANE, STAINSACRE, Nr WHITBY, NORTH YORKSHIRE**

Client: **TOLENT CONSTR. LTD.**

Drawing: **PROPOSED DRAINAGE LAYOUT**

Date: 12/04/12 Scale@A1: 1:200

Drawn By: KPD Check By: PS Approved By:

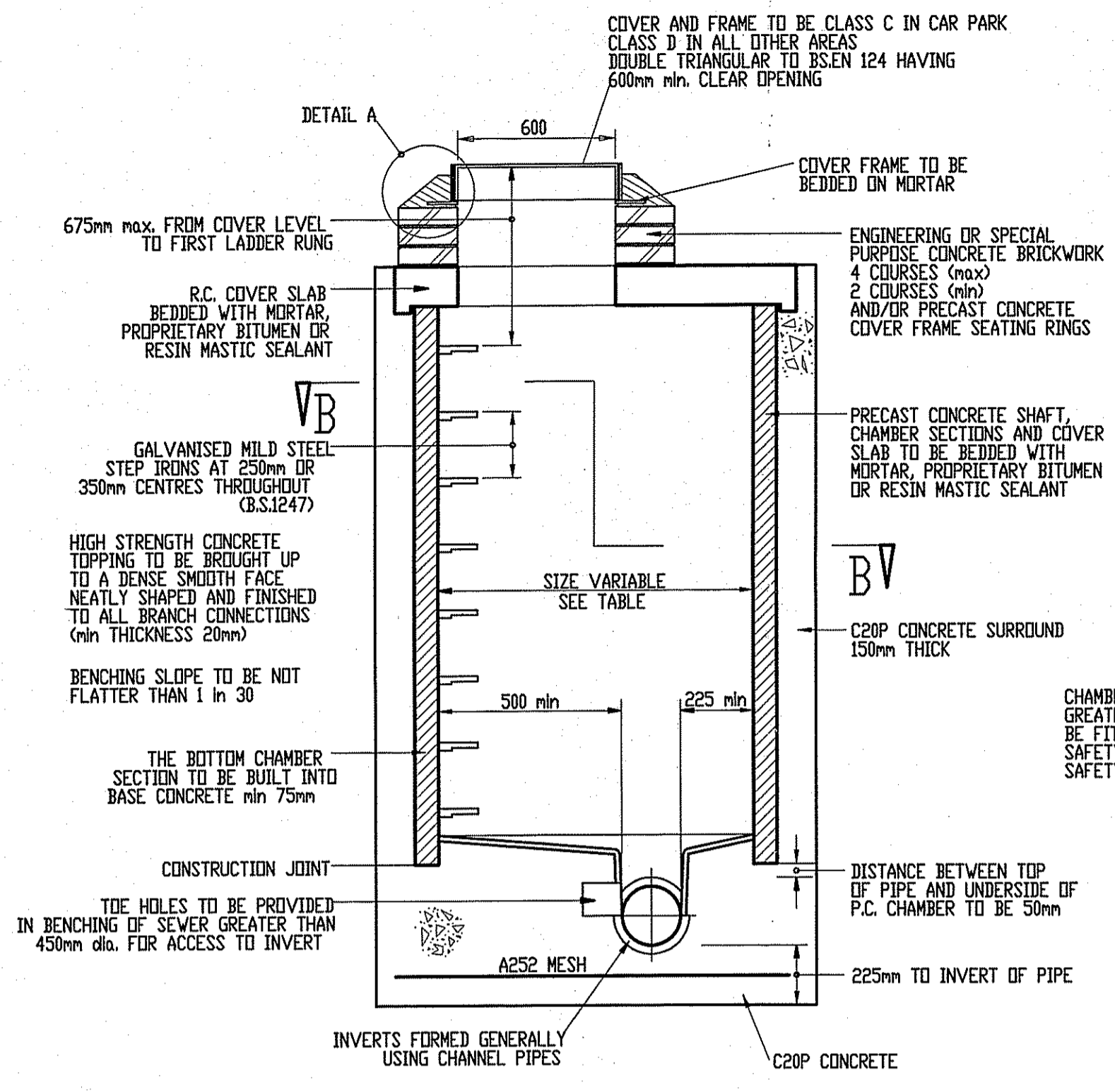
Drawing Status: **PRELIMINARY**

Job. no.	Dwg. no.	Rev.
<b>33086</b>	<b>20</b>	<b>B</b>

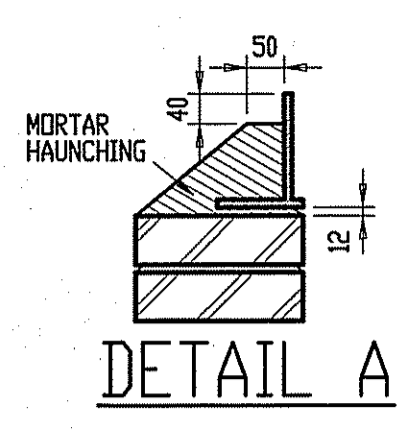
**PROPOSED DRAINAGE LAYOUT**  
(SCALE 1:200)

TD - THRESHOLD DRAIN  
RWP - RAINWATER PIPE  
RE - RODDING EYE





SECTION A-A



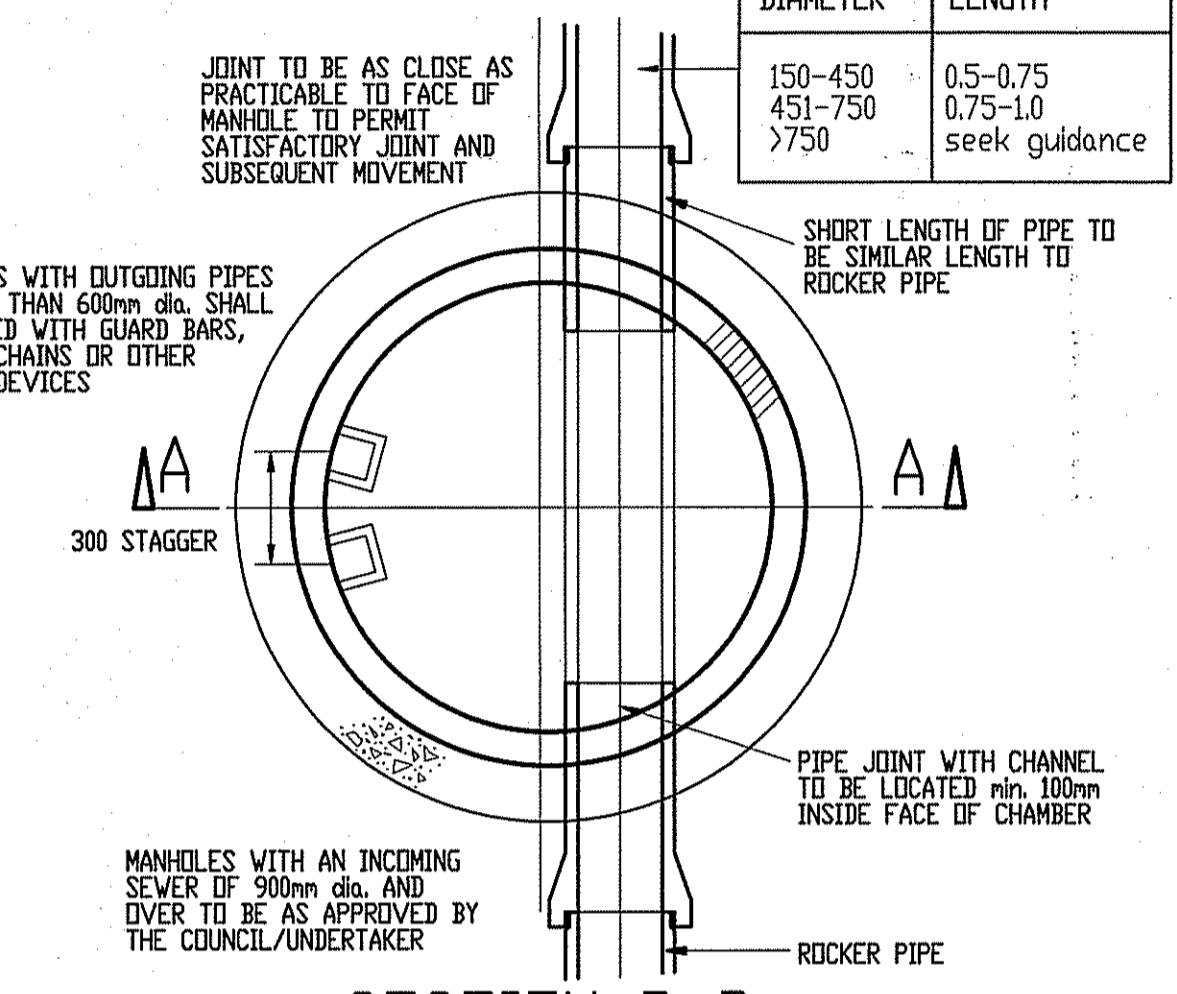
DETAIL A

**STANDARD DETAIL SD/LA/5**

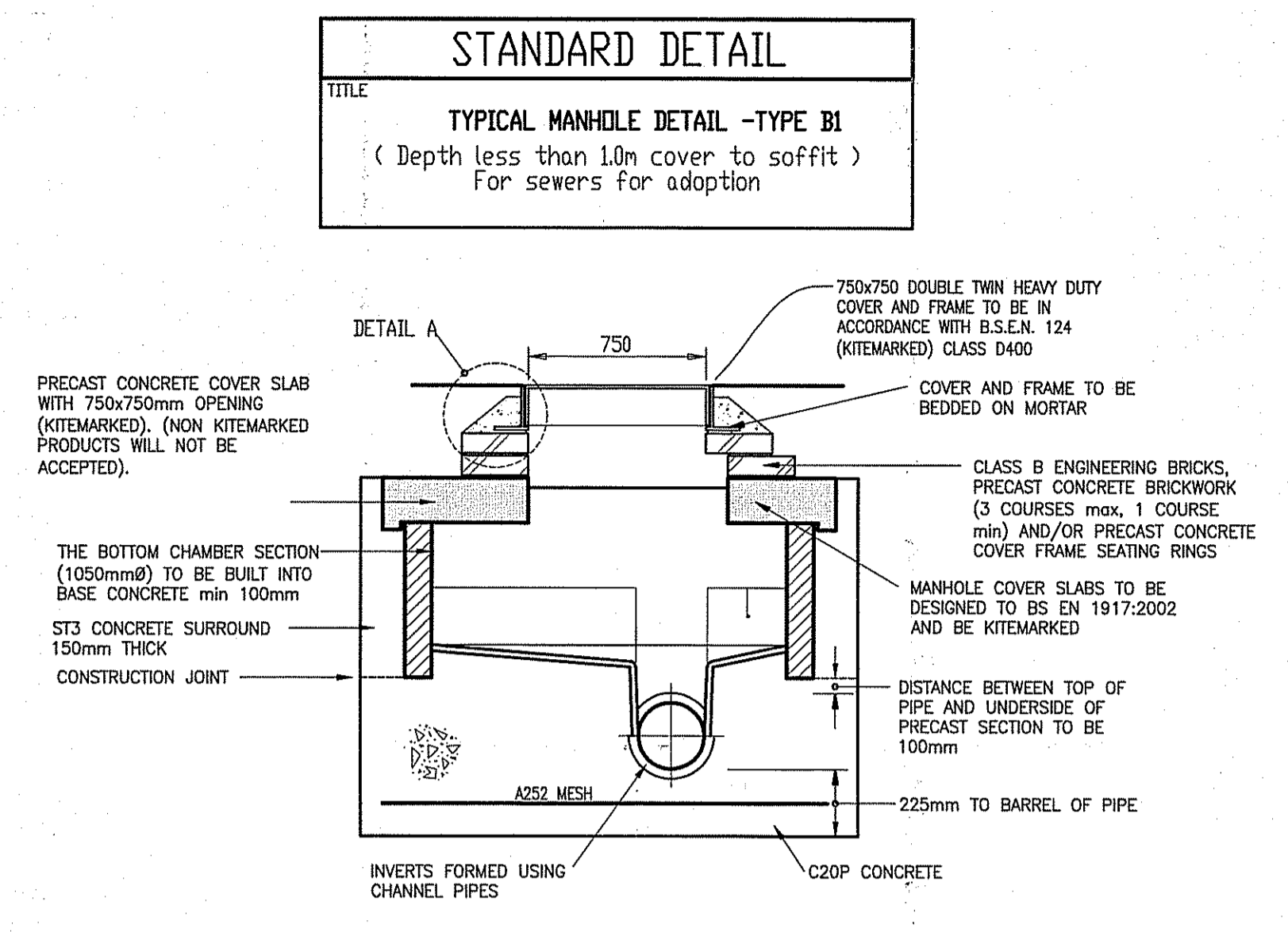
TITLE: TYPICAL MANHOLE DETAIL -TYPE B  
(Depth 1.35m - 3.0m cover to soffit) FOR SEWERS FOR ADOPTION

CHAMBER DIAMETERS	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	CHAMBER SECTION DIAMETER (mm)
less than 375	1200
375-450	1350
500-700	1500
750-900	1800
950-1200	2100

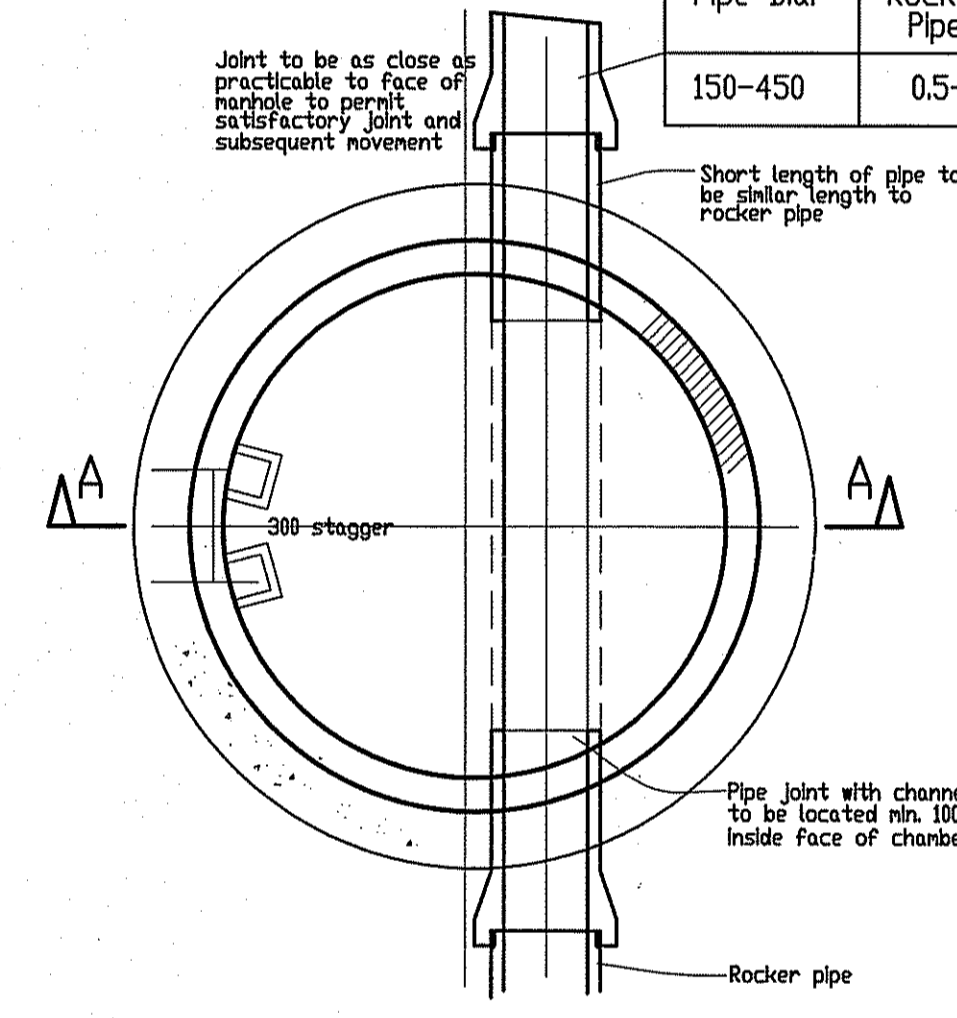
PIPE DIAMETER	ROCKER PIPE LENGTH
150-450	0.5-0.75
451-750	0.75-1.0
>750	seek guidance



SECTION B-B



Pipe Dia.	Rocker Pipe length
150-450	0.5-0.75



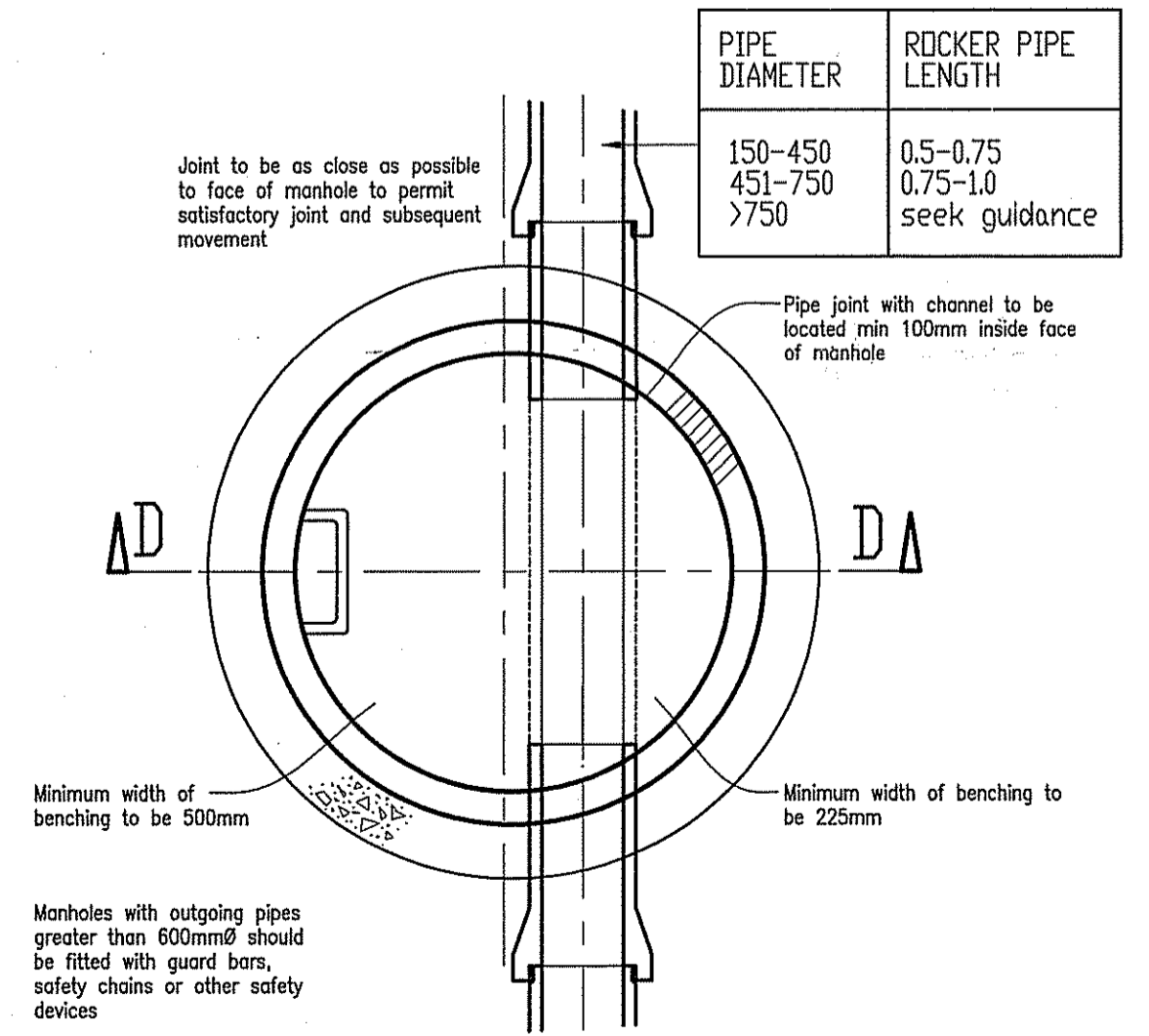
SECTION B-B

**STANDARD DETAIL SD/LA/4**

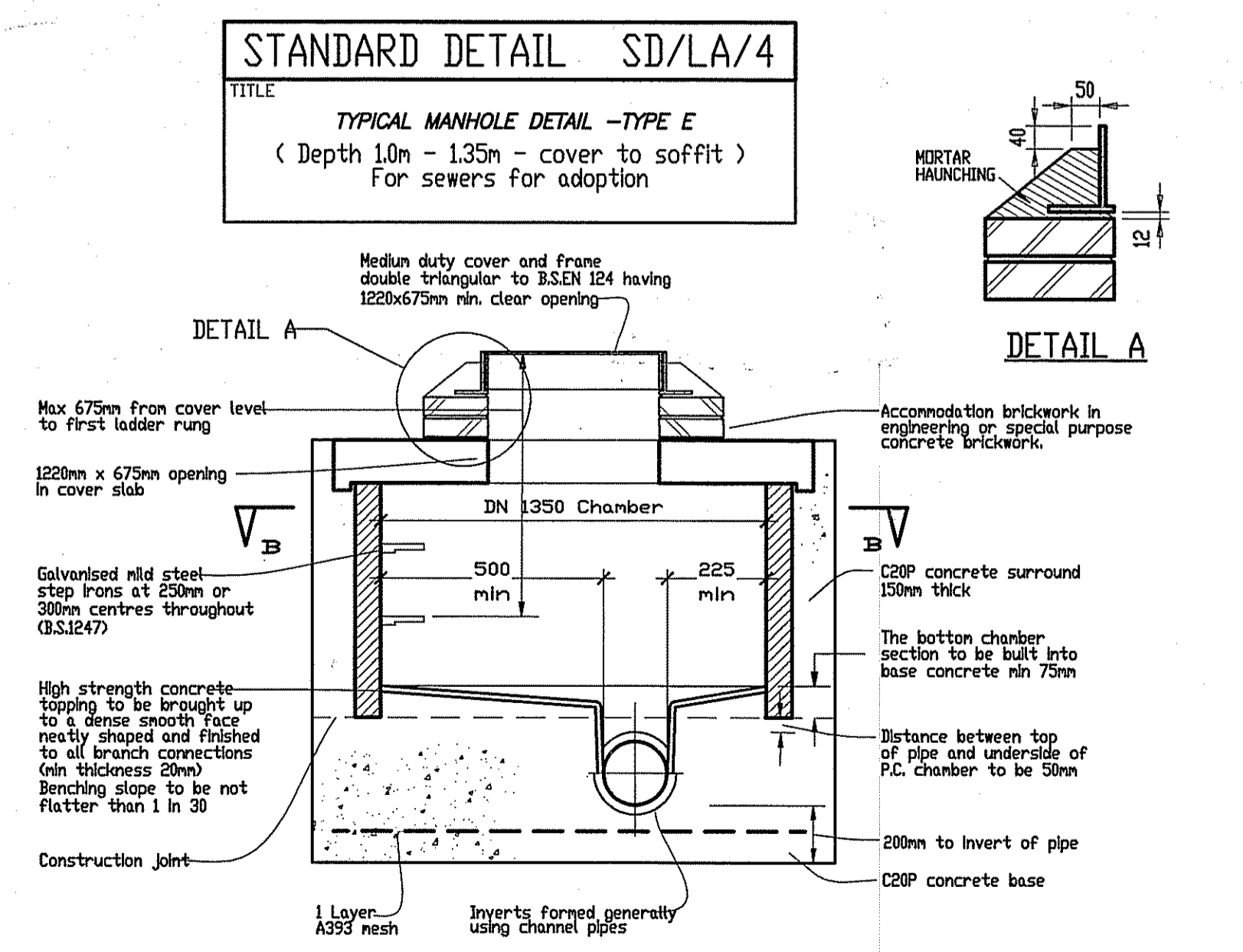
TITLE: TYPICAL MANHOLE DETAIL -TYPE A  
(Depth 3.0m - 6.0m cover to soffit) FOR SEWERS FOR ADOPTION

CHAMBER DIAMETERS	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	CHAMBER SECTION DIAMETER (mm)
less than 375	1200
375-700	1500
750-900	1800
950-1200	2100

PIPE DIAMETER	ROCKER PIPE LENGTH
150-450	0.5-0.75
451-750	0.75-1.0
>750	seek guidance



SECTION C-C



SECTION D-D

NYMNP  
18 MAY 2012

**Notes**

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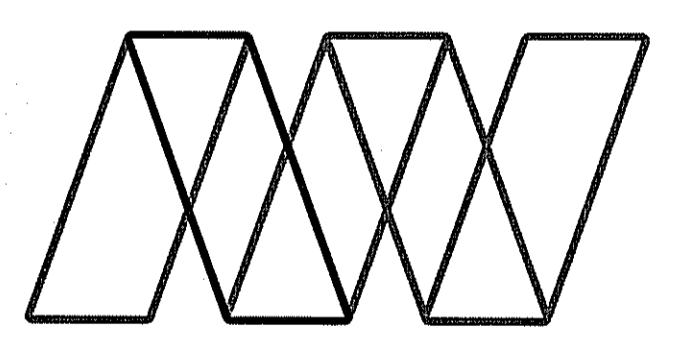
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Rev	Description	Date	Drn.	Chk.



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Project: **SCRAPER LANE,  
STAINSACRE, Nr WHITBY,  
NORTH YORKSHIRE**

Client: **TOLENT CONSTR. LTD.**

Drawing: **PROPOSED DRAINAGE  
DETAILS SHT 1**

Date: 13/04/12 Scale@A1: AS SHOWN

Drawn By: KPD Check By: PS Approved By:

Drawing Status: **PRELIMINARY**

Job no. 33086 Dwg. no. 21 Rev.

**Notes**

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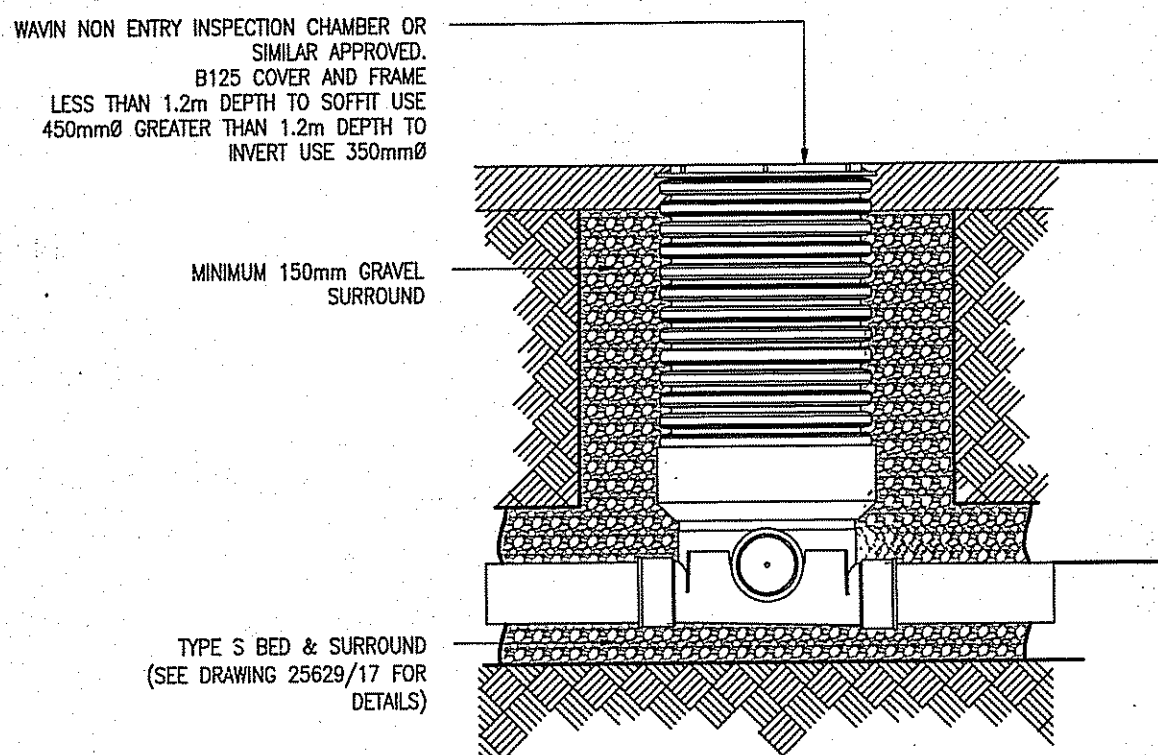
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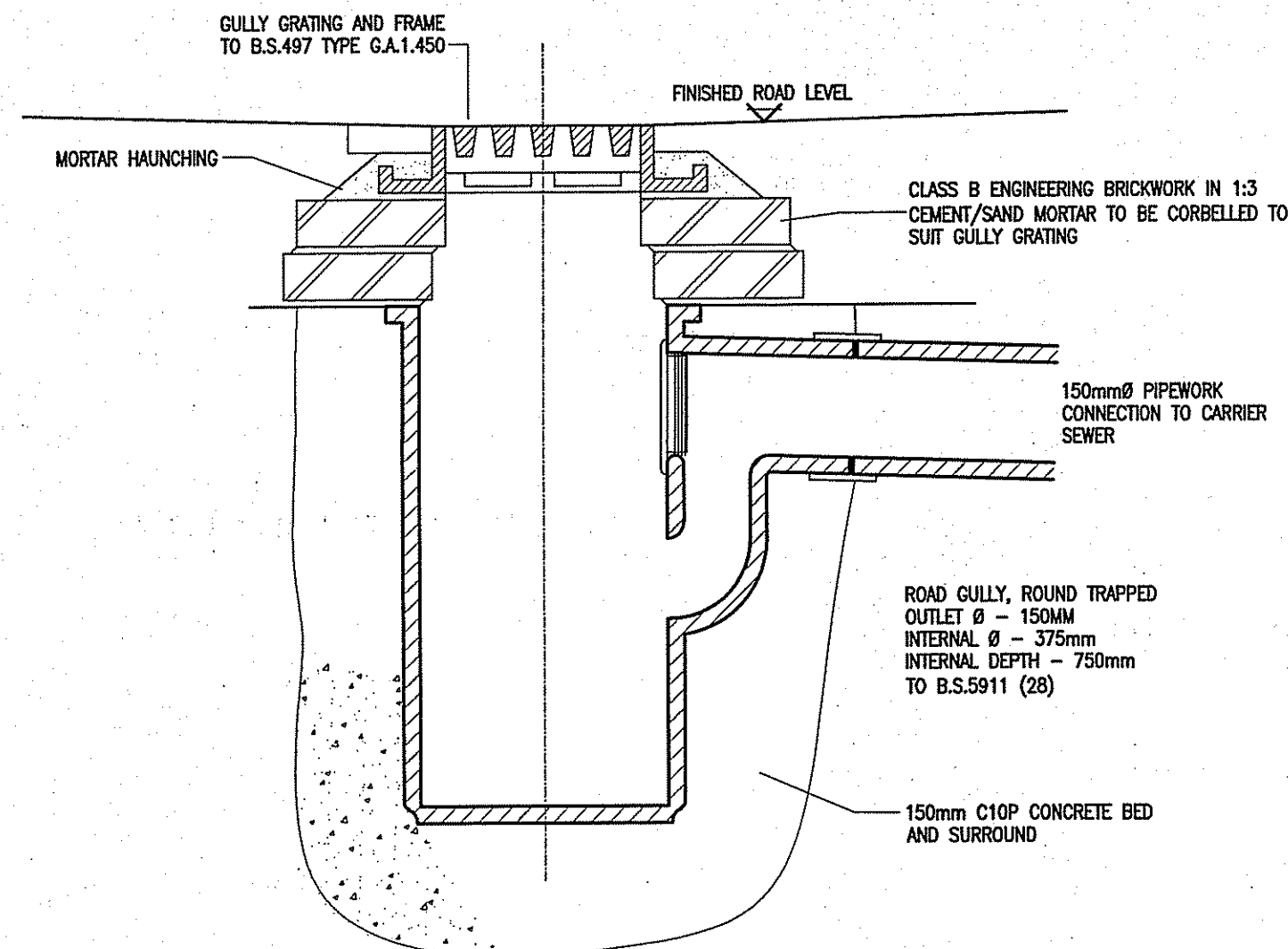
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NYMNPA  
10 MAY 2012



**INSPECTION CHAMBER ON LATERAL  
DRAIN (NON-TRAFFICED AREAS ONLY)**  
SCALE 1:20



**GULLY DETAIL**

CLASS	BEDDING DETAILS	DESCRIPTION
N		PIPE LAID ON A FLAT LAYER OF GRANULAR MATERIAL WITH COMPACTION FRACTION NOT GREATER THAN 0.3
F		PIPE LAID ON A FLAT LAYER OF GRANULAR MATERIAL WITH COMPACTION FRACTION NOT GREATER THAN 0.2 AND AT LEAST 45° OF PIPE PERIMETER SUPPORT
B		PIPE LAID ON GRANULAR MATERIAL TO HALF DIAMETER WITH COMPACTION FRACTION NOT GREATER THAN 0.2
S		PIPE FULLY SURROUNDED BY GRANULAR MATERIAL WITH COMPACTION FRACTION NOT GREATER THAN 0.2
CONCRETE BED & SURROUND		CONCRETE GRADE C20P SURROUND 150mm THICK PLACED IN ONE OPERATION AND FORMED TO RADIUS IN THE EXPANSION JOINTS AT EACH PIPE JOINT (SEE DETAIL)
FLEXIBLE		PIPE SURROUNDED IN GRANULAR MATERIAL EXCEPT ABOVE THE CROWN WHERE SELECTED FILL MAY BE SUITABLE

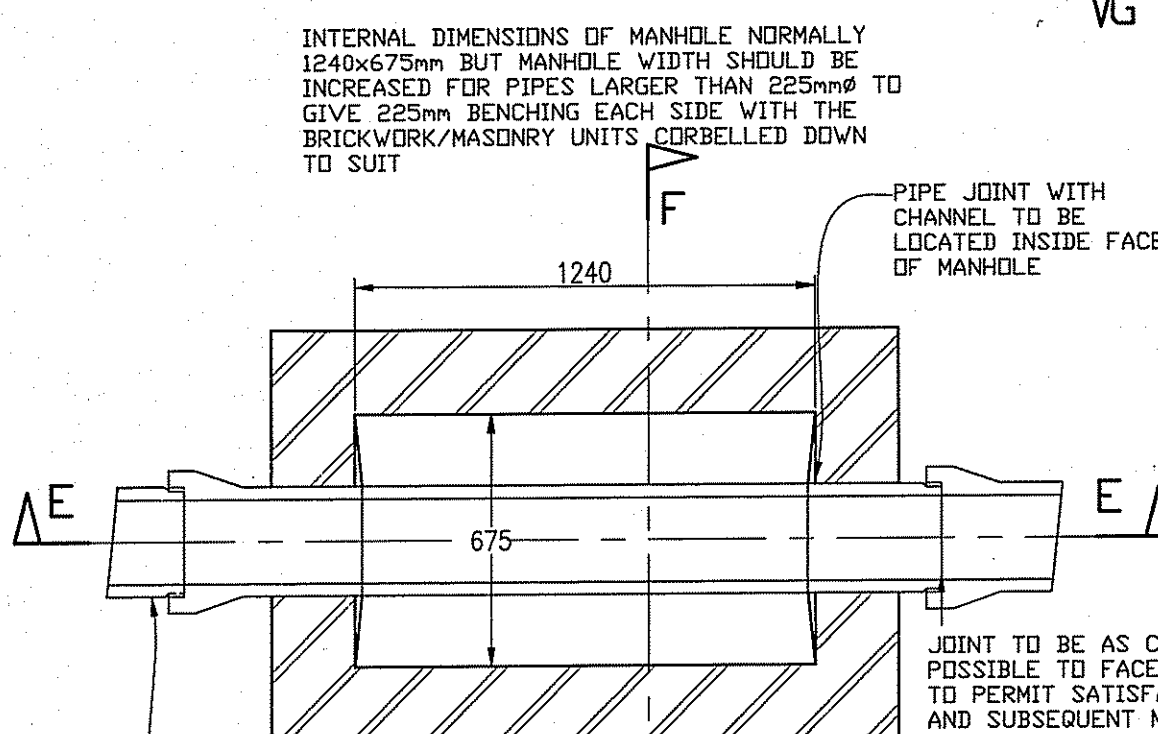
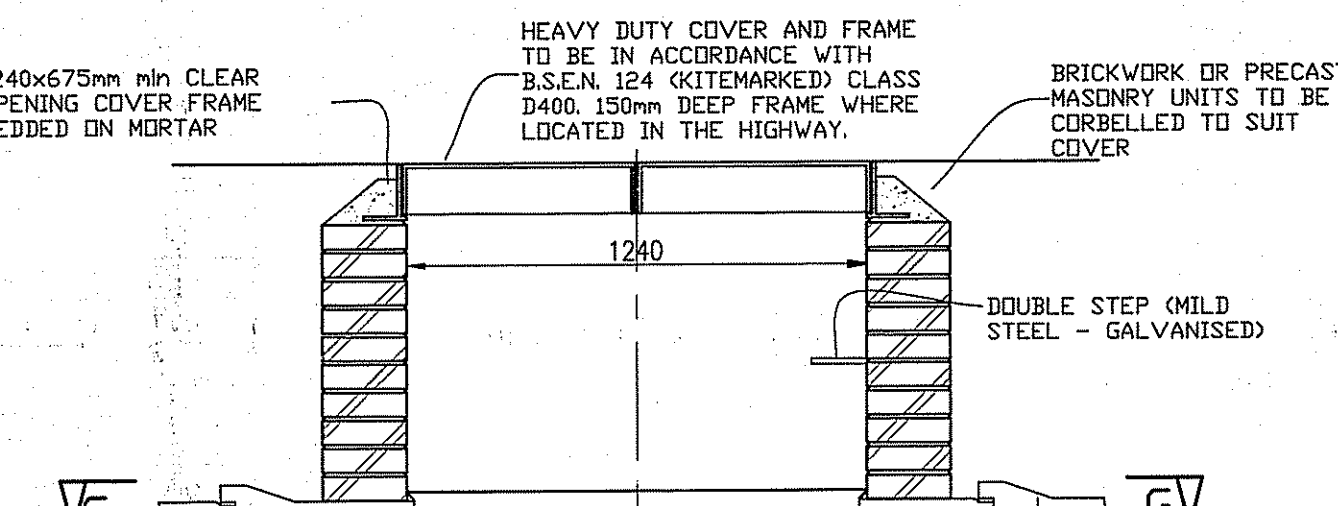
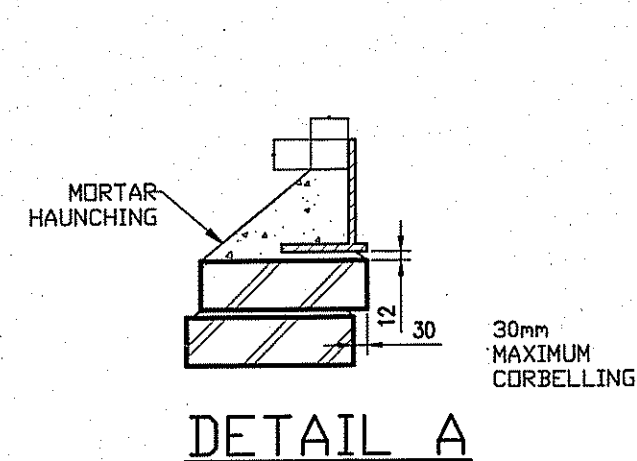
**STANDARD DETAIL SD/LB/1**

- TITLE: TYPICAL BEDDING DETAILS  
( GRANULAR MATERIAL & CONCRETE SURROUND )
- NOTES**
- TYPE A MATERIAL SHALL BE COMPACTED OVER THE FULL WIDTH OF THE TRENCH WITH A PLATE VIBRATOR.
  - TYPE B FILL SHALL BE THOROUGHLY PACKED AND RAMMED BY HAND TAMPING IN LAYERS NOT EXCEEDING 150mm THICK BEFORE COMPACTION.
  - ALL DEPTH OF MATERIALS ARE MINIMUM COMPACTED DEPTHS AND SHALL EXTEND FOR THE FULL WIDTH OF THE TRENCH.
  - ANY SOCKETS SHALL BE NOT LESS THAN 50mm ABOVE THE FLOOR OF THE TRENCH.
  - FOR CONCRETE BED AND SURROUND PIPES SHALL BE LAID ON A PRECAST CONCRETE SETTING BLOCK, TOP FACE OF WHICH SHALL BE COVERED WITH TWO LAYERS OF COMPRESSIBLE PACKING.

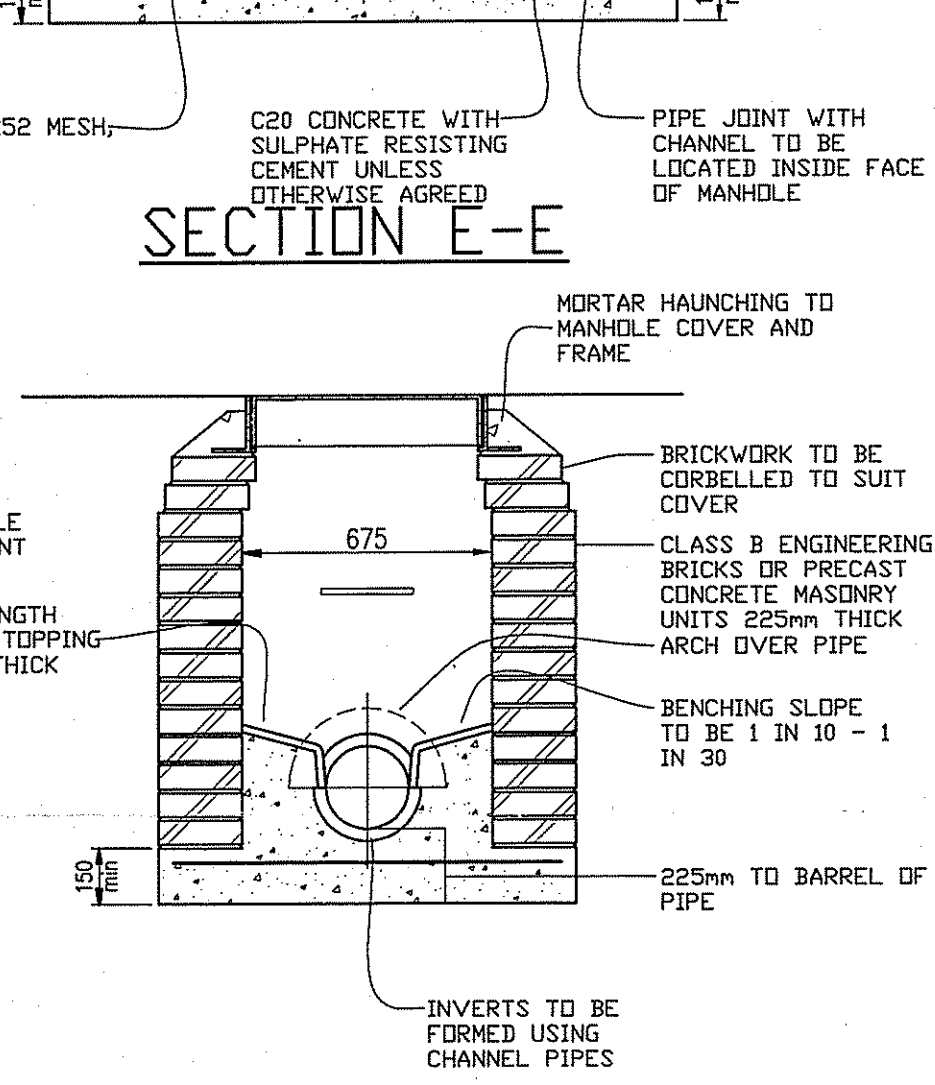
**TRENCH WIDTH**

NOMINAL INTERNAL DIAMETER (mm)	MINIMUM TRENCH WIDTH (mm)	MAXIMUM TRENCH WIDTH (mm)
100	450	550
150	500	600
225	600	700
300	680	750
375	950	1050
450	1030	1150
525	1100	1200
600	1240	1350
675	1330	1450
750	1400	1500
825	1490	1600
900	1700	1900
1050	1850	2050
1200	2100	2300

Rev	Description	Date	Dm.	Chk

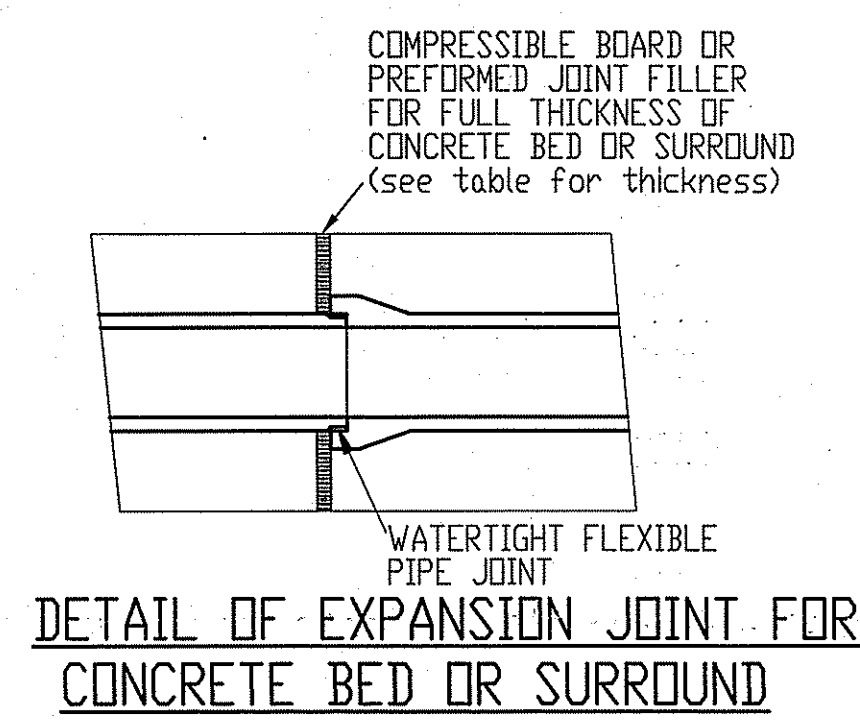


**STANDARD DETAIL**  
TITLE: TYPICAL MANHOLE DETAIL -TYPE C  
( DEPTH 1.00m - 1.45m COVER TO SOFFIT )  
FOR SEWERS FOR ADOPTION



**GRAVEL SIZE**

NOMINAL INTERNAL DIAMETER (mm)	SINGLE SIZE GRAVEL (mm)
100	10
150	10,14
225	10,14,20
300	10,14,20
375	14,20
450	14,20
525	14,20
OVER 550	14,20,40



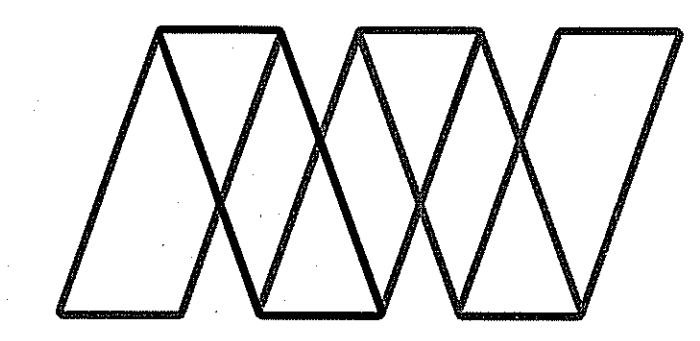
**KEY**

TYPE A: GRANULAR MATERIAL

TYPE B: SELECTED FILL

TYPE C: GRANULAR MATERIAL OR SELECTED FILL CONTAINING NO STONES LARGER THAN 40mm

NOMINAL BORE OF PIPE (mm)	THICKNESS OF COMPRESSIBLE JOINT FILLER
less than 450	18
450-1200	36
over 1200	54



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STAINACRE, Nr WHITBY,  
NORTH YORKSHIRE**

Client: **TOLENT CONSTR. LTD.**

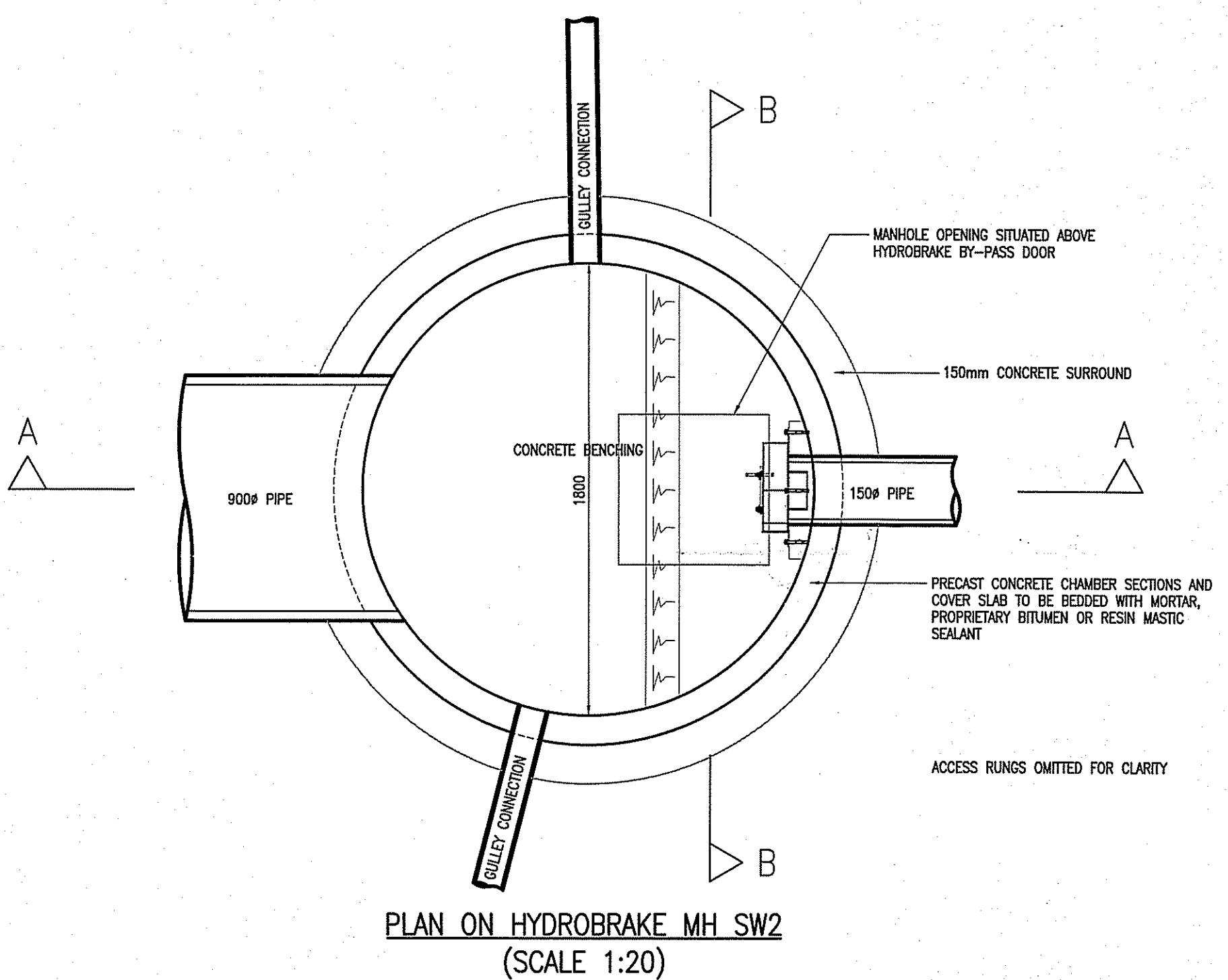
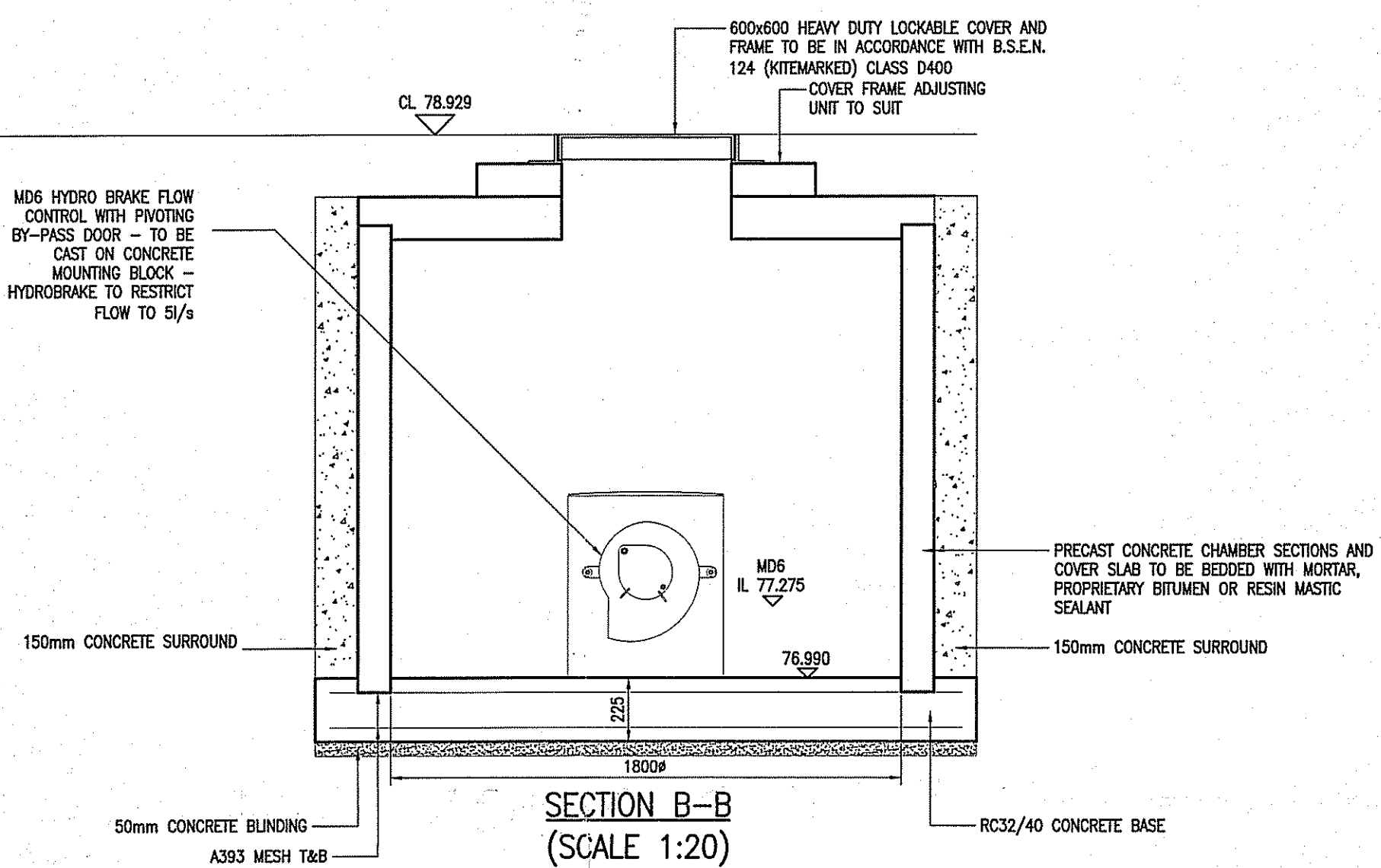
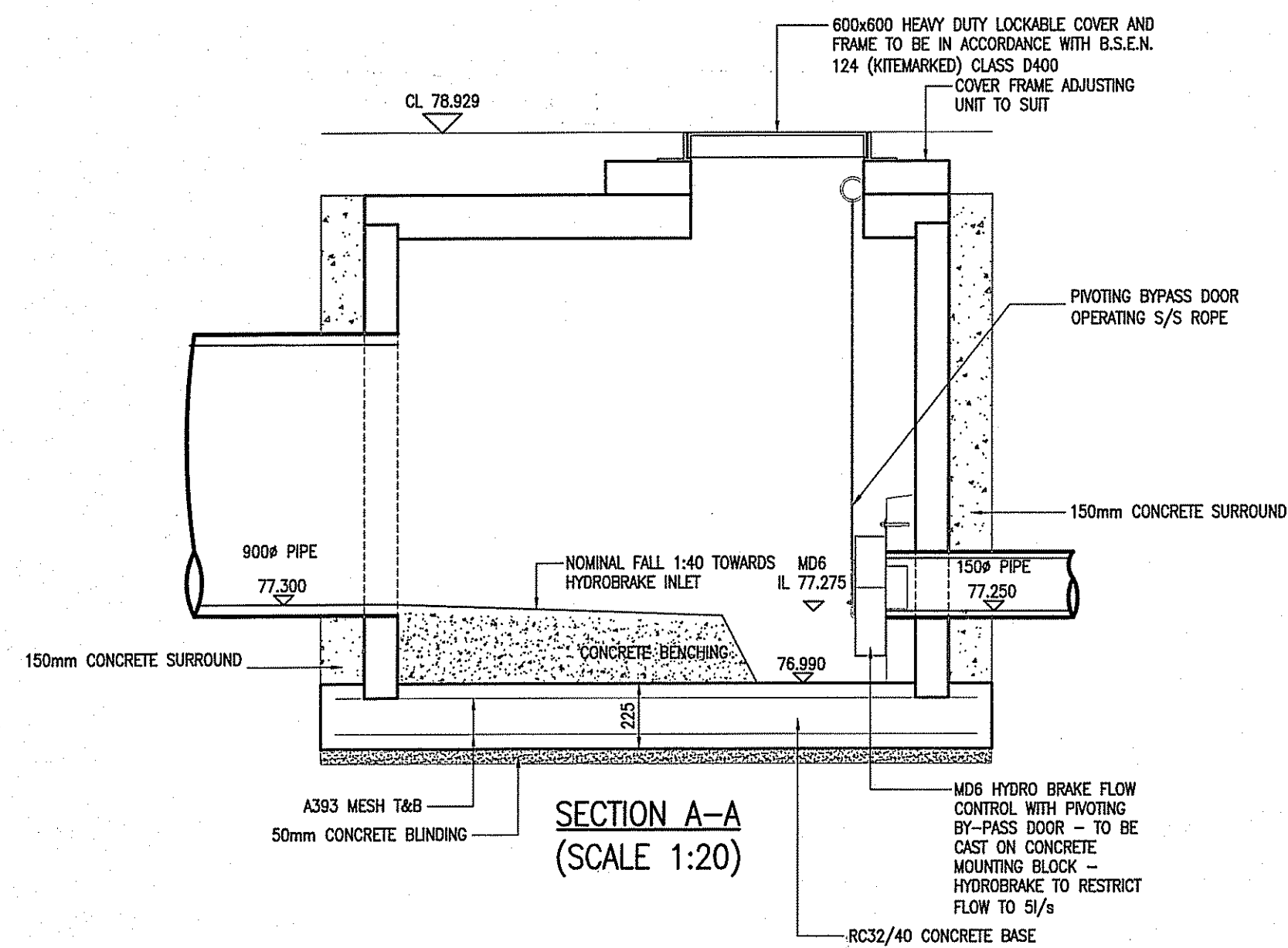
Drawing: **PROPOSED DRAINAGE  
DETAILS - SHT 2**

Date: 13/04/12 Scale@A1: AS SHOWN

Drawn By: KPD Check By: PS Approved By:

Drawing Status: **PRELIMINARY**

Job no. 33086 Dwg. no. 22 Rev.

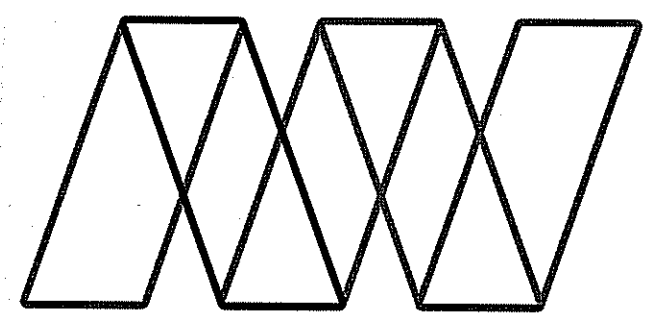


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NYMIPA  
10 MAY 2012

Rev.	Description	Date	Dr.	Chk.



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Project: **SCRAPER LANE,  
STAINACRE, Nr WHITBY,  
NORTH YORKSHIRE**

Client: **TOLENT CONSTR. LTD.**

Drawing: **PROPOSED DRAINAGE  
DETAILS - SHT 3**

Date: 13/04/12      Scale@A1: AS SHOWN

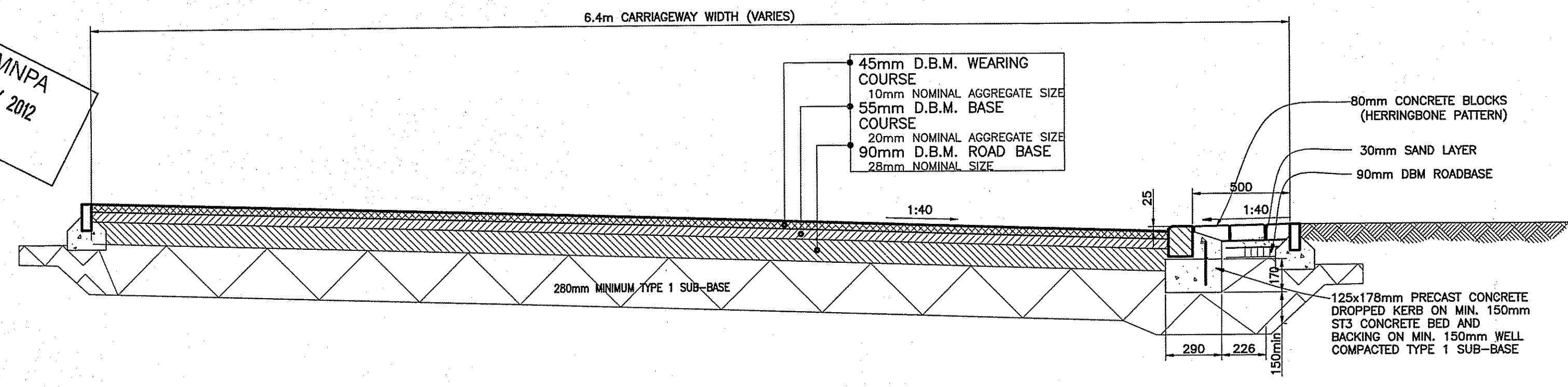
Drawn By: KPD      Check By: PS      Approved By:

Drawing Status: **PRELIMINARY**

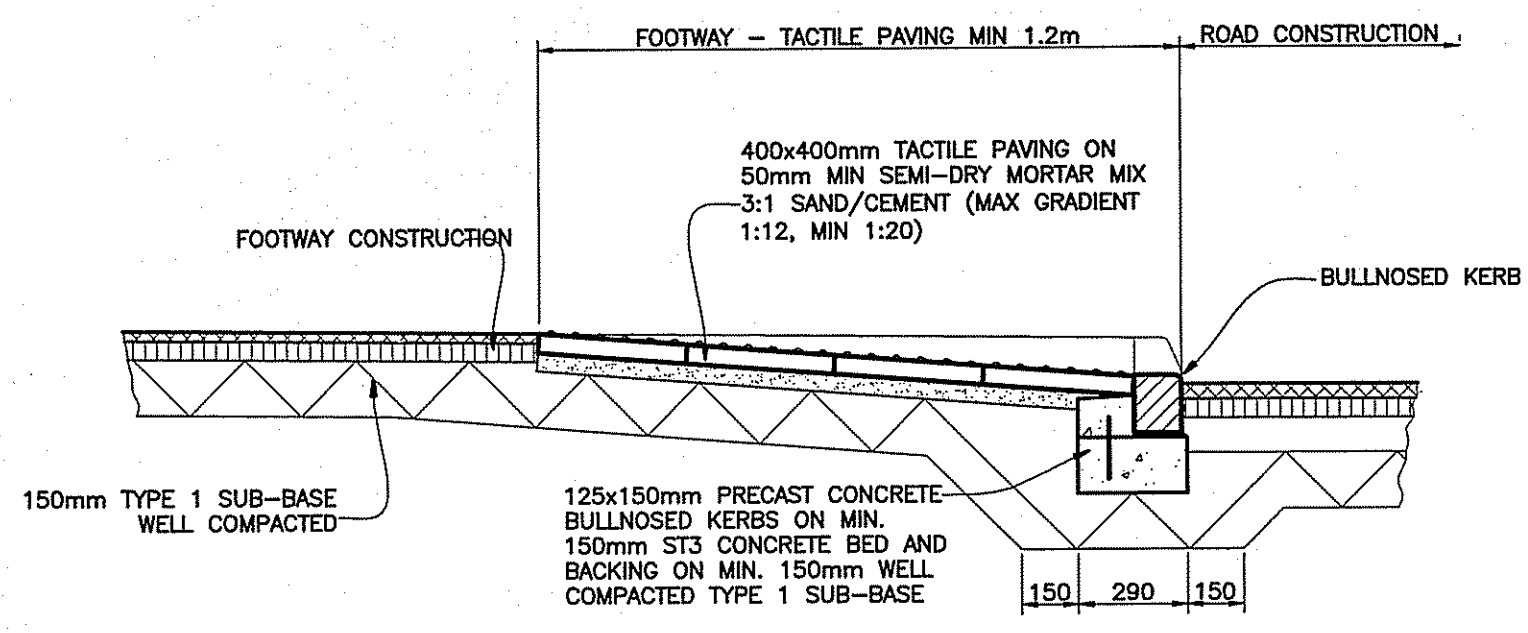
Job. no.      Dwg. no.      Rev.

**33086      23**

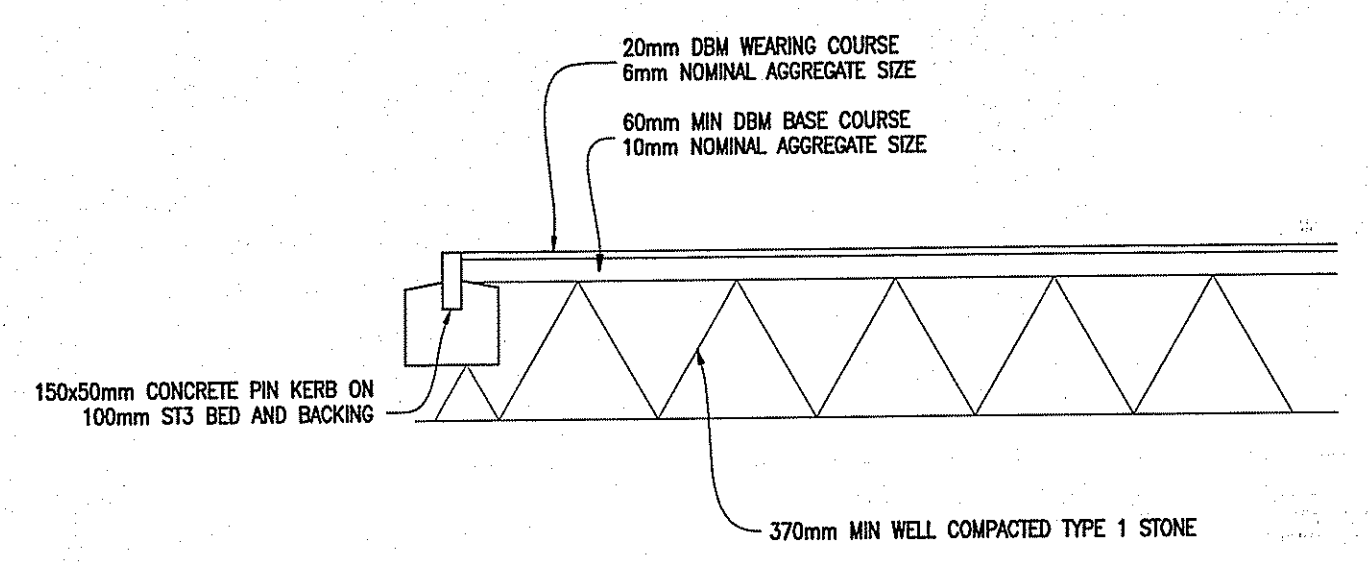
NYMNP  
16 MAY 2012



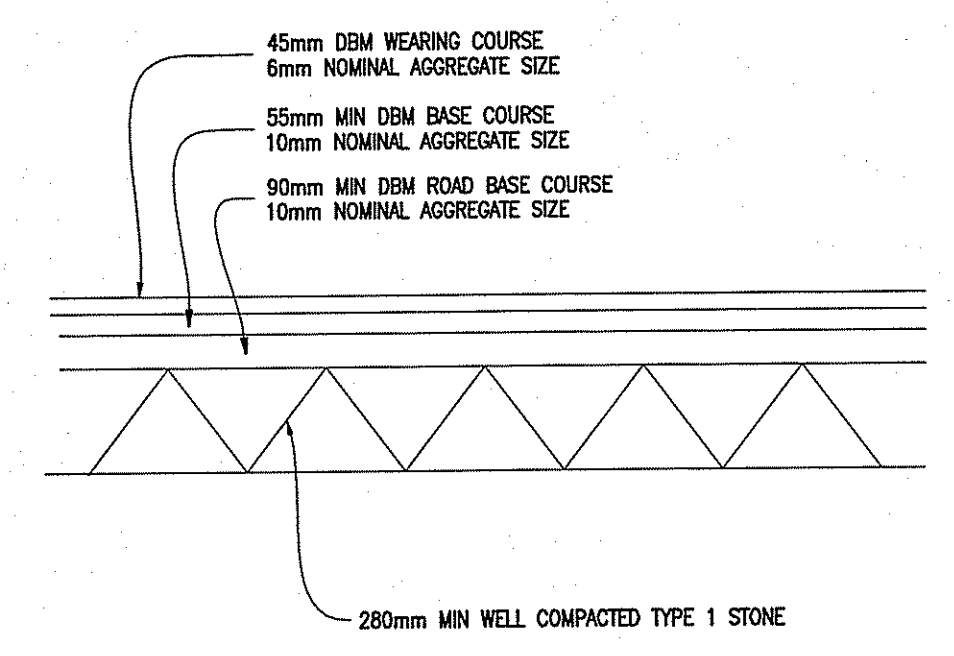
— SHARED SURFACE ROAD TYPICAL SECTION —  
SCALE 1:20



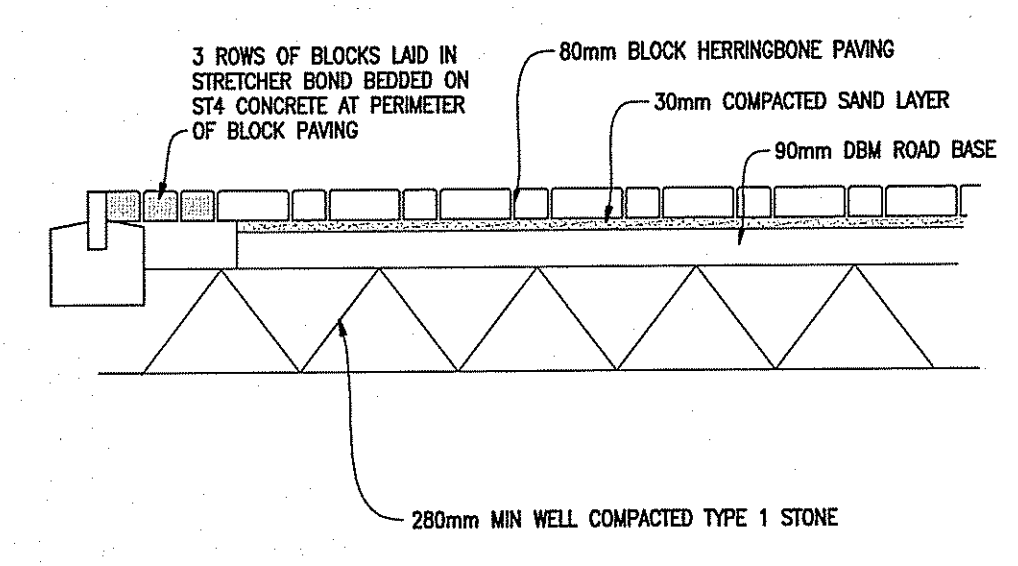
— TYPICAL FOOTWAY/PRAM CROSSING DETAIL —  
SCALE 1:20



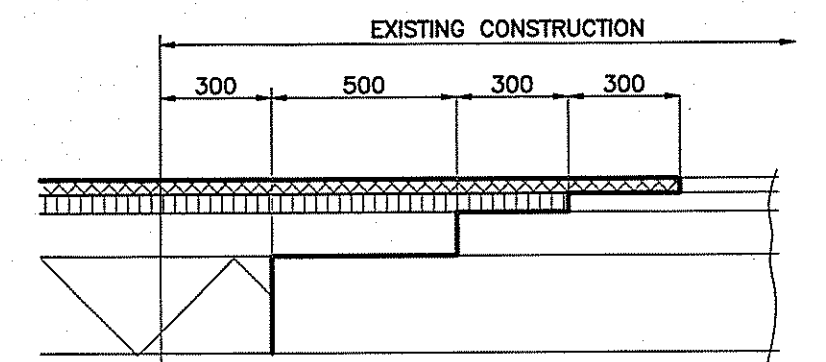
TARMAC DRIVE  
(SCALE 1:20)



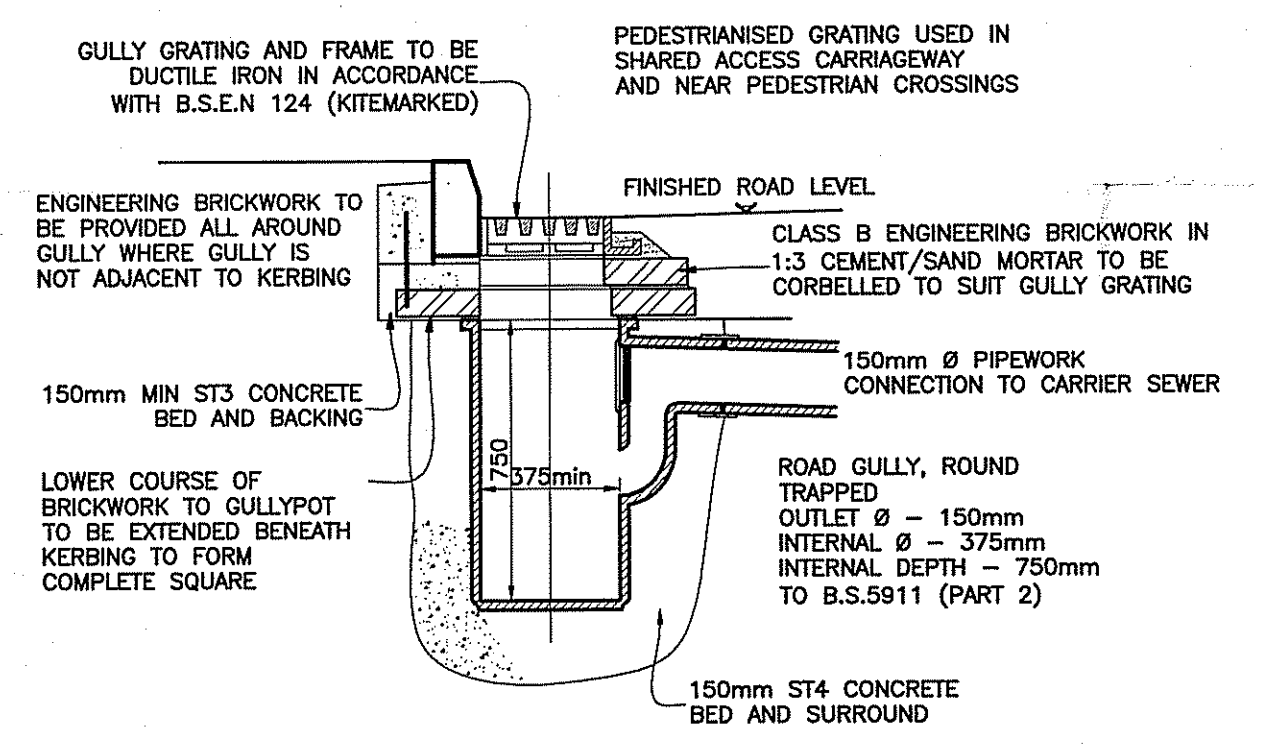
TARMAC JUNCTION  
(SCALE 1:20)



BLOCK PAVING  
(SCALE 1:20)

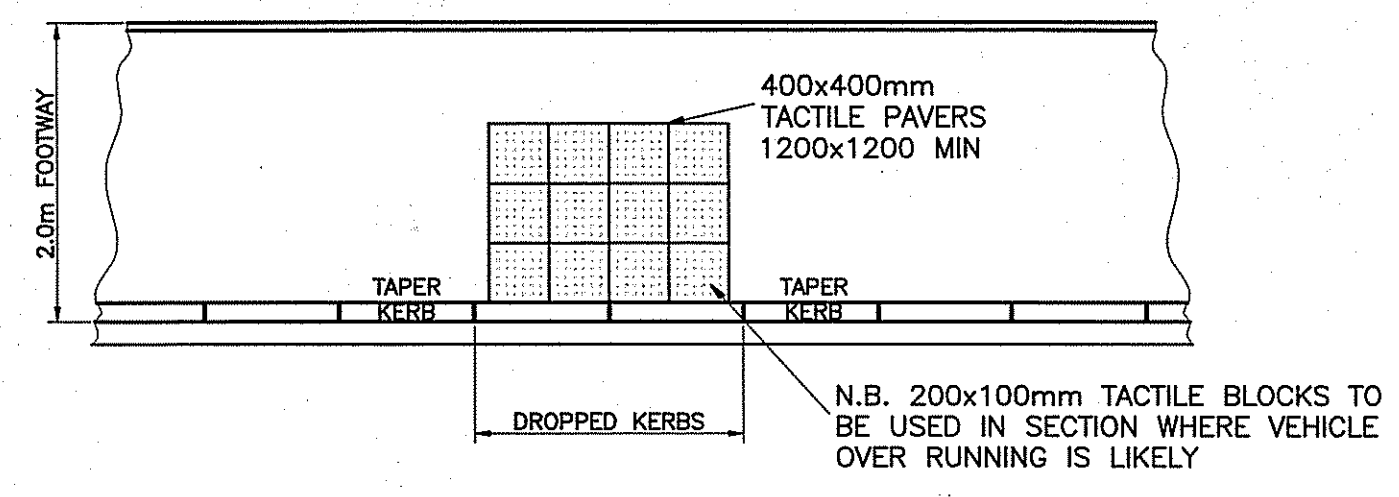


— TIE IN DETAIL —  
SCALE 1:20

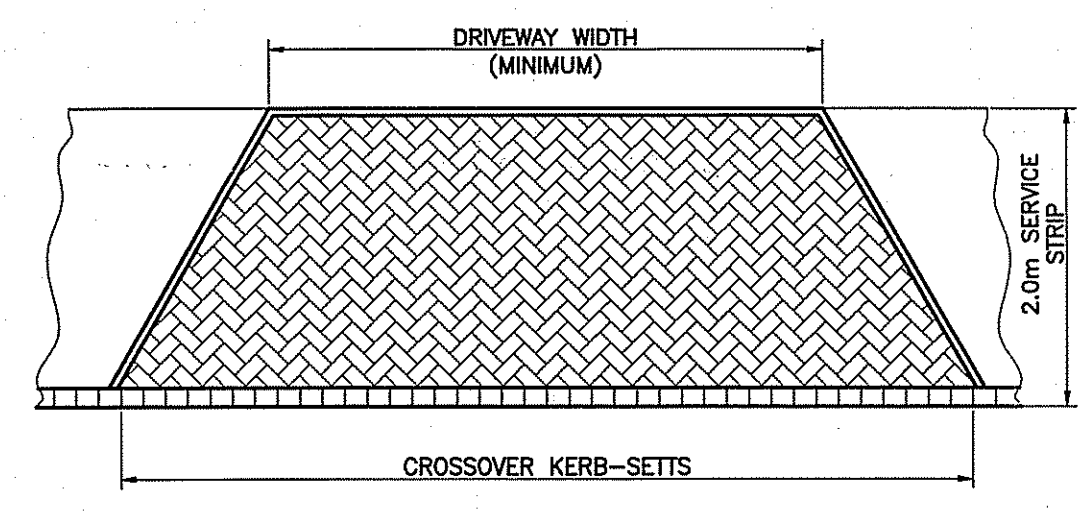


— GULLY DETAIL —

NOTE: ALL MORTAR AND CONCRETE TO DRAINAGE WORKS TO HAVE SULPHATE RESISTANT CEMENT



— TYPICAL PLAN ON FOOTWAY/PRAM CROSSING —  
SCALE 1:50



— TYPICAL PLAN ON DRIVEWAY CROSSING —  
TO SHARED SURFACE —  
SCALE 1:50

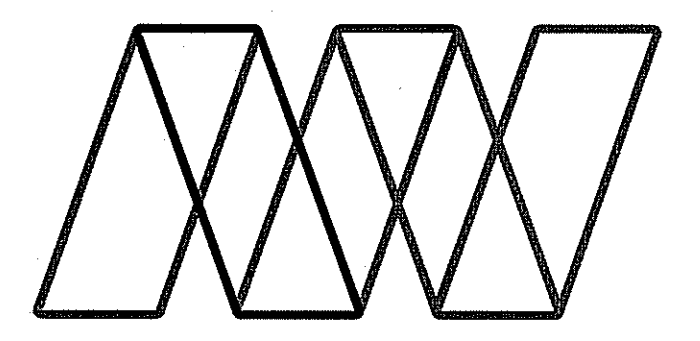
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CROSS REFERENCE TO DRAWINGS 33086 / 50 FOR EXTERNAL WORKS LAYOUT.

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Project: SCRAPER LANE  
STAINSACRE, Nf WHITBY  
NORTH YORKSHIRE

Client: TOLENT CONSTR. LTD

Drawing: EXTERNAL WORKS  
DETAILS

Date: 04/12 Scale@A1: 1:20, 1:50

Drawn By: KPD Check By: Approved By:

Drawing Status: PRELIMINARY

Job. no. 33086 Dwg. no. 51 Rev. -