



Bonneagar Iompair Éireann
Transport Infrastructure Ireland

TII Publications



Standard Construction Details - Series 500

September 2024

Standard Construction Details (SCDs) – Series 500

TII Publications contains Standard Construction Details (SCDs) for use on National Road schemes in Ireland. This composite document brings together all the Series 500 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 500 Drainage and Service Ducts

CC-SCD-00501	Drainage - Chamber Types
CC-SCD-00502	Drainage Chamber Type A (Block or In Situ Concrete Manhole)
CC-SCD-00503	Drainage Chamber Type B (Block or In Situ Concrete Manhole)
CC-SCD-00504	Drainage Chamber Type C (Precast Concrete Manhole)
CC-SCD-00505	Drainage Chamber Type D (Precast Concrete Manhole)
CC-SCD-00506	Drainage Chamber Type E (Precast Concrete Manhole)
CC-SCD-00507	Drainage - Chamber Type E Typical Hinged Grating Details
CC-SCD-00508	Vertical Backdrop in Manholes
CC-SCD-00509	Drainage Chamber Type F (Precast Catchpit)
CC-SCD-00510	Drainage Precast Concrete Gully
CC-SCD-00511	Drainage In Situ Concrete and Blockwork Gullies
CC-SCD-00512	Drainage Gully Grating
CC-SCD-00513	Drainage - Chamber Fittings - Ladder, Typical Arrangement Handhold and Safety Chain
CC-SCD-00514	Drainage Typical Chamber Details
CC-SCD-00515	Drainage Chamber Type G (Precast Catchpit)

TRANSPORT INFRASTRUCTURE IRELAND (TII) PUBLICATIONS

CC-SCD-00520	Drainage Filter Drains Trench and Bedding Details
CC-SCD-00521	Drainage Surface Water Drains - Trench and Bedding Details
CC-SCD-00522	Edge of Pavement Details - Cross Section of Concrete Surface Water Channel
CC-SCD-00523	Drainage - Drainage Channel Blocks Types A, B and C
CC-SCD-00524	Drainage - Drainage Channel Blocks Types D, E and F
CC-SCD-00525	Drainage Typical Swale Details
CC-SCD-00526	In-Line Outlet to Triangular Surface Water Channel
CC-SCD-00527	Drainage - In-Line Outlet to Trapezoidal Surface Water Channel
CC-SCD-00528	Weir Outlet to Surface Water Channel
CC-SCD-00529	Drainage Slope Drainage Herringbone Filter Drains
CC-SCD-00540	Drainage Edge of Pavement Drains - Fin Drains and Narrow Filter Drains
CC-SCD-00541	Drainage Edge of Pavement Drains - Installation of Fin Drains
CC-SCD-00542	Drainage Edge of Pavement Drains - Installation of Narrow Filter Drains
CC-SCD-00543	Drainage Edge of Pavement Drains - Under Channel Drainage Layers
CC-SCD-00550	Drainage Rock Armour: Scour Protection
CC-SCD-00551	Drainage - Self Clearing Inlet Grid Detail
CC-SCD-00552	Drainage - Outlet Grid Detail
CC-SCD-00553	Drainage - G.A. of Formed Headwalls 150 - 1800 Diameter Pipes
CC-SCD-00560	Road Construction Details Ducts Transverse Ducts
CC-SCD-00561	Road Construction Details Ducts Trench Cross Sections Under Trafficked Areas
CC-SCD-00562	Road Construction Details Ducts Trench Cross Sections Under Non - Trafficked Areas

TRANSPORT INFRASTRUCTURE IRELAND (TII) PUBLICATIONS

CC-SCD-00563	Road Construction Details Ducts Duct Crossing Types
CC-SCD-00564	Road Construction Details Ducts Footway/Verge Draw Pit
CC-SCD-00565	Road Construction Details Ducts Carriage Draw Pit Type A
CC-SCD-00566	Road Construction Details Ducts Carriage Draw Pit Type B
CC-SCD-00567	Road Construction Ducts Duct Spacer and Strapping For Trenchless Construction

CHAMBER TYPES (IN-SITU OR PRECAST MANHOLES)

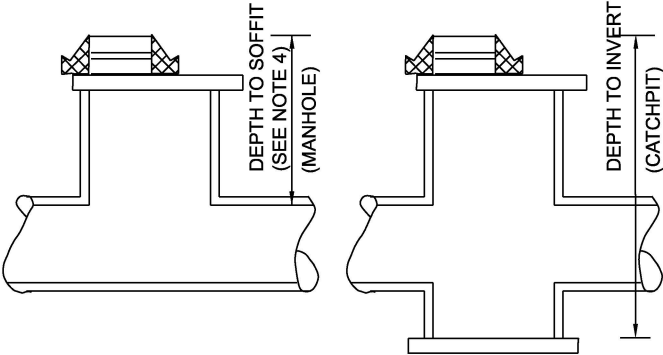
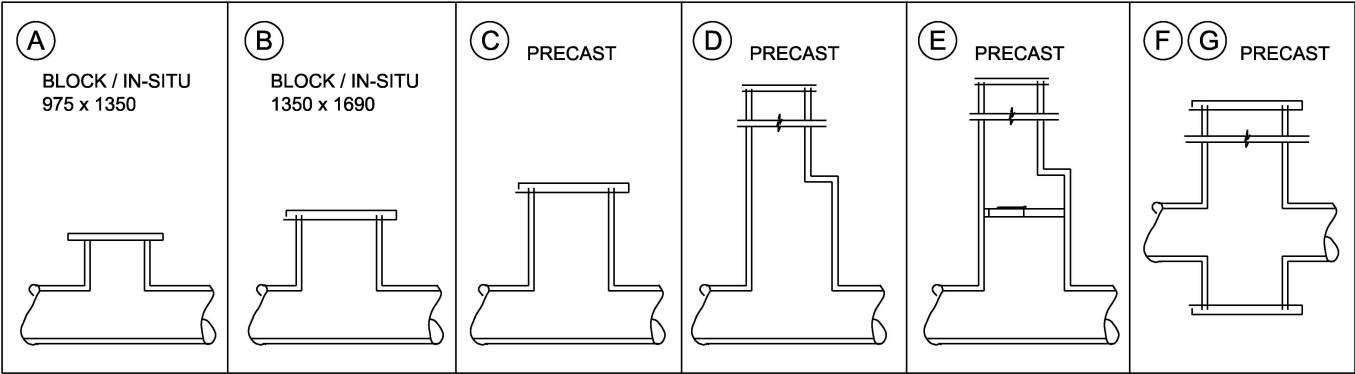
DEPTH TO SOFFIT (m) (SEE NOTE 4)		PIPE DIAMETER								
		225	300	375	450	525	600	675	750	900
0	→ 1	A 975x1350	A 975x1350	A 975x1350	A 975x1350	B1350x1690	B1350x1690	B1350x1690	B1350x1690	B1350x1690
1	→ 3	C 1050	C 1050	C 1050	C 1050	C 1200	C 1200	C 1350	C 1350	C 1500
3	→ 6		D 1050	D 1050	D 1050	D 1200	D 1200	D 1350	D 1500	D 1500
6	→ 12		E 1500	E 1500	E 1500	E 1500	E 1500	E 1500	E 1500	E 1500

NOTES:



1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
2. IN LOCATIONS WHERE THE CHAMBER IS COLLECTING SURFACE WATER RUNOFF, TYPE F OR G CATCHPIT CHAMBER SHALL BE REQUIRED AS SHOWN ON CC-SCD-00509 AND CC-SCD-00515.
3. A MINIMUM 40% OF THE CHAMBER WALL SHALL REMAIN IN ANY HORIZONTAL PLANE.
4. THE DEPTH TO SOFFIT OF THE MANHOLE CHAMBER IS DEFINED AS THE DEPTH FROM THE MANHOLE COVER TO THE HIGHEST PIPE SOFFIT IN THE MANHOLE. DEPTH TO INVERT FOR THE MANHOLE EQUALS DEPTH TO PIPE SOFFIT + PIPE DIAMETER.

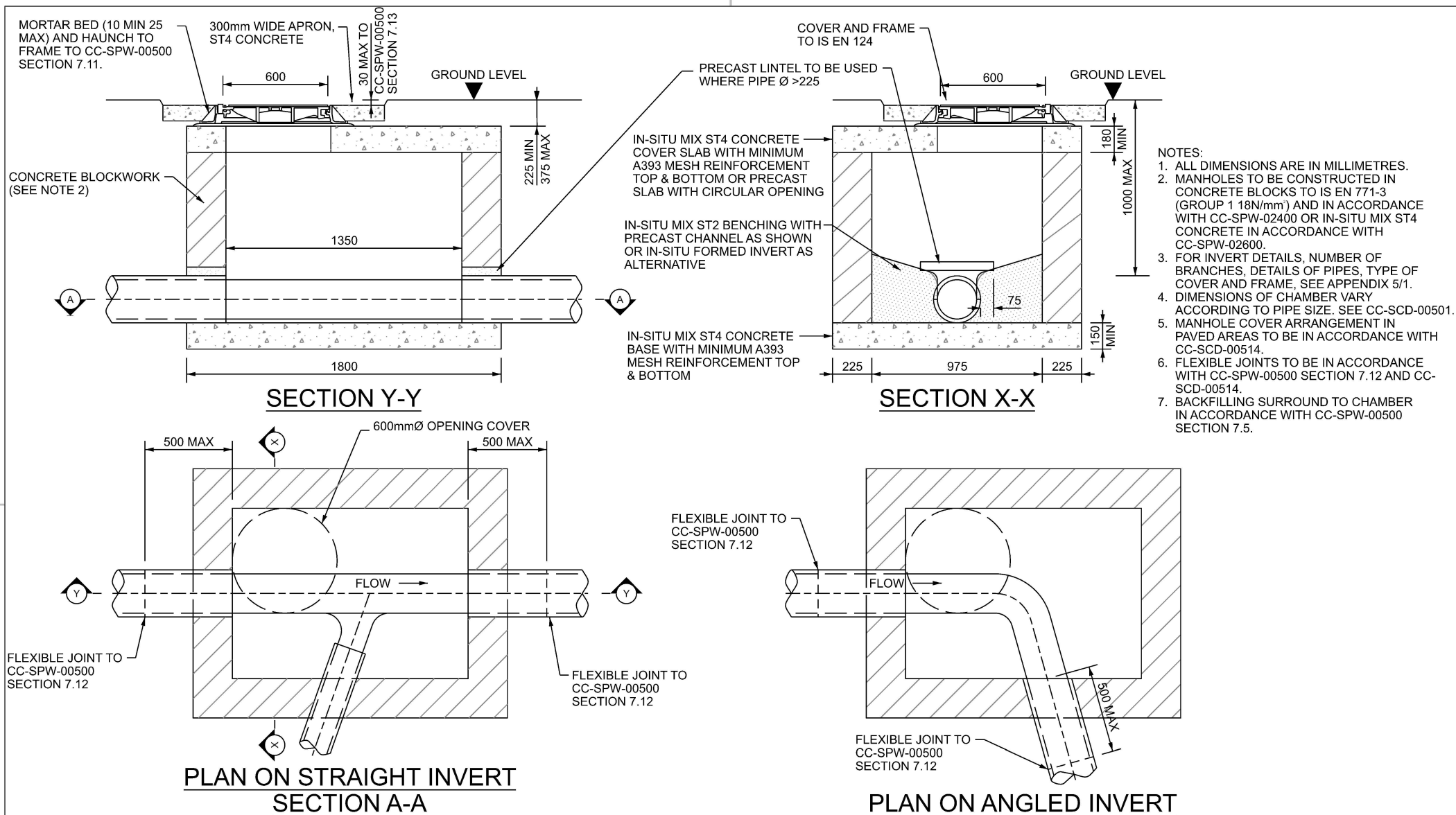
CHAMBER TYPES (PRECAST CATCHPITS)

DEPTH TO INVERT(m)	PIPE DIAMETER						
	225	300	375	450	525	600	675-900
0 → 1.8	F1050	F1050	F1050	F1050	G1200	G1200	G1500
1.8 → 3.0	G1050	G1050	G1050	G1050	G1200	G1200	G1500





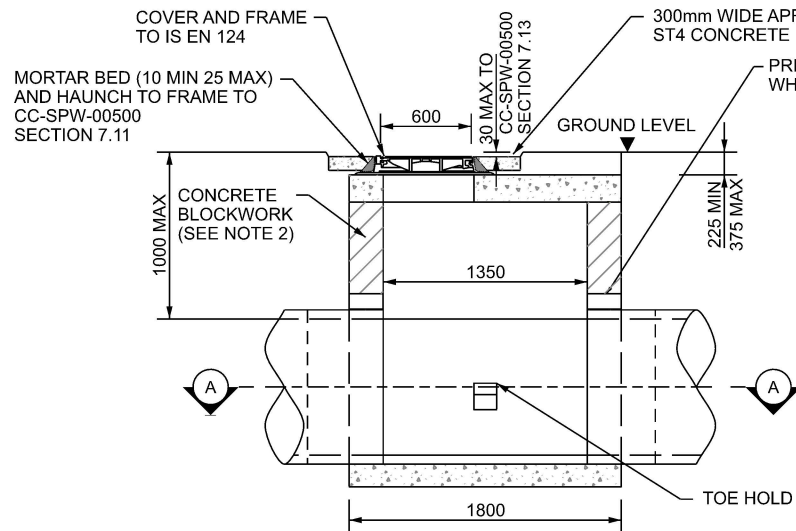
NOT TO SCALE

 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE			
	 Construction & Commissioning	DRAINAGE CHAMBER TYPES			
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
	STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/1	STANDARDS	FEBRUARY 2024	<div>ACTIVITY</div> CC <div>STREAM</div> SCD <div>DRAWING NUMBER</div> 00501

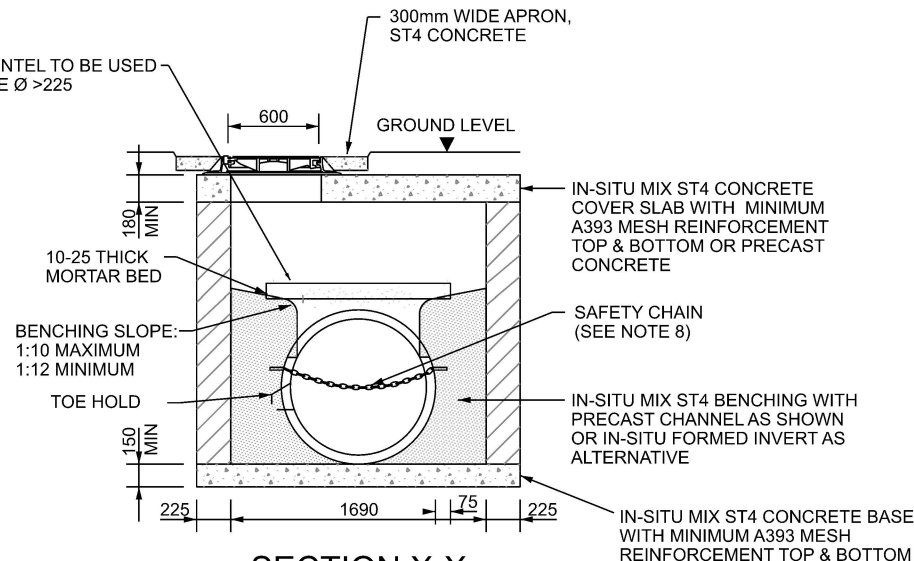


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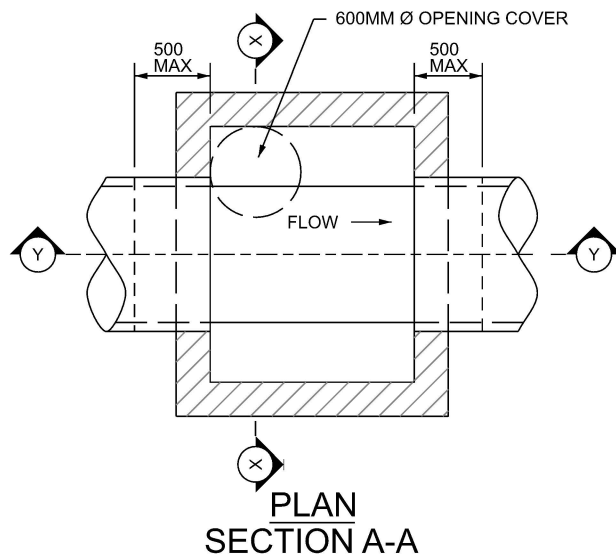
 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE				
	 Construction & Commissioning	DRAINAGE CHAMBER TYPE A (BLOCK OR IN-SITU CONCRETE MANHOLE)				
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER	
STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/2	STANDARDS	SEPTEMBER 2024	ACTIVITY CC	STREAM SCD	DRAWING NUMBER 00502



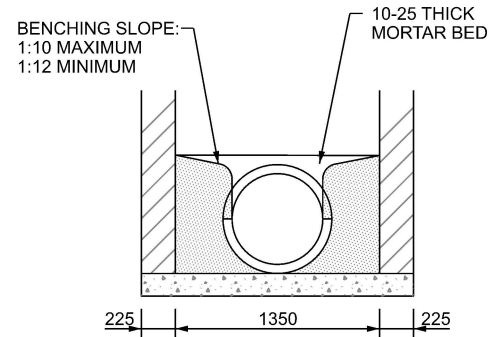
SECTION Y-Y



SECTION X-X



PLAN
SECTION A-A

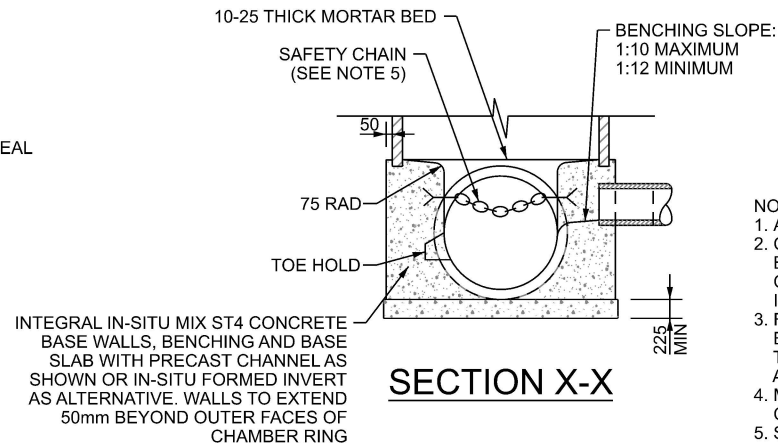
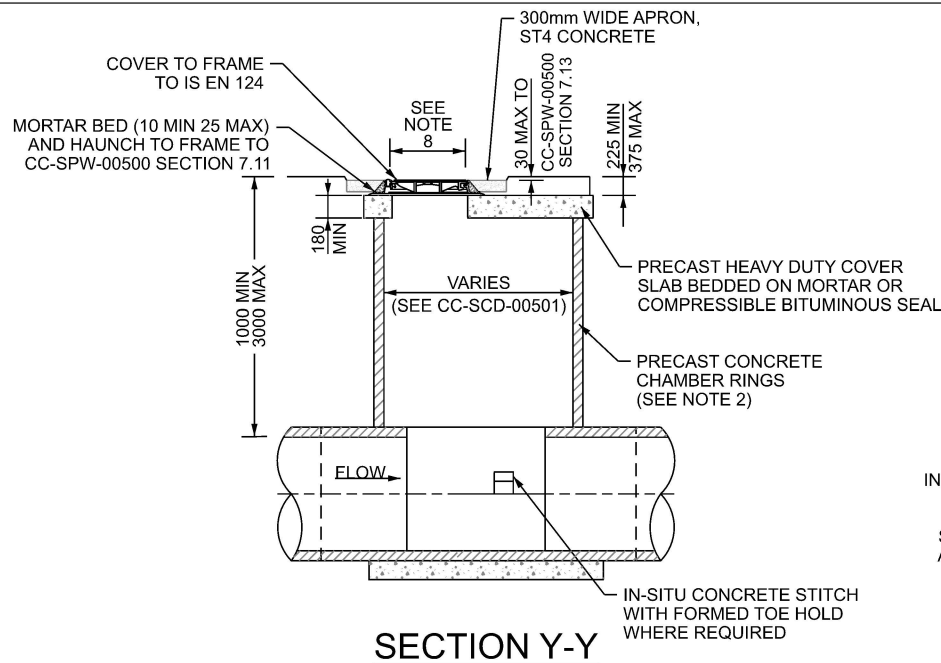


PART SECTION SHOWING BENCHING
(FOR PIPES LESS THAN 600mm DIAMETER)

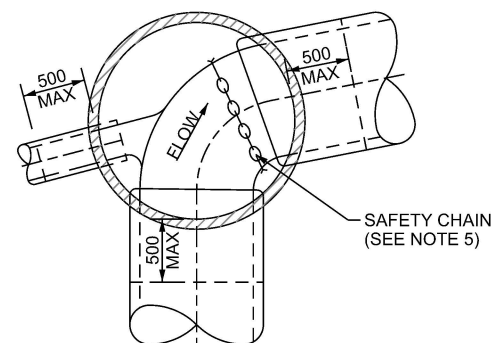
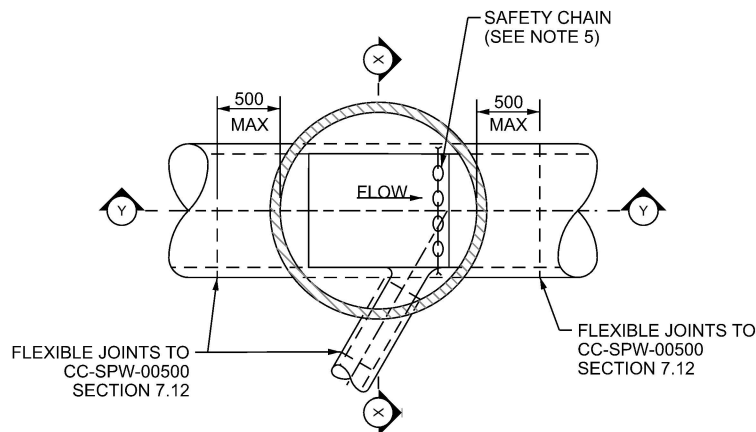
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. MANHOLES TO BE CONSTRUCTED IN CONCRETE BLOCKS TO IS EN 771-3 (GROUP 1 18N/mm²) AND IN ACCORDANCE WITH CC-SPW-02400 OR IN-SITU MIX ST4 CONCRETE IN ACCORDANCE WITH CC-SPW-02600.
3. FOR INVERT DETAILS, NUMBER OF BRANCHES, DETAILS OF PIPES, TYPE OF COVER AND FRAME, SEE APPENDIX 5/1.
4. DIMENSIONS OF CHAMBER VARY ACCORDING TO PIPE SIZE. SEE CC-SCD-00501.
5. MANHOLE COVER ARRANGEMENT IN PAVED AREAS TO BE IN ACCORDANCE WITH CC-SCD-00514.
6. FLEXIBLE JOINTS TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.12 AND CC-SCD-00514.
7. BACKFILLING SURROUND TO CHAMBER IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.5.
8. FOR DETAILS OF SAFETY CHAIN AND TOE HOLD SEE CC-SCD-00513.

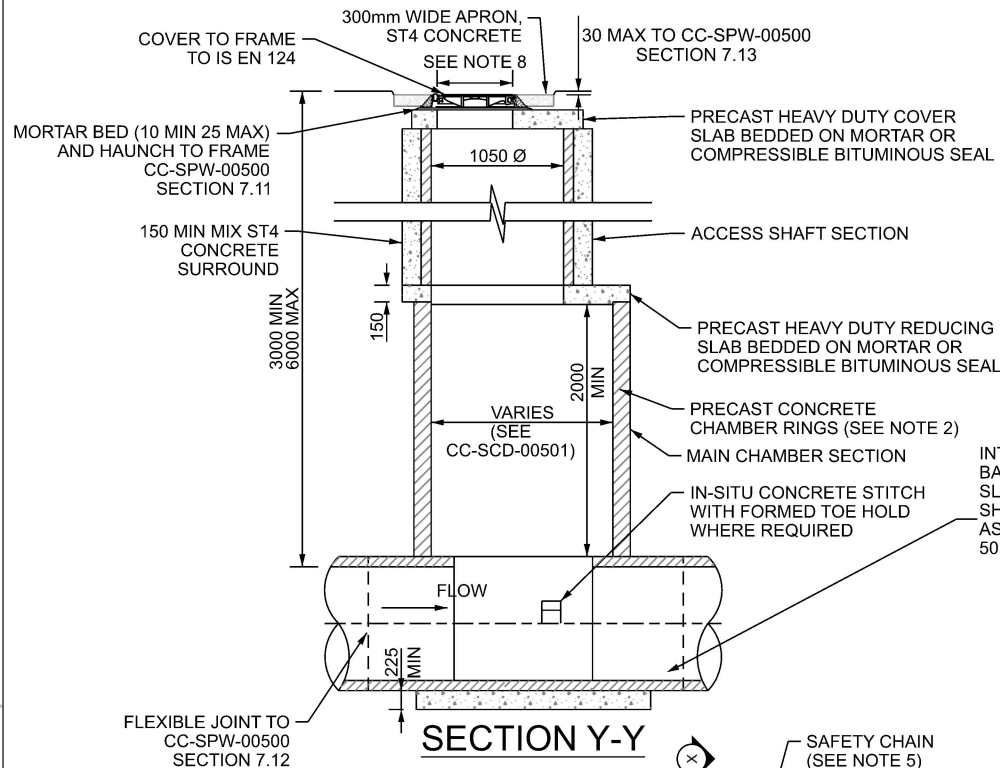
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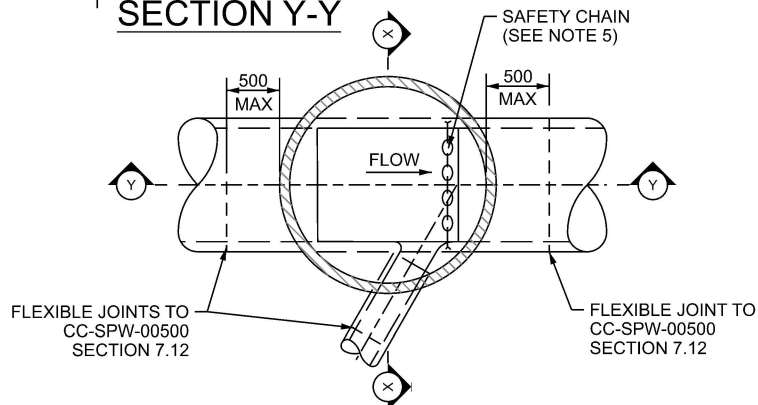
- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED IN PRECAST CONCRETE TO BS 5911-3 IS EN 1917 AND IS 420.
 3. FOR INVERT DETAILS, NUMBER OF BRANCHES, DETAILS OF PIPES AND TYPE OF COVER AND FRAME, SEE APPENDIX 5/1.
 4. MORTAR TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.11.
 5. SAFETY CHAIN REQUIRED WHERE PIPE IS GREATER THAN 600mm DIAMETER. SEE CC-SCD-00513 FOR DETAILS OF SAFETY CHAIN AND TOEHOLDS.
 6. MANHOLE COVER ARRANGEMENT IN PAVED AREAS TO BE IN ACCORDANCE WITH CC-SCD-00514.
 7. FLEXIBLE JOINTS TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.12 AND CC-SCD-00514.
 8. PERMITTED CLEAR ACCESS FOR OPENINGS IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.7.
 9. BACKFILLING SURROUND TO CHAMBER IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.5.



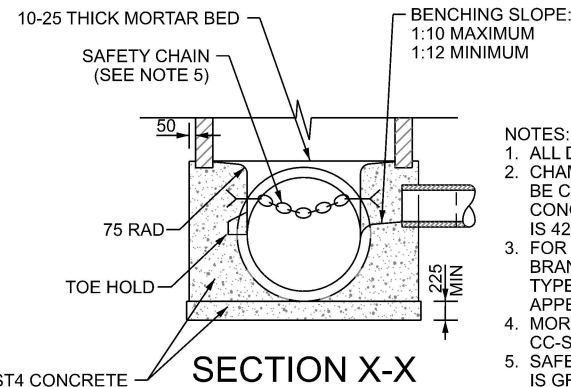
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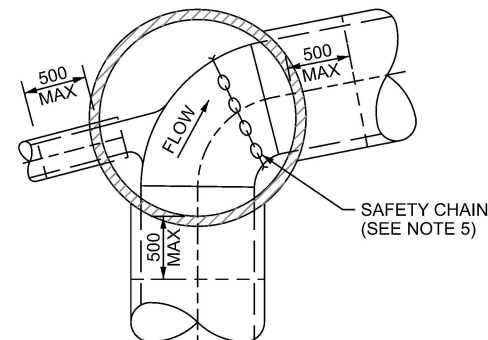
SECTION Y-Y



PLAN ON STRAIGHT INVERT

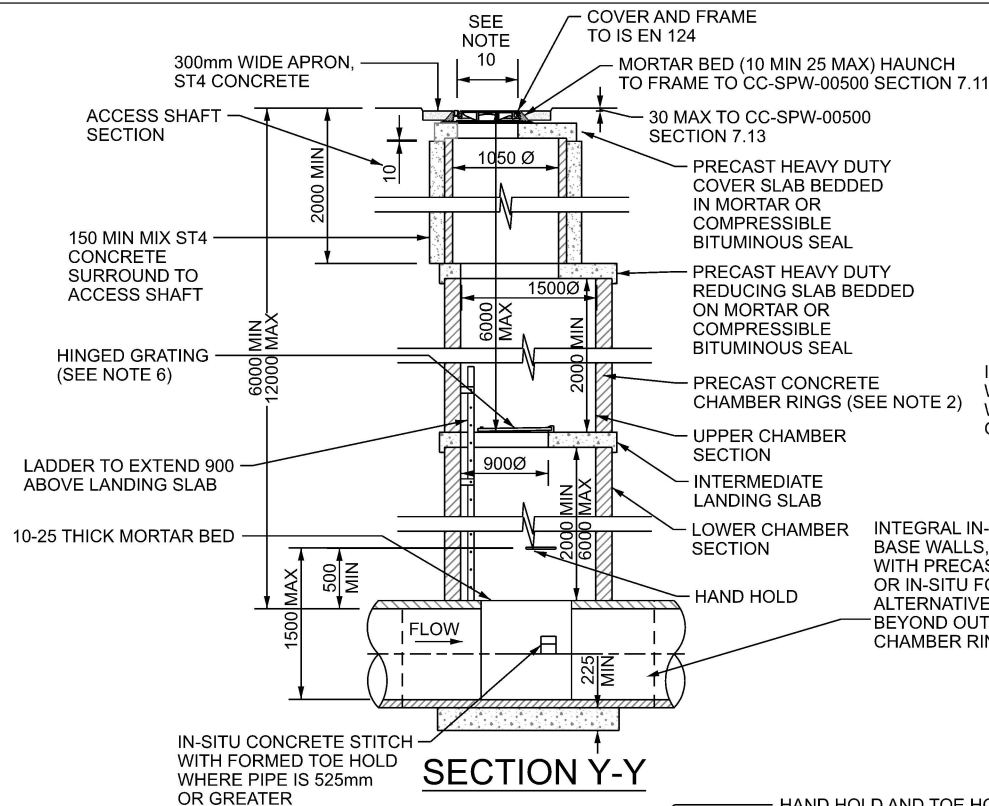


- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED IN PRECAST CONCRETE TO BS 5911-3 IS EN 1917 AND IS 420.
 3. FOR INVERT DETAILS, NUMBER OF BRANCHES, DETAILS OF PIPES AND TYPE OF COVER AND FRAME, SEE APPENDIX 5/1.
 4. MORTAR TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.11.
 5. SAFETY CHAIN REQUIRED WHERE PIPE IS GREATER THAN 600mm DIAMETER. SEE CC-SCD-00513 FOR DETAILS OF SAFETY CHAIN AND TOEHOLDS.
 6. MANHOLE COVER ARRANGEMENT IN PAVED AREAS TO BE IN ACCORDANCE WITH CC-SCD-00514.
 7. FLEXIBLE JOINTS TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.12 AND CC-SCD-00514.
 8. PERMITTED CLEAR ACCESS FOR OPENINGS IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.7.
 9. BACKFILLING SURROUND TO CHAMBER IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.5.



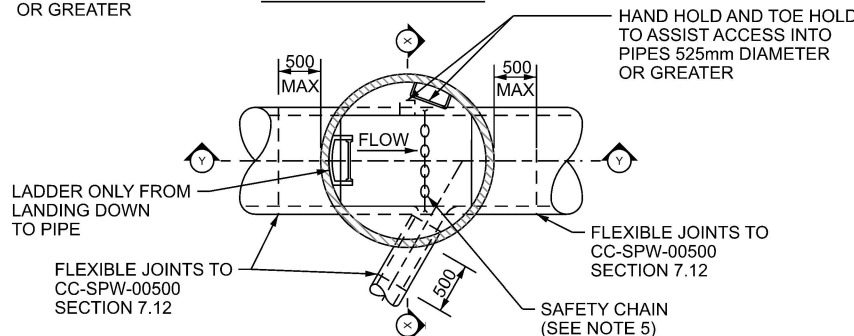
PLAN ON ANGLED INVERT

NOT TO SCALE

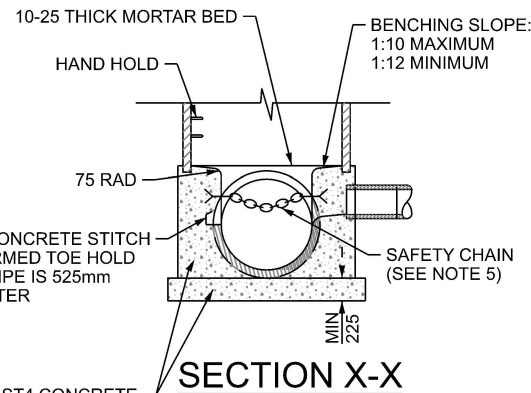


IN-SITU CONCRETE STITCH WITH FORMED TOE HOLD WHERE PIPE IS 525mm OR GREATER

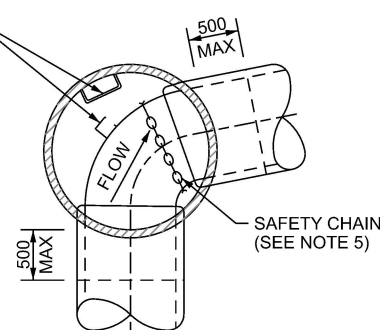
SECTION Y-Y



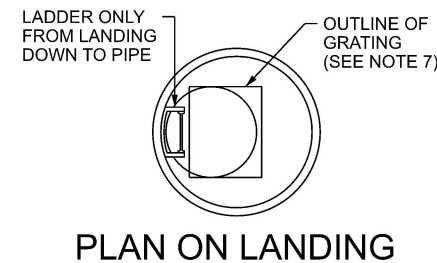
PLAN ON STRAIGHT INVERT (UNDER LANDING SLAB)



PLAN ON ANGLED INVERT (UNDER LANDING SLAB)



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. CHAMBER WALLS AND COVER SLAB AND LANDING SLAB TO BE CONSTRUCTED IN PRECAST CONCRETE TO BS 5911-3, IS EN1917 AND IS 420.
 3. FOR INVERT DETAILS, NUMBERS OF BRANCHES, DETAILS OF PIPES AND TYPE OF COVER AND FRAME, SEE APPENDIX 5/1.
 4. MORTAR TO BE IN ACCORDANCE WITH THE CC-SPW-00500 SECTION 7.11.
 5. SAFETY CHAIN REQUIRED WHERE PIPE IS GREATER THAN 600mm DIAMETER. SEE CC-SCD-00513 FOR DETAILS OF SAFETY CHAIN AND TOE HOLDS.
 6. FOR DETAILS OF HINGED GRATING SEE CC-SCD-00507.
 7. MANHOLE COVER ARRANGEMENT IN PAVED AREAS TO BE IN ACCORDANCE WITH CC-SCD-00514.
 8. FLEXIBLE JOINTS TO BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.12 AND CC-SCD-00514.
 9. PERMITTED CLEAR ACCESS FOR OPENINGS IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.7.
 10. BACKFILLING SURROUND TO CHAMBER IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.5.





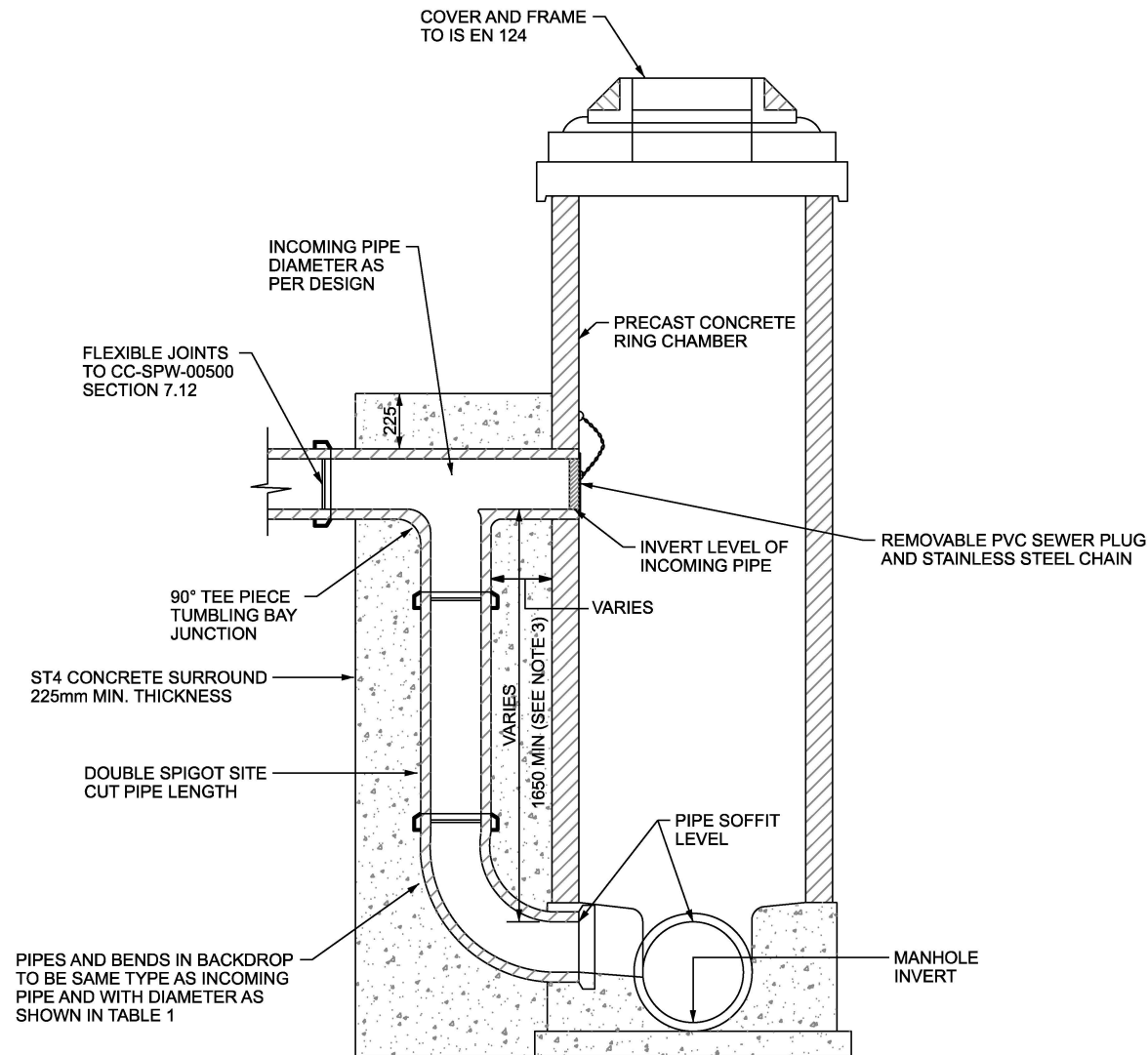
NOT TO SCALE



1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL WELDS ARE TO BE 6mm FILLET WELDS EXCEPT WHERE STATED OTHERWISE.
3. THE GRATINGS AND BRACKETS ARE TO BE FABRICATED FROM STEEL TO IS EN 10084 AND TO BE PROTECTED BY HOT DIP GALVANISING.



	ACTIVITY	PUBLICATION TITLE				
		DRAINAGE CHAMBER TYPE E TYPICAL HINGED GRATING DETAILS				
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER	
	STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/7	STANDARDS	FEBRUARY 2024	ACTIVITY: CC STREAM: SCD DRAWING NUMBER: 00507	



NOTES :



1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. MANHOLE TO DRAWING NO. CC-SCD-00505 AND CC-SCD-00506 ACCORDING TO MANHOLE DEPTH.
3. BACKDROP MANHOLE REQUIREMENTS SHALL BE AS DESCRIBED IN APPENDIX 5/1.
4. BACKFILLING SURROUND TO CHAMBER IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.5.

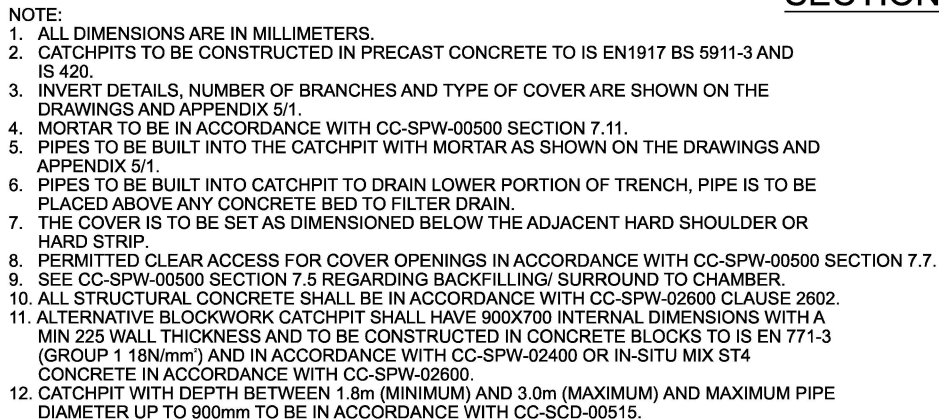
INCOMING PIPE DIA mm	BACK DROP PIPE DIA mm
150	150
225	225
300 - 450	300
525 - 675	450
750 - 900	600
1050 - 1200	750

TABLE 1

SECTION THROUGH MANHOLE

NOT TO SCALE

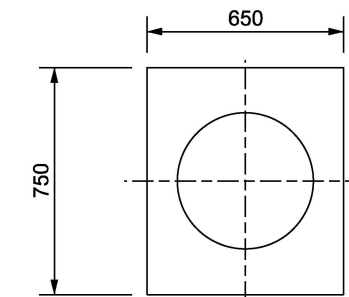
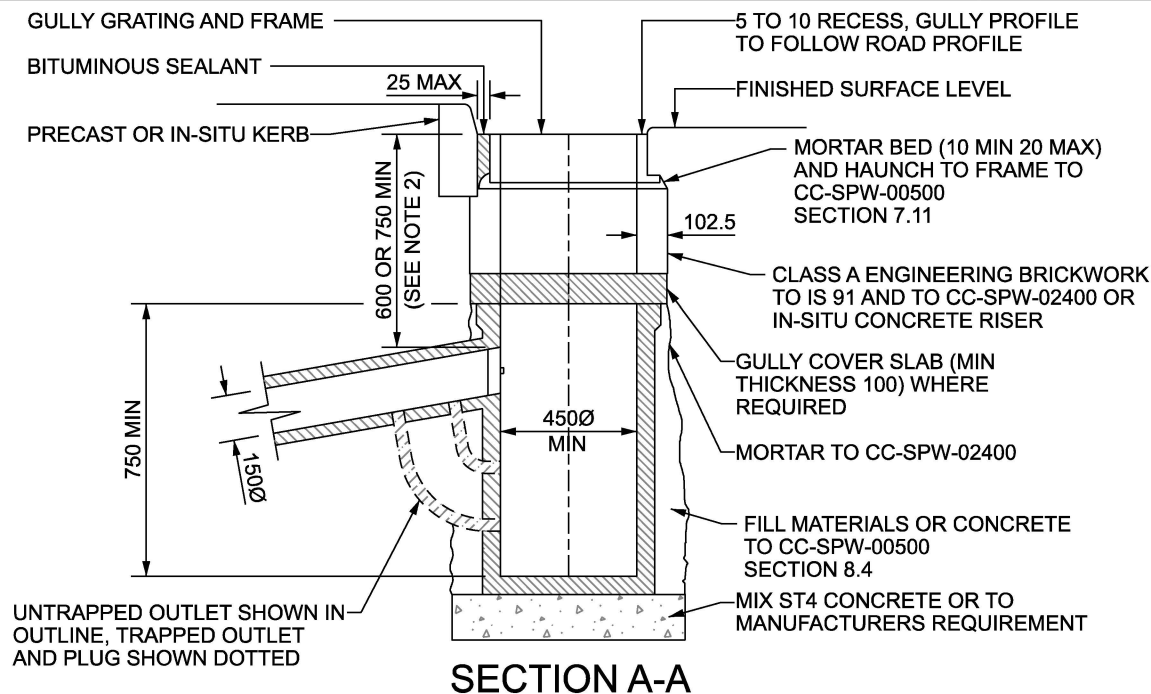
 <p>Bonneagar Iompair Éireann Transport Infrastructure Ireland</p>	ACTIVITY		PUBLICATION TITLE			
	 <p>Construction & Commissioning</p>		VERTICAL BACKDROP IN MANHOLES			
	STREAM		HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
STANDARD CONSTRUCTION DETAILS (SCD)		RCD/500/8	STANDARDS	SEPTEMBER 2024	ACTIVITY CC	STREAM SCD
					DRAWING NUMBER 00508	



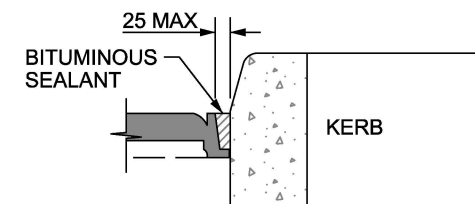
PUBLICATION TITLE

DRAINAGE CHAMBER TYPE F
(PRECAST CATCHPIT)

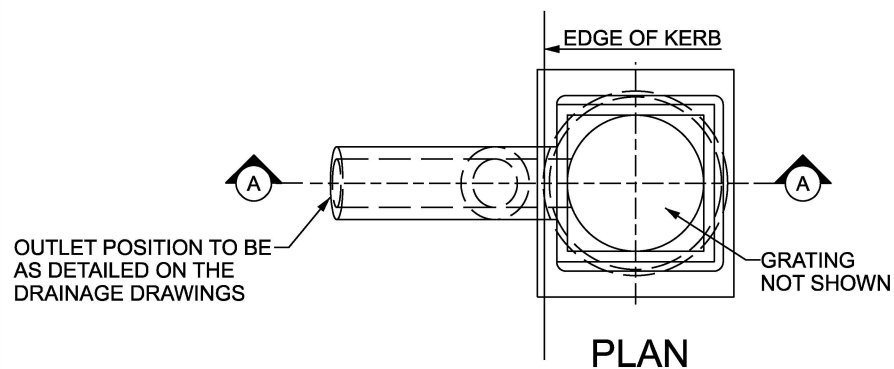
HISTORICAL REFERENCE		DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER		
RCD/500/9		STANDARDS	SEPTEMBER 2024	ACTIVITY CC	STREAM SCD	DRAWING NUMBER 00509



GULLY COVER SLAB





KERB DETAIL

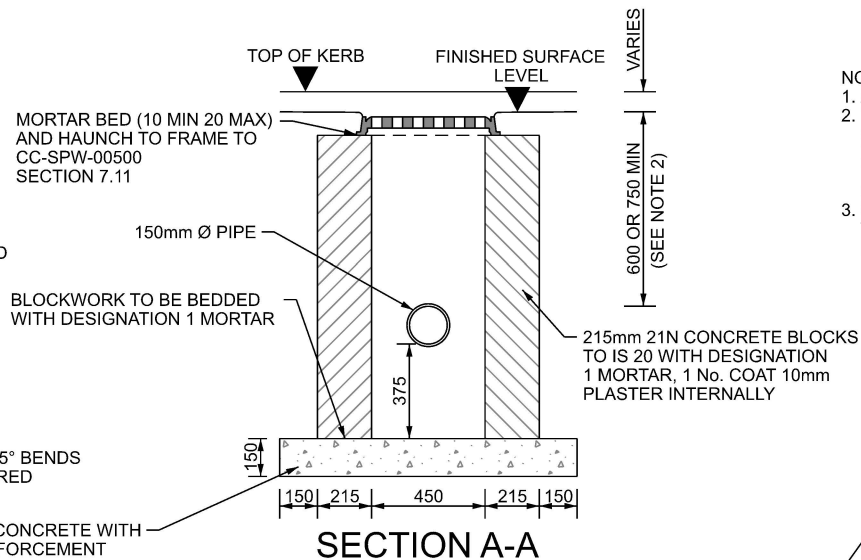
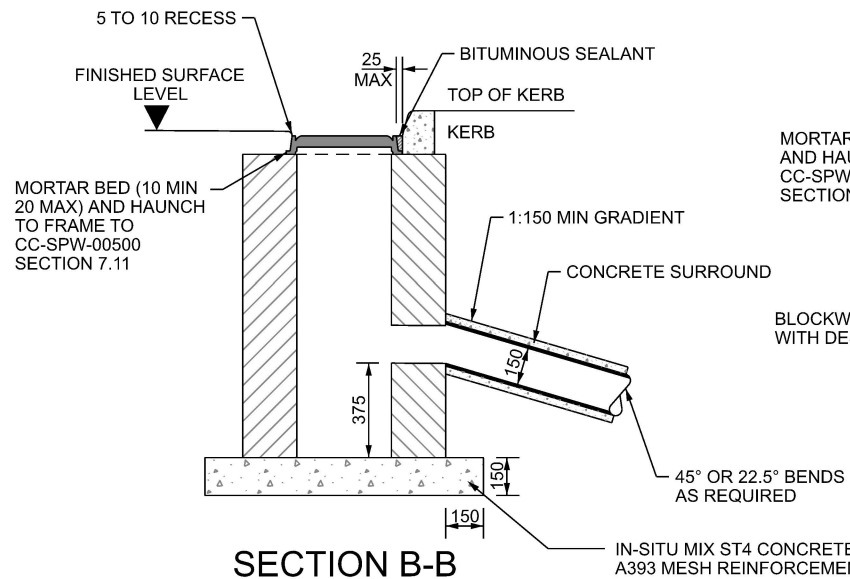


NOTES :

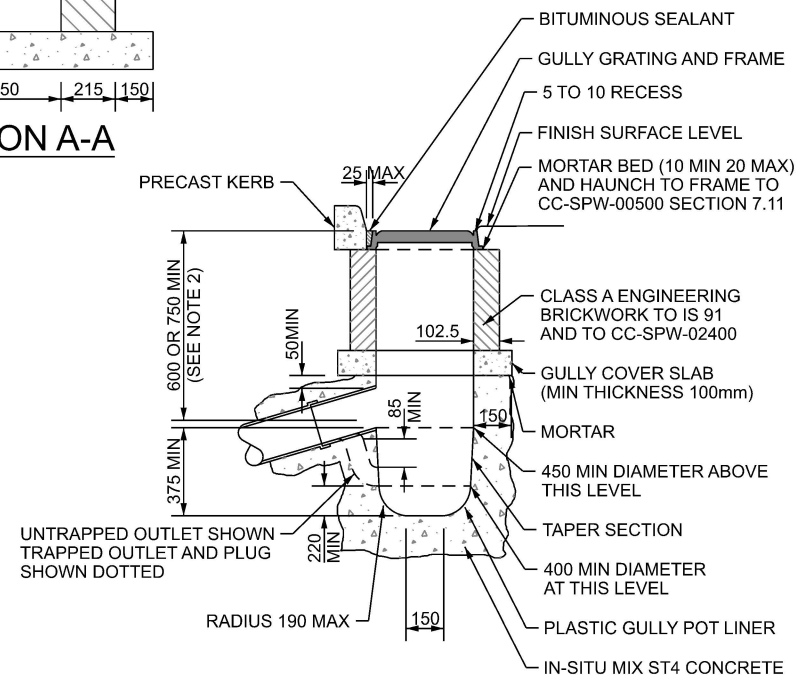
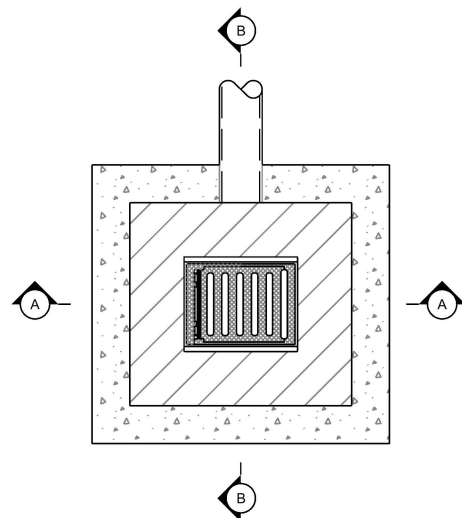
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THE MINIMUM DEPTH FROM THE TOP OF THE GRATING TO THE TOP OF THE GULLY OUTLET IS TO BE 750mm WHEN THE CONNECTING PIPE IS UNDER A CARRIAGEWAY, HARD SHOULDER OR HARD STRIP AND 600mm ELSEWHERE.
3. PRECAST CONCRETE GULLIES AND COVER SLABS SHALL BE TO IS EN 1917 OR BS 5911-6.
4. FOR DETAILS OF TYPICAL GULLY GRATING SEE CC-SCD-00512.
5. WHERE A GULLY HAS A TRAP THE STOPPERS SHALL COMPLY WITH THE REQUIREMENTS OF BS 5911-4 AND IS EN 1917.
6. FOR DETAILS OF GULLY GRATINGS REFER TO APPENDIX 5/1.
7. SEE CC-SCD-00511 FOR IN-SITU CONCRETE AND BLOCKWORK GULLIES.

NOT TO SCALE

 <p>Bonneagar Iompair Éireann Transport Infrastructure Ireland</p>	<p>ACTIVITY</p>  <p>Construction & Commissioning</p>	PUBLICATION TITLE			
		DRAINAGE PRECAST CONCRETE GULLY			
STREAM	STANDARD CONSTRUCTION DETAILS (SCD)	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
		RCD/500/10	STANDARDS	SEPTEMBER 2024	<p>ACTIVITY STREAM DRAWING NUMBER</p> <p>CC SCD 00510</p>



- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE MINIMUM DEPTH FROM THE TOP OF THE GRATING TO THE TOP OF THE GULLY OUTLET IS TO BE 750mm WHEN THE CONNECTING PIPE IS UNDER A CARRIAGEWAY, HARD SHOULDER OR HARD STRIP AND 600mm ELSEWHERE.
 3. WHEN AN IN-SITU CAST GULLY HAS A TRAP THE STOPPERS SHALL COMPLY WITH THE REQUIREMENTS OF 5911-4 IS EN 1917.

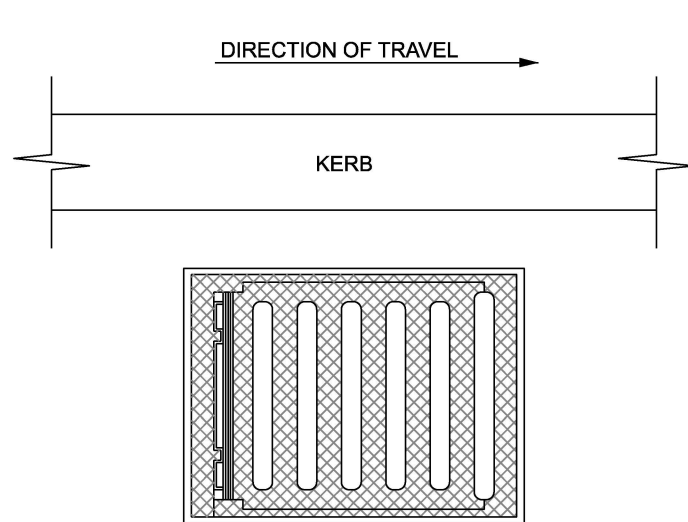


PLAN ON BLOCKWORK GULLY

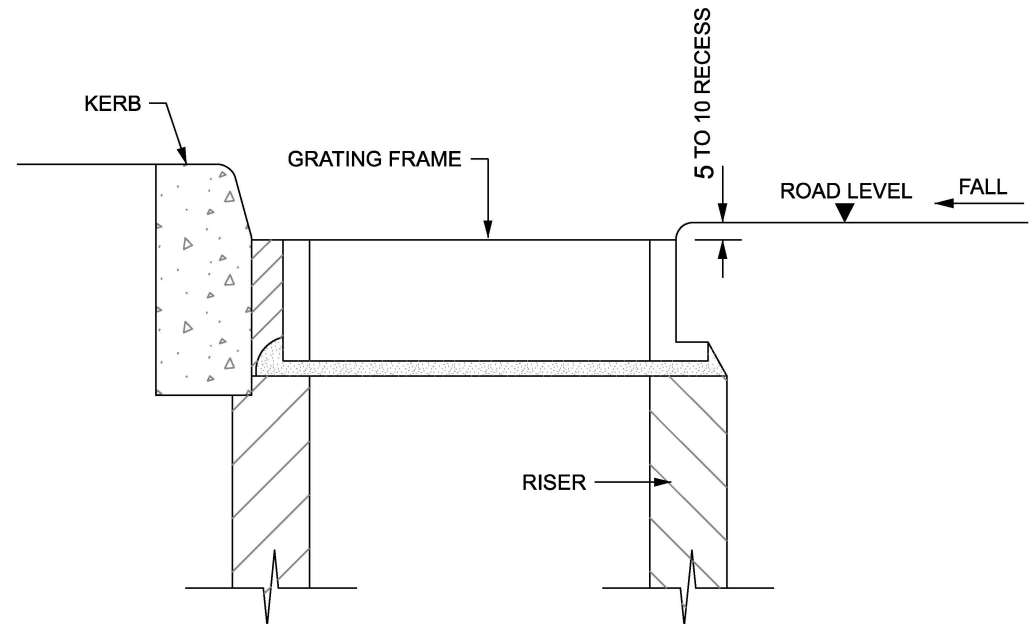
IN-SITU CONCRETE GULLY

NOT TO SCALE

- NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. GULLY GRATING TO COMPLY WITH IS EN 124.
 3. GULLY GRATING TO BE PROVIDED WITH A LOCKING DEVICE TO CC-SPW-00500 SECTION 8.3.





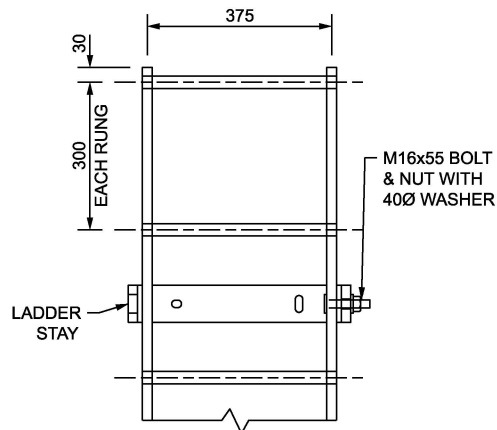
INDICATIVE GULLY GRATING DETAIL



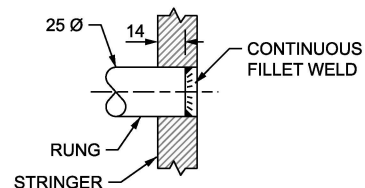
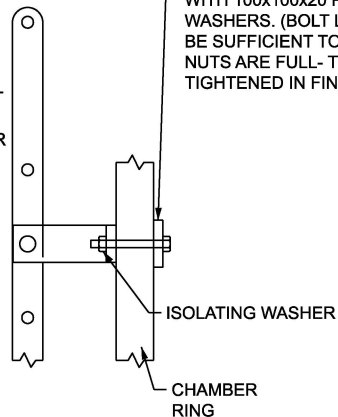
GULLY PROFILE

NOT TO SCALE

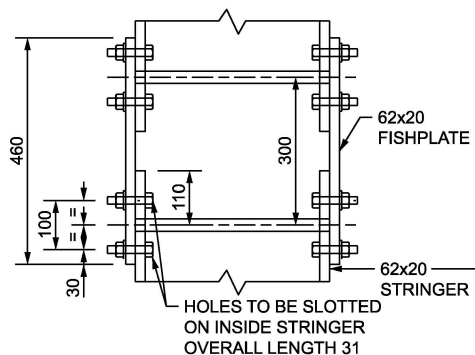
 <p>Bonneagar Iompair Éireann Transport Infrastructure Ireland</p>	ACTIVITY  Construction & Commissioning		PUBLICATION TITLE DRAINAGE GULLY GRATING			
	STREAM STANDARD CONSTRUCTION DETAILS (SCD)		HISTORICAL REFERENCE RCD/500/12	DOCUMENTATION SET STANDARDS	PUBLICATION DATE SEPTEMBER 2024	PUBLICATION NUMBER ACTIVITY STREAM DRAWING NUMBER CC SCD 00512



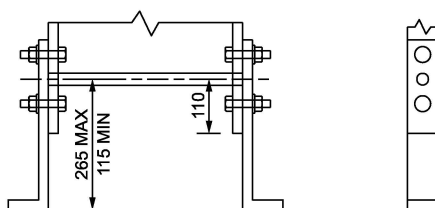
M16 STAINLESS STEEL BOLT WITH 100x100x20 PLATE & 40Ø WASHERS. (BOLT LENGTH SHALL BE SUFFICIENT TO ENSURE THAT NUTS ARE FULL- THREADED WHEN TIGHTENED IN FINAL POSITION).



DETAIL OF FIXING RUNGS TO STRINGERS

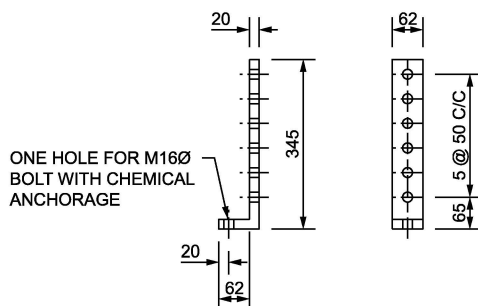


M16x55 BOLTS & NUTS WITH 34Ø x3 THK WASHERS

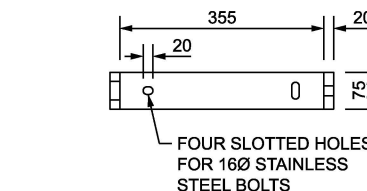


TYPICAL STEEL LADDER

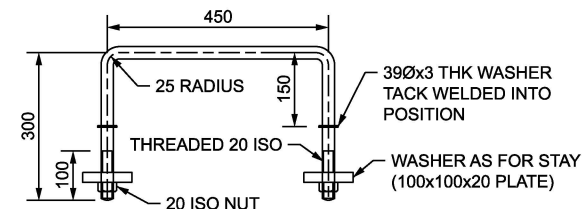
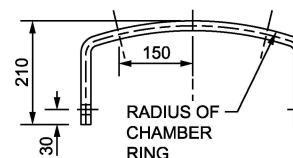
NOT TO SCALE



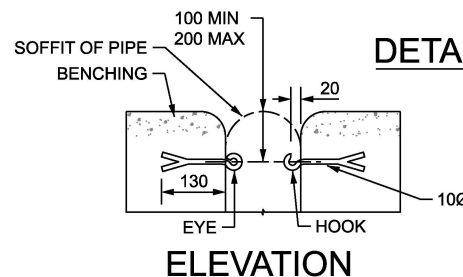
ADJUSTABLE LADDER FOOT



DETAILS OF LADDER STAY

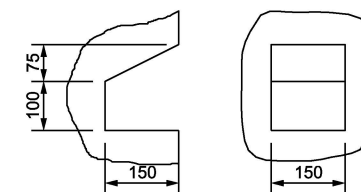


DETAILS OF HANDHOLD



ELEVATION

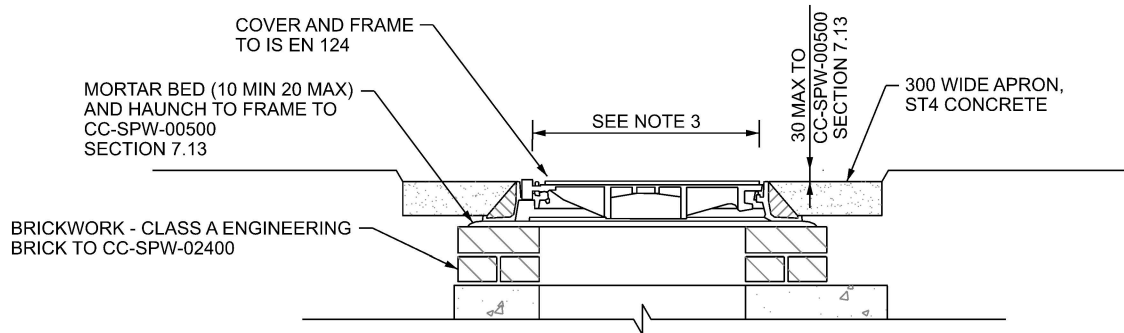
PLAN DETAILS OF HOOK & EYE FOR SAFETY CHAIN



DETAIL OF TOE HOLD

NOTES:-

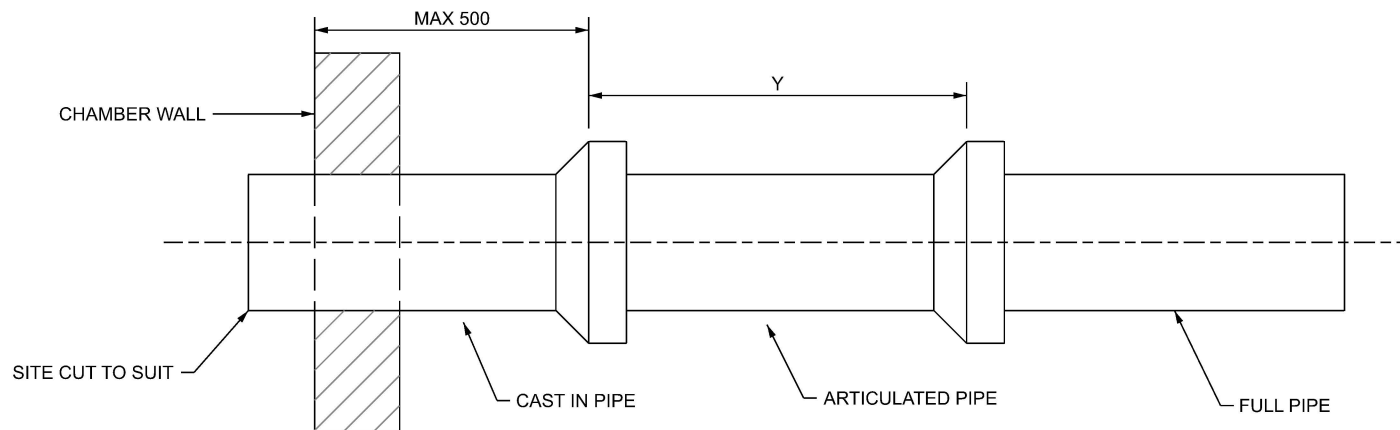
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. LADDERS SHALL BE MANUFACTURED FROM STEEL OR GLASS REINFORCED PLASTIC.
3. ALL STEEL FITTINGS TO IS EN 10084 AND TO BE PROTECTED BY HOT DIP GALVANISING.
4. THREADED COMPONENTS TO BE GALVANISED.
5. ALL WELDS ARE TO BE 6mm FILLET WELDS.
6. LADDER MAY BE FABRICATED IN ONE LENGTH OR IN MULTIPLE LENGTHS AND BE JOINTED AS SHOWN.
7. CHAIN HOOK & EYE TO BE SUPPLIED WITH 100 LONGx10 THK CLOSED LINK CHAIN.
8. HANDHOLD AT HEIGHT 1500 MAX TO INVERT, 500 MIN TO TOP OF BENCHING.
9. STAINLESS STEEL BOLTS, NUTS & WASHERS SHALL BE TO IS EN 10088-1, DESIGNATION 1.4401. ISOLATING WASHERS SHALL BE USED BETWEEN STAINLESS STEEL BOLTS & GALVANISED FITTINGS.



CHAMBER COVER DETAIL IN PAVED AREAS (SEE NOTE 4)

NOTES:



1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO CC-SPW-00500 SECTION 4.1 FOR DETAILS OF FLEXIBLE JOINTS THROUGH CHAMBER WALLS.
3. PERMITTED CLEAR ACCESS FOR OPENINGS IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.7.
4. PAVED AREA REFERS TO THE HARD SHOULDER OR HARD STRIP. CHAMBERS SHALL ALWAYS BE LOCATED OUTSIDE THE CARRIAGEWAY.

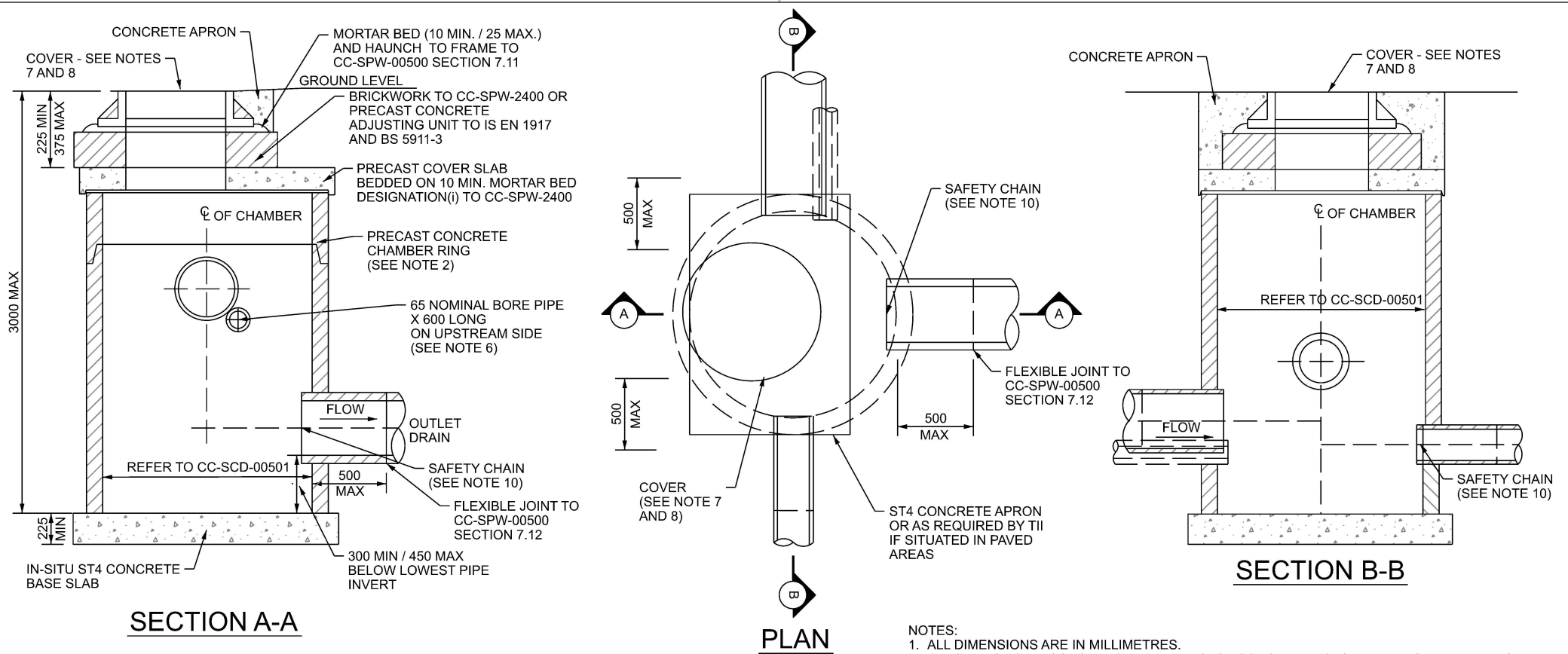


NOMINAL PIPE DIAMETER	Y
≤ 450	500 - 750
> 450	750 - 1000



FLEXIBLE JOINT DETAIL THROUGH CHAMBER WALL

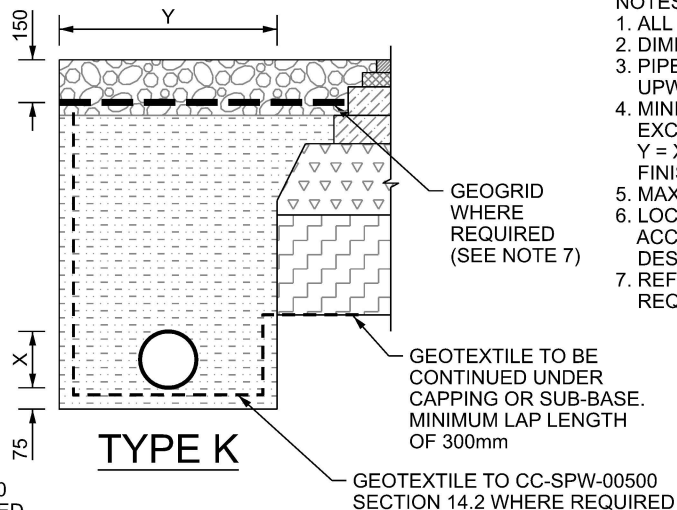
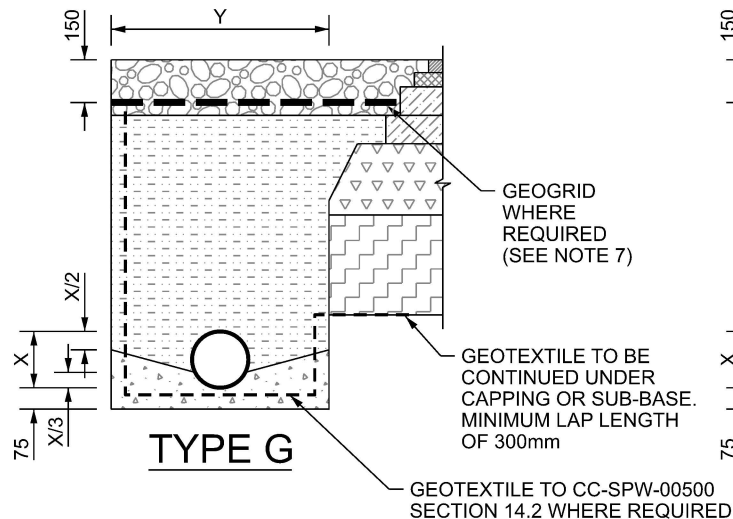
NOT TO SCALE

 <p>Bonneagar Iompair Éireann Transport Infrastructure Ireland</p>	<p>ACTIVITY</p>  <p>Construction & Commissioning</p>	PUBLICATION TITLE			
		DRAINAGE TYPICAL CHAMBER DETAILS			
STREAM	STANDARD CONSTRUCTION DETAILS (SCD)	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
		RCD/500/14	STANDARDS	SEPTEMBER 2024	<p>ACTIVITY STREAM DRAWING NUMBER</p> <p>CC SCD 00514</p>

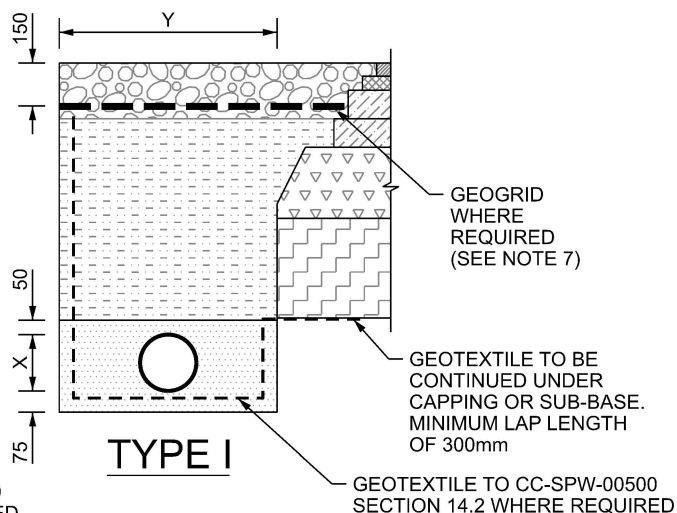
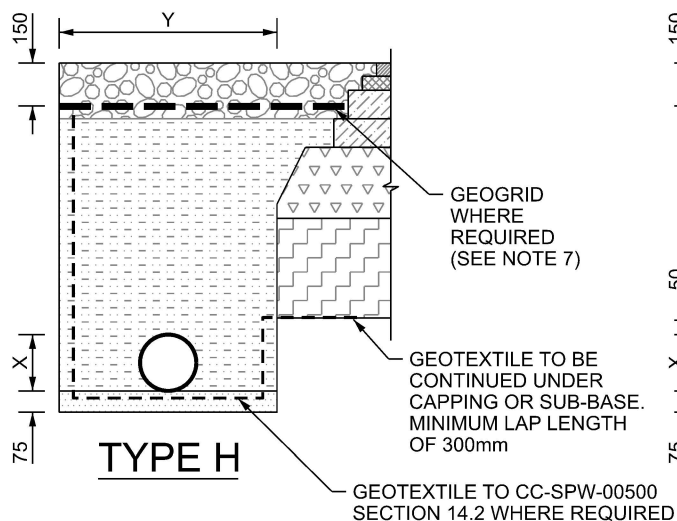


NOT TO SCALE





 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE									
	 Construction & Commissioning	DRAINAGE CHAMBER TYPE G (PRECAST CATCHPIT)									
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER						
	STANDARD CONSTRUCTION DETAILS (SCD)	N/A	STANDARDS	SEPTEMBER 2024	<table><tr><td>ACTIVITY</td><td>STREAM</td><td>DRAWING NUMBER</td></tr><tr><td>CC</td><td>SCD</td><td>00515</td></tr></table>	ACTIVITY	STREAM	DRAWING NUMBER	CC	SCD	00515
ACTIVITY	STREAM	DRAWING NUMBER									
CC	SCD	00515									





- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DIMENSION X IS THE EXTERNAL DIAMETER OF THE PIPE.
 3. PIPES ARE TO BE LAID WITH SLOTS OR PERFORATIONS UPWARDS WHERE A CONCRETE BED IS USED.
 4. MINIMUM DRAIN WIDTH $Y = X + 300$ FOR DRAINS NOT EXCEEDING 1.5m COVER BELOW FINISHED LEVEL.
 $Y = X + 450$ FOR DRAINS EXCEEDING 1.5m COVER BELOW FINISHED LEVEL.
 5. MAXIMUM PIPE DIAMETER TO BE 450mm.
 6. LOCATION AND DETAILS OF REQUIRED GEOTEXTILE IN ACCORDANCE WITH CC-SPW-00500 SHALL BE AS DESCRIBED IN APPENDIX 5/4.
 7. REFER TO DN-DNG-03022 CLAUSE 4.6 FOR GEOGRID REQUIREMENTS AND SOLUTIONS TO STONE SCATTER.

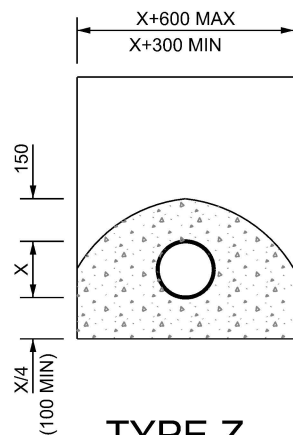


KEY:

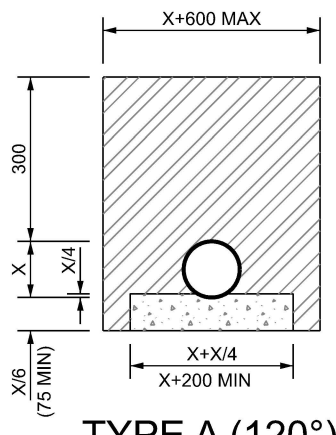
-  GRANULAR MATERIAL TO CC-SPW-00500 SECTION 3.1
-  ST4 CONCRETE TO CLAUSE 2602
-  TYPE B COARSE OR LIGHT WEIGHT AGGREGATE TO CC-SPW-00500 TABLE 5.1
-  TYPE A FINE AGGREGATE TO CC-SPW-00500 TABLE 5.1

NOT TO SCALE

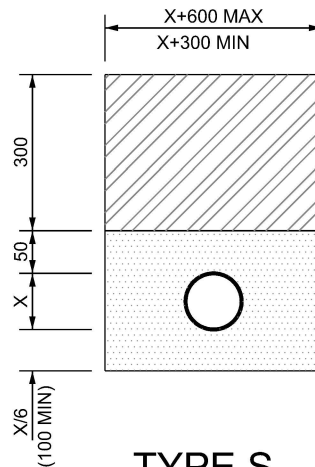
 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE					
	 Construction & Commissioning	DRAINAGE FILTER DRAINS TRENCH AND BEDDING DETAILS					
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER		
	STANDARD CONSTRUCTION DETAILS (SCD)	<div>RCD/500/20</div>	<div>STANDARDS</div>	<div>SEPTEMBER 2024</div>	<div>ACTIVITY CC</div>	<div>STREAM SCD</div>	<div>DRAWING NUMBER 00520</div>



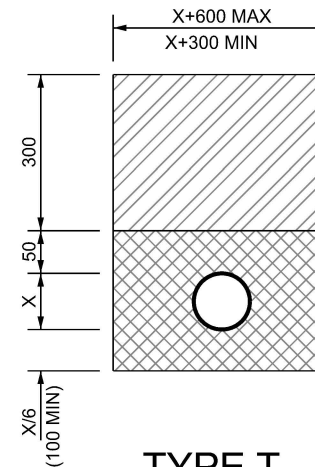
TYPE Z



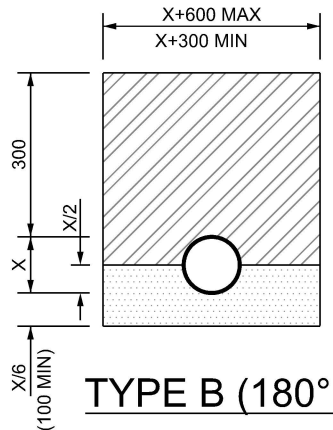
TYPE A (120°)



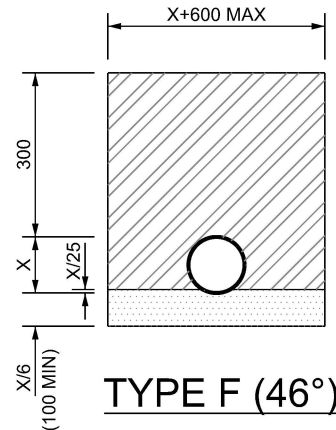
TYPE S



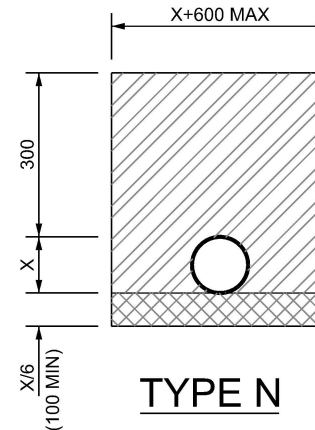
TYPE T



TYPE B (180°)



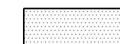
TYPE F (46°)



TYPE N

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DIMENSION X IS THE EXTERNAL DIAMETER OF THE PIPE.
 3. THE MINIMUM AND MAXIMUM WIDTH OF THE TRENCH APPLIES ON AND BELOW A LINE 300mm ABOVE THE OUTSIDE TOP OF THE PIPE. ABOVE THE 300mm LINE THE TRENCH BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 5.1.
 4. THE CONCRETE BED OR SURROUND MAY EXTEND TO THE SIDES OF THE TRENCH OR BE OF MINIMUM WIDTH. MATERIAL IN ACCORDANCE WITH CC-SPW-00500 SECTION 3.2(iii) IS TO BE USED TO FILL ANY VOIDS SO FORMED.
 5. FOR TYPE Z TRENCH THE CONCRETE COVER MAY BE FORMED TO A RADIUS BATTER OR HORIZONTAL SURFACE. MINIMUM COVER OF CONCRETE SHALL BE 150.

KEY:



COARSE AND LIGHT WEIGHT AGGREGATE TO CC-SPW-00500 TABLE 3.1



ST4 CONCRETE TO CLAUSE 2602

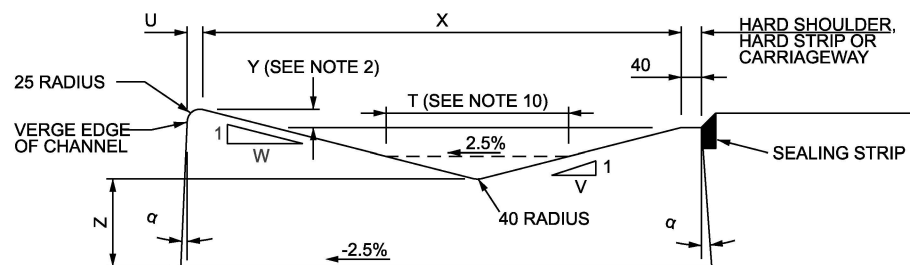


FINE AND ALL-IN AGGREGATE TO CC-SPW-00500 TABLE 3.2



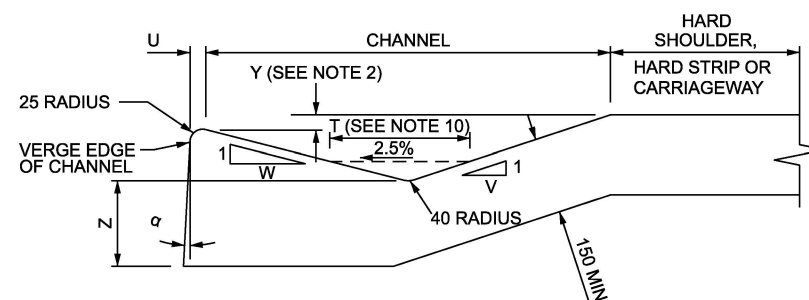
CLASS 1 OR 2 MATERIAL TO CC-SPW-00500 SECTION 3.2(iii)

NOT TO SCALE



TYPE A

(CHANNEL CAST BEFORE OR AFTER PAVEMENT CONSTRUCTION)
(DRAWN TO SUIT VERGE LOCATION)





TYPE B

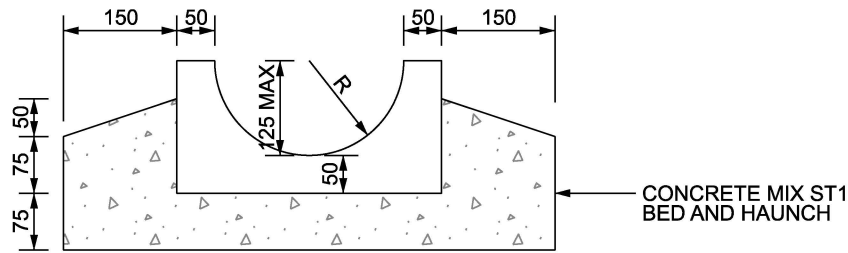
(CHANNEL CAST IN ONE WITH THE PAVEMENT)
(DRAWN TO SUIT CENTRAL RESERVE LOCATION)

NOTES :

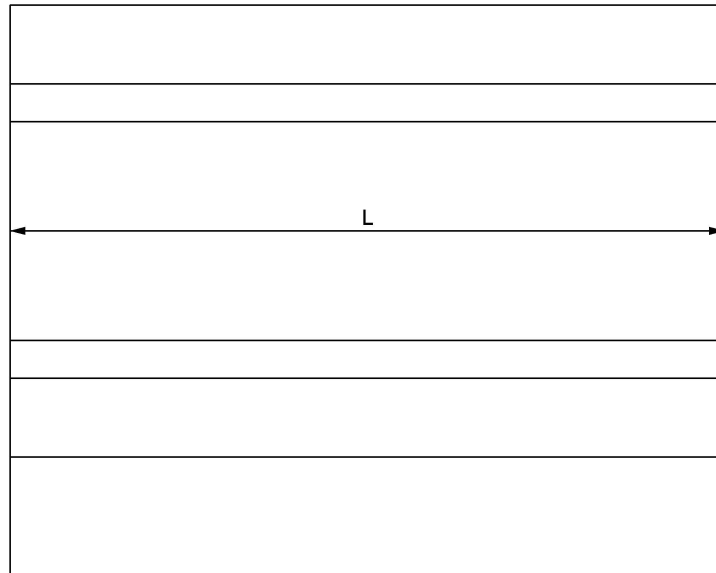
- ALL DIMENSIONS ARE IN MILLIMETRES.
- DIMENSIONS T,U,V,W,X,Y & Z SHALL BE AS DESCRIBED IN APPENDIX 5/ 3. THE DIMENSION Y IS THE DIFFERENCE IN LEVEL BETWEEN THE VERGE EDGE OF THE CHANNEL AND THE LEVEL OF THE CARRIAGEWAY, HARD SHOULDER OR HARD STRIP ADJACENT TO THE CHANNEL. DIMENSION Y IS +VE WHEN THE CARRIAGEWAY EDGE OF THE CHANNEL IS ABOVE THE VERGE EDGE. DIMENSION Y IS -VE WHEN THE CHANNEL IS BELOW THE VERGE EDGE.
- THE EDGES OF THE CHANNEL SHOULD BE APPROXIMATELY VERTICAL BUT ANGLE α MAY LIE BETWEEN 0' AND 5' FOR EASE OF SLIPFORMING.
- CHANNEL TYPE B SHALL BE USED WHEN THE CARRIAGEWAY AND CHANNEL ARE SLIPFORMED SIMULTANEOUSLY. TYPE B CHANNELS SHALL BE DEEMED A CONTINUATION OF THE CARRIAGEWAY SLAB AND SHALL BE REINFORCED ACCORDINGLY. CONCRETE TO TYPE B CHANNELS SHALL BE AS SPECIFIED FOR THE CARRIAGEWAY SLAB. TYPE B CHANNELS SHALL HAVE TRANSVERSE JOINTS OF THE SAME TYPE AND SPACING AS IN THE CARRIAGEWAY SLAB, SEALED IN ACCORDANCE WITH CLAUSE 1016 AND 1017.
- CONCRETE TO TYPE A CHANNEL SHALL COMPLY WITH CLAUSE 1103 AND SHALL BE A DESIGNED MIX, STRENGTH CLASS C28/35 TO IS EN 206-1.
- CONTRACTION JOINTS IN TYPE A CHANNELS SHALL BE SAWN OR WET FORMED. SAWN JOINTS SHALL BE CUT TO A MINIMUM DEPTH OF 25mm BELOW THE CHANNEL INVERT OR TO A MINIMUM DEPTH OF ONE QUARTER OF THE CHANNEL SECTION WHICHEVER IS THE GREATER. WET FORMED JOINTS SHALL BE CUT INTO THE CONCRETE WHILST IT IS STILL PLASTIC WITH A SHARP STEEL TROWEL TO SEPARATE COARSE AGGREGATE PARTICLES OVER NOT LESS THAN TWO THIRDS OF THE CROSS-SECTION AREA AND FINISHED USING A KEELED TROWEL OR EQUIVALENT TOOL, TO FORM A TAPERED SEALING GROOVE, NOT LESS THAN 13mm IN WIDTH AT THE SURFACE, TAPERING TO NOT LESS THAN 5mm AT A DEPTH OF 25mm.
- THE SPACING OF THE CONTRACTION JOINTS IN TYPE A CHANNELS SHALL BE 5000mm. WHEN REQUIRED BY CLAUSE 1103 EXPANSION JOINTS SHALL BE FORMED AT SPACINGS NOT EXCEEDING 4000mm IN ACCORDANCE WITH CLAUSE 1009. JOINTS SHALL BE SEALED IN ACCORDANCE WITH CLAUSE 1016 AND 1017.
- SEALING STRIP IS REQUIRED WHEN TYPE A CHANNELS ARE USED WITH RIGID CARRIAGEWAY CONSTRUCTION AND SHALL BE IN ACCORDANCE WITH CLAUSE 1014.
- THE 40mm FLAT SHOW ON THE EDGE OF THE TYPE A CHANNEL IS INTENDED TO MINIMISE DAMAGE WHEN THE ADJACENT PAVEMENT LAYERS ARE BEING COMPACTED.
- TYPE A AND TYPE B CHANNELS INDICATE PROFILES OF TRIANGULAR SURFACE WATER CHANNELS IN SOLID LINES, BROKEN LINES OF WIDTH T AT CROSSFALL 2.5% DENOTE BASE PROFILE OF TRAPEZOIDAL SURFACE WATER CHANNEL.

NOT TO SCALE

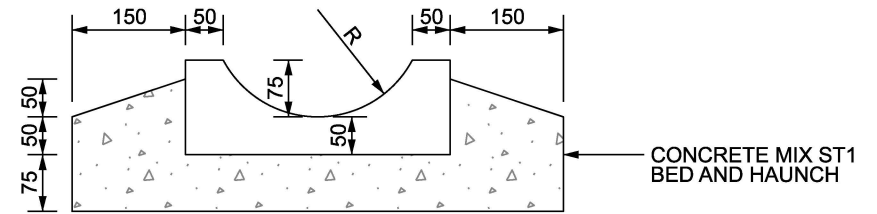
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		EDGE OF PAVEMENT DETAILS CROSS SECTION OF CONCRETE SURFACE WATER CHANNEL			
STREAM	STANDARD CONSTRUCTION DETAILS (SCD)	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
		RCD/500/22	STANDARDS	FEBRUARY 2024	<p>ACTIVITY</p> <p>CC</p> <p>STREAM</p> <p>SCD</p> <p>DRAWING NUMBER</p> <p>00522</p>



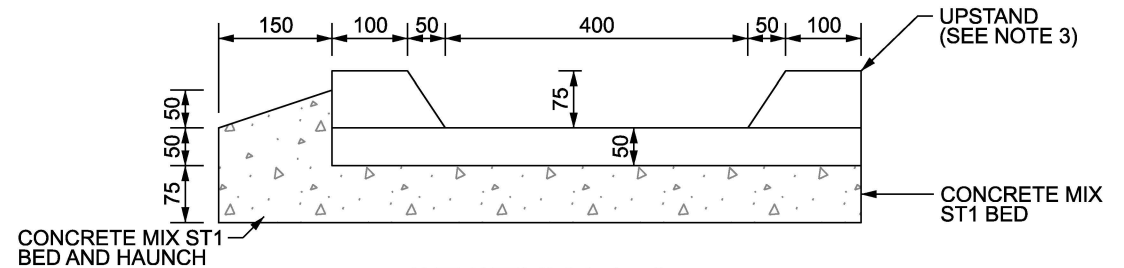
DRAINAGE CHANNEL BLOCK TYPE A



DRAINAGE CHANNEL BLOCK TYPE C





DRAINAGE CHANNEL BLOCK TYPE B

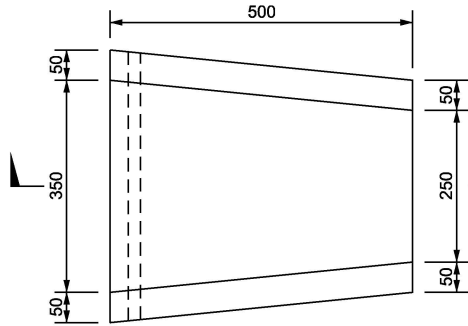


SECTION A-A

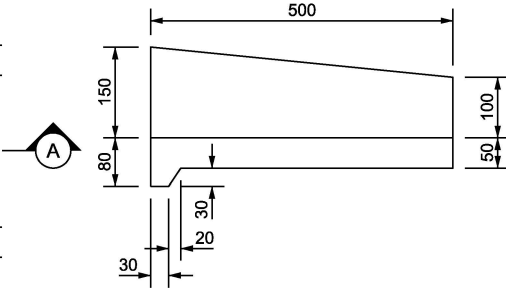
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. DIMENSIONS R & L SHALL BE AS DESCRIBED IN APPENDIX 5/3.
 3. DRAINAGE CHANNEL BLOCKS TO BE MADE OF PRESSED CONCRETE TO IS EN 1340 OR EXTRUDED IN-SITU. FOR BLOCKS TYPE C THE UPSTAND MAY BE IN-SITU CONCRETE OR THE KERB TYPE USED FOR THE CARRIAGEWAY.
 4. ALL STRUCTURAL CONCRETE TO BE IN ACCORDANCE WITH CC-SPW-02600.

NOT TO SCALE

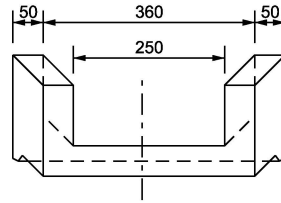
 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE				
	 Construction & Commissioning	DRAINAGE DRAINAGE CHANNEL BLOCK TYPES A, B AND C				
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER	
STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/23	STANDARDS	FEBRUARY 2024	ACTIVITY CC	STREAM SCD	DRAWING NUMBER 00523



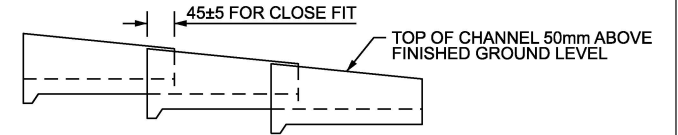
TYPE D BLOCKS - PLAN



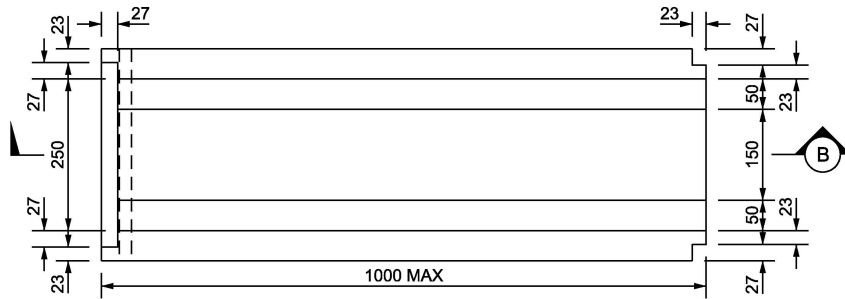
SECTION A



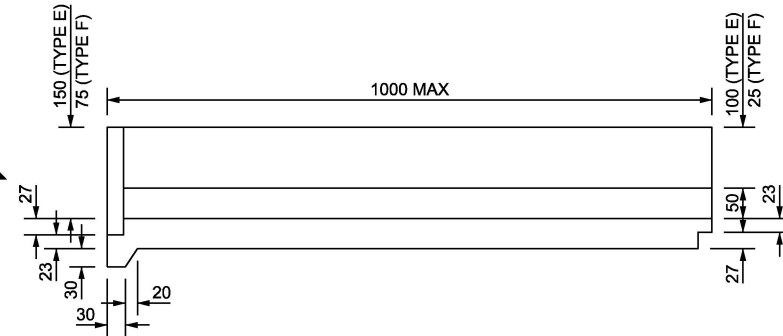
END VIEW



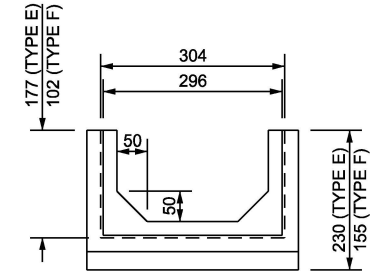
ASSEMBLED TYPE D BLOCKS



TYPE E AND F BLOCKS - PLAN

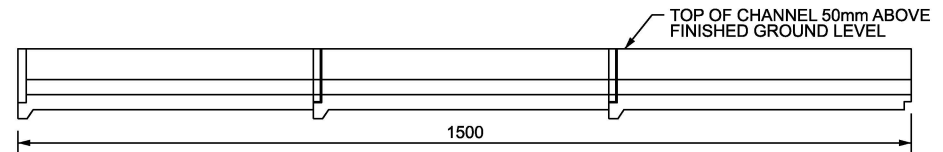


SECTION B



END VIEW

- NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. BLOCKS TO BE MADE OF PRESSED CONCRETE TO IS EN 1340.



ASSEMBLED TYPE E AND F BLOCKS

NOT TO SCALE



PUBLICATION TITLE

DRAINAGE
DRAINAGE CHANNEL BLOCK TYPES D, E AND F

ACTIVITY

STREAM

STANDARD CONSTRUCTION DETAILS (SCD)

HISTORICAL REFERENCE

RCD/500/24

DOCUMENTATION SET

STANDARDS

PUBLICATION DATE

FEBRUARY 2024

PUBLICATION NUMBER

ACTIVITY

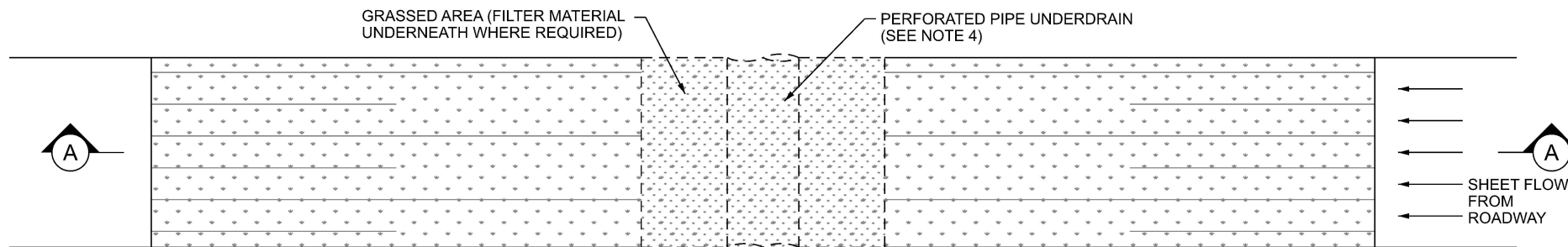
CC

STREAM

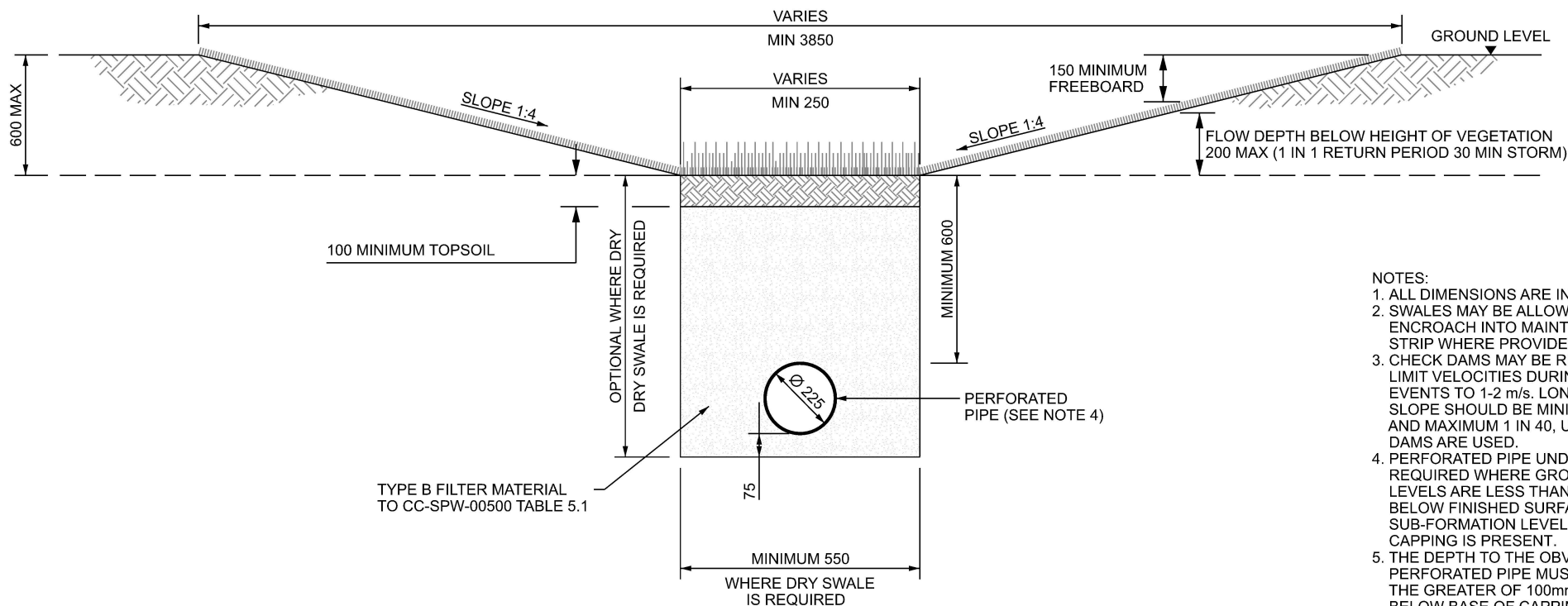
SCD

DRAWING NUMBER

00524



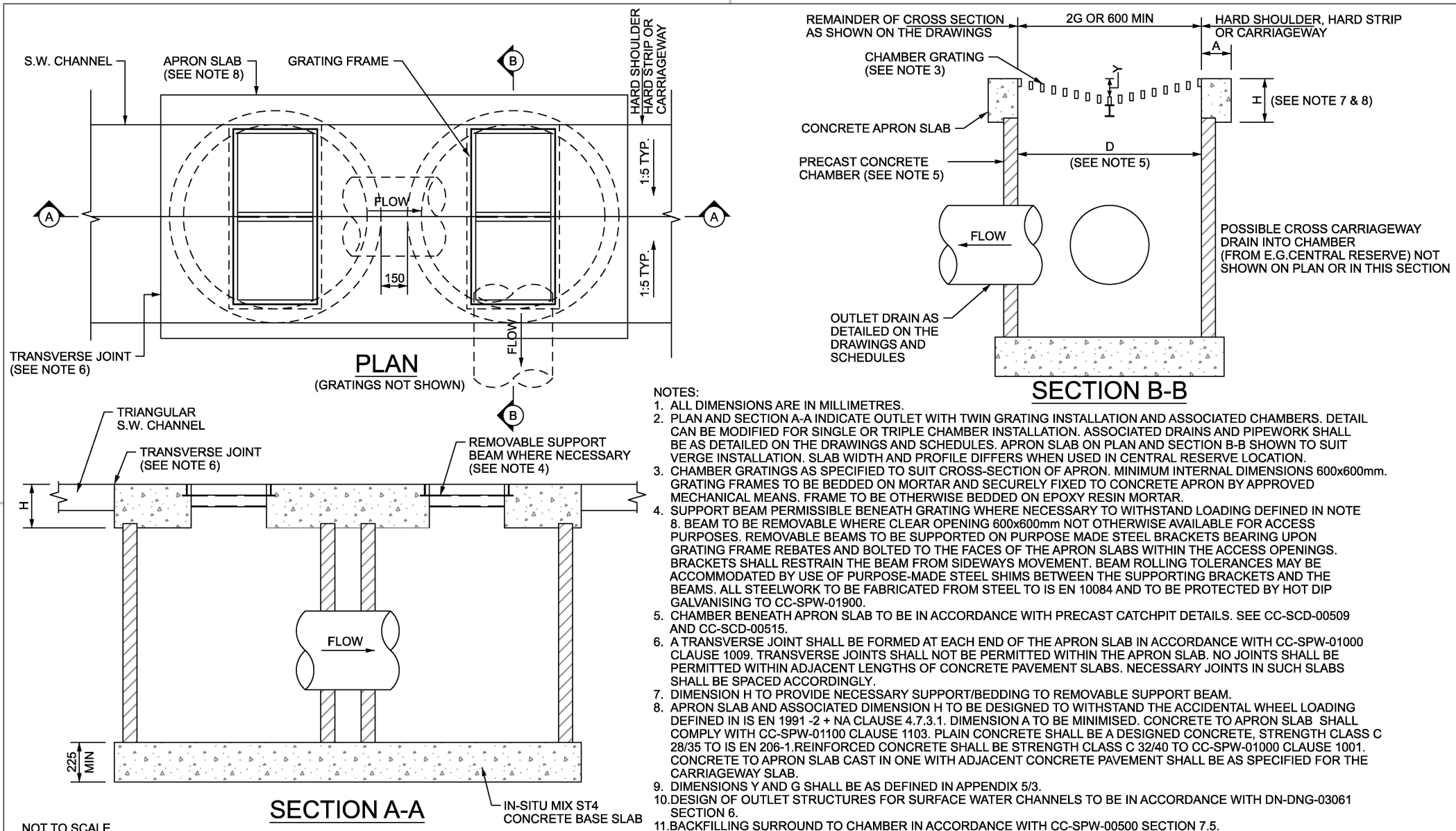
PLAN





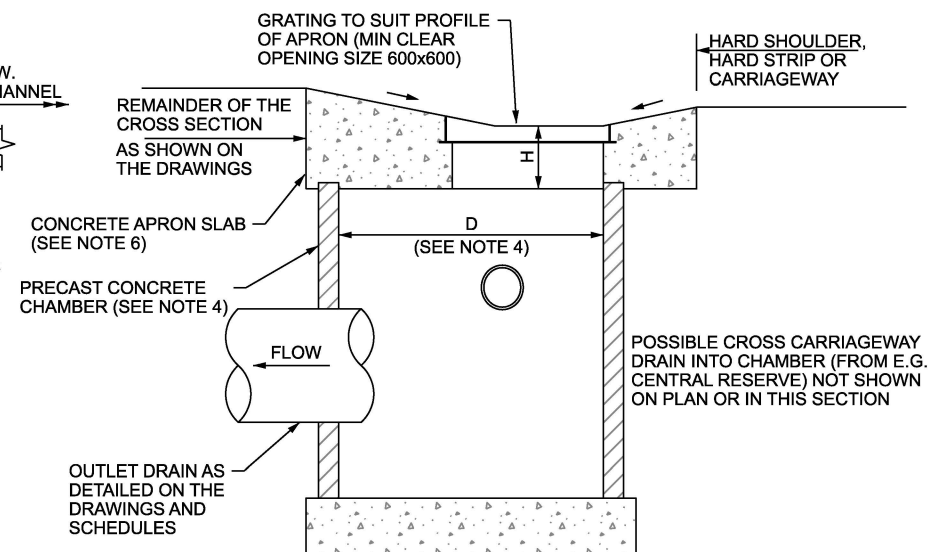
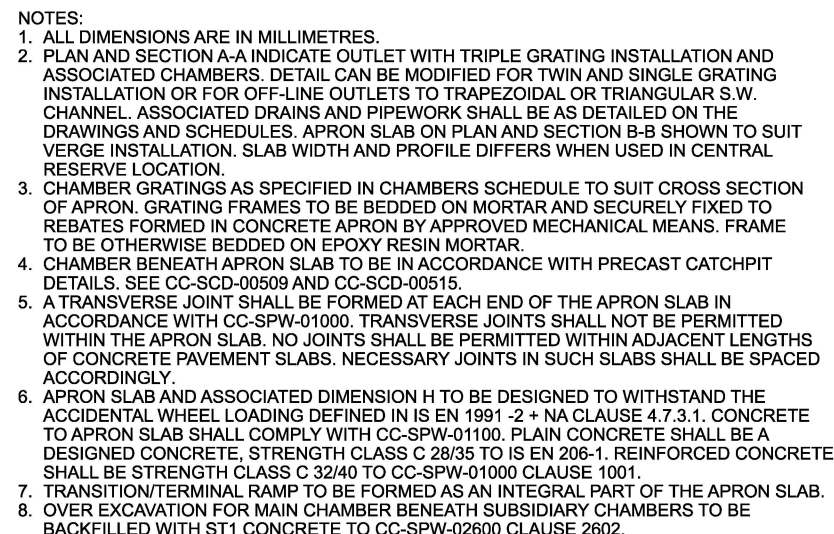
SECTION A-A

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. SWALES MAY BE ALLOWED TO ENCROACH INTO MAINTENANCE STRIP WHERE PROVIDED.
 3. CHECK DAMS MAY BE REQUIRED TO LIMIT VELOCITIES DURING EXTREME EVENTS TO 1-2 m/s. LONGITUDINAL SLOPE SHOULD BE MINIMUM 1 IN 300 AND MAXIMUM 1 IN 40, UNLESS CHECK DAMS ARE USED.
 4. PERFORATED PIPE UNDERDRAIN REQUIRED WHERE GROUNDWATER LEVELS ARE LESS THAN 300mm BELOW FINISHED SURFACE LEVEL OR SUB-FORMATION LEVEL WHERE CAPPING IS PRESENT.
 5. THE DEPTH TO THE OBVERT OF THE PERFORATED PIPE MUST BE EITHER THE GREATER OF 100mm MINIMUM BELOW BASE OF CAPPING LAYER OR 600mm BELOW FINISHED SURFACE LEVEL.

NOT TO SCALE



 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE			
	 Construction & Commissioning	IN-LINE OUTLET TO TRIANGULAR SURFACE WATER CHANNEL			
		HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
STREAM	STANDARD CONSTRUCTION DETAILS (SCD)	<div>RCD/500/26</div>	<div>STANDARDS</div>	<div>SEPTEMBER 2024</div>	<div>ACTIVITY CC</div> <div>STREAM SCD</div> <div>DRAWING NUMBER 00526</div>



SECTION A-A

SECTION B-B

NOT TO SCALE



ACTIVITY



Construction & Commissioning

PUBLICATION TITLE

IN-LINE OUTLET TO TRAPEZOIDAL SURFACE WATER CHANNEL

STREAM

STANDARD CONSTRUCTION DETAILS (SCD)

HISTORICAL REFERENCE

RCD/500/27

DOCUMENTATION SET

STANDARDS

PUBLICATION DATE

FEBRUARY 2024

PUBLICATION NUMBER

ACTIVITY

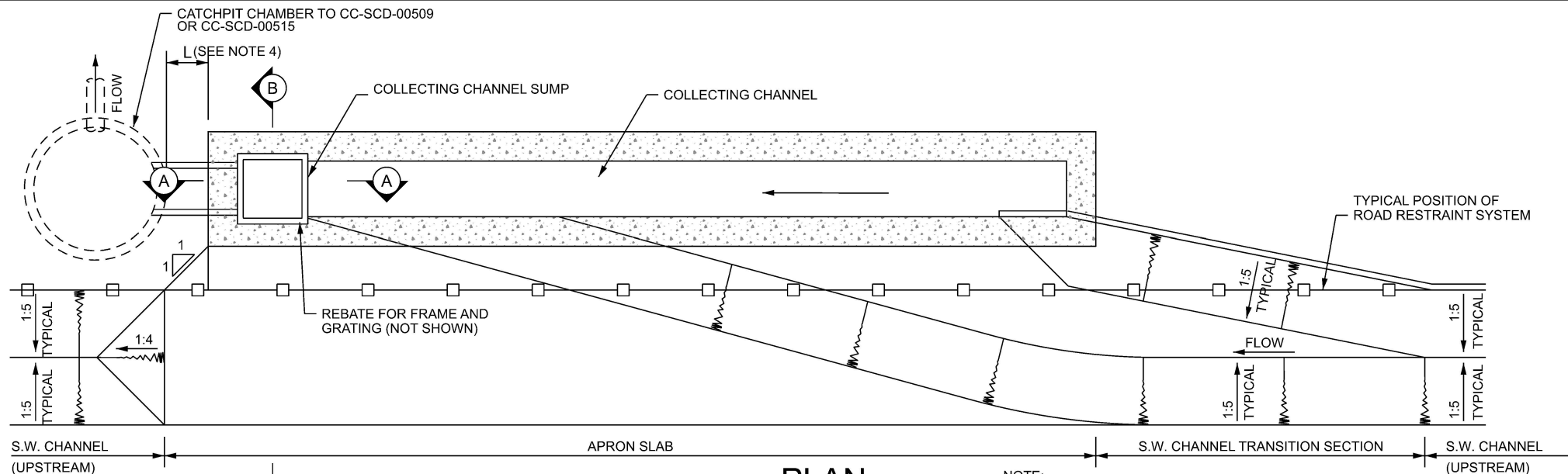
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DRAWING NUMBER

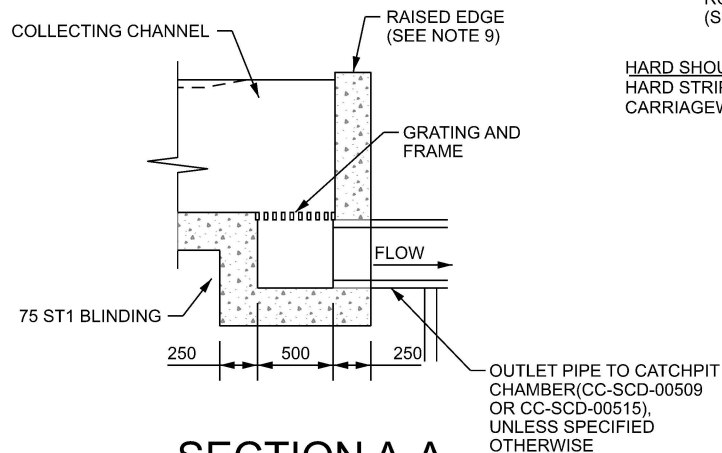
CC

SCD

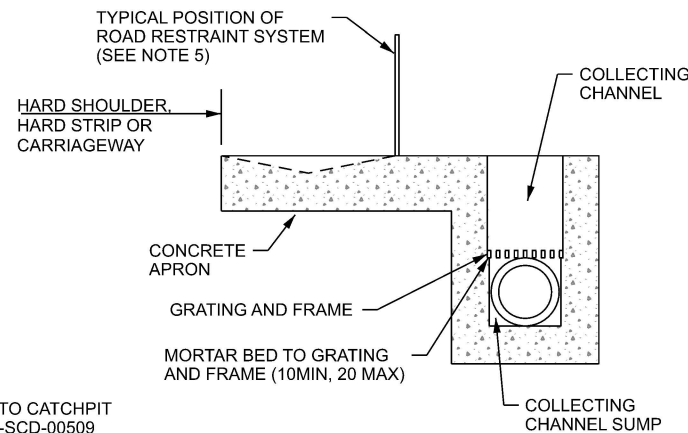
00527



PLAN



SECTION A-A



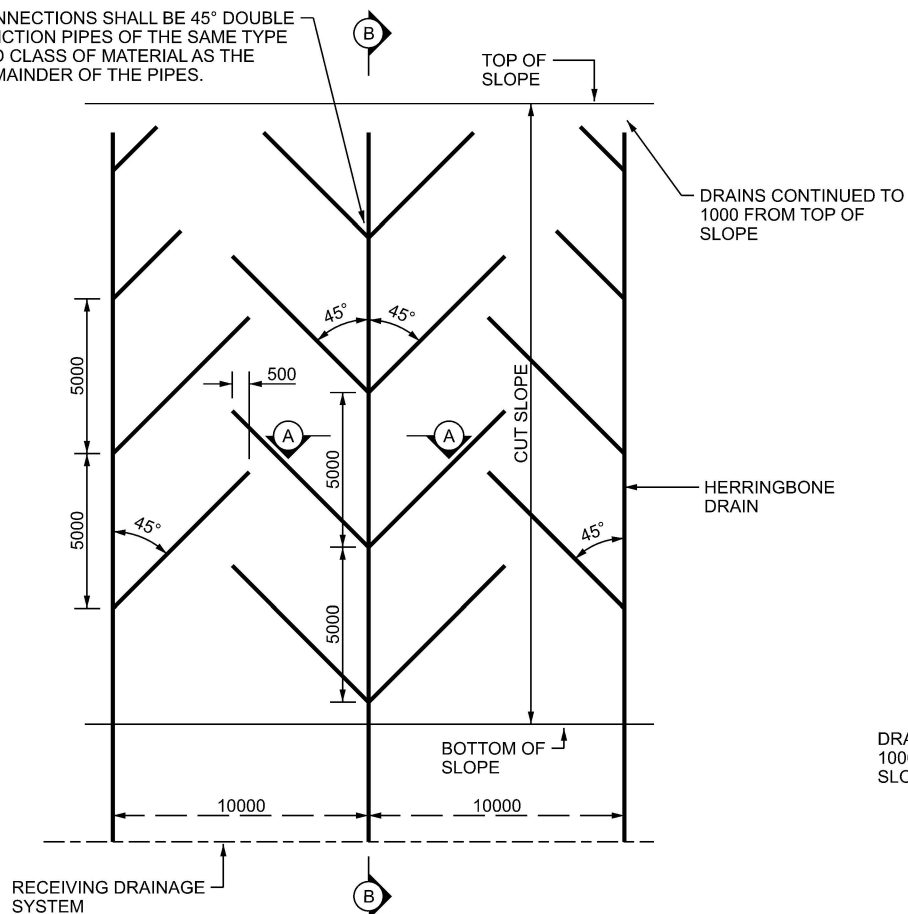
SECTION B-B

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DETAIL SHOWS WEIR OUTLET TO TRIANGULAR S.W. ALSO APPLICABLE TO TRAPIZOIDAL S.W. CHANNEL WITH NECESSARY MINOR MODIFICATIONS, OVERALL DIMENSIONS, CROSS FALLS ETC. OF APRON SLAB, COLLECTING CHANNEL AND COLLECTING CHANNEL SUMP TO BE DESIGNED TO WITHSTAND THE ACCIDENTAL WHEEL LOADING DEFINED IN IS EN 1991 -2 + NA CLAUSE 4.7.3.1 (2).
3. A TRANSVERSE JOINT IN ACCORDANCE WITH CC-SPW-01000 CLAUSE 1009 SHALL BE FORMED BETWEEN THE APRON SLAB AND S.W. CHANNELS AT EACH END OF THE SLAB. NO JOINTS SHALL BE PERMITTED WITHIN ADJACENT LENGTHS OF CONCRETE PAVEMENT SLABS. NECESSARY JOINTS IN SUCH SLABS SHALL BE SPACED ACCORDINGLY.
4. DIMENSION L BETWEEN APRON SLAB AND OUTFALL CHAMBER TO BE NOT LESS THAN REQUIRED IN ACCORDANCE WITH CC-SPW-00500 SECTION 7.13.
5. ROAD RESTRAINT SYSTEM TO BE AS SHOWN ON THE DRAWINGS AND SCHEDULED IN APPENDIX 4/1.
6. CONCRETE TO APRON SLAB SHALL COMPLY WITH CC-SPW-01100 CLAUSE 1103. PLAIN CONCRETE SHALL BE DESIGNED CONCRETE, STRENGTH CLASS C 28/35 TO IS EN 206-1. REINFORCED CONCRETE SHALL BE STRENGTH CLASS C 32/40 TO CC-SPW-01000 CLAUSE 1001.
7. SURFACE WATER CHANNELS BECOME DISCONTINUOUS AT EACH WEIR OUTLET. DETAILS SHOWN ON THIS DRAWING INDICATE RECOMMENCEMENT OF SURFACE WATER CHANNEL DOWN-GRADIENT FROM WEIR OUTLET.
8. THE DISTANCE BETWEEN THE TRAFFIC FACE OF ANY ROAD RESTRAINT SYSTEM AND THE NEAREST VERTICAL FACE OF THE COLLECTING CHANNEL SHOULD NOT BE LESS THAN 75% OF THE WORKING WIDTH CLASS AS SPECIFIED IN APPENDIX 4/1.
9. 50mm HIGH RAISED EDGE DETAIL REQUIRED WHERE SHOWN TO PROTECT VERGE FROM OVERSPILL FROM APRON SLAB.

NOT TO SCALE

CONNECTIONS SHALL BE 45° DOUBLE JUNCTION PIPES OF THE SAME TYPE AND CLASS OF MATERIAL AS THE REMAINDER OF THE PIPES.



PLAN

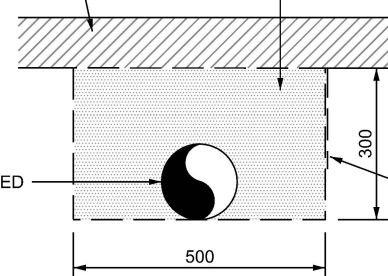
LAYOUT OF HERRINGBONE DRAINS

NOT TO SCALE

CC-SPW-00500 TABLE 5.1 CRUSHED ROCK TYPE B FILTER MATERIAL

TOPSOIL WHERE REQUIRED

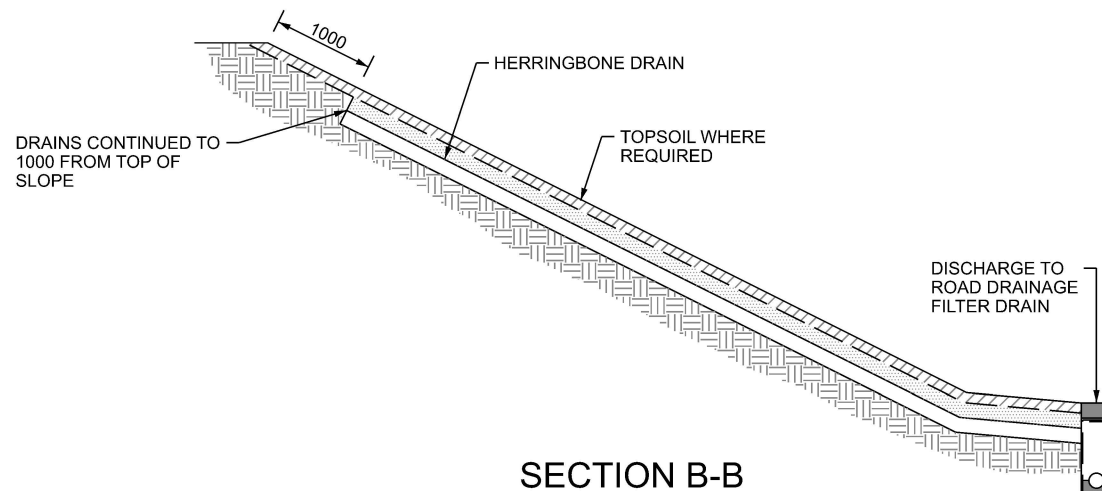
A 150mmØ CORRUGATED FLEXIBLE uPVC SLOTTED PIPE



WRAPPED GEOTEXTILE TO CC-SPW-00500 SECTION 19 WITH 200mm OVERLAP

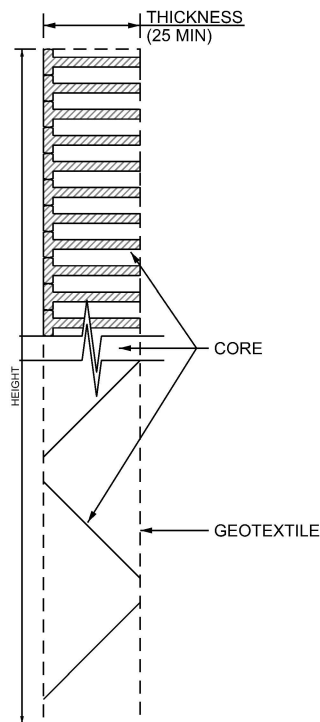
SECTION A-A

SECTION THROUGH HERRINGBONE DRAINS

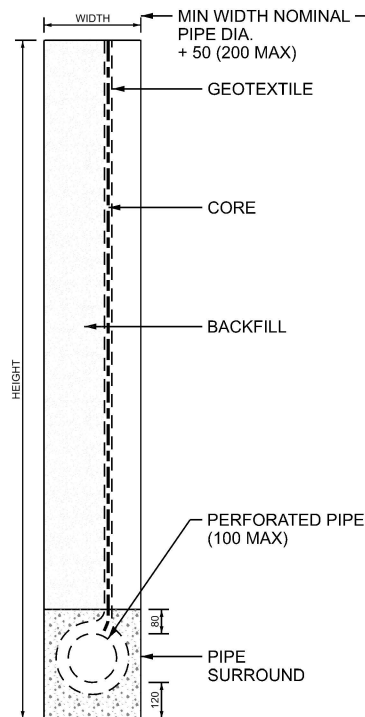


SECTION B-B

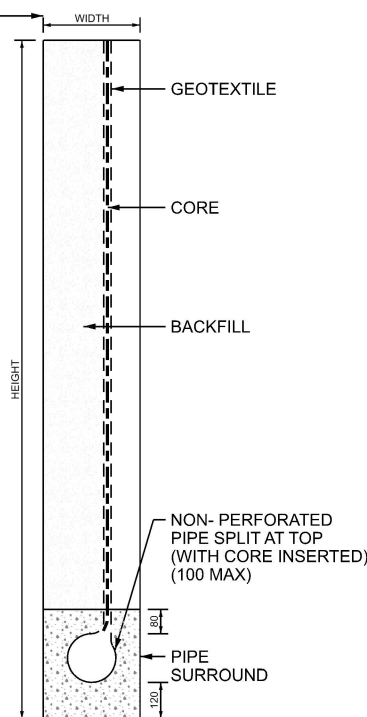
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE SECTION THROUGH THE DRAINED SLOPE SHOWS THE MOST COMMON USE OF HERRINGBONE DRAINS IN A CUT SLOPE DISCHARGING INTO A VERGE FILTER DRAIN.
 3. DRAINAGE BLANKET MAY BE USED AS AN ALTERNATIVE AS DESCRIBED IN CC-SPW-00600.



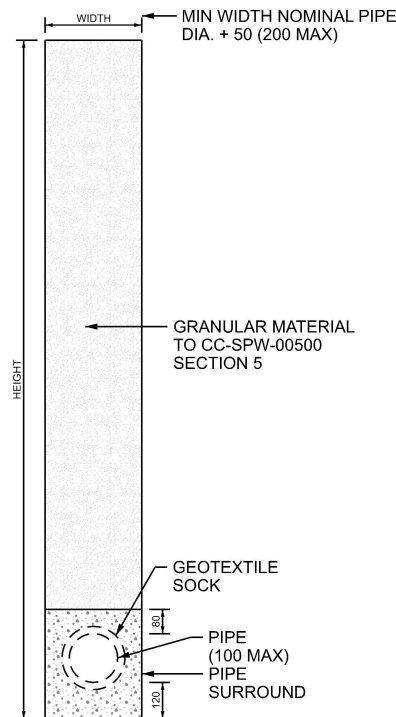
DRAIN TYPE 5



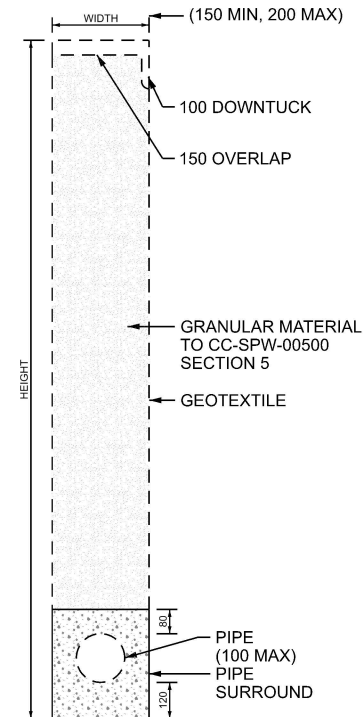
DRAIN TYPE 6



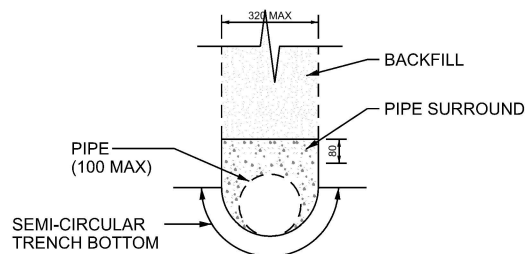
DRAIN TYPE 7



DRAIN TYPE 8
WRAPPED PIPE



DRAIN TYPE 9
LINED TRENCH



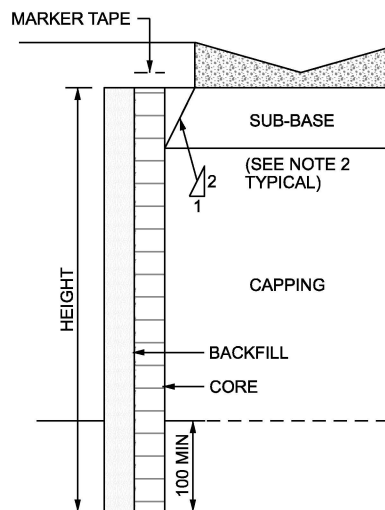
ALTERNATIVE TRENCH SHAPE
FOR DRAINS TYPE 6, 7, 8 AND 9

FIN DRAINS
DRAINS TYPE 5, 6, AND 7

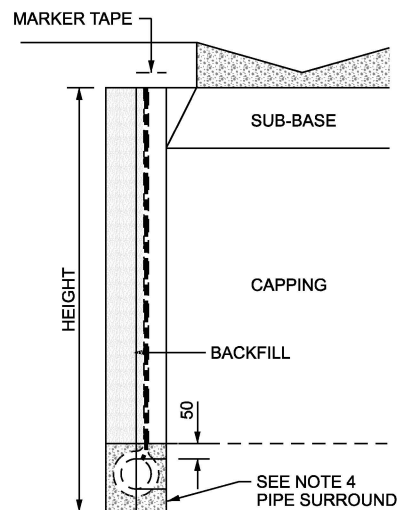
NARROW FILTER DRAINS
DRAINS TYPE 8 AND 9

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE SURROUNDING MATERIAL AND BACKFILL TO THE PIPES OF DRAIN TYPES 6 AND 7 SHALL COMPLY TO CC-SPW-00500 SECTION 14.6.
 3. THE SURROUNDING MATERIAL TO PIPES OF DRAIN TYPES 8 AND 9 SHALL BE THE GRANULAR MATERIAL USED AS INFILL TO THE DRAIN.

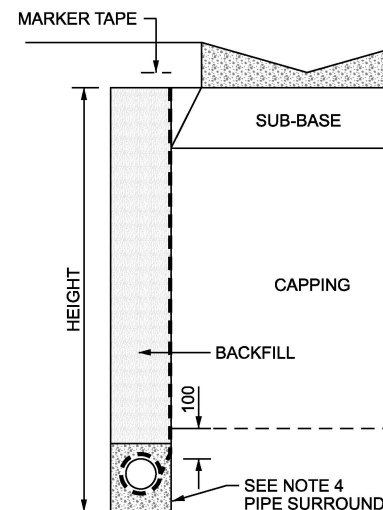
NOT TO SCALE



DRAIN TYPE 5



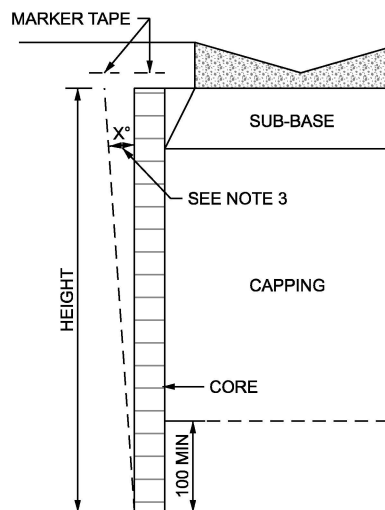
DRAIN TYPE 6



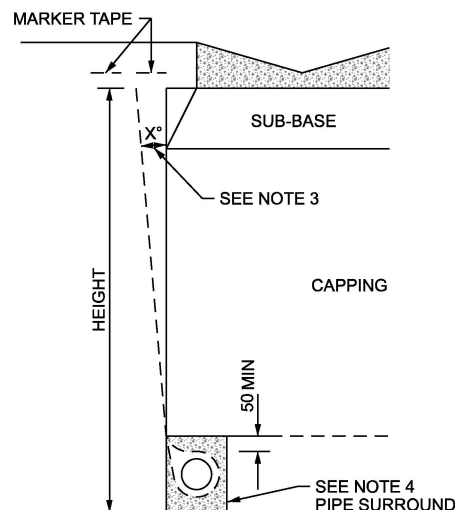
DRAIN TYPE 7

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. FIN DRAINS SHALL BE A MINIMUM OF 75mm FROM THE EDGE OF THE SURFACE WATER CHANNEL WHERE APPROPRIATE.
 3. MARKER TAPES, SURROUND/BACKFILL MATERIAL AND MAXIMUM DRAIN SLOPE ANGLE (X) IN ACCORDANCE WITH CC-SPW-00500 SECTION 14.
 4. PIPE SURROUND MATERIALS SHALL BE AS SHOWN ON CC-SCD-00540.
 5. INSTALLATION OF THE DRAINS SHALL BE MODIFIED ACCORDINGLY WHEN USED IN CONJUNCTION WITH KERB & GULLY OR COMBINED KERB & DRAINAGE CHANNEL UNITS.
 6. THE DRAIN SHALL BE CONSTRUCTED WITH ONE GEOTEXTILE FACE IN CONTACT WITH SIDE OF THE EXCAVATION. THE SIDE HAVING THE GREATER PERMEABILITY SHALL BE FACING TOWARDS AND BE IN CONTACT WITH THE PAVEMENT CONSTRUCTION WHERE APPROPRIATE.
 7. SLOTS IN DRAIN TYPE 7 SHALL BE NO MORE THAN 60° FROM THE CROWN OF THE PIPE.

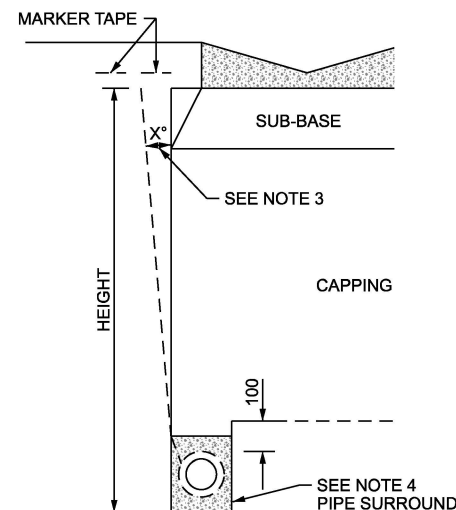
DRAINS LAID IN NARROW TRENCHES



DRAIN TYPE 5



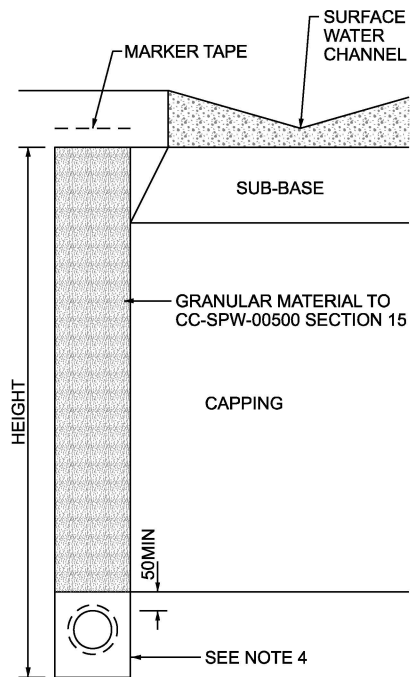
DRAIN TYPE 6



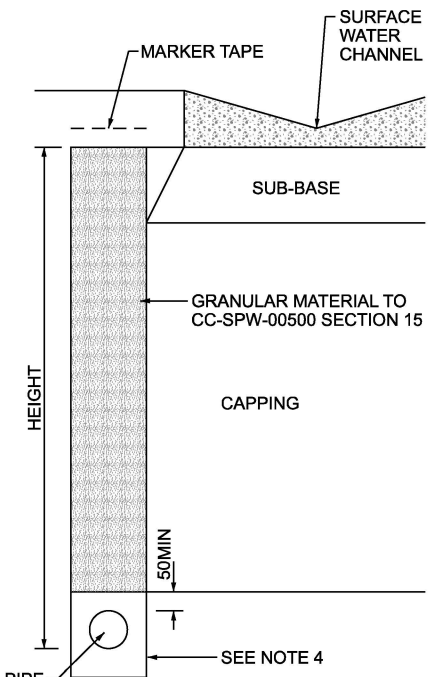
DRAIN TYPE 7

NOT TO SCALE

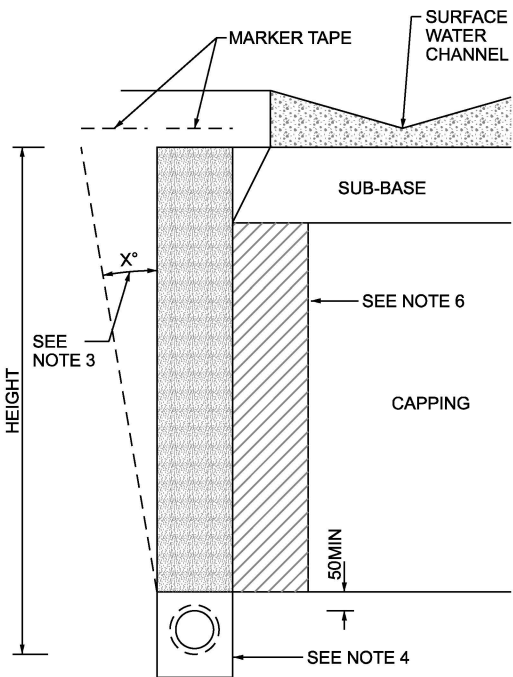
DRAINS LAID IN THE SIDE OF EXCAVATION PRIOR TO THE PLACEMENT OF PAVEMENT/CAPPING LAYERS



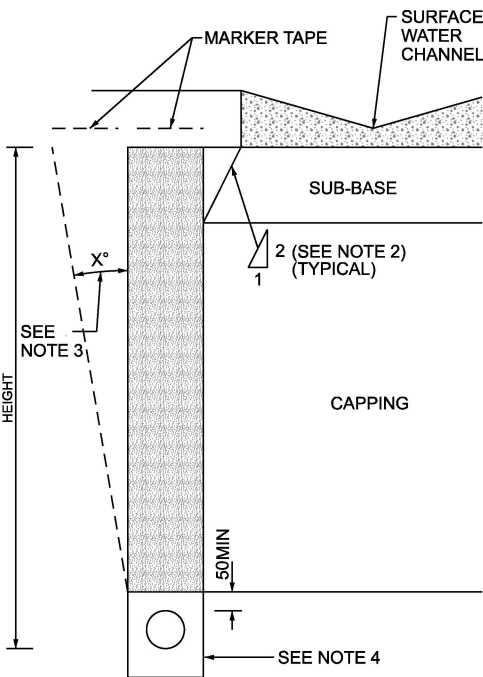
DRAIN TYPE 8



DRAIN TYPE 9



DRAIN TYPE 8





DRAIN TYPE 9

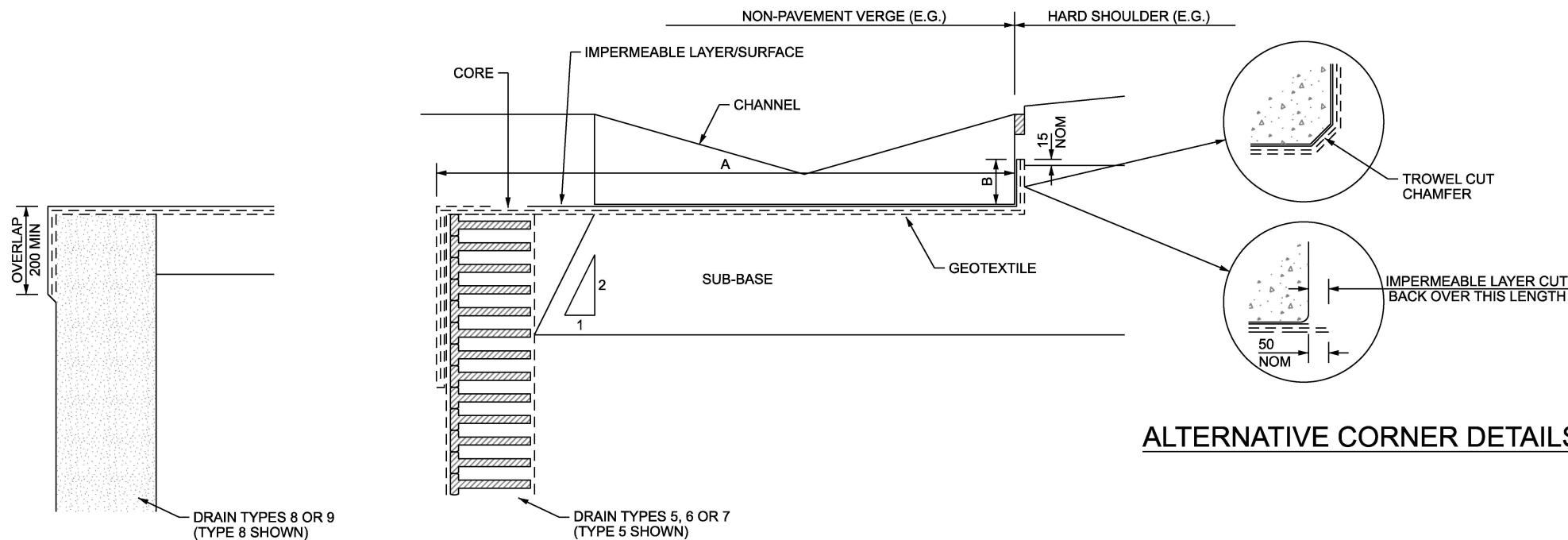
DRAINS LAID IN NARROW TRENCHES

DRAINS LAID IN THE SIDE EXCAVATIONS PRIOR TO THE PLACEMENT OF PAVEMENT/CAPPING LAYERS

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. NARROW FILTER DRAINS SHALL BE A MINIMUM OF 75mm FROM THE EDGE OF THE SURFACE WATER CHANNEL WHERE APPROPRIATE.
 3. MARKER TAPES, AND MAXIMUM DRAIN SLOPE ANGLE (X) SHALL BE AS DESCRIBED IN CC-SPW-00500 SECTION 14.
 4. PIPE SURROUND MATERIALS SHALL BE AS SHOWN ON CC-SCD-00541.
 5. THE DRAIN SHALL BE CONSTRUCTED WITH ONE FACE IN CONTACT WITH THE PAVEMENT CONSTRUCTION.
 6. THE MAXIMUM INCREASED WIDTH OF FILTER MATERIAL SHALL BE 150mm. IN THIS AREA EITHER FILTER MATERIAL OR CAPPING MATERIAL MAY BE PLACED.

NOT TO SCALE

 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE					
	 Construction & Commissioning	DRAINAGE EDGE OF PAVEMENT DRAINS - INSTALLATION OF NARROW FILTER DRAINS					
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER		
	STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/42	STANDARDS	SEPTEMBER 2024	ACTIVITY CC	STREAM SCD	DRAWING NUMBER 00542





DRAIN TYPE 10

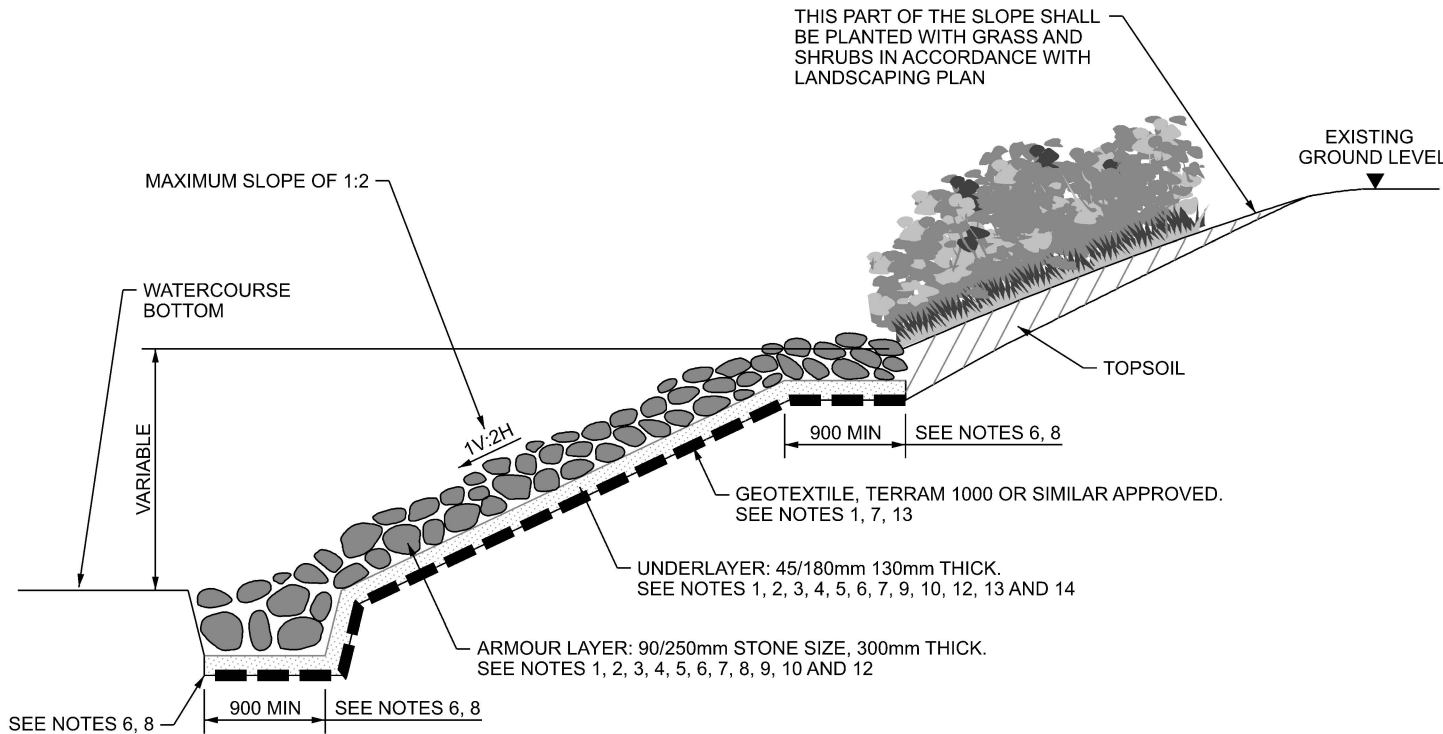
UNDER CHANNEL DRAINAGE LAYER (FIN DRAIN)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. WIDTH OF DRAIN TYPE 10 EQUALS $A + B + 200$.
3. FURTHER DETAILS OF THE APPLICATION OF DRAIN TYPE 5 TO 9 ARE SHOWN ON CC-SCD-00541 AND CC-SCD-00542.
4. UNDER CHANNEL DRAINAGE LAYER SHALL BE IN ACCORDANCE WITH CC-SPW-00500 SECTION 14.

NOT TO SCALE

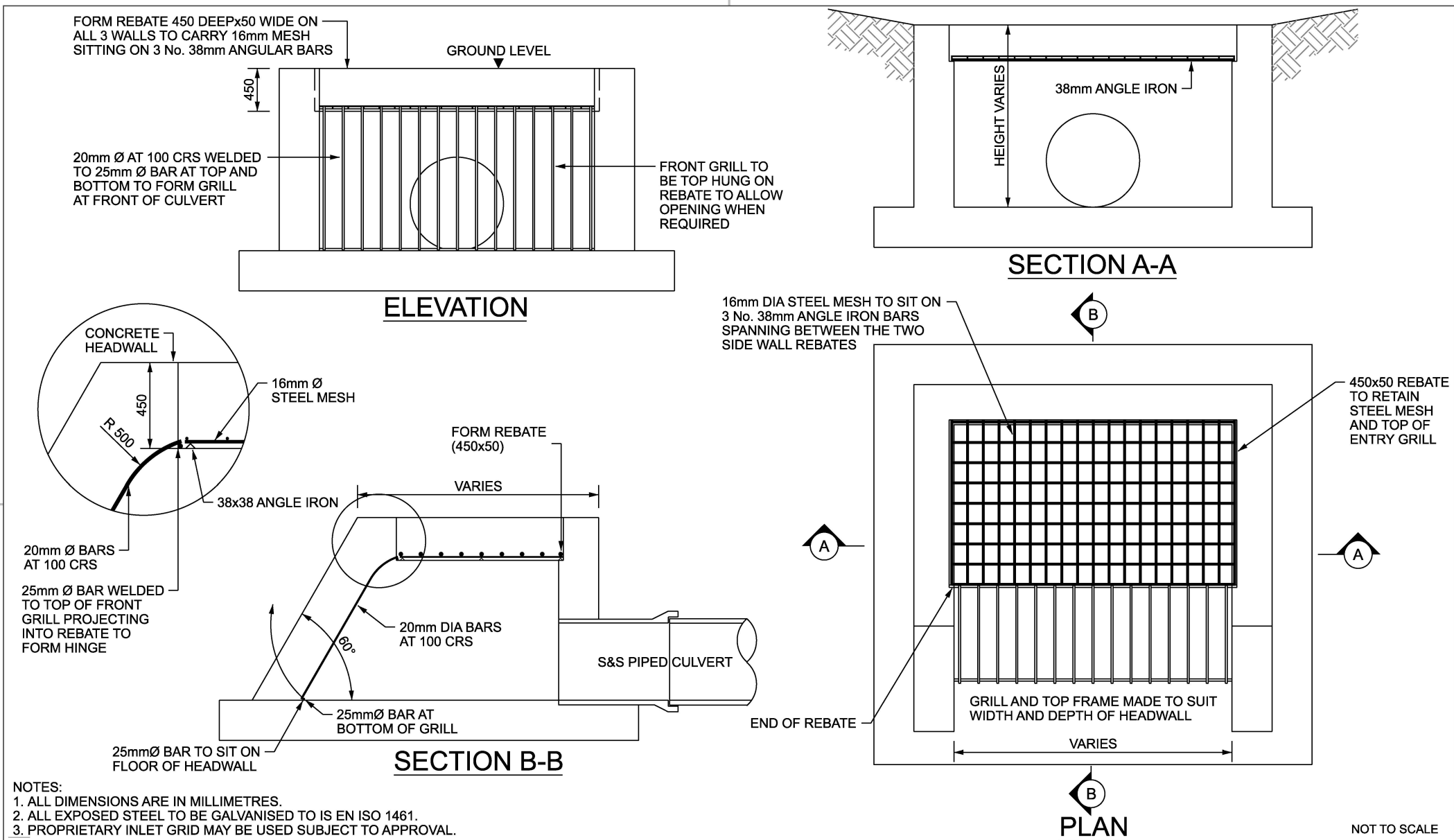
 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE				
	 Construction & Commissioning	DRAINAGE EDGE OF PAVEMENT DRAINS - UNDER CHANNEL DRAINAGE LAYERS				
	STREAM	HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER	
STANDARD CONSTRUCTION DETAILS (SCD)	RCD/500/43	STANDARDS	SEPTEMBER 2024	ACTIVITY CC	STREAM SCD	DRAWING NUMBER 00543





- NOTES:-
1. ALL DIMENSIONS ARE TO BE IN MILLIMETRES.
 2. THE DESIGNER SHALL TAKE IN TO CONSIDERATION THE SITE SPECIFIC REQUIREMENTS AND MODIFY THIS SCD ACCORDINGLY. REFER TO GUIDANCE PROVIDED IN ESCARAMEIA, M, (1998), RIVER AND CHANNEL REVETMENTS - A DESIGN MANUAL, THOMAS TELFORD LIMITED ISBN 0 7277 2691 9 AND CIRIA, CUR, CETMEF, (2007). THE ROCK IN HYDRAULIC ENGINEERING, 2ND EDITION, C683, CIRIA, LONDON, MAY, RWP, ACKERS, JC, KIRBY, AM, (2000), MANUAL ON SCOUR AT BRIDGES AND OTHER HYDRAULIC STRUCTURES, CSSI, CIRIA, LONDON. A RISK ASSESSMENT SHALL BE CARRIED OUT TO ASSESS THE REQUIREMENT FOR ROCK ARMOUR.
 3. THE MINIMUM DIMENSIONS AND MAXIMUM SLOPE GRADIENT OUTLINED IN THIS SCD SHALL BE RETAINED BY THE DESIGNER IN THEIR DETAIL.
 4. THIS SCD IS SUITABLE FOR MAXIMUM FLOW VELOCITIES OF 2.5m/s. THE DESIGNER IS REQUIRED TO DEMONSTRATE THAT THIS SCD IS SUITABLE FOR USE.
 5. ROCK ARMOUR SHALL BE HANDLED AND PLACED TO THE FULL LAYER THICKNESS IN ONE OPERATION SO THAT SEGREGATION IS MINIMISED AND THE GEOTEXTILE USED UNDER THE ROCK ARMOUR IS NOT DISTURBED AFTER THE INITIAL ROCK PLACEMENT.
 6. ROCK ARMOUR PLACEMENT SHOULD BEGIN AT THE TOE TRENCH AND PROGRESS UP THE SLOPE MAINTAINING THE DESIRED ROCK PLACEMENT THICKNESS AS THE WORK PROCEEDS.
 7. IF THIS SCD IS NOT SUITABLE FOR USE, THE DESIGNER IS REQUIRED TO PROVIDE A SOLUTION TAKING INTO ACCOUNT OF NOTES 7 - 14.
 8. THE DESIGNER SHALL SPECIFY THE GRADING AND STONE SIZE TAKING INTO ACCOUNT THE SPECIFIC SITE CONDITIONS, THE HYDRAULIC CONDITIONS AND WATER LEVELS. A FILTER LAYER IS REQUIRED BETWEEN THE COARSE COVER LAYER AND THE FOUNDATION. GEOTEXTILES ARE TO BE USED AS PART OF THE FILTERING SYSTEM.
 9. THE DESIGN OF THE TOE SHALL TAKE INTO CONSIDERATION POTENTIAL SCOUR.
 10. DETERMINATION OF THE STABILITY SHALL BE CARRIED OUT FOR THE DIFFERENT DESIGN SITUATIONS SUCH AS HYDRAULIC LOADS INDUCED BY FLOOD OR NAVIGATION OR OTHER TYPES OF LOADS.
 11. DIMENSIONS OF COVER LAYERS AND FILTERS SHALL TAKE INTO CONSIDERATION WIND AND SHIP-INDUCED WAVES AND CURRENTS WHERE APPLICABLE.
 12. THE DESIGNER SHALL ENSURE THAT THE EARTHWORKS ARE DESIGNED IN ACCORDANCE WITH IS EN 1997: PART 1.
 13. THE STONES SHALL PREFERABLY BE ANGULAR AND REGULAR IN SHAPE RATHER THAN ROUNDED.
 14. THE DESIGNER SHALL TAKE INTO ACCOUNT SITE SPECIFIC REQUIREMENTS (E.G. SOIL TYPE, GRAIN SIZE, INSTALLATION DAMAGE, ROCK ARMOUR SIZE ETC.) WHEN SPECIFYING THE GEOTEXTILE.
 15. THE UNDERLAYER NEEDS TO BE APPROPRIATELY DESIGNED TO PROTECT THE IN-PLACE BANK MATERIAL AND REMAIN BENEATH THE OUTER ROCK ARMOUR.

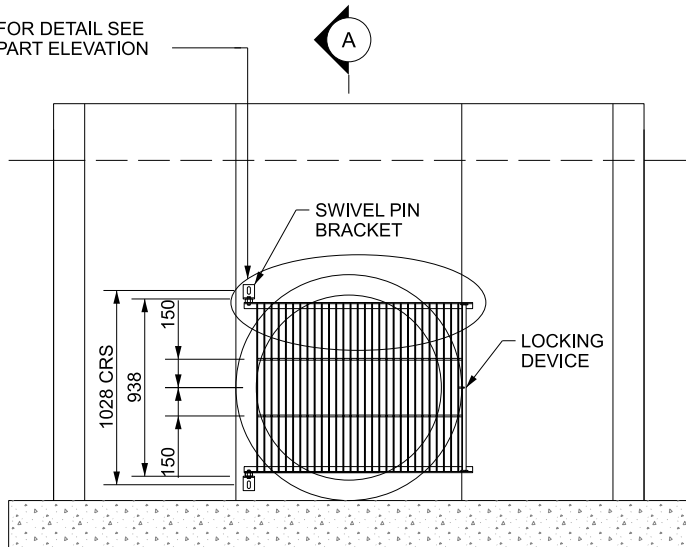
REQUIREMENTS FOR ROCK ARMOUR			
	LOWER	UPPER	STANDARD
GRADINGS	SEE IS EN 13383-1:2002 and IS EN 13383-2:2013		
SHAPE	SEE IS EN 13383-1:2002 and IS EN 13383-2:2013		
PROPORTION OF CRUSHED OR BROKEN SURFACES	SEE IS EN 13383-1:2002 and IS EN 13383-2:2013		
PARTICLE DENSITY	2.5		IS EN 13383-1:2002 and -2:2013
PLASTICITY INDEX	NON PLASTIC		BS 1377:PART2
LOS ANGELES COEFFICIENT		50	CC-SPW-00600 SECTION 35
SLAKE DURABILITY	95%		CC-SPW-00600 SECTION 34
RESISTANCE TO WEAR	SEE IS EN 13383-1:2002 and IS EN 13383-2:2013		

NOT TO SCALE

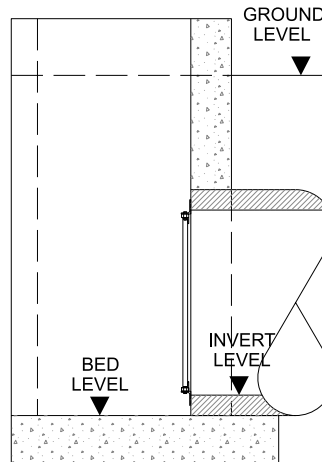


 Bonneagar Iompair Éireann Transport Infrastructure Ireland	ACTIVITY	PUBLICATION TITLE			
	 Construction & Commissioning	DRAINAGE SELF CLEARING INLET GRID DETAIL			
		HISTORICAL REFERENCE	DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER
STREAM	STANDARD CONSTRUCTION DETAILS (SCD)	<div>RCD/500/51</div>	<div>STANDARDS</div>	<div>FEBRUARY 2024</div>	<div>ACTIVITY CC</div> <div>STREAM SCD</div> <div>DRAWING NUMBER 00551</div>

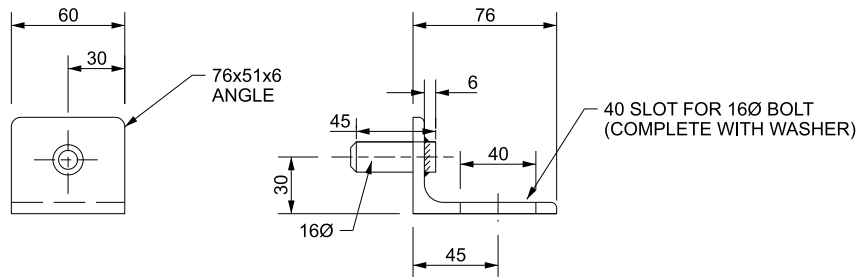
FOR DETAIL SEE
PART ELEVATION



ELEVATION

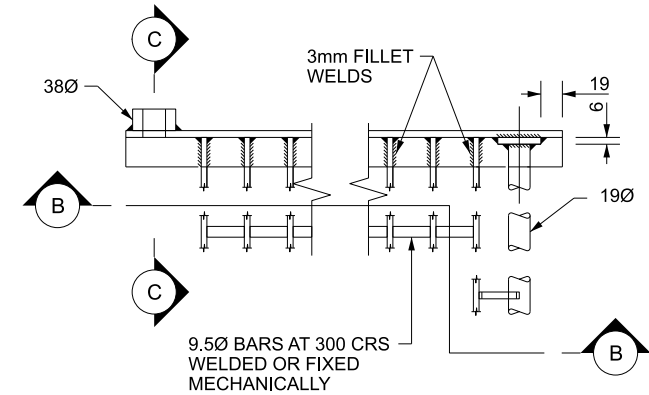


SECTION A-A

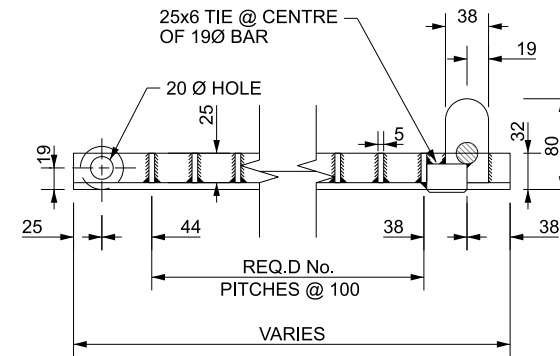


DETAILS OF SWIVEL PIN BRACKET

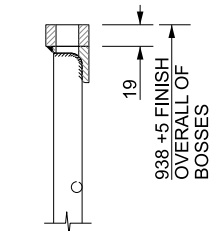
(SECURED TO PLATFORM WITH 16Ø BOLT)



PART ELEVATION



SECTION B-B



SECTION C-C

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL WELDS ARE TO BE 6mm FILLET WELDS EXCEPT WHERE STATED OTHERWISE.
3. THE GRATINGS AND BRACKETS ARE TO BE FABRICATED FROM STEEL TO IS EN 10084 AND TO BE PROTECTED BY HOT DIP GALVANISING.
4. OUTLET GRID IS ONLY TO BE USED WHERE SELF CLEARING INLET GRID DETAILS TO CC-SCD-00551 IS PROVIDED.
5. PROPRIETARY SYSTEM MAY BE USED SUBJECT TO APPROVAL.

NOT TO SCALE



ACTIVITY



STREAM

STANDARD CONSTRUCTION DETAILS (SCD)

PUBLICATION TITLE

DRAINAGE
OUTLET GRID DETAIL

HISTORICAL REFERENCE

RCD/500/52

DOCUMENTATION SET

STANDARDS

PUBLICATION DATE

FEBRUARY 2024

PUBLICATION NUMBER

ACTIVITY

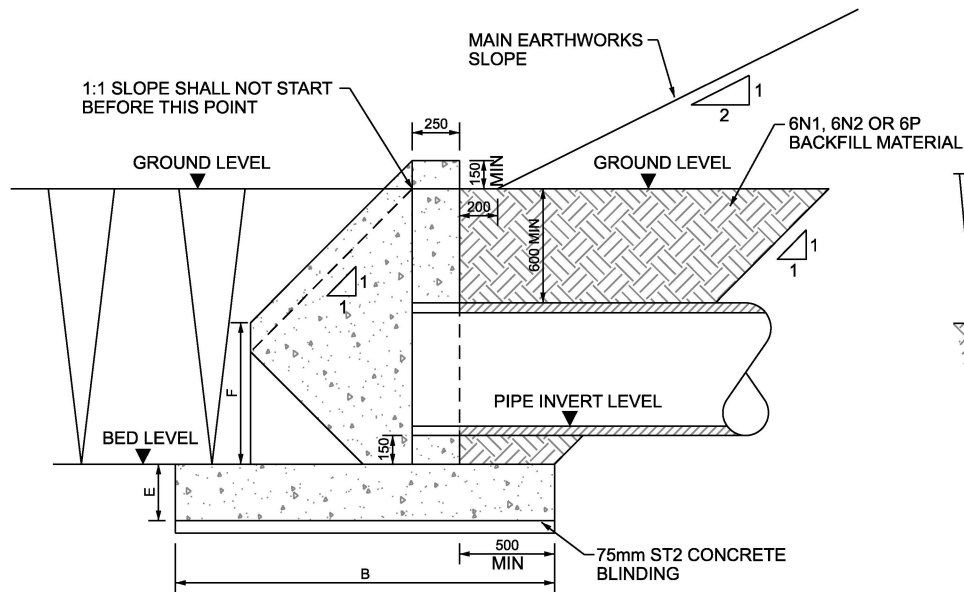
CC

STREAM

SCD

DRAWING NUMBER

00552



SECTION B-B

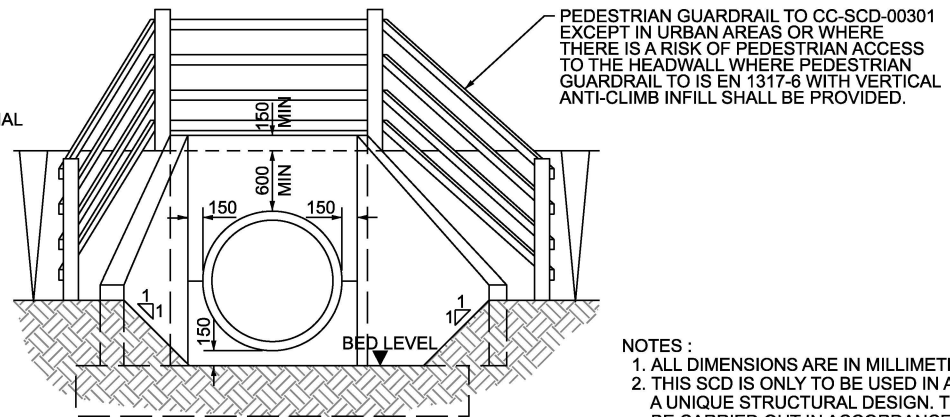
SCHEDULE OF MINIMUM DIMENSIONS

PIPE INNER Ø	A	B	C	D	E	F
<= - 300	2000	2000	PIPE OUTER Ø+300	1000	400	500
301 - 600	2500	2500	PIPE OUTER Ø+300	1250	400	600
601 - 900	3200	3200	PIPE OUTER Ø+300	1550	500	700
901 - 1200	3900	3900	PIPE OUTER Ø+300	1850	500	800
1201 - 1500	4700	4700	PIPE OUTER Ø+300	2150	500	900
1501 - 1800	5200	5200	PIPE OUTER Ø+300	2350	500	1000

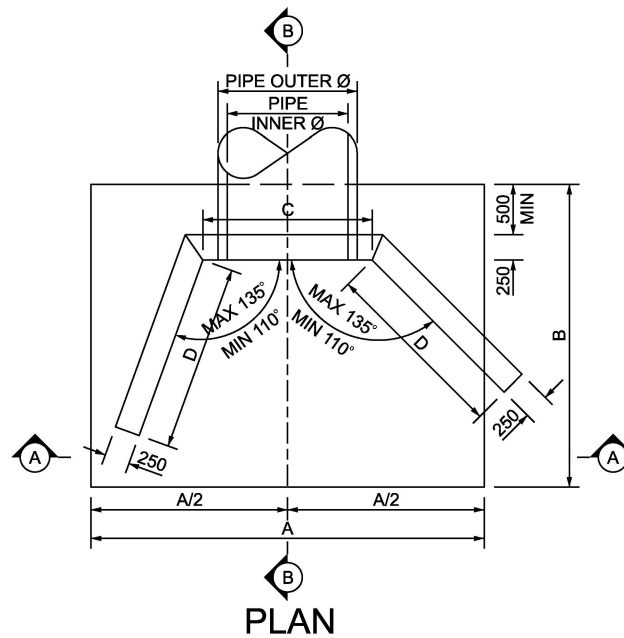
THE DIMENSIONS CONTAINED IN THE TABLE ABOVE ARE MINIMUMS ONLY AND THE DESIGN SHALL CONFIRM DETAILS FOR SPECIFIC SITE CONDITIONS. THE DIMENSIONS CONTAINED IN THE TABLE ABOVE ARE BASED ON THE FOLLOWING CONSTRAINTS:

- ANGLE BETWEEN HEADWALL AND WINGWALL IS 110°;
- BACKFILL MATERIAL IS FREE DRAINING;
- THERE ARE NO LIVE LOAD EFFECTS ON THE WALL;
- CHARACTERISTIC VALUE OF INTERNAL FRICTION (ϕ) OF THE BACKFILL MATERIAL=37.5°;
- 600mm COVER TO THE PIPE AT THE REAR OF THE HEADWALL, WITH A 200mm WIDE FLAT AREA BEFORE THE COMMENCEMENT OF THE MAIN EARTHWORKS SLOPE;
- SLOPE OF FILL MEASURED FROM THE REAR FACE OF THE WINGWALLS DOWNWARDS AND FROM BED LEVEL UPWARDS ARE BOTH TO BE 1:1

NOT TO SCALE



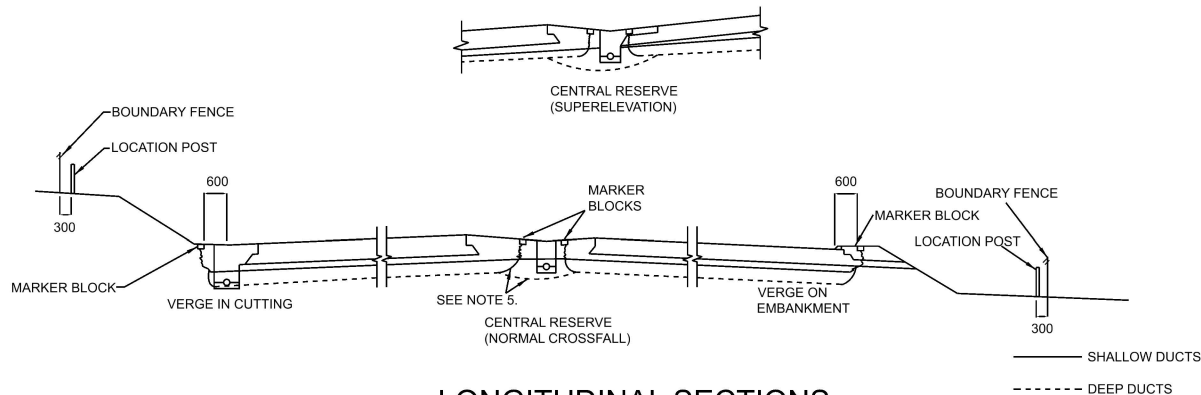
SECTION A-A



PLAN

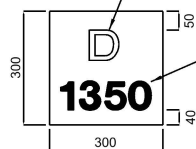
NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS SCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN. THIS DESIGN IS TO BE CARRIED OUT IN ACCORDANCE WITH THE TII REQUIREMENTS FOR THE USE OF EUROCODES FOR THE DESIGN OF ROAD STRUCTURES.
3. REINFORCED CONCRETE SHALL BE A MINIMUM GRADE OF C32/40. ALL STRUCTURAL CONCRETE SHALL BE SPECIFIED IN ACCORDANCE WITH CC-SPW-01700.
4. ALL BLINDING CONCRETE SHALL BE ST2 IN ACCORDANCE WITH IS EN 206.
5. THE MINIMUM COVER TO REINFORCEMENT FOR DURABILITY SHALL BE IN ACCORDANCE WITH DN-STR-03012. MINIMUM EXPOSURE CLASS TO BE XC4.
6. ANY RESULTING VOID BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENING IN THE HEADWALL SHALL BE FILLED WITH NON-COMPRESSIBLE HIGH STRENGTH GROUT.
7. ALL EXPOSED CONCRETE SURFACES FROM 100mm BELOW GROUND LEVEL TO BE CLASS U4/F4 FINISH. ALL OTHER CONCRETE SURFACES TO BE CLASS U1/F1 FINISH UNLESS OTHERWISE SPECIFIED.
8. HEADWALL WINGWALLS TO BE SLOPED AND SHALL MAINTAIN A MINIMUM HEIGHT OF 150mm ABOVE ADJACENT BACKFILL LEVEL.
9. RENDERED CONCRETE BLOCKWORK MAY BE USED AS AN ALTERNATIVE TO IN-SITU OR PRECAST CONCRETE FOR PIPES UP TO 300mm INNER DIAMETER.
10. ALL HEADWALLS SHALL BE BACKFILLED WITH CLASS 6N1, 6N2 OR 6P BACKFILL MATERIAL. HEADWALLS SHALL BE FOUNDATION ON A MINIMUM 75mm LAYER OF ST2 BLINDING CONCRETE. DETAILS OF THE SUB-BASE LAYER TO BE CONFIRMED BASED ON SITE CONDITIONS.
11. ROCK ARMOUR/OR GABION HEADWALLS AND WINGWALLS ARE PROHIBITED.



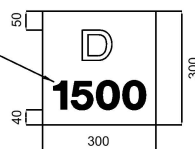
LONGITUDINAL SECTIONS

LETTER D TO BE CAST INTO MIX ST5 CONCRETE BLOCK TO A DEPTH OF 10. ALL LETTERS AND FIGURES TO COMPLY WITH THE TRANSPORT MEDIUM ALPHABET 62.5 'X' HEIGHT.

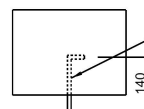
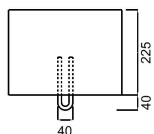


MARK REQUIRED FOR DUCT WHERE COVER DEPTH IS 1500 OR LESS BELOW FINAL LEVEL

DEPTH OF DUCT TO INVERT IN MILLIMETRES CAST 5 MIN DEEP INTO BLOCKS.



MARK REQUIRED FOR DUCT WHERE COVER DEPTH IS MORE THAN 1500 BELOW FINAL LEVEL

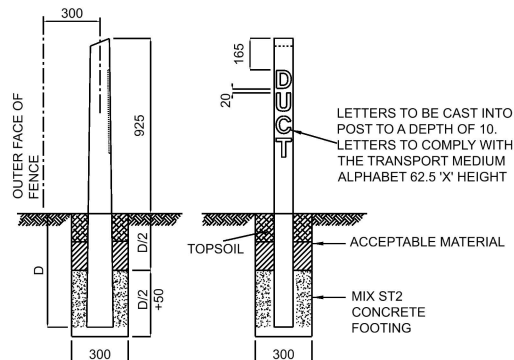


5 DIA GALVANISED STEEL EYE FOR FIXING DRAW ROPE. EYE MAY BE CAST INTO A RECESS IN BLOCK NOT EXCEEDING 40 DEEP X 100 X 100

DETAIL OF MARKER BLOCK

TO BE POSITIONED OVER DUCT IN VERGES AND ON CENTRE LINE IN CENTRAL RESERVE. SLACK IN DRAW ROPE (MINIMUM 1M) TO BE COILED UNDER BLOCK

CLOSE BOARDED FENCE POST TO COMPLY WITH BS 1722 PT.5 TYPE PCR. 105 OR SIMILAR WITHOUT RECESS, WITH THE ADDITION OF CAST LETTERING AS DETAILED BELOW.



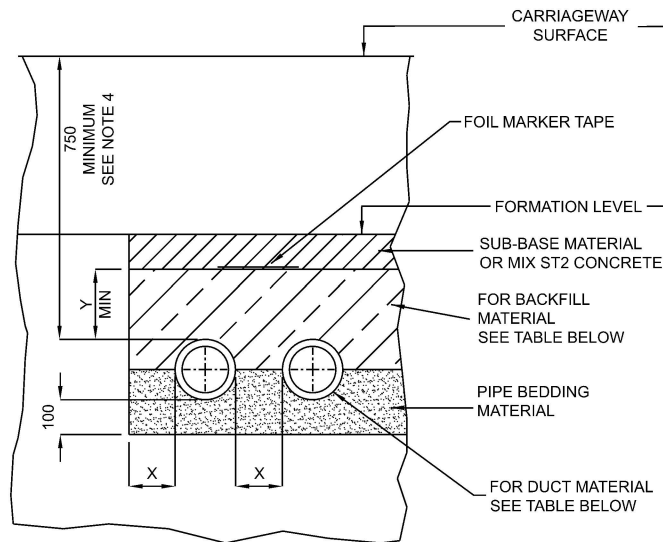
DUCT LOCATION POST

TO BE INSTALLED ON C OF DUCT GROUP

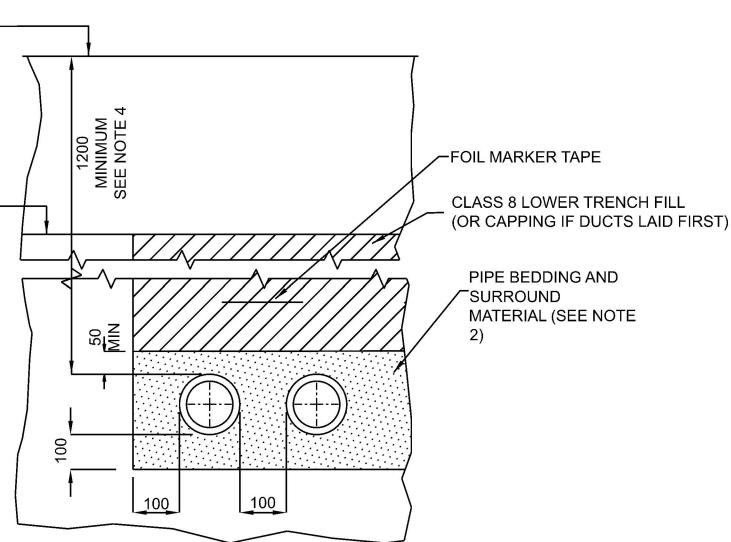
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- DUCTS TO BE 100mm INTERNAL DIAMETER UNLESS OTHERWISE STATED IN APPENDIX 5/2.
- FOR DETAILS OF LOCATION OF DUCTS SEE THE LAYOUT PLANS.
- FOR DETAILS OF THE PERMITTED FORMS OF CONSTRUCTION FOR DUCTS SEE DRAWING No CC-SCD-00561.
- DUCTS ARE TO BE LAID STRAIGHT EXCEPT WHEN THEY HAVE TO CURVE AROUND OBSTACLES AND AT THE END OF DUCTS. NO CHANGE OF DIRECTION TO BE GREATER THAN 1 IN 30. THE MANDREL SHOWN ON DRAWING No CC-SCD-00562 SHALL BE DRAWN THROUGH THE COMPLETED DUCT.
- ALL DUCTS SHALL EXTEND A MINIMUM OF 600mm BEYOND THE PAVEMENT CONSTRUCTION AND WHERE POSSIBLE THE DRAINAGE TRENCH.
- DUCTS AND MARKERS SHALL NOT BE SITED UNDER SAFETY FENCE POSTS.
- WHERE DESCRIBED IN APPENDIX 5/2, 14/4 OR 15/1 MARKER BLOCK TERMINALS SHALL BE REPLACED WITH DUCT CHAMBERS.
- SEE DRAWING No CC-SCD-00563 FOR DUCT CROSSING TYPES.

NOT TO SCALE

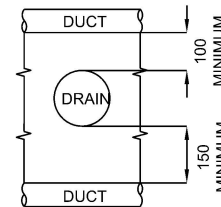


TYPE A
SHALLOW DUCTS (750 TO 1200
COVER)



TYPE B
DEEP DUCTS (OVER 1200 COVER)

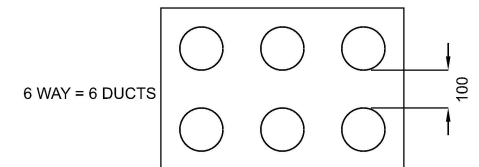
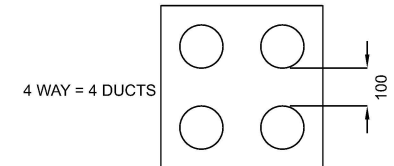
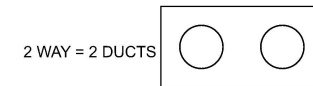
DUCT MATERIAL	BACKFILL MATERIAL	X	Y
UPVC	MIX ST2 CONCRETE	75	150
DUCTILE IRON	MIX ST2 CONCRETE OR SUB-BASE MATERIAL	AS ABOVE 150	0



MINIMUM CLEARANCE BETWEEN
DUCT AND DRAIN

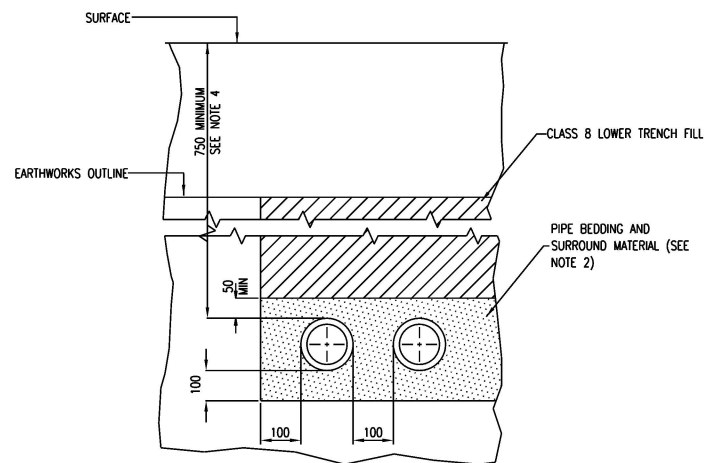
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE STATED.
2. PIPE BEDDING AND SURROUND MATERIAL SHALL BE SAND COMPLYING WITH TABLE 3.2
3. CLASS 8 LOWER TRENCH FILL SHALL COMPLY WITH CC-SPW-00600 TABLE 6/1.
4. ALTERNATIVELY DUCTS SHALL BE LAID TO LIMITS DESCRIBED IN APPENDIX 5/2, 14/4 OR 15/1 OR SHOWN ON THE DRAWINGS.
5. MANDREL DETAIL IS SHOWN ON DRAWING No CC-SCD-00562.

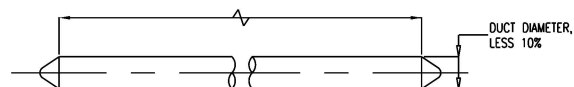


LAYOUT OF
DUCTS

NOT TO SCALE



TYPE C
NON-TRAFFICKED DUCTS (MINIMUM 750
COVER)



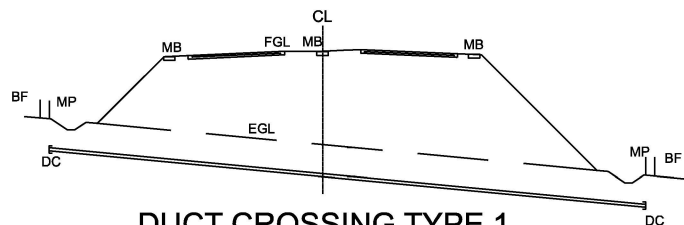
DETAIL OF
MANDREL

(REQUIRED TO PASS THROUGH THE
WHOLE LENGTH OF COMPLETED
DUCTS WITH CURVED ENDS)

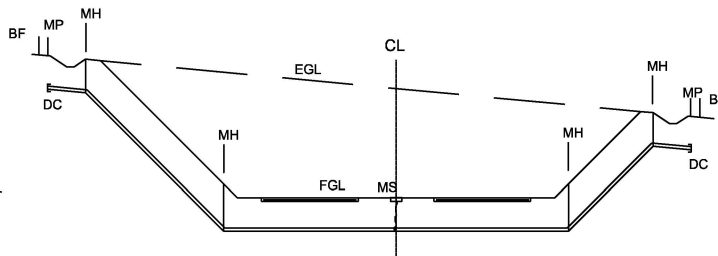
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PIPE BEDDING AND SURROUND MATERIAL SHALL BE SAND COMPLYING WITH CC-SPW-00500 TABLE 3.2.
3. CLASS 8 LOWER TRENCH FILL SHALL COMPLY WITH CC-SPW-00600 TABLE 6/1.
4. ALTERNATIVELY DUCTS SHALL BE LAID TO LIMITS DESCRIBED IN APPENDIX 5/2, 14/4 OR 15/1 OR SHOWN ON THE DRAWINGS.

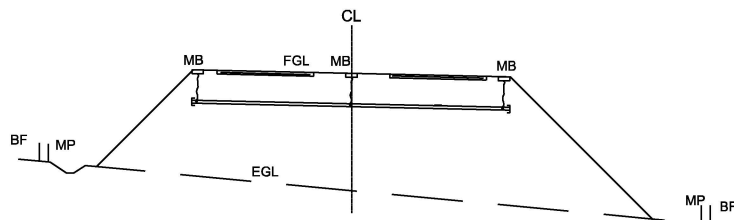
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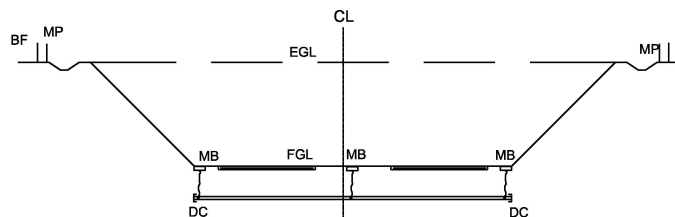
DUCT CROSSING TYPE 1
(FILL AREAS)



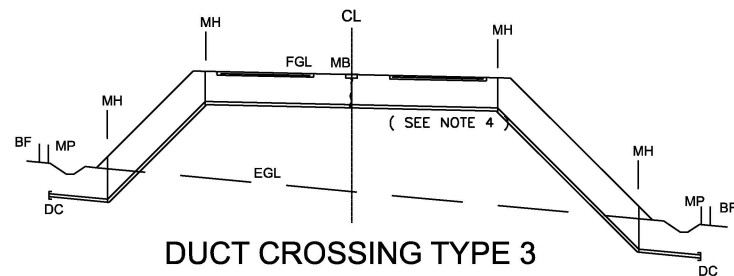
DUCT CROSSING TYPE 4
(FILL AREAS)



DUCT CROSSING TYPE 2
(FILL AREAS)



DUCT CROSSING TYPE 5
(FILL AREAS)



DUCT CROSSING TYPE 3
(FILL AREAS)

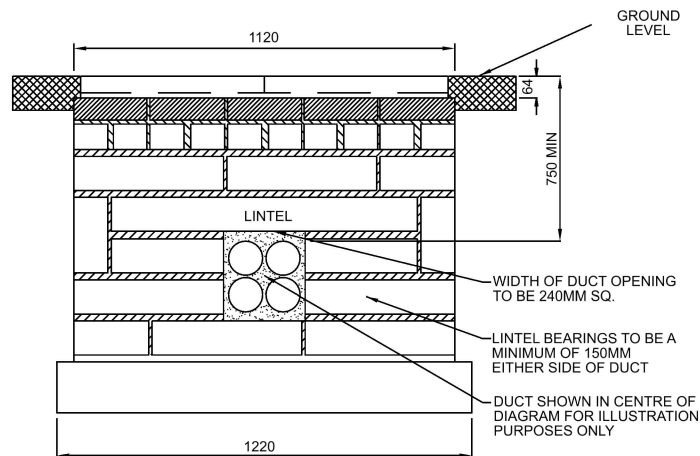
NOTES:

1. ALL DIMENSIONS IN MILLIMETRES EXCEPT WHERE STATED.
2. ALL DUCTS ARE 100mm TO CC-SPW-00500 SECTION 24 UNLESS OTHERWISE STATED IN APPENDIX 5/2.
3. MANHOLES ARE PLACED AT ALL CHANGES IN DIRECTION, OR AS SHOWN.
4. EACH DUCT TO BE SUPPLIED WITH 1 No. POLYPROPYLENE ROPE TO CC-SPW-00500 SECTION 24.2.
5. DUCTS SHALL BE LAID STRAIGHT. NO CHANGE IN DIRECTION GREATER THAN 1 IN 30 TO CURVE AROUND OBSTACLES.
6. DUCTS AND MARKERS SHALL NOT BE SITED UNDER SAFETY FENCE POSTS.
7. DUCT LOCATION POSTS AND MARKER BLOCKS TO CC-SCD-00560.

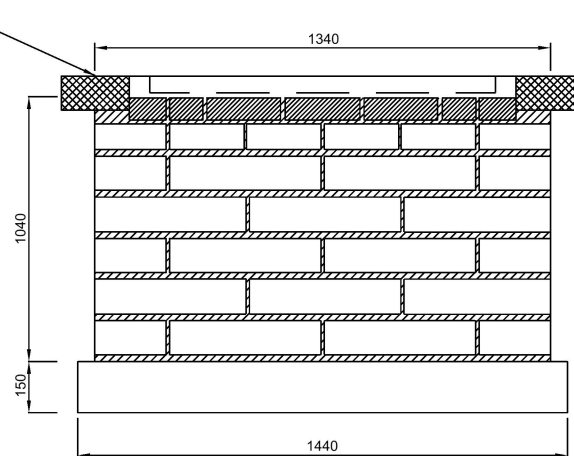
LEGEND:

- EGL = EXISTING GROUND LEVEL
FGL = FUTURE GROUND LEVEL
BF = BOUNDARY FENCE
MP = MARKER POST
MB = MARKER BLOCK
DC = DUCT CAP
MH = MANHOLE

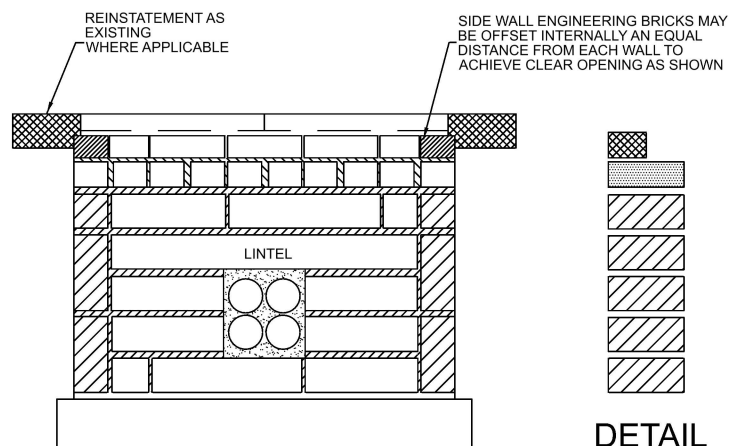
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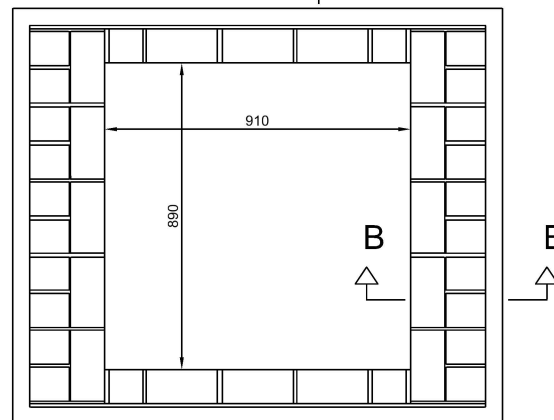
END
ELEVATION



SIDE
ELEVATION



SECTION A-A

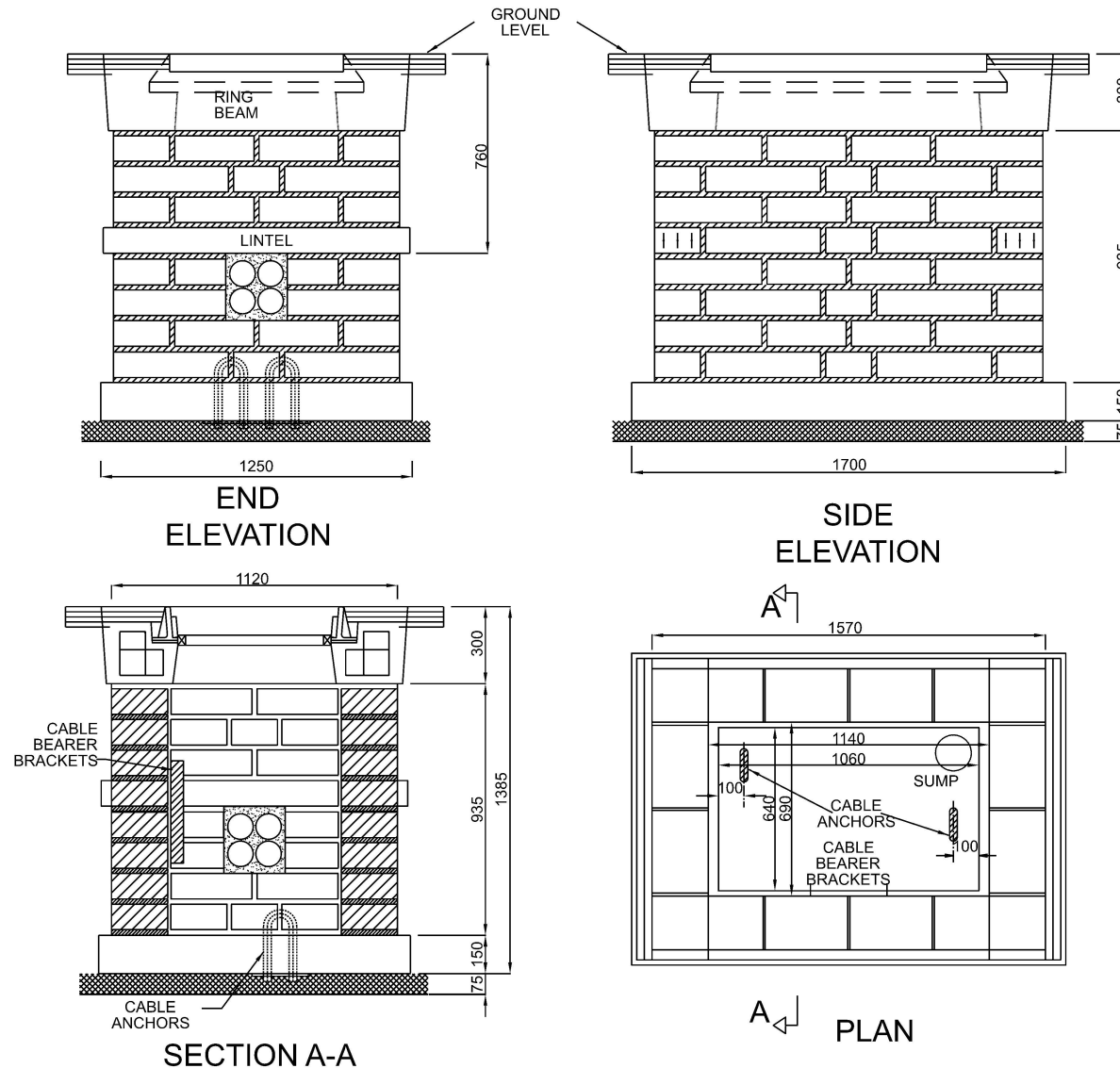


PLAN

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. FOUNDATIONS TO BE AS PER CC-SPW-00500 SECTION 25.2.
3. CONCRETE MIX SHALL BE ST4 AS PER CC-SPW-00500 SECTION 25.2.
4. CHAMBER WALLS TO BE TYPE S10 BLOCKS COLOURED RED WITH 10 N/MM² MINIMUM COMPRESSIVE STRENGTH AND CLASS B ENGINEERING BRICK WITH 50 N/MM² MINIMUM COMPRESSIVE STRENGTH.
5. BLOCK AND BRICK LAYERS TO BE IN ACCORDANCE WITH DETAIL WITH 900X215X100MM REINFORCED CONCRETE LINTEL TO IS 240 ABOVE DUCT OPENINGS. ALLOW 3 DAYS FOR BLOCKWORK MORTAR TO CURE BEFORE BACKFILLING VOIDS OUTSIDE BLOCKWORK WITH LEAN MIX CONCRETE OR SUBBASE TO CC-SPW-00800 SECTION 2.1 LAID IN 200MM THICK LAYERS EACH LAYER WELL CONSOLIDATED WITH A MECHANICAL COMPACTOR.
6. OPTIMUM POSITION OF DUCTS TO BE 115MM ABOVE FLOOR OF CHAMBER.
7. MORTAR TO BE 1:3 CEMENT/SAND MIX AS PER CC-SPW-00500 SECTION 25.10.
8. SIZE OF BLOCK = 440X215X100MM SIZE OF ENGINEERING BRICK = 215X100X65MM.
9. ALL JOINTS TO BE 8 TO 15MM THICK AS PER CC-SPW-00500 SECTION 25.3 AND SERIES 2400.
10. COVER FRAME TO BE FULLY BEDDED ON MINIMUM OF 10 MM DESIGNATION 1 MORTAR AS PER CC-SPW-00500 SECTION 25.3.
11. POSITION OF CABLE BEARER BRACKETS AND SUMP TO BE DECIDED ON SITE WHERE REQUIRED.
12. WHERE SUMP IS INSTALLED IT SHOULD BE DISH FORMED AND NOT EXTEND THROUGH PLINTH.
13. LOCKABLE COVERS CAN ONLY BE REMOVED FROM LOCKED END. FRAMES MUST BE LAID TO ALLOW FOR EASY REMOVAL OF COVERS AS CC-SPW-00500 SECTION 25.4.
14. PRECAST CHAMBERS TO IS EN 1917 ARE ALSO PERMITTED AS PER CC-SPW-00500 SECTION 25.3.
15. CAST IN-SITU CONCRETE CHAMBERS ARE ALSO PERMITTED AND SHALL BE CONSTRUCTED AS PER CC-SPW-00500 SECTION 25.3.

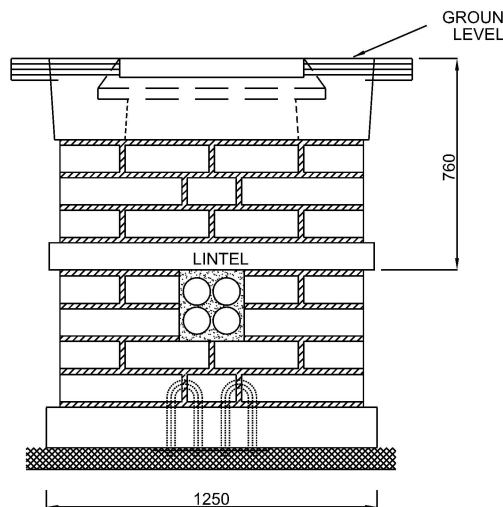
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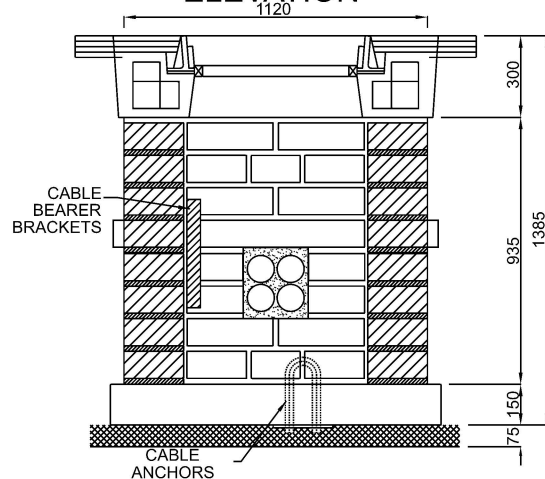
NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. FOUNDATIONS TO BE AS PER CC-SPW-00500 SECTION 25.2.
3. CONCRETE MIX SHALL BE ST4 AS PER CC-SPW-00500 SECTION 25.2.
4. VIBRATE USING HYDRAULIC VIBRATOR AND ALLOW TO SET OVERNIGHT.
5. CHAMBER WALLS TO BE SOLID BLOCKS TO IS 20 COLOURED BLACK WITH 21 N/mm^2 MINIMUM COMPRESSIVE STRENGTH.
6. BLOCK LAYERS TO BE IN ACCORDANCE WITH DETAIL WITH $1200 \times 215 \times 100 \text{ mm}$ REINFORCED CONCRETE LINTEL TO IS 240 ABOVE DUCT OPENINGS. ALLOW 3 DAYS FOR BLOCKWORK MORTAR TO CURE BEFORE BACKFILLING VOIDS OUTSIDE BLOCKWORK WITH GRADE C20/10 CONCRETE WELL CONSOLIDATED WITH A MECHANICAL COMPACTOR.
7. MORTAR TO BE 1:3 CEMENT/SAND MIX AS PER CC-SPW-00500 SECTION 25.10.
8. SIZE OF BLOCK = $440 \times 215 \times 100 \text{ mm}$.
9. ALL JOINTS TO BE 8 TO 15mm THICK S PER CC-SPW-00500 SECTION 25.3 AND SERIES 2400.
10. COVER FRAME TO BE FULLY BEDDED ON MINIMUM OF 10 mm DESIGNATION 1 MORTAR.
11. POSITION OF CABLE BEARER BRACKETS AND SUMP TO BE DECIDED ON SITE.
12. ANCHOR IRONS TO BE SET IN FLOOR WITH BASE OF IRONS BELOW MESH.
13. PRECAST CHAMBERS TO IS EN 1917 ARE ALSO PERMITTED AS PER CC-SPW-00500 SECTION 25.3.
14. CAST IN-SITU CONCRETE CHAMBERS ARE ALSO PERMITTED AND SHALL BE CONSTRUCTED AS PER CC-SPW-00500 SECTION 25.3.

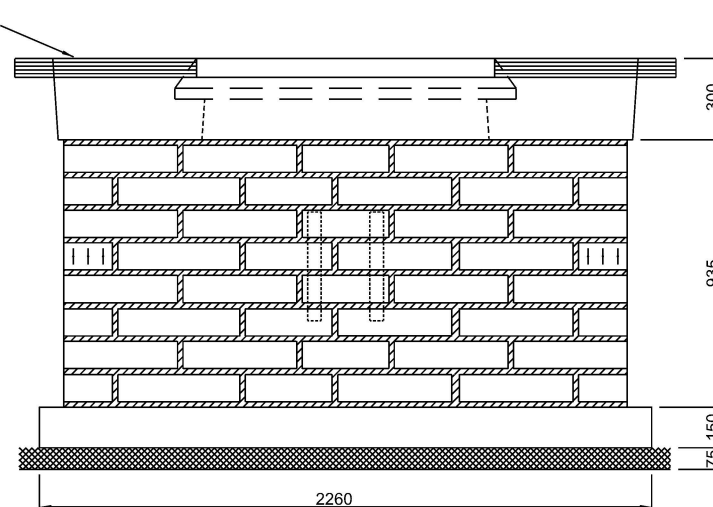
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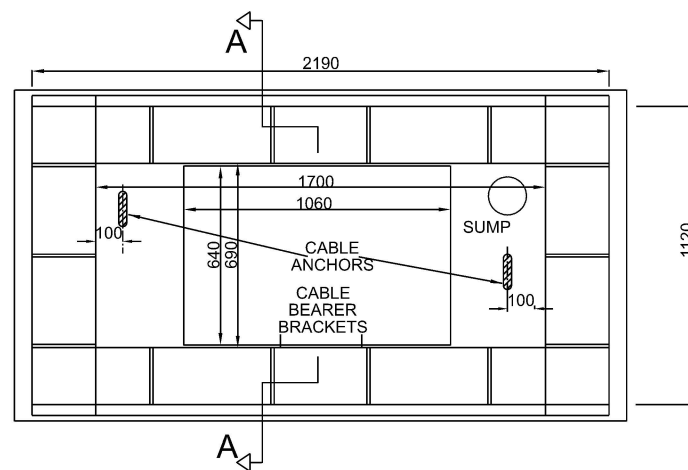
END
ELEVATION



SECTION A-A



SIDE
ELEVATION

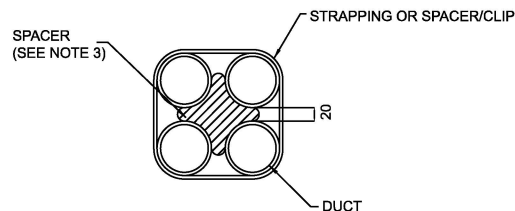


PLAN

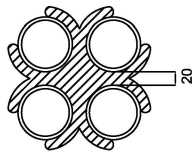
NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. FOUNDATIONS TO BE AS PER CC-SPW-00500 SECTION 25.2.
3. CONCRETE MIX SHALL BE ST4 AS PER CC-SPW-00500 SECTION 25.2.
4. VIBRATE USING HYDRAULIC VIBRATOR AND ALLOW TO SET OVERNIGHT.
5. CHAMBER WALLS TO BE SOLID BLOCKS TO IS 20 COLOURED BLACK WITH 21N/mm^2 MINIMUM COMPRESSIVE STRENGTH.
6. BLOCK LAYERS TO BE IN ACCORDANCE WITH DETAIL WITH $1200 \times 215 \times 100\text{mm}$ REINFORCED CONCRETE LINTEL TO IS 240 ABOVE DUCT OPENINGS. ALLOW 3 DAYS FOR BLOCKWORK MORTAR TO CURE BEFORE BACKFILLING VOIDS OUTSIDE BLOCKWORK WITH GRADE C20/10 CONCRETE WELL CONSOLIDATED WITH A MECHANICAL COMPACTOR.
7. MORTAR TO BE 1:3 CEMENT/SAND MIX AS PER CC-SPW-00500 SECTION 25.10.
8. SIZE OF BLOCK = $440 \times 215 \times 100\text{mm}$.
9. ALL JOINTS TO BE 8 TO 15mm THICK AS PER CC-SPW-00500 SECTION 25.3 AND SERIES 2400.
10. COVER FRAME TO BE FULLY BEDDED ON MINIMUM OF 10mm DESIGNATION 1 MORTAR AS PER CC-SPW-00500 SECTION 25.4.
11. POSITION OF CABLE BEARER BRACKETS AND SUMP TO BE DECIDED ON SITE.
12. ANCHOR IRONS TO BE SET IN FLOOR WITH BASE OF IRONS BELOW MESH.
13. PRECAST CHAMBERS TO IS EN 1917 ARE ALSO PERMITTED AS PER CC-SPW-00500 SECTION 25.3.
14. CAST IN-SITU CONCRETE CHAMBERS ARE ALSO PERMITTED AND SHALL BE CONSTRUCTED AS PER CC-SPW-00500 SECTION 25.3.

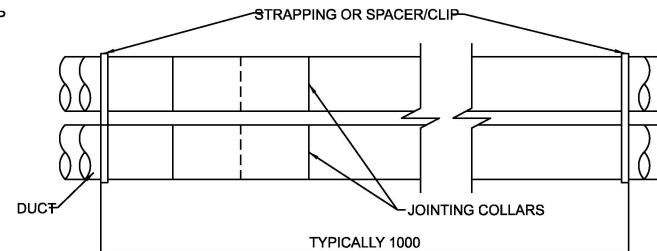
NOT TO SCALE



SECTION THROUGH
LONGITUDINAL DUCT
ARRANGMENT



ALTERNATIVE SPACER/CLIP
ARRANGEMENT



ELEVATION ON
LONGITUDINAL DUCT
ARRANGMENT

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DUCTS SHALL BE SEPARATED BY MEANS OF A PURPOSE MADE SPACER. THE SPACER SHALL ENSURE THAT THERE IS SUFFICIENT ROOM FOR JOINTING COLLARS - NOMINALLY 20mm SEPARATION. SPACERS ARE PROVIDED TO ENSURE THAT THE SEPARATION BETWEEN DUCTS REMAINS CONSTANT ALONG THE LENGTH OF DUCTS DURING INSTALLATION, BACKFILLING AND IN SERVICE. SPACERS SHALL NOT CAUSE DAMAGE TO THE DUCTS EITHER DURING INSTALLATION OR IN SERVICE.
3. THE STRAPPING IS TO BE PURPOSE MADE AND SPACED AT INTERVALS TO ENSURE THAT THE DUCT AND SPACER ARRANGEMENT SHOWN IN THE SECTIONAL DETAIL IS NOT DISTURBED DURING INSTALLATION, BACKFILLING AND IN SERVICE. THAT STRAPPING WOULD TYPICALLY BE INSTALLED AT 1000 INTERVALS.
4. A PURPOSE MADE, COMBINED, SPACER/CLIP ARRANGEMENT MAY BE USED AS AN ALTERNATIVE TO SEPARATE SPACER AND STRAPPING, PROVIDED THAT THE CONTRACTOR CAN DEMONSTRATE THAT THE SPACER/CLIP IS CAPABLE OF RETAINING DUCTS IN PLACE DURING INSTALLATION AND SERVICE.

NOT TO SCALE



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