



Bonneagar Iompair Éireann
Transport Infrastructure Ireland

TII Publications



Standard Construction Details - Series 2700

April 2017

Standard Construction Details (SCDs) – Series 2700

TII Publications contains Standard Construction Details (SCDs) for use on National Road schemes in Ireland. This composite document brings together all the Series 2700 SCDs from TII Publications current at the date of this document's publication, into a single location for convenience.

Every effort has been made to keep this composite document updated and available from the TII Publications website (<http://www.tiipublications.ie/>). Please note that the SCD drawings available from the TII Publications website (individually linked below) are the controlled versions for all SCDs.

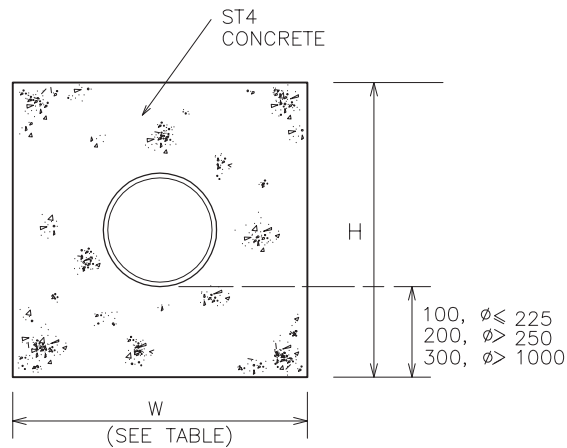
The SCDs contained in this document are as follows:

Series 2700 Watermains, Utilities and Accommodation Works

CC-SCD-02701	Watermain - Watermain Trench and Bedding Details for Untrafficked Areas
CC-SCD-02702	Watermain - Watermain Trench and Bedding Details for Existing Roads
CC-SCD-02703	Watermain - Watermain Trench and Bedding Details for New Roads
CC-SCD-02704	Statutory - Sluice Valve Chamber (Mains 300mm Diameter or Less)
CC-SCD-02705	Watermain - Twin Sluice Valve Chamber (Mains 300mm Diameter or More)
CC-SCD-02706	Watermain - Butterfly Valve Chamber (Mains 350mm Diameter or Over)
CC-SCD-02707	Watermain - Air Valve or Hydrant Chamber (Mains 400mm Diameter or Less) (Sheet 1 of 2)
CC-SCD-02708	Watermain - Air Valve or Hydrant Chamber (Mains 400mm Diameter or Less) (Sheet 2 of 2)
CC-SCD-02709	Watermain - Offset Hydrant Chamber (Sheet 1 of 2)
CC-SCD-02710	Watermain - Offset Hydrant Chamber (Sheet 2 of 2)
CC-SCD-02711	Watermain - Joints and Lifting Handle
CC-SCD-02712	Watermain - Spindle Guides
CC-SCD-02713	Statutory Undertakers - Marker Post and Plates
CC-SCD-02750	Statutory Undertakers - Typical Service Clearances Layout
CC-SCD-02751	Watermain - Services Protection Slab

TRANSPORT INFRASTRUCTURE IRELAND (TII) PUBLICATIONS

<u>CC-SCD-02752</u>	Watermain - Services Marker Slab
<u>CC-SCD-02753</u>	Accommodation Works - Domestic Entrance
<u>CC-SCD-02754</u>	Accommodation Works - Field Access
<u>CC-SCD-02755</u>	Accommodation Works - Cattle Grid
<u>CC-SCD-02756</u>	Accommodation Works - Water Troughs



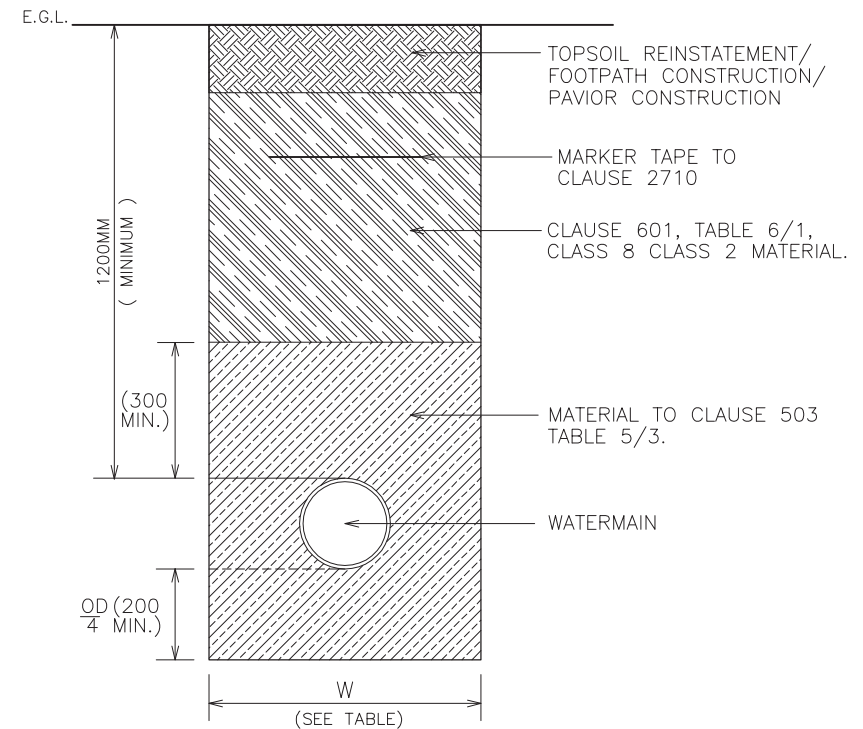
TRENCH DETAIL WHERE MINIMUM COVER NOT PROVIDED

PIPE Ø (mm)	TRENCH WIDTH W (mm)	CONCRETE SURROUND
		H (mm)
80	500	400
100	500	400
150	600	450
200	600	450
250	750	650
300	750	650
350	750	750
400	900	850
450	900	850
500	1000	850
1050	2200	1600
1200	2400	1750

NOTES.

1. TRENCH WIDTH SHALL BE WITHIN THE LIMITS SHOWN UP TO A MINIMUM OF 300MM. ABOVE THE CROWN OF THE PIPE.
2. IN THE CASE OF PIPES LAID IN FOOTPATHS OR GRASSMARGINS, THE MINIMUM DEPTH OF COVER SHALL BE MEASURED FROM THE LEVEL OF THE ADJOINING ROAD SURFACE.

SCALE 1:20

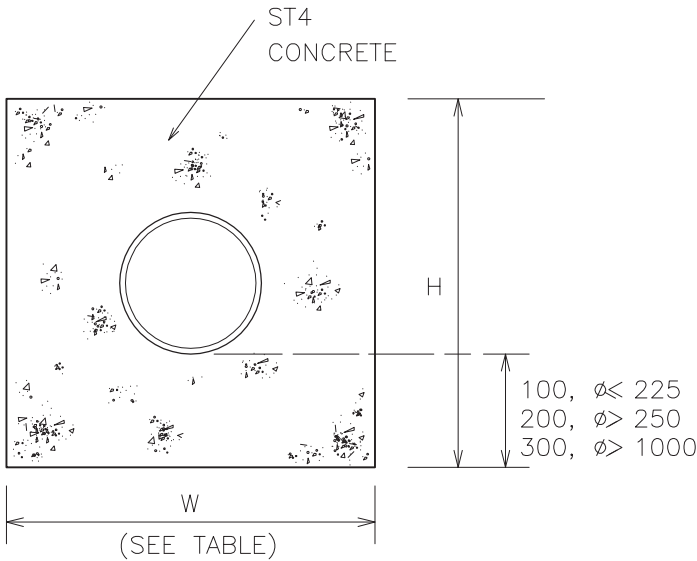


TRENCH DETAIL WHERE MINIMUM COVER PROVIDED

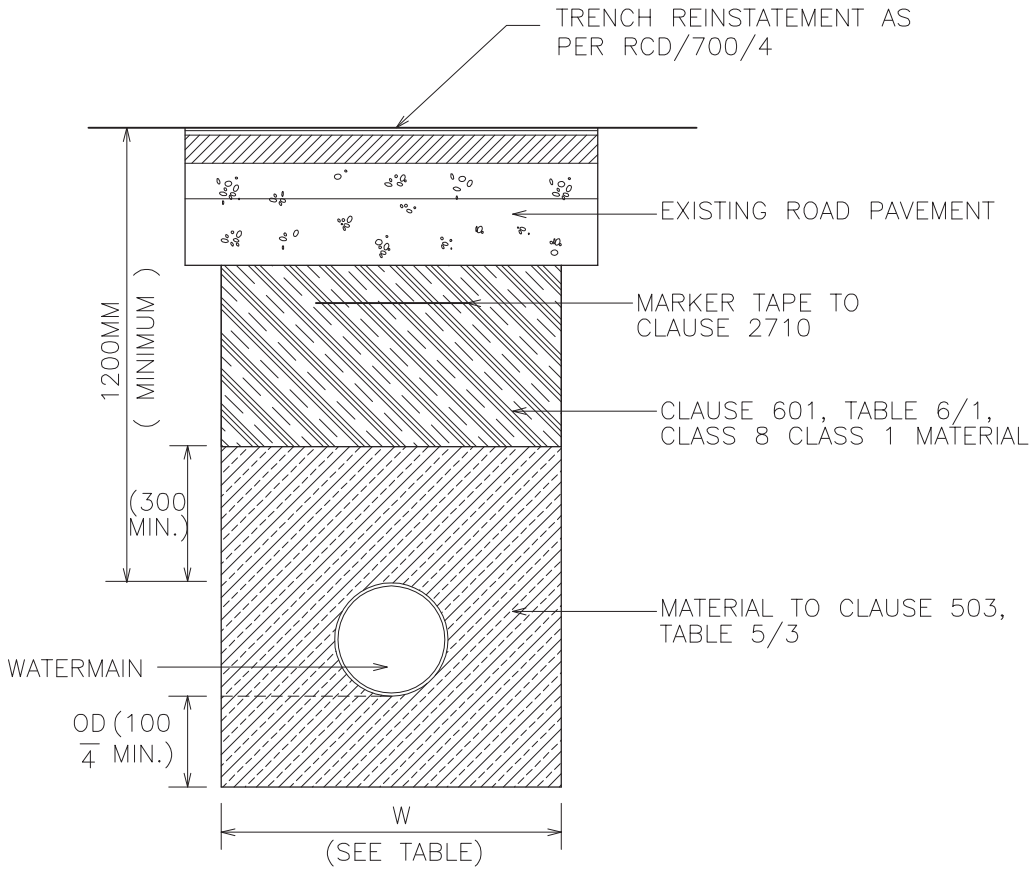
TII PUBLICATION NUMBER: CC-SCD-02701

PIPE ϕ (mm)	TRENCH WIDTH W (mm)	CONCRETE SURROUND
		H (mm)
80	500	400
100	500	400
150	600	450
200	600	450
250	750	650
300	750	650
350	750	750
400	900	850
450	900	850
500	1000	850
1050	2200	1600
1200	2400	1750

- NOTES.
1. TRENCH WIDTH SHALL BE WITHIN THE LIMITS SHOWN UP TO A MINIMUM OF 300MM. ABOVE THE CROWN OF THE PIPE.



TRENCH DETAIL WHERE MINIMUM
COVER NOT PROVIDED



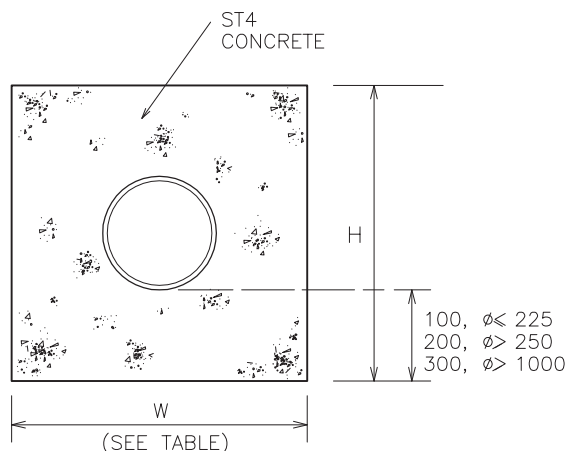
TRENCH DETAIL WHERE MINIMUM
COVER PROVIDED

SCALE 1:20

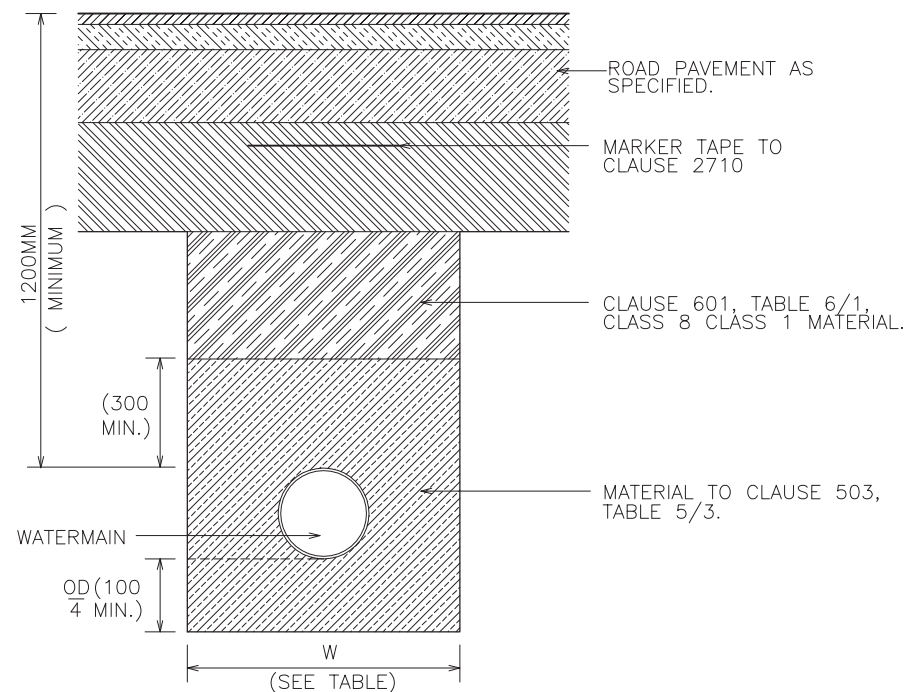
PIPE Ø (MM)	TRENCH WIDTH W (MM)	CONCRETE SURROUND
		H (MM)
80	500	400
100	500	400
150	600	450
200	600	450
250	750	650
300	750	650
350	750	750
400	900	850
450	900	850
500	1000	850
1050	2200	1600
1200	2400	1750

NOTES.

1. TRENCH WIDTH SHALL BE WITHIN THE LIMITS SHOWN UP TO A MINIMUM OF 300MM. ABOVE THE CROWN OF THE PIPE.



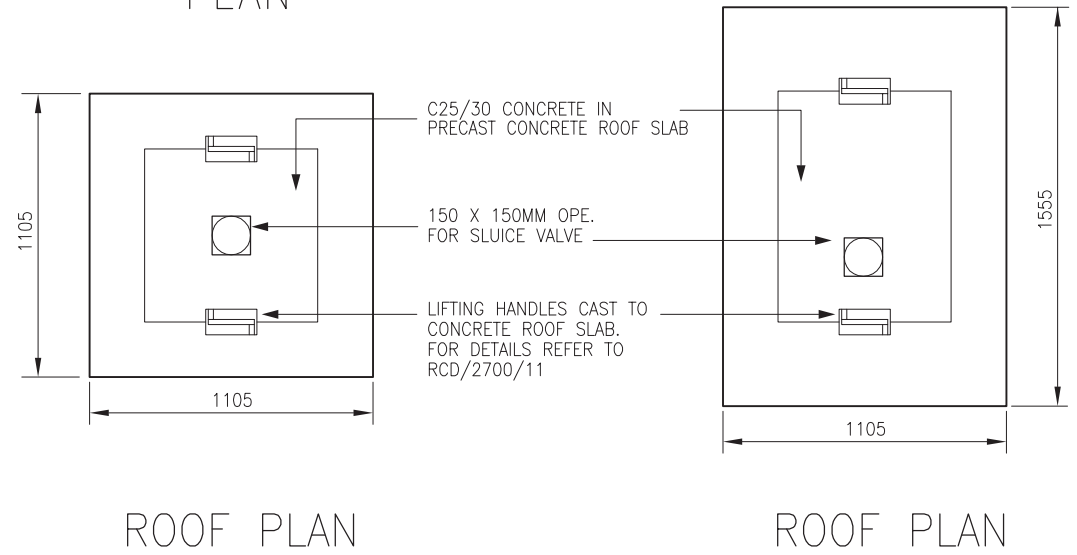
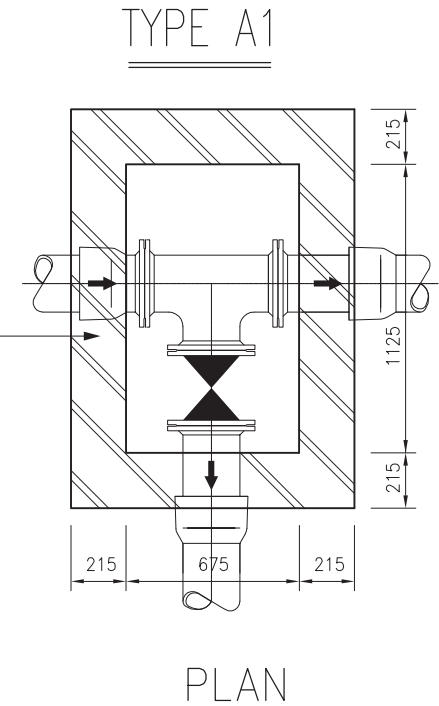
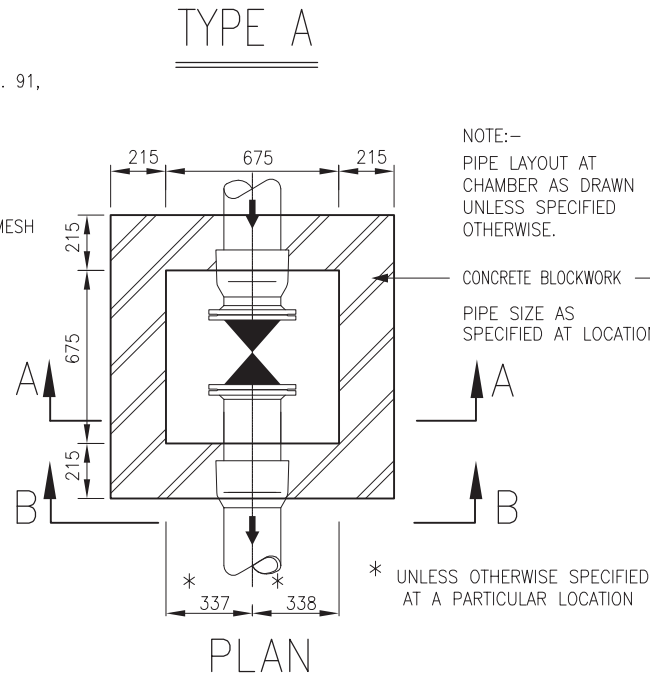
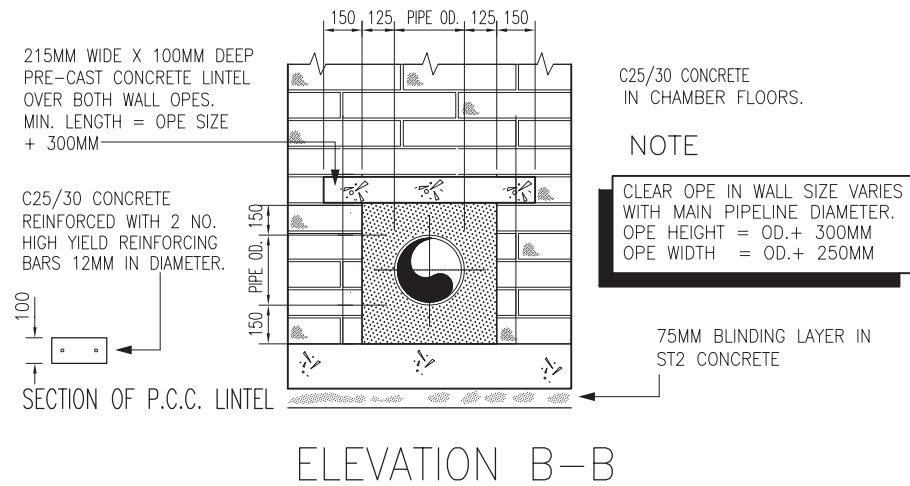
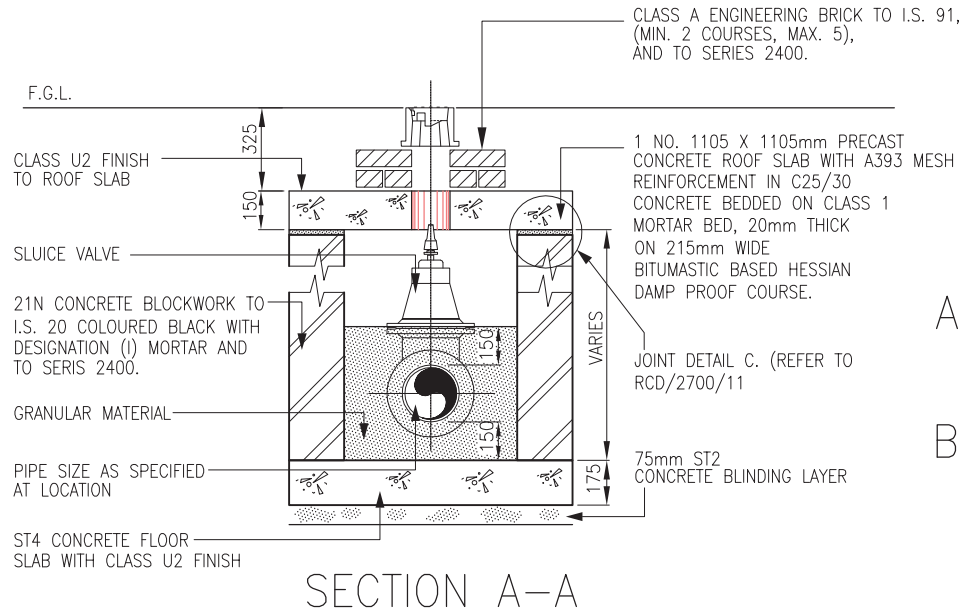
TRENCH DETAIL WHERE MINIMUM COVER NOT PROVIDED



TRENCH DETAIL WHERE MINIMUM COVER PROVIDED

SCALE 1:20

TII PUBLICATION NUMBER: CC-SCD-02703



F.G.L.

CLASS U2 FINISH
TO ROOF SLAB

2 NO. SLUICE VALVES
21N CONCRETE BLOCKWORK TO I.S.
20 COLOURED BLACK WITH
DESIGNATION (I) MORTAR AND
TO SERIS 2400.

GRANULAR MATERIAL

PIPE SIZE AS
SPECIFIED AT LOCATION

ST4 CONCRETE
FLOOR SLAB WITH CLASS U2
FINISH.

CLASS A ENGINEERING BRICK TO I.S. 91,
(MIN. 2 COURSES, MAX. 5),
AND TO SERIES 2400.

1 NO. 1105 X 1105mm PRECAST
CONCRETE ROOF SLAB WITH A393 MESH
REINFORCEMENT IN C25/30
CONCRETE BEDDED ON CLASS 1
MORTAR BED, 20mm THICK ON
215mm WIDE BITUMASTIC BASED
HESSIAN DAMP PROOF COURSE.

JOINT DETAIL C
RCD/2700/11

75mm ST2 CONCRETE
BLINDING LAYER

SECTION D-D

2 NO. PRECAST REINFORCED CONCRETE
ROOF SLABS IN C25/30
CONCRETE

JOINT DETAIL B
(REFER TO DRG. NO.
RCD/2700/11

150 X 150MM OPE.
FOR SLUICE VALVE
(EXACT LOCATION TO BE
DETERMINED ON-SITE).

LIFTING HANDLES CAST TO
CONCRETE ROOF SLAB
(REFER TO DRG. NO.
RCD/2700/11

ROOF PLAN

215MM SOLID CONCRETE BLOCKWORK

PIPE SIZE AS
SPECIFIED AT LOCATION

PIPE SIZE AS
SPECIFIED AT LOCATION

PLAN

215MM WIDE X 100MM DEEP
PRE-CAST CONCRETE LINTEL
OVER BOTH WALL OPE.
MINIMUM LENGTH = OPE SIZE
+ 300MM

C25/30 CONCRETE
REINFORCED WITH 2 NO.
HIGH YIELD REINFORCING
BARS 12MM IN DIAMETER.

SECTION OF P.C.C. LINTEL

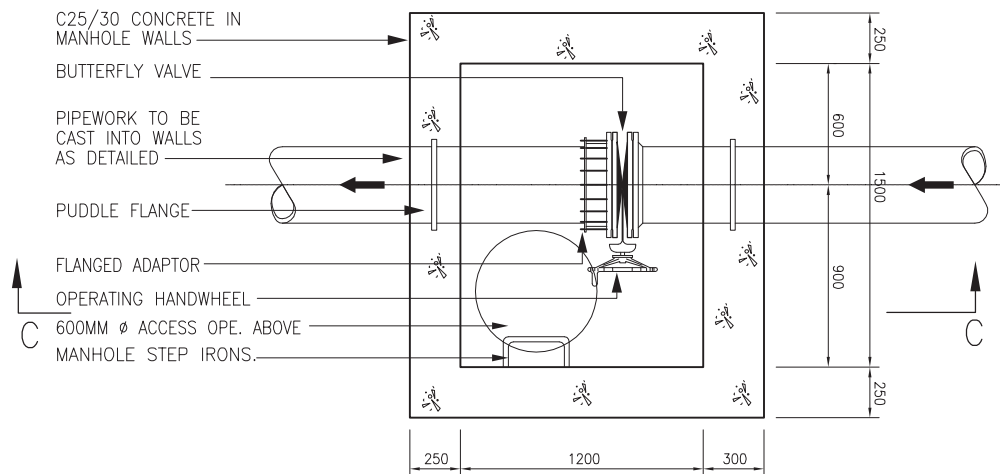
C25/30 CONCRETE
IN CHAMBER FLOORS.

NOTE

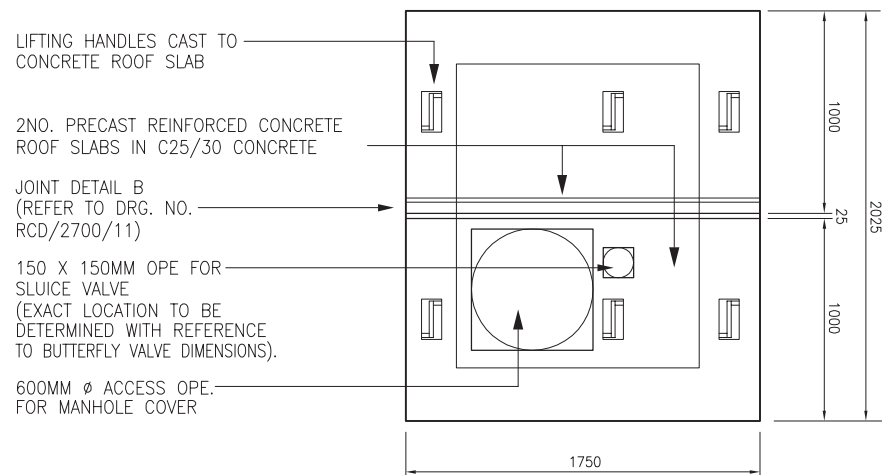
CLEAR OPE IN WALL SIZE VARIES
WITH MAIN PIPELINE DIAMETER.
OPE HEIGHT = OD. + 300MM
OPE WIDTH = OD. + 250MM

75MM BLINDING LAYER IN
ST2 CONCRETE

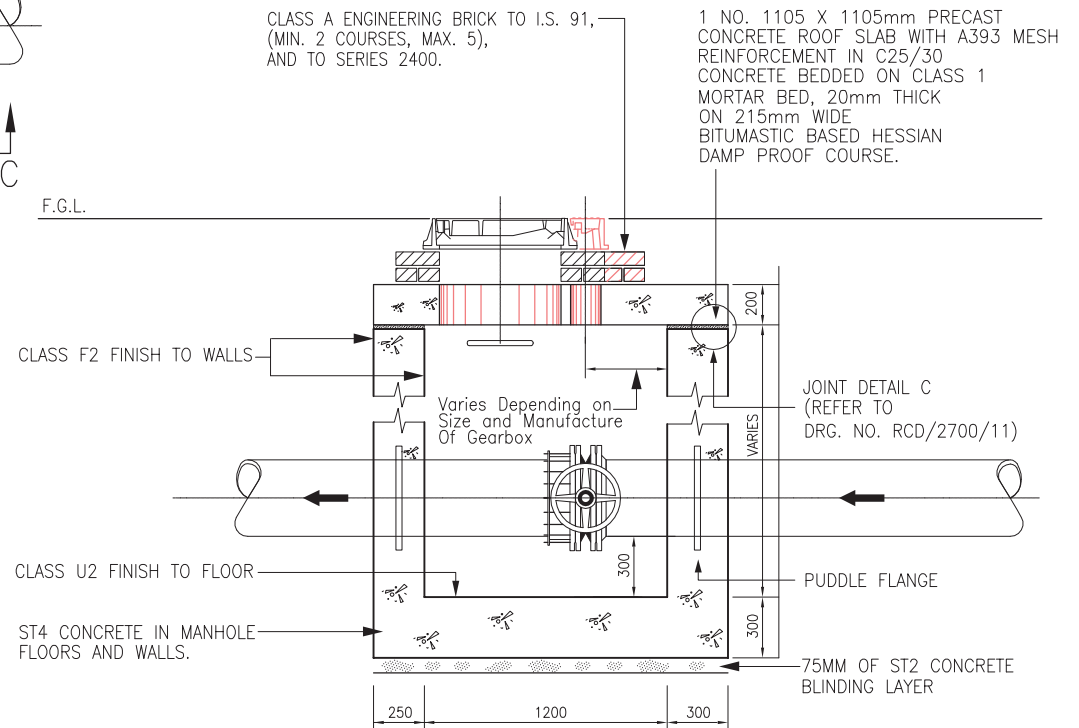
ELEVATION E-E



PLAN



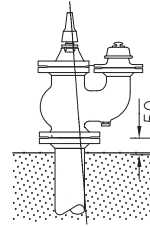
ROOF PLAN



SECTION C-C

TII PUBLICATION NUMBER: CC-SCD-02706

HYDRANT CHAMBER FITTING



TYPICAL SCREWDOWN FIRE HYDRANT TO BS. 750 WITH BAYONET LUGGED OR LONDON ROUND THREAD OUTLET.

NOTES:

1. PIPE LAYOUT AT CHAMBER AS DRAWN UNLESS SPECIFIED OTHERWISE
2. HYDRANT SHOULD BE MARKED IN ACCORDANCE, WITH B.S. 3251 CLASS A.
3. HYDRANT IS NOT TO BE POSITIONED IN THE ROADWAY, (SEE RCD/2700/9).

NOMINAL MAXIMUM DISTANCE BETWEEN GROUND LEVEL AND TOP OF FITTING - 500MM

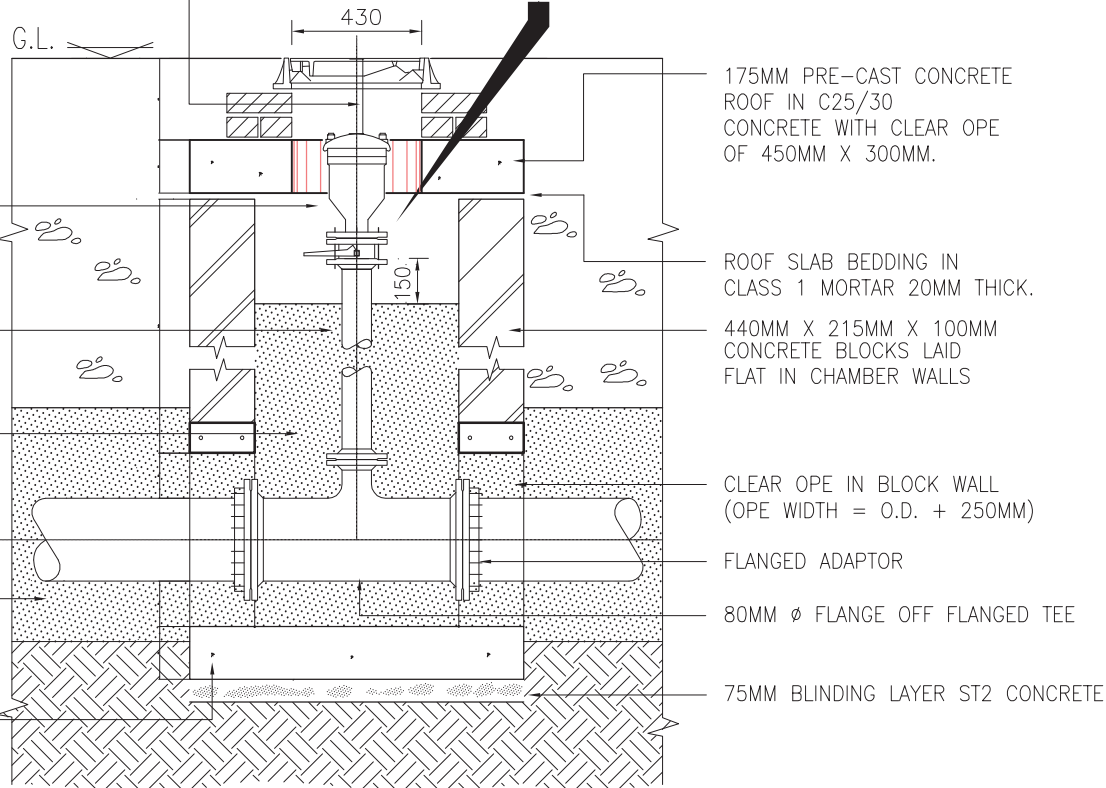
80MM DOUBLE AIR VALVE WITH ISOLATING BUTTERFLY VALVE COMPLETE WITH TAPPED RETAINING FLANGE AND STUD BOLTS

80MM ϕ ALL FLANGED DUCTILE IRON SPACER PIPE IN STANDARD LENGTHS TO SUIT ON-SITE DIMENSIONS

TYPE A GRANULAR FILL TO 300MM OVER CROWN OF PIPE AND TO 150MM BELOW BASE OF AIR VALVE FITTING WITHIN CHAMBER

200MM DEPTH OF GRANULAR MATERIAL AS PIPE BEDDING

175mm ST4 CONCRETE FLOOR SLAB, WITH A393 MESH REINFORCEMENT.

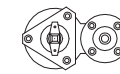


SECTION A-A (SEE DRG. NO. RCD/2700/8 FOR PLAN)

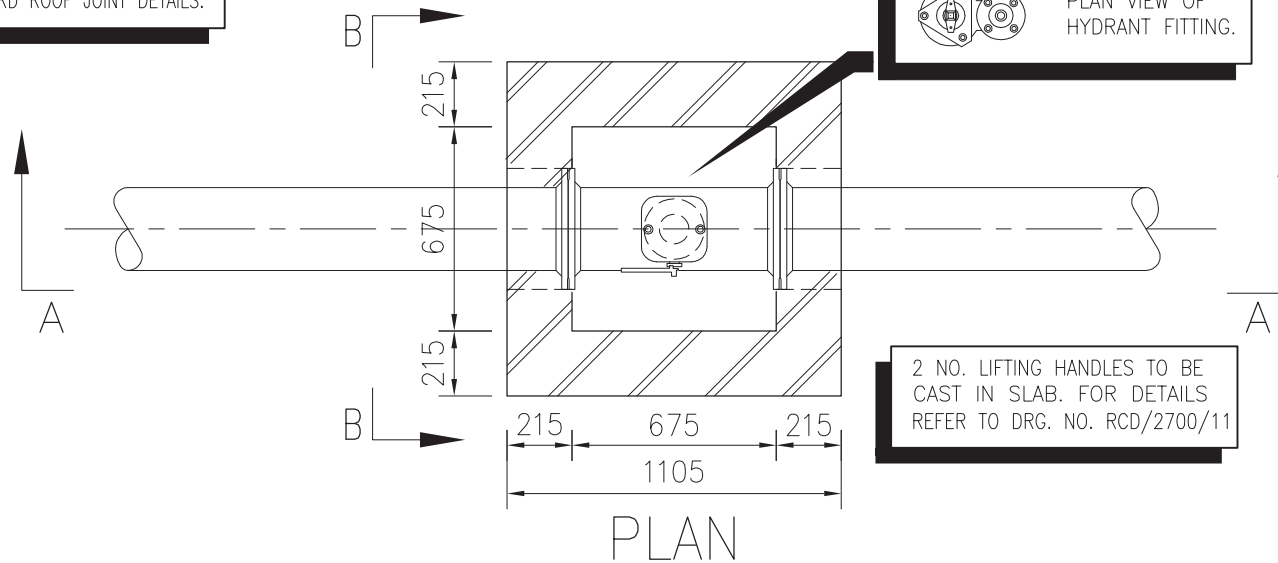
SCALE 1:25

TII PUBLICATION NUMBER: CC-SCD-02707

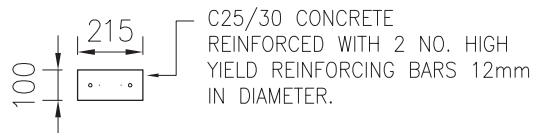
REFER TO DRG. NO. RCD/2700/11
FOR STANDARD ROOF JOINT DETAILS.



PLAN VIEW OF
HYDRANT FITTING.



215mm WIDE X 100mm DEEP
PRE-CAST CONCRETE LINTEL
OVER BOTH WALL OPES.
MINIMUM LENGTH = OPE SIZE + 300mm



SECTION OF P.C.C. LINTEL

C25/30 CONCRETE
IN CHAMBER FLOORS.

NOTE

CLEAR OPE IN WALL SIZE VARIES
WITH MAIN PIPELINE DIAMETER.
OPE HEIGHT = OD. + 300mm
OPE WIDTH = OD. + 250mm

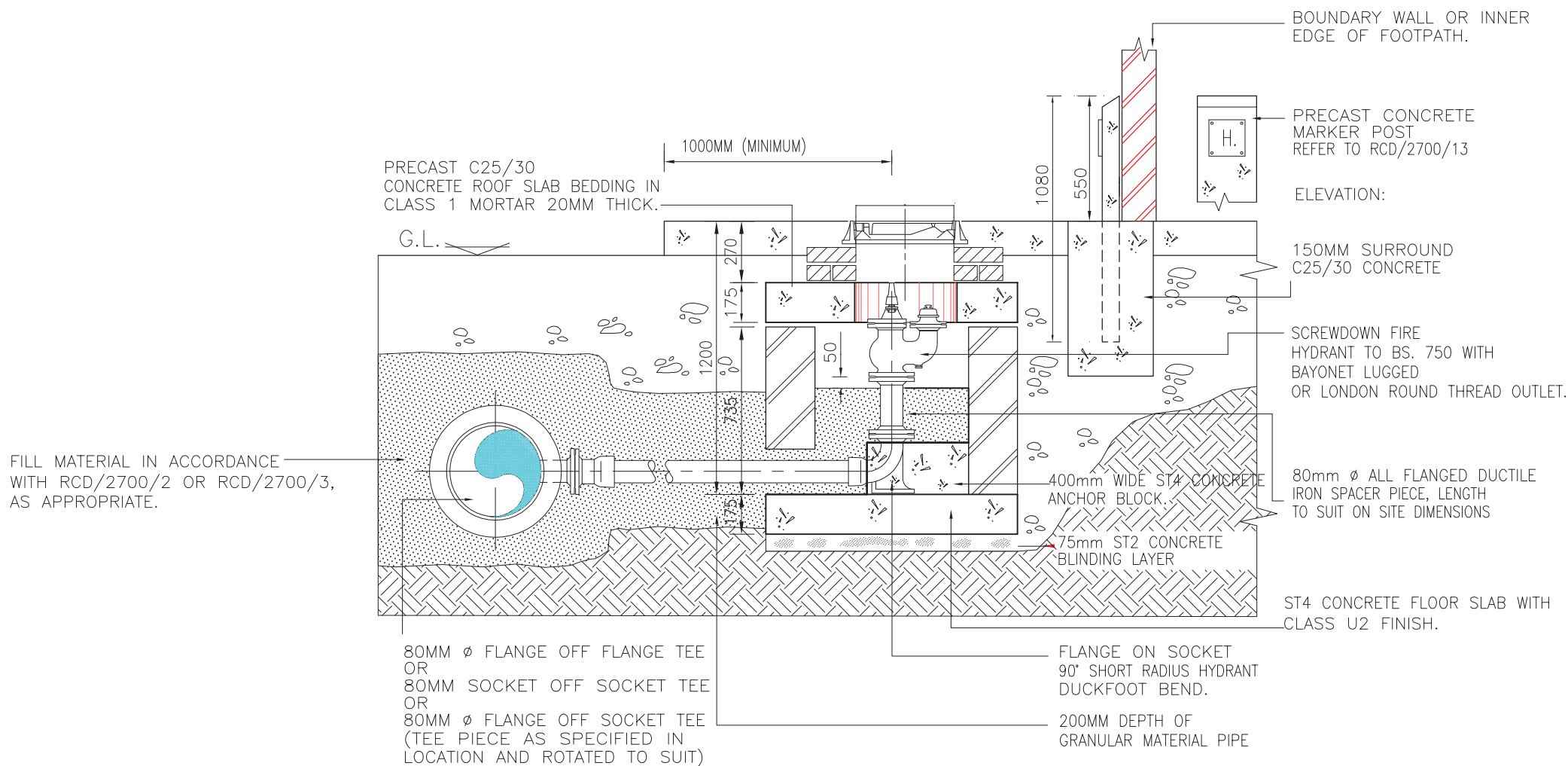
ST4 CONCRETE FLOOR
SLAB WITH CLASS U2 FINISH.

75mm ST2 CONCRETE BLINDING LAYER

ELEVATION B-B

SCALE 1:25

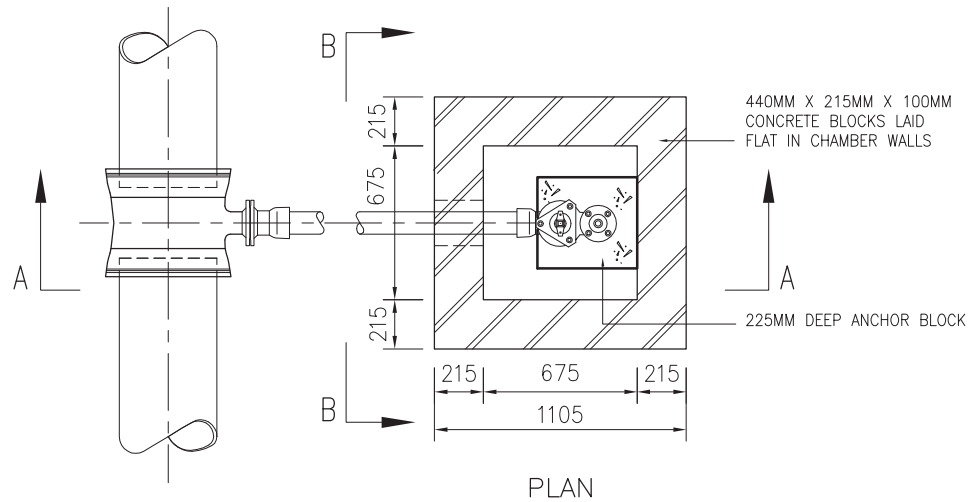
TII PUBLICATION NUMBER: CC-SCD-02708



SECTION A-A (SEE RCD/2700/10 FOR PLAN)

SCALE 1:25

TII PUBLICATION NUMBER: CC-SCD-02709



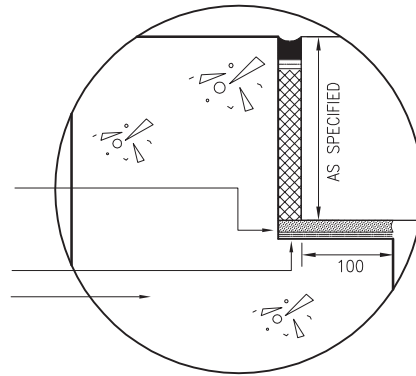
REFER TO RCD/2700/11
FOR STANDARD ROOF JOINT
DETAILS.

2 NO. LIFTING HANDLES TO BE
CAST IN SLAB. FOR DETAILS
REFER TO RCD/2700/11



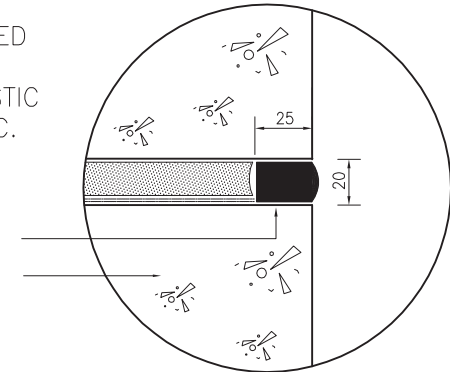
TII PUBLICATION NUMBER: CC-SCD-02710

25MM X 25MM
PLIASTIC A2 SEALANT
ON
BOND BREAKING TAPE
ON
WATERPROOF, NON-ROTTING
PREFORMED BITUMEN BONDED
CORK JOINT FILLER BOARD
20MM CLASS 1 MORTAR BED
ON
2 NO. LAYERS OF BITUMASTIC
BASED HESSIAN TYPE D.P.C.
LAID BREAKING JOINT.
CHAMBER WALLS



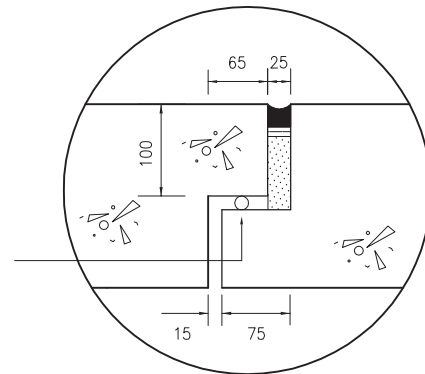
JOINT A

PRE-CAST CONCRETE
ROOF SLAB BEDDED
ON
20MM CLASS 1 MORTAR BED
ON
2 NO. LAYERS OF BITUMASTIC
BASED HESSIAN TYPE D.P.C.
LAID BREAKING JOINT.
POLYSULPHIDE SEALANT
REBATE 25MM X 20MM
CHAMBER WALLS



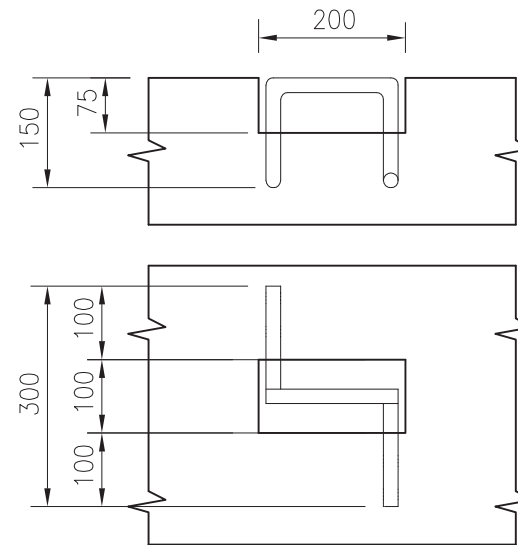
JOINT C

25MM X 25MM
PLIASTIC A2 SEALANT
ON
BOND BREAKING TAPE
ON
WATERPROOF, NON-ROTTING
PREFORMED BITUMEN BONDED
CORK JOINT FILLER BOARD
19MM Ø PREFORMED SELF
ADHESIVE NEOPRENE SEAL



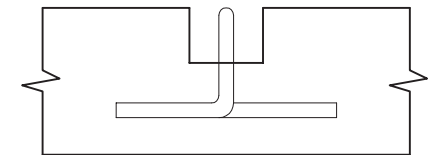
JOINT B

SCALE 1:200



SCALE 1:250

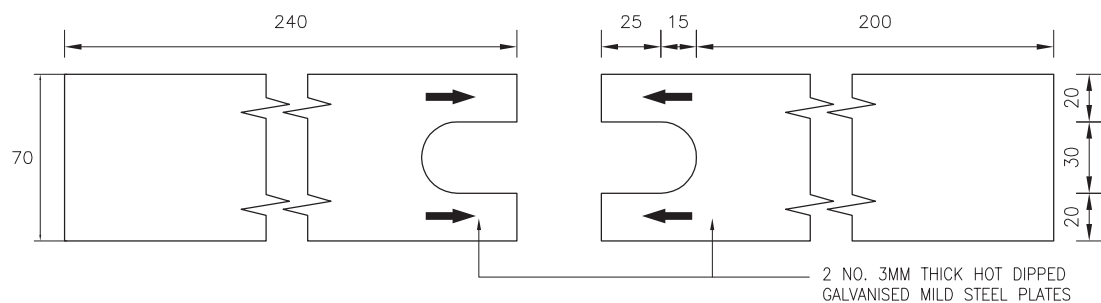
LIFTING HANDLE DETAILS



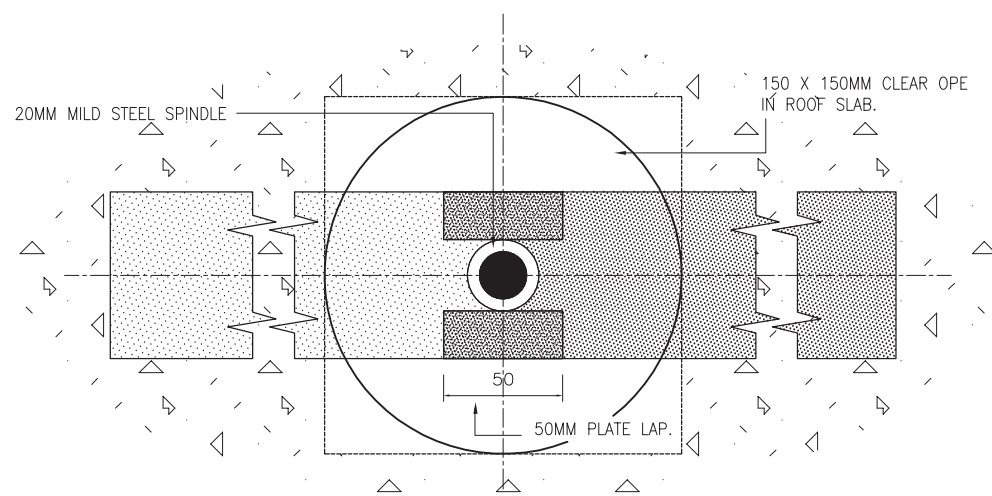
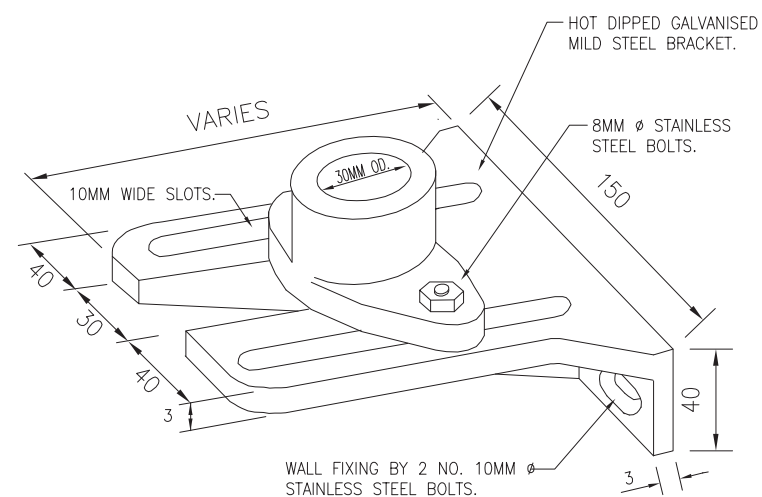
200MM X 100MM X 75MM DEEP
POCKET IN ROOF SLAB.

20MM DIA. MILD STEEL
BARS BENT AS SHOWN AND
HOT DIPPED GALVANIZED
TO EN ISO 1461.

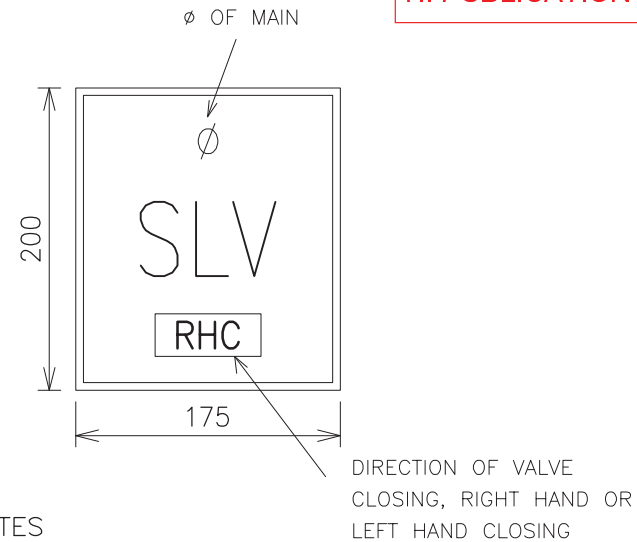
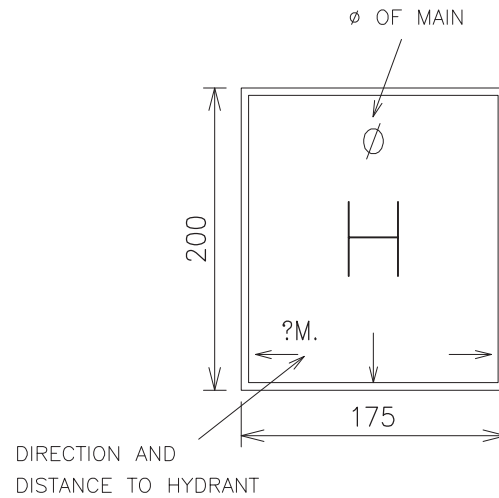
ROOF-FIXED SPINDLE GUIDE



WALL-FIXED SPINDLE GUIDE



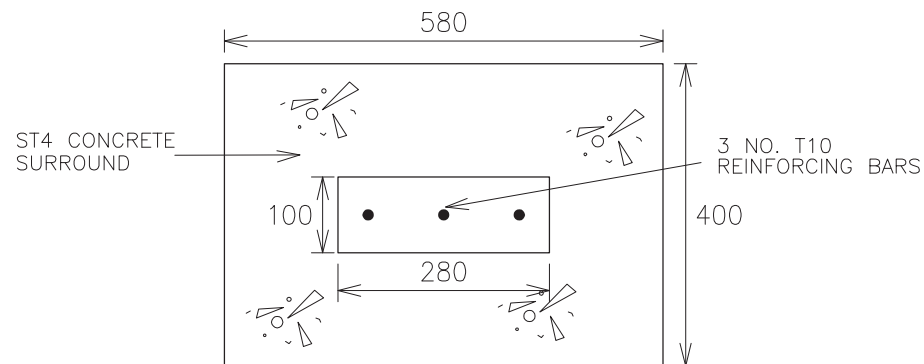
TII PUBLICATION NUMBER: CC-SCD-02712



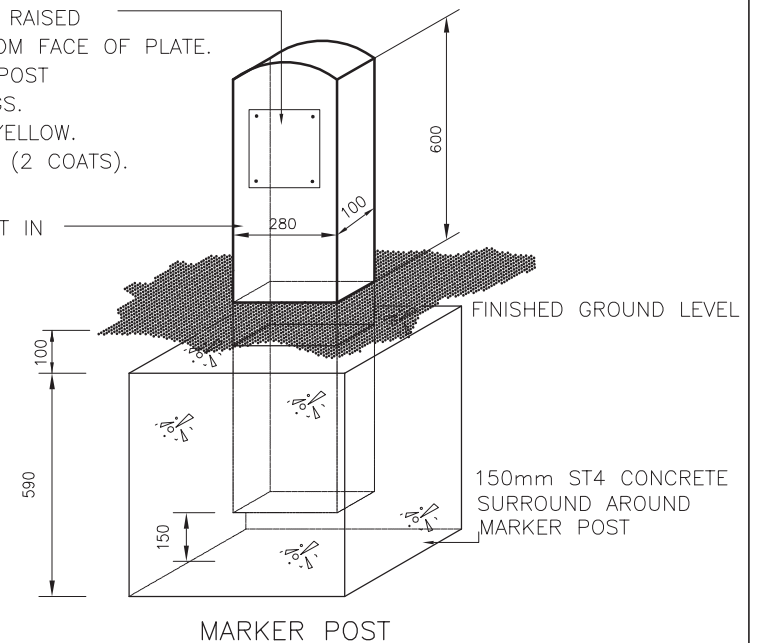
I.D. PLATES

180mm X 210mm X 10mm DEEP INSET IN MARKER POST TO ACCOMMODATE 6mm THICK MARKER PLATE WITH 50mm HIGH RAISED LETTERS STANDING 6mm OUT FROM FACE OF PLATE. PLATE TO BE FIXED TO MARKER POST WITH ALL STAINLESS STEEL FIXINGS. HYDRANT PLATE TO BE PAINTED YELLOW. LETTERING TO BE PAINTED BLACK (2 COATS).

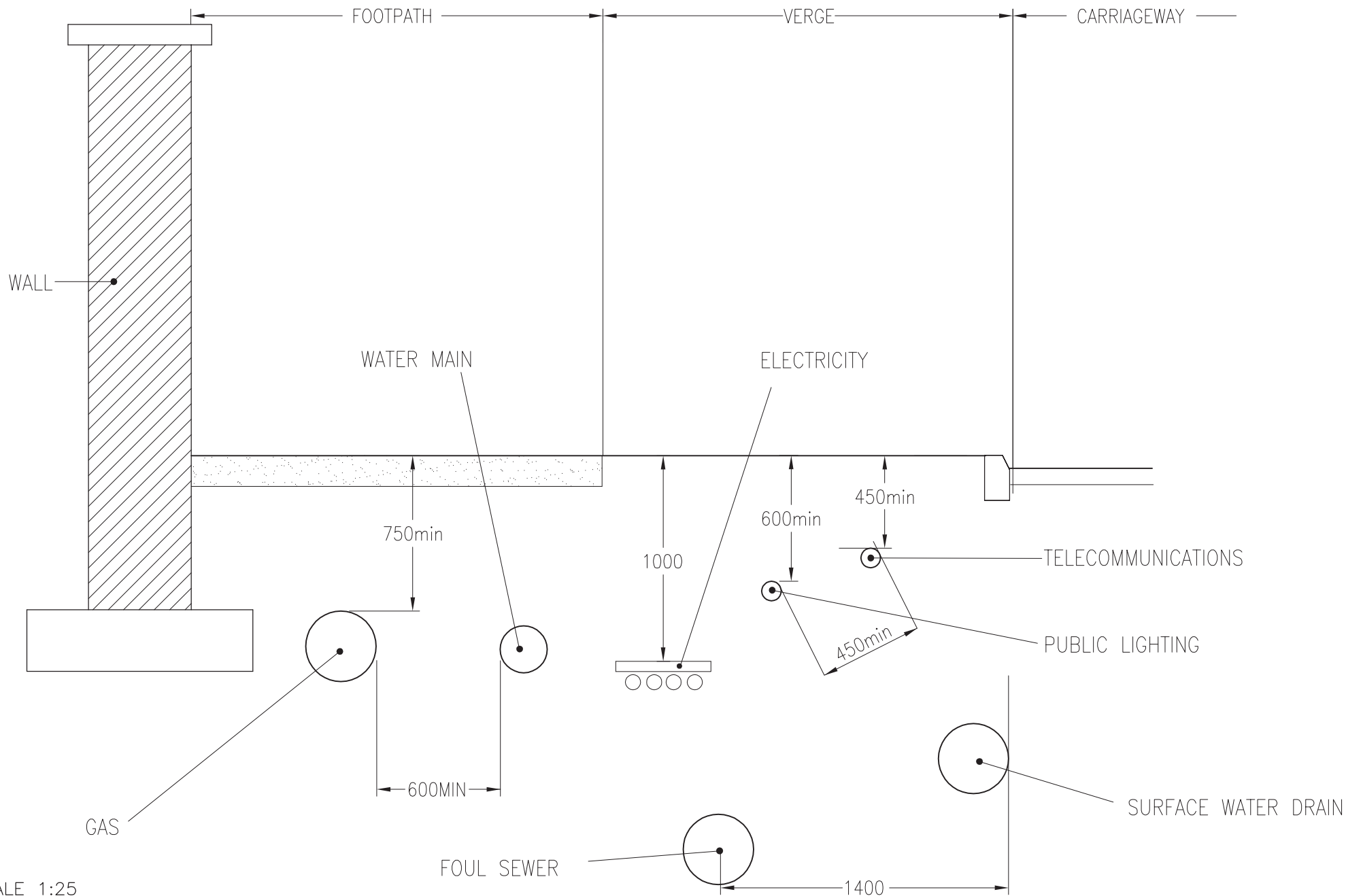
PRECAST CONCRETE MARKER POST IN C25/30 CONCRETE.



SCALE 1:10



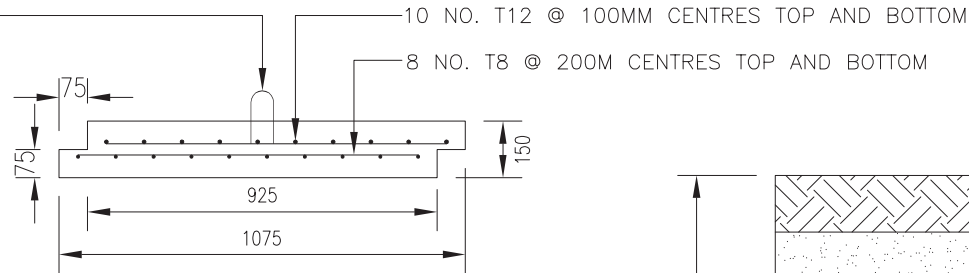
SCALE 1:20



SCALE 1:25

TII PUBLICATION NUMBER: CC-SCD-02750

2 NO. 1 TONNE
LIFTING ANCHORS

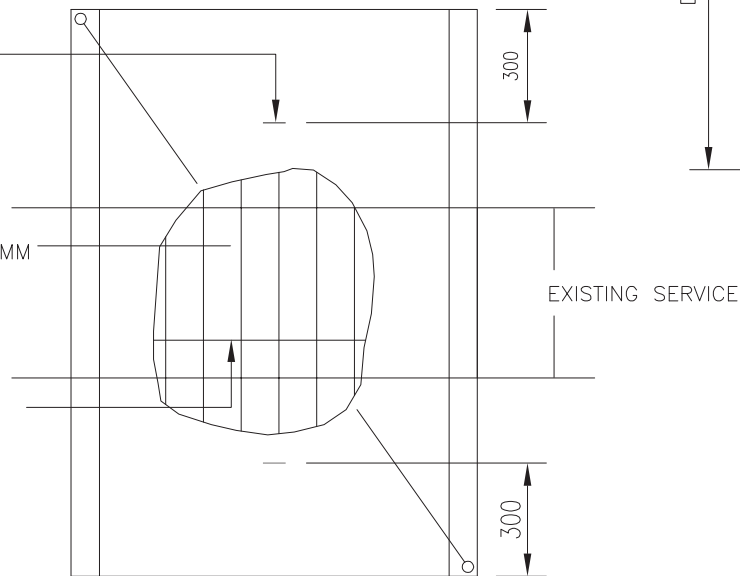


ELEVATION
PRECAST CONCRETE SLAB

2 NO. 1 TONNE
LIFTING ANCHORS

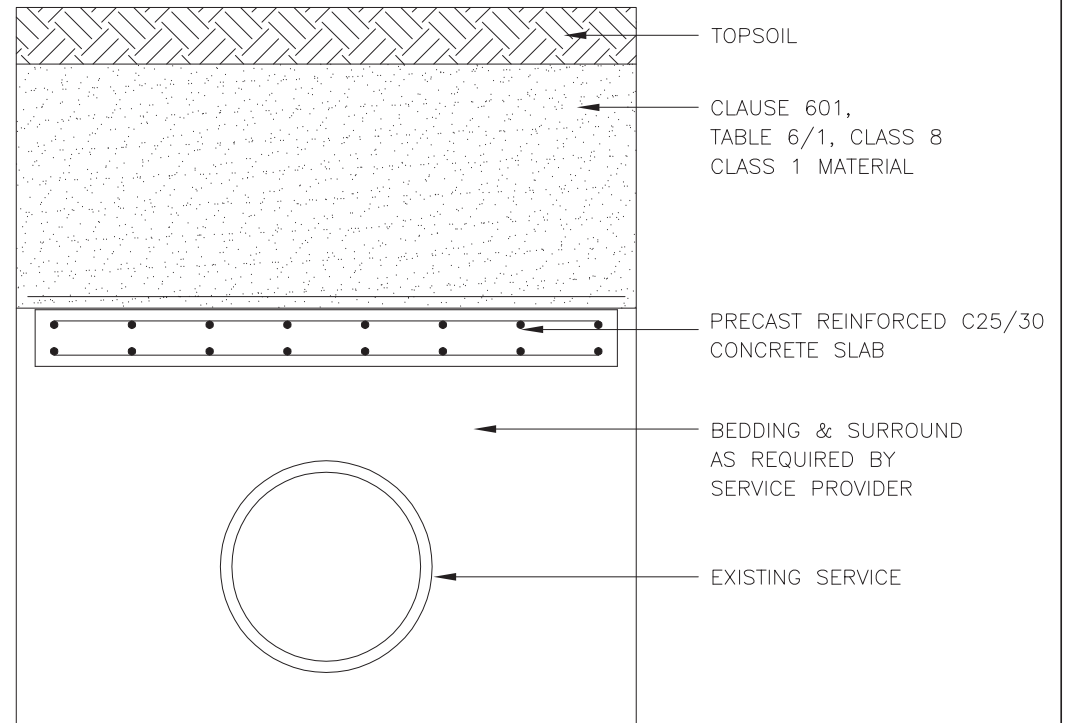
10 NO. T12 @ 100MM
CENTRES TOP
AND BOTTOM

8 NO. T8 @ 200M
CENTRES TOP
AND BOTTOM



PLAN
PRECAST CONCRETE SLAB

DEPTH VARIES

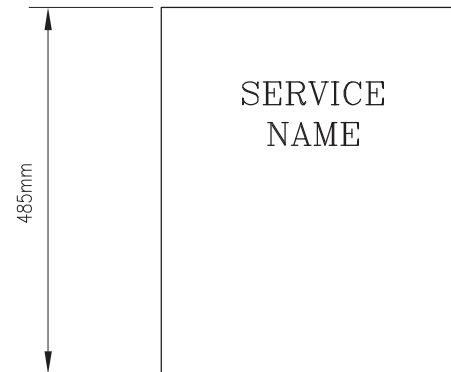


SECTION

NOTES :
ALL DIMENSIONS ARE IN MILLIMETRES
UNLESS OTHERWISE STATED

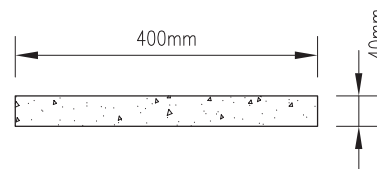
SCALE 1:20

TII PUBLICATION NUMBER: CC-SCD-02751



PLAN

MARKER SLAB, REINFORCED WITH
100 X 100mm Sq. MESH 5mm DIA.
SLAB THICKNESS IS 40mm. GRADE
C25/30 CONCRETE.
REINFORCING BARS SHALL BE 20mm
IN FROM EDGE OF CONCRETE SLAB.

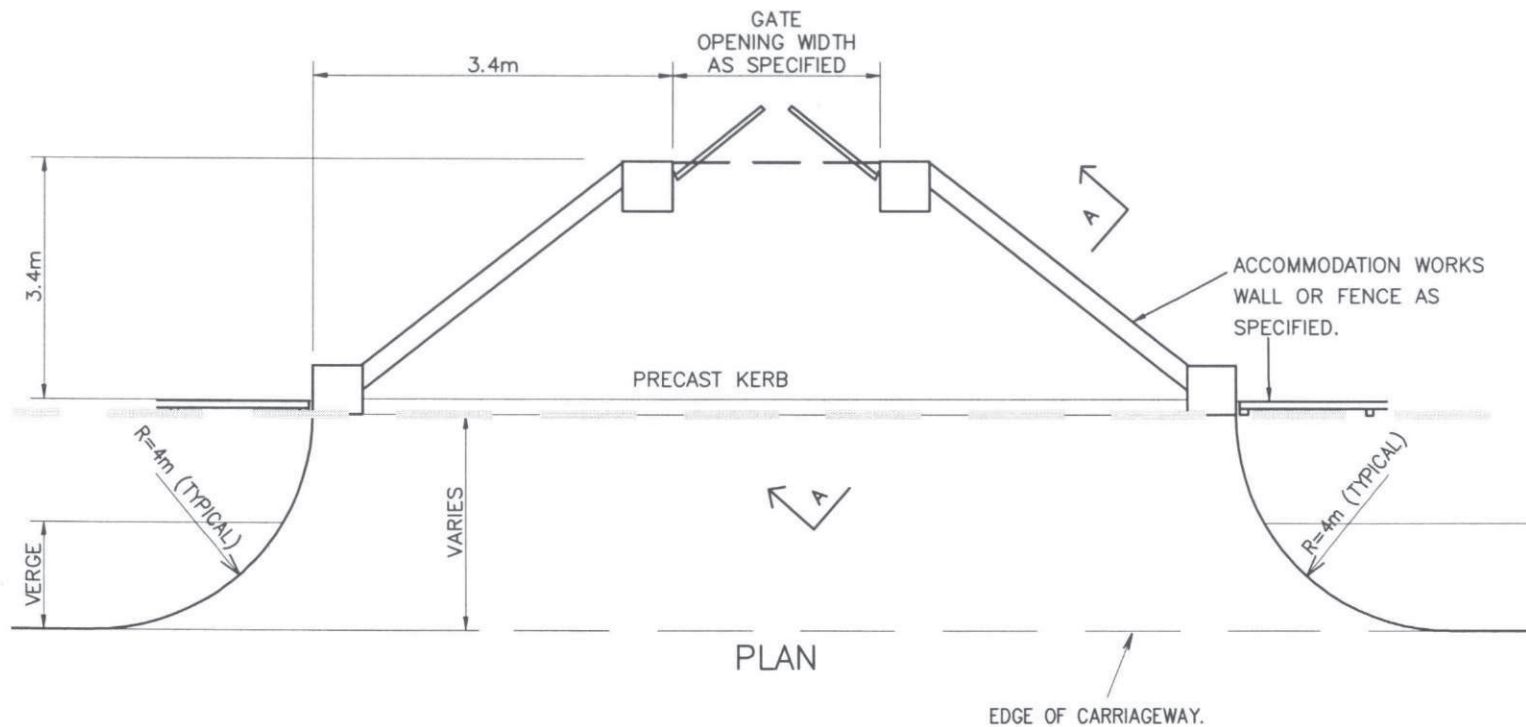


SECTION

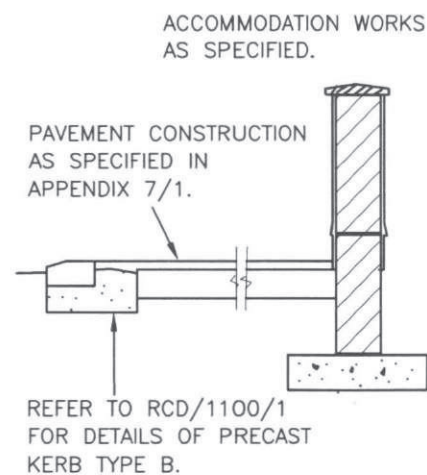
SCALE 1:10

TII PUBLICATION NUMBER: CC-SCD-02752

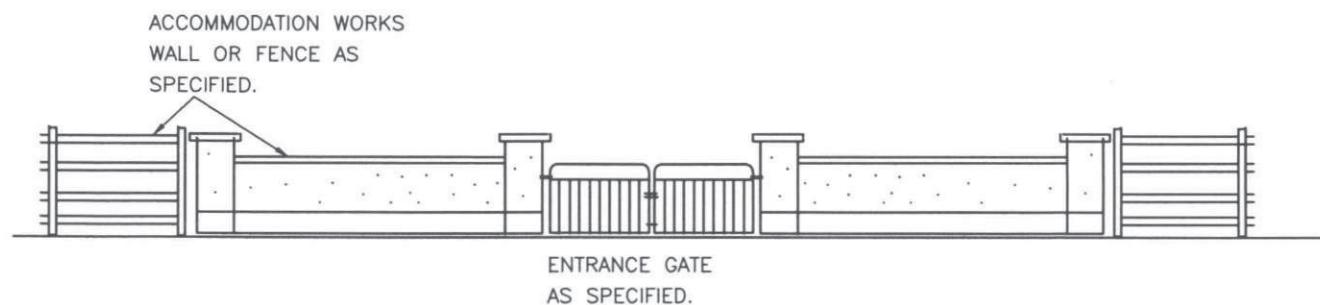
 NRA NATIONAL ROADS AUTHORITY	ROAD CONSTRUCTION DETAILS	WATERMAIN			SERVICES MARKER SLAB	Drawing No.
			P2	03/11		RCD/ 2700/52
			P1	03/00		
			Issue	Date		



PLAN

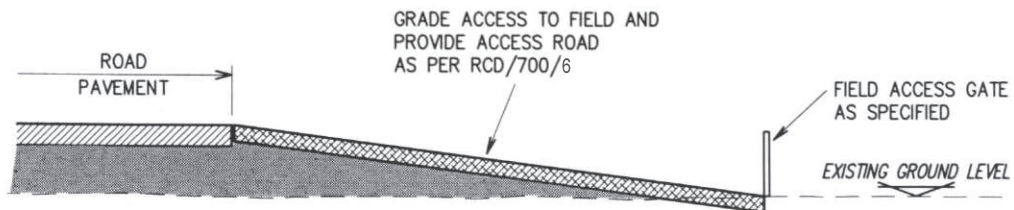


SECTION A-A

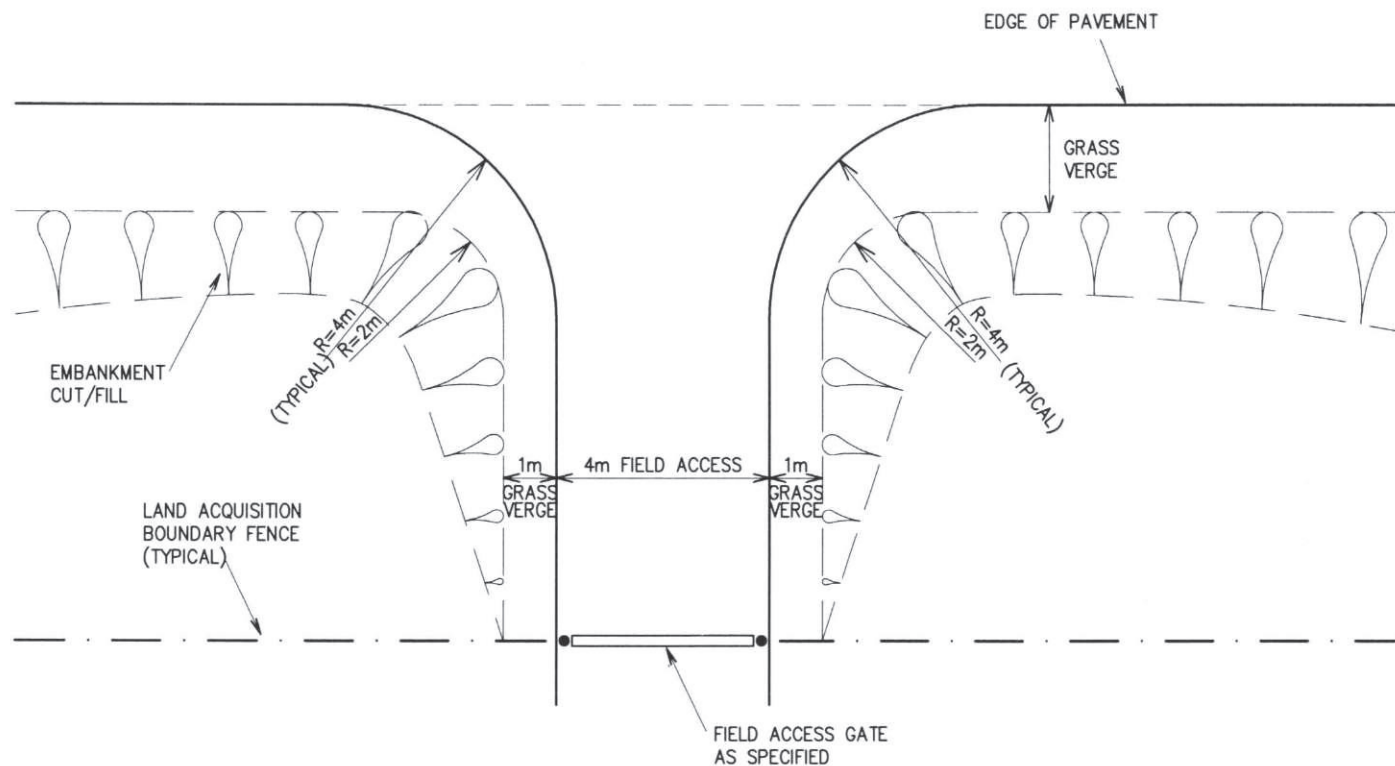


ELEVATION

TII PUBLICATION NUMBER: CC-SCD-02753

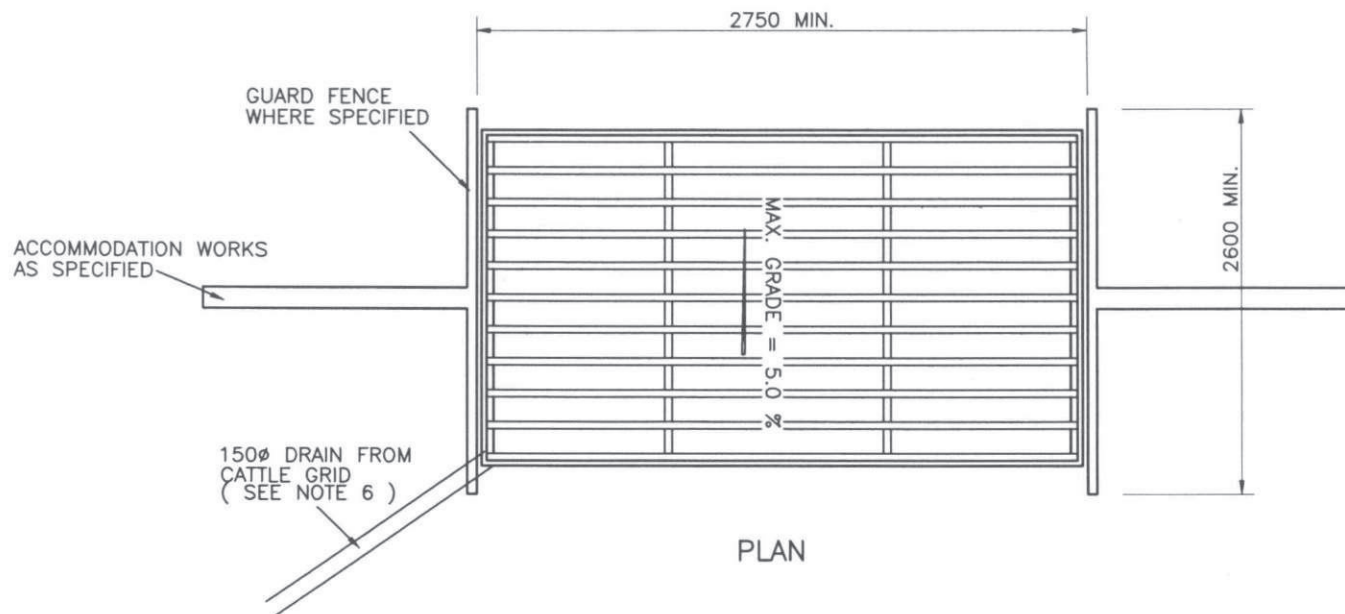


SECTIONAL ELEVATION

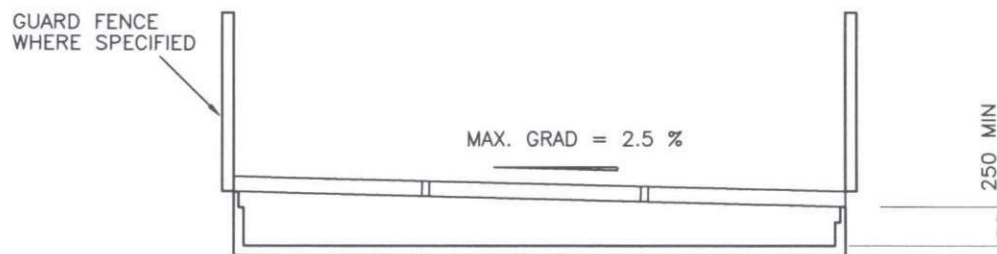


PLAN

TII PUBLICATION NUMBER: CC-SCD-02754



PLAN



ELEVATION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CATTLE GRIDS SHALL COMPLY WITH THIS DETAIL AND THE ADDITIONAL REQUIREMENTS OF I.S. 185 OR BS 4008.
3. THE PIT LENGTH FOR STOCK EXCEPT DEER SHALL BE AT LEAST 2.6m. FOR DEER THIS SHALL BE INCREASED TO AT LEAST 4.0m.
4. THE PIT WIDTH SHALL BE EQUAL TO THE WIDTH OF THE ACCESS ON WHICH IT IS BEING PROVIDED BUT SHALL NOT BE LESS THAN 2.75m.
5. THE PIT DEPTH SHALL BE AT LEAST 250mm WHICH IS CONSIDERED THE PREFERRED DEPTH IN TERMS OF ANIMAL WELFARE. ANY INCREASED DEPTH SHOULD BE ONLY TO PERMIT DRAINAGE FALLS AND/OR TO ACCOMMODATE STRUCTURAL MEMBERS.
6. ADEQUATE DRAINAGE SHALL BE PROVIDED TO PREVENT WATER COLLECTING IN THE PIT.
7. GUARD FENCING SHALL BE PROVIDED WHERE SPECIFIED TO PREVENT ANIMALS SCRAMBLING ROUND THE TERMINAL POSTS OR PILLARS OF THE FENCE OR WALL THAT MEETS THE GRID ON EACH SIDE.
8. RAMPS TO AID THE ESCAPE OF SMALL ANIMALS SHALL BE PROVIDED IN ONE OR TWO CORNERS TO EXIT THE PIT ON THE SIDE AWAY FROM THE STOCK CONTAINMENT.

TII PUBLICATION NUMBER: CC-SCD-02755

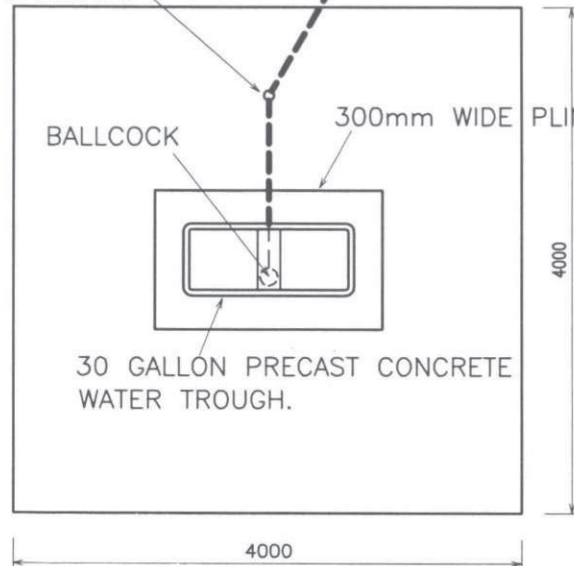
STOPCOCK
COVER & FRAME
AS SPECIFIED

SERVICE PIPE
AS SPECIFIED.

BALLCOCK

300mm WIDE PLINTH.

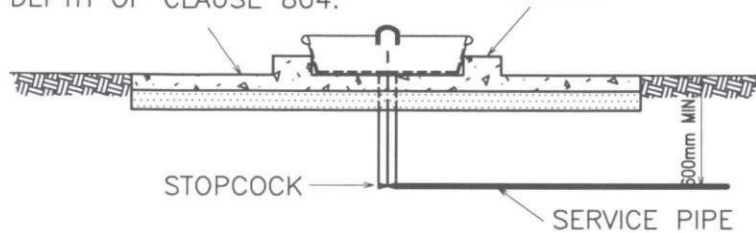
30 GALLON PRECAST CONCRETE
WATER TROUGH.



PLAN

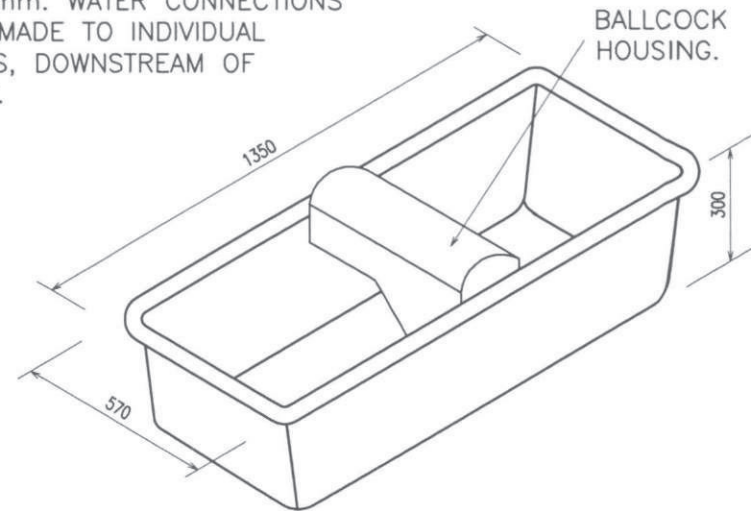
125mm THICK ST4 CONCRETE
SLAB ON MIN. 150mm
DEPTH OF CLAUSE 804.

300mm WIDE X 150mm
HIGH ST4 CONCRETE
PLINTH.



SECTION A-A

NOTE: FOR TYPE 3 (ie. 2 X 75 GALLONS),
2 NO. 12mm. WATER CONNECTIONS
MUST BE MADE TO INDIVIDUAL
BALLCOCKS, DOWNSTREAM OF
STOPCOCK.



30 GALLON PRECAST CONCRETE WATER TROUGH

TYPE	CAPACITY (GALLONS)	TROUGH DIMENSIONS (L X W X D)M	PLINTH DIMENSIONS (L X W)M	HARDSTANDING DIMENSIONS (M)
1	30	1.35 x 0.57 x 0.3	1.8 x 1.1	4.0 x 4.0
2	75	1.5 x 0.9 x .03	2.1 x 1.4	4.0 x 4.0
3	150	2 x TYPE 2	2.3 x 2.0	5.5 x 4.0

II P Blication NUMBER: CC-SCD-02756

NRA NATIONAL
ROADS
AUTHORITY

STANDARD ROAD
DETAILS

ACCOMMODATION
WORKS

P1	03/00
Issue	Date

WATER TROUGHS

Drawing No.

RCD/
2700/103



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