WAIMAKARIRI
DISTRICT COUNCIL

ENGINEERING CODE OF PRACTICE

STANDARD DRAWINGS

Updated July 2020 Issue 12

April 2009

200717090277

List of Standard Drawings

Type	Title	Issue	Plan No.
Kerbs & Channels	Kerb and Flat Channel	D	600-201A
	Commercial Vehicle Crossing Reinforcing Beam SUPERSEDED BY 212A & 212B	~~E~~	~~600-201B~~
	Mountable Kerb	C	600-203A
	Mountable Kerb & Channel	D	600-203B
	Hillside Channel	C	600-204
	Kerb Only	C	600-205
	Vee Channels	D	600-206
Crossings	Typical Residential Concrete Vehicle Crossing (Flat Channel)	E	600-211A
	Typical Residential Hot Mix Vehicle Crossing (Flat Channel)	A	600-211B
	Typical Residential Hot Mix Vehicle Crossing (Dish Channel)	D	600-211C
	Typical Residential Vehicle Crossing, Zones: 3, 4 & 5	D	600-211D
	Typical Commercial Concrete Vehicle Crossing (Flat Channel)	B	600-212A
	Typical Commercial Hot Mix Vehicle Crossing (Flat Channel)	A	600-212B
	Typical Commercial Hot Mix Vehicle Crossing (Dish Channel)	C	600-212C
	Pedestrian Cutdown	E	600-213
	Typical Rural Zone Entranceway	D	600-217
	Typical Rural Zone Commercial Access	E	600-218
	Changes of Grade at Vehicle Crossing	C	600-219
	Pegasus Res6 Vehicle Crossing (With Swale)	E	600-220A
	Pegasus Res6 Vehicle Crossing (Without Swale)	E	600-220B
	Pegasus Commercial Hot Mix Vehicle Crossing (Flat Channel)	A	600-220C
	Mapleham Vehicle Crossing (With Footpath)	A	600-221A
	Mapleham Vehicle Crossing (Without Footpath)	A	600-221B
Paths	Footpaths and Berms	E	600-222
	Kerb Outlet	D	600-224
	House Drain Entry To Hillside Channel	C	600-226
	Typical Footpath Meander Detail	D	600-227
Road Humps & Islands	Road Hump Details	D	600-231
	Interlocking Concrete Block Pavement Edge Treatments	D	600-233
Miscellaneous	Local Rural Zone Road. Culvert Sight Rail. Typical Detail.	B	600-241
	Typical Wire Mesh Fence for Accessways	C	600-242
	Trenching in Public Property	B	600-243
	Standard Fabricated Light Pole	C	600-244
	Services in the Roadside (1)	A	600-245A
	Services in the Roadside (2)	A	600-245B
	Services in the Road Reserve	D	600-245C
	Trench Installation of PVC Pipes	D	600-246
	Cattle Stop – Plan & Section	B	600-248A
	Cattle Stop – Steelwork Detail	B	600-248B
	Cattle Stop – General Layout	B	600-248C
	Construction Information Sign	D	600-250-d

List of Standard Drawings

Type	Title	Issue	Plan No.
		B	600-251
		A	600-252
Intersections	Standard Rural "X" & "T" Junction Notes	B	600-260A
	Standard Rural Junction Detail – Quadrant Kerb	C	600-260B
	Standard Rural "T" Junction Type A	F	600-261A
	Standard Rural "T" Junction Type A (Constrained)	F	600-261B
	Standard Rural "X" Junction Type A	F	600-261C
	Standard Rural "T" Junction Type B	F	600-262A
	Standard Rural "X" Junction Type B	F	600-262B
	Standard Rural "T" Junction Type C	F	600-263A
	Standard Rural "X" Junction Type C	F	600-263B
Typical Roading Cross Sections	Typical Cross Section – Road in Rural Zone	D	600-270
	Typical Cross Section – Residential 4A or 4B	D	600-271
	Typical Cross Section – Road & Cul-de-Sac	D	600-272
	Typical Cross Section – Rural Right of Way	D	600-273
	Typical Cross Section – Residential & Business Right of Way	D	600-274
	Turning Areas	C	600-275
Manholes	Manhole Casting – Component Details	C	600-301A
	Manhole Vent & Trafficable House Drain Sump Frames & Covers	B	600-301B
	Cast In-situ Manholes Square	C	600-302A
	Cast In-situ Manholes Square Top	C	600-302B
	Cast In-situ Manholes Square Top Reinforcement	A	600-302C
	Precast Manholes Circular	B	600-303A
	Precast Manholes Circular Top	C	600-303B
	Precast Manholes Square Base	A	600-303C
	150mm NB Diameter Drop Manholes	C	600-305
Flush Tanks	Flush Tanks	B	600-311A
	Flush Tanks	B	600-311B
	Flush Manholes	A	600-312
	Air Gap Separator	B	600-313
Sumps	Side Entry Sumps – Precast Kerb Unit	C	600-321
	Side Entry – Enlarged Sumps	C	600-322
	Hillside Sump	C	600-324
	Single Sump – Kerb & Flat Channel	D	600-325
	Single Sump – Kerb & Dish Channel	D	600-326
	Corner Sump	C	600-327
	Double Sump – Flat Channel	C	600-328
	House Drain Inspection Box and Kerb Adaptor	C	600-329
	Urban Soak Pit	C	600-330A
	Rural Soak Pit	B	600-330B

List of Standard Drawings

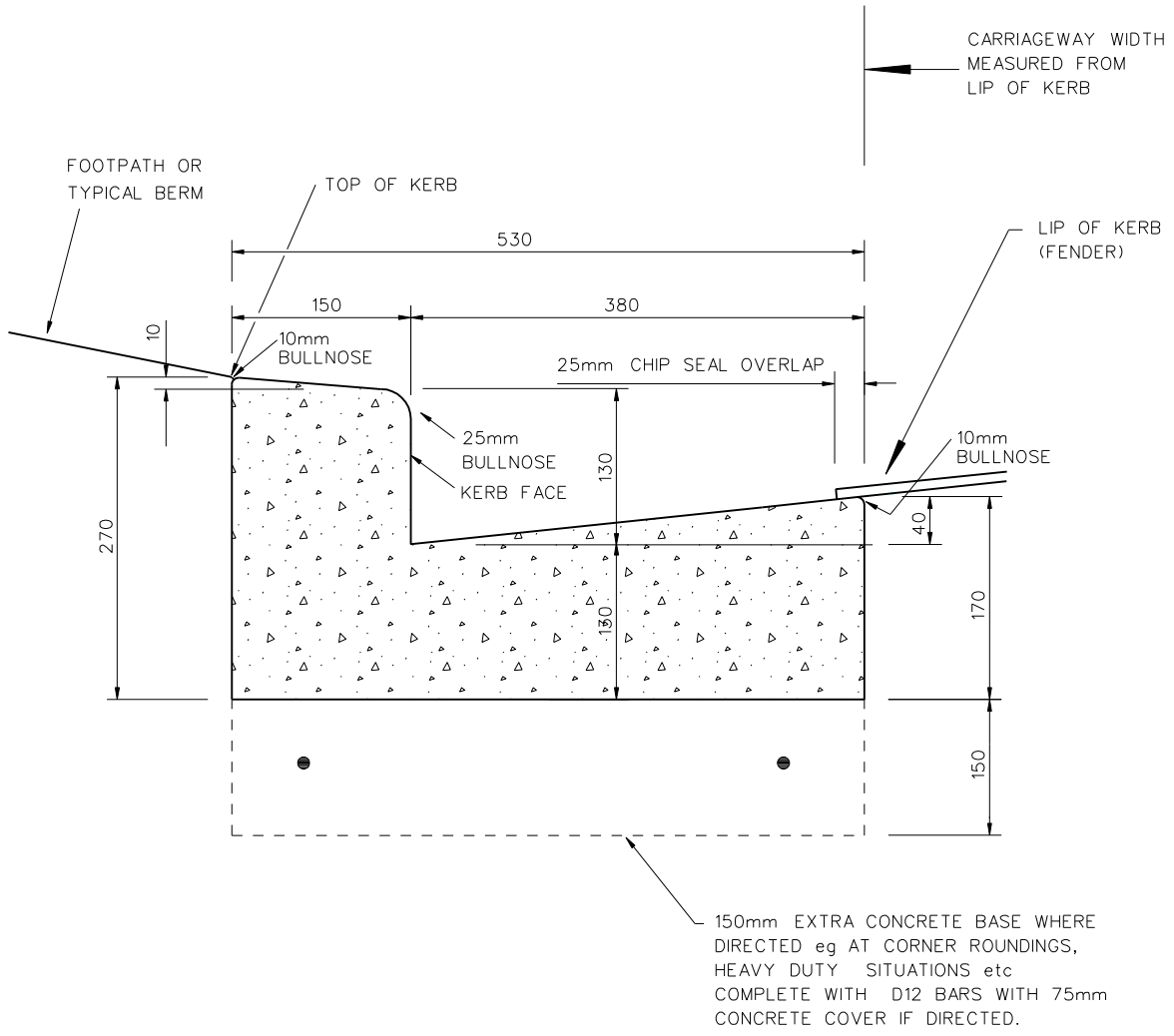
Type	Title	Issue	Plan No.
Pipe Work	Concrete Surround for Under Channel Piping 225 to 300mm Diameter	D	600-331
	Pipelaying at Manholes & Sumps - Concrete & Ceramic Pipes	A	600-341A
	Pipelaying at Manholes & Sumps - CPVC Pipes	A	600-341B
	Pipelaying at Manholes & Sumps - PE Pipes	A	600-341C
	Pipe Protection	B	600-342
	PVC Manhole Starters and Finishers	A	600-343
	Pipelaying Haunching Details - Concrete Pipes	A	600-344A
	Pipelaying Haunching Details - Flexible & Ceramic Pipes	A	600-344B
	Pressure Pipelines Thrust Blocks	B	600-346
	Water Stops	B	600-347
	Sleeving Sewer Mains	C	600-351
	Septic Tank Wet Wells on Council Reticulated Rural Schemes	E	600-352A
	Rural Zone Package Sewage Treatment Service Lateral	D	600-352B
	Land Based Treated Effluent Disposal System 1D	B	600-354A
	Land Based Treated Effluent Disposal System 2	B	600-354B
	Septic Tank on Council Reticulated STEP Schemes	H	600-355A
	Lateral Connection for Single Residential Property on Pressure Sewer Council Reticulated Schemes	B	600-355B
	Direct Connections to Existing Pipes	B	600-361
	Pipelaying Junctions off Factory Moulded & Vertical Risers	A	600-363
	PE Junctions, Swept Bends Inspections & Adaptors	A	600-364
	Standard Circular Inspection Chamber	A	600-376
	Subsoil Drains - Interceptors	A	600-377A
	Subsoil Drains - Swale	A	600-377B
	Subsoil Drain Pipes	A	600-377C
	Vacuum Column Backflow Preventer	A	600-381
	Standard Pump Line Connection to Gravity Wastewater Lateral	B	600-382
	Roadside Soakholes	F	600-390
Water Supply	Private Water Tank (Restricted Scheme)	A	600-403
	Flushing Valve Setup For Dead-Ends On 50mm Main	B	600-404
	Water Valve and Hydrant Installation	C	600-406
	High Hazard Backflow Preventer	B	600-409A
	Medium Hazard Backflow Preventer	B	600-409B
Lateral Connections	Residential Stormwater Lateral Location	B	600-410
	Residential Sewer Lateral Location (Public Land)	C	600-411A
	Residential Sewer Lateral Location (Private Land)	B	600-411B
	Residential Water Supply Lateral Location	B	600-412
	Residential Sewer Lateral Layout At Point Of Discharge	B	600-413A
	Residential Sewer Lateral Junctions.	C	600-413B
	Trade Waste Point Of Discharge	B	600-413C
	Urban Water Supply Lateral Connection	D	600-414A

List of Standard Drawings

Type	Title	Issue	Plan No.
	Rural and Rural Residential Water Supply Lateral Connection	D	600-414B
	Service Lateral Connection from Water Main	A	600-414C
Reserves	Street Bench Installation	B	600-500
	Diagonal Tree Staking	B	600-501A
	Vertical Tree Staking	B	600-501B
	Pedestrian Accessway Chicane – Surface Mounted Steel Bollards	B	600-502

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Kerb levels on plan given to kerb top.
5. Offsets given to kerb face.
6. Sealcoat finished 5mm above level of fender.
7. Base formation to accord with requirements of CCC Construction Standard Specification Part 6 - Roads



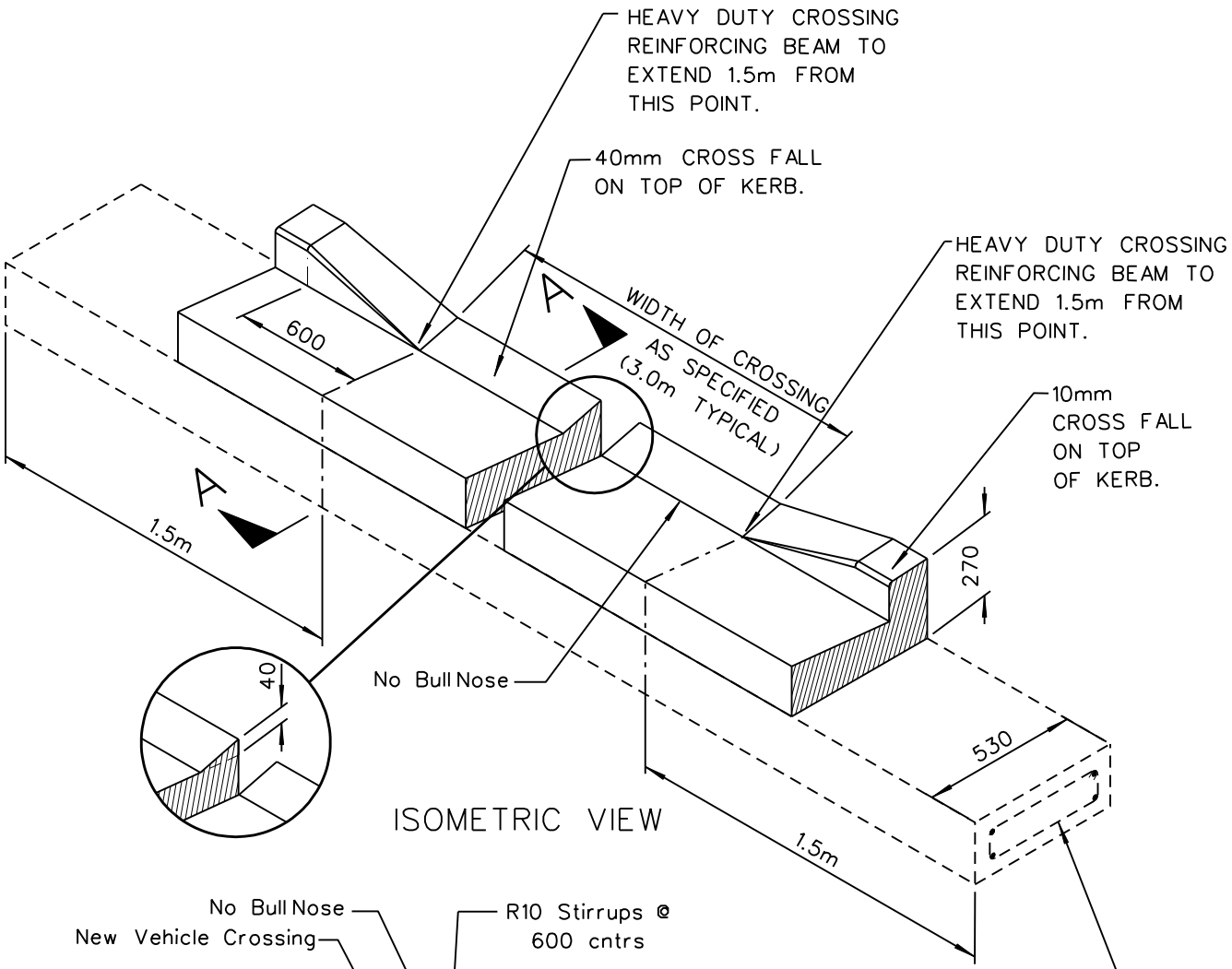
ELEVATION

Based on CCC drawing SD601

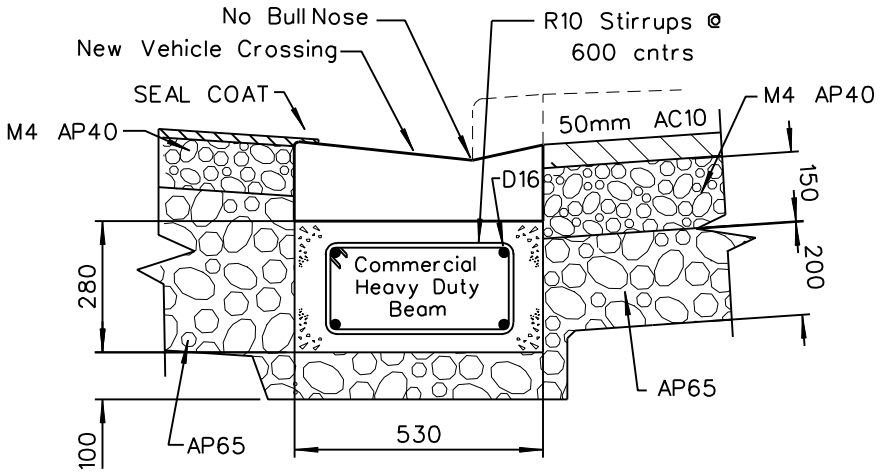
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: KERB AND FLAT CHANNEL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 201A ISSUE: D PLAN No.: 600

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days. Kerb levels on plan given to kerb top.
4. Offsets given to kerb face.
5. Minimum compacted depth of basecourse under kerb shall be 130mm or as otherwise approved by the Council.



ISOMETRIC VIEW



CROSS SECTION A-A
(FOR COMMERCIAL CROSSING ONLY)
(REFER ALSO 600-211)

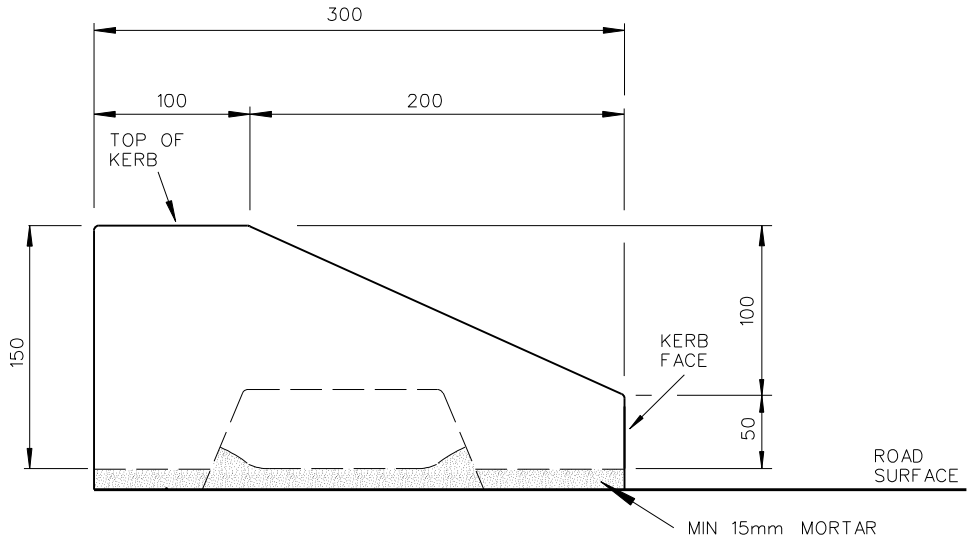
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	COMMERCIAL VEHICLE CROSSING REINFORCING BEAM	STANDARD DRAWINGS	201B

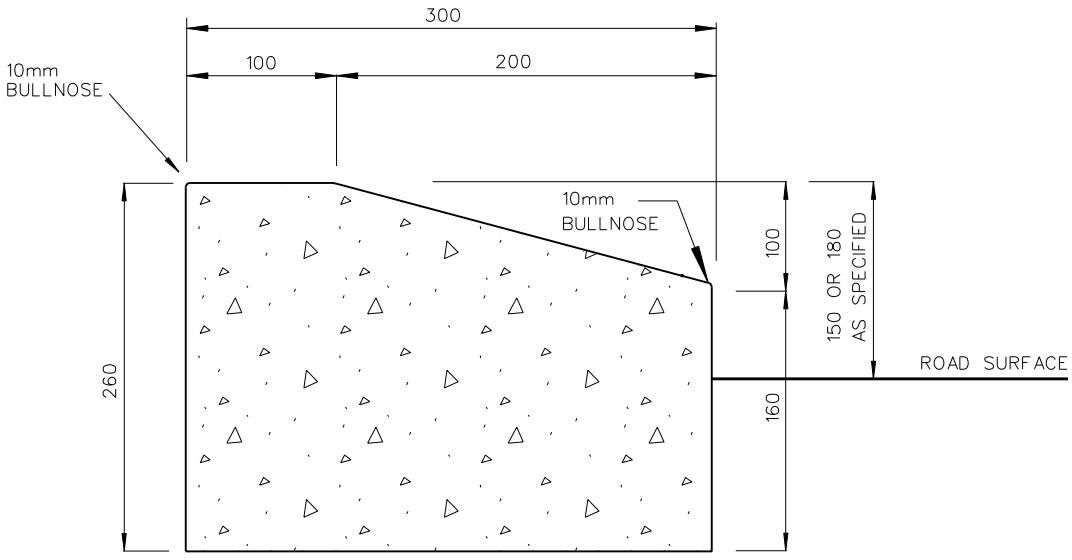
ISSUE	PLAN No.
E	600

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Kerb levels on plan given to kerb top.
5. Offsets given to kerb face.
6. Length of block 600mm



PRECAST MOUNTABLE KERB BLOCKS (TYPICAL)



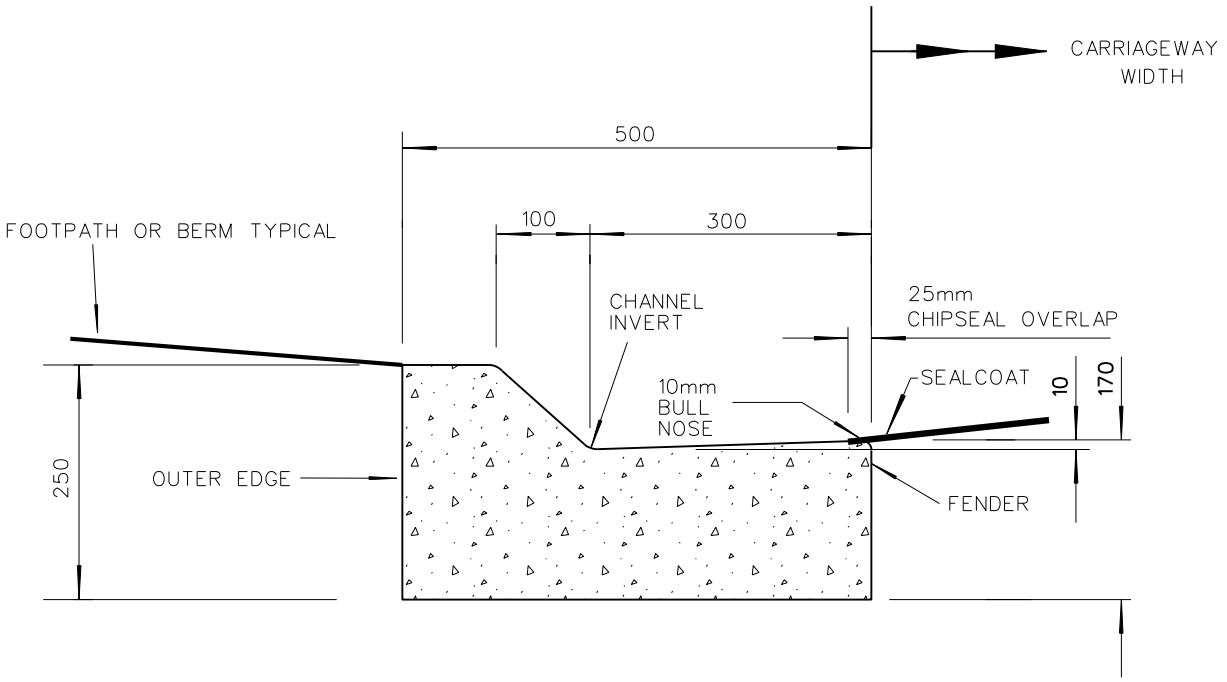
IN SITU MOUNTABLE KERB

Based on CCC drawing SD603

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: MOUNTABLE KERB	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 203A; ISSUE: C; PLAN No.: 600

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Offset given to channel invert.
5. Hotmix finished 5mm above level of fender.



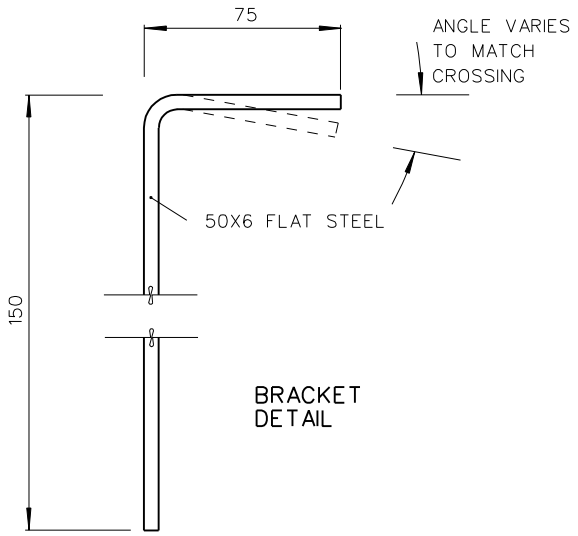
MOUNTABLE KERB AND CHANNEL

Based on CCC drawing SD603

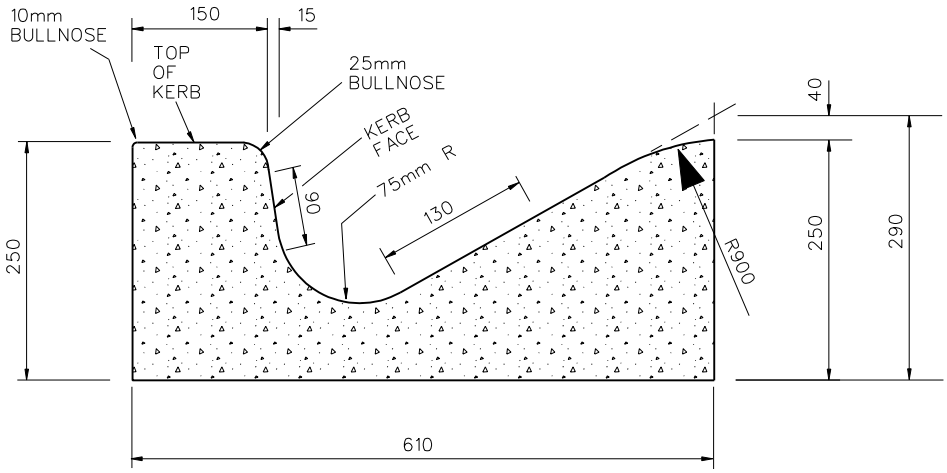
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: MOUNTABLE KERB AND CHANNEL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 203B ISSUE: D PLAN No.: 600

NOTES

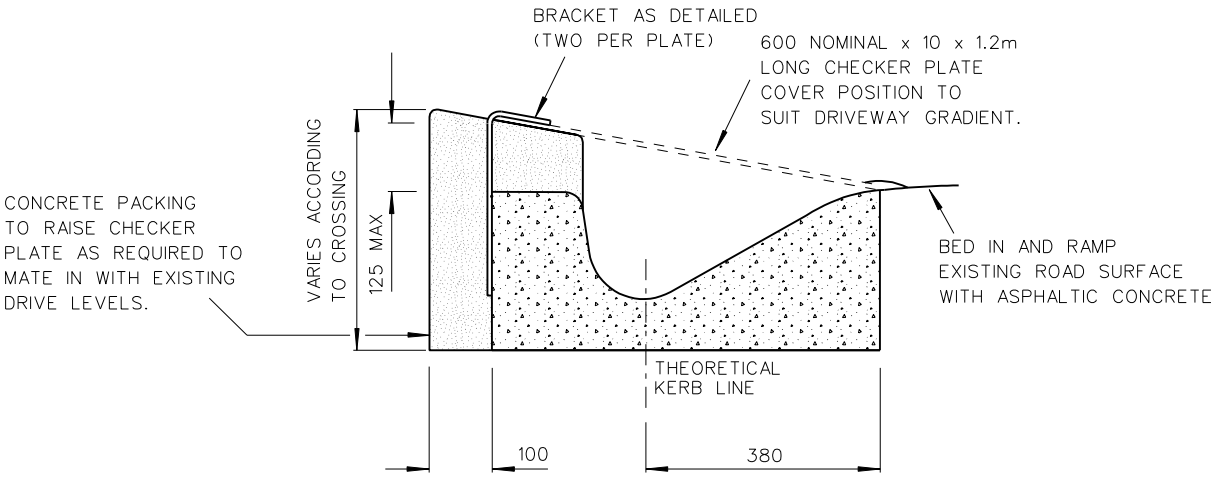
1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Kerb levels on plan given to kerb top.
5. Offsets given to kerb face.
6. Area of waterway (0.04 sq m)
7. Area of concrete (0.11 sq m)



BRACKET DETAIL



HILLSIDE CHANNEL



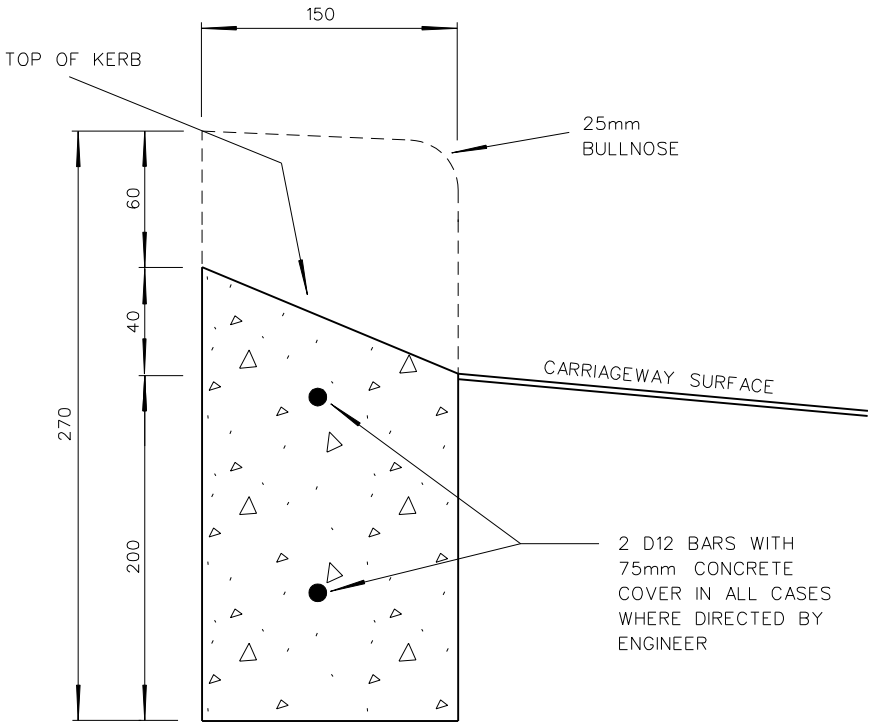
VEHICLE CROSSING FOR HILLSIDE CHANNEL

Based on CCC drawing SD604

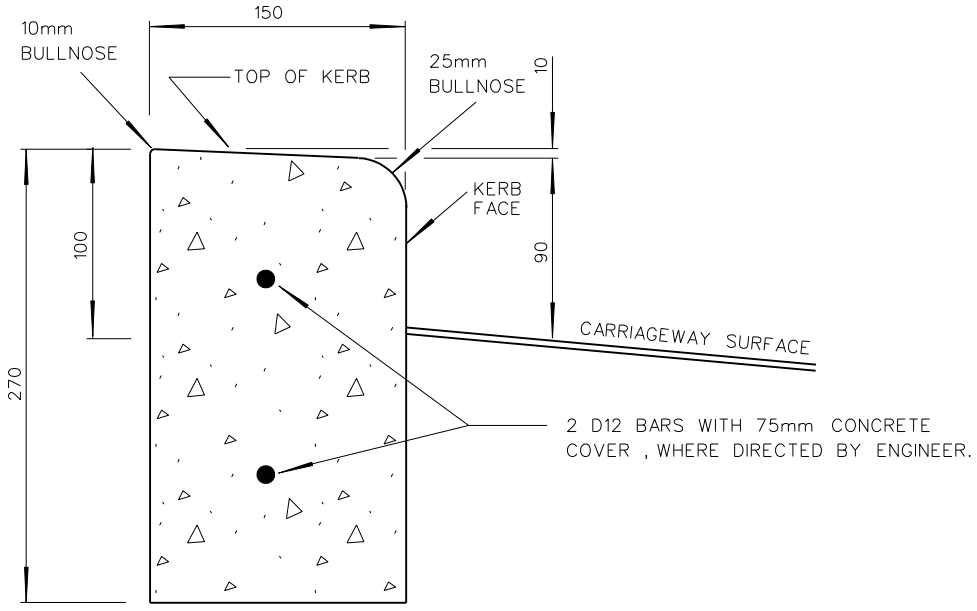
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: HILLSIDE CHANNEL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 204
				ISSUE: C / PLAN No.: 600

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Kerb levels on plan given to kerb top.
5. Offsets given to kerb face.



KERB ONLY - VEHICLE CROSSING



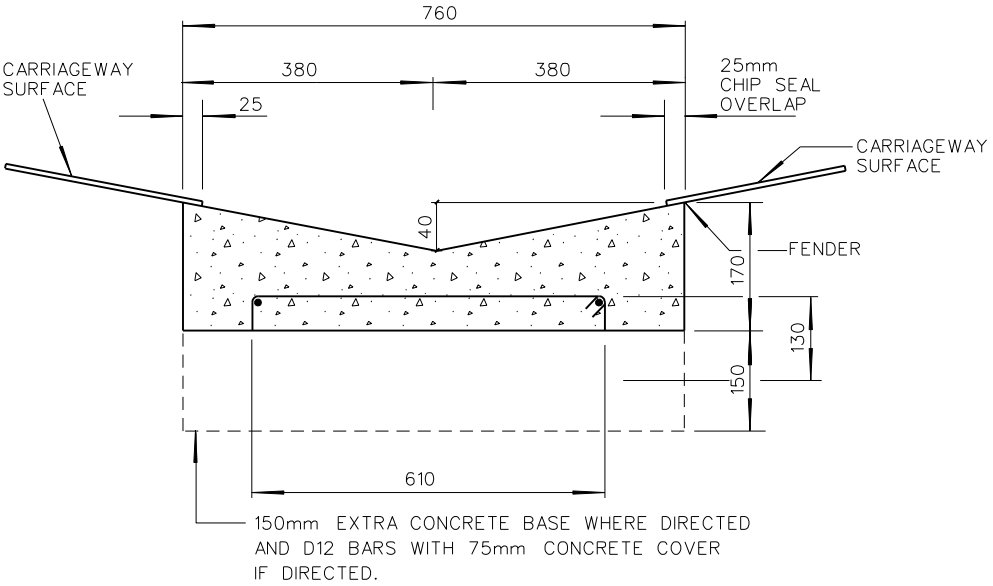
KERB ONLY

Based on CCC drawing SD602

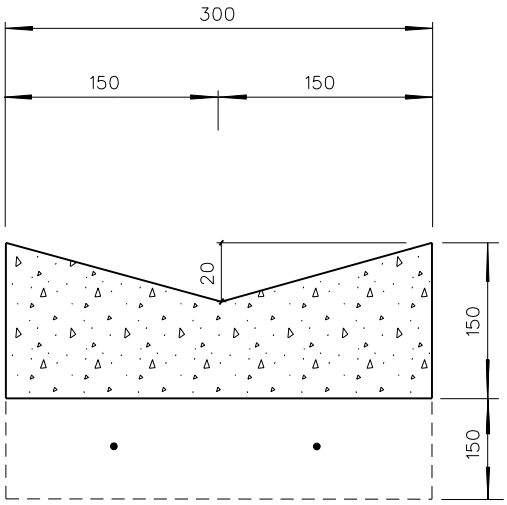
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: KERB ONLY	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 205
				ISSUE: C / PLAN No.: 600

NOTES

1. Concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete to have a compressive strength of 20 Mpa at 28 days.
4. Levels for Vee Channels given to fender.
5. Offsets on plans are measured to the invert of the channel.
6. Hotmix finished 5mm above level of fender.



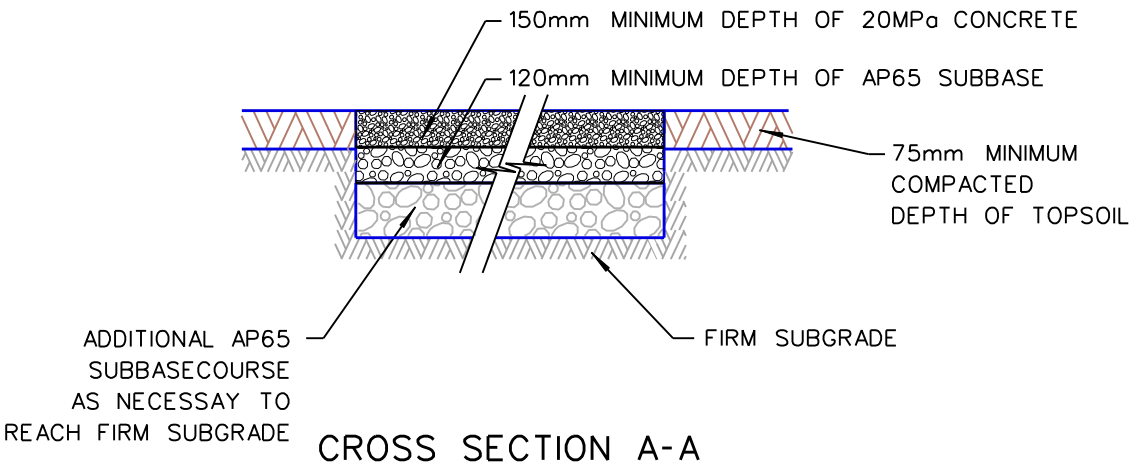
LARGE VEE CHANNEL
(NTS)



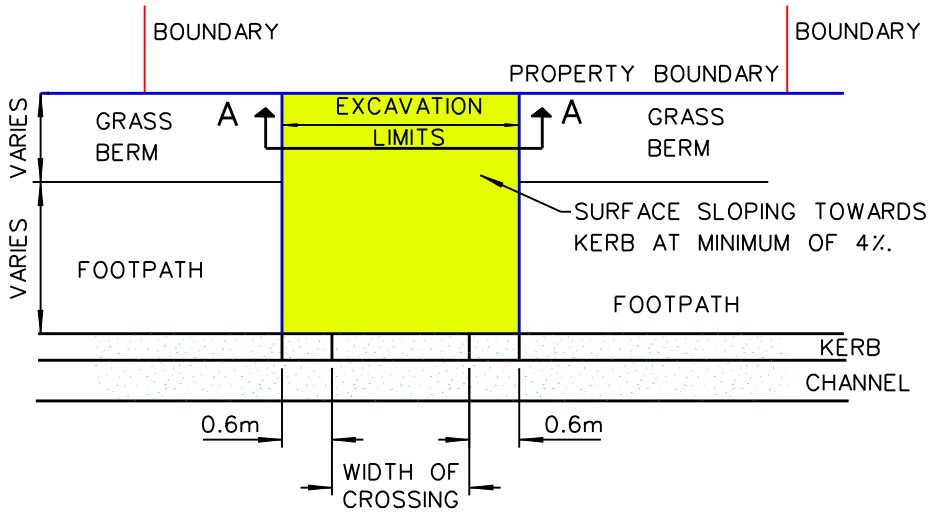
SMALL VEE CHANNEL
(NTS)

Based on CCC drawing SD601

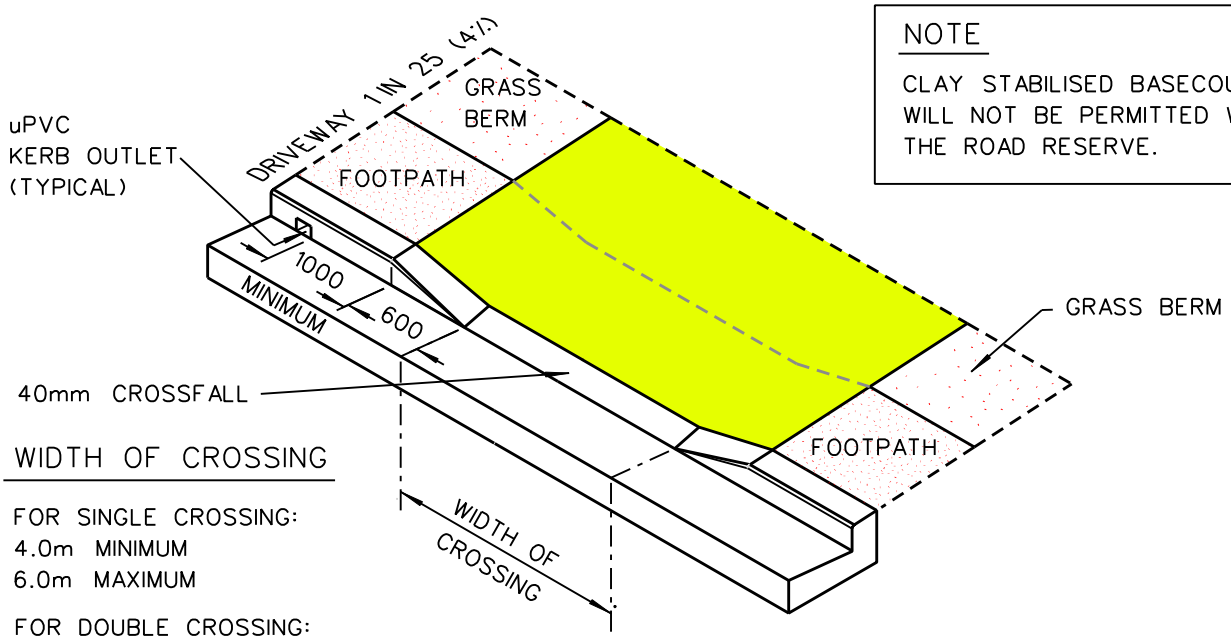
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: VEE CHANNELS	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 206
				ISSUE: D / PLAN No.: 600



CROSS SECTION A-A



PLAN



NOTE

CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.

WIDTH OF CROSSING

FOR SINGLE CROSSING:
4.0m MINIMUM
6.0m MAXIMUM

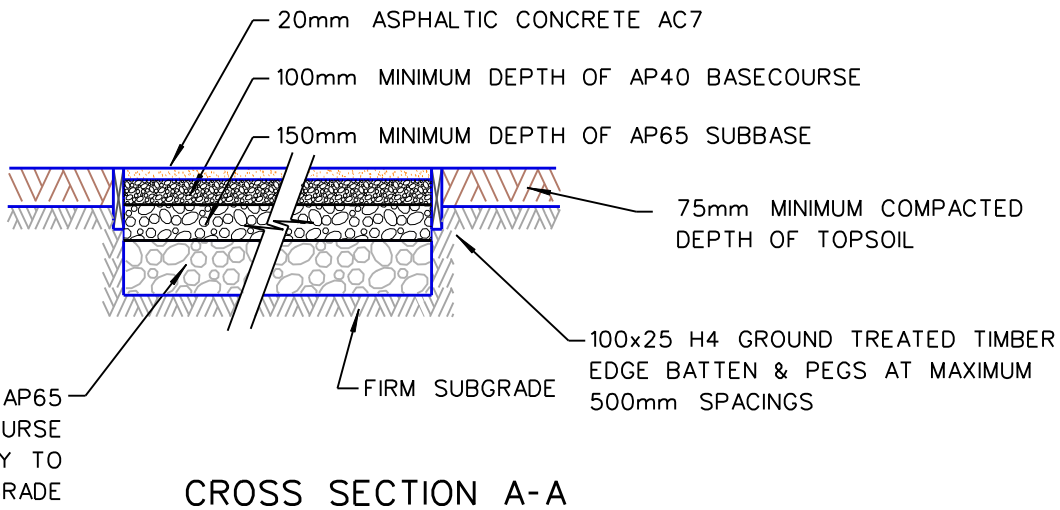
FOR DOUBLE CROSSING:
6.0m MINIMUM
8.0m MAXIMUM

ISOMETRIC VIEW

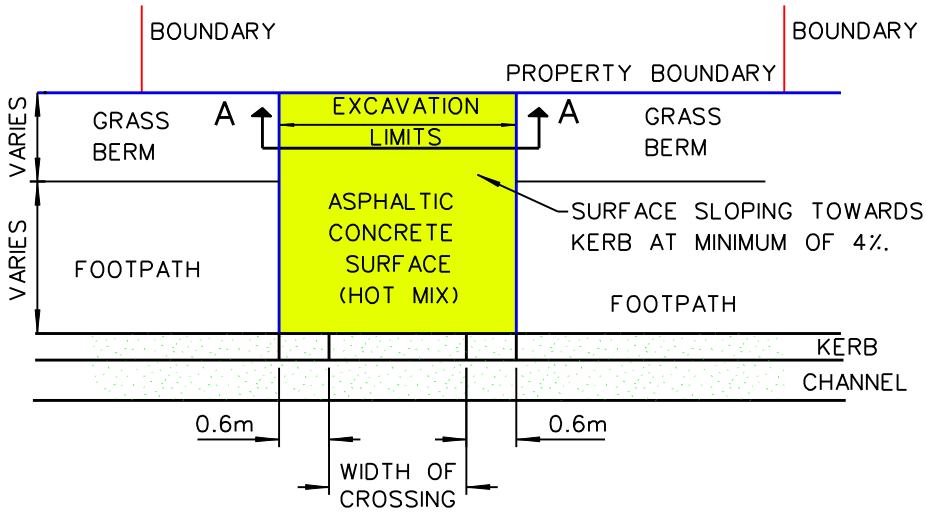
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Typical Residential Concrete Vehicle Crossing (Flat Channel)	Standard Drawings	211A

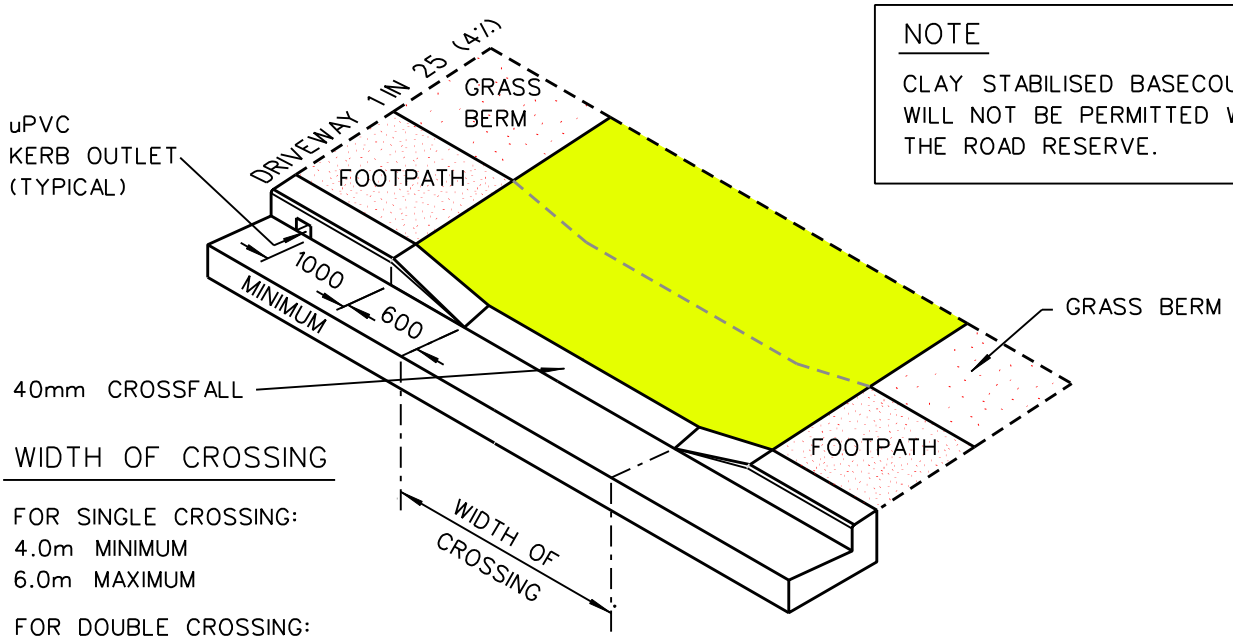
ISSUE	PLAN No.
E	600



CROSS SECTION A-A



PLAN



NOTE

CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.

WIDTH OF CROSSING

FOR SINGLE CROSSING:
4.0m MINIMUM
6.0m MAXIMUM

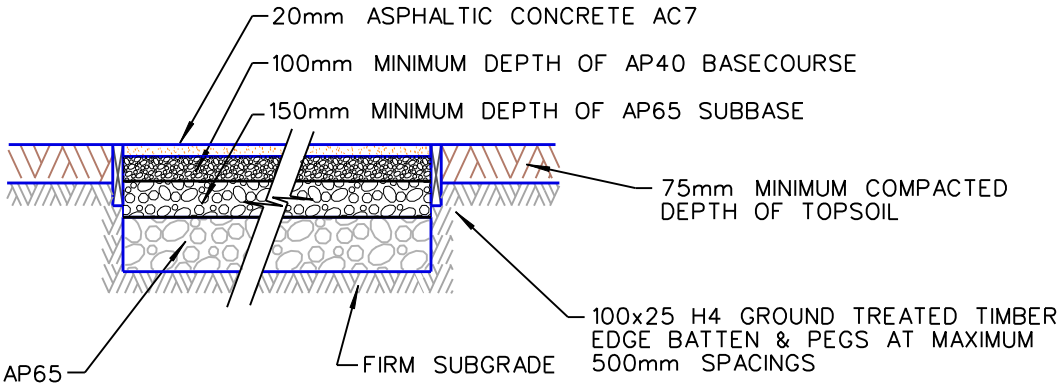
FOR DOUBLE CROSSING:
6.0m MINIMUM
8.0m MAXIMUM

ISOMETRIC VIEW

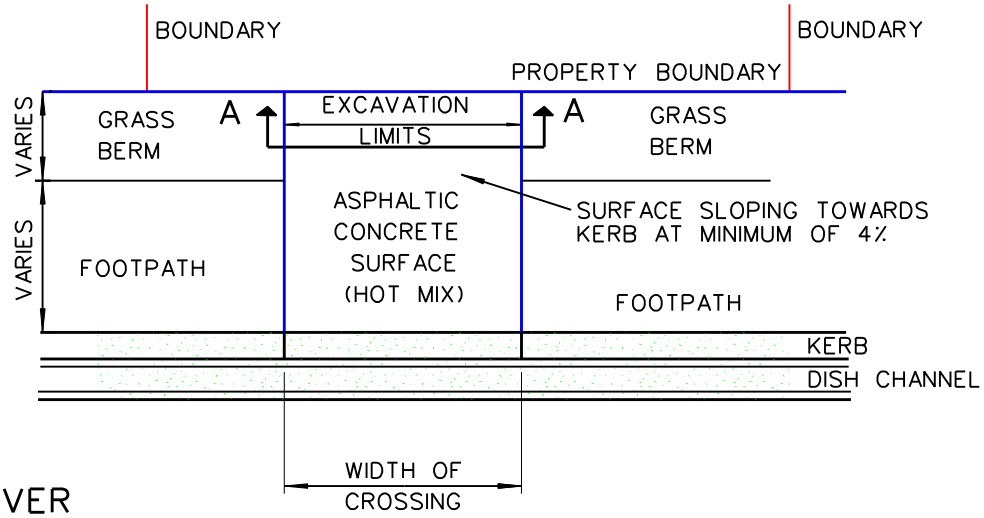
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Typical Residential Hot Mix Vehicle Crossing (Flat Channel)	Standard Drawings	211B

ISSUE	PLAN No.
A	600

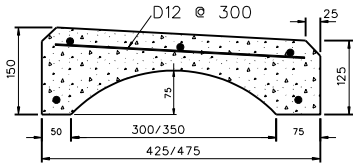


CROSS SECTION A-A



PLAN

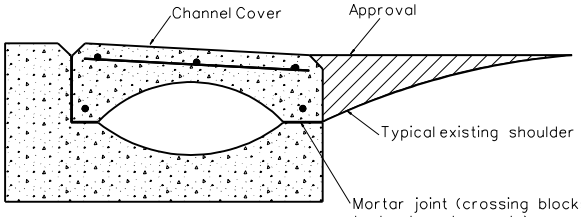
CHANNEL COVER



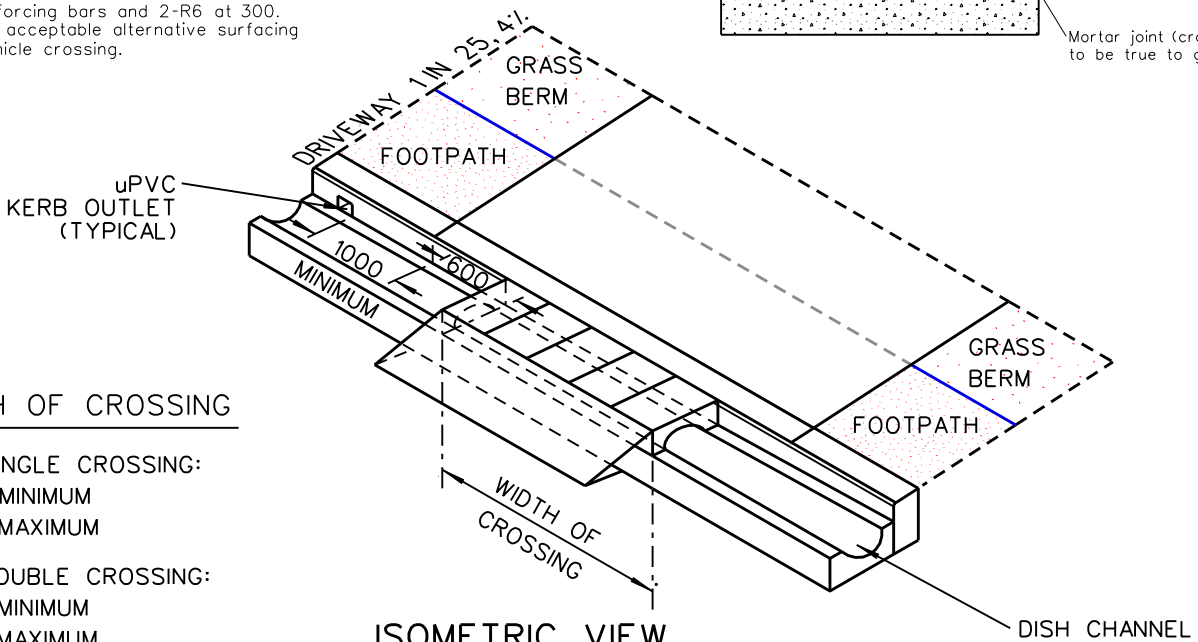
NOTES:

1. All concrete 35 MPa.
2. 5-D12 reinforcing bars and 2-R6 at 300.
3. AC10 is an acceptable alternative surfacing for the vehicle crossing.

INSTALLATION



Ashphaltic concrete AC10 ramp. Ramp not to extend more than 500mm without the Council Approval



ISOMETRIC VIEW

WIDTH OF CROSSING

FOR SINGLE CROSSING:
4.0m MINIMUM
6.0m MAXIMUM

FOR DOUBLE CROSSING:
6.0m MINIMUM
8.0m MAXIMUM

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Typical Residential Hot Mix Vehicle Crossing (Dish Channel)	Standard Drawings	211C

ISSUE	PLAN No.
D	600

MINIMUM FORMATION STANDARDS

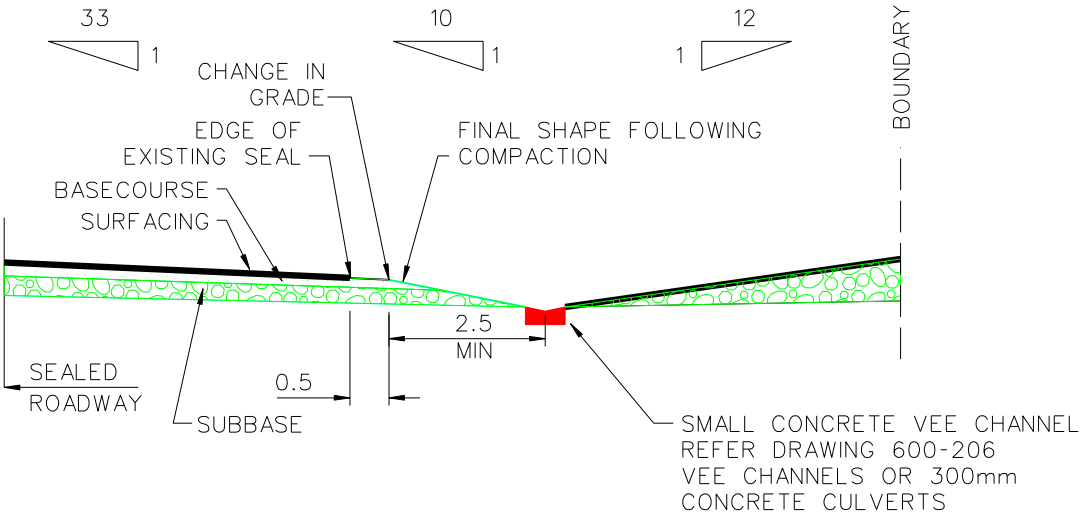
The formation shall extend down to a suitable subgrade which shall be free of organic material. As a minimum requirement, the formation shall comprise of a 150 mm compacted layer of screened river run sub base (AP65) overlaid with a 100 millimeter compacted layer of crushed base course (AP40).

The top surfacing course shall be applied as follows:

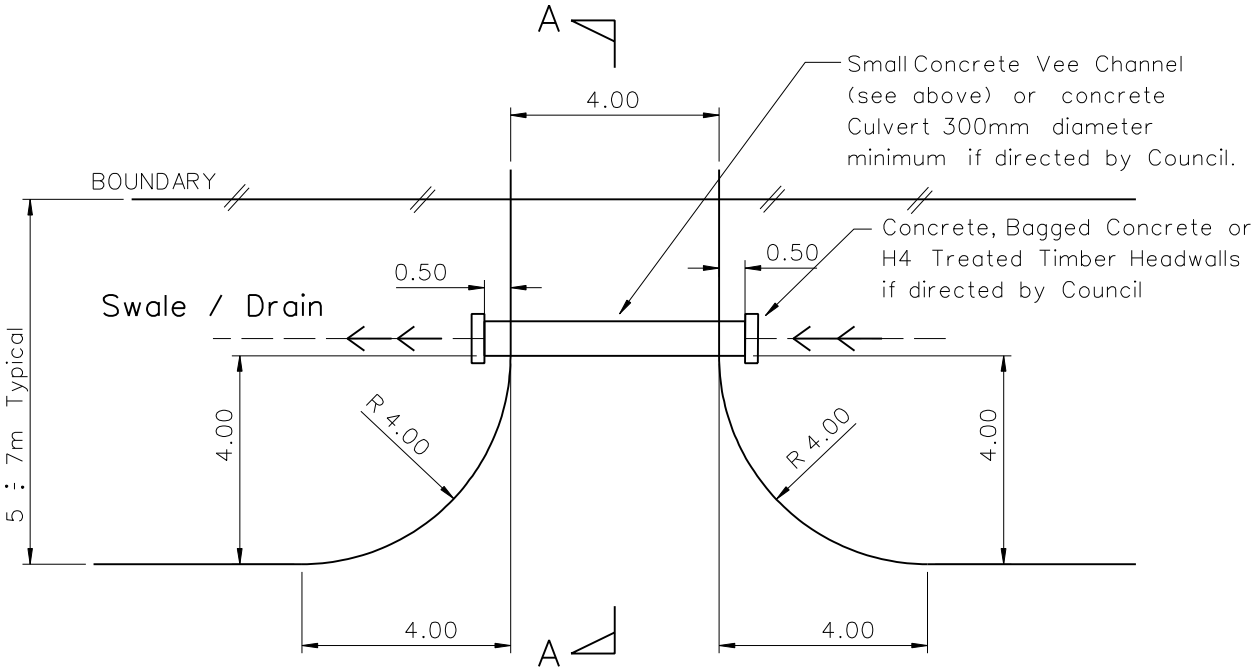
(a) Where the adjacent road formation is sealed, the entrance formation shall be overlaid with a coat of chip seal consisting of hot bitumen sprayed at a rate of 1.8 litres / square metre and Grade 4 chip.

(b) Where the adjacent road formation is metalled, the new entrance formation shall be overlaid with AP20 running course.

(c) Clay stabilised metalcourse will not be approved in the road reserve.

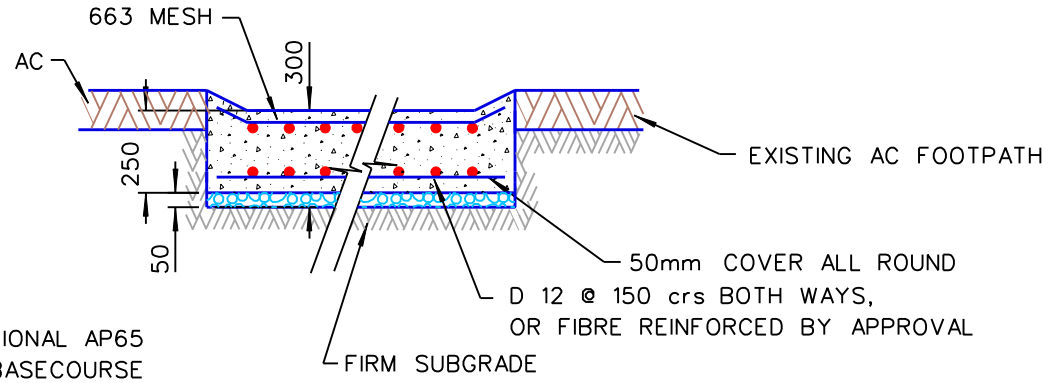


CROSS SECTION A-A



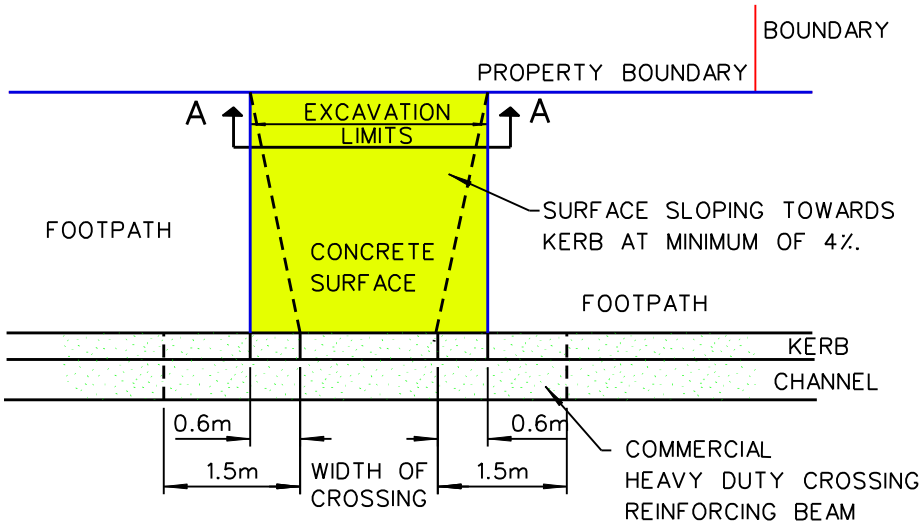
PLAN

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: Typical Residential Vehicle Crossing Zones: 3, 4 & 5	PROJECT TITLE: Standard Drawings	SHEET: 211D ISSUE: D PLAN No.: 600

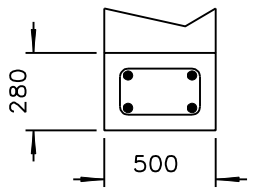


ADDITIONAL AP65
SUB BASECOURSE
AS NECESSARY TO
REACH FIRM SUBGRADE

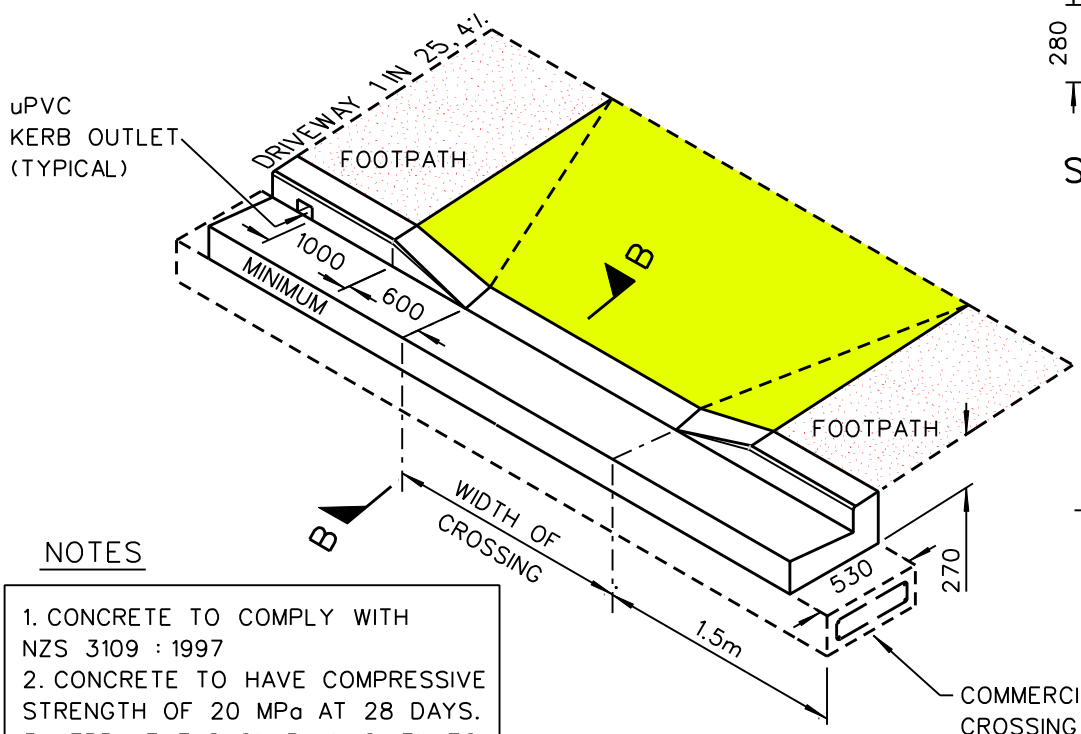
CROSS SECTION A-A



PLAN



SECTION B-B



ISOMETRIC VIEW

WIDTH OF CROSSING

BY APPROVAL OF COUNCIL

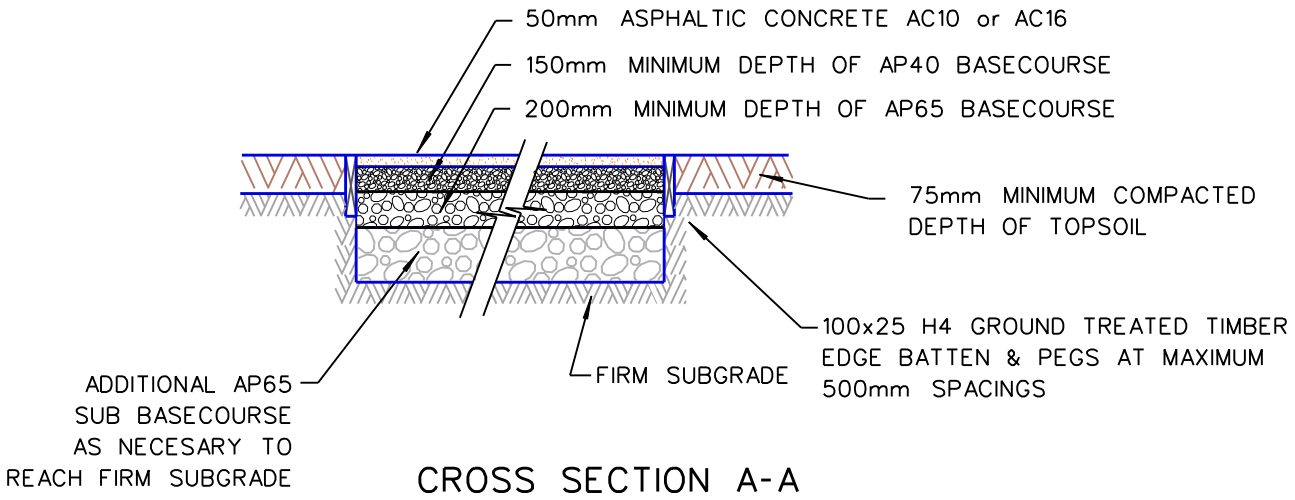
NOTES

1. CONCRETE TO COMPLY WITH NZS 3109 : 1997
2. CONCRETE TO HAVE COMPRESSIVE STRENGTH OF 20 MPa AT 28 DAYS.
3. KERB LEVELS ON PLAN GIVEN TO KERB TOP.
4. OFFSETS GIVEN TO KERB FACE.

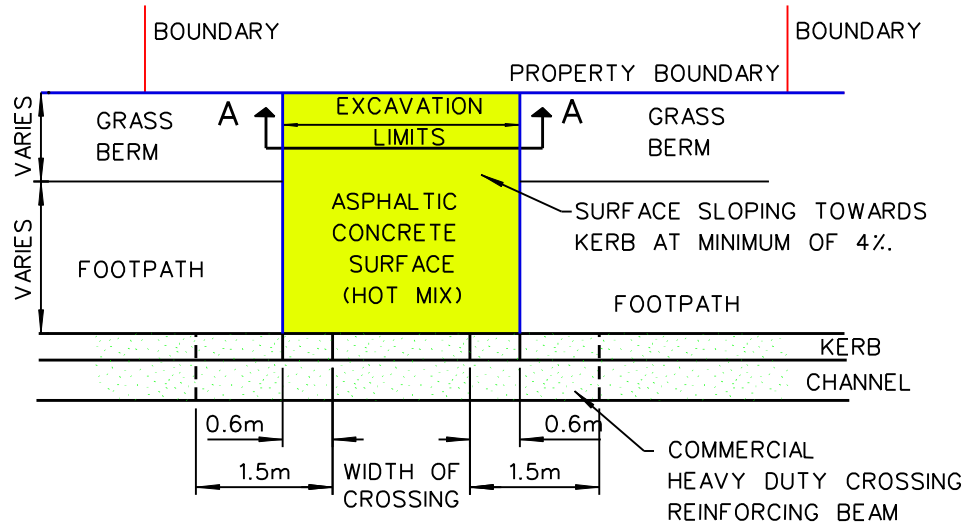
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Typical Commercial Concrete Vehicle Crossing (Flat Channel)	Standard Drawings	212A

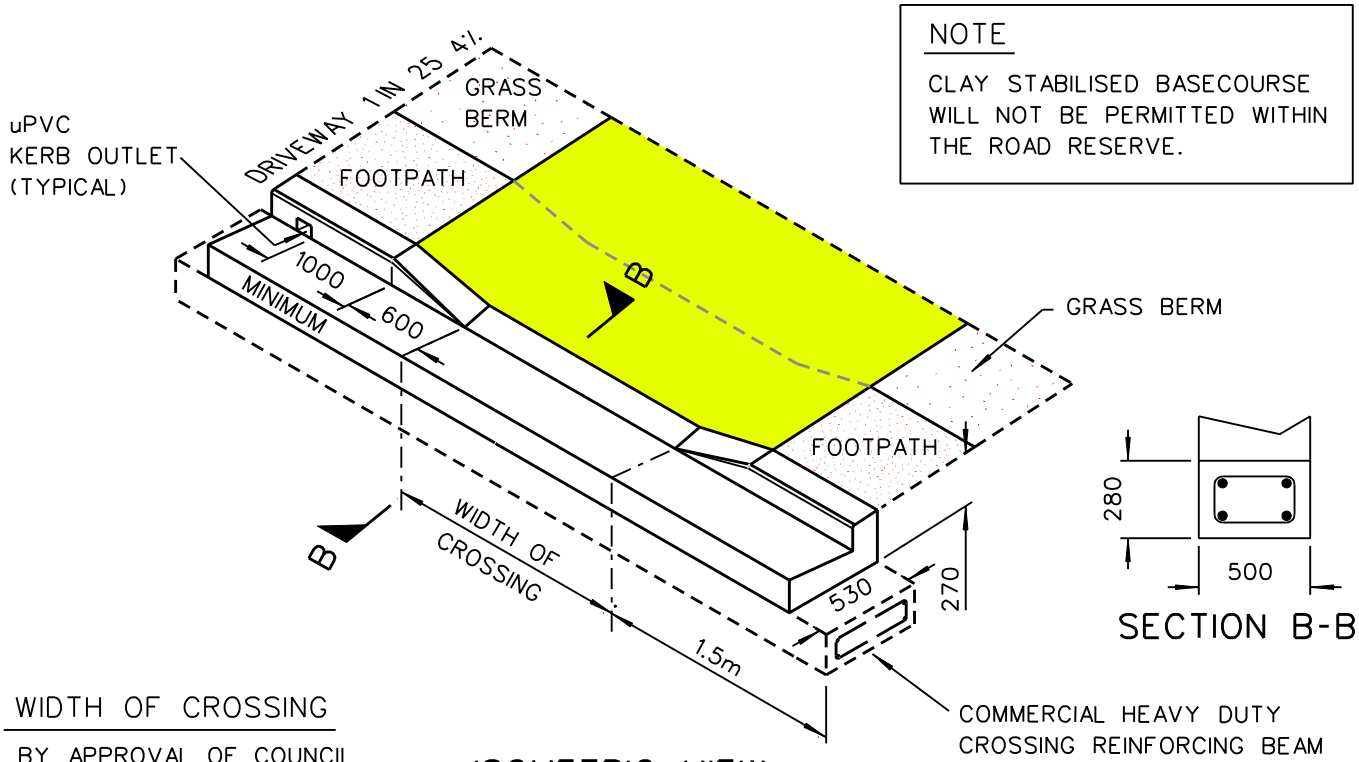
ISSUE	PLAN No.
B	600



CROSS SECTION A-A



PLAN



NOTE

CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.

WIDTH OF CROSSING

BY APPROVAL OF COUNCIL

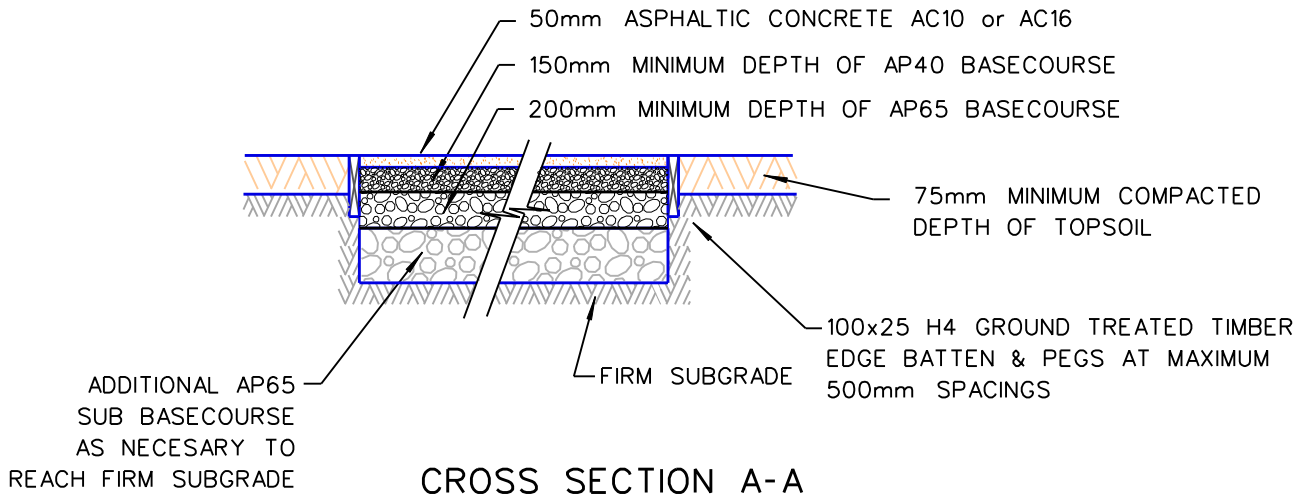
ISOMETRIC VIEW

SECTION B-B

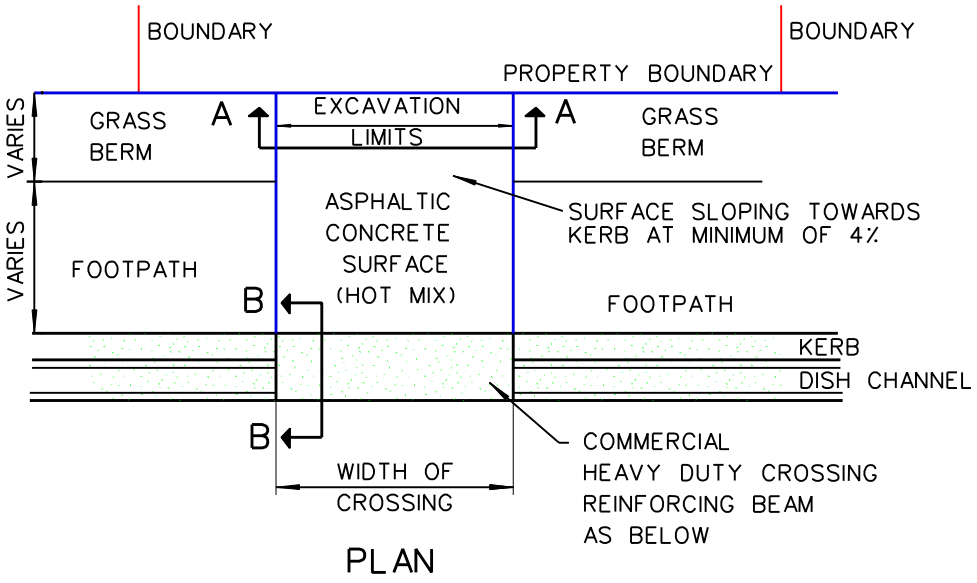
WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Typical Commercial Hot Mix Vehicle Crossing (Flat Channel)	Standard Drawings	212B

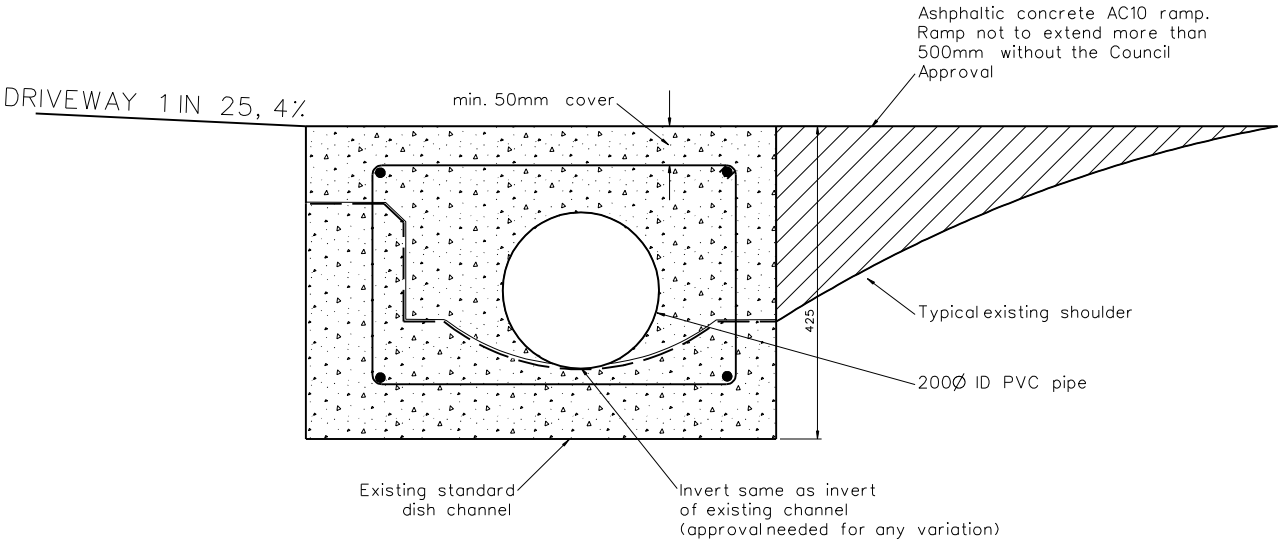
ISSUE	PLAN No.
A	600



CROSS SECTION A-A



PLAN



CROSS SECTION B-B

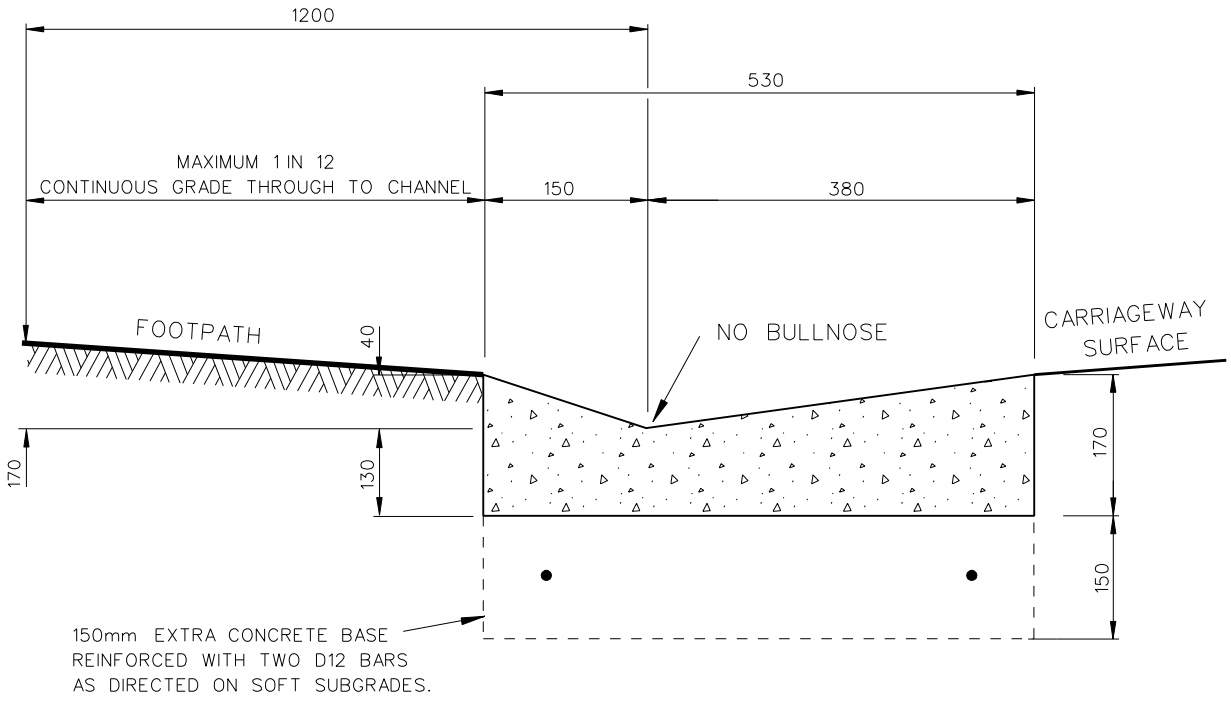
NOTES:

1. All concrete 20 MPa at 28 days.
2. 4-D12 reinforcing bars and 6mm stirrups at 600.

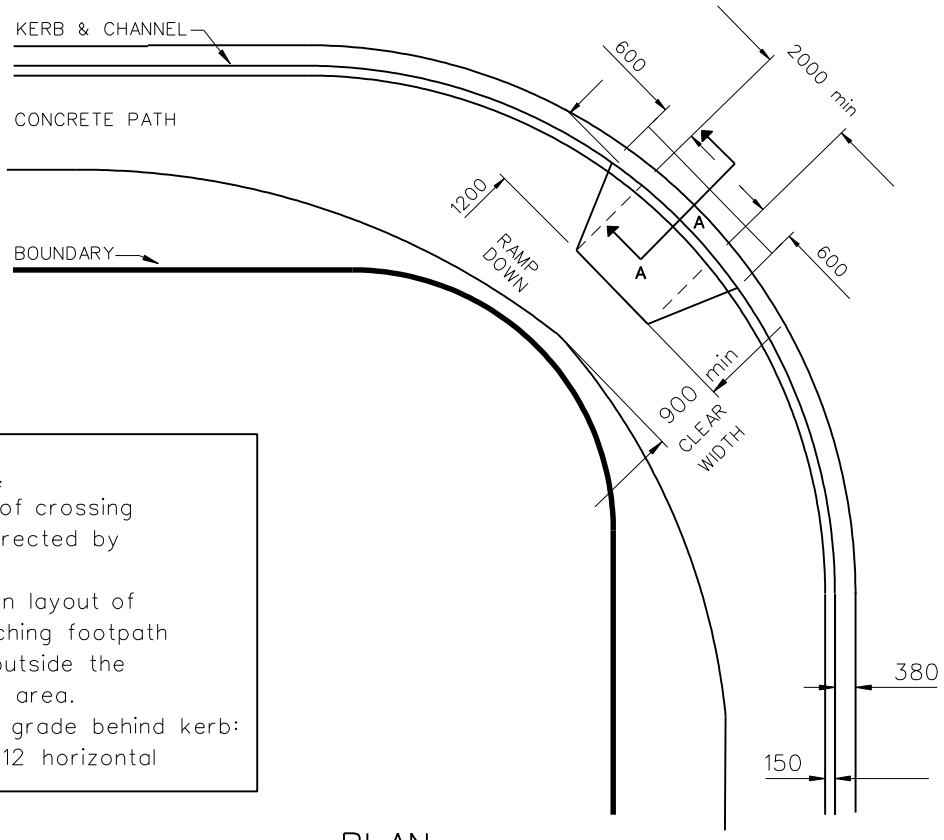
WIDTH OF CROSSING

BY APPROVAL OF COUNCIL

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: TYPICAL COMMERCIAL HOT MIX VEHICLE CROSSING (DISH CHANNEL)	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 212C ISSUE: C PLAN No.: 600



SECTION A-A



PLAN

NOTE

- Location of crossing to be as directed by Engineer.
- The design layout of the approaching footpath may vary outside the dimensioned area.
- Maximum grade behind kerb: 1 vertical in 12 horizontal

Based on CCC drawing SD613

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	PEDESTRIAN CUTDOWN	STANDARD DRAWINGS	213

ISSUE	PLAN No.
E	600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

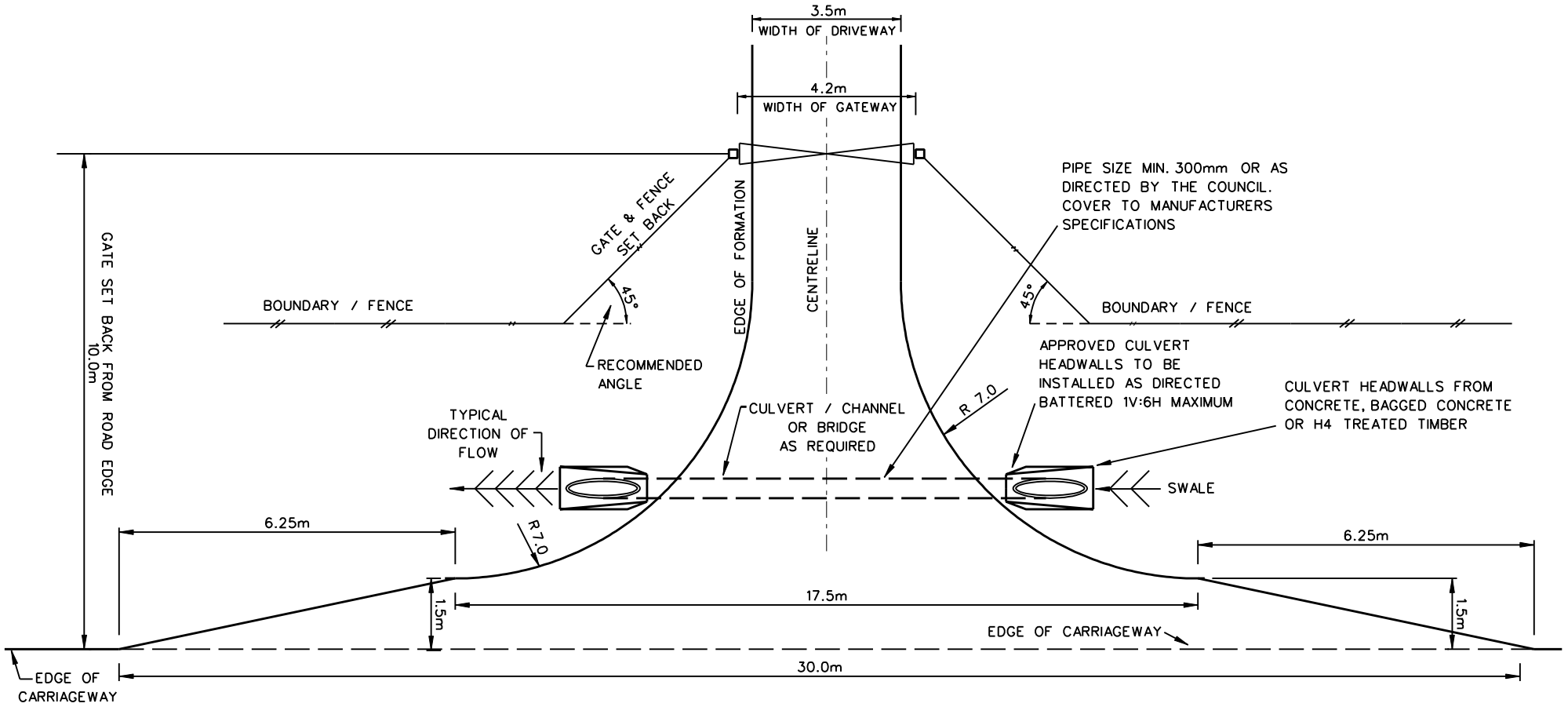
SHEET TITLE
Typical Rural Zone Entranceway

PROJECT TITLE
Standard Drawings

SHEET 217

ISSUE D

PLAN No. 600



MINIMUM FORMATION STANDARDS

The formation shall extend down to a suitable subgrade which shall be free of organic material. As a minimum requirement, the formation shall comprise of a 150 mm compacted layer of screened river run sub base (AP65) overlaid with a 100 millimeter compacted layer of crushed base course (AP40).

The top surfacing course shall be applied as follows:

(a) Where the adjacent road formation is sealed, the entrance formation shall be overlaid with a coat of chip seal consisting of hot bitumen sprayed at a rate of 1.8 litres / square metre and Grade 4 chip.

(b) Where the adjacent road formation is metalled, the new entrance formation shall be overlaid with AP20 running course.

(c) Clay stabilised metalcourse will not be approved in the road reserve.

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

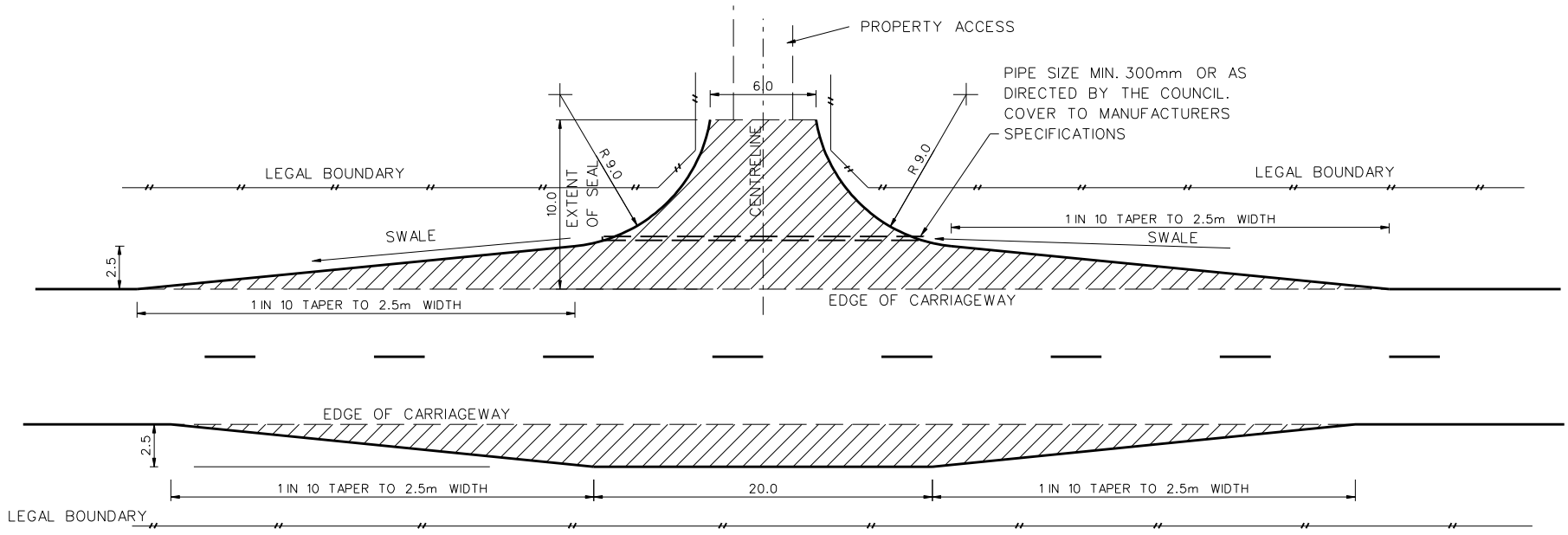
SHEET TITLE
Typical Rural Zone Commercial Access

PROJECT TITLE
Standard Drawings

SHEET
218

ISSUE
E

PLAN No.
600



MINIMUM FORMATION STANDARDS

The formation shall extend down to a suitable subgrade which shall be free of organic material. As a minimum requirement, the formation shall comprise of a 150 mm compacted layer of screened river run sub base (AP65) overlaid with a 100 millimeter compacted layer of crushed base course (AP40). The top course shall be applied as follows:

(a) Where the adjacent road formation is sealed, the entrance formation shall be overlaid with a coat of chip seal, consisting of hot bitumen sprayed at a rate of 1.8 litres / square metre and grade 4 stone chip.

(b) Where the adjacent road formation is metalled, the new entrance formation shall be overlaid with AP20 running course.

(c) Clay stabilised metalcourse will not be approved in the road reserve.

SEAL WIDENING, SHOULDER RECONSTRUCTION (& WHERE ROAD CARRIAGEWAY IS SEALED, SEALING)

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

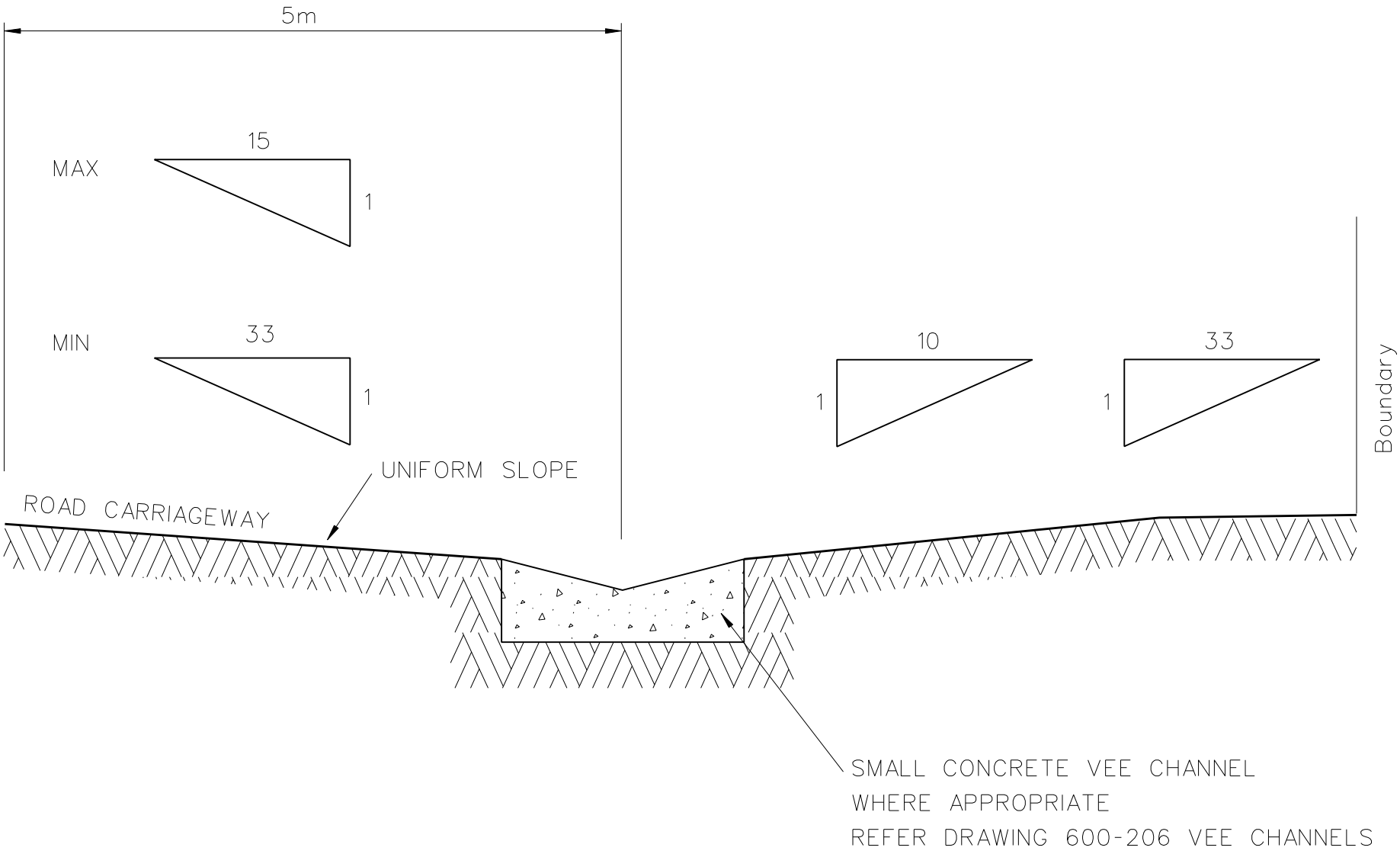
SHEET TITLE
CHANGES OF GRADE AT VEHICLE CROSSING

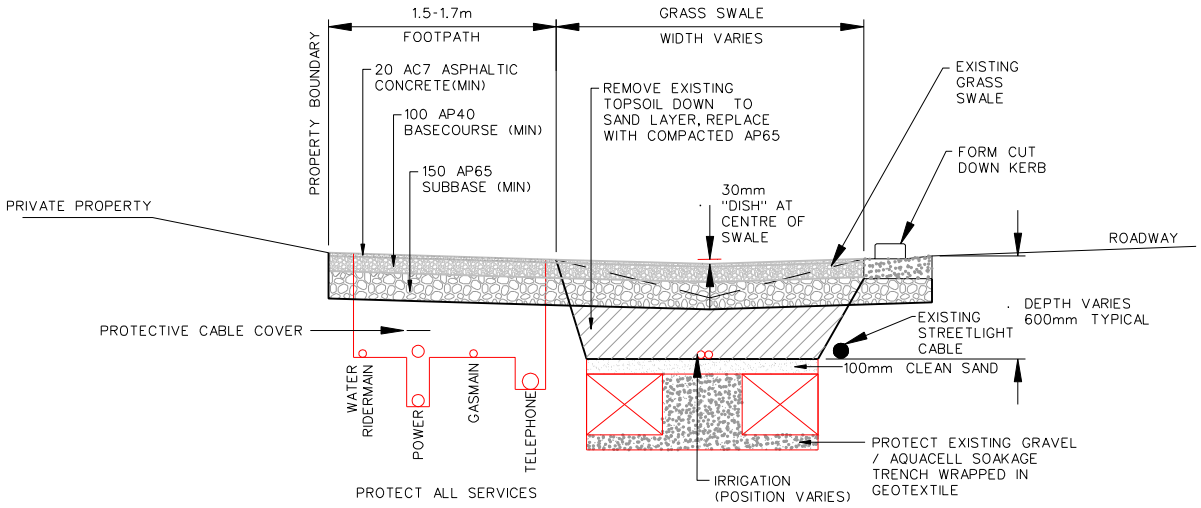
PROJECT TITLE
STANDARD DRAWINGS

SHEET
219

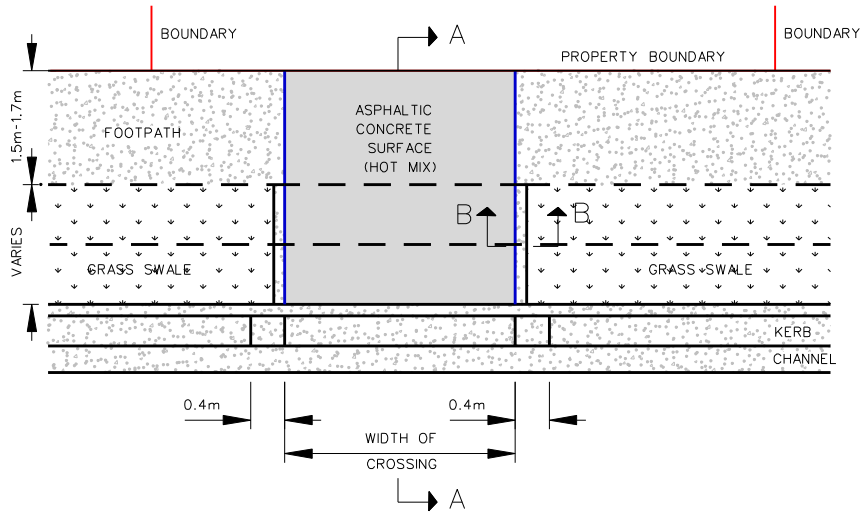
ISSUE
C

PLAN No.
600

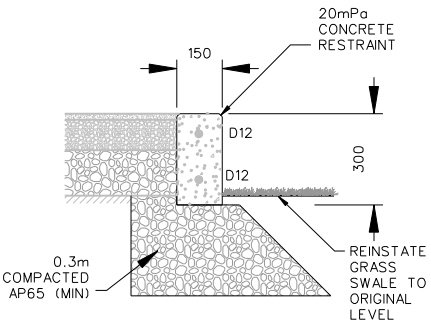




CROSS SECTION A-A



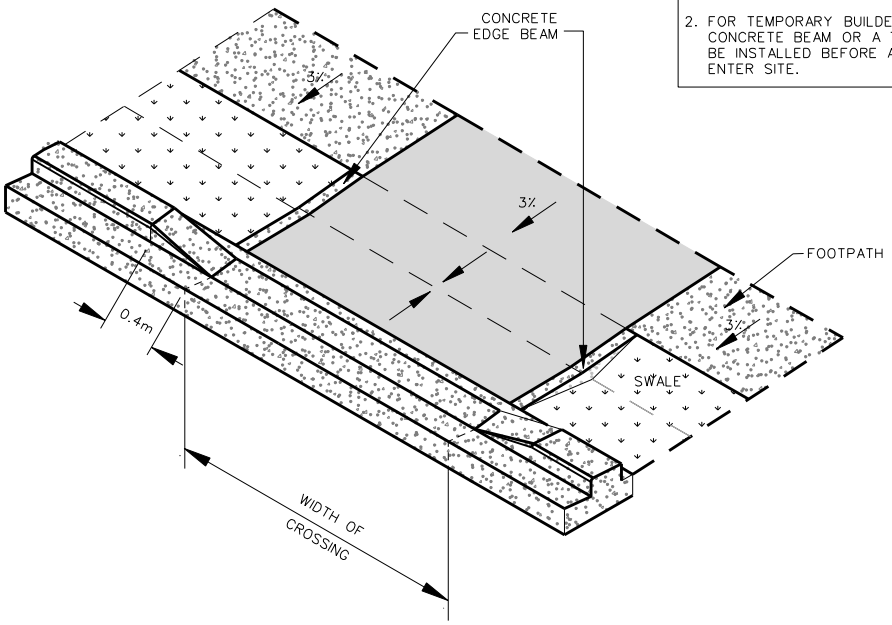
PLAN



CROSS SECTION B-B
CONCRETE EDGE BEAM

NOTE

1. CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.
2. FOR TEMPORARY BUILDERS CROSSING CONCRETE BEAM OR A TIMBER BATTEN TO BE INSTALLED BEFORE ANY VEHICLES ENTER SITE.



ISOMETRIC VIEW

WIDTH OF CROSSING

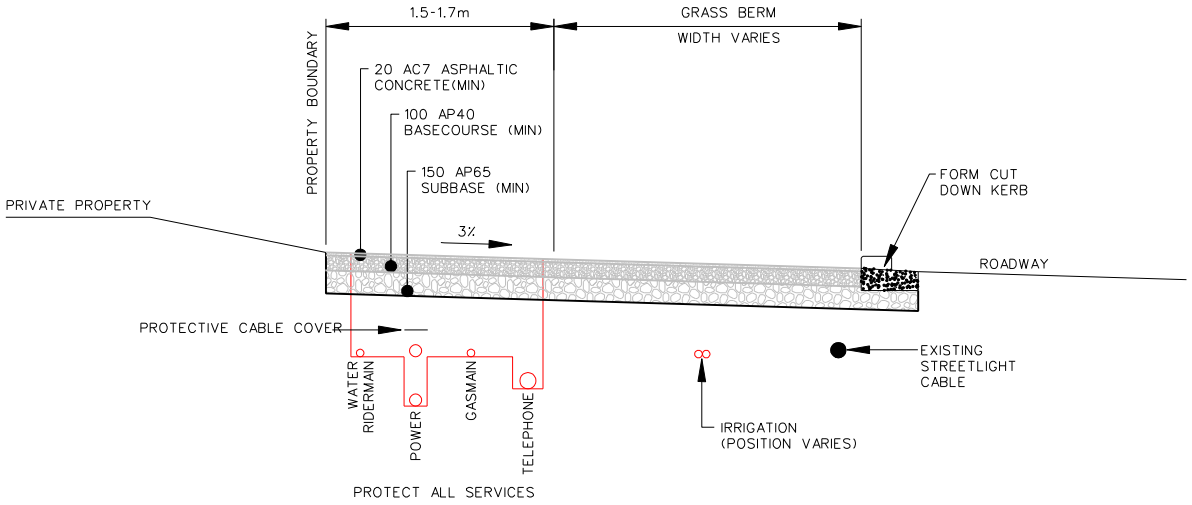
4.0m MINIMUM
6.0m MAXIMUM

FOR COMMERCIAL:
BY APPROVAL

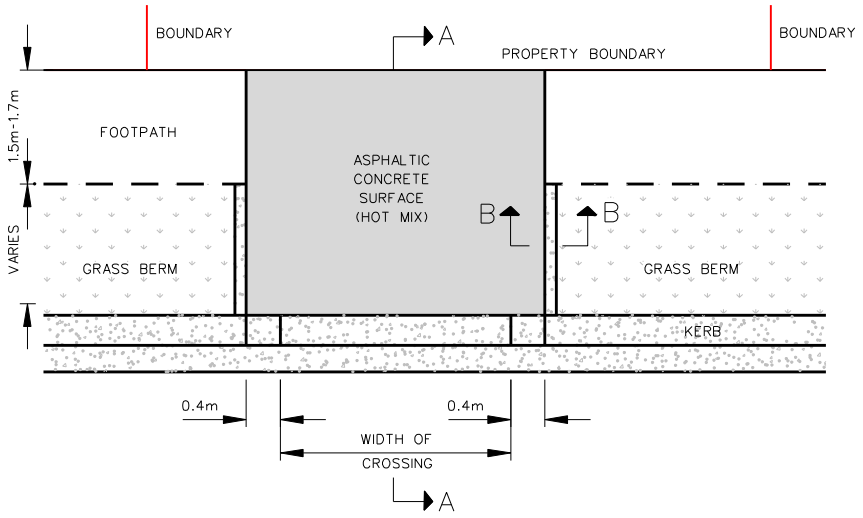
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	PEGASUS RES6 VEHICLE CROSSING (WITH SWALE)	STANDARD DRAWINGS	220A

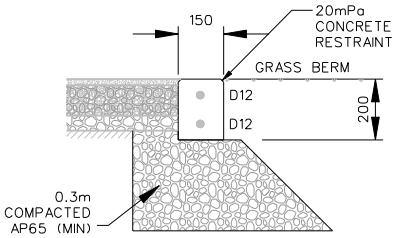
ISSUE	PLAN No.
E	600



CROSS SECTION A-A



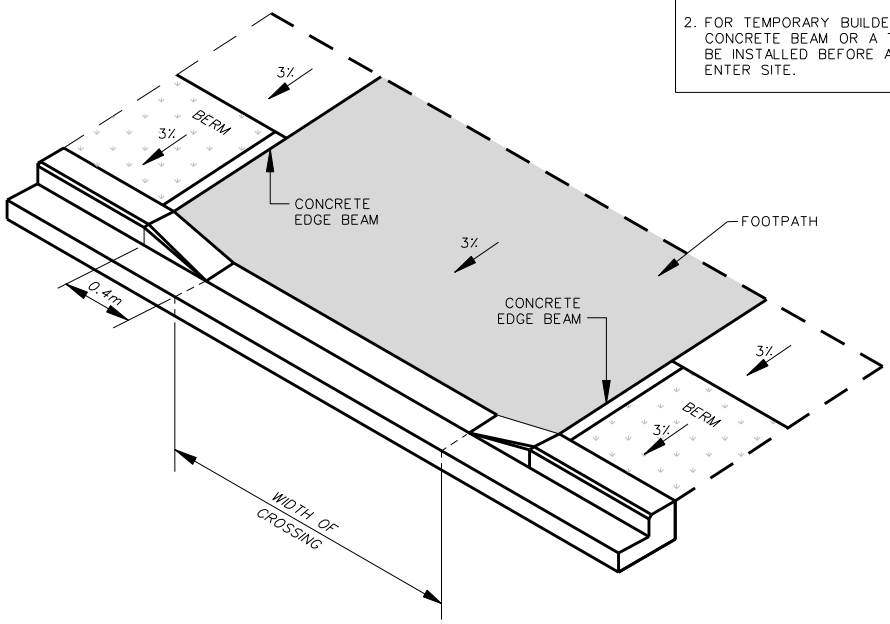
PLAN



CROSS SECTION B-B
CONCRETE EDGE BEAM

NOTE

1. CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.
2. FOR TEMPORARY BUILDERS CROSSING CONCRETE BEAM OR A TIMBER BATTEN TO BE INSTALLED BEFORE ANY VEHICLES ENTER SITE.



ISOMETRIC VIEW

WIDTH OF CROSSING

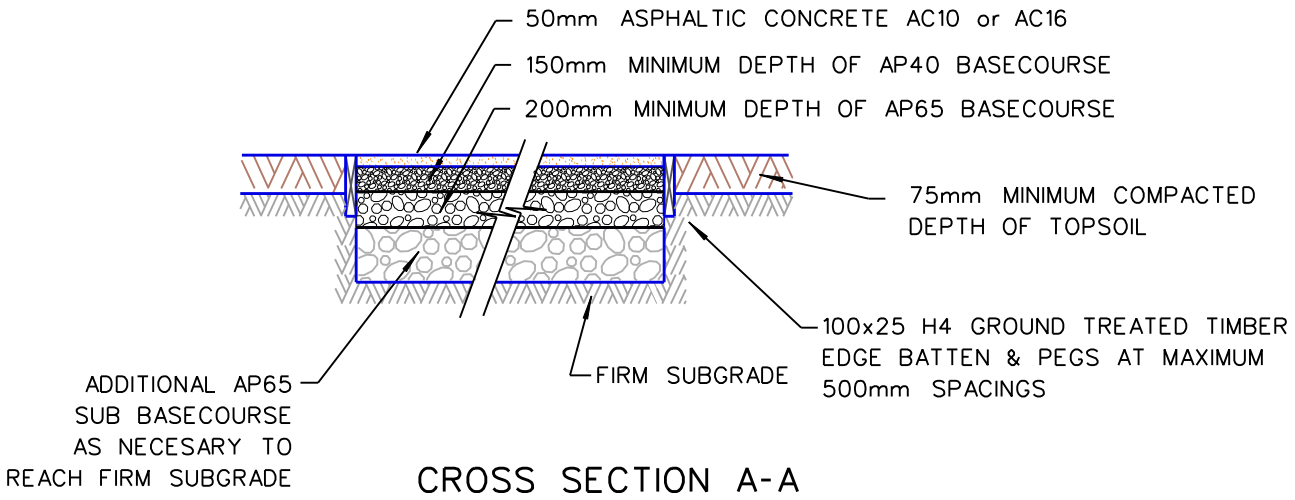
4.0m MINIMUM
6.0m MAXIMUM

FOR COMMERCIAL:
BY APPROVAL

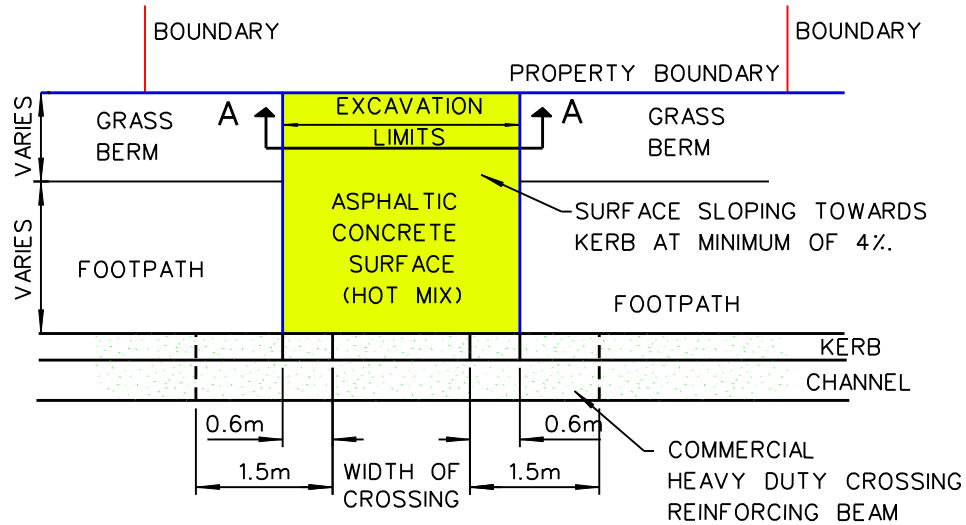
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	PEGASUS RES6 VEHICLE CROSSING (WITHOUT SWALE)	STANDARD DRAWINGS	220B

ISSUE	PLAN No.
E	600



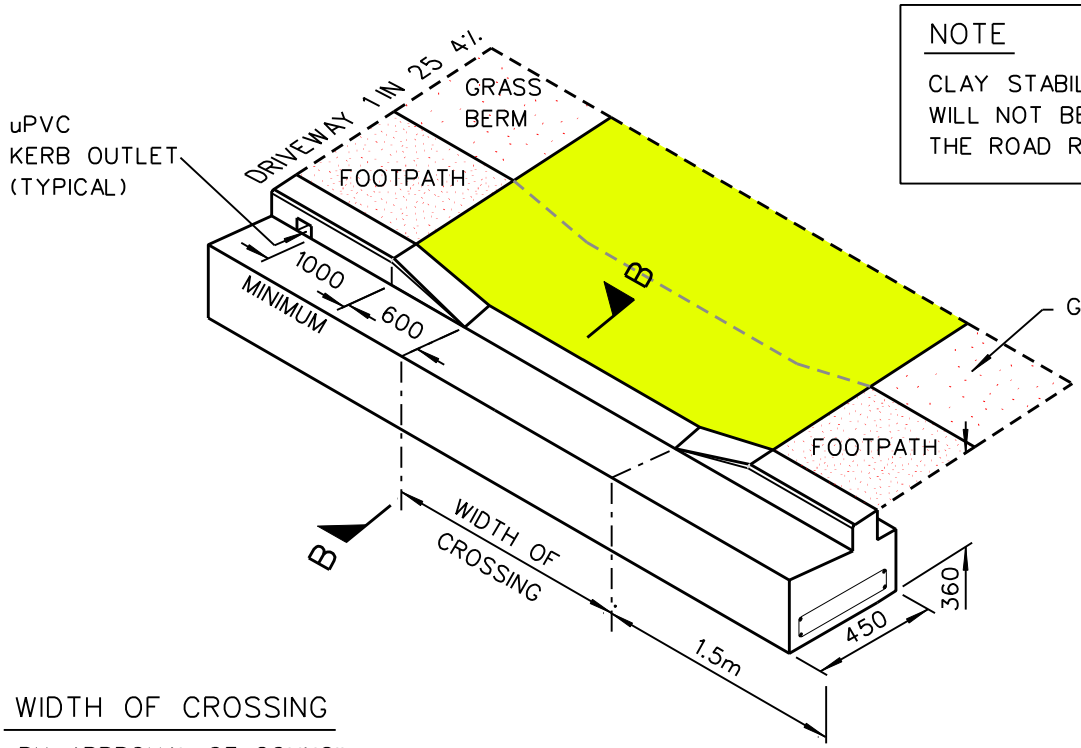
CROSS SECTION A-A

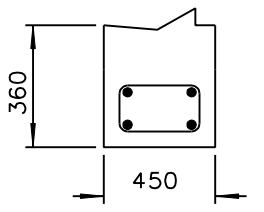


PLAN

NOTE

CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.





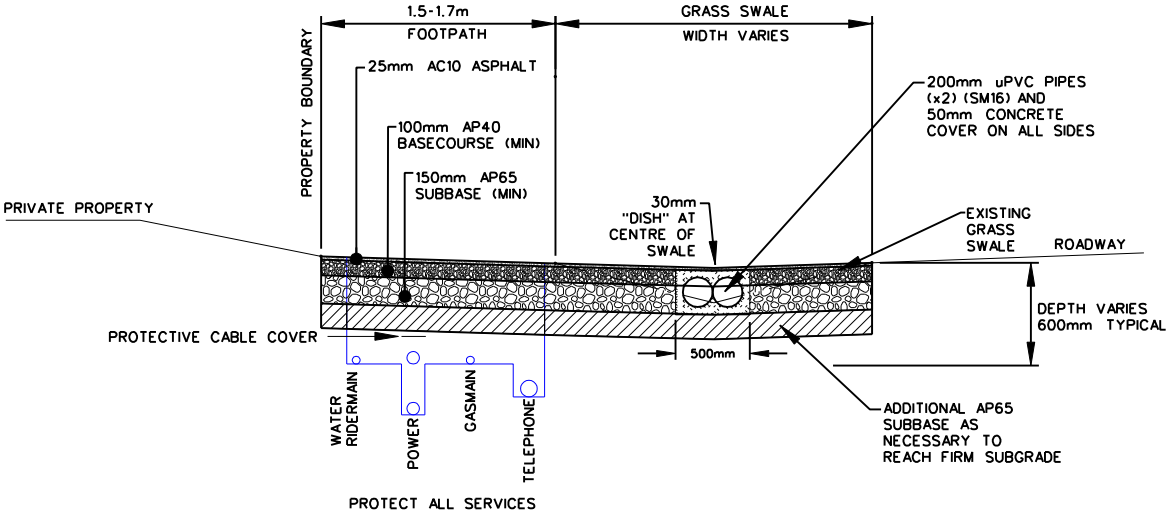
SECTION B-B

WIDTH OF CROSSING

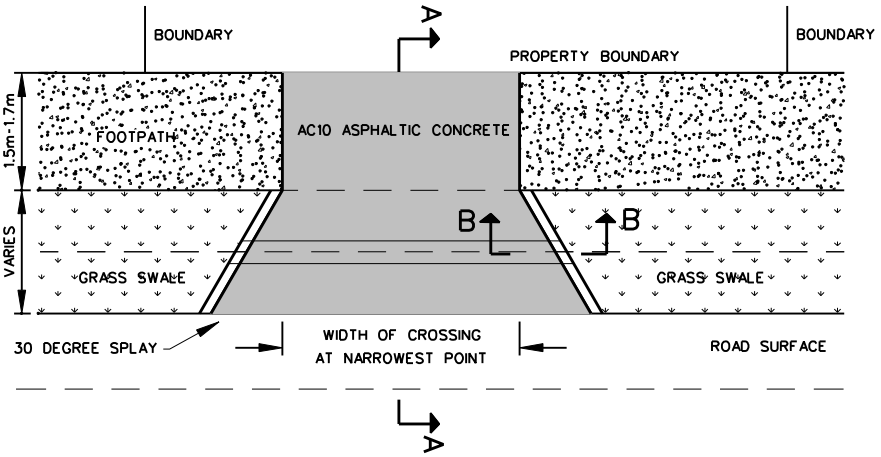
BY APPROVAL OF COUNCIL

ISOMETRIC VIEW

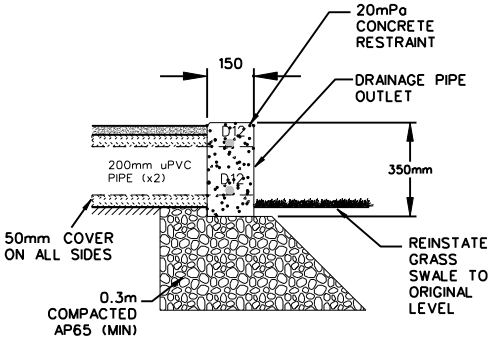
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: Pegasus Commercial Hot Mix Vehicle Crossing (Flat Channel)	PROJECT TITLE: Standard Drawings	SHEET: 220C ISSUE: A PLAN No.: 600



CROSS SECTION A-A



PLAN

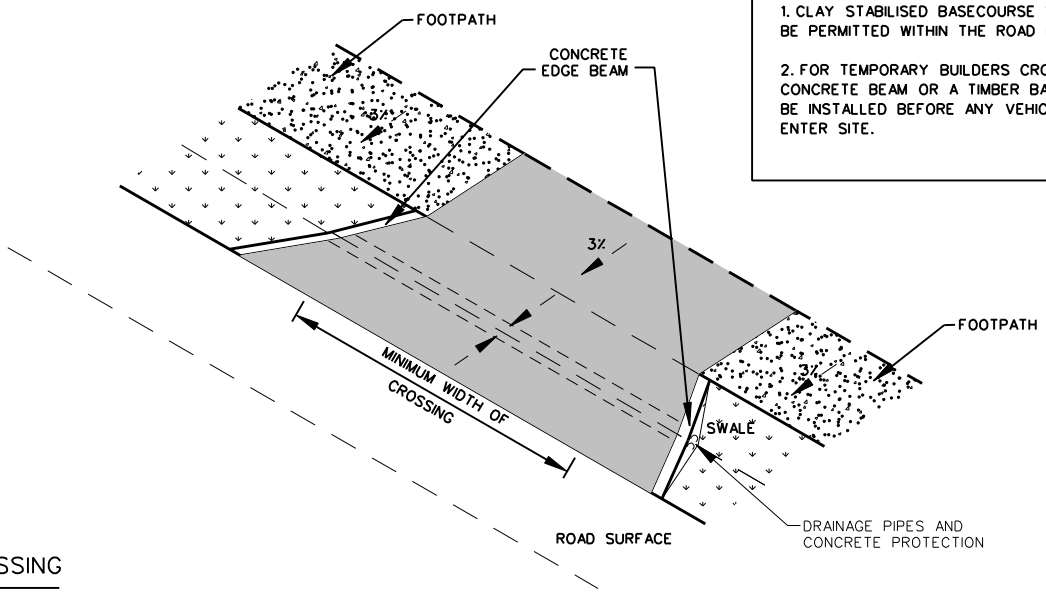


CROSS SECTION B-B
CONCRETE EDGE BEAM

NOTE

1. CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.

2. FOR TEMPORARY BUILDERS CROSSING CONCRETE BEAM OR A TIMBER BATTEN TO BE INSTALLED BEFORE ANY VEHICLES ENTER SITE.



WIDTH OF CROSSING

4.0m MINIMUM
6.0m MAXIMUM

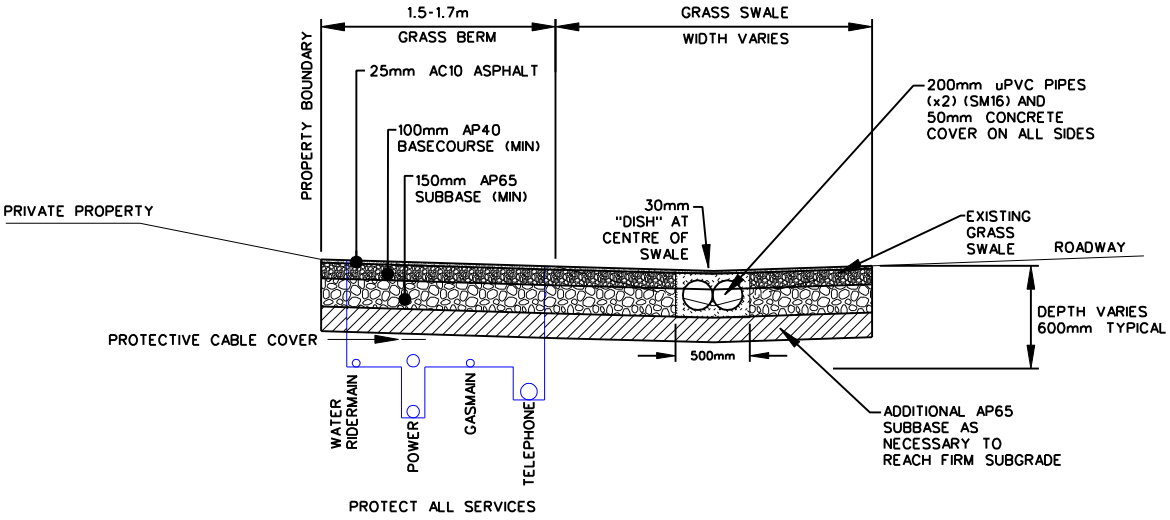
FOR COMMERCIAL:
BY APPROVAL

ISOMETRIC VIEW

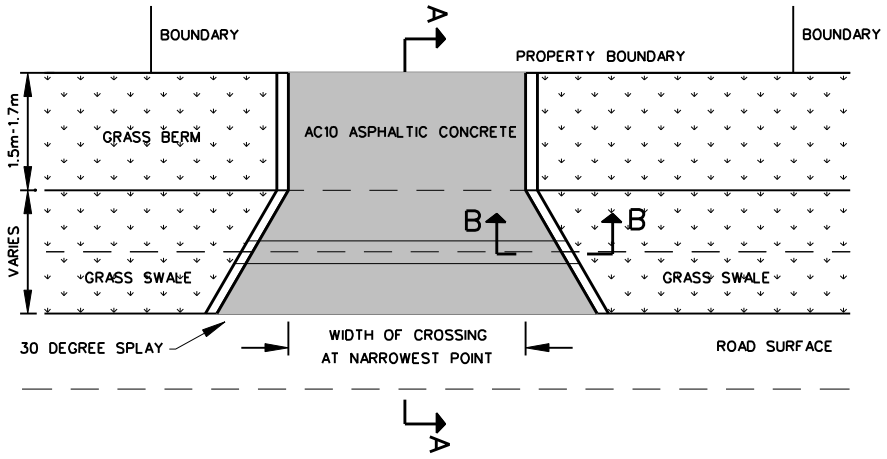
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	MAPLEHAM VEHICLE CROSSING (WITH FOOTPATH)	STANDARD DRAWINGS	221A

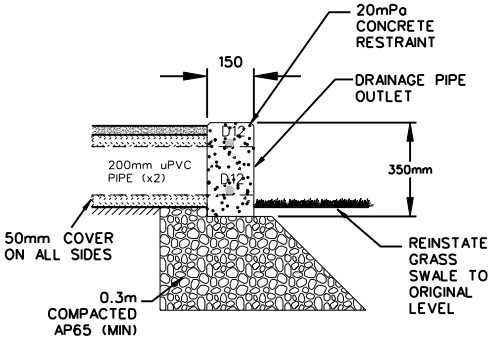
ISSUE	PLAN No.
A	600



CROSS SECTION A-A



PLAN

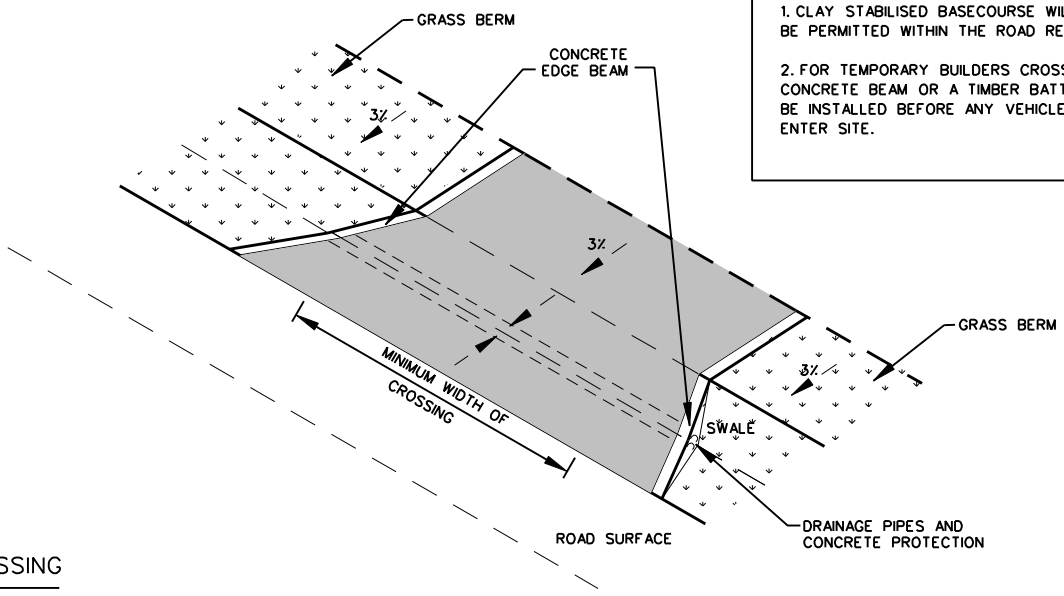


CROSS SECTION B-B
CONCRETE EDGE BEAM

NOTE

1. CLAY STABILISED BASECOURSE WILL NOT BE PERMITTED WITHIN THE ROAD RESERVE.

2. FOR TEMPORARY BUILDERS CROSSING CONCRETE BEAM OR A TIMBER BATTEN TO BE INSTALLED BEFORE ANY VEHICLES ENTER SITE.



WIDTH OF CROSSING

4.0m MINIMUM
6.0m MAXIMUM

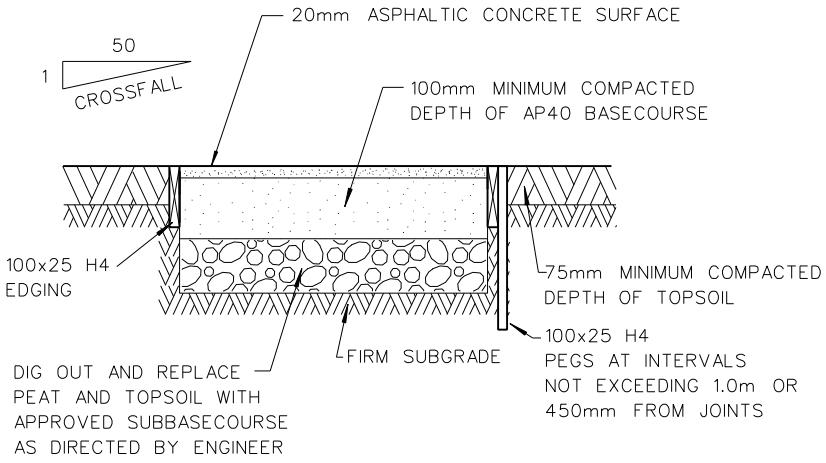
FOR COMMERCIAL:
BY APPROVAL

ISOMETRIC VIEW

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	MAPLEHAM VEHICLE CROSSING (WITHOUT FOOTPATH)	STANDARD DRAWINGS	221B

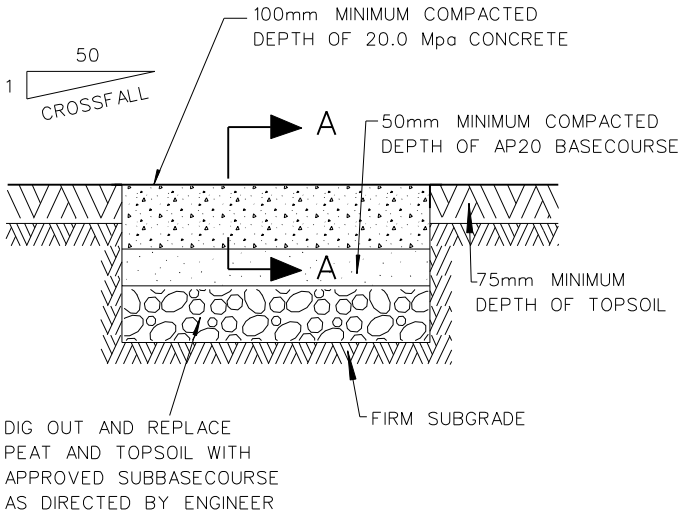
ISSUE	PLAN No.
A	600



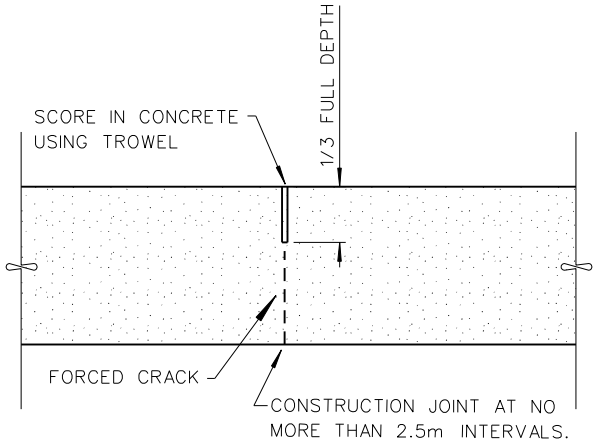
ASPHALTIC CONCRETE
CROSS-SECTION

NOTES

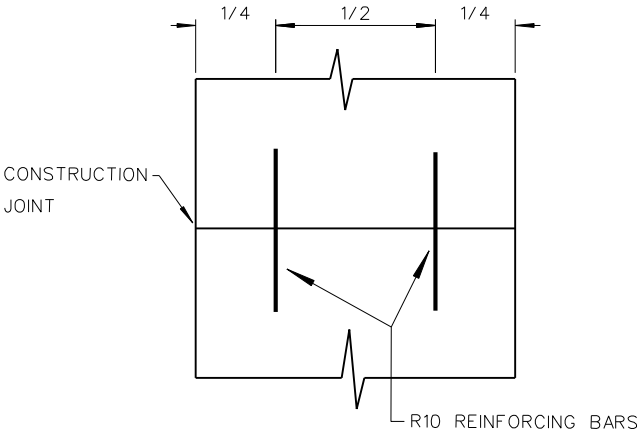
1. This drawing shall be read in conjunction with CCC construction Standard Specification Part 6: Roads.
2. All concrete from special Grade Plant to comply with NZS 3104:2003 Specification for High & Special Grade concrete production
3. Max of 80mm concrete slump.
4. Min of 20.0mPa concrete
5. Concrete construction to comply with NZS 3109:1997 Concrete Construction.
6. Asphaltic concrete to comply with TNZ M/1, P/9 and CCC CSS Part 6.
7. Subbase and basecourse to comply with CCC CSS Part 6



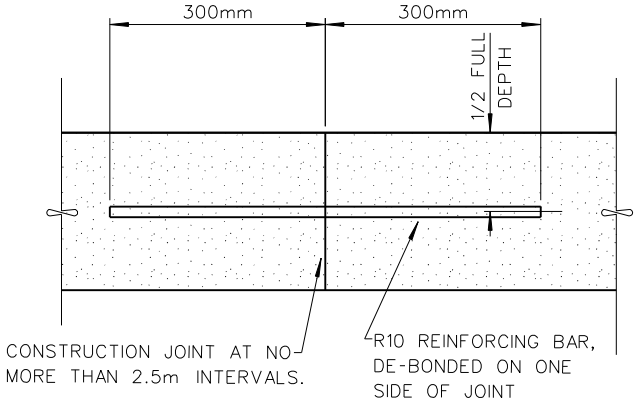
CONCRETE
CROSS-SECTION



SECTION A-A
JOINT FOR CONTINUOUS POUR



CONCRETE FOOTPATH
PLAN

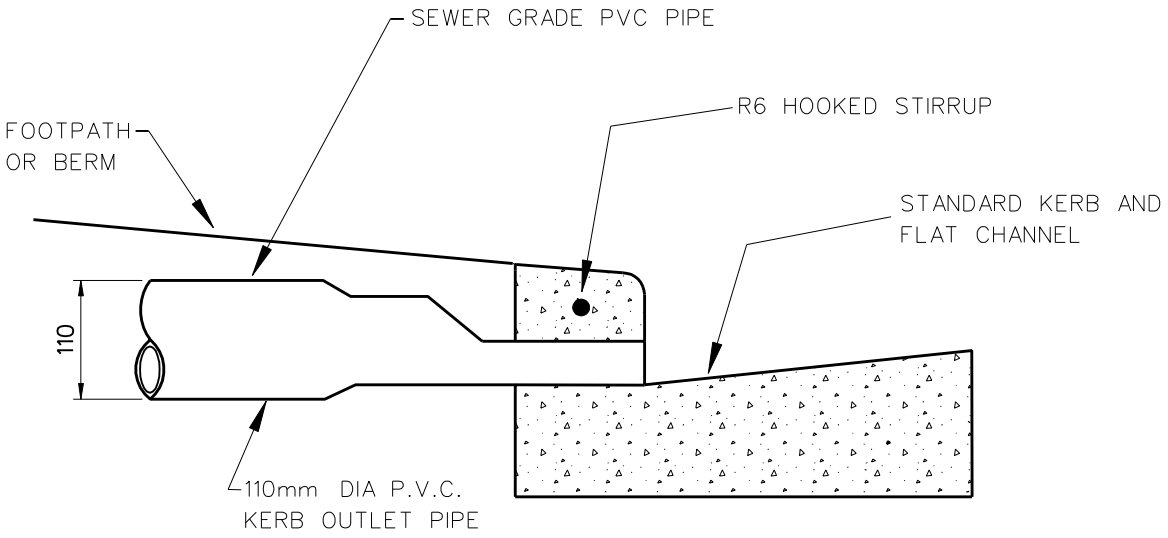


SECTION A-A
JOINT FOR END OF CONTINUOUS POUR OR POUR IN ALTERNATE BAYS

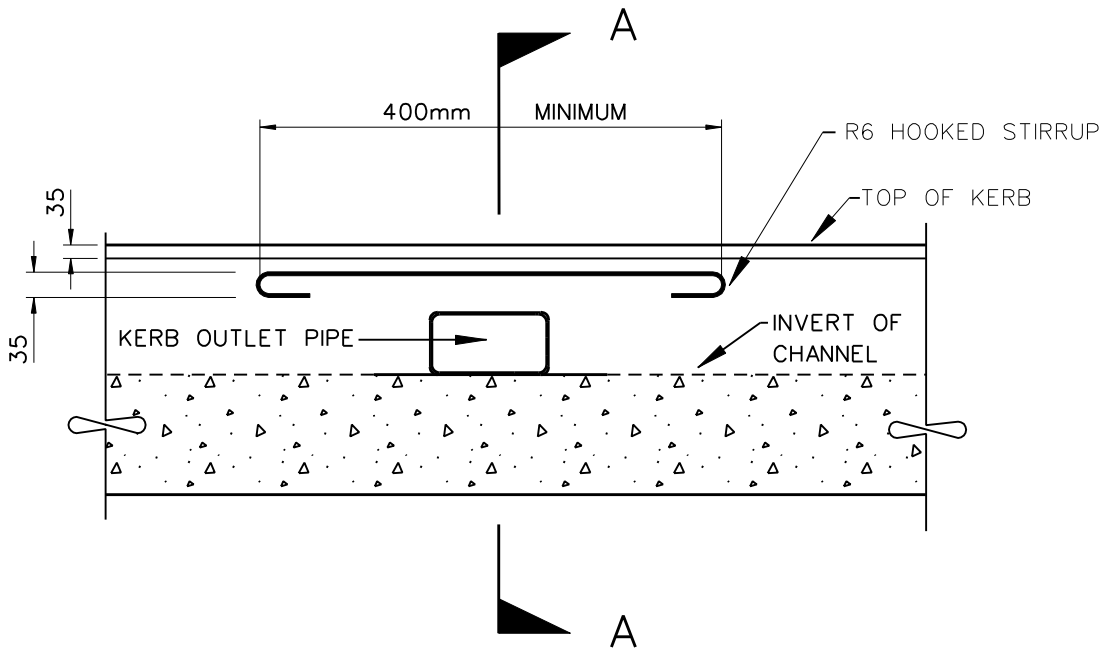
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	FOOTPATHS & BERMS	STANDARD DRAWINGS	222

ISSUE	PLAN No.
E	600



SECTION A-A



FRONT ELEVATION

NOTES

1. Where practical kerb outlets shall not be closer than 1 metre to a kerb cut down.

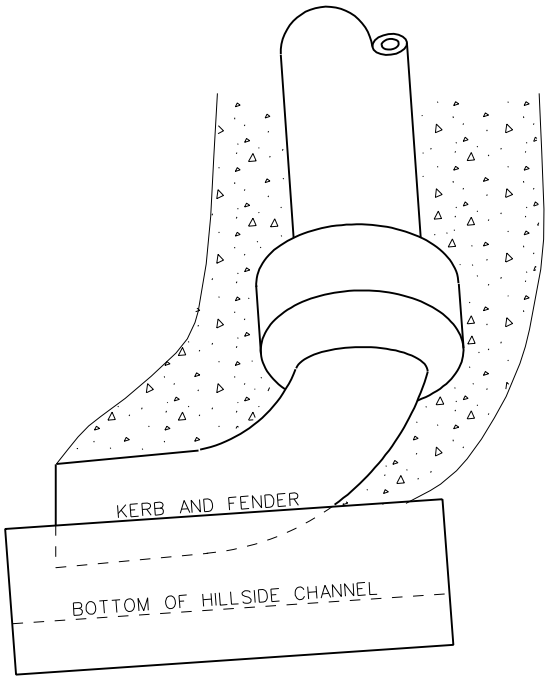
2. Kerb outlets shall be installed at the time of pouring kerb and channel.

Based on CCC drawing SD605

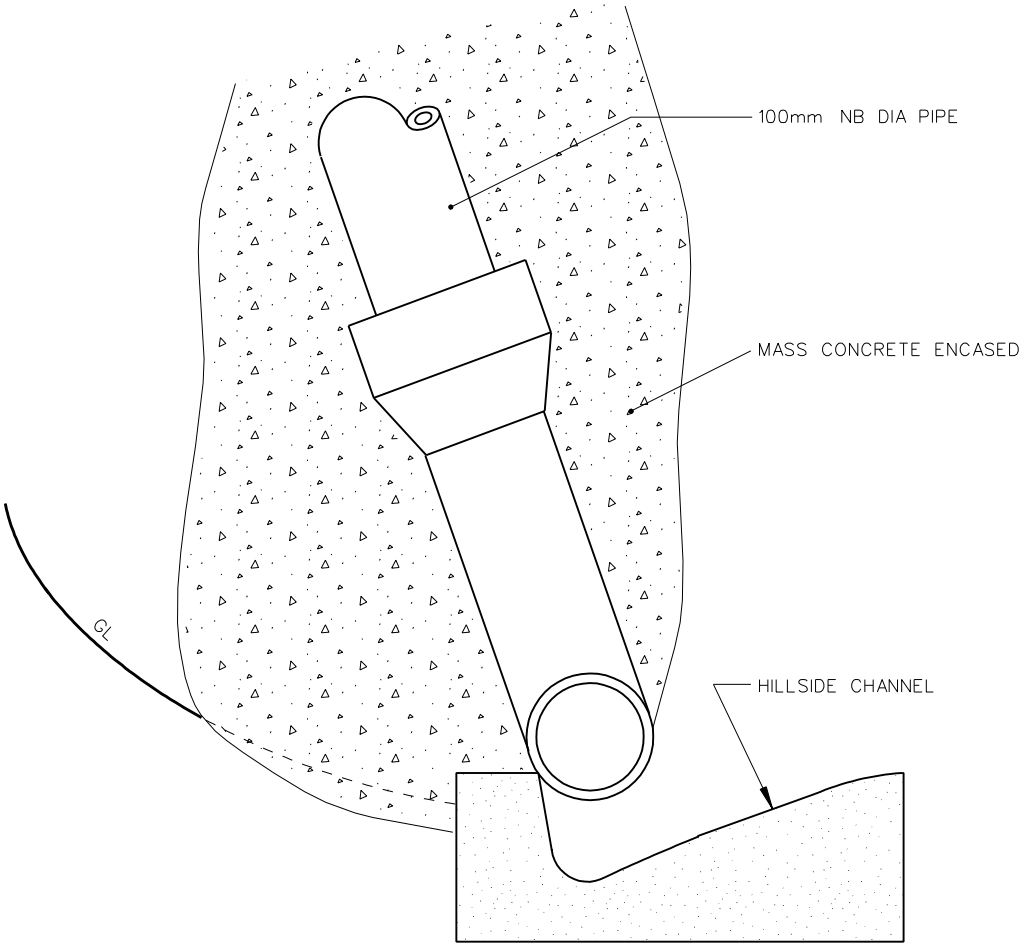
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: KERB OUTLET	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 224
				ISSUE: D
				PLAN No.: 600

NOTES

Pipe may be either u PVC or EW depending on existing down pipe.



TYPICAL ELEVATION
Looking at Bank



TYPICAL SECTION
Looking up Stream

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

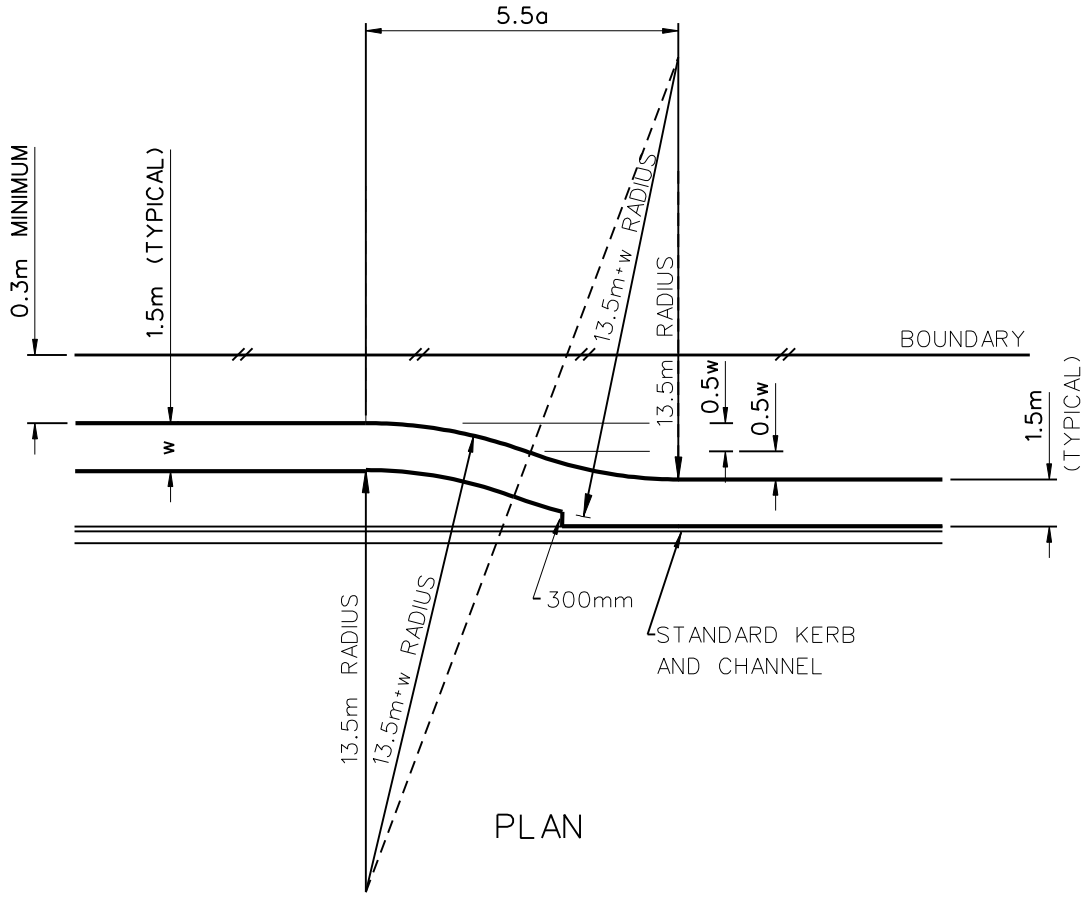
SHEET TITLE
HOUSE DRAIN ENTRY TO HILLSIDE CHANNEL

PROJECT TITLE
STANDARD DRAWINGS

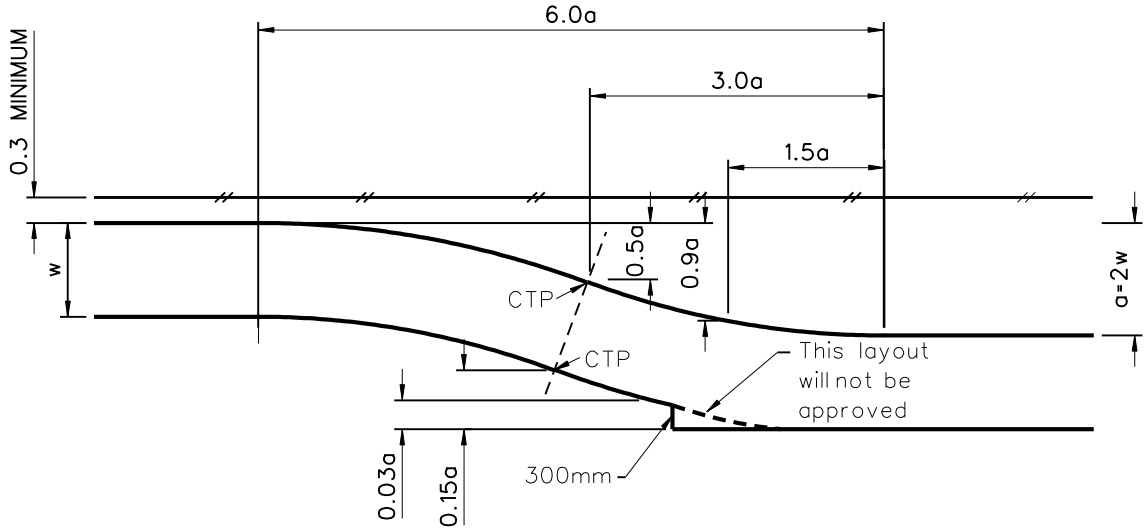
SHEET
226

ISSUE
C

PLAN No.
600



PLAN



SETOUT BY OFFSETS

NOTES

- w = FOOTPATH WIDTH
- BATTENS 100x25 H4 GROUND TREATED TIMBER
- PEGS 100x25 H4 @ 600 SPACINGS MAXIMUM

WAIMAKARIRI DISTRICT COUNCIL
technical services

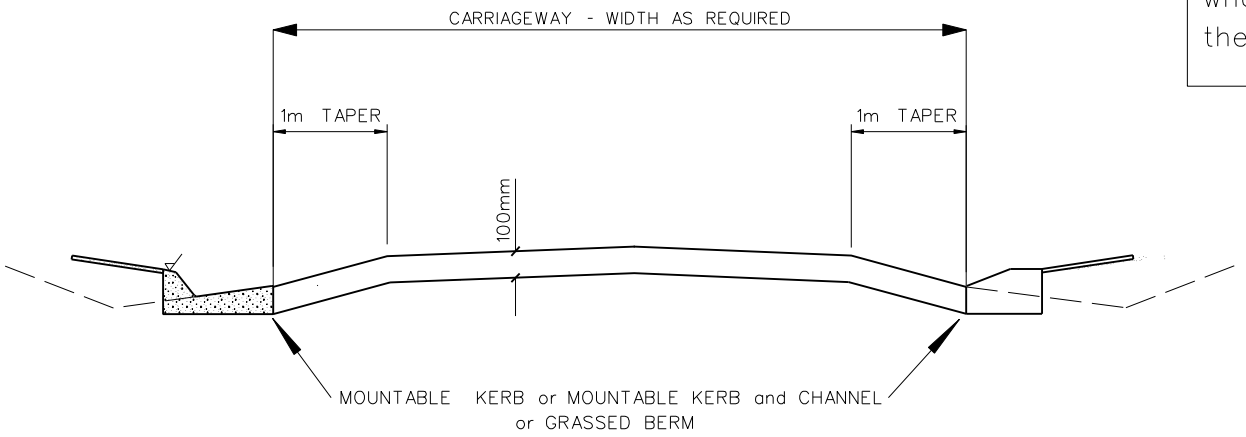
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	TYPICAL FOOTPATH MEANDER DETAIL	STANDARD DRAWINGS	227
			ISSUE: D / PLAN No.: 600

WAIMAKARIRI DISTRICT COUNCIL
technical services

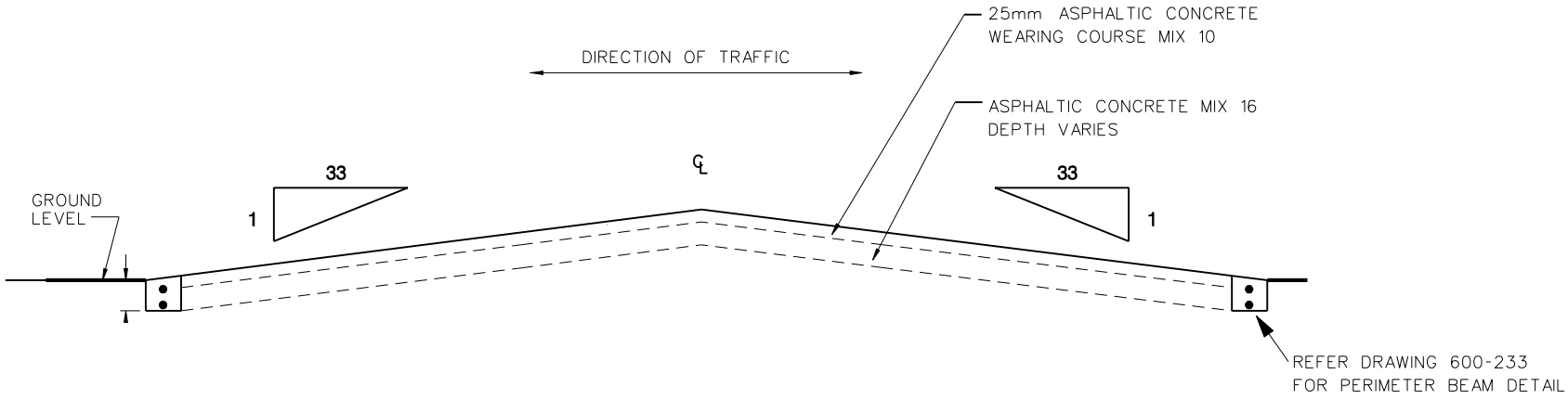
Based on CCC drawings SD631

NOTES

The Council generally prefers that Road Humps are not used. However, this detail shall apply where use is approved by the Council.



CROSS SECTION



LONG SECTION

NOT TO SCALE

SHEET TITLE
ROAD HUMP DETAILS

PROJECT TITLE
STANDARD DRAWINGS

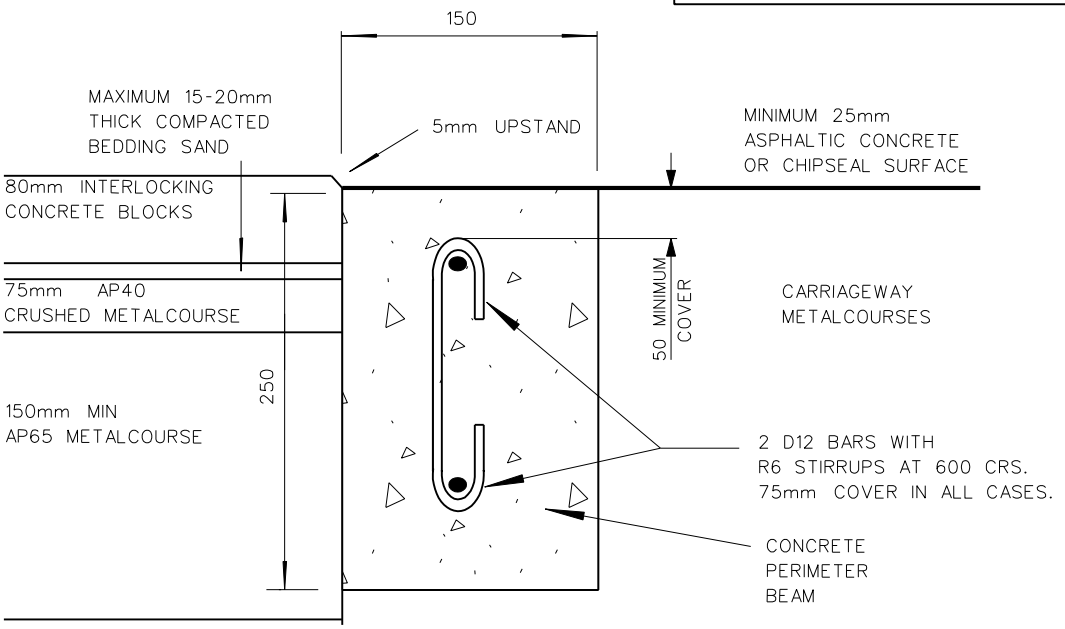
SHEET
231

ISSUE
D

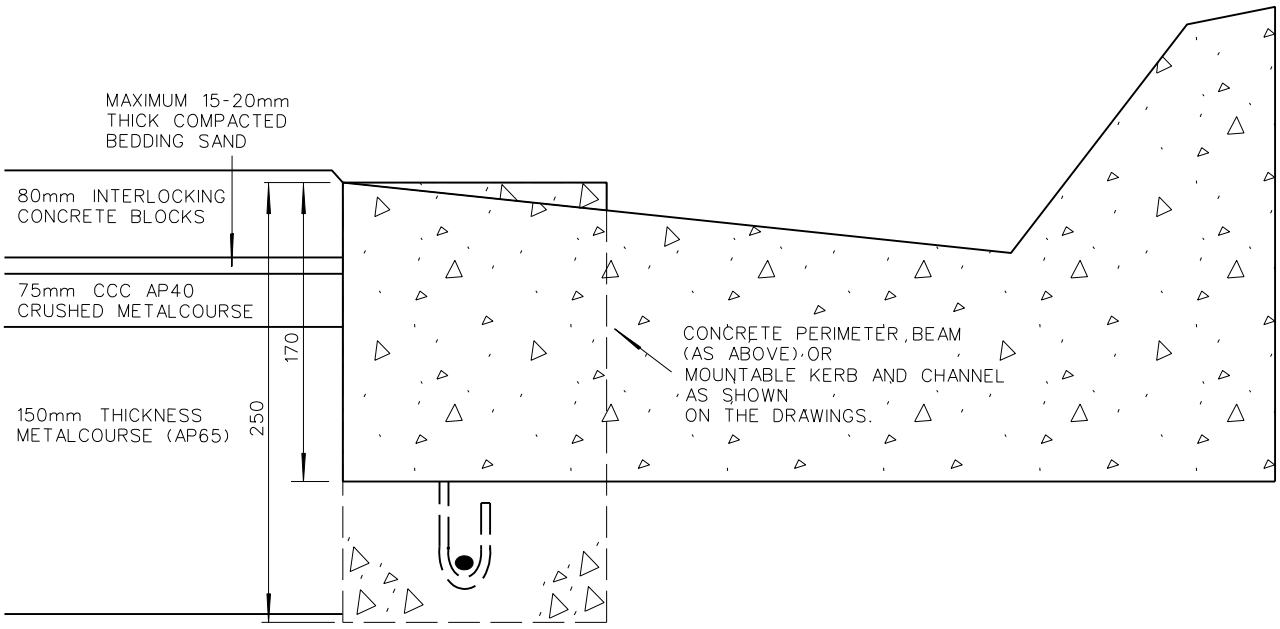
PLAN No.
600

NOTES

1. All concrete to comply with NZS 3109 : 1997.
2. Slump of concrete 50mm max.
3. Concrete strength of 20 Mpa at 28 days.
4. Colour of Interlocking blocks to be as per specification.
5. Concrete blocks shall be manufactured in accordance with NZS 3116:2002.



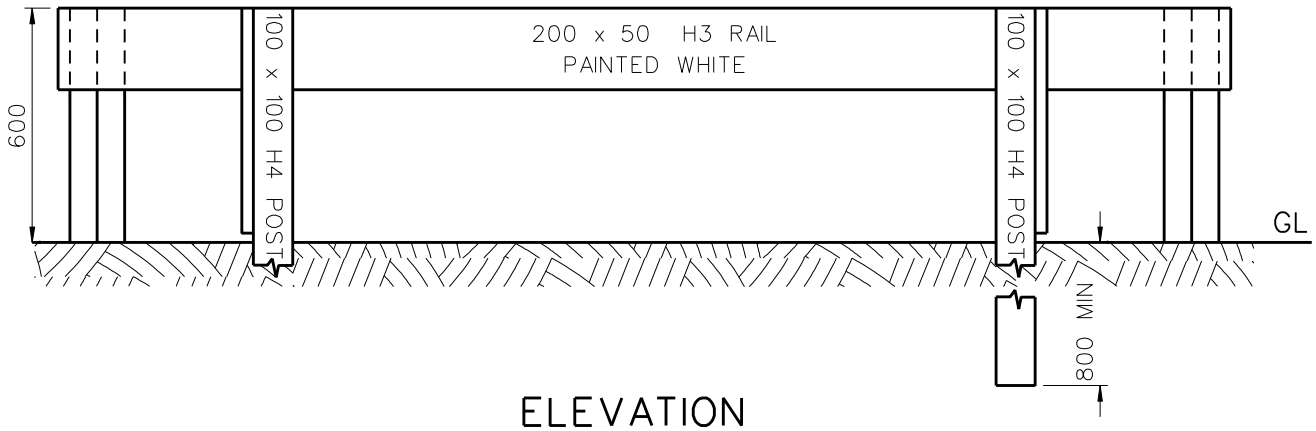
CARRIAGEWAY THRESHOLDS
LONGITUNDINAL SECTION
PERIMETER BEAM



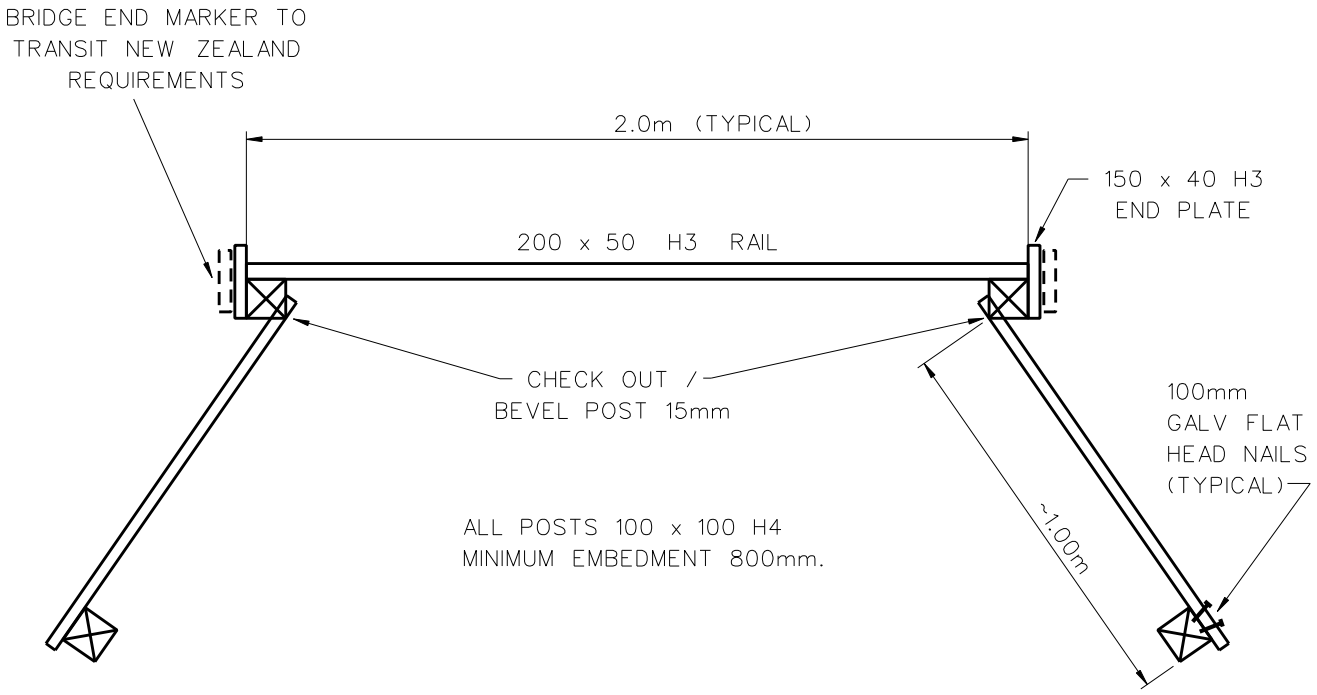
INTERLOCKING CONC. BLOCKS ADJACENT
TO PLANTING OR GRASS BERM

Based on CCC drawing SD634

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: Interlocking Concrete Block Pavement Edge	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 233
				ISSUE: D / PLAN No.: 600



ELEVATION

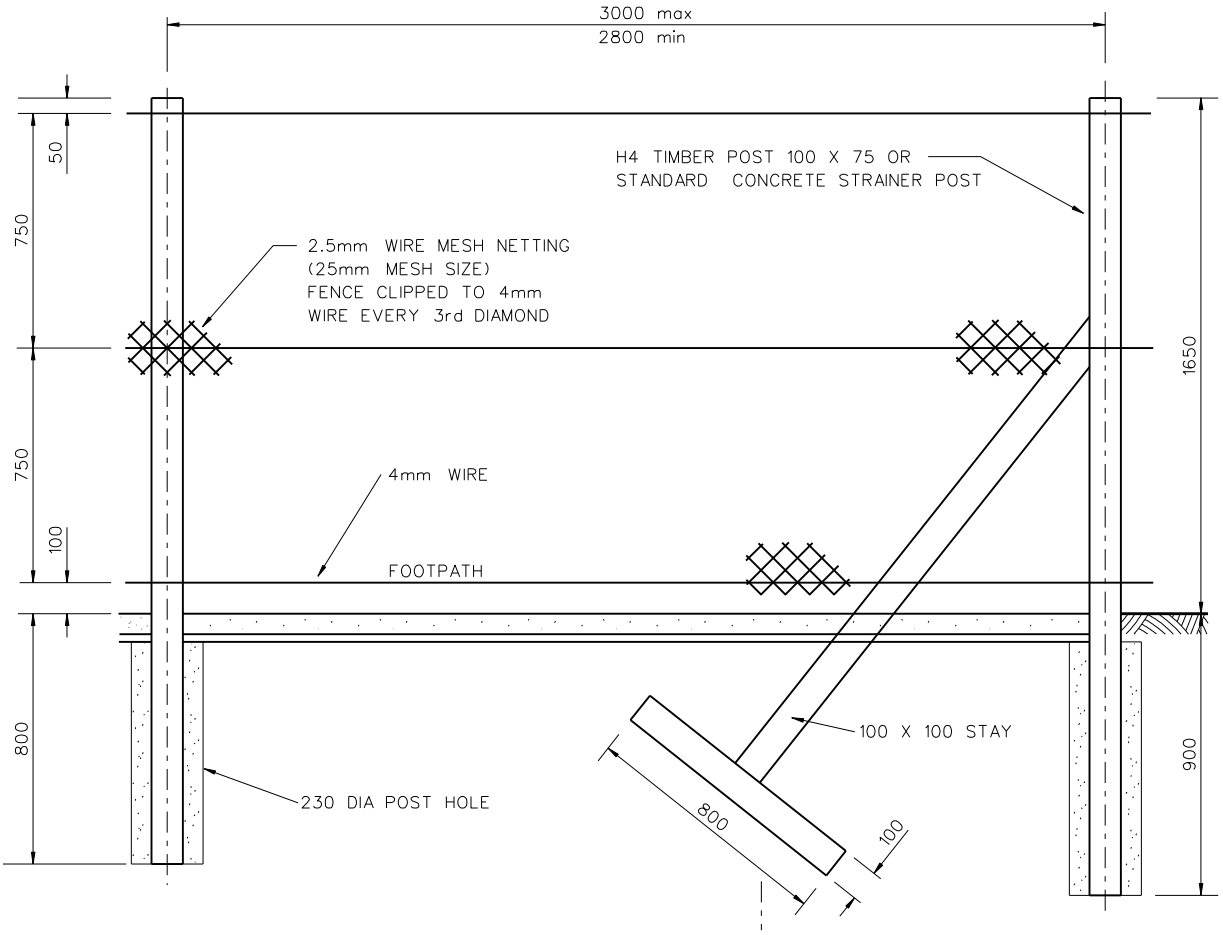


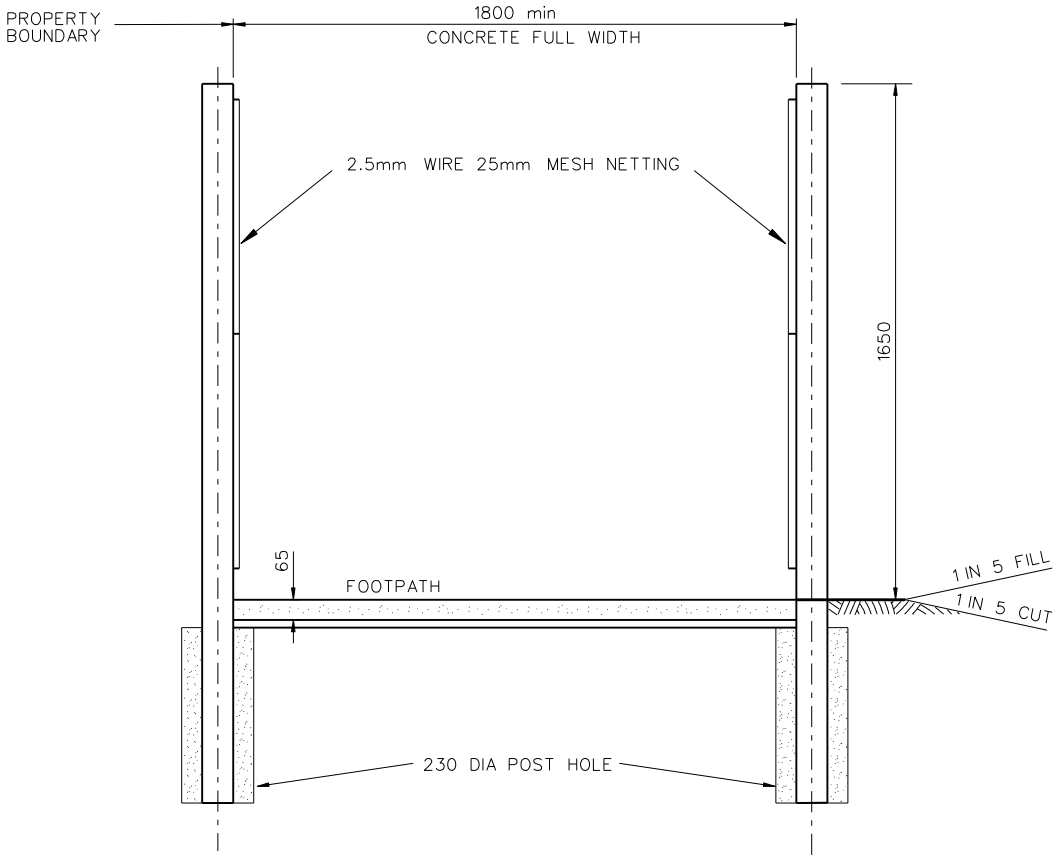
PLAN

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Rural Zone Local Road Culvert Sight Rail	STANDARD DRAWINGS	241

ISSUE	PLAN No.
B	600





WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

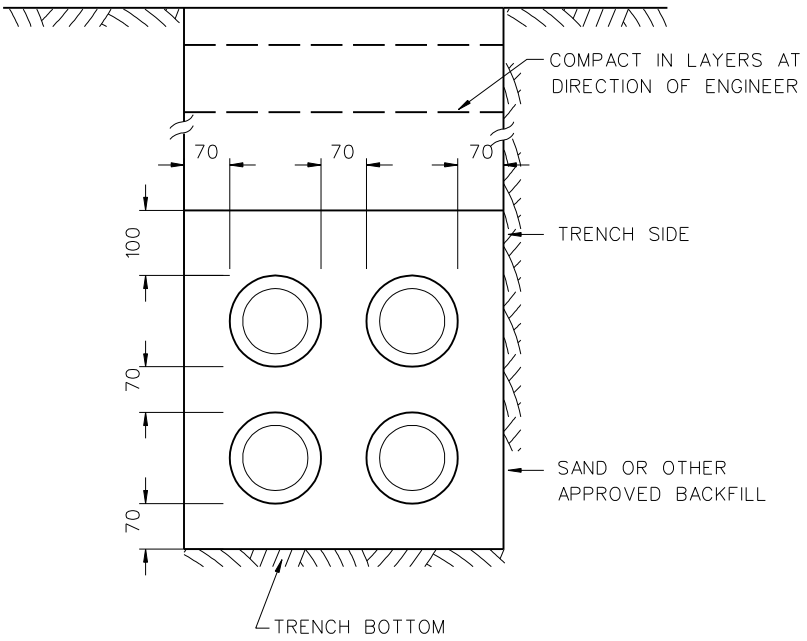
SHEET TITLE
TYPICAL WIRE MESH FENCE FOR ACCESSWAYS

PROJECT TITLE
STANDARD DRAWINGS

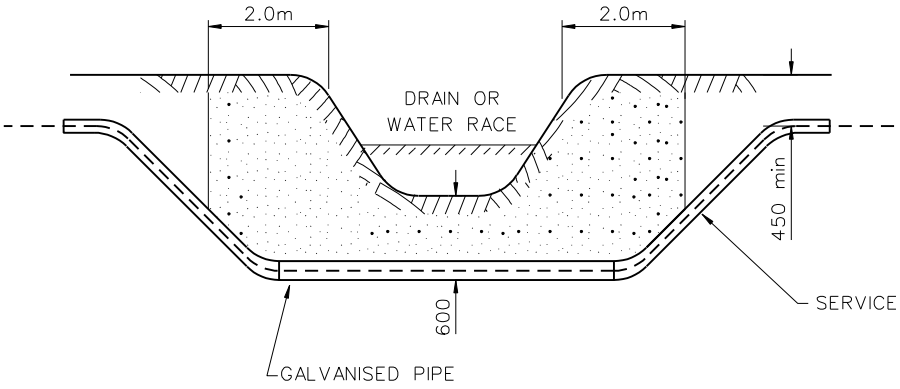
SHEET
242

ISSUE
C

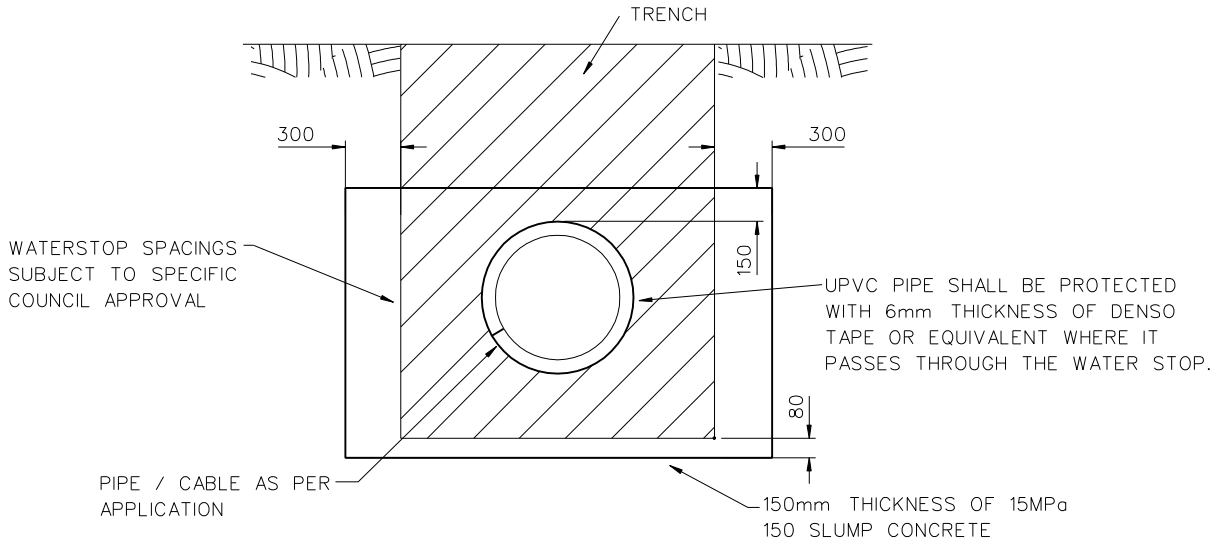
PLAN No.
600



ENERGY & COMMUNICATIONS TRENCH (TYPICAL)
DIAGRAM 1



SERVICE INSTALLATION UNDER DRAIN OR WATER RACE
DIAGRAM 2



WATER STOPS - FOR USE WHEN GRADE > 1:100
DIAGRAM 3

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

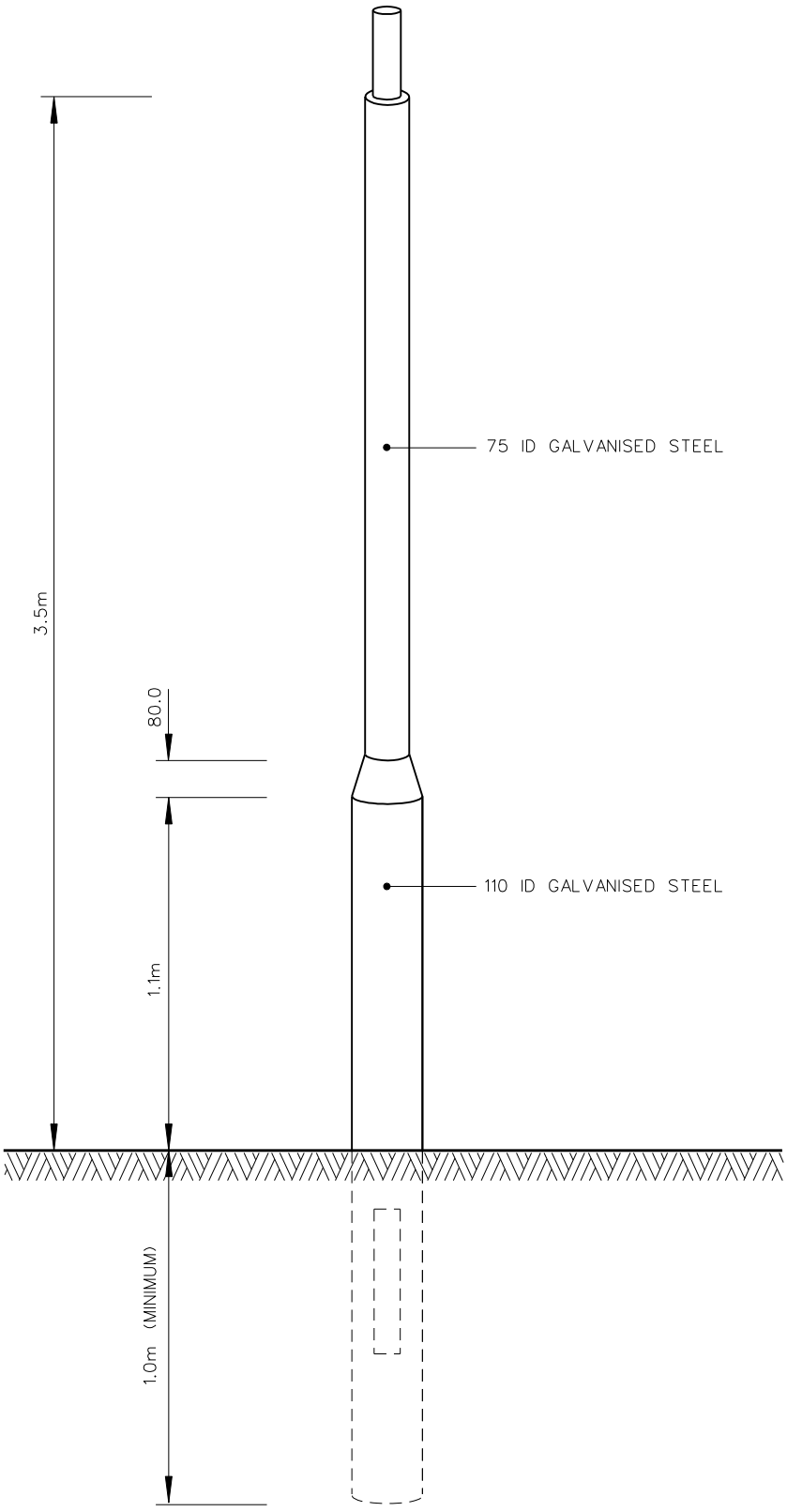
SHEET TITLE
TRENCHING IN PUBLIC PROPERTY

PROJECT TITLE
STANDARD DRAWINGS

SHEET
243

ISSUE
B

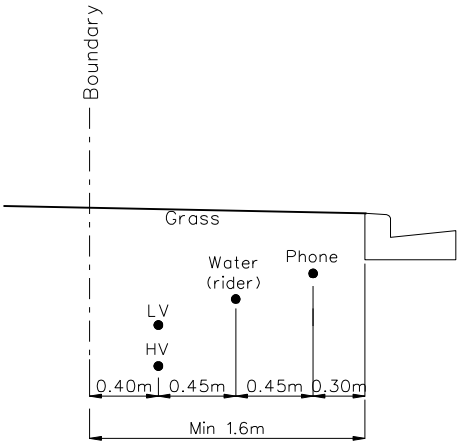
PLAN No.
600



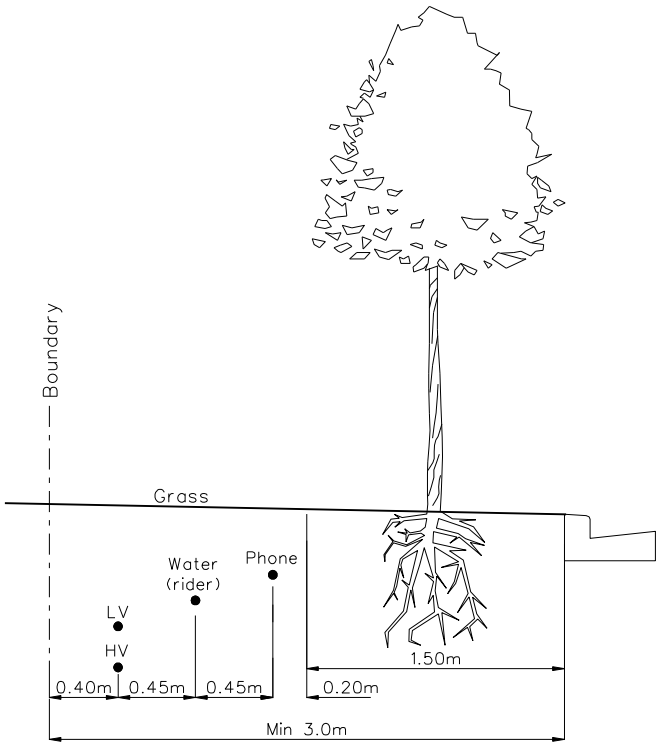
Based on CCC drawing SD501

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: STANDARD FABRICATED LIGHT POLE	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 244
				ISSUE: C
				PLAN No.: 600

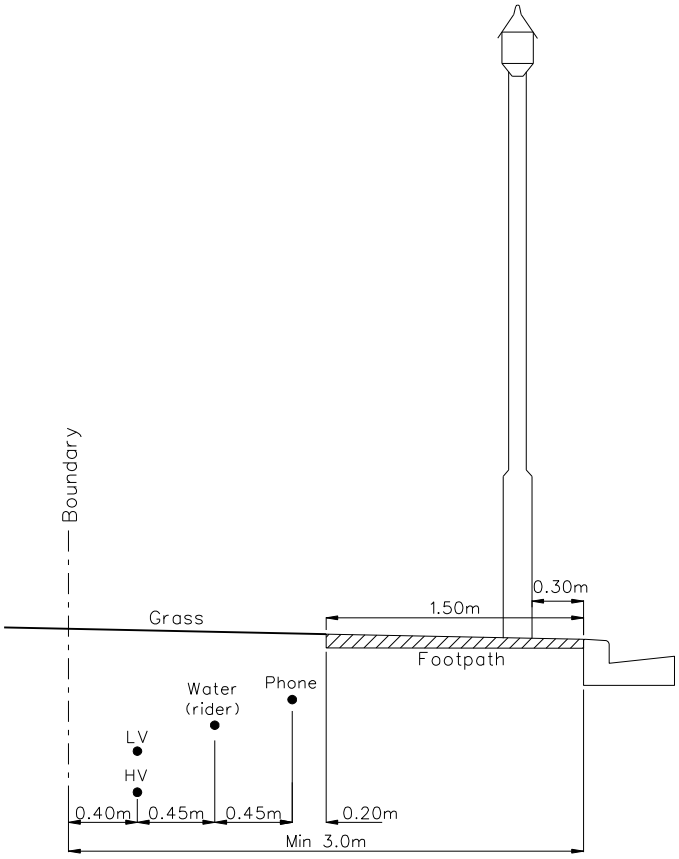
Note: The minimum width of footpath is increased to 2.0m when passing a light standard or other structure. This may overlap the services if the required width is not otherwise available. The length of the widened section shall be no more than 5m.



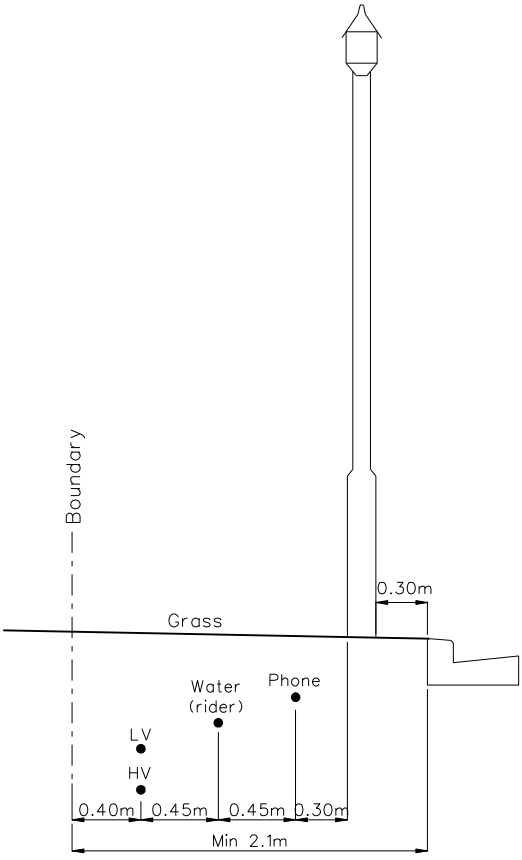
Services Only
1.6m – 2.1m wide



Services & Street Tree
3.0m – 4.5m wide



Services & Footpath
3.0m – 4.5m wide



Services & Light Standard
2.1m – 3.0m wide

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

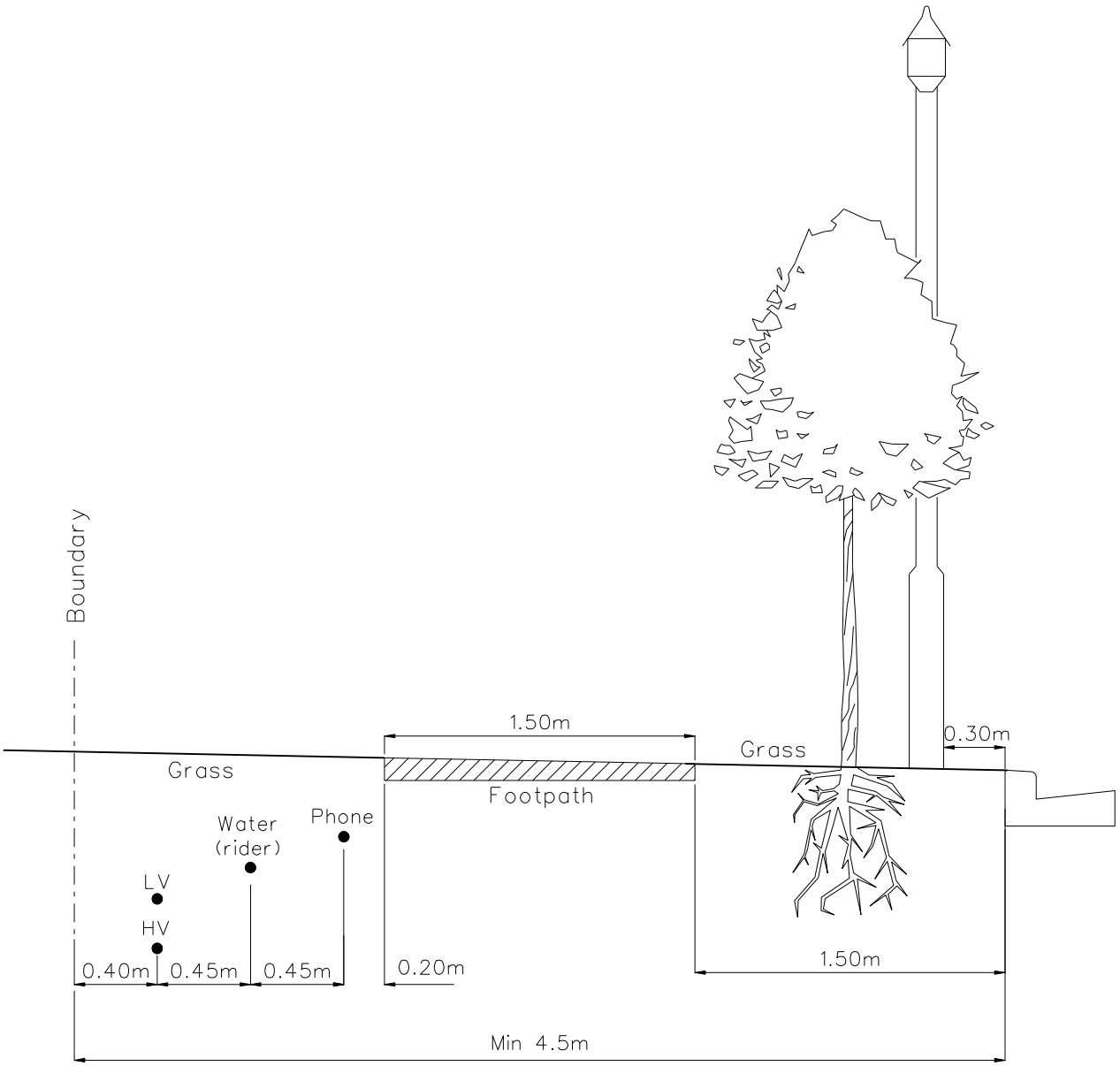
SHEET TITLE
SERVICES IN THE ROADSIDE (SHEET 1 OF 2)

PROJECT TITLE
STANDARD DRAWINGS

SHEET
245A

ISSUE
A

PLAN No.
600

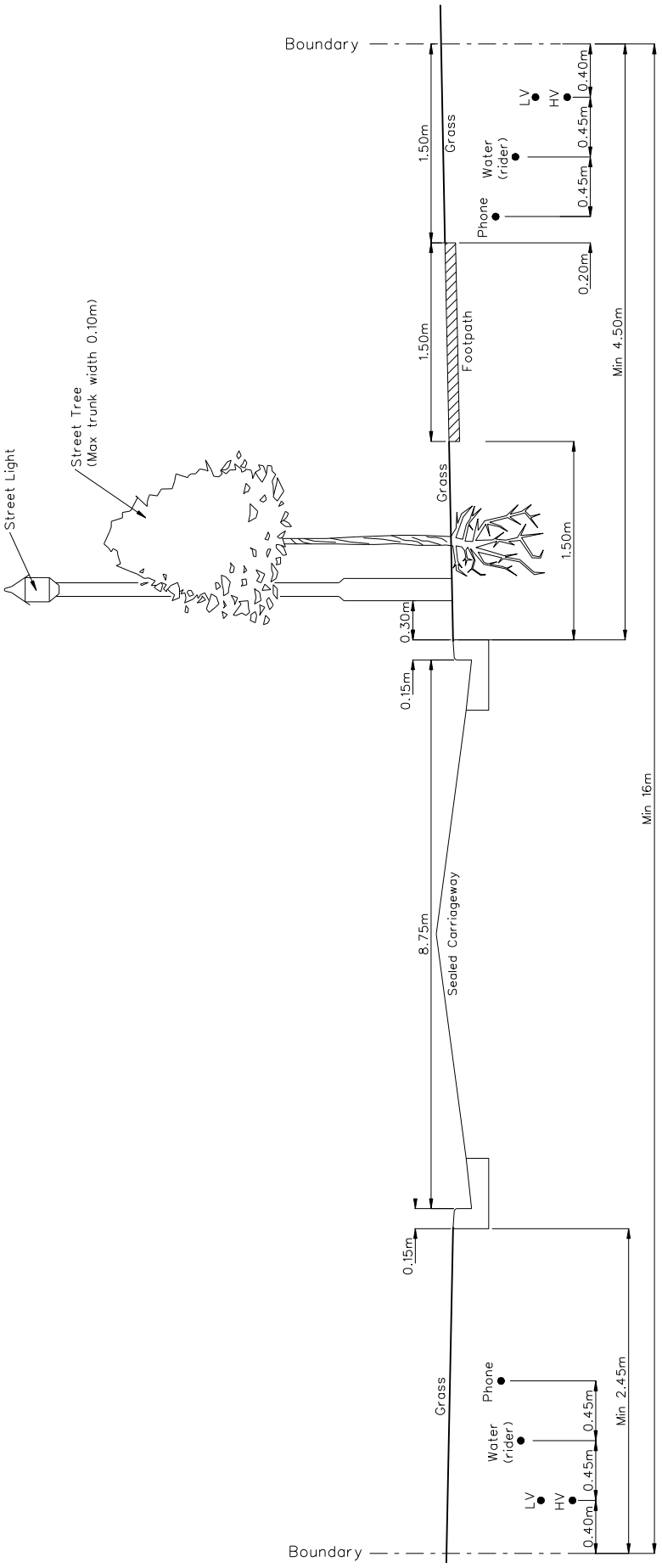


Minimum Widths for a Typical Full Width Berm
(See District Plan for required components)
Must be greater than 4.5m wide

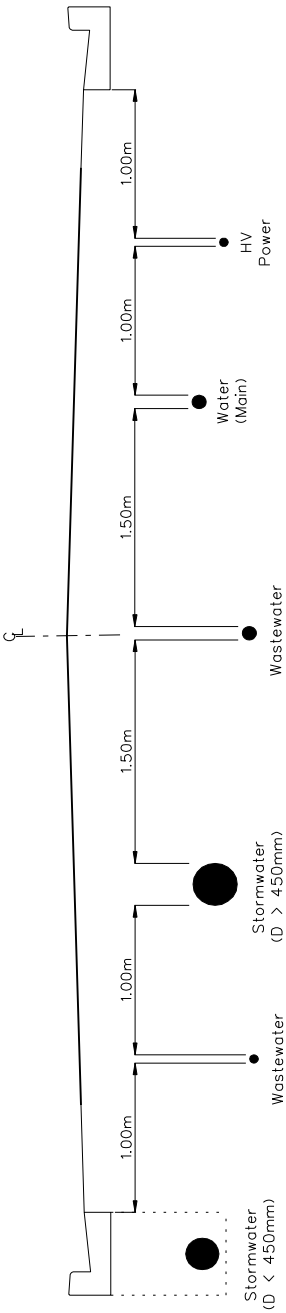
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	SERVICES IN THE ROADSIDE (SHEET 2 OF 2)	STANDARD DRAWINGS	245B

ISSUE	PLAN No.
A	600



Typical Layout for Local Roads (Residential)
(All spacings given are minimum)



Minimum Spacings for Services in the Carriageway

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

SHEET TITLE
MINIMUM SETOUT OF SERVICES IN ROAD RESERVE

PROJECT TITLE
STANDARD DRAWINGS

SHEET
245C

ISSUE
D

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

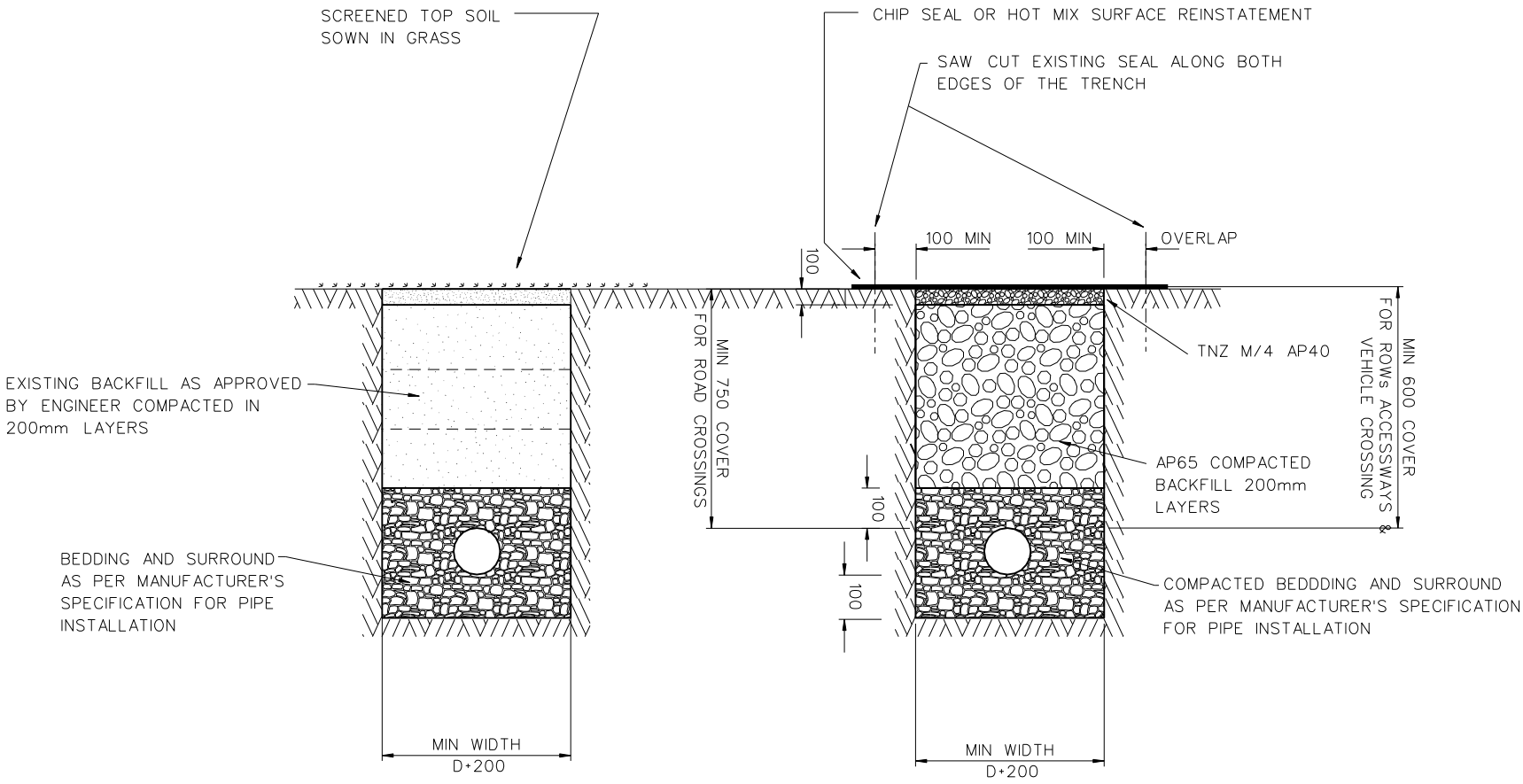
SHEET TITLE
TRENCH INSTALLATION OF PVC PIPES

PROJECT TITLE
STANDARD DRAWINGS

SHEET
246

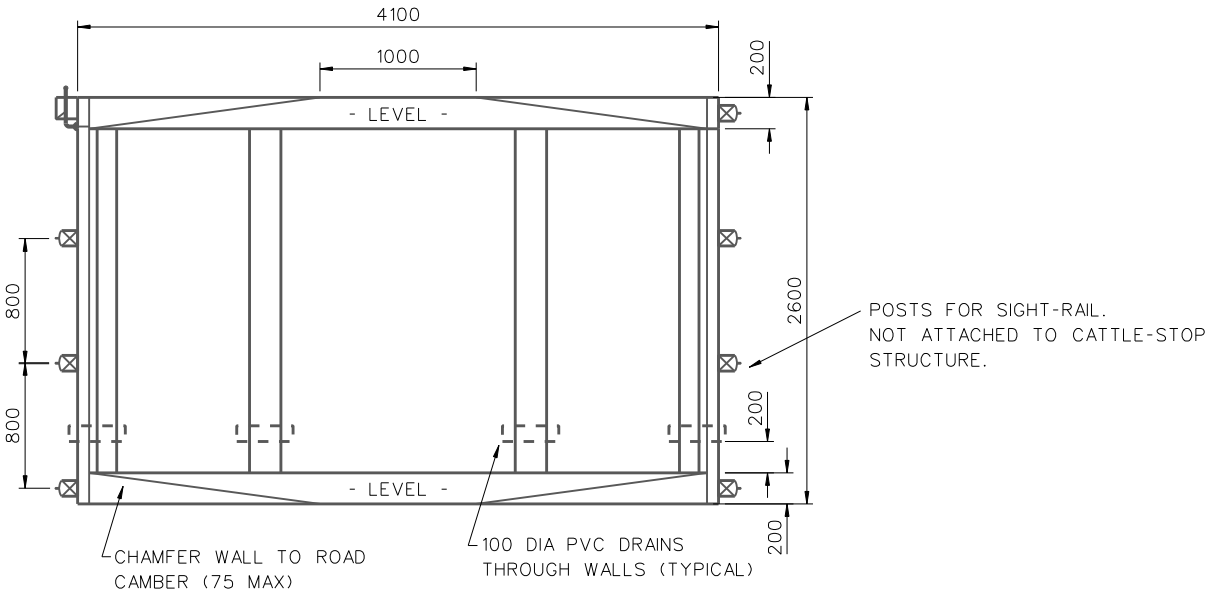
ISSUE
D

PLAN No.
600

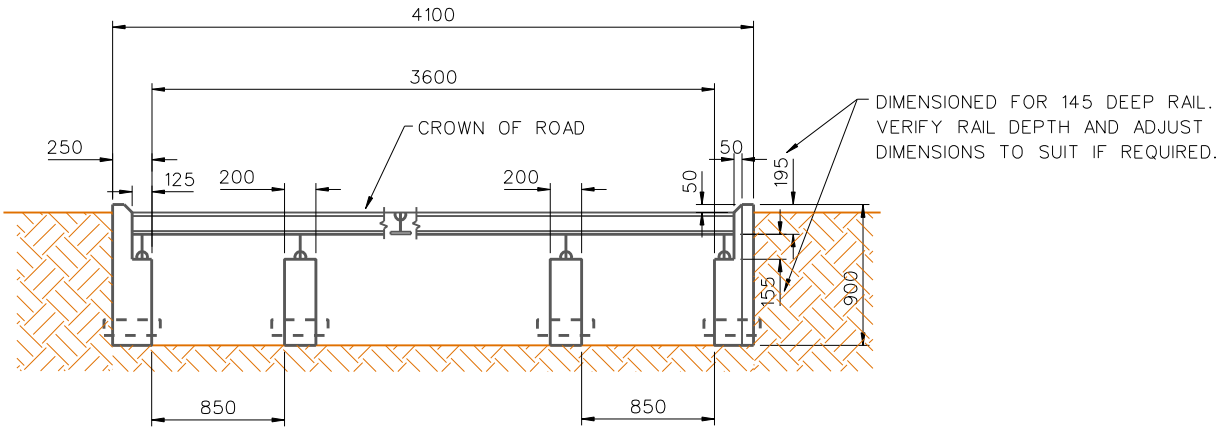


BERMS

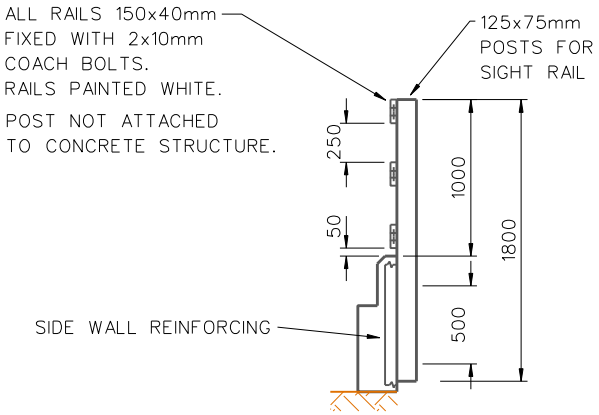
ROADS, ROWs, ACCESSWAYS AND VEHICLE CROSSINGS



PLAN



SECTION

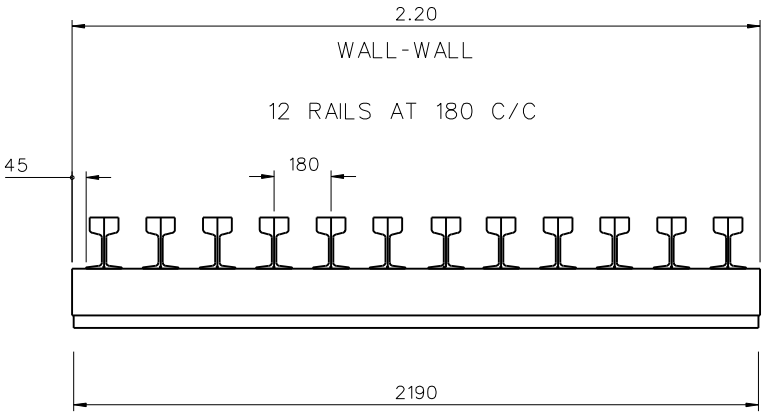


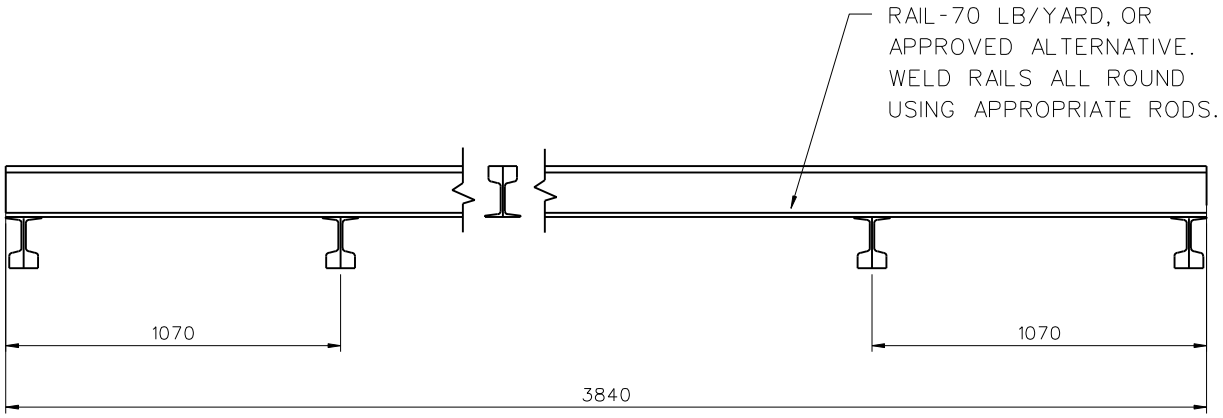
DETAIL

WALL STEEL & GUARD RAIL

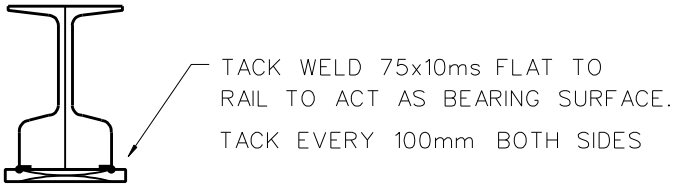
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	CATTLE STOP PLAN & SECTION	STANDARD DRAWINGS	248A
			ISSUE: B / PLAN No.: 600





CATTLE STOP GRID - STEEL WORK

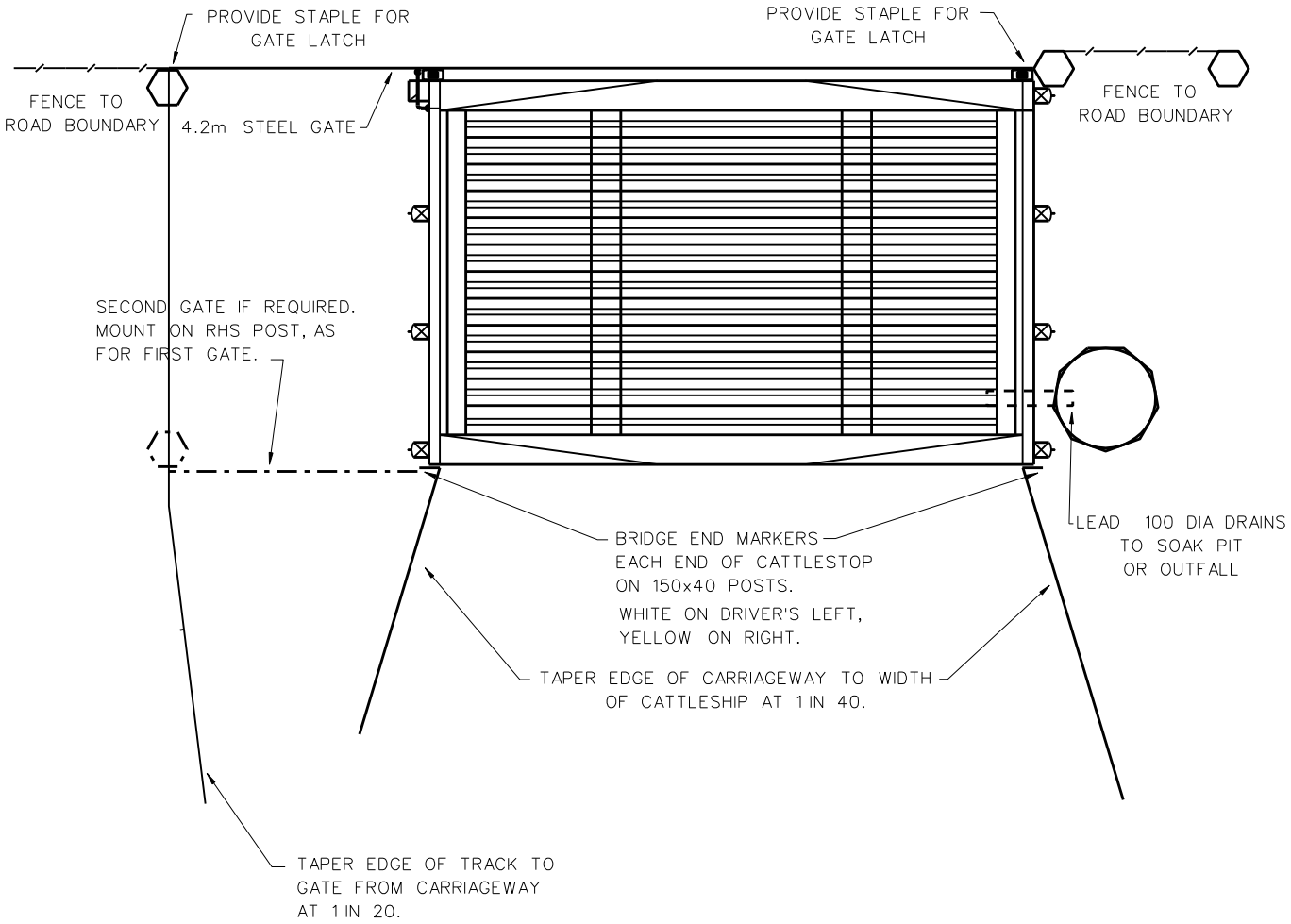


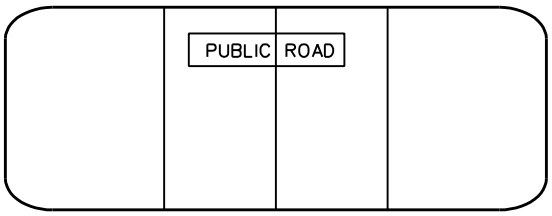
NTS

NOTE

1. SITE MEASURE WALLS BEFORE CUTTING AND FABRICATING GRID STEEL
2. AIM FOR 2 mm MINIMUM TO 5 mm MAXIMUM CLEARANCE ALL ROUND GRID.

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: CATTLE STOP STEELWORK DETAIL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 248B ISSUE: B PLAN No.: 600





VIEW OF GATE SHOWING NOTICE TO BE FIXED TO BE VISIBLE BOTH SIDES OF EACH GATE.

NOTICE TO BE 1500 LONG BY 250 HIGH.
DOUBLE-SIDED.
BLACK TEXT (75mm HIGH "TRANSPORT MEDIUM") ON ENGINEERING GRADE REFLECTORISED YELLOW BACKGROUND.

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	CATTLE STOP GENERAL LAYOUT	STANDARD DRAWINGS	248C

ISSUE	PLAN No.
B	600

Layout: indicates editable copy

Promotional line

Ph: (03) 311 8900 | *waimakariri.govt.nz*

WAIMAKARIRI DISTRICT COUNCIL

Project Title (two lines enabled)

Project detail 1
Project Detail 2 - optional
Project Detail 3 - optional

EXPECTED COMPLETION DATE | Day Month, Year

ENQUIRIES: Contractor name
Ph: (area code) number | *website goes here*
Contract No: **#number**

Sign Dimensions

Urban (Small)	– 600mm	x 1200mm
Urban (Large)	– 900mm	x 1800mm
Rural	– 1200mm	x 2400mm

Font: Myriad Pro

Colours as indicated:

WDC Blue – Pantone: 2925
– CMYK: 84/23/0/0

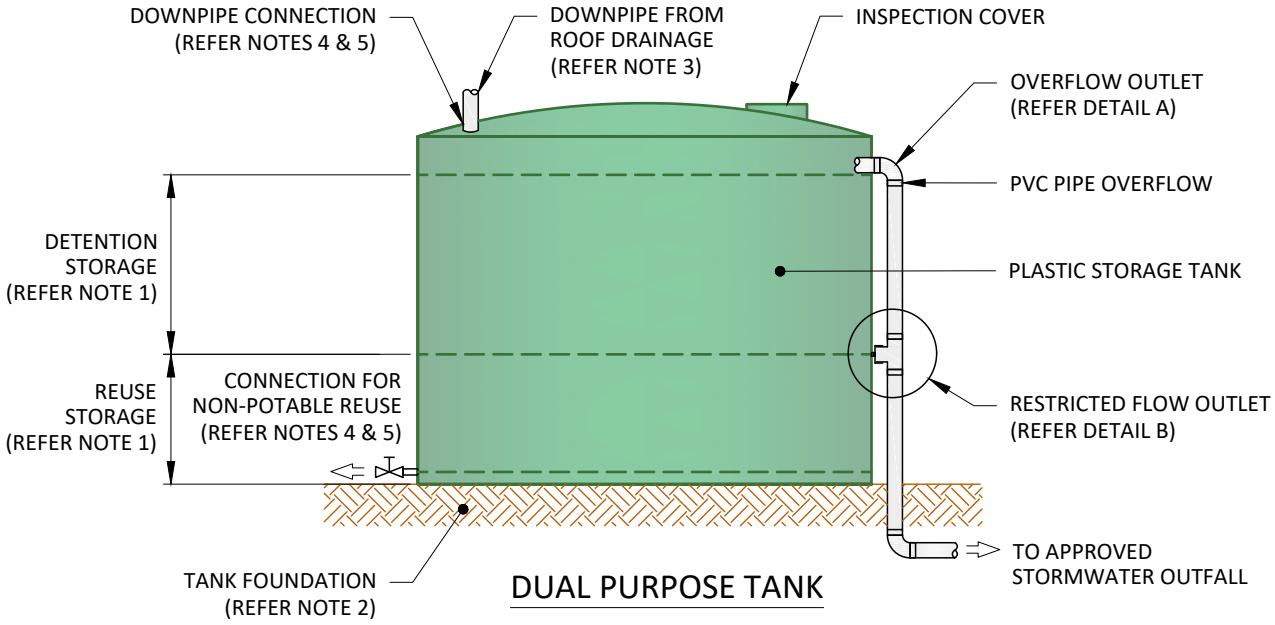
Green – Pantone: 369 U
– CMYK: 50/0/70/29

Black – Pantone: Black 3
– CMYK: 10/10/10/100

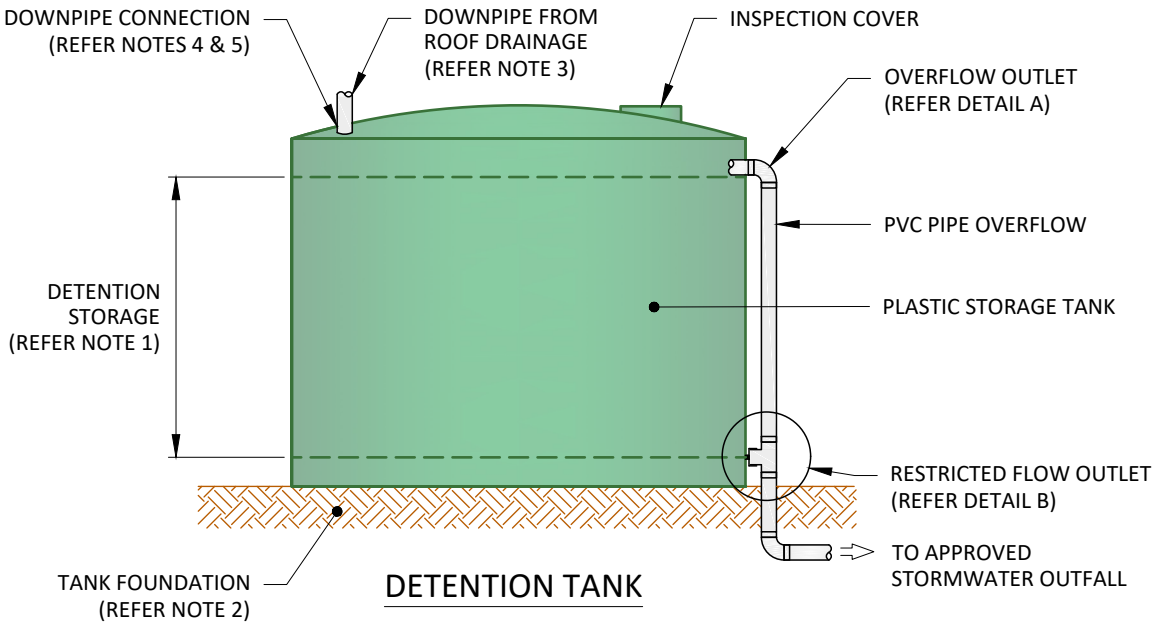
IMPORTANT: THIS DRAWING IS AN EXAMPLE ONLY
USE APPROVED FILE "600–sht250–d (PRINTER).pdf" TO CREATE SIGN

WORDING FOR THE "PROMOTIONAL LINE", "PROJECT TITLE" AND "PROJECT DETAIL" SHOULD BE CONFIRMED WITH THE COMMUNICATIONS ADVISOR

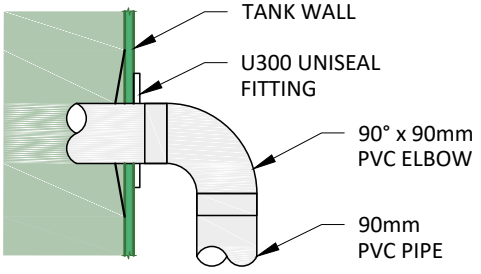
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: CONSTRUCTION INFO SIGN	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 250
				ISSUE: D / PLAN No.: 600



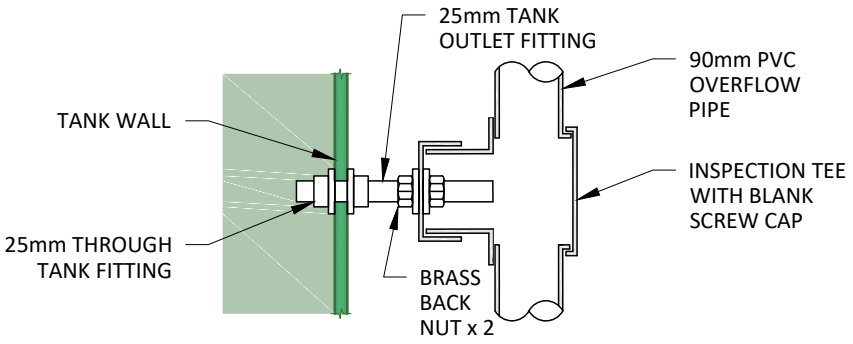
DUAL PURPOSE TANK



DETENTION TANK



DETAIL A



DETAIL B

NOTES:

1. TANK SIZE BASED ON PROVIDING A DETENTION STORAGE VOLUME OF 2m^3 PER 100m^2 OF ROOF AREA. REUSE STORAGE VOLUME IS TYPICALLY HALF THE DETENTION STORAGE VOLUME.
2. TANK FOUNDATION AND FIXING TO GROUND TO BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
3. DEBRIS DIVERTER/LEAF GUARD TO BE INSTALLED ON DOWNPIPES IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
4. FIT UNISEAL IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
5. HOLES DRILLED THROUGH TANK WALL TO BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

WAIMAKARIRI DISTRICT COUNCIL

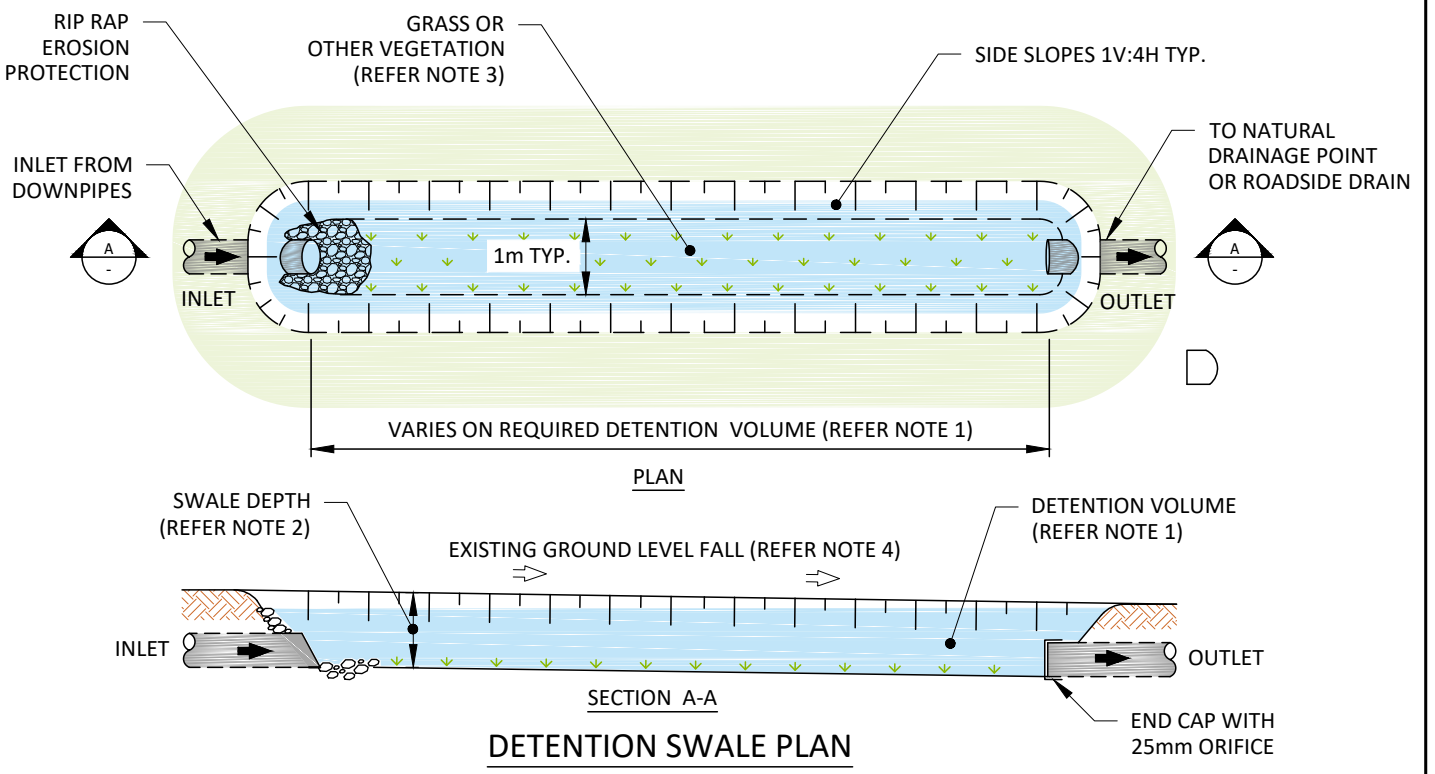
PROJECT TITLE: ONSITE STORMWATER TANKS

SHEET TITLE: STANDARD DRAWINGS

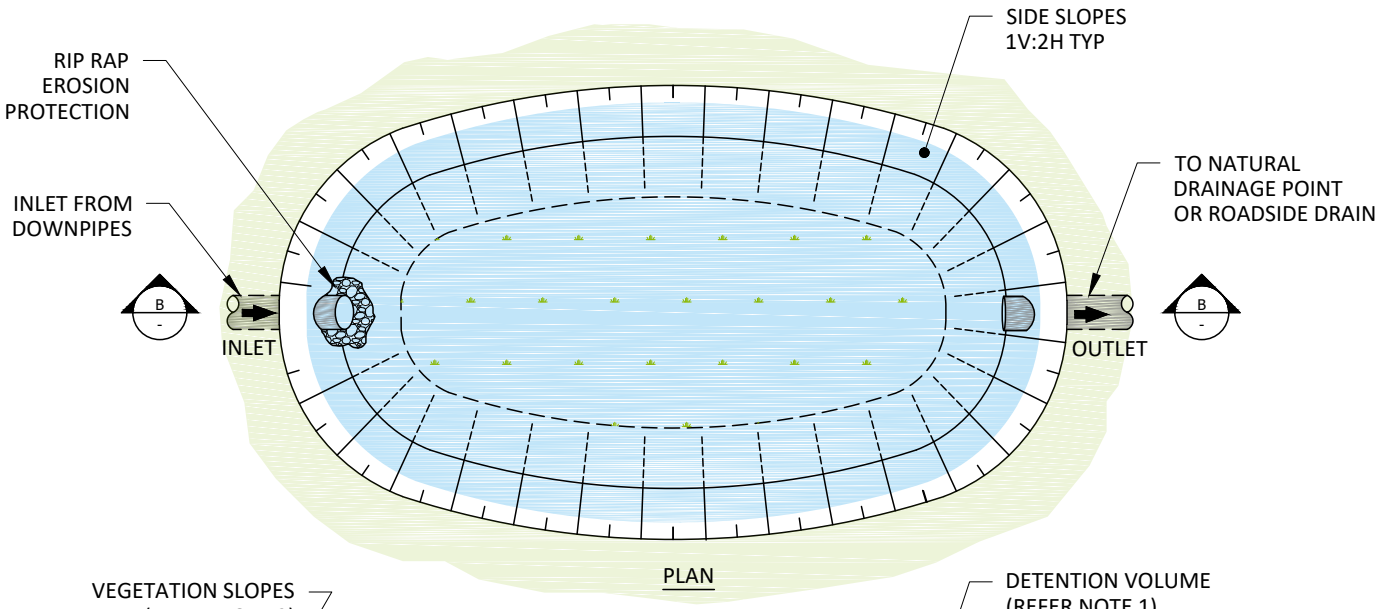
SHEET: 251

ISSUE: B

PLAN No.: 600



DETENTION SWALE PLAN



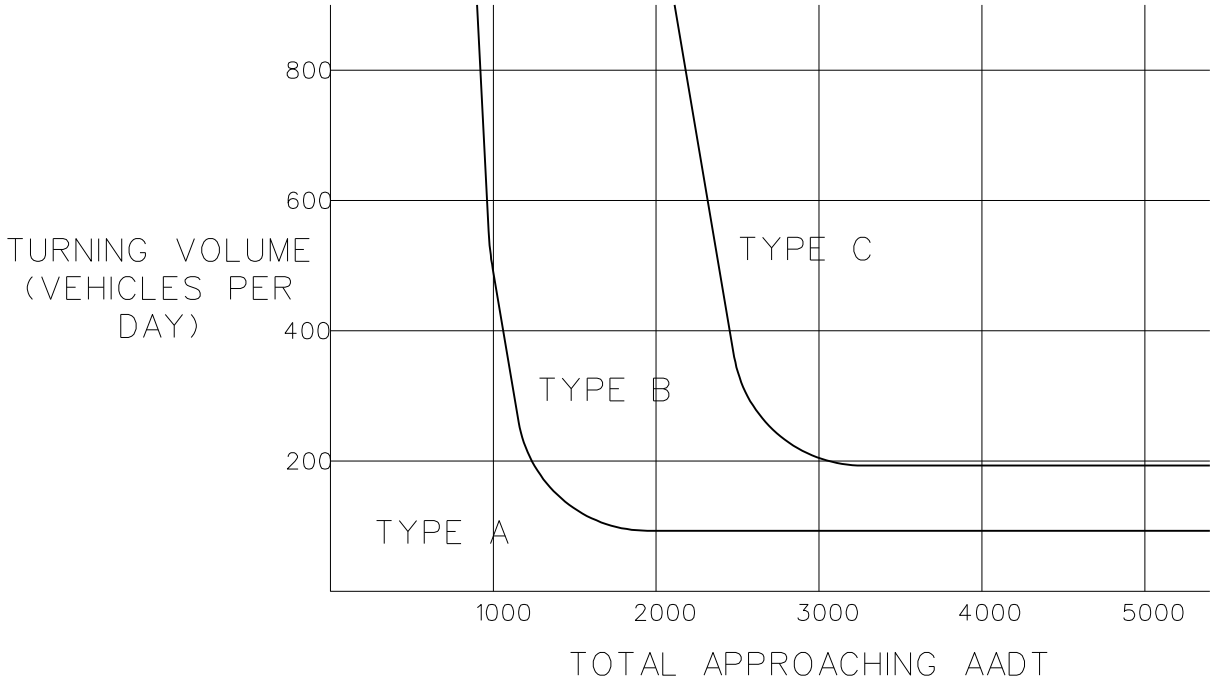
DETENTION POND

NOTES:

1. DETENTION VOLUME SIZING - PROVIDE 2m³ OF STORAGE VOLUME PER 100m² OF ROOF AREA.
2. INVERT LEVEL OF SWALE TO BE ABOVE THE SEASONAL HIGH GROUNDWATER LEVEL.
3. SLOPES TO BE VEGETATED WITH GRASS (FOR SWALES) OR SUITABLE 'LOWER BANK' VEGETATION AS SET OUT IN THE CHRISTCHURCH CITY COUNCIL STREAMSIDE PLANTING GUIDE.
4. DETENTION PONDS ARE GENERALLY SUITED TO FLAT LAND, WHILE DETENTION SWALES ARE GENERALLY SUITED TO LAND WITH A FALL (<1:100) IN STEEPER AREAS (>1:50) CHECK DAMS MAY NEED TO BE PROVIDED TO ACHIEVE THE REQUIRED DETENTION VOLUME.
5. DETENTION PONDS WITH SHALLOW DEAD STORAGE DEPTHS MAY NOT BE SUITABLE IN SOME LOCATIONS, DUE TO THE POTENTIAL FOR INSECTS AND MIDGES TO BREED. DETENTION PONDS WITH DEEP STORAGE DEPTHS WILL NEED TO CONSIDER THE REQUIREMENTS OF BUILDING CODE CLAUSE F9.

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: ONSITE DETENTION SWALE / POND	SHEET TITLE: STANDARD DRAWINGS	SHEET: 252
			ISSUE: A / PLAN No.: 600

INTERSECTION - TYPE DECISION CHART



Use this chart to determine which of the standard details attached is the most appropriate." Turning volumes for cross-roads are single-leg volumes but the greater volume sets the standard for both sides of the intersection

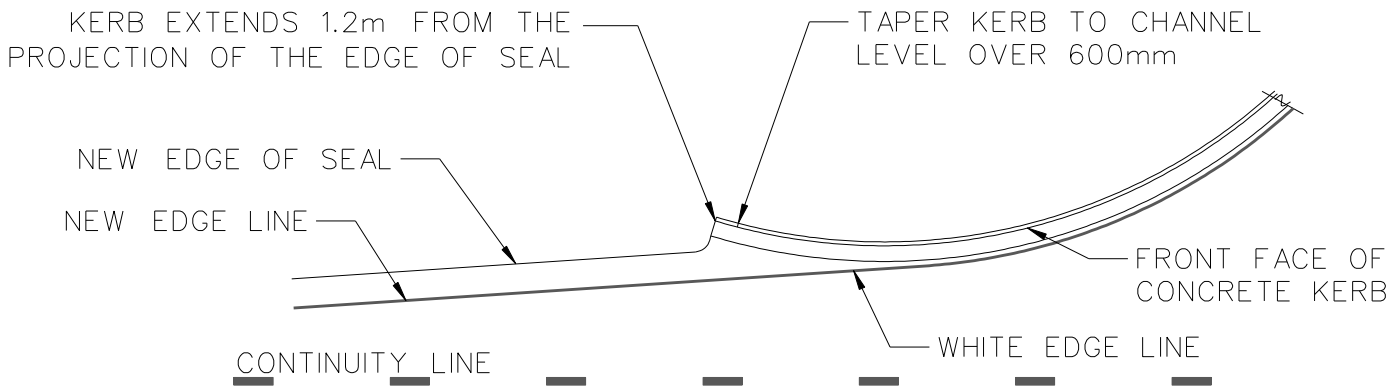
NOTES:

1) This standard is to be regarded as a minimum treatment.
2) Design vehicle: B-Train
3) For pavement markings refer to Transit New Zealand MOTSAM, Part II: Markings.
4) Dimensions to pavement markings are to the centreline of the marking.
5) All pavement markings are a minimum of 100mm wide unless otherwise specified.
6) A minimum berm width of 2.0m shall be established.
7) Where location of legal boundary prevents 15.0m radius on kerbs this may be reduced in consultation with the roading manager.
8) If cycle lanes are required specific design will be necessary.
9) Where there are tapered lanes, RRPM's are to start 25m before the start of taper.

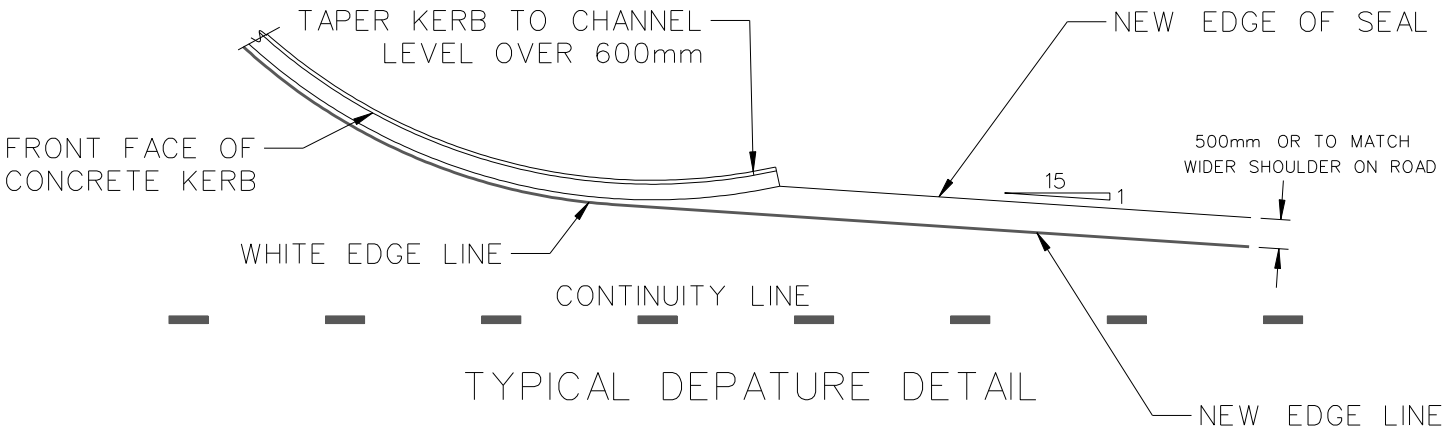
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	STANDARD RURAL "X" & "T" JUNCTIONS NOTES	STANDARD DRAWINGS	260A

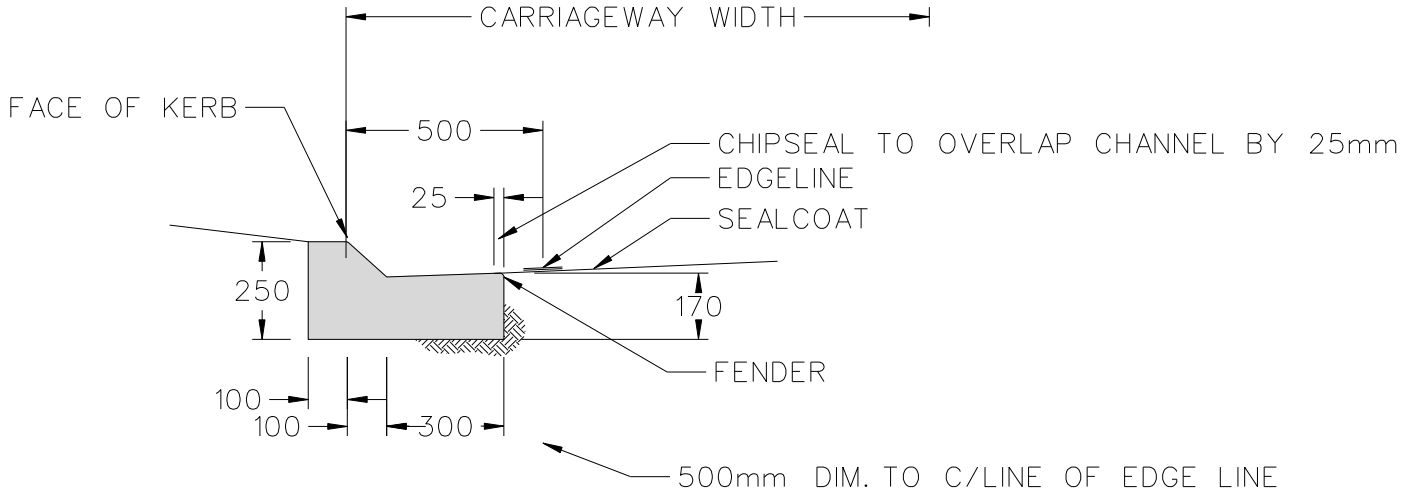
ISSUE	PLAN No.
B	600



TYPICAL APPROACH DETAIL



TYPICAL DEPATURE DETAIL



MOUNTABLE KERB & CHANNEL DETAIL

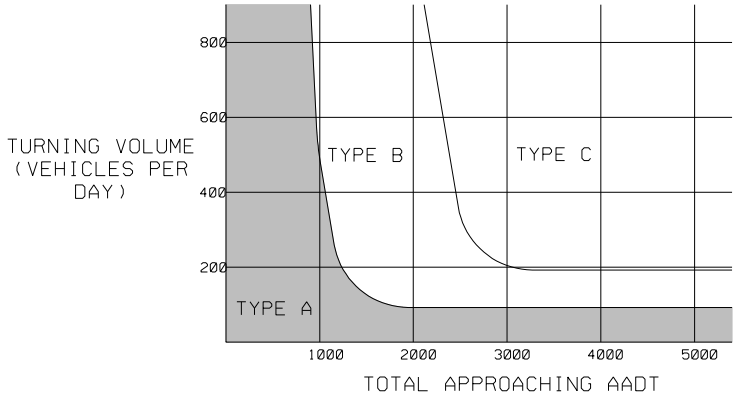
WAIMAKARIRI DISTRICT COUNCIL
technical services

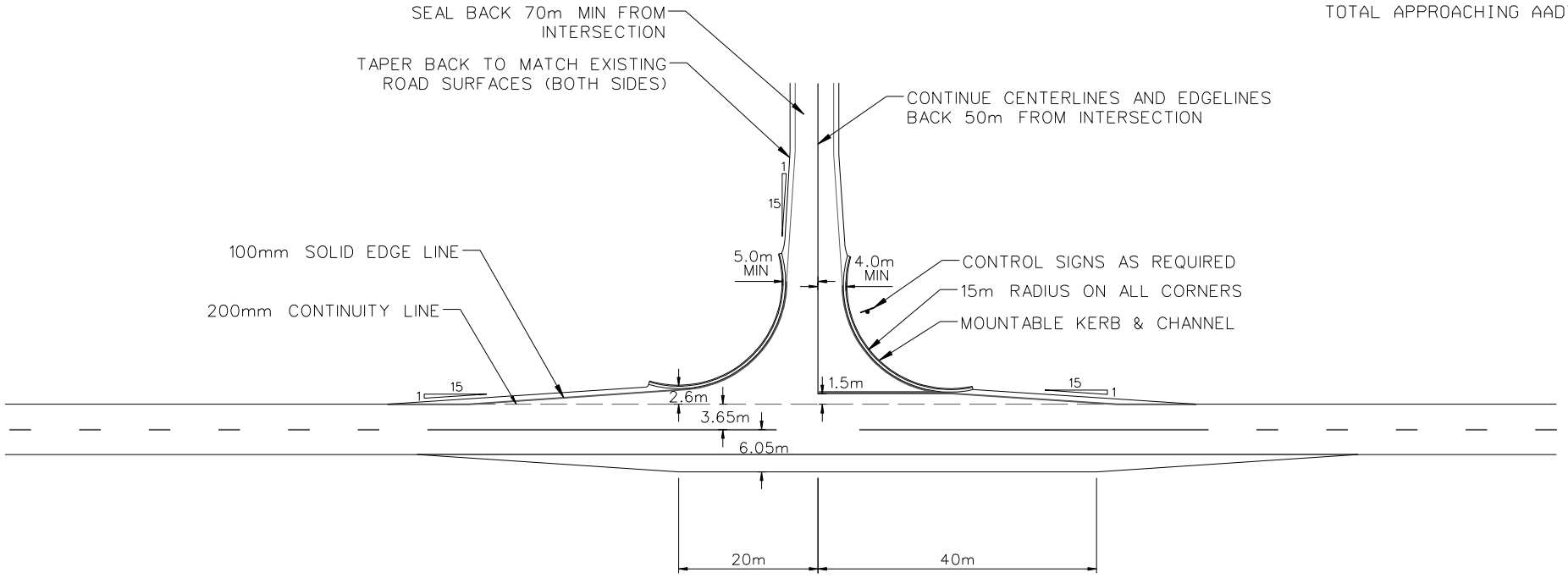
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	STANDARD RURAL JUNCTION DETAIL QUADRANT KERB	STANDARD DRAWINGS	260B

ISSUE	PLAN No.
C	600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Where heavy vehicles make a significant proportion of the left-turning traffic, the entry width will need to be reviewed.
2) Where side road volumes are less than AADT 50 or heavy vehicles less than 4 per day, then kerb & channel may be replaced with an additional 1.0m width of seal





NOT TO SCALE

SHEET TITLE
STANDARD RURAL "T" JUNCTION TYPE A

PROJECT TITLE
STANDARD DRAWINGS

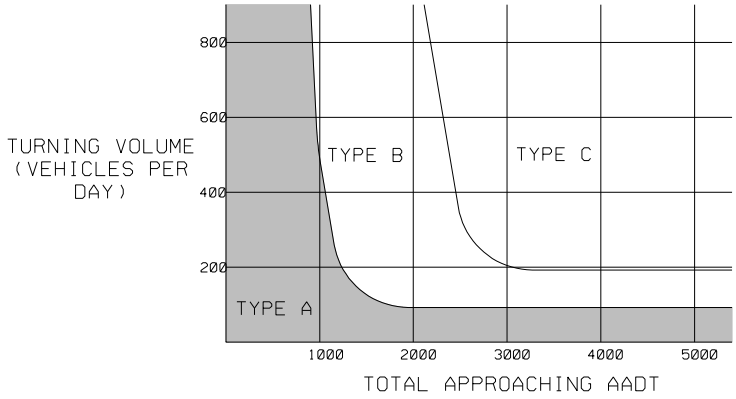
SHEET
261A

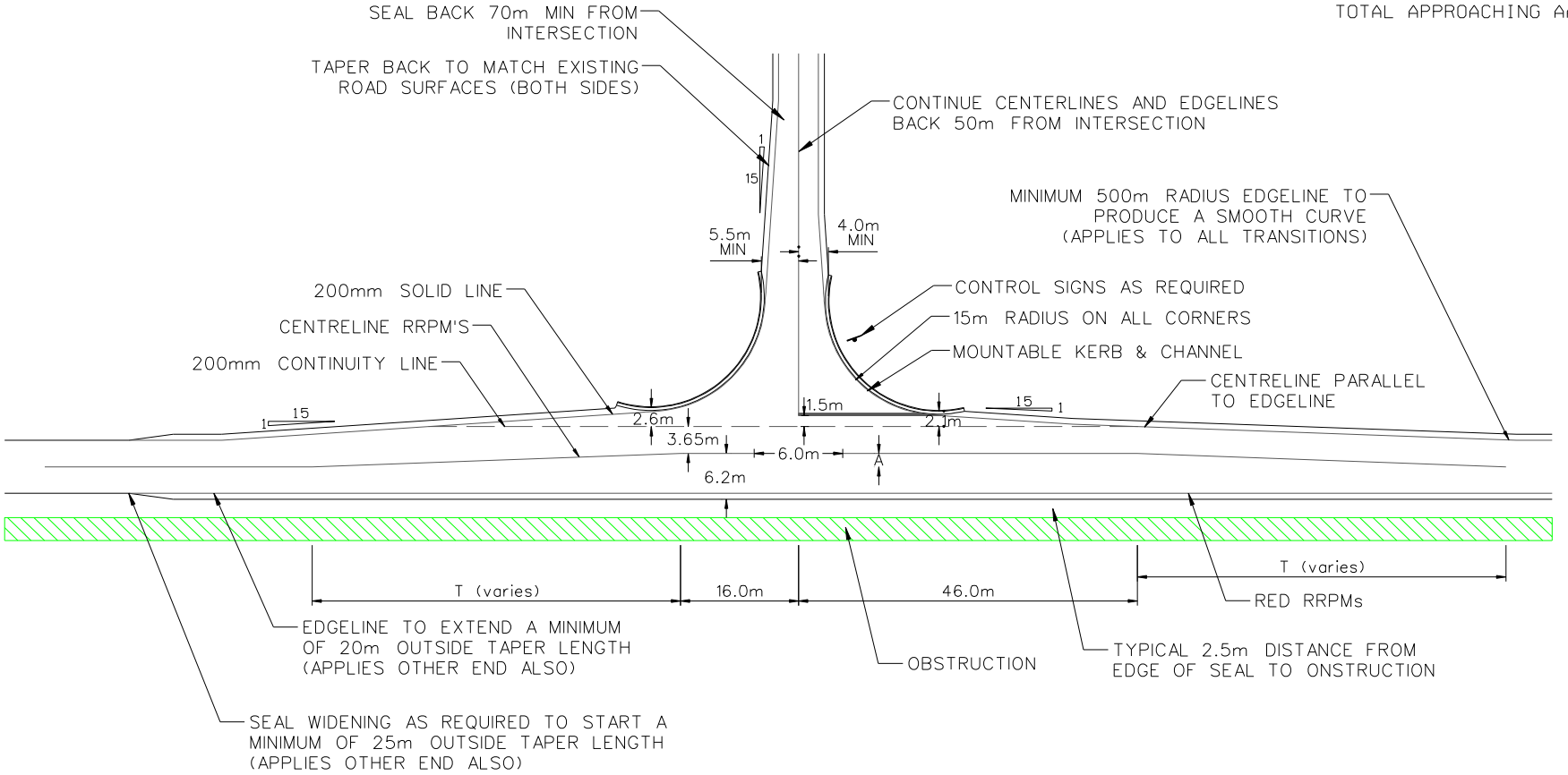
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Where heavy vehicles make a significant proportion of the left-turning traffic, the entry width will need to be reviewed.
2) Where side road volumes are less than AADT 50 or heavy vehicles less than 4 per day, then kerb & channel may be replaced with an additional 1.0m width of seal.





A = Centreline offset = Half the lane width

T = Length of flush median taper (VxA)/2.16 (Round to nearest 5m)
where V = Operating (85 percentile) Speed

NOT TO SCALE

SHEET TITLE
STANDARD RURAL "T" JUNCTION TYPE A (Constraint)

PROJECT TITLE
STANDARD DRAWINGS

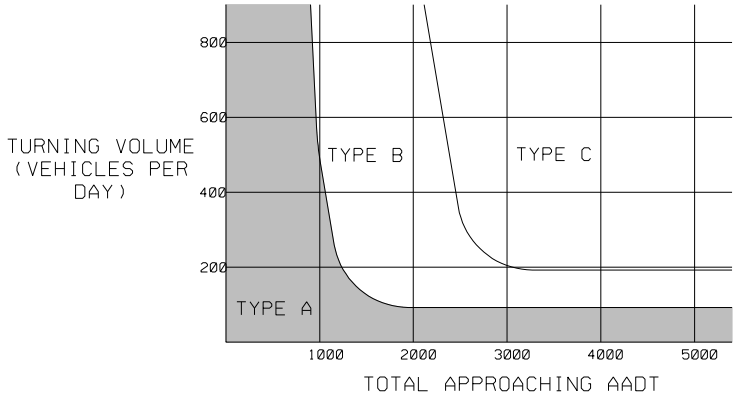
SHEET
261B

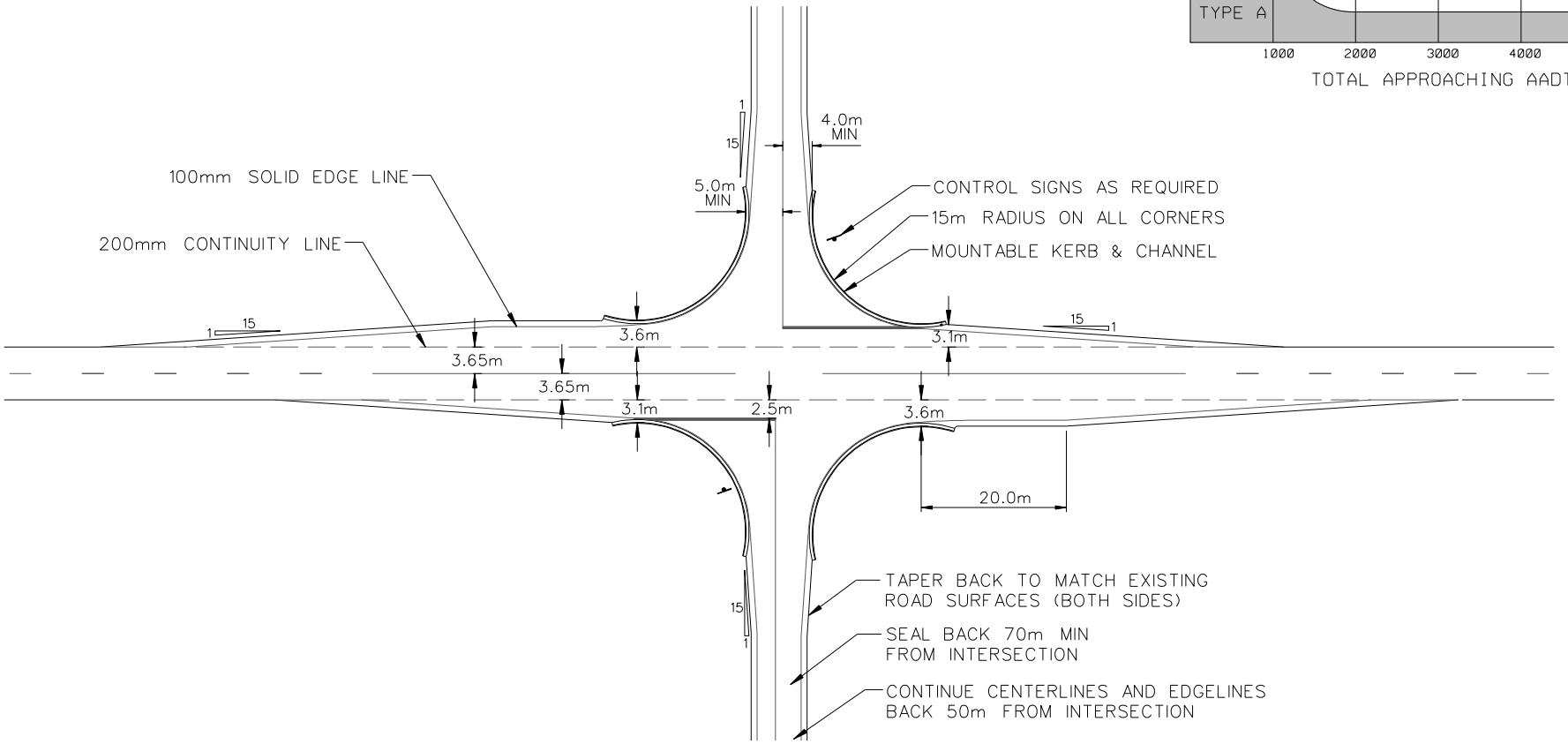
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Where heavy vehicles make a significant proportion of the left-turning traffic, the entry width will need to be reviewed.
2) Where side road volumes are less than AADT 50 or heavy vehicles less than 4 per day, then kerb & channel may be replaced with an additional 1.0m width of seal





NOT TO SCALE

SHEET TITLE
STANDARD RURAL "X" JUNCTION TYPE A

PROJECT TITLE
STANDARD DRAWINGS

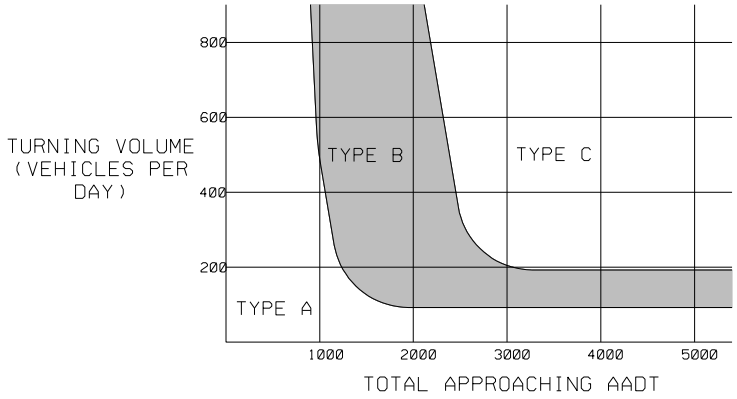
SHEET
261C

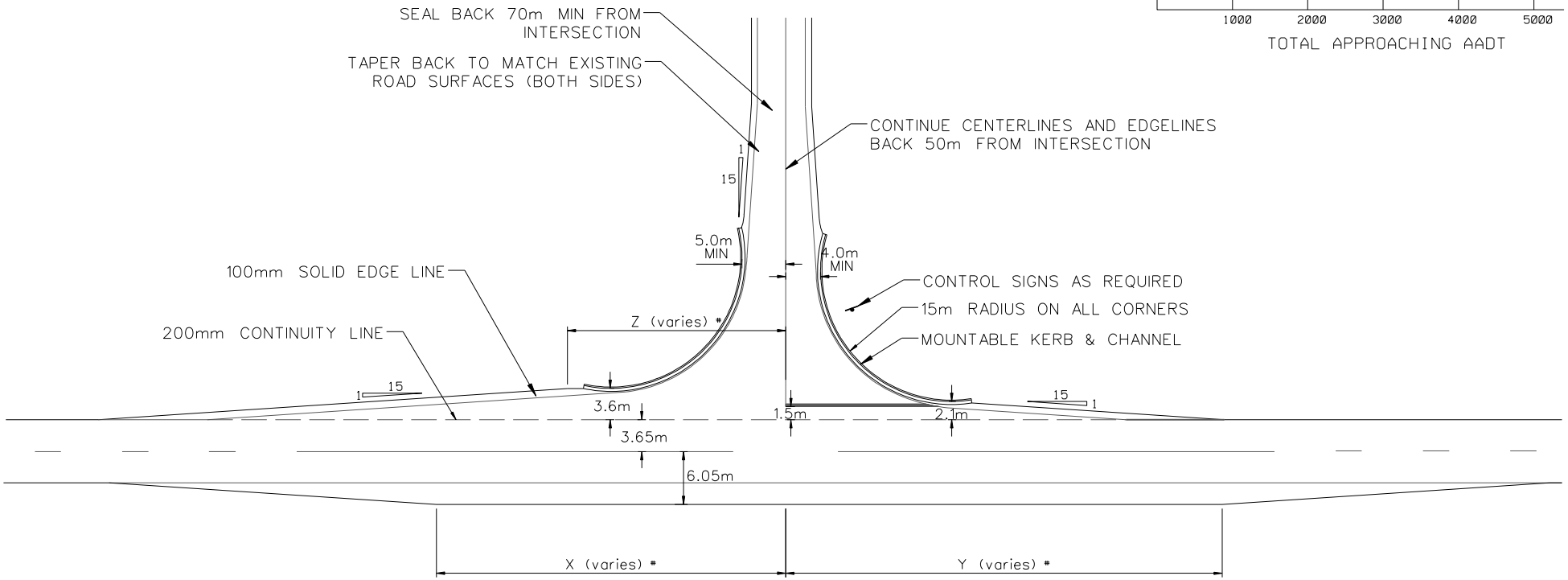
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Minimum pavement markings shall consist of solid intersection lines on the through road and appropriate intersection controls on the side road.





* DRAWN FOR 80KM/H TREATMENT, REFER TO TABLE FOR OTHER SPEEDS

	OPERATING SPEED (km/h)		
DIMENSION	80	90	100
X	40m	45m	55m
Y	50m	55m	65m
Z	25m	30m	35m

NOT TO SCALE

SHEET TITLE
STANDARD RURAL "T" JUNCTION TYPE B

PROJECT TITLE
STANDARD DRAWINGS

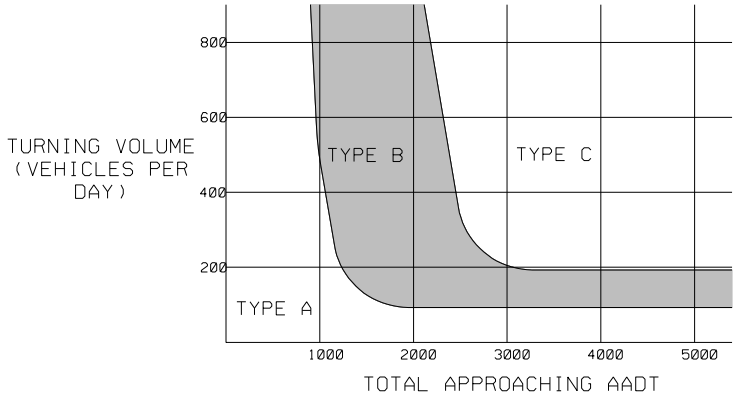
SHEET
262A

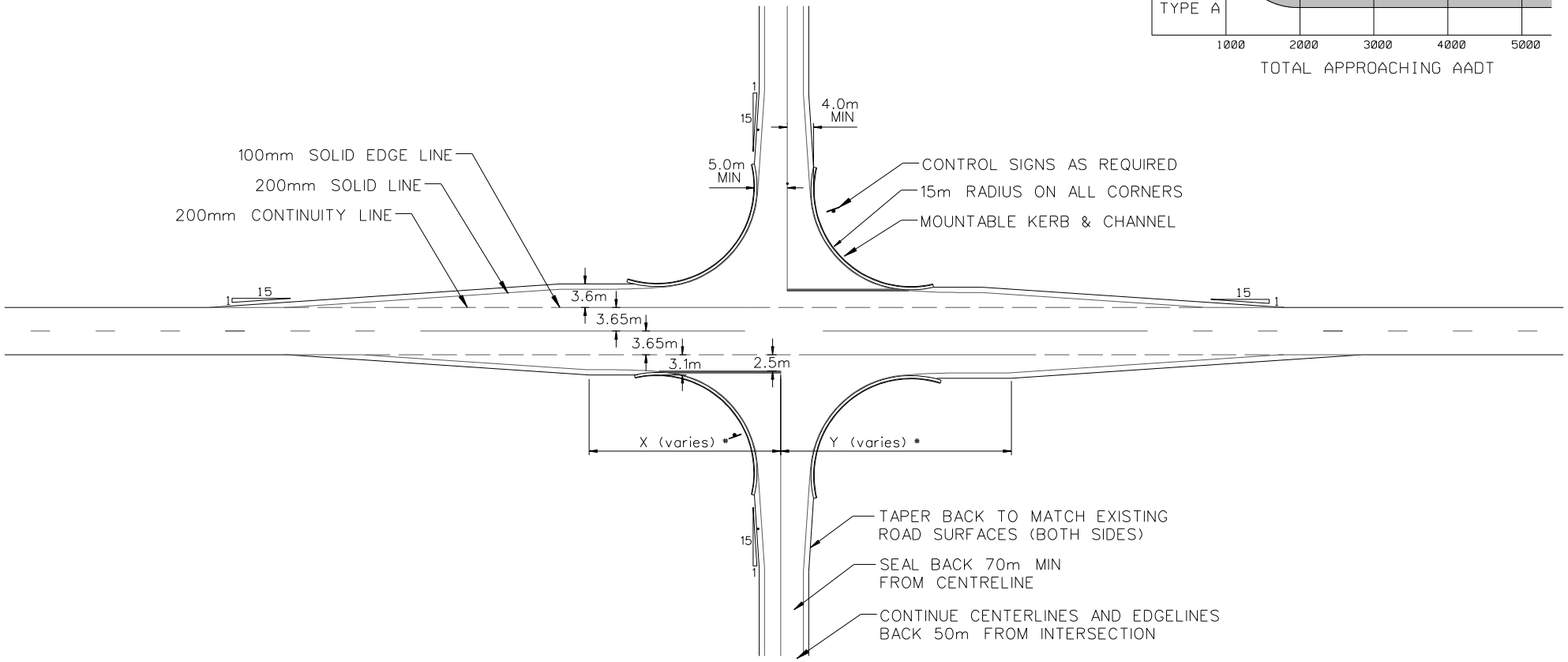
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Minimum pavement markings shall consist of solid intersection lines on the through road and appropriate intersection controls on the side road





* DRAWN FOR 80KM/H TREATMENT, REFER TO TABLE FOR OTHER SPEEDS

	OPERATING SPEED		
DIMENSION	80 km/h	90 km/h	100 km/h
X	40.0m	45.0m	55.0m
Y	50.0m	55.0m	65.0m

NOT TO SCALE

SHEET TITLE
STANDARD RURAL
"X" JUNCTION
TYPE B

PROJECT TITLE
STANDARD
DRAWINGS

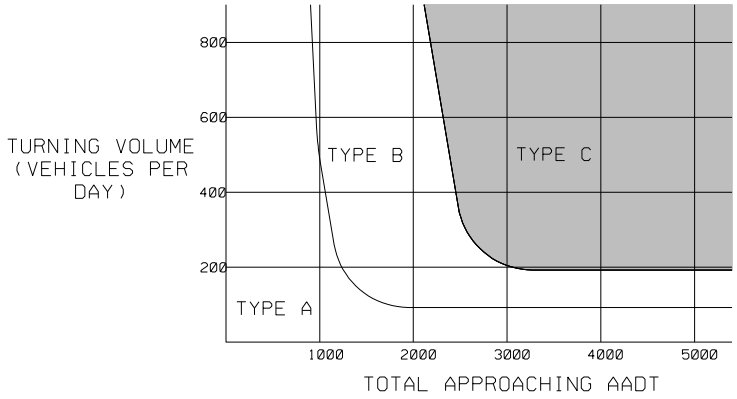
SHEET
262B

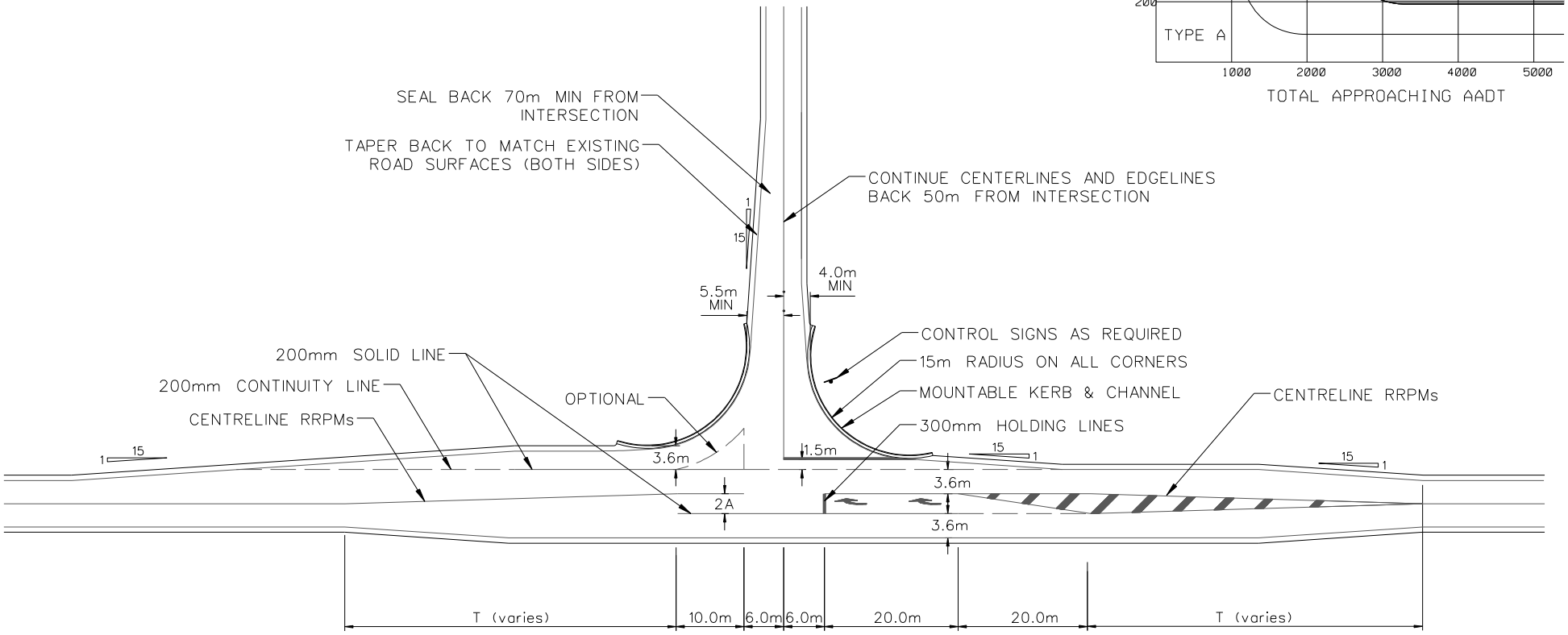
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Minimum pavement markings shall consist of solid intersection lines on the through road and appropriate intersection controls on the side road
2) RRPM's to start 25m before the start of taper (T).





A = Centreline offset = Half the lane width

T = Length of flush median taper (VxA)/2.16 (Round to nearest 5m)
where V = Operating (85 percentile) Speed

NOT TO SCALE

SHEET TITLE
STANDARD RURAL "T" JUNCTION TYPE C

PROJECT TITLE
STANDARD DRAWINGS

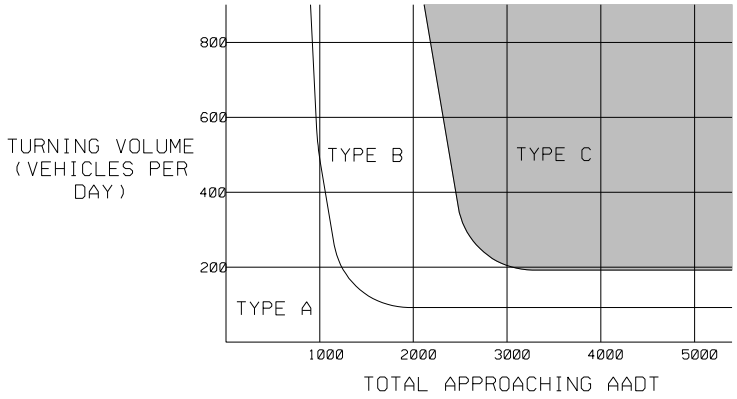
SHEET
263A

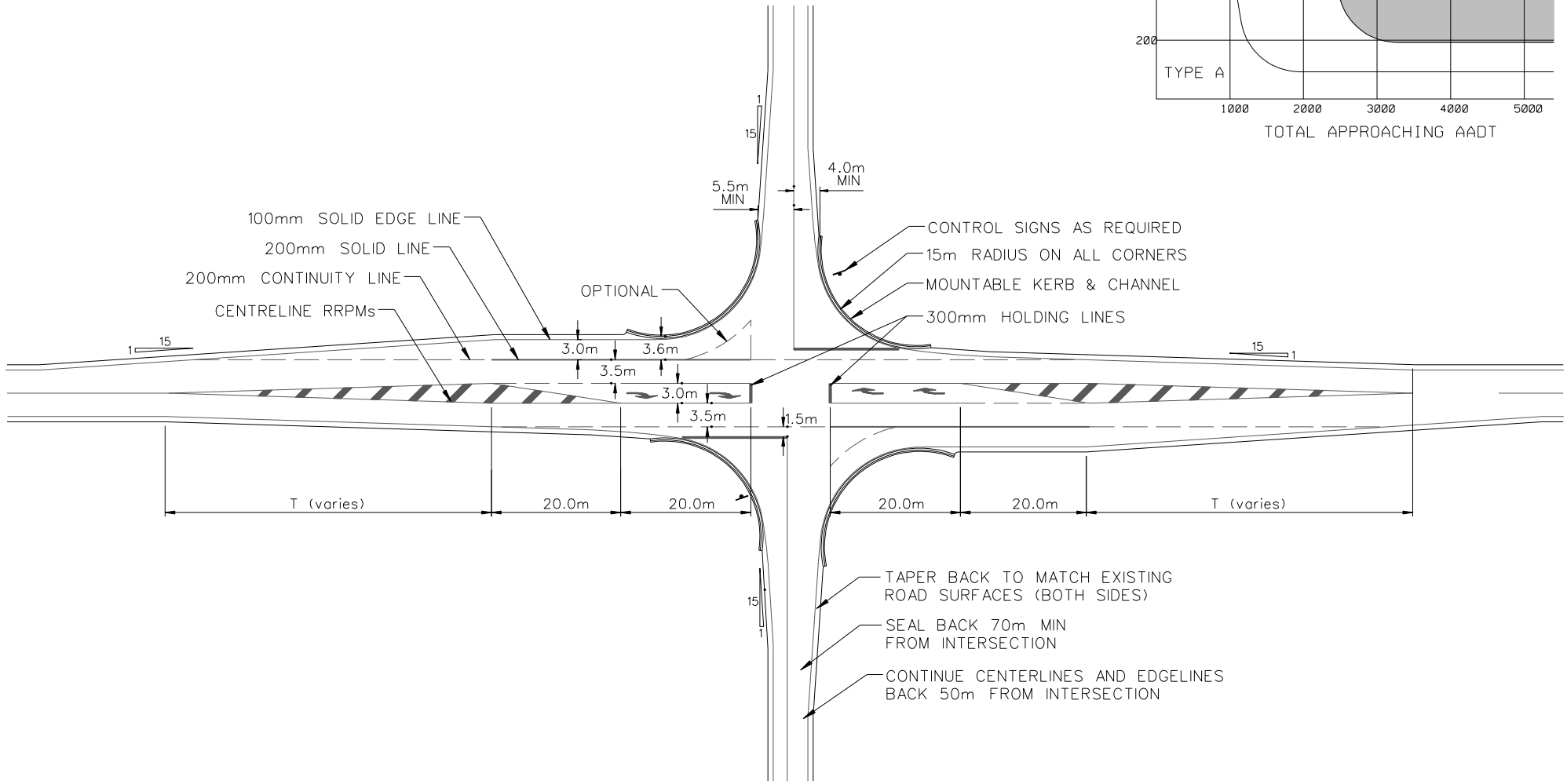
ISSUE
F

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOTES:
1) Minimum pavement markings shall consist of solid intersection lines on the through road and appropriate intersection controls on the side road
2) RRPM's to start 25m before the start of taper (T).





A = Centreline offset = Half the lane width

T = Length of flush median taper (VxA)/2.16 (Round to nearest 5m)
where V = Operating (85 percentile) Speed

NOT TO SCALE

SHEET TITLE
STANDARD RURAL
"X" JUNCTION
TYPE C

PROJECT TITLE
STANDARD
DRAWINGS

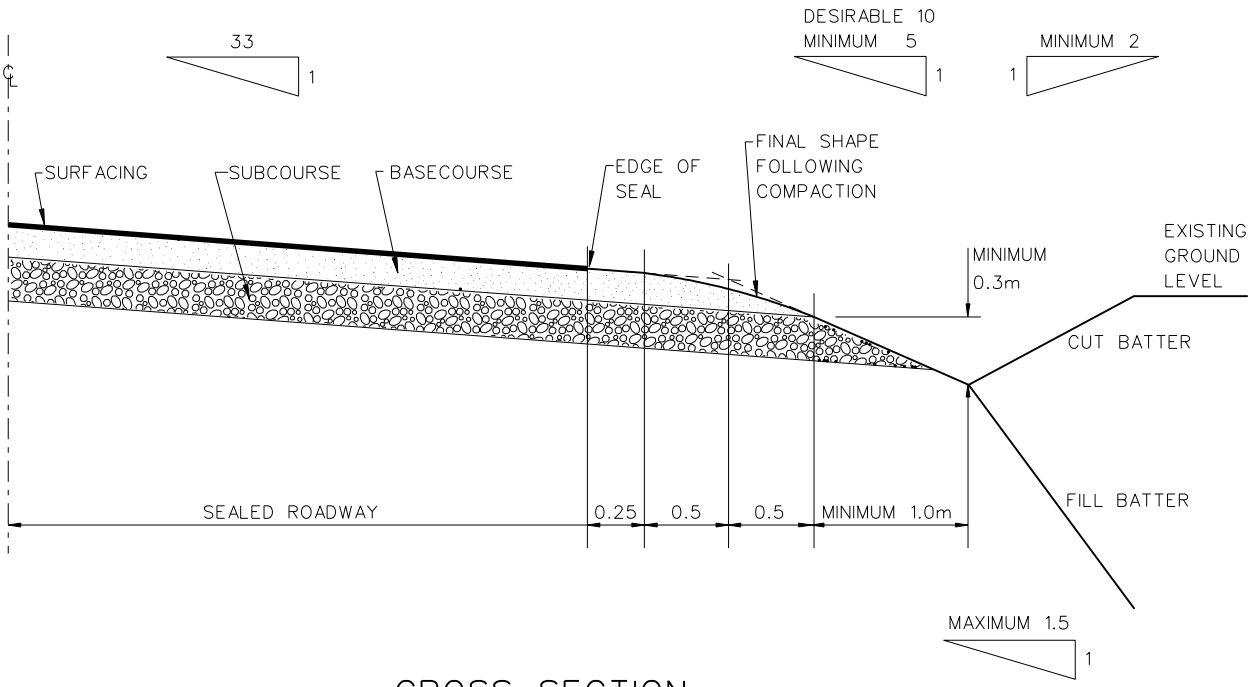
SHEET
263B

ISSUE
F

PLAN No.
600

NOTES

1. Surfacing : Single coat hot bitumen and grade 4 chip or 50mm AP 20 running course.
2. Basecourse : Minimum of 100mm TNZ M/4 AP40.
3. Subcourse : Minimum of 150mm TNZ M/5 AP65.



CROSS SECTION

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

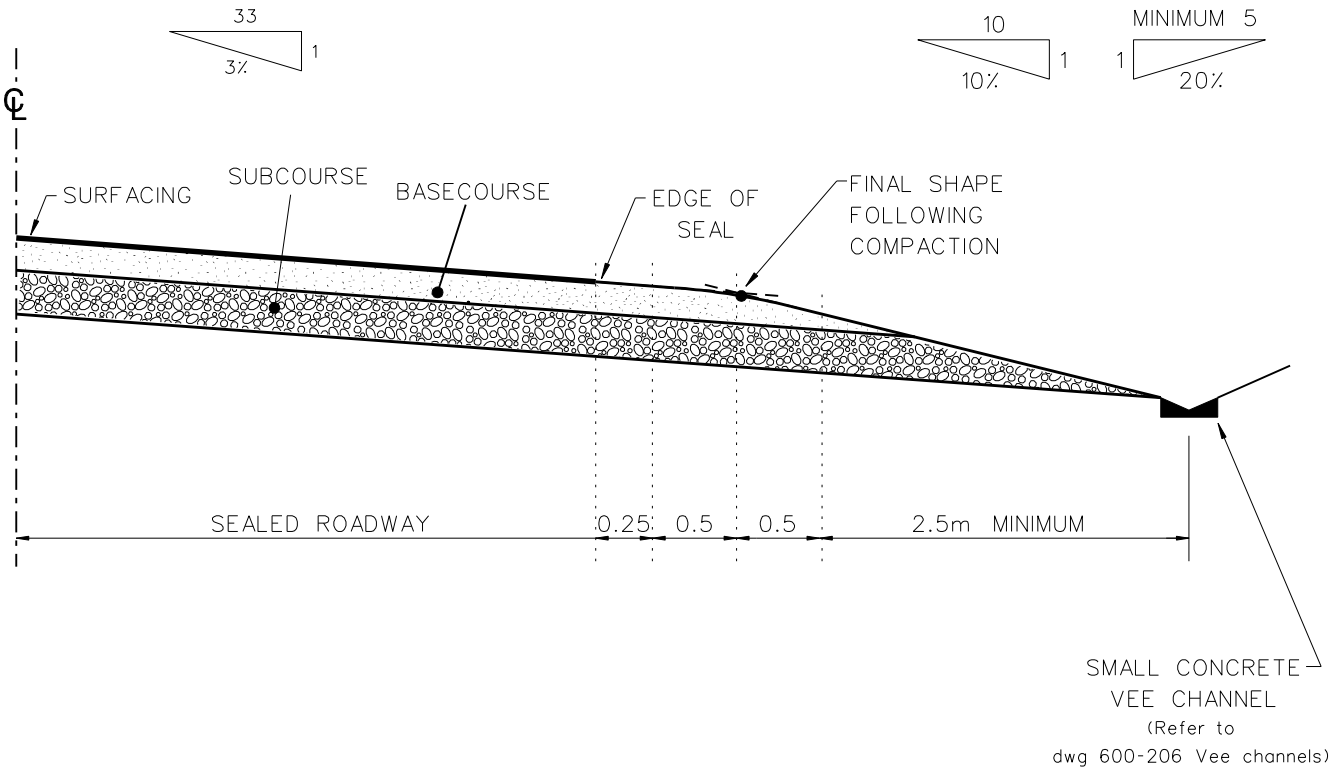
SHEET TITLE: TYPICAL ROAD CROSS-SECTION IN RURAL ZONE

PROJECT TITLE: STANDARD DRAWINGS

SHEET: 270

ISSUE: D

PLAN No.: 600



NOTES

1. SURFACING: SINGLE COAT HOT BITUMEN AND GRADE 4 CHIP OR 50mm AP20 RUNNING COURSE.
2. BASECOURSE: MINIMUM OF 100mm TNZ M/4 AP40
3. SUBCOURSE: MINIMUM OF 150mm TNZ M/5 AP65
4. VEE CHANNEL TO DRAIN TO APPROVED SOAKHOLE OR OUTFALL.
   SOAKHOLES TO BE SPACED AT INTERVALS TO BE APPROVED AND NOT GREATER THAN 100m

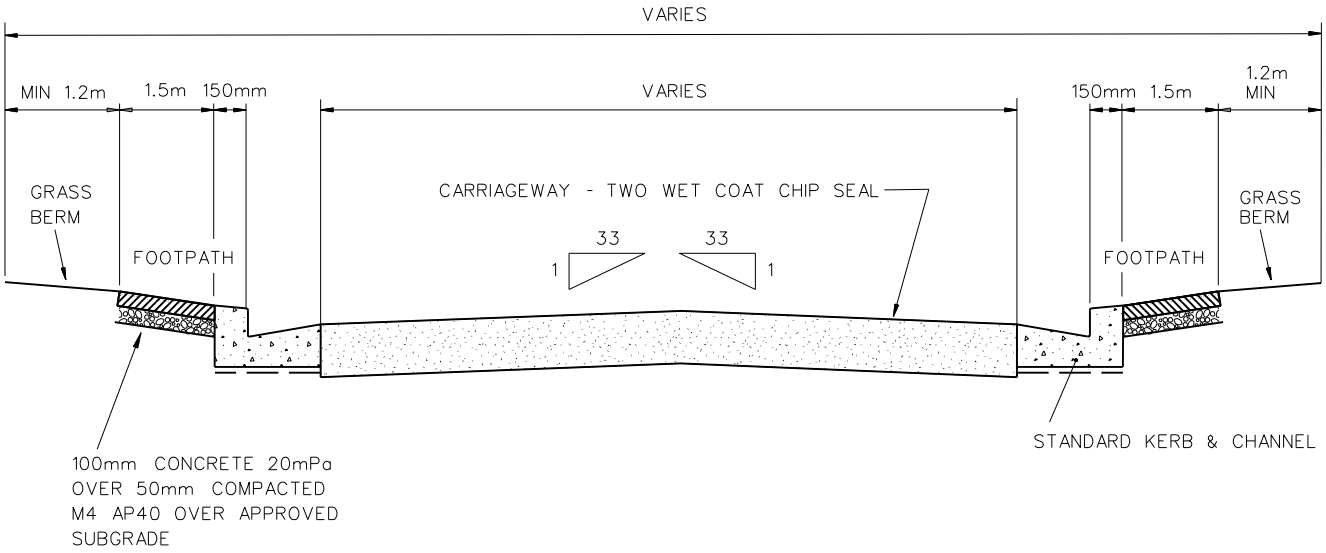
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	TYPICAL ROAD CROSS–SECTION RESIDENTIAL 4A/4B	STANDARD DRAWINGS	271

ISSUE	PLAN No.
D	600

NOTES

1. Surfacing : Two wet coat hot bitumen and chip or 50mm AP 20 running course.
2. Basecourse : Minimum of 100mm TNZ M/4 AP40.
3. Subcourse : Minimum of 150mm TNZ M/5 AP65.
4. Refer DISTRICT PLAN Section 30 - Utilities & Traffic Management Table 30.1 for road dimensions
5. Footpath to have 1.5m useable width. Location either against kerb or 300 from boundary, meandered paths are acceptable.
6. Only one footpath unless otherwise approved or required.



CROSS SECTION

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

SHEET TITLE: TYPICAL ROAD & CUL-DE-SAC CROSS-SECTION

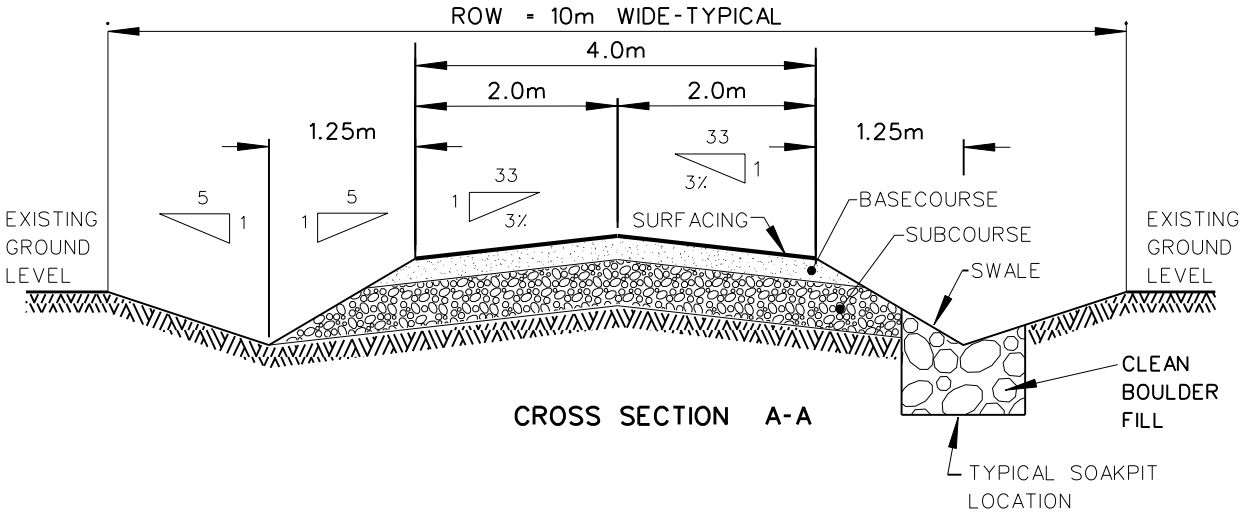
PROJECT TITLE: STANDARD DRAWINGS

SHEET: 272

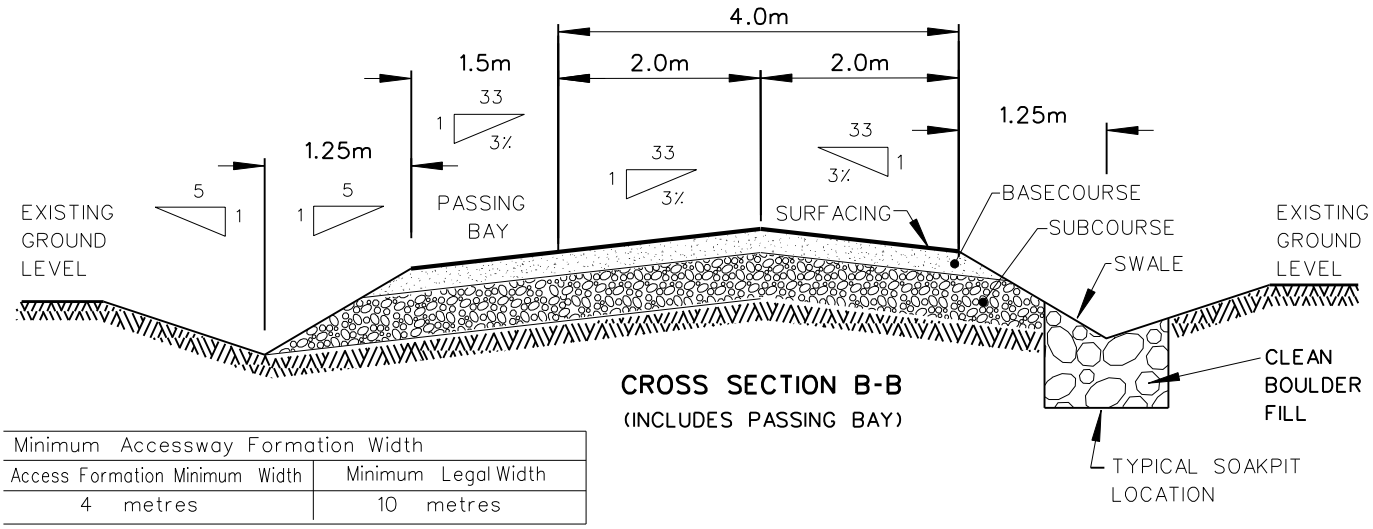
ISSUE: D

PLAN No.: 600

NOTES
1. Surfacing : Single coat hot bitumen and grade 4 chip or 50mm AP20 running course.
2. Basecourse : Minimum of 100mm TNZ M/4 AP40.
3. Subcourse : Minimum of 150mm TNZ M/5 AP65.

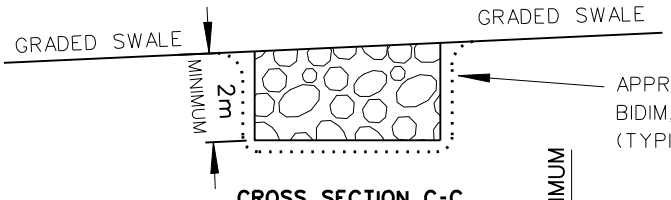


CROSS SECTION A-A

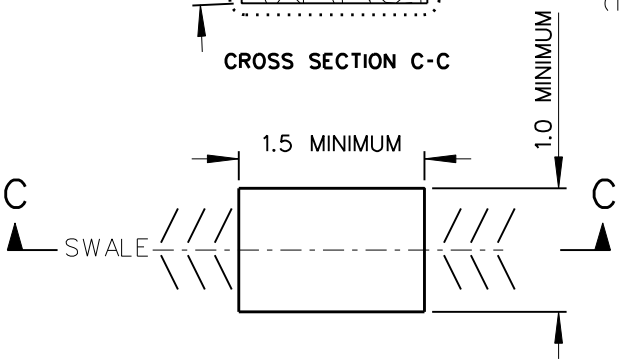


CROSS SECTION B-B
(INCLUDES PASSING BAY)

Minimum Accessway Formation Width	
Access Formation Minimum Width	Minimum Legal Width
4 metres	10 metres

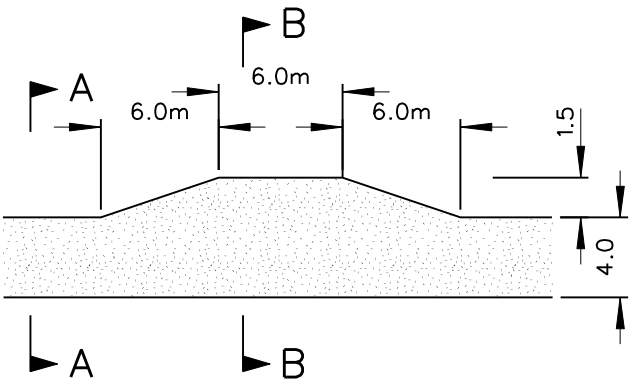


CROSS SECTION C-C



PLAN OF SOAK PIT

Soak Pits shall be installed where appropriate. Spacing of Soak Pits shall not be greater than 100m intervals and should be installed in all low points of swales. The minimum depth of Soak Pits is 2.0m.



PLAN OF PASSING BAY

Where the length of the ROW exceeds 100m and there are 2 or more lots serviced by the ROW then Passing Bays shall be installed at not more than 90m intervals.

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

SHEET TITLE
TYPICAL RURAL CROSS-SECTION RIGHT-OF-WAY

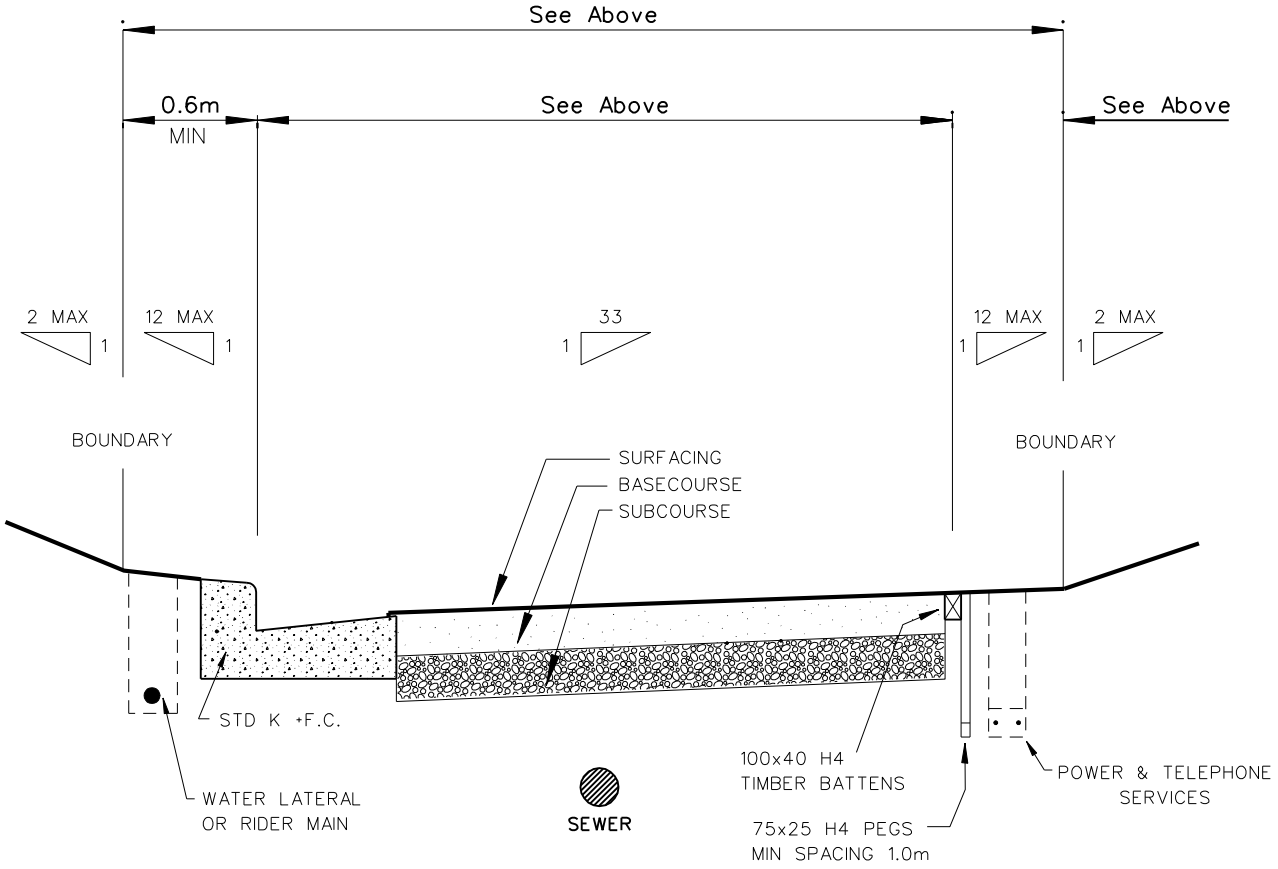
PROJECT TITLE
STANDARD DRAWINGS

SHEET
273

ISSUE
D

PLAN No.
600

Zone	Land Use or Activity	Access Formation minimum Width (meters)	Minimum Legal Width (meters)
Residential Zones	0 to 2 dwellinghouses	3	4
	3 to 6 dwellinghouses or any other land use	5	7
Business Zones	Any land use	6m, or separate entry and exit carriageways of 3m each	8m or two separate carriageways of 5m



NOTES

1. Surfacing : Single coat hot bitumen and grade 4 chip or bitumen prime coat and 20mm asphaltic concrete.
2. Basecourse : Minimum of 100mm TNZ M/4 AP40
3. Subcourse : Minimum of 150mm TNZ M/5 AP65

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

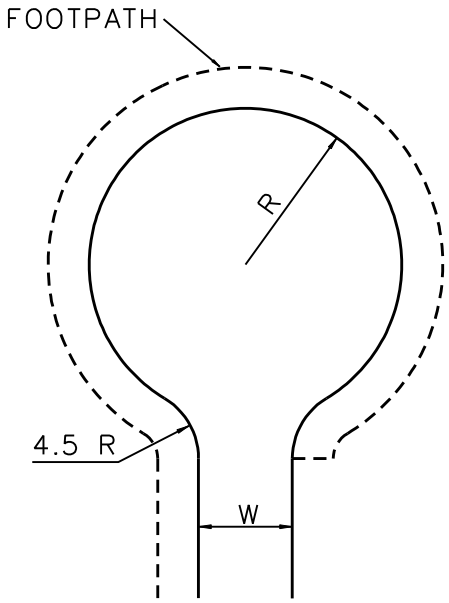
SHEET TITLE
TYPICAL R.O.W CROSS-SECTION RES. & BUSINESS

PROJECT TITLE
STANDARD DRAWINGS

SHEET
274

ISSUE
D

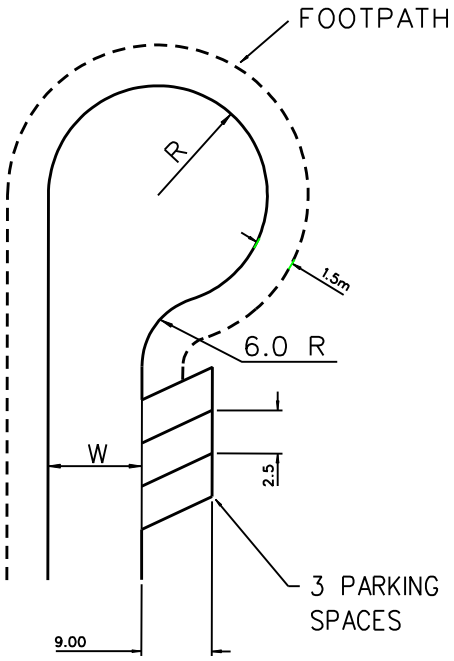
PLAN No.
600



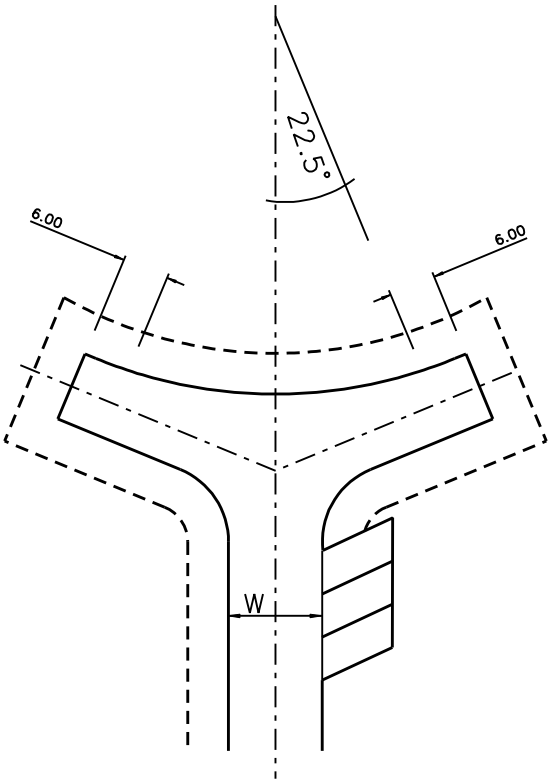
R = 12.0 FOR W ⩾ 6.0

R = 8.0 FOR W ⩽ 6
OR 10.0 WITH PARKING

TYPE A (Rural)



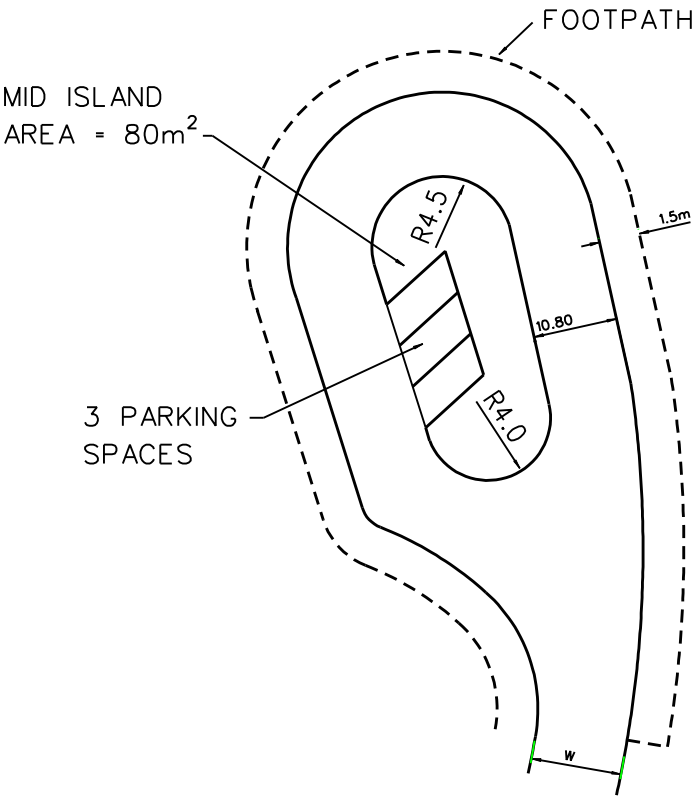
TYPE B (Residential)



TYPE A (Residential)

W ⩽ 6.0

MAXIMUM LENGTH OF CUL-DE-SAC 100m
FOR RESIDENTIAL AND BUSINESS ZONES
WITH THIS CONFIGURATION TURNING HEAD



TYPE D (Residential)

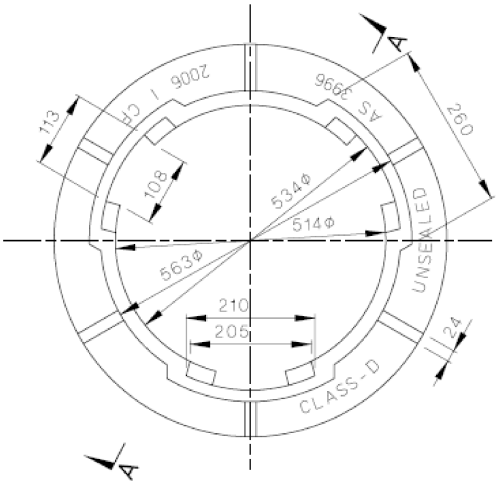
W ⩽ 7.0

NO 'PRIVATE WAYS' OFF THIS
CONFIGURATION TURNING HEAD

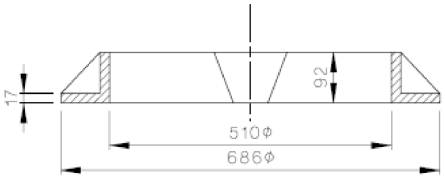
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	CUL–DE–SAC TURNING AREAS	STANDARD DRAWINGS	275

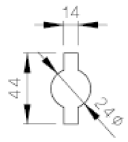
ISSUE	PLAN No.
C	600



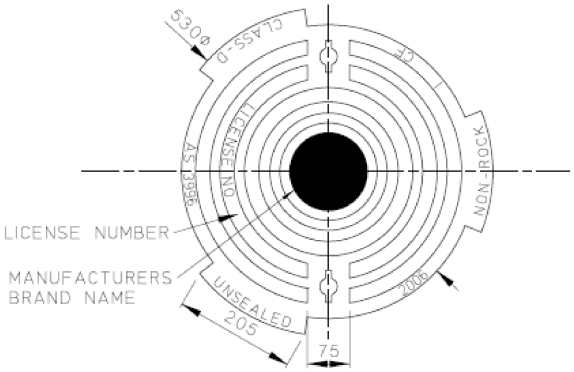
FRAME PLAN



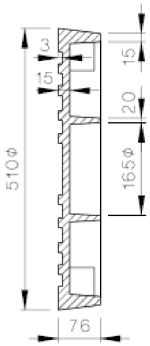
SECTION A-A



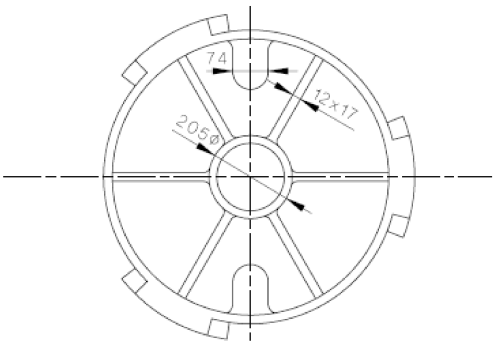
KEYHOLE



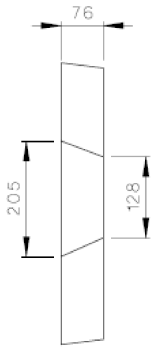
COVER TOP



COVER SECTION



COVER BOTTOM



COVER ELEVATION

PERMISSIBLE VARIATIONS IN DIMENSIONS

FRAME
Cover opening diameter: +/- 2.0mm
Cover opening depth: +1.5mm, -1.0mm
Height: +/- 2.0mm
Flange: +/- 3.0mm
Clear Opening: -1.0mm, +3.0mm
COVER
Cover diameter: +/-2.0mm
Seat depth: +1.0mm, -1.5mm

NOTES:

1. Manufacture to be in accordance with AS 3996-2006
2. Material Grey Iron, Grade T 220 of AS 1830
3. Avoid sharp corners at the rib joints of the cover
4. Set weight: 89 Kgs (Tolerance: +/- 3%)

Based on CCC drawing SD3011

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

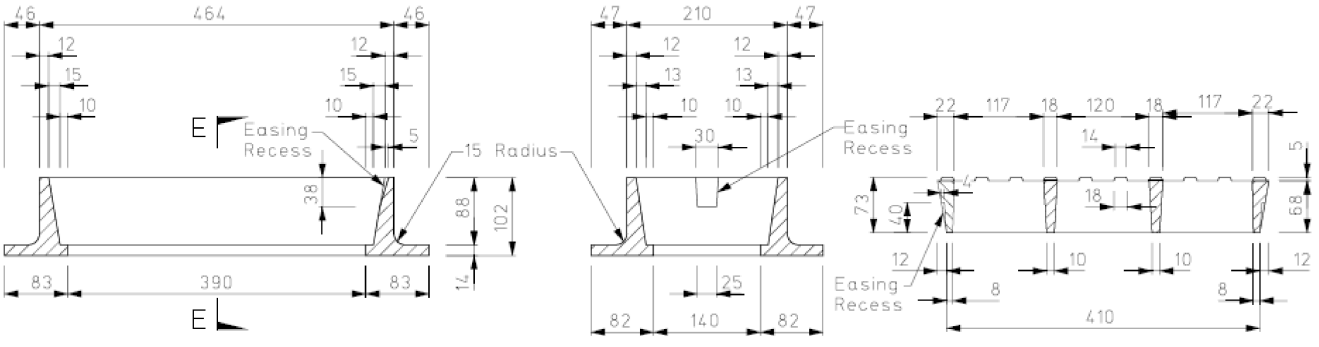
SHEET TITLE
MANHOLE CASTING COMPONENT DETAILS

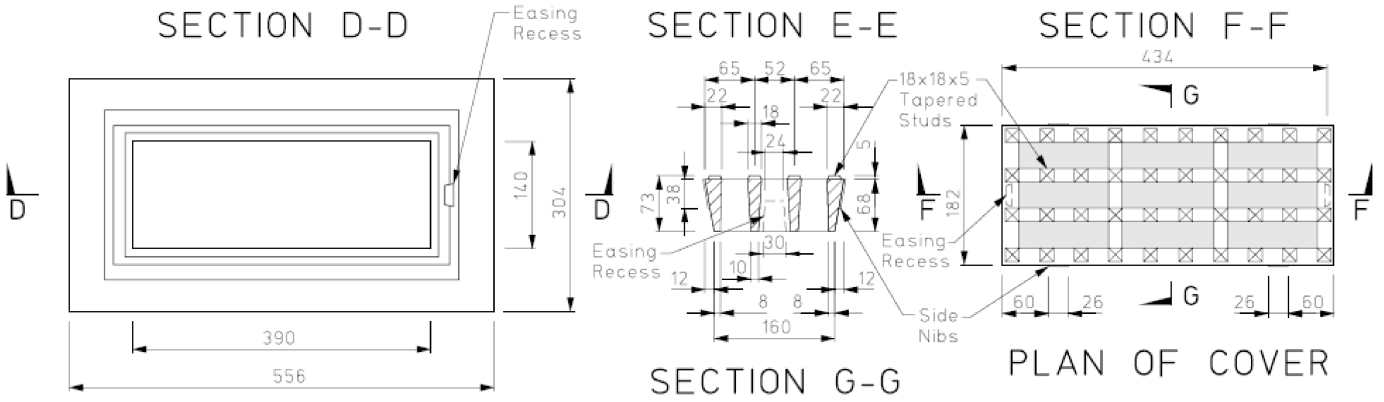
PROJECT TITLE
STANDARD DRAWINGS

SHEET
301A

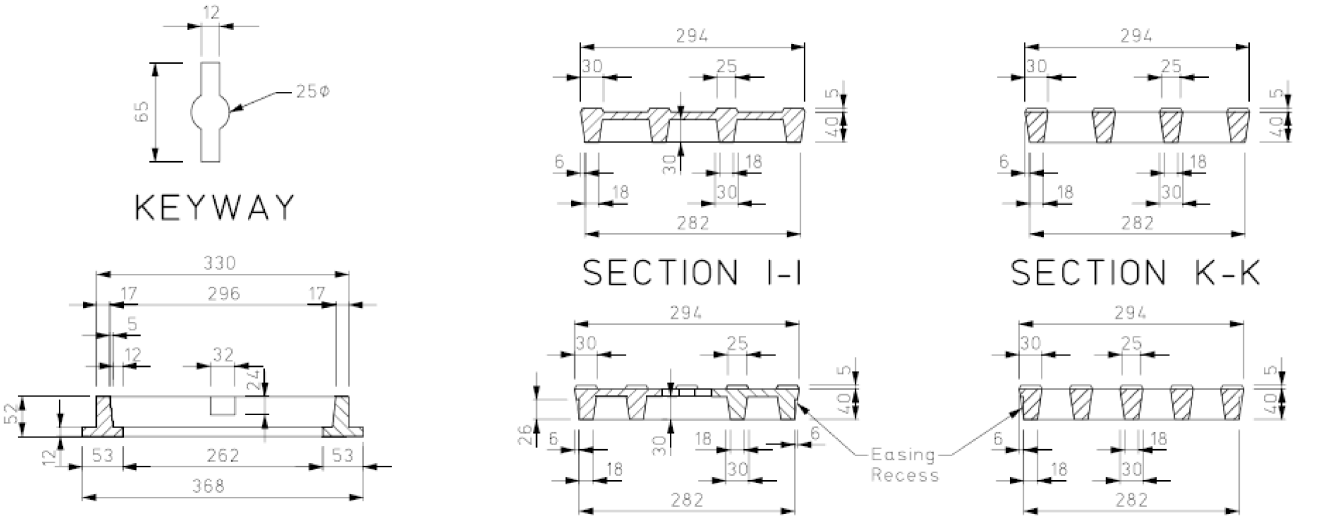
ISSUE
C

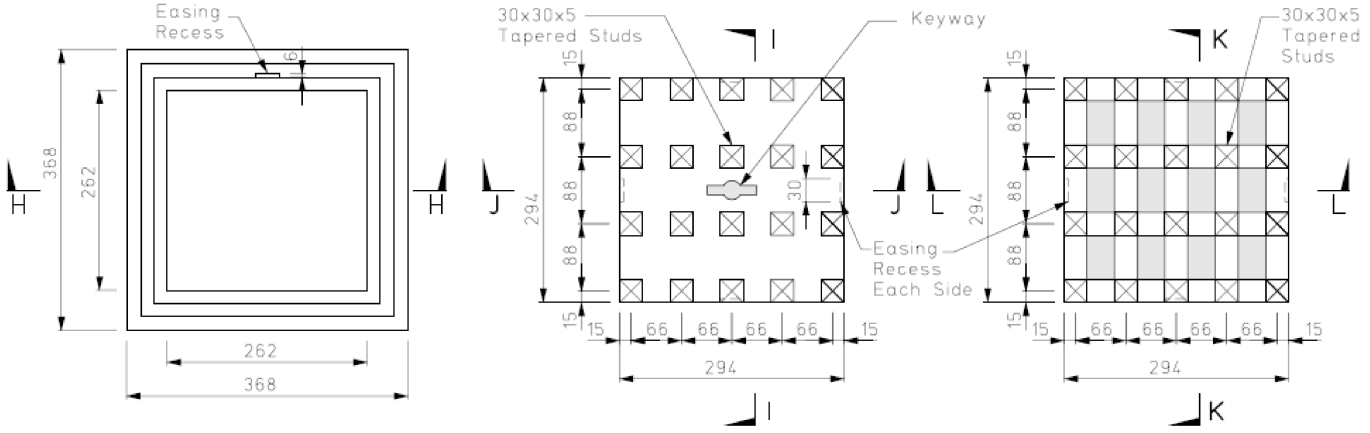
PLAN No.
600





VENT FRAME AND COVER

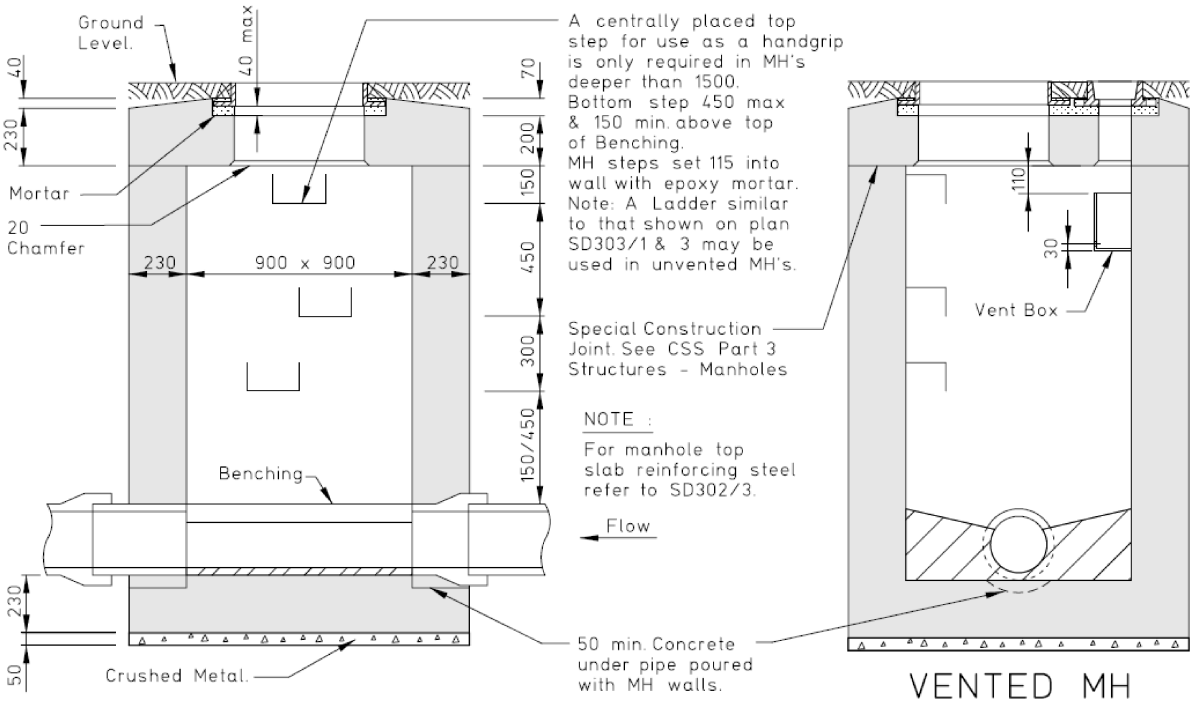




TRAFFICABLE HOUSE DRAIN SUMP FRAME AND COVERS

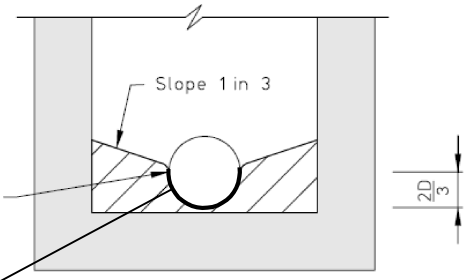
Based on CCC Drawing SD301/2

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE: Manhole Vent & Trafficable House Drain Sump Frames & Covers	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 301B; ISSUE: B; PLAN No.: 600



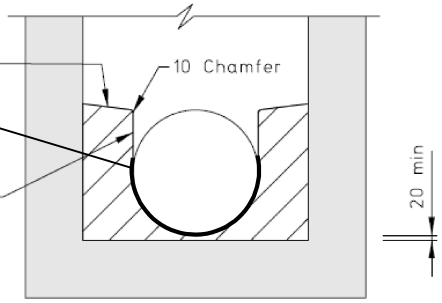
UNVENTED MH SECTION

VENTED MH SECTION

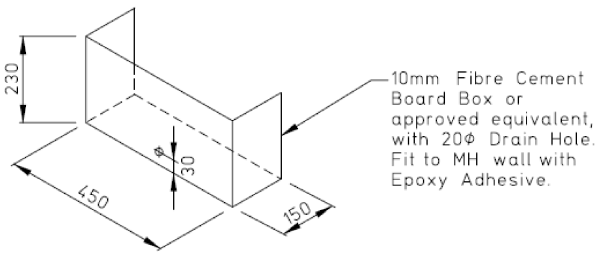


PIPES LESS THAN ϕ375 BENCHING DETAILS

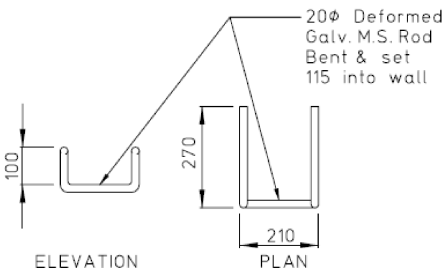
Half Pipe Former



PIPE ϕ375 - ϕ750 BENCHING DETAILS



VENT BOX



MANHOLE STEPS

Based on CCC SD3021

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

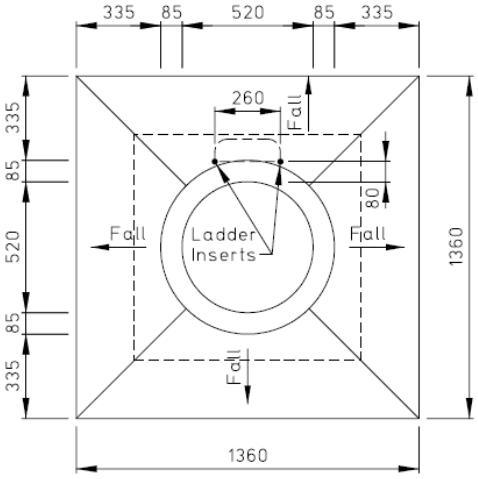
SHEET TITLE
SQUARE MANHOLES CAST IN-SITU

PROJECT TITLE
STANDARD DRAWINGS

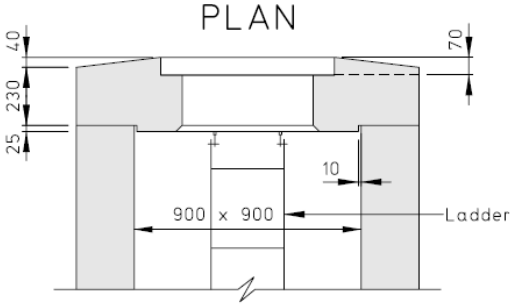
SHEET
302A

ISSUE
C

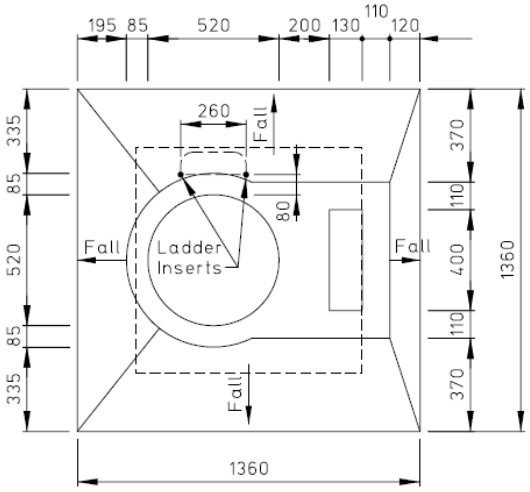
PLAN No.
600



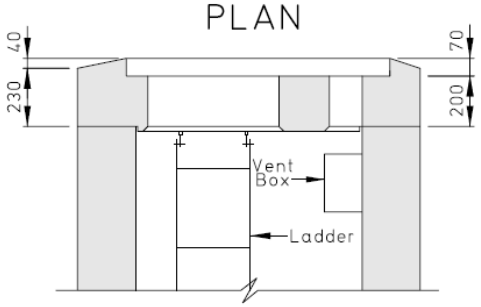
UNVENTED MH
PLAN



PRECAST TOP
UNVENTED MH



VENTED MH
PLAN



PRECAST TOP
VENTED MH

NOTES:

1. For manhole top slab reinforcing steel refer to SD302/3.
2. Precast tops to be seated on a cement sand mortar bed. Excess mortar on inside of MH to be struck clean.
3. MH and Vent Frames to be seated on 15mm min. up to 40mm max. of cement sand mortar.
4. 2 M12 cast in fixings in precast tops for lifting.
5. Form channels in benching in smooth easy curves as directed.
6. See also the notes on SD303/3.
7. See plan SD301/1, 2 & 3 for manhole frames, lids & ladder.

Based on CCC SD302/2

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

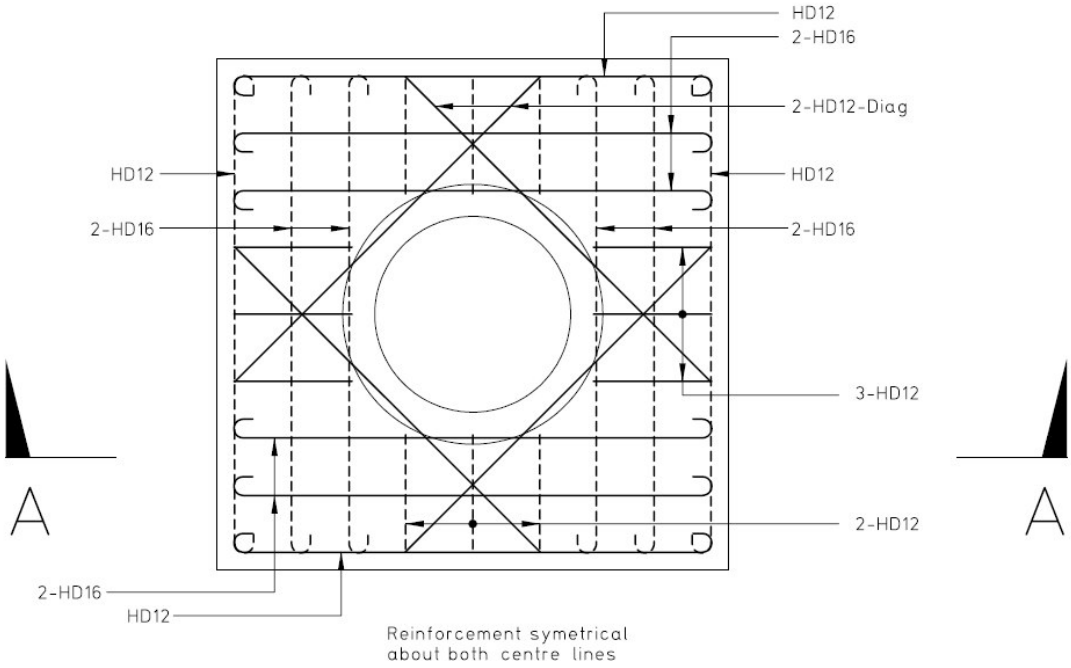
SHEET TITLE
SQUARE MANHOLE TOP

PROJECT TITLE
STANDARD DRAWINGS

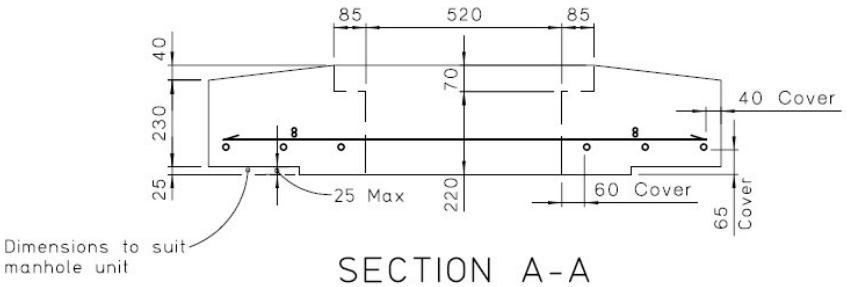
SHEET
302B

ISSUE
C

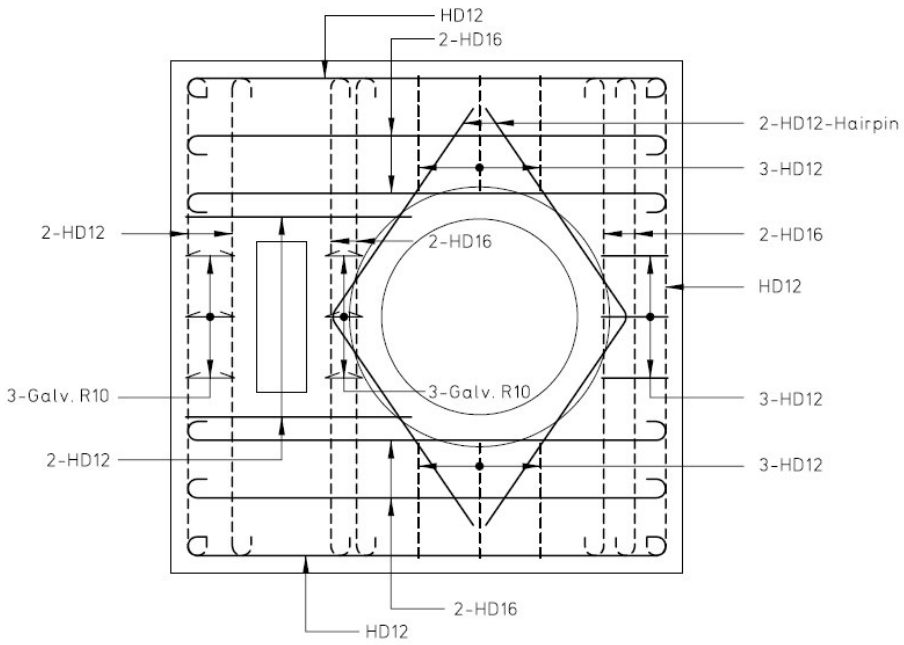
PLAN No.
600



UNVENTED MH PLAN



SECTION A-A



VENTED MH PLAN

NOTES:

1. All concrete to be 40 MPa.
2. All manhole tops to be precast.
3. Design Loading: HN-HO-72

Upper layer ——————

Lower layer - - - - - - -

Based on CCC SD302/3

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

SHEET TITLE
SQUARE MANHOLE REINFORCEMENT

PROJECT TITLE
STANDARD DRAWINGS

SHEET
302C

ISSUE
A

PLAN No.
600

WAIMAKARIRI DISTRICT COUNCIL
technical services

Based on CCC SD303/1

TO BE REVISED

NOT TO SCALE

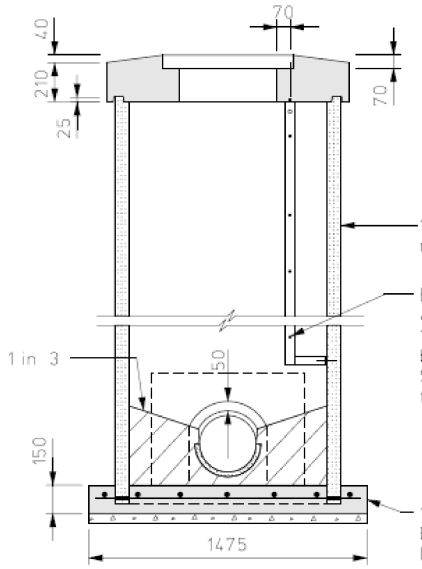
SHEET TITLE
PRECAST MANHOLES CIRCULAR

PROJECT TITLE
STANDARD DRAWINGS

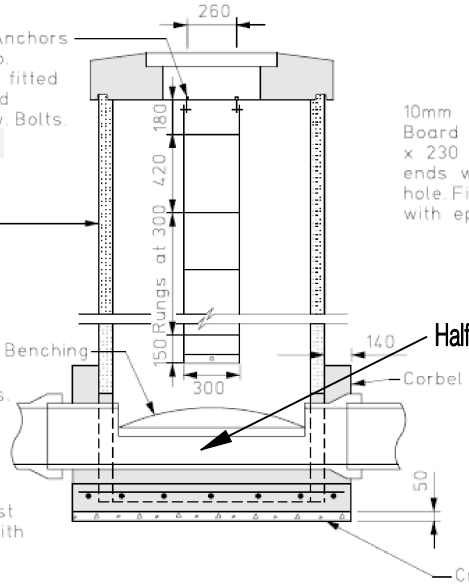
SHEET
303A

ISSUE
B

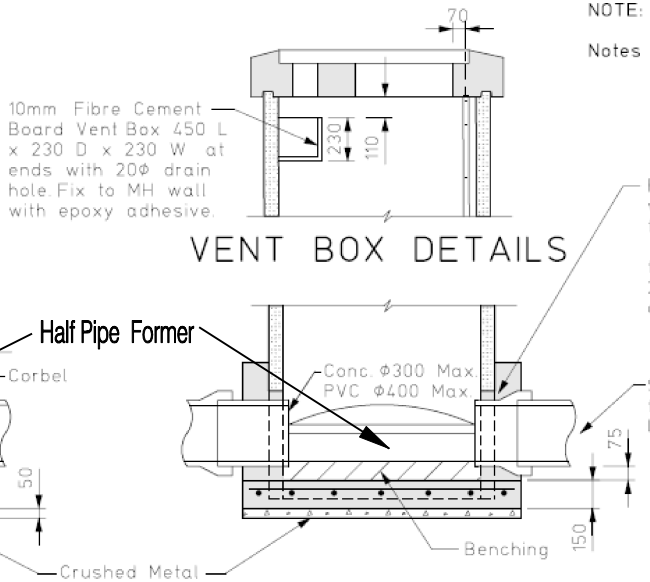
PLAN No.
600



TYPE 1050
SECTION A-A



TYPE 1050
SECTION B-B



VENT BOX DETAILS

NOTE:

Notes on SD303 Sheet 3 apply.

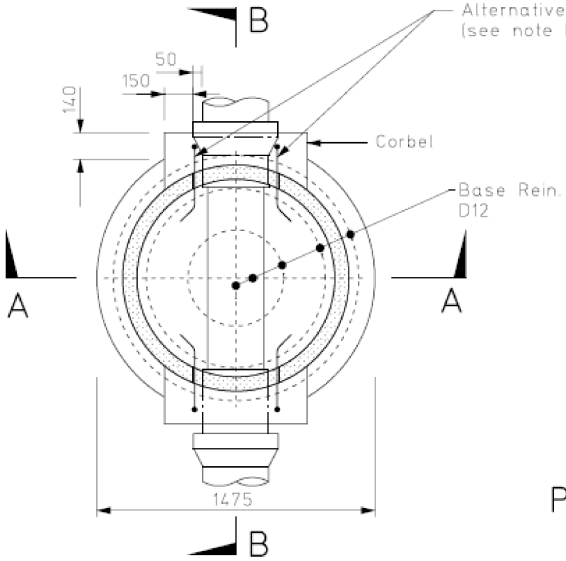
Reinforcing Steel left in wall opening to be bent to tie into corbel.

from wall into corbel, 2-D12 bars required from corbel into benching.

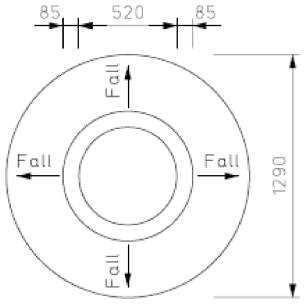
See Plan SD341 & 342 for details of pipe laying at MH.

NOTE :
For manhole top slab reinforcing steel

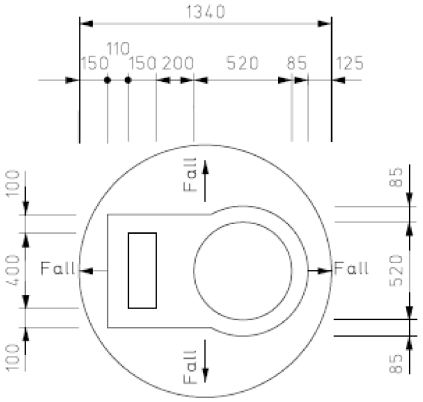
TYPE 1050
Pt SECTION B-B



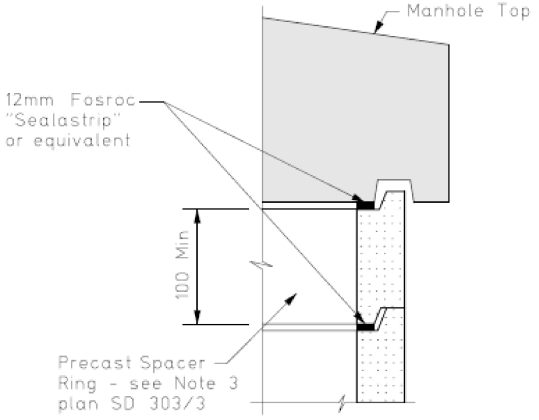
SECTIONAL PLAN OF M.H.



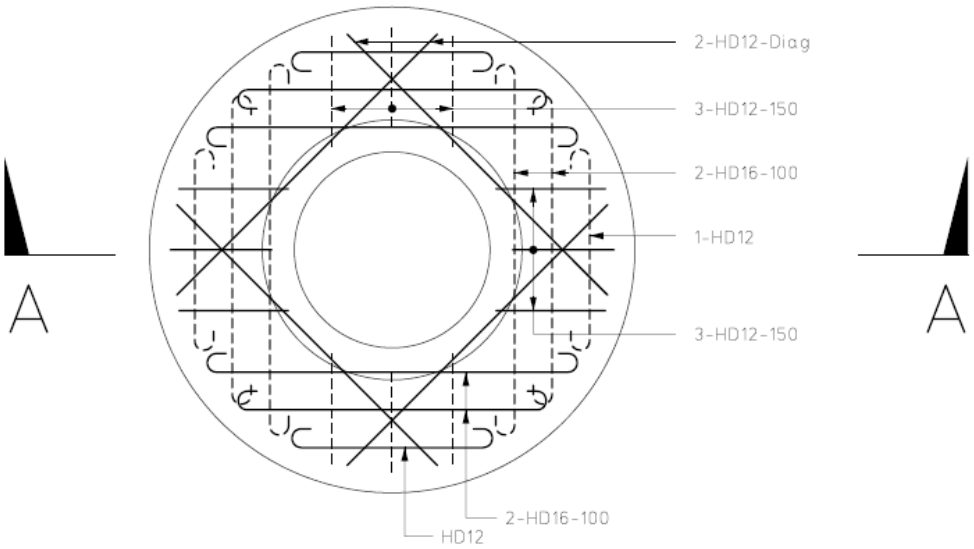
PLAN OF PRECAST
M.H. TOP



PLAN OF PRECAST
VENTED M.H. TOP

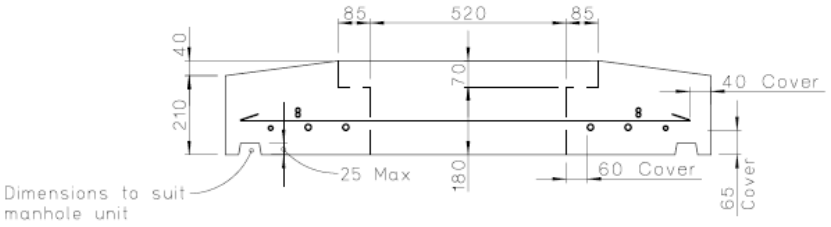


JOINTING DETAILS FOR
TOP, SPACER RINGS &
MANHOLE UNITS

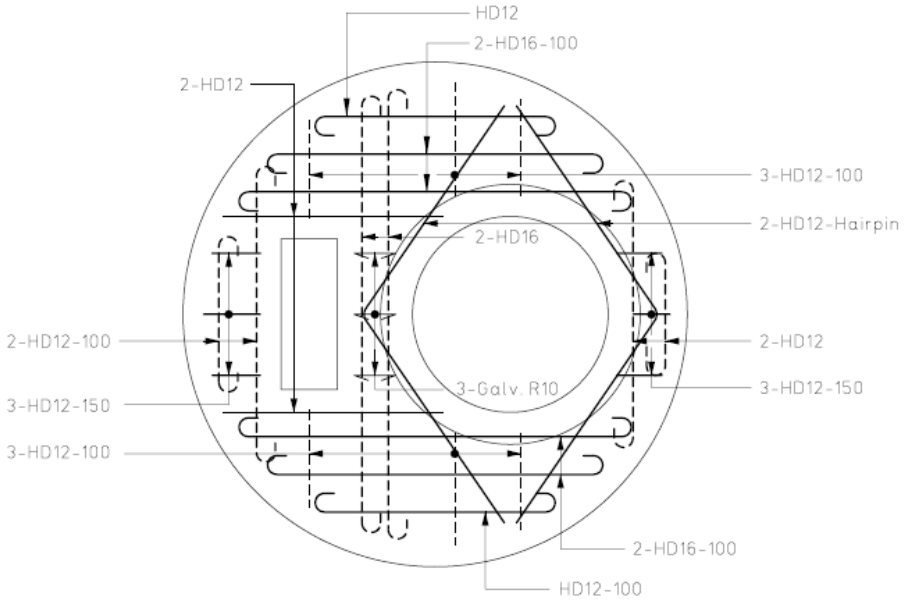


Reinforcement symetrical about both centre lines

UNVENTED MH PLAN



SECTION A-A



VENTED MH PLAN

NOTES:

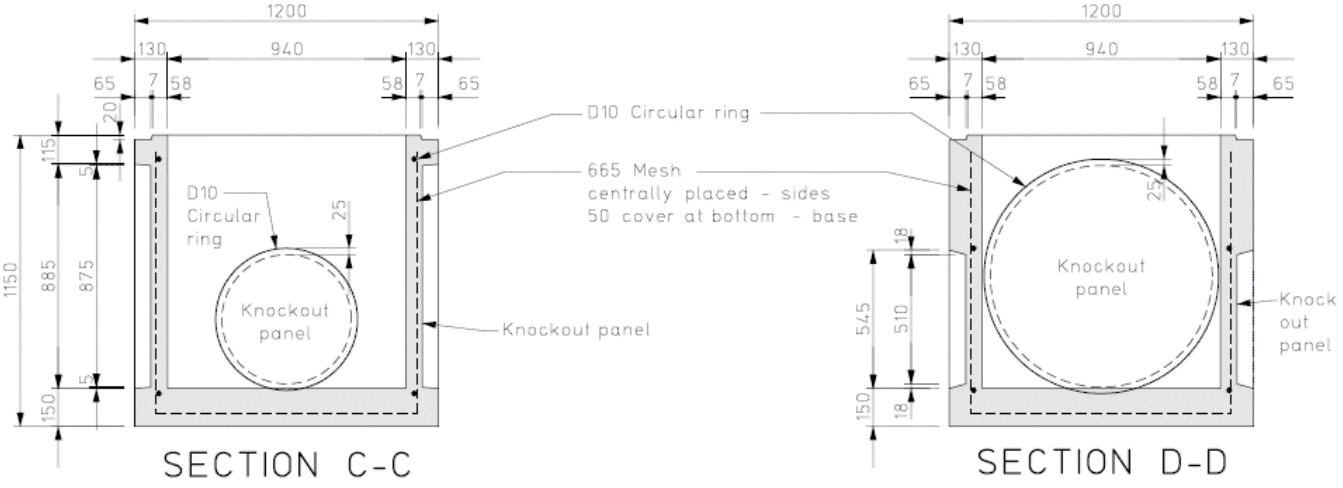
1. All concrete to be 40 MPa.
2. All manhole tops to be precast.
3. Design Loading: HN-HO-72

Upper layer ———

Lower layer – – – – – –

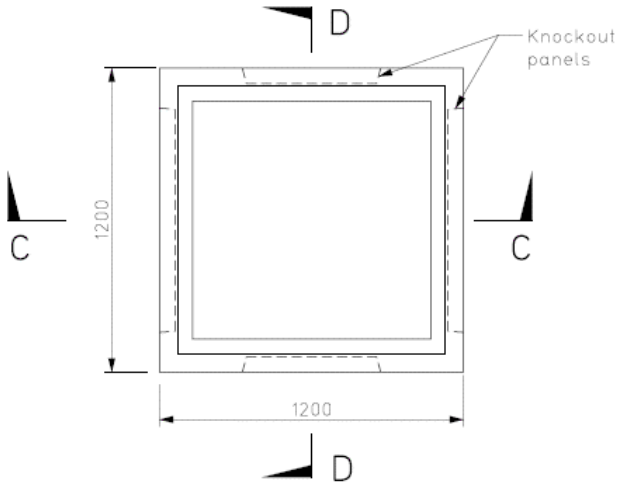
Based on CCC SD303/2

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE: PRECAST MANHOLES CIRCULAR (TOP)	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 303B ISSUE: C PLAN No.: 600

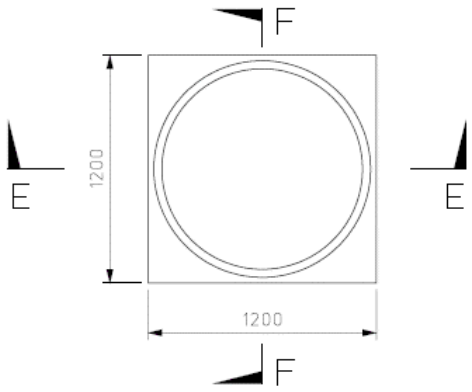


SECTION C-C

SECTION D-D



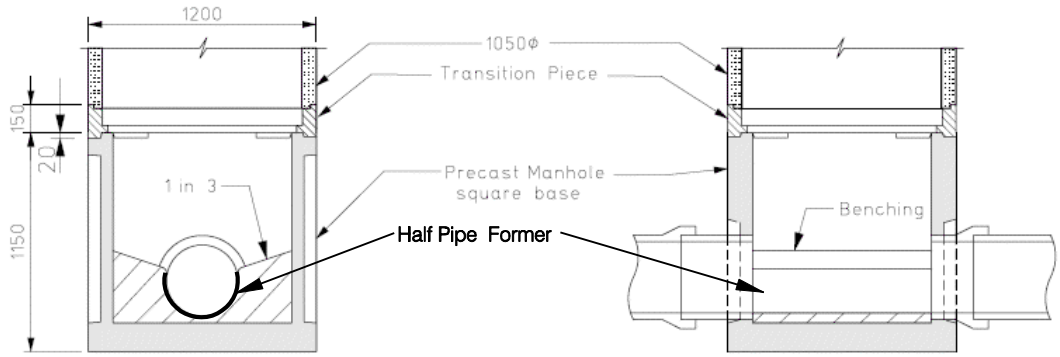
PLAN PRECAST MANHOLE



PLAN TRANSITION PIECE

NOTES:

1. Joints shall not exceed 5mm at any point.
2. All joint are to be positioned as high as possible.
3. Where required to bring the MH up to the correct level a spacer ring shall be placed immediately below the manhole top.
4. Approved sealing strip shall be used for sealing all joints. All joints shall be clean. Jointing work shall be protected from rain. All sealing strip joints shall be butted, with a short lapping piece on the outside.
5. See SD301/4 for ladder details.
6. Benching details shall be in accordance with SD302/1.
7. Circular base precast manholes shall be used for pipes up to 400mm OD, square base precast manholes for pipes up to 750Φ.
8. Maximum Depth (G.L. to invert) for standard manholes shall be 5m.
9. Resistance to flotation is dependent on well compacted backfilling.
10. Unused Knockout panels to be filled to full wall width.



SECTION E-E

SECTION F-F

PRECAST MANHOLE AND TRANSITION PIECE

Based on CCC SD3033

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

SHEET TITLE: PRECAST MANHOLES SQUARE BASE

PROJECT TITLE: STANDARD DRAWINGS

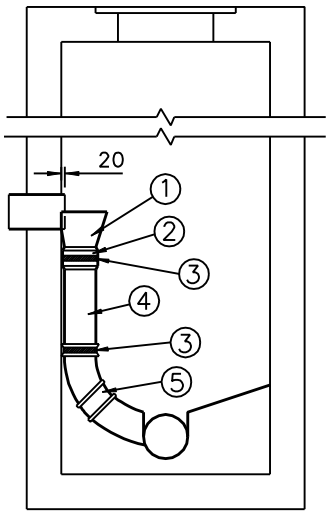
SHEET: 303C

ISSUE: A

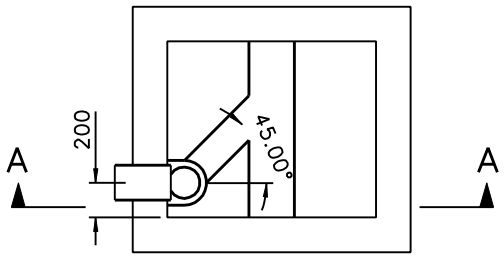
PLAN No.: 600

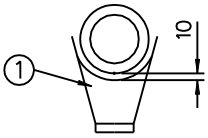
DROP INSTALLATION IN STANDARD MANHOLE

SECTION A-A



PLAN

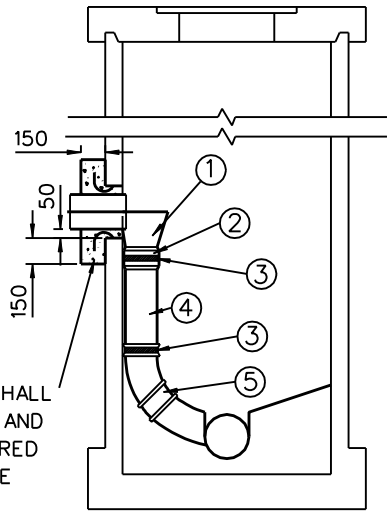




10mm GAP BETWEEN BASIN & UNDERSIDE OF PIPE TO ALLOW FOR EXPANSION OF PVC.

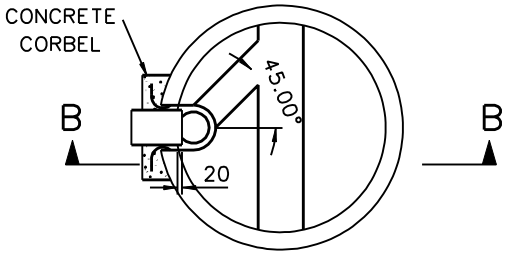
DROP INSTALLATION IN PRECAST MANHOLE

SECTION B-B

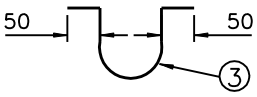


REINFORCING SHALL BE BENT OUT AND FIRMLY ANCHORED INTO CONCRETE CORBEL

PLAN



STAINLESS STEEL STRAP



NOTES

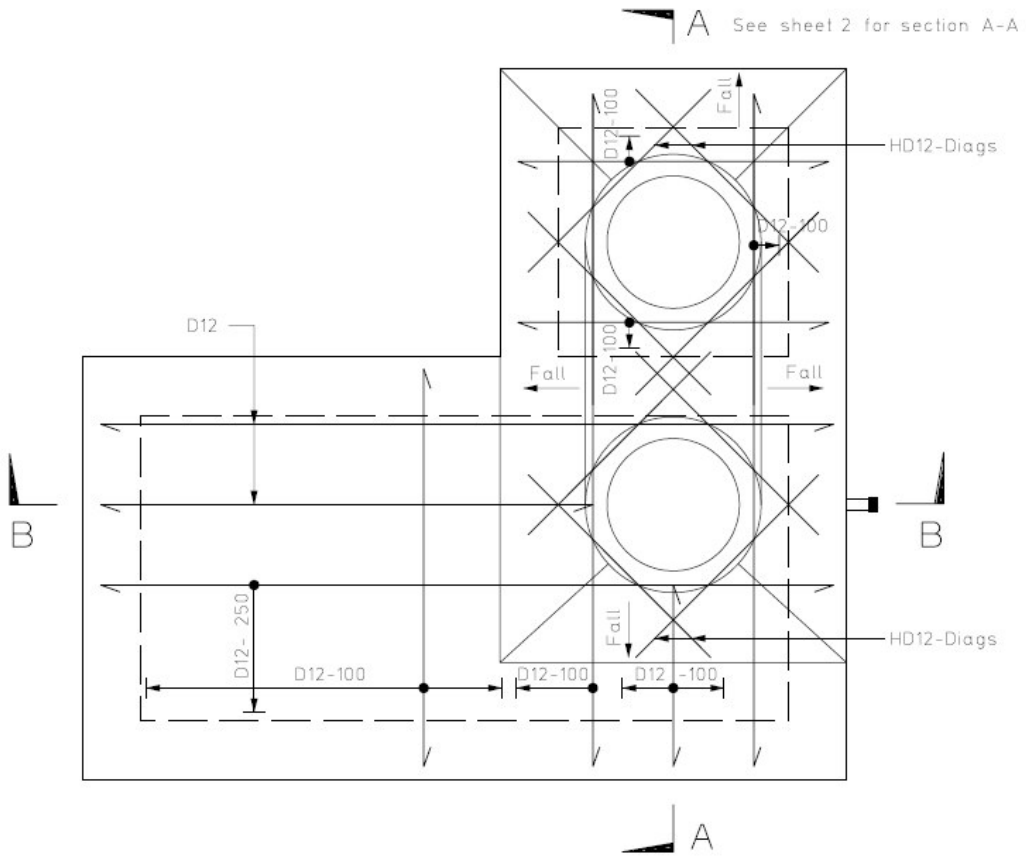
1. Manholes to be constructed as detailed on drawings 600-301A, 302A,B &303A.
2. Pipelaying at manholes to be constructed as detailed on drawings 600-341 &342.
3. Channeling in new manholes shall be vertical to top of main sewer and benching graded at 1 in 3 or 1 in 8 as applicable.
4. Benching and channeling in existing manholes shall be reformed in easy curves.
5. In standard and precast manholes where the main sewer exceeds 600 dia a channel shall be formed in the benching under the 150 dia sewer pipe (4). A 135 deg bend (5) shall not be used.
6. In existing manholes steps or ladders shall be relocated if required to permit access.
7. PVC fittings to be solvent jointed.
8. Opening for manhole starter and corbel shall be clear of any joint in precast manhole by at least 300mm minimum.

PARTS LIST

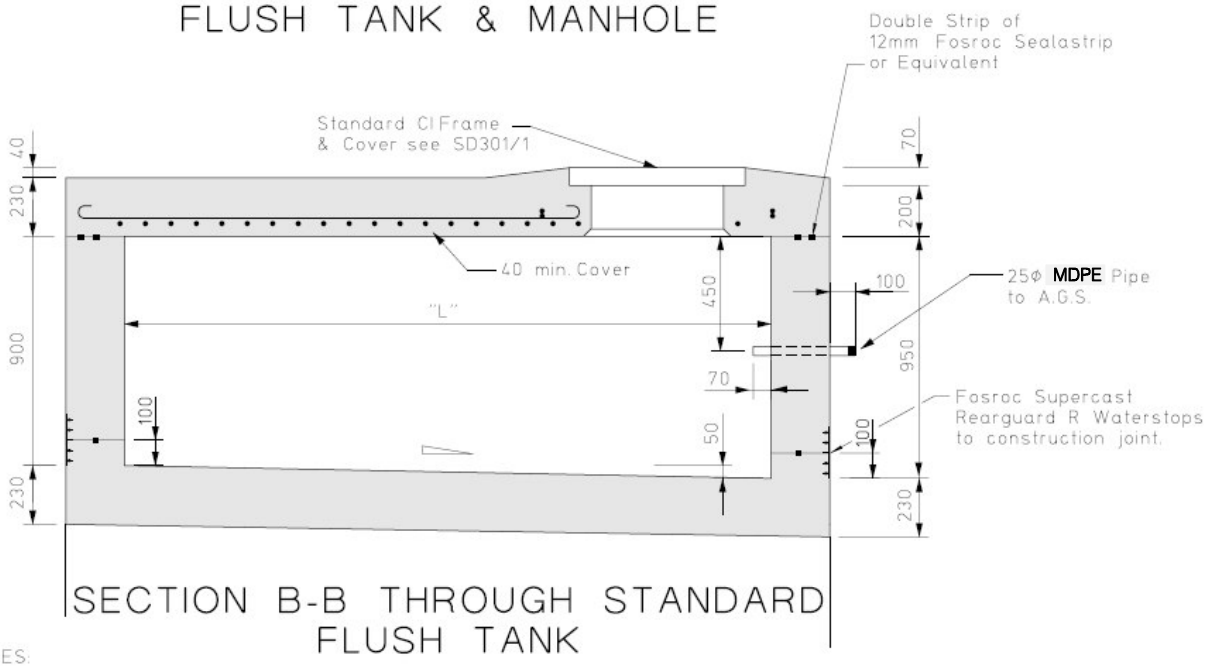
1. Fabricated PVC basin.
2. 150 diameter PVC sewer pipe straight coupling.
3. 25mm wide 1.25 dia 316 stainless steel strap fixed to manhole wall with 2-38mm X 10 gauge stainless steel self tapping screws and rawlplugs.
4. 150 diameter PVC sewer pipe.
5. 150 diameter sewer pipe 135 deg bend.

Based on CCC Drawing SD 305

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: DROP MANHOLES 150mm NB DIAMETER	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 305
				ISSUE: C / PLAN No.: 600



PLAN OF COMMON WALL
FLUSH TANK & MANHOLE



SECTION B-B THROUGH STANDARD
FLUSH TANK

NOTES:

1. The nominal capacity of the flush tank, (cubic metres) shall be as specified and shall equal the internal length "L" in metres.
2. Unless specified otherwise the length of the tank shall be parallel with the direction of the sewer.
3. For cast-iron frames and covers see SD301/1.
4. Where "L" exceeds 4m the floor slab and longitudinal wall shall be reinforced with 665mm mesh with 50mm internal cover.
5. Setting of flush tank top slab must allow for road crossfall.
6. See Plan SD313 for air gap separator.
7. All concrete to be 40 MPa.

Based on CCC Drawing SD311, sheet 1

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

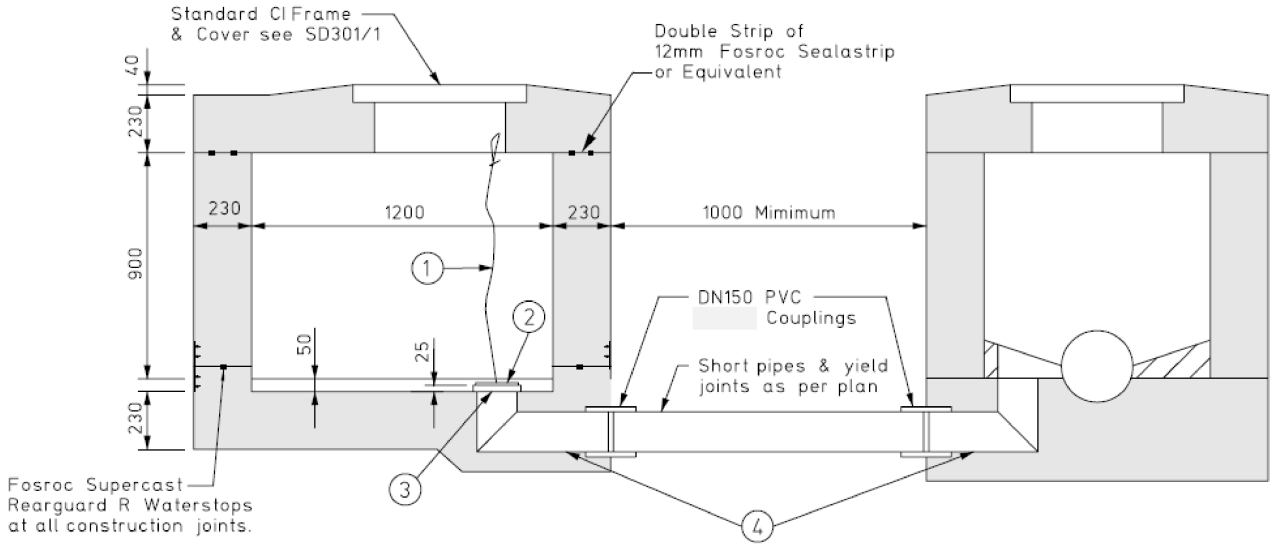
SHEET TITLE: FLUSH TANKS

PROJECT TITLE: STANDARD DRAWINGS

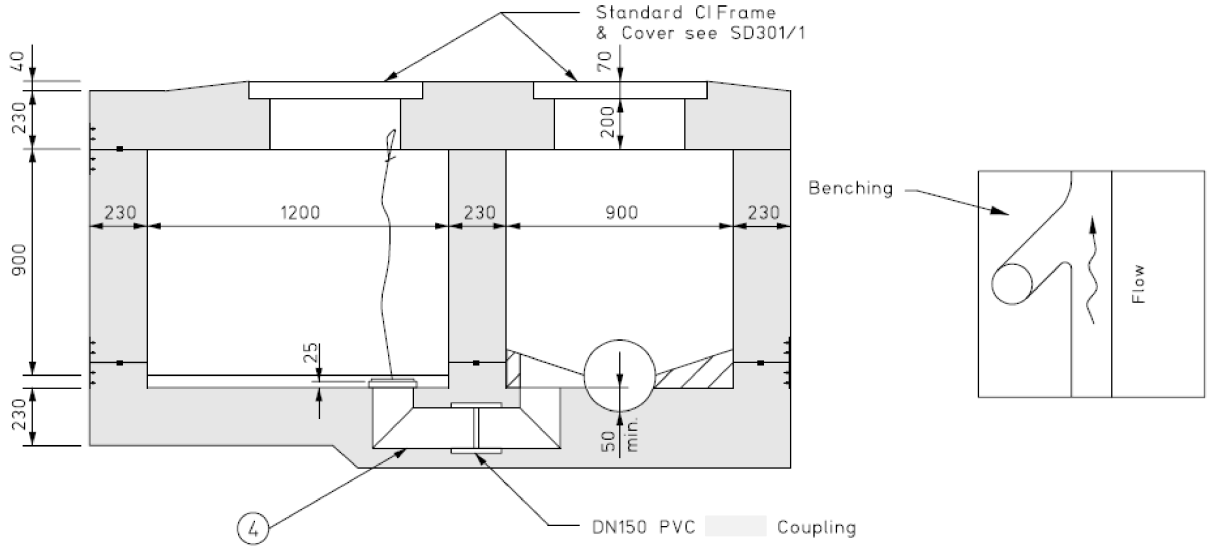
SHEET: 311A

ISSUE: B

PLAN No.: 600



SECTION THROUGH REMOTE FLUSHTANK & MANHOLE



SECTION A-A THROUGH COMMON WALL FLUSHTANK & MANHOLE

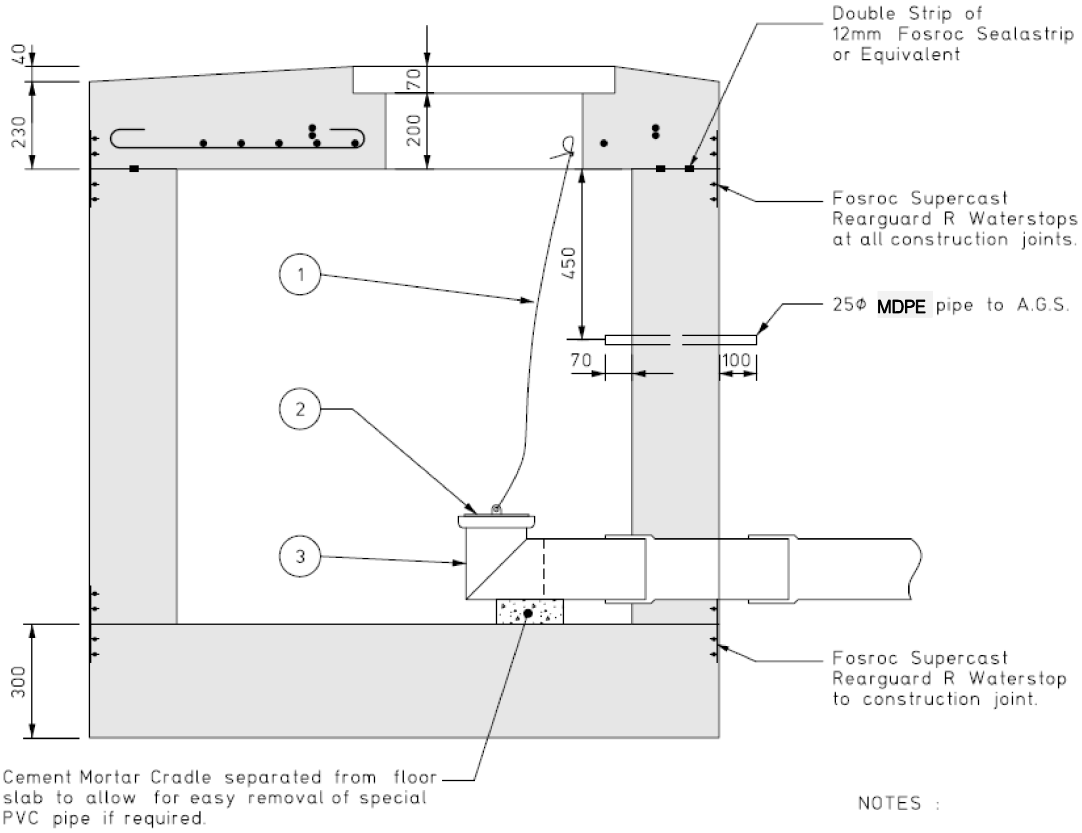
(FOR LOCATION SEE Sheet 1)

NOTES:

1. 8Φ Polypropylene Rope complete with Shackle.
2. Flushtank Plug.
3. PVC Insert.
4. 2 special PVC pipes.
5. All concrete to be 40 MPa.

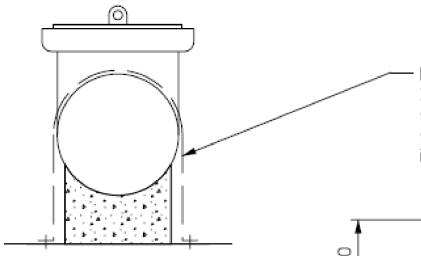
Based on CCC Drawing SD311, sheet 2

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE FLUSH TANKS	PROJECT TITLE STANDARD DRAWINGS	SHEET 311B ISSUE B / PLAN No. 600

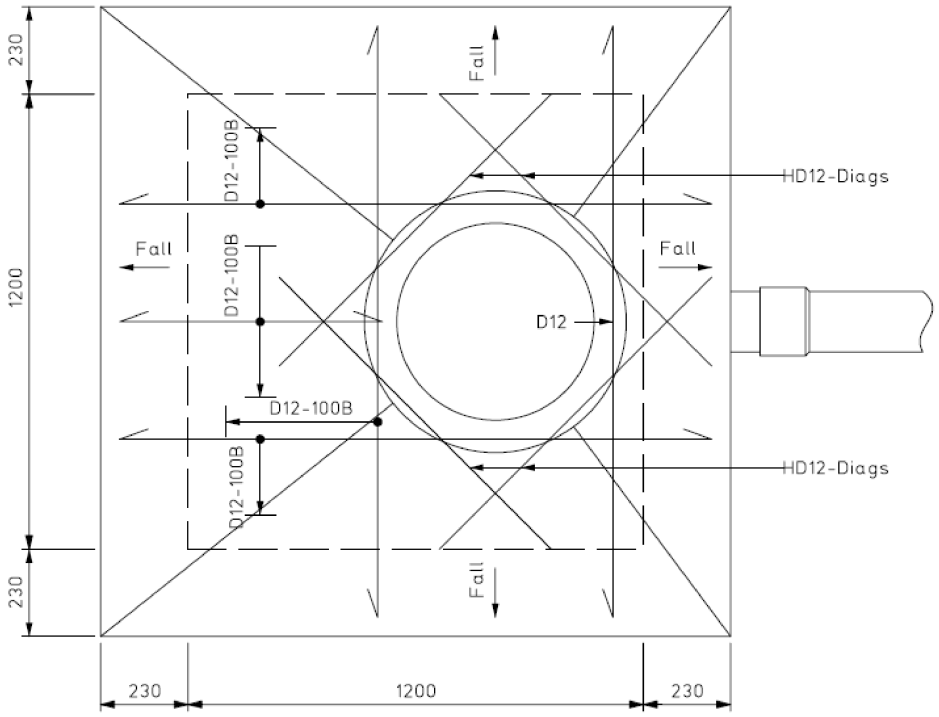


NOTES :

1. See SD302 for further construction details.



Fix item (3) to manhole floor with 25mm x 1.25mm type 316 stainless steel strap and 2-38mm x 12 gauge stainless steel self tapping screws into plastic rawl plugs.



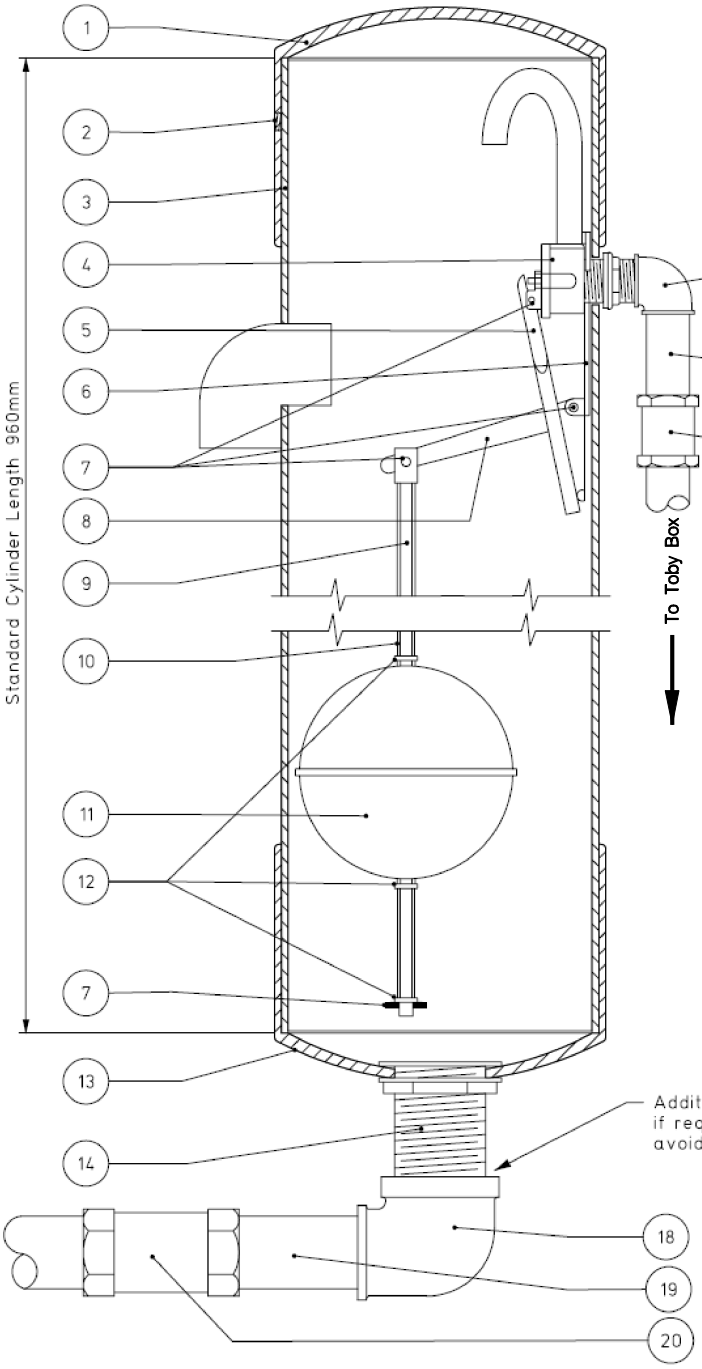
(1) 8Φ Polypropylene rope complete with Shackle.

(2) Flush tank plug.

(3) Special PVC pipe.

Based on CCC Drawing SD312

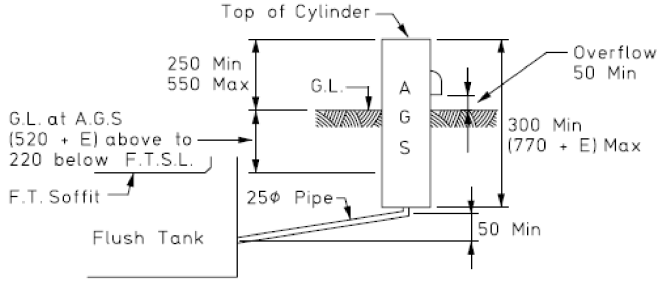
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE FLUSH MANHOLES	PROJECT TITLE STANDARD DRAWINGS	SHEET 312 ISSUE A PLAN No. 600



1. Top cap - PVC removable.
2. 10mm x 10mm hex socket head S.S. grubscrew.
3. Cylinder 150mmΦ PVC class C pipe with overflow.
4. "Secol" diaphragm valve, backnut and delivery tube.
5. Valve lever.
6. Valve assembly back plate.
7. Split pins.
8. Bell crank lever.
9. Float rod and clevis.
10. Plastic float adjustment tube.
11. PVC float.
12. Washers
13. Bottom cap - PVC cemented in place.
14. 38mmΦ shower waste sealed in bottom cap.

PARTS NOT SUPPLIED WITH UNIT:

15. 15mmΦ G.W.I. elbow.
16. 15mmΦ G.W.I. pipe.
17. 15mmΦ G.W.I. Johnson coupling.
18. 38 - 25mmΦ PVC reducing elbow.
19. 25mmΦ HDPE pipe.
20. 25mmΦ HDPE Johnson coupling.



NOTES :

1. Air gap separators shall be located within the limits shown in the diagram above.
2. Cistern shall be placed in footpath as close as possible to the road/property boundary and to a common lot boundary.
3. High pressure water connection shall be made to water main wherever possible but where connection has to be made to a small service pipe a flexible loop of 15mm Φ polythene pipe shall be used between the water meter and the air gap separator cistern to reduce water hammer effects.
4. The float shall be adjusted by manipulating distance pieces to obtain water level 30 +/- 10mm above tank soffit, but enough adjustment will be left to allow W.L. to be set 30mm below tank soffit.
5. A special extended air gap separator will be required when ground level is too high, ie, standard barrel and float rod shall be extended by length E with maximum of 500mm. E = 0 mm for Standard air gap separator.
6. 25mmΦ pipe to be laid on grade, as shown, to prevent air locks and debris accumulation.

Based on CCC Drawing SD313

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

SHEET TITLE: AIR GAP SEPARATOR

PROJECT TITLE: STANDARD DRAWINGS

SHEET: 313

ISSUE: B

PLAN No.: 600

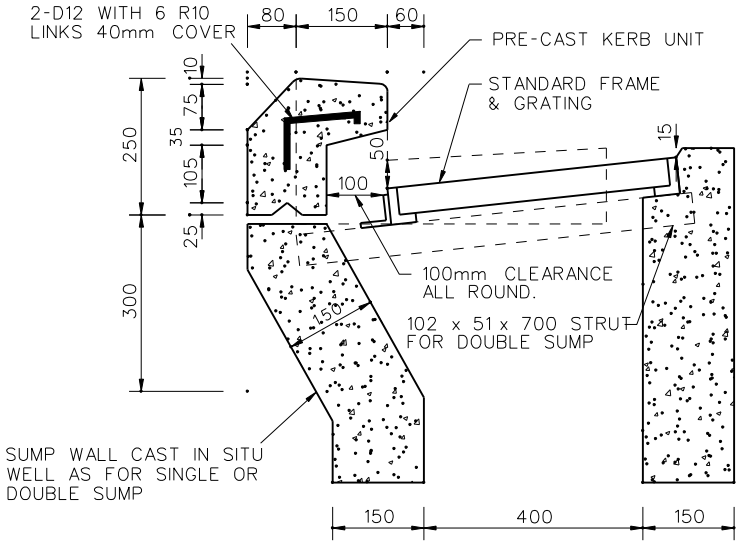
NOTES

1 Concrete work to comply with NZS 3109:1980

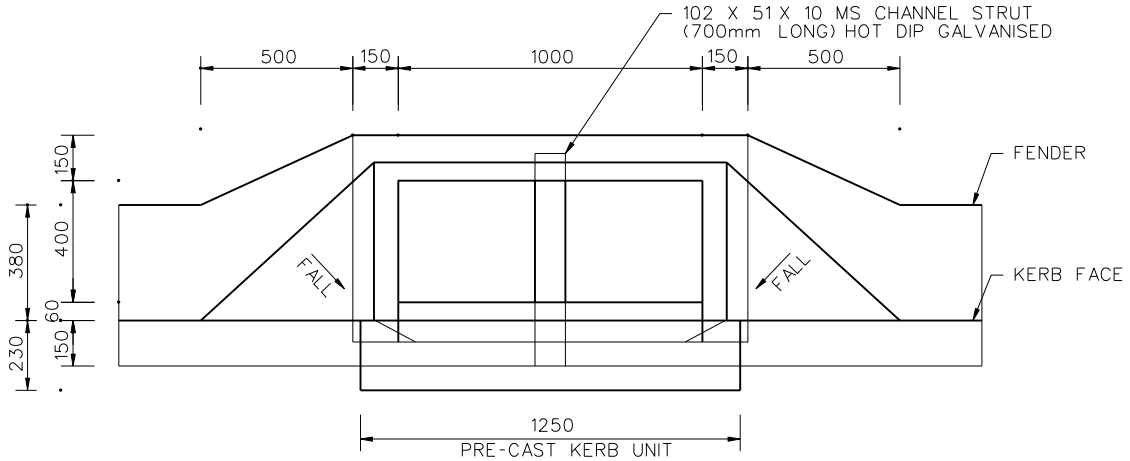
2 Concrete to be high grade with 30 MPa compressive strength.

3 Coat end faces of precast units with an approved epoxy tiecoat before jointing.

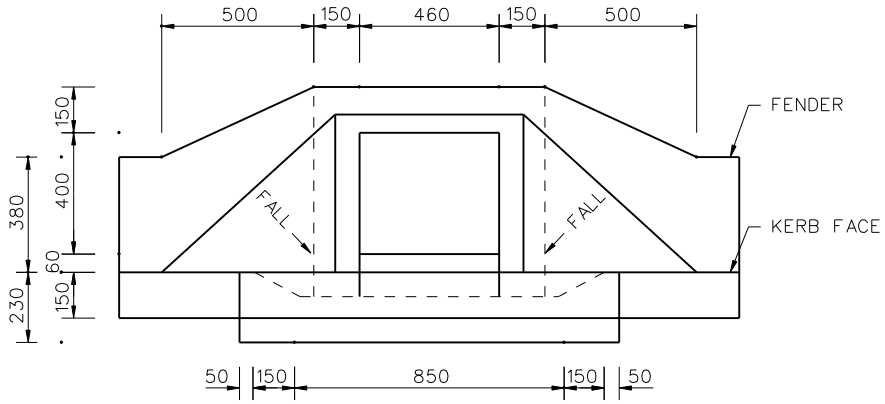
4 Use 50 X 50 X 8 Angle 700mm long (hot dip galvanised) to support end of frame at K & F.C./K & D.C. junction.



SECTION



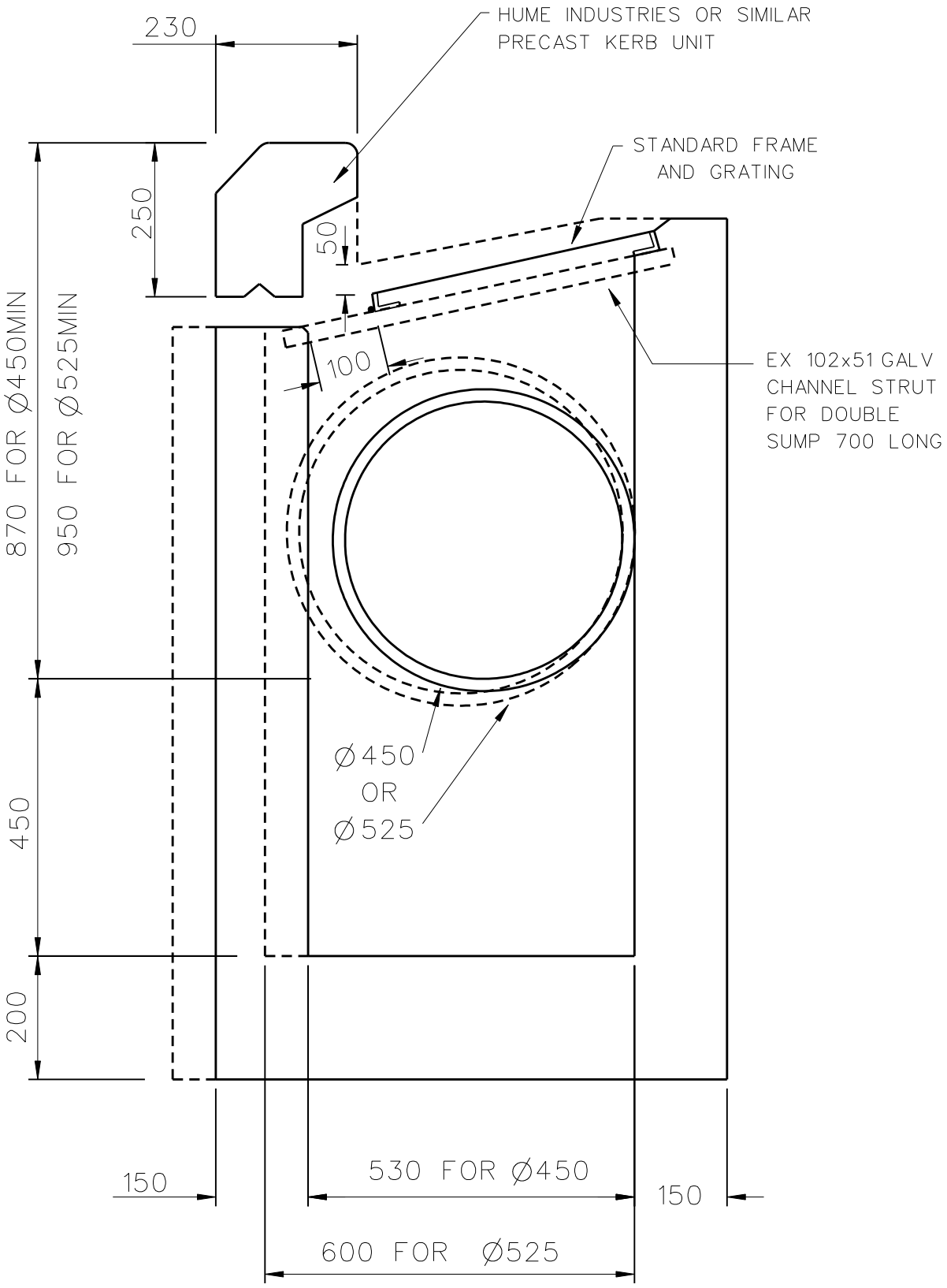
PLAN - Side Entry Double Sump



PLAN - Side Entry Single Sump

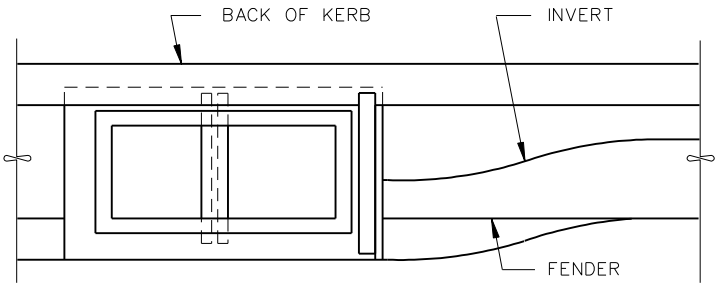
Based on CCC drawings SD321

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: SIDE ENTRY SUMPS – PRECAST KERB UNIT	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 321
				ISSUE: C / PLAN No.: 600

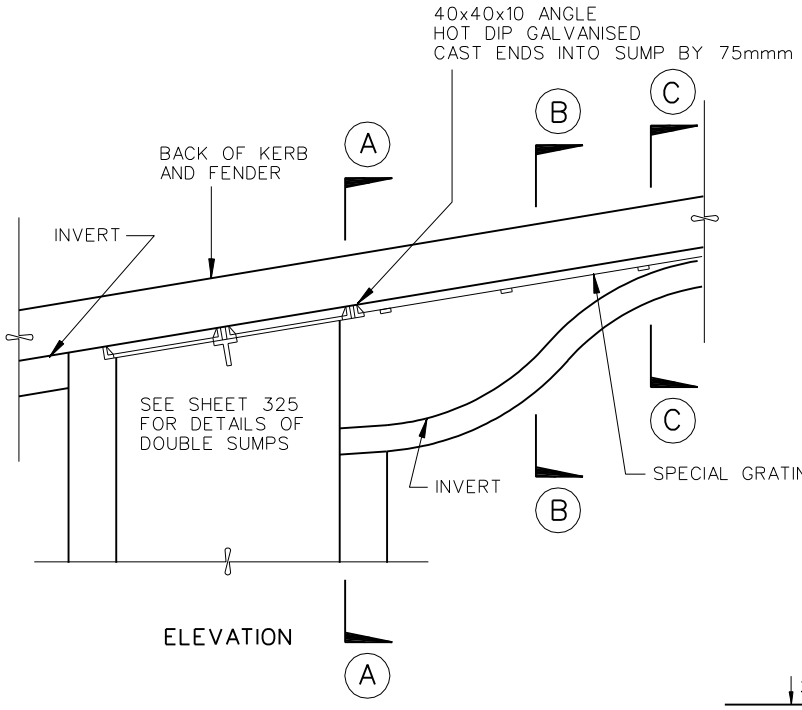


Based on CCC drawings SD322

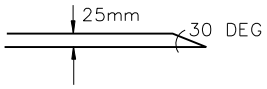
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: SIDE ENTRY ENLARGED SUMPS	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 322
				ISSUE: C / PLAN No.: 600

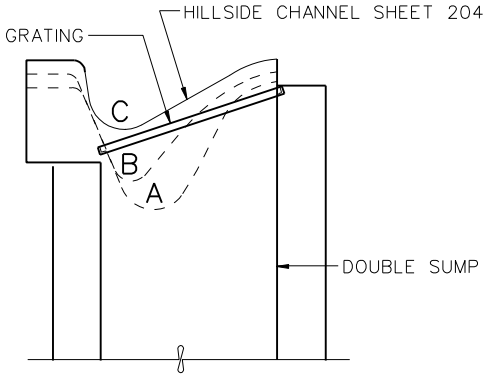


PLAN

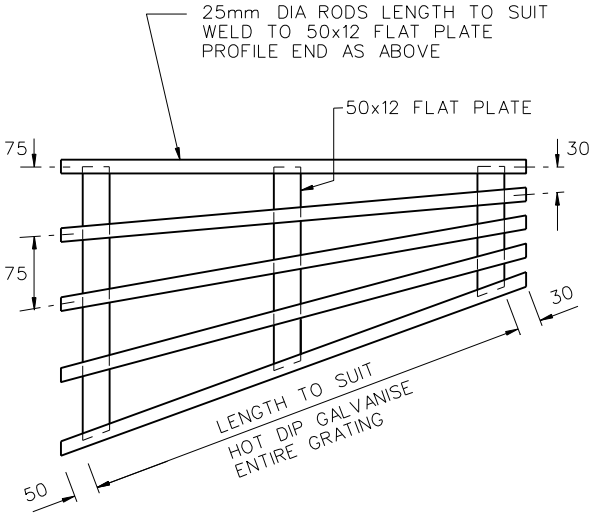


ELEVATION





SECTIONS A-A B-B C-C



SPECIAL GRATING

Based on CCC drawings SD324

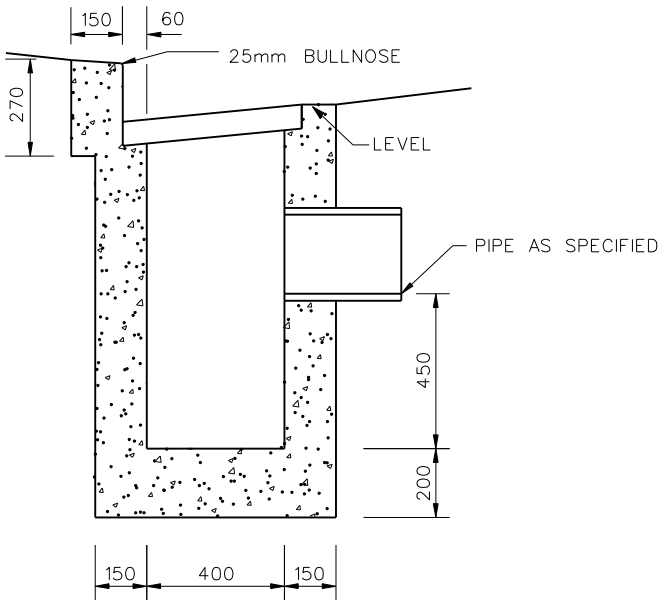
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	HILLSIDE SUMP	STANDARD DRAWINGS	324

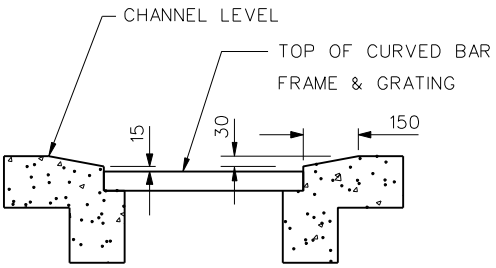
ISSUE	PLAN No.
C	600

NOTES

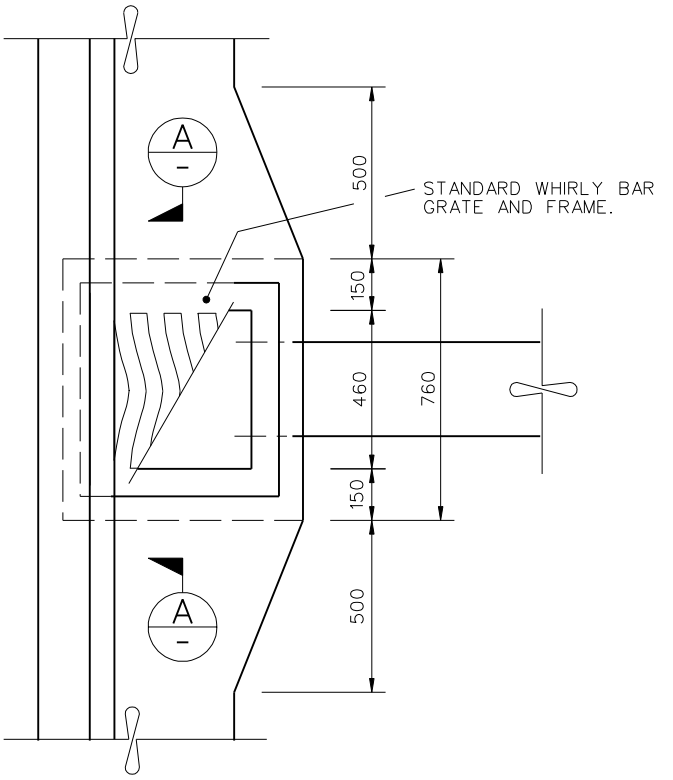
1. Ramp down channel 30mm max over 150mm as shown in section A-A
2. Grating / Frame set 15mm below ramp bottom.



ELEVATION



SECTION A-A



PLAN

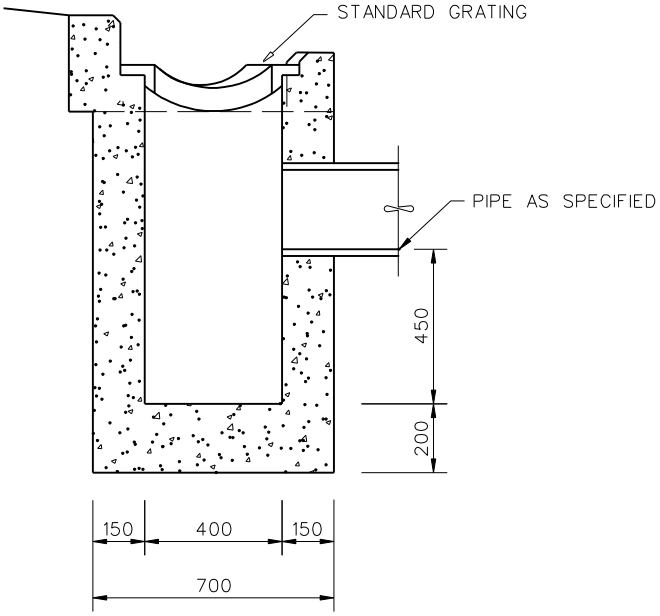
Based on CCC drawings SD325

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: SINGLE SUMP KERB & FLAT CHANNEL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 325
				ISSUE: D / PLAN No.: 600

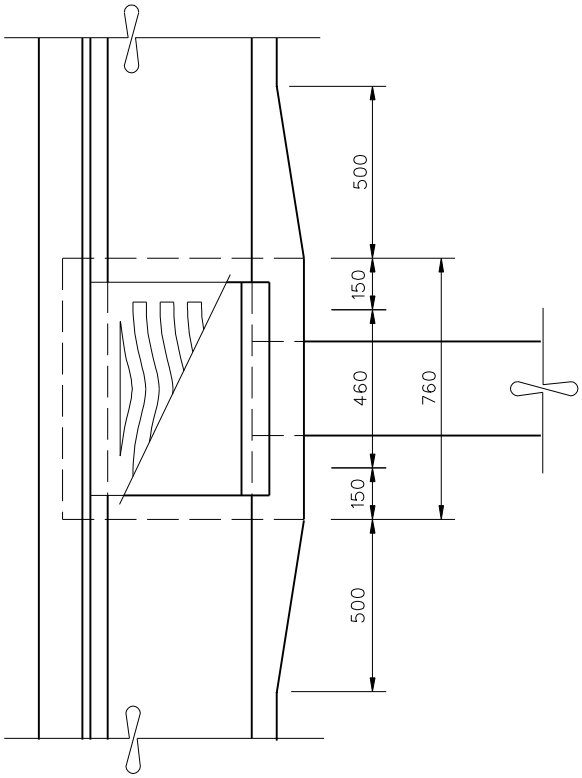
NOTES

1 FOR DRAINAGE AND CLEANING OPENINGS, CONSTRUCT SINGLE SUMP WITHOUT 450mm WELL.

2 THE GRATINGS SHALL BE DEPRESSED 30mm BELOW CHANNEL LEVEL.



ELEVATION



PLAN

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

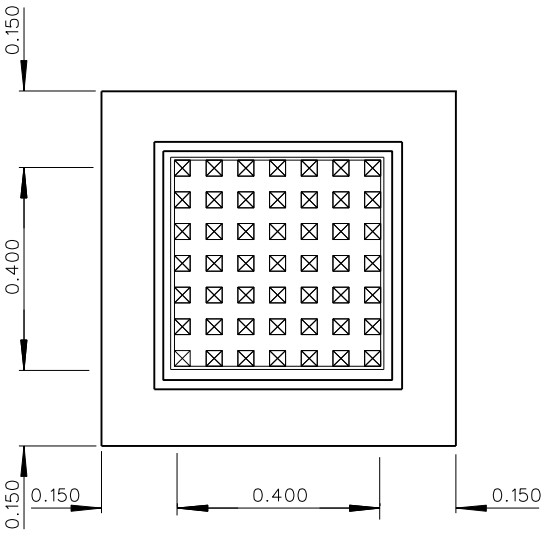
SHEET TITLE: SINGLE SUMP KERB & DISH CHANNEL

PROJECT TITLE: STANDARD DRAWINGS

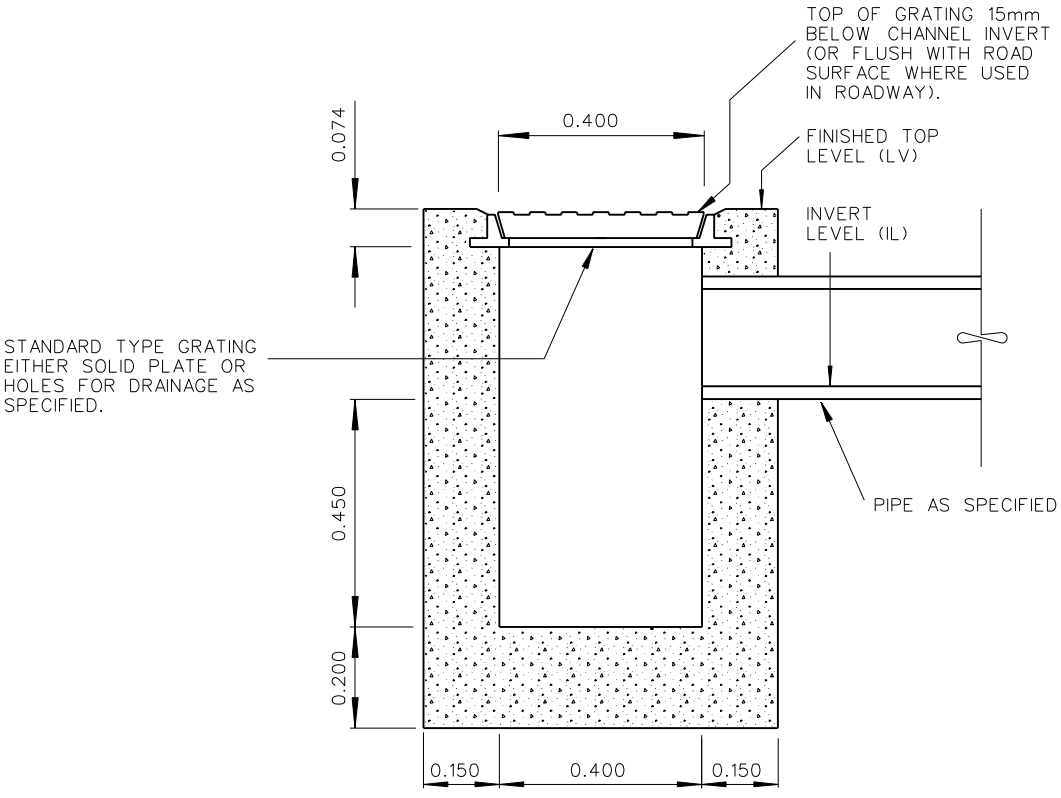
SHEET: 326

ISSUE: D

PLAN No.: 600



PLAN



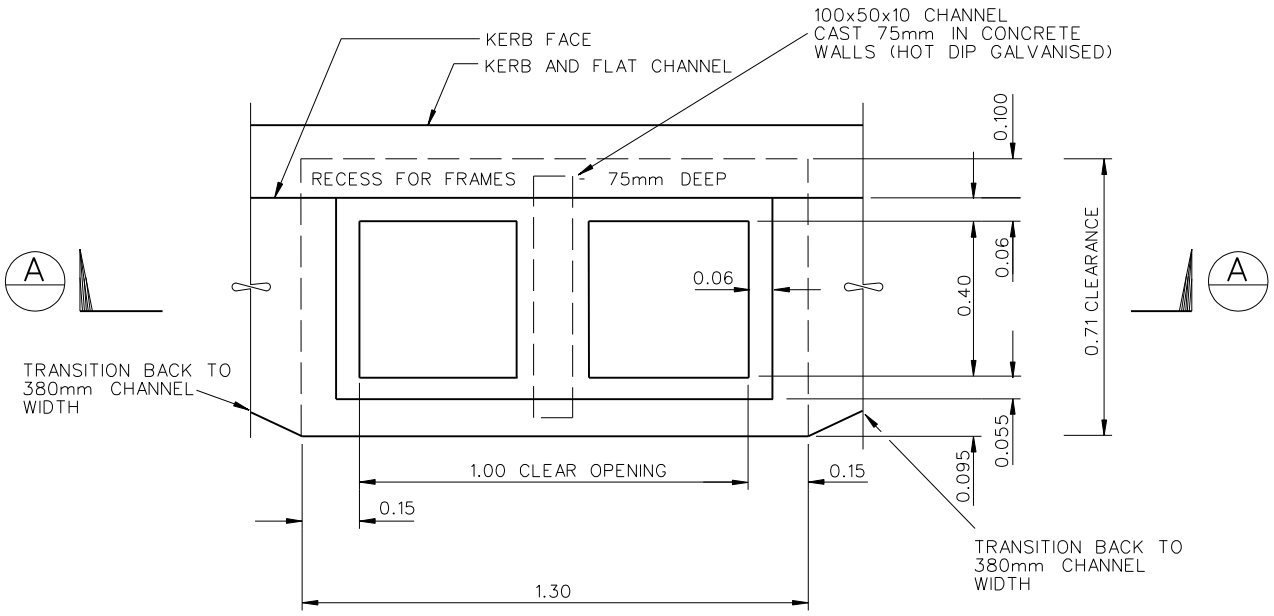
ELEVATION

Based on CCC drawings SD327

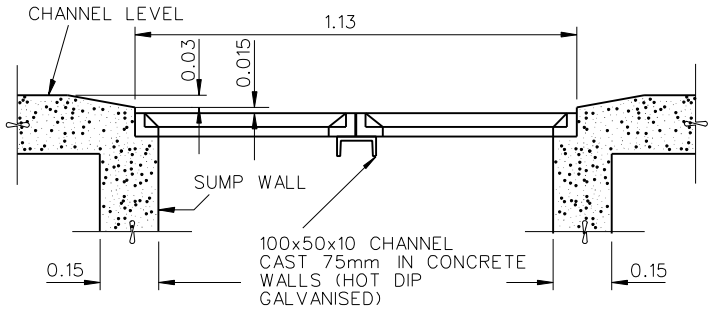
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: CORNER SUMP	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 327
				ISSUE: C / PLAN No.: 600

NOTES

1 Sump wall thickness , base thickness and well depth etc same as for single sump.



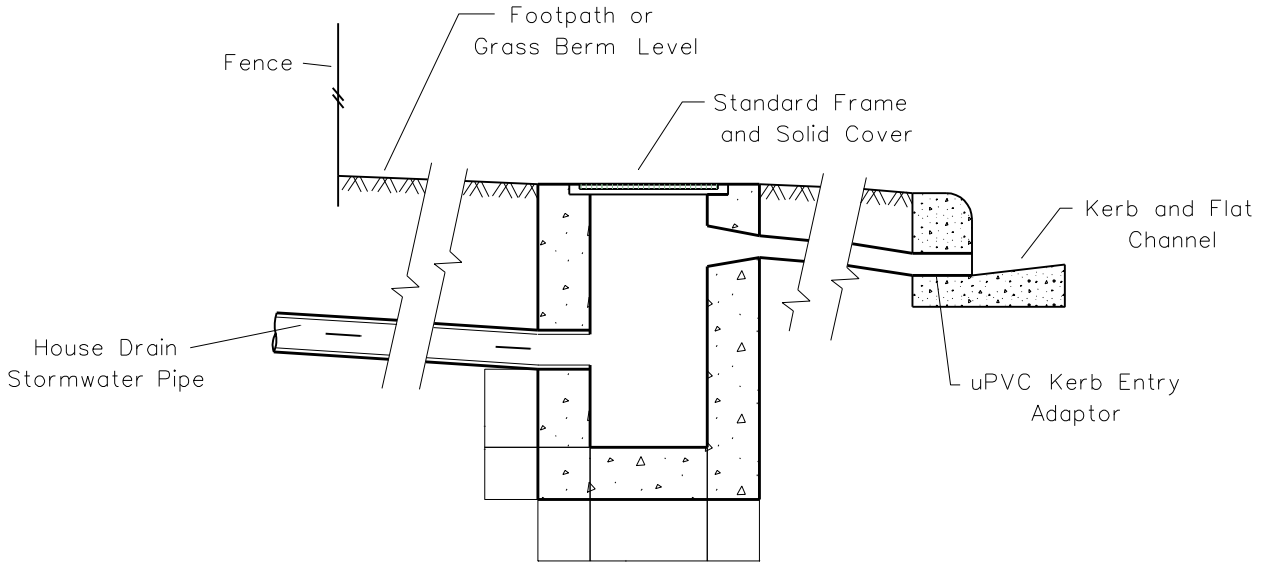
PLAN



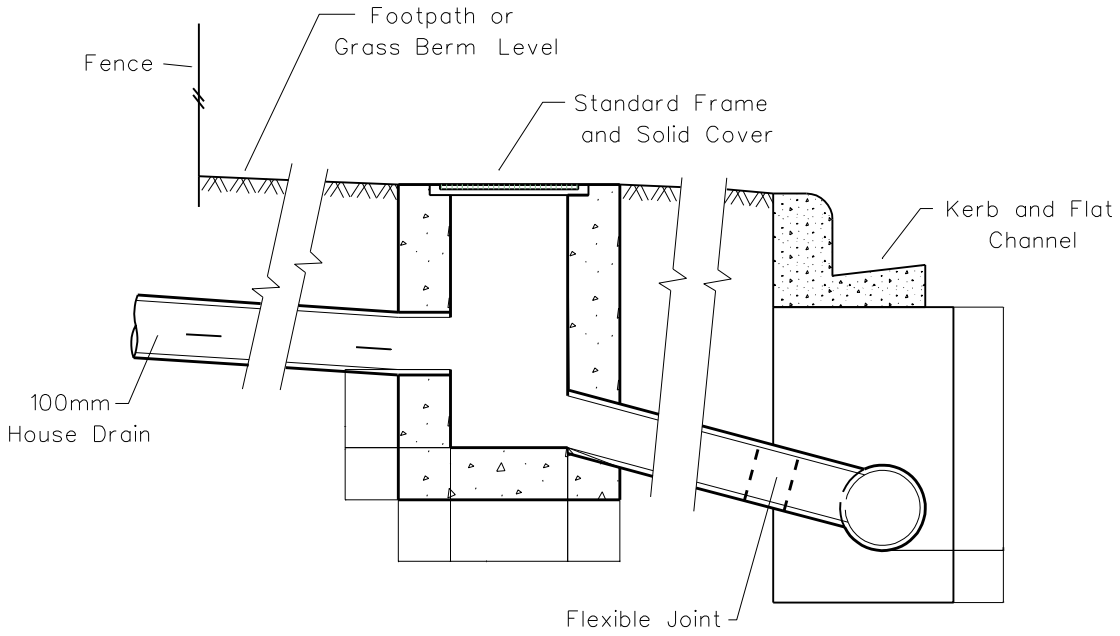
SECTION A-A

Based on CCC drawings SD325

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: DOUBLE SUMP FLAT CHANNEL	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 328
				ISSUE: C / PLAN No.: 600



Type A



Type B

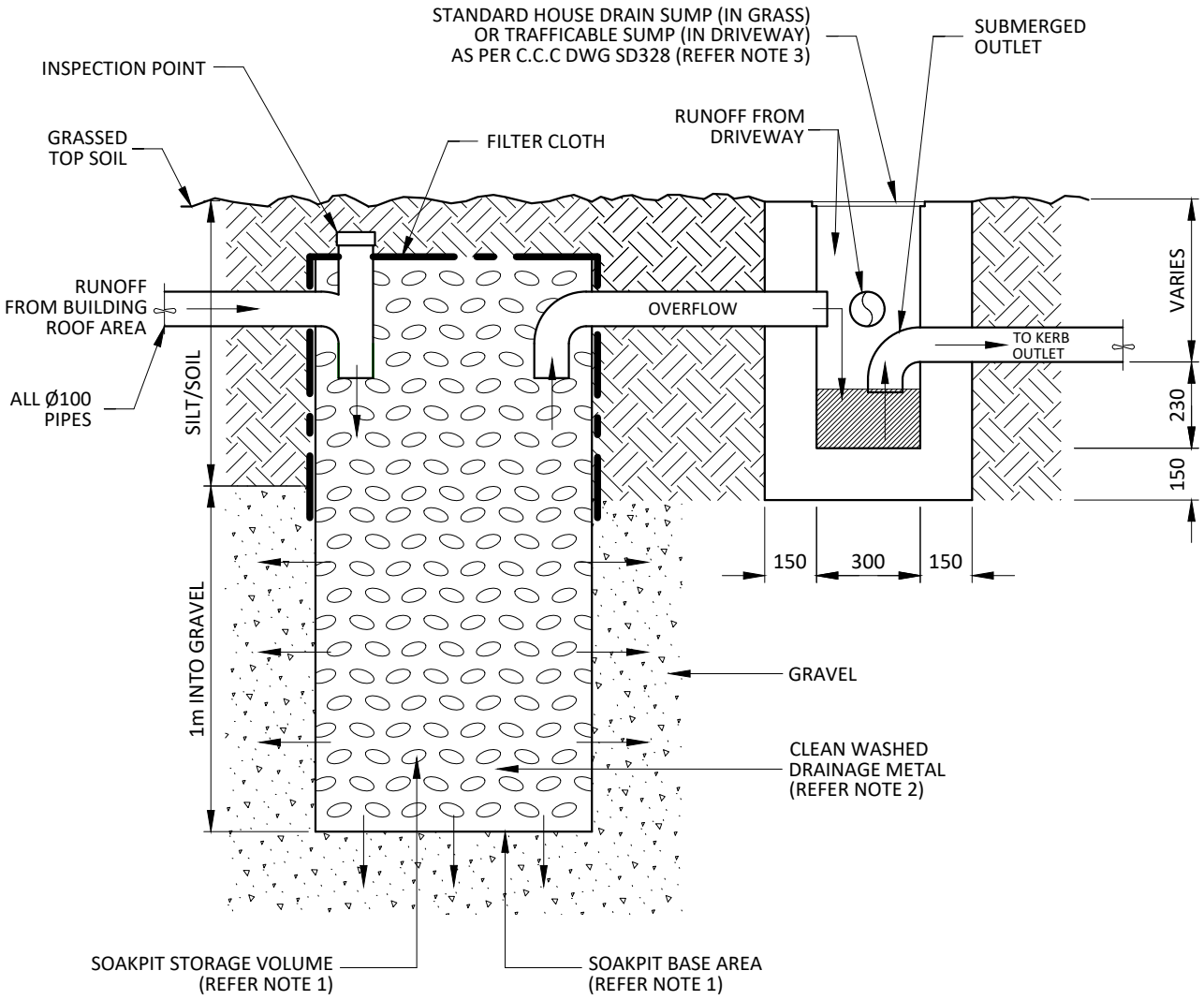
NOTES:

1. All concrete to be 20MPa at 28 days
2. All stormwater piping to comply with CSS Part 3
3. Inspection Box Sizes:
   Use 225x125 box up to 450 depth to invert (lowest pipe)
   Use 300x175 box over 450 depth to invert (lowest pipe)
4. 225x125 or 375 or 175 Inspection Box
   Size depending on depth;
   To be sited as close to kerb and channel as possible;
   Supervising Engineer to confirm position on site;
   In berm areas frame to be 5mm below kerb level.

WAIMAKARIRI DISTRICT COUNCIL
technical services

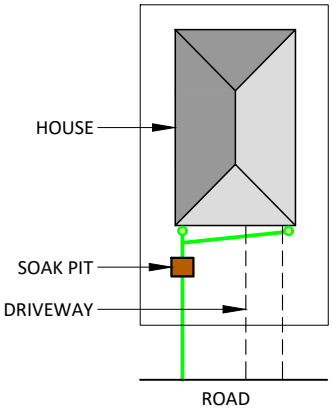
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	HOUSE DRAIN INSEPCTION BOX	STANDARD DRAWINGS	329

ISSUE	PLAN No.
B	600

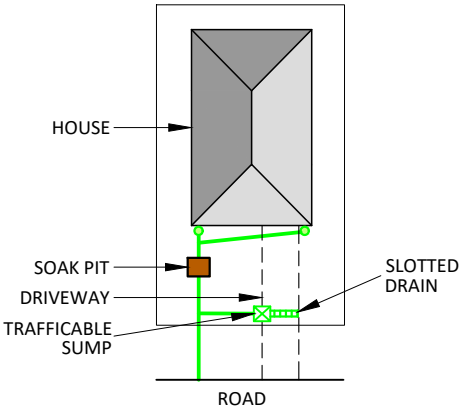


NOTES:

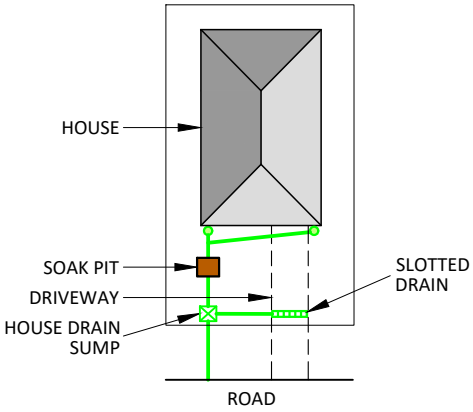
1. SOAK PIT SIZING - PROVIDE 1m^2 OF BASE AREA PER 100m^2 OF ROOF AREA AND 2m^3 OF STORAGE VOLUME PER 100m^2 OF ROOF AREA (ALLOW 0.38 FACTOR FOR VOID SPACE) OR ALTERNATIVELY PROVIDE FULL DESIGN CALCULATIONS IN ACCORDANCE WITH VERIFICATION METHOD E1/VM1 SECTION 9.
2. CLEAN WASHED DRAINAGE METAL - TO BE EITHER TAILINGS 20mm-40mm, ROUNDS 40mm-65mm, BOULDERS 65mm-120mm, ROCKS 100mm-150mm OR SIMILAR.
3. A HOUSE DRAIN SUMP OR SMALL TRAFFICABLE SUMP IS ONLY REQUIRED WHERE RUNOFF FROM THE DRIVEWAY IS CONNECTED TO THE OUTLET PIPE (REFER INDICATIVE LAYOUT DIAGRAMS BELOW).



NO SUMP REQUIRED

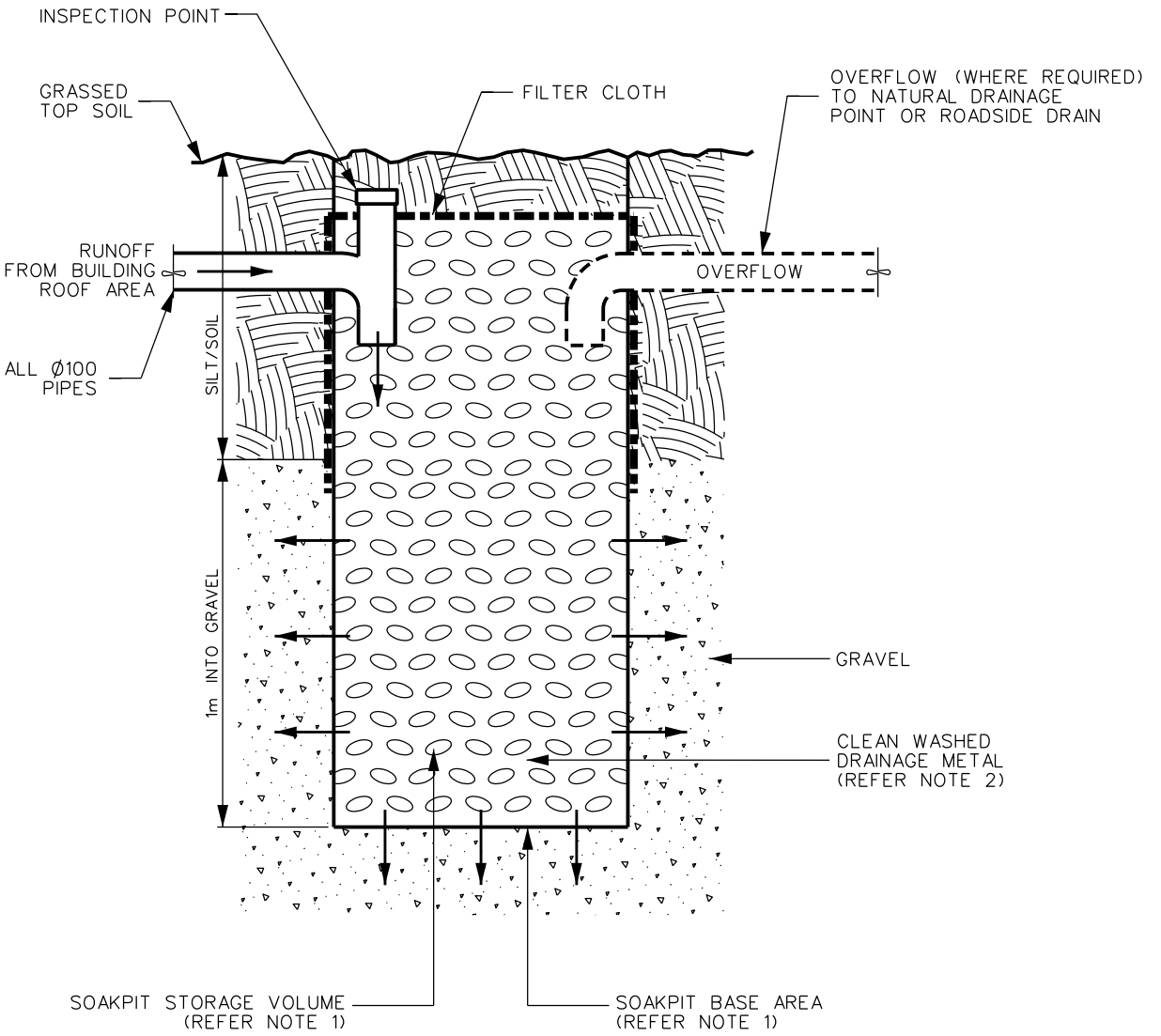


SUMP IN DRIVEWAY



SUMP IN GRASS

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: URBAN SOAK PIT	SHEET TITLE: STANDARD DRAWINGS	SHEET: 330A ISSUE: C PLAN No.: 600



NOTES:

1. SOAK PIT SIZING - PROVIDE 1m² OF BASE AREA PER 100m² OF ROOF AREA AND 2m³ OF STORAGE VOLUME PER 100m² OF ROOF AREA (ALLOW 0.38 FACTOR FOR VOID SPACE) OR ALTERNATIVELY PROVIDE FULL DESIGN CALCULATIONS IN ACCORDANCE WITH VERIFICATION METHOD E1/VM1 SECTION 9.
2. CLEAN WASHED DRAINAGE METAL - TO BE EITHER TAILINGS 20mm-40mm, ROUNDS 40mm-65mm, BOULDERS 65mm-120mm, ROCKS 100mm-150mm OR SIMILAR.

WAIMAKARIRI DISTRICT COUNCIL

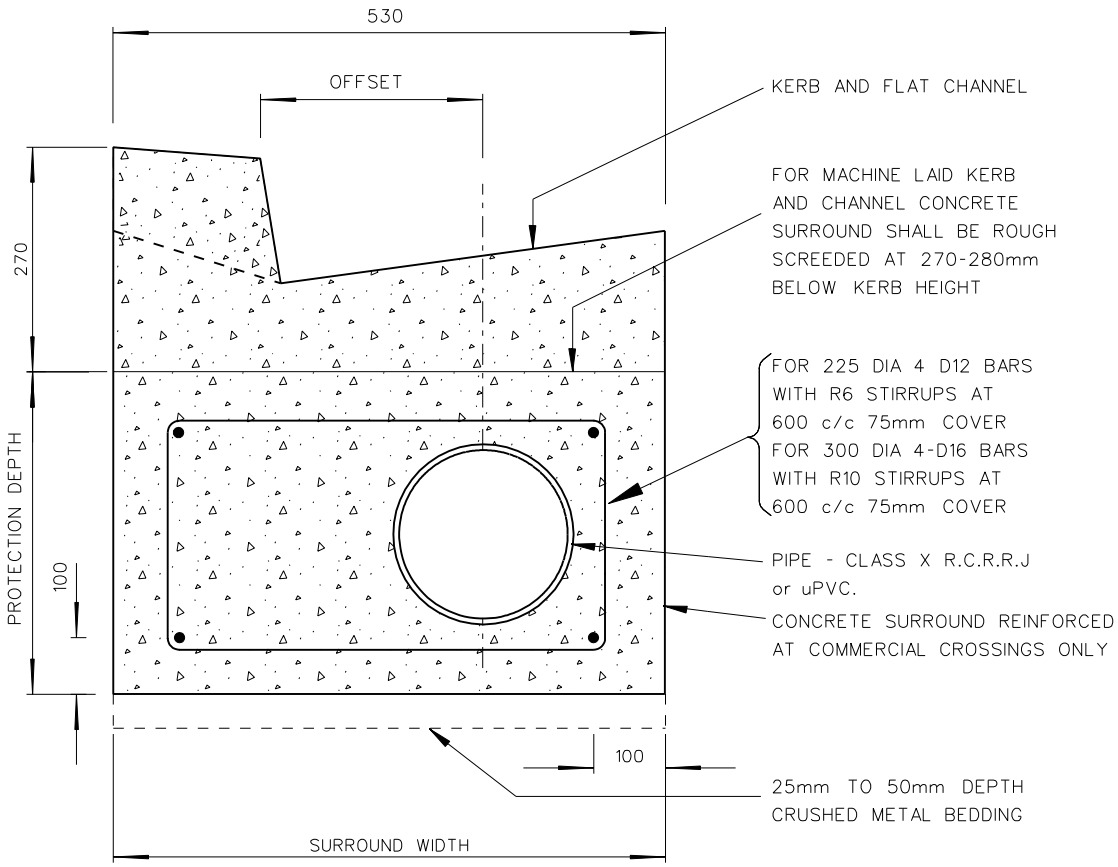
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	RURAL SOAK PIT	STANDARD DRAWINGS	330B

ISSUE	PLAN No.
B	600

NOTES

1. Concrete to comply with NZS 3109:1997.
2. Slump of concrete 50mm max.
3. Concrete kerb & channel shall have a minimum compressive strength of 20 MPa at 28 days.
4. Concrete surround and haunching for pipes shall have a minimum compressive strength of 15 MPa at 28 days.
5. Offsets on plans are measured to the invert of the channel.
6. Steel reinforced concrete surround shall extend each side of any commercial vehicle crossing by a minimum distance of 1.5m (see also drawings 600-201B, 600-212A and 600-212B).
7. Concrete protection shall terminate at a pipe joint.
8.

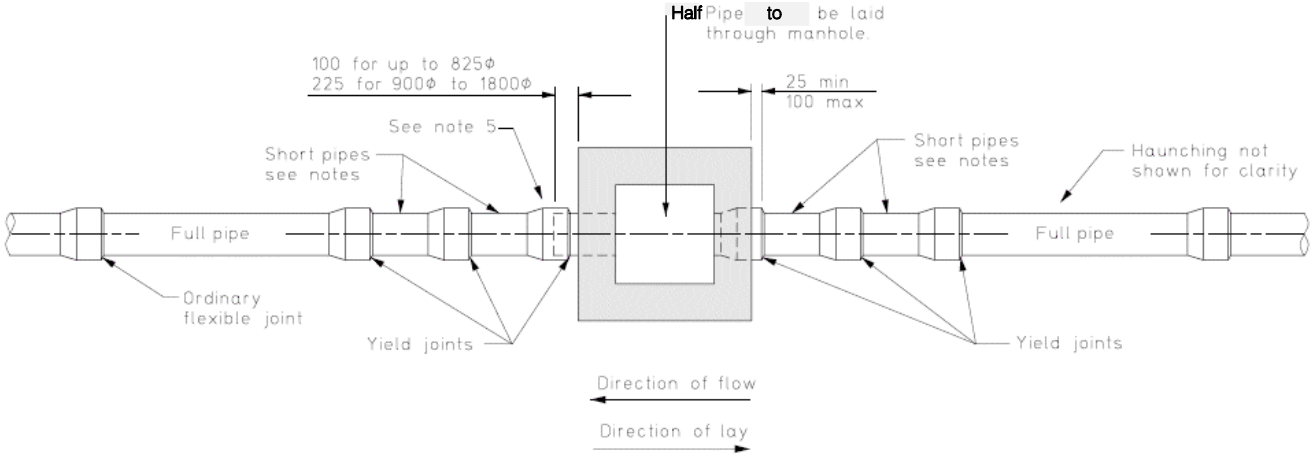
Pipe dia	Min depth kerb to invert	Conc surround width	Protection depth	Pipe offset from kerb face
225	620	560	460	180
250	650	580	490	190
300	700	630	530	210



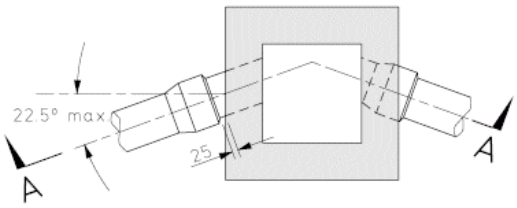
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Concrete Surround for Under Channel Piping 225mm – 300mm dia.	STANDARD DRAWINGS	331

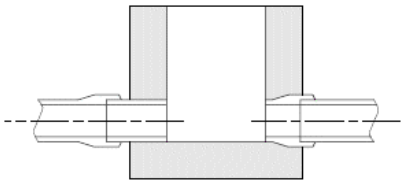
ISSUE	PLAN No.
D	600



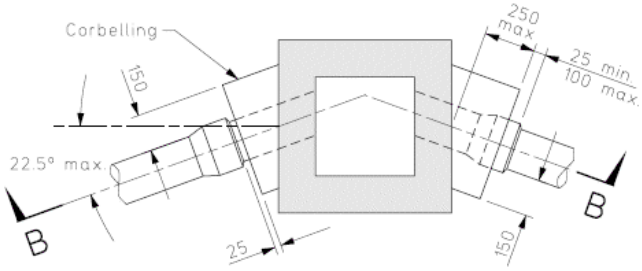
GENERAL METHOD OF PIPELAYING AT MANHOLES AND SUMPS



ANGLE CONNECTIONS

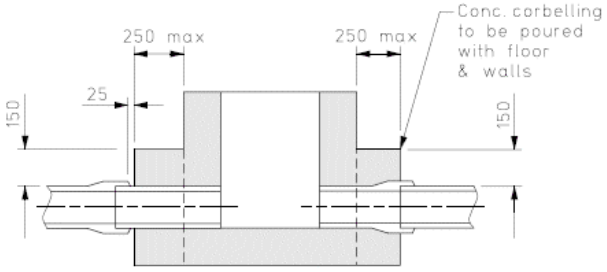


SECTION A-A



CORBEL DETAILS

Applies to straight & angle connections. Angle connections will be permitted for 100Φ to 300Φ pipelines. Special design required for pipes greater than 300Φ.



SECTION B-B

NOTES:

1. Pipelines that are concrete haunched or concrete surrounded shall have the concrete interrupted at each yield joint with softboard or equivalent.
2. Ceramic and vertically cast short pipes shall be minimum of 500mm & maximum of 800mm long.
3. For reinforced concrete short pipes the following table shall appy

PIPE DIAMETER	MIN	MAX
225	600	800
300	750	1000
375	900	1200
450	1100	1450
525	1300	1700
600	1500	1900
675	1700	2100

4. At each pipeline connecting to a manhole or sump, the No. of short pipes and yield joints shall comply with the following table:

PIPE DIAMETER	SHORT PIPES	YIELD JOINTS
100 to 525	2	3
600 to 675	1	2
750 to 2100	0	1
Sump	1	2

5. This pipe may be double spigot pipe with a socket finisher in the manhole wall with Engineer's approval. Maximum length pipe 1300mm, minimum length 450mm.
6. Corbelling where suitable pipe lengths are not available shall only be used with the Engineer's approval. For corbelling on precast manholes see SD303/1.
7. Gibault joints shall not be used as yield joints unless approved by the Engineer.

Based on CCC Drawing SD341/1

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

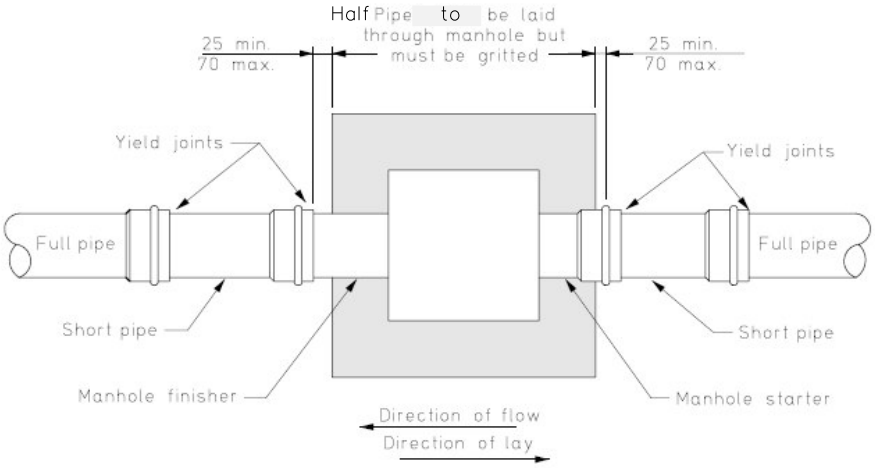
SHEET TITLE: PIPELAYING AT MANHOLES & SUMPS Concrete & Ceramic Pipes

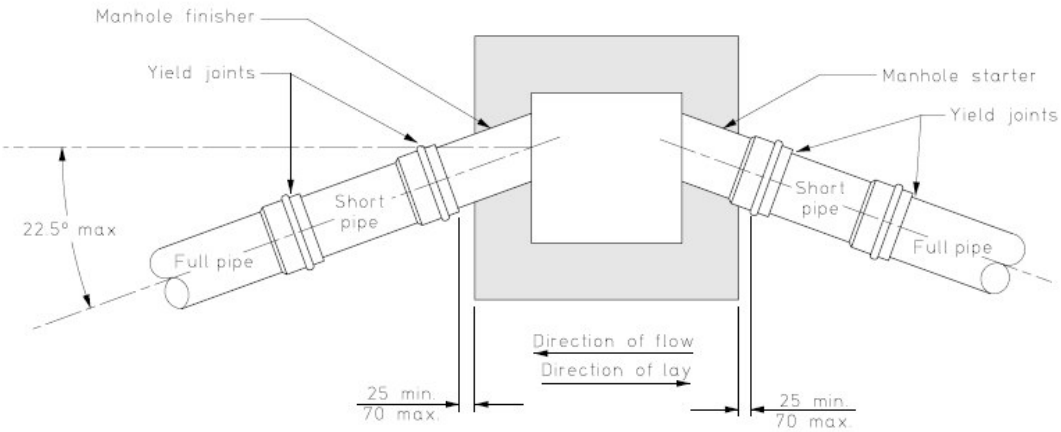
PROJECT TITLE: STANDARD DRAWINGS

SHEET: 341A

ISSUE: A

PLAN No.: 600



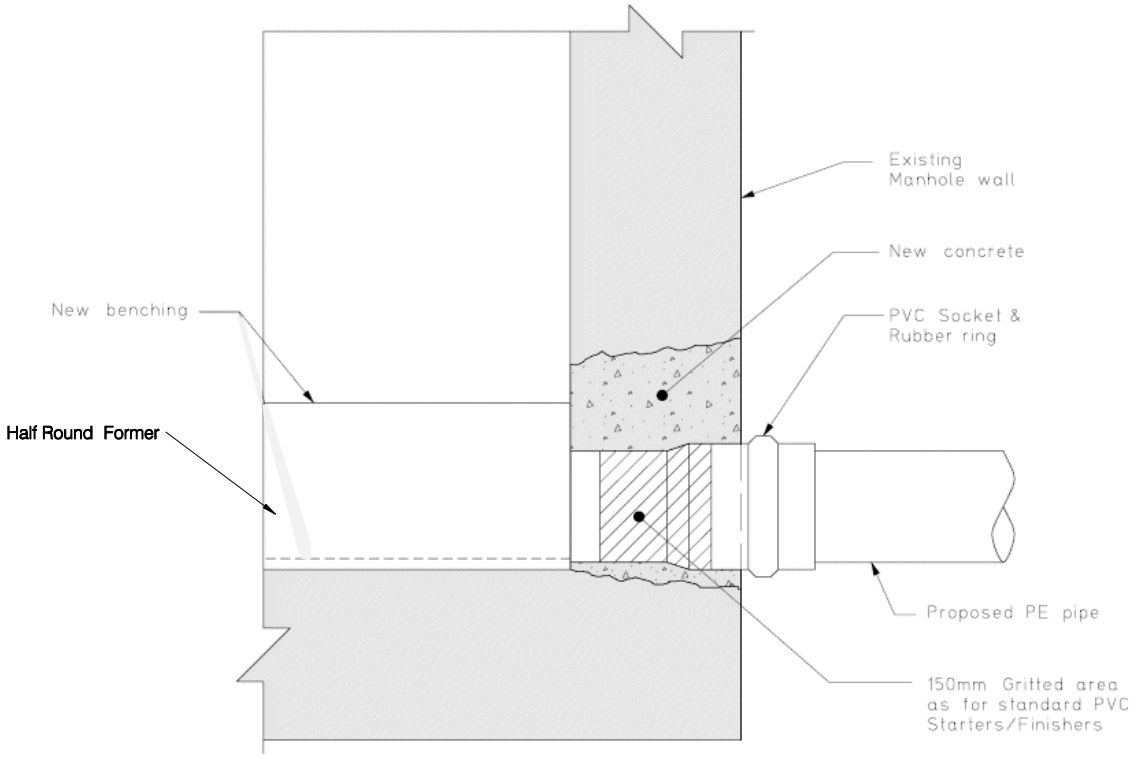


NOTES.

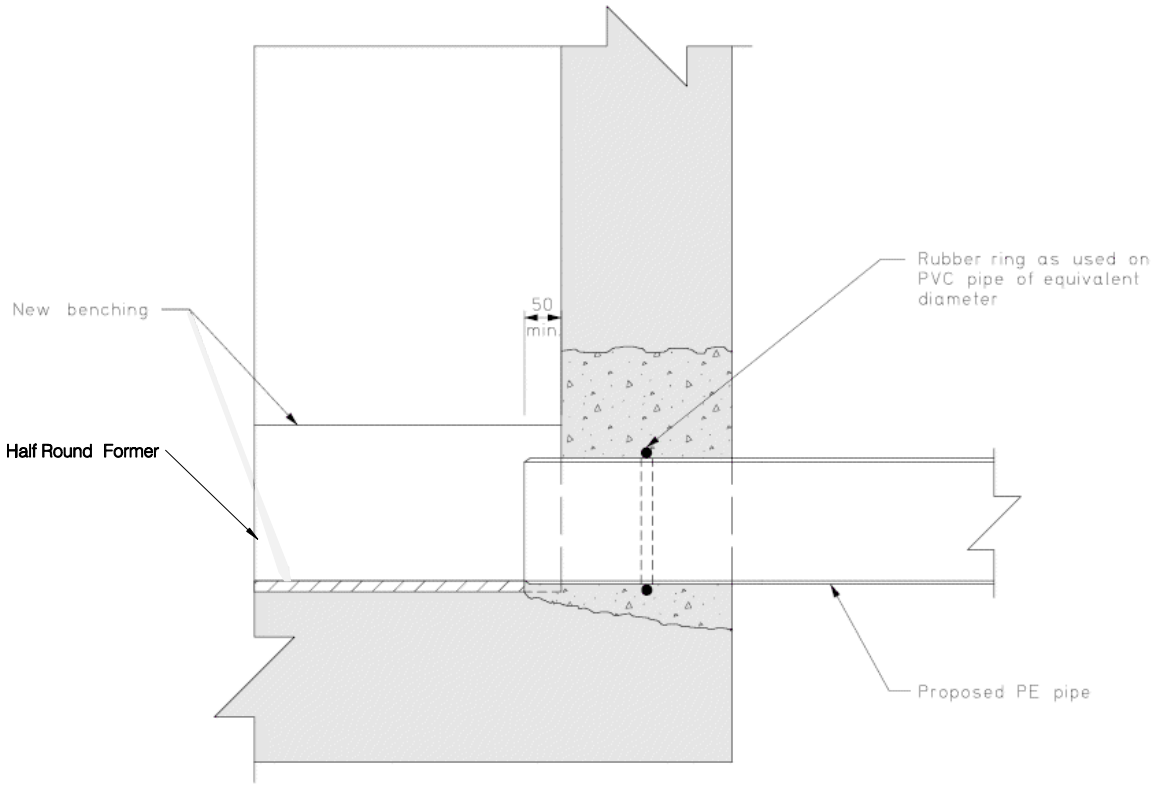
1. Manhole starters and finishers must be to plan SD343.
2. Short pipes shall have a minimum length of 700mm & a maximum of 1000mm.
3. On each pipeline connecting to a manhole there shall be one short pipe and two yield joints.
4. Pipelines which are concrete haunched shall have the concrete interrupted at each joint with softboard or equivalent.

Based on CCC Drawing SD341⁄2

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE PIPELAYING AT MANHOLES & SUMPS PVC Pipes	PROJECT TITLE STANDARD DRAWINGS	SHEET 341B ISSUE A / PLAN No. 600



PVC SOCKET METHOD



RUBBER RING METHOD

Based on CCC Drawing SD341/3

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

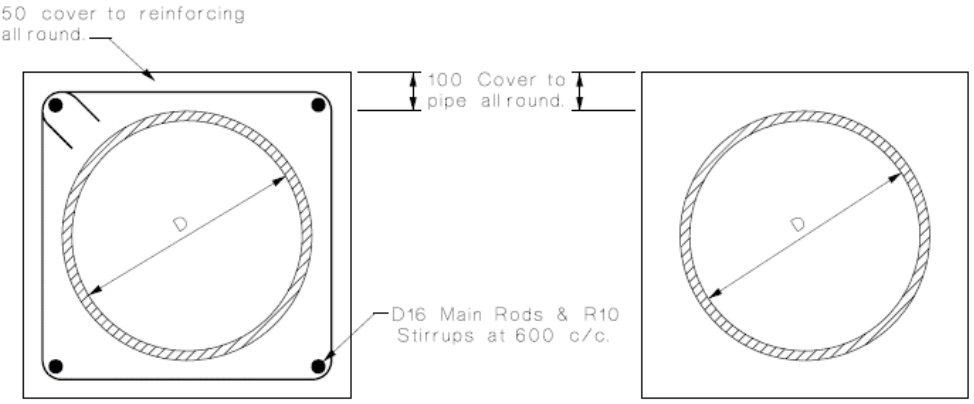
SHEET TITLE
PIPELAYING AT MANHOLES PE Pipes

PROJECT TITLE
STANDARD DRAWINGS

SHEET
341C

ISSUE
A

PLAN No.
600



REINFORCED CONCRETE SURROUND

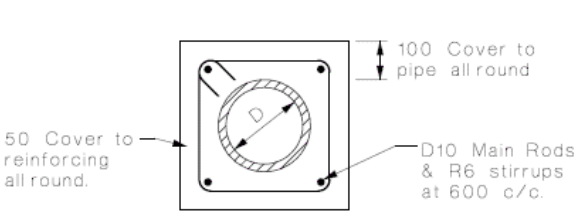
D=150Φ to 450Φ

TYPE A

PLAIN CONCRETE SURROUND

D=150Φ to 450Φ

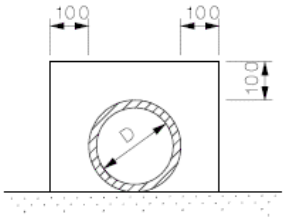
TYPE B



REINFORCED CONCRETE SURROUND

D=100Φ

TYPE C



CONCRETE COVER

D=100Φ

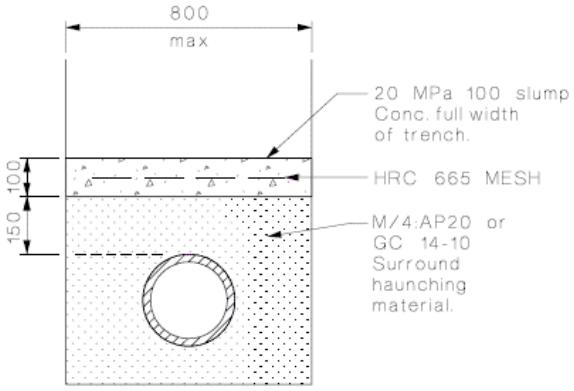
TYPE D

NOTES:

1. For diameters greater than 450mm special design applies.
2. Concrete shall be 20 MPa 100 slump with a tolerance of +0,-20mm.
3. Type of surround shall be specified.
4. Concrete surround shall terminate at a pipe joint.
5. Contraction joints shall be formed at pipe joints by interrupting concrete with 12mm Softboard or equivalent and applying approved sealant to the pipe joint to prevent entry of concrete. Any reinforcing steel shall be stopped unhooked 50mm from joint.
6. Contraction joint spacing - maximum:

	R.C.R.R.	Ceramic Pipes or vertically cast
Type A	10m	3.2m
Type B	5m	1.6m
Type C	Engineer to specify	3.2m
Type D		1.6m

7. With PVC pipe Type E protection to be used unless otherwise specified.



CONCRETE PROTECTION SLAB

MAXIMUM PIPE SIZE 375Φ

TYPE E

Based on CCC Drawing SD342

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

SHEET TITLE: PIPE PROTECTION

PROJECT TITLE: STANDARD DRAWINGS

SHEET: 342

ISSUE: B

PLAN No.: 600

WAIMAKARIRI DISTRICT COUNCIL
technical services

Based on CCC Drawing SD343

TO BE REVISED

NOT TO SCALE

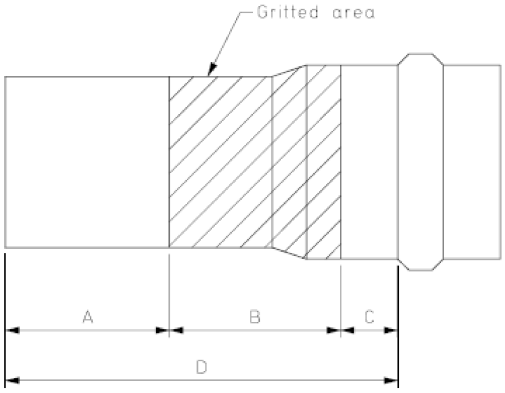
SHEET TITLE
PVC MANHOLE STARTERS & FINISHERS

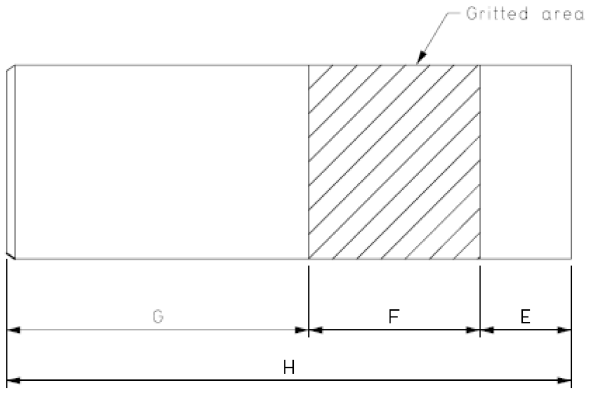
PROJECT TITLE
STANDARD DRAWINGS

SHEET
343

ISSUE
A

PLAN No.
600





FOR STRAIGHT THROUGH, 90° & CIRCULAR MANHOLES

Pipe DN	A	B	C	D
100	144	150	50	344
150	129	150	50	329
175	113	150	50	313
225	95	150	50	295
300	82	150	50	282

Pipe DN	E	F	G	H
100	80	150	265	495
150	80	150	268	498
175	80	150	272	502
225	80	150	276	506
300	80	150	290	520

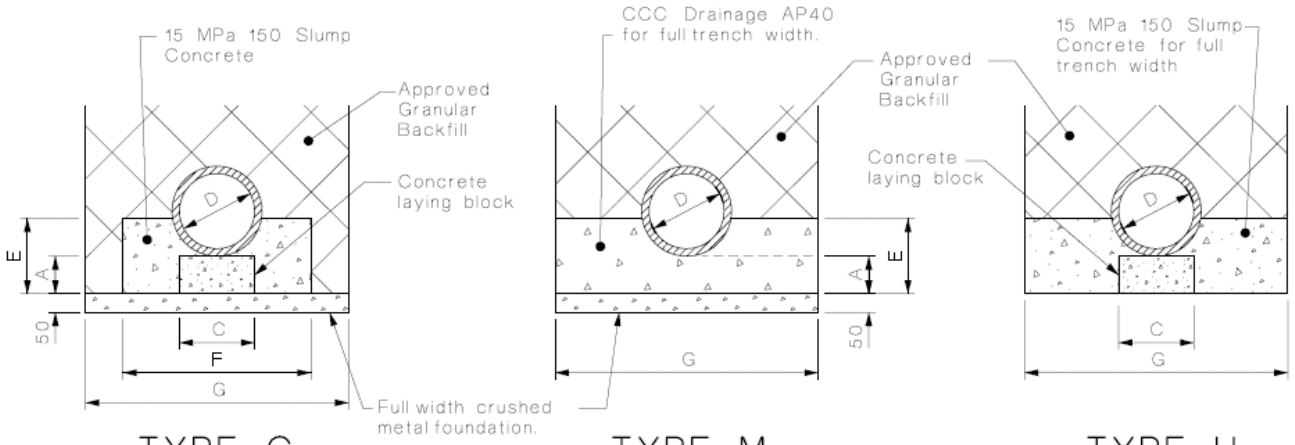
FOR ANGLE MANHOLES

100	130	200	100	430
150	130	200	100	430
175	100	200	150	450
225	130	200	150	480
300	170	200	150	520

MANHOLE STARTERS

100	110	250	230	590
150	120	250	230	600
175	140	250	260	650
225	120	250	280	700
300	150	250	310	770

MANHOLE FINISHERS



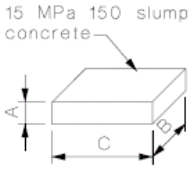
TYPE C
Concrete Haunching

TYPE M
Metal Haunching

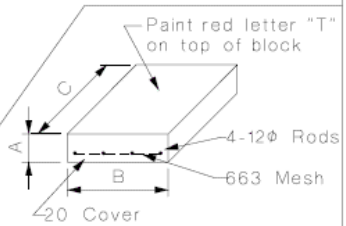
TYPE H
Concrete Haunching without Foundation Metal

PIPE Φ D	CONCRETE LAYING BLOCK						
	DEPTH A	LENGTH B	WIDTH C	WEIGHT kg	E	F	G
100	75	150	150	4.1	145	350	450
150	100	150	150	5.4	170	450	650
200	100	150	200	7.2	200	500	700
225	100	150	200	7.2	200	500	700
250	100	150	250	9	200	500	800
300	100	150	250	9	200	580	800
375	100	200	300	14.4	200	660	900
450	120	200	350	20	250	720	1000
525	120	200	400	23	250	840	1100
600	150	200	400	29	300	900	1200
675	150	200	500	36	300	1000	1300
750	150	250	600	54	350	1060	1300
825	150	250	600	54	350	1160	1400
900	150	300	600	65	350	1240	1500
975	150	300	700	76	350	1300	1600
1050	150	300	700	76	400	1400	1700
1200	150	300	800	86	400	1560	1900
1350	150	300	900	97	450	1720	2100
1600	150	350	900	113	450	1950	2400
1800	150	450	1000	162	500	2200	2600
2100	150	600	1000	216	500	2500	2900

LAYING BLOCKS



Concrete Laying Block



Reinforced Concrete Laying Block

NOTES:

1. Contraction joints shall be formed at pipe joints by interrupting with softboard or equivalent. Any reinforcing steel shall be stopped unhooked 50mm from joint.
2. 100Φ with type M haunching shall have a minimum of 25mm foundation metal.
3. In fine grain soils and where crushed metal haunching is used the haunching shall be fully wrapped in an approved geotextile.

Based on CCC Drawing SD344/1

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

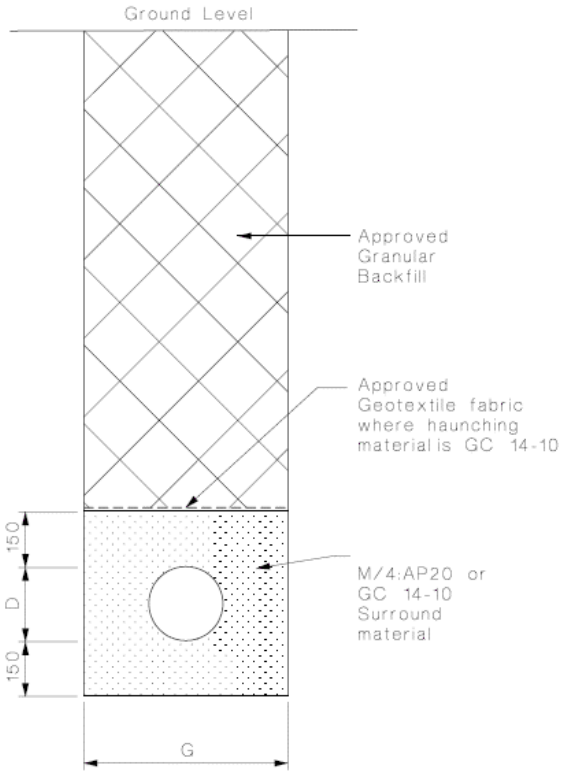
SHEET TITLE: PIPELAYING HAUNCHING DETAILS Concrete Pipes

PROJECT TITLE: STANDARD DRAWINGS

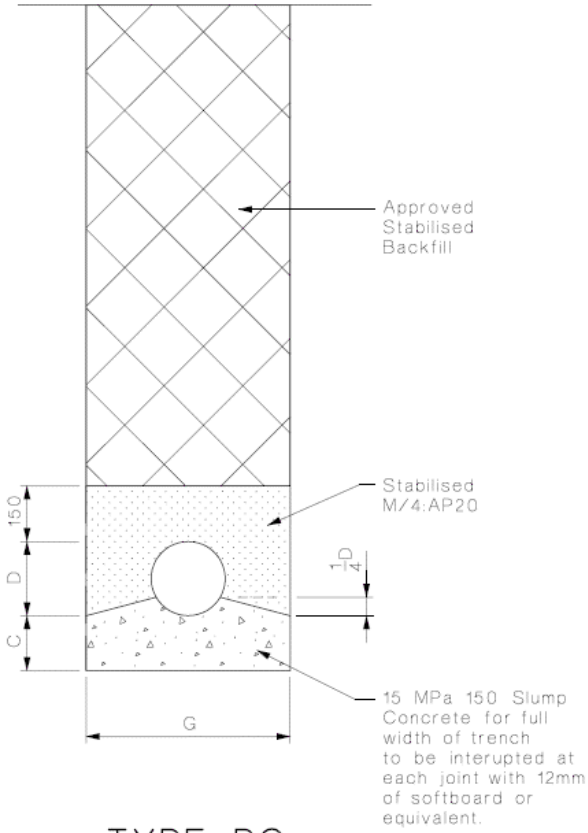
SHEET: 344A

ISSUE: A

PLAN No.: 600



TYPE P
Standard Haunching



TYPE PC
Concrete Haunching

Nominal Pipe Diameter DN	Trench Width ✳G	Concrete haunching $\frac{1}{4}$D	C
100	450	25	75
150	500	40	100
175	550	50	100
225	600	60	100
300	650	80	100
375	750	100	100

✳ In very soft ground G may need to be increased. See manufacturers guidelines.

NOTE:

1. In fine grain soils and where GC 14-10 surround is used the surround shall be fully wrapped in an approved geotextile.

Based on CCC Drawing SD344/2

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

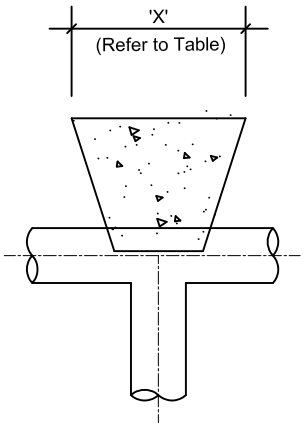
SHEET TITLE
PIPELAYING HAUNCHING DETAILS Flexible/Ceramic Pipes

PROJECT TITLE
STANDARD DRAWINGS

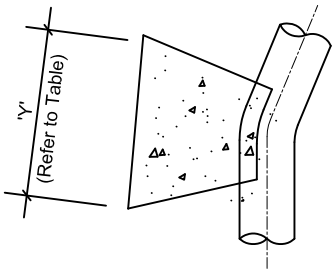
SHEET
344B

ISSUE
A

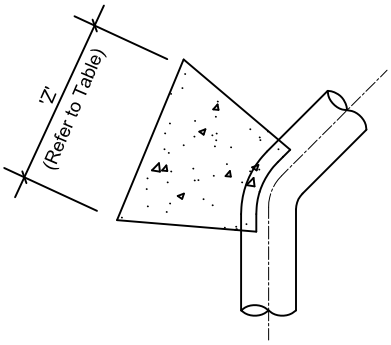
PLAN No.
600



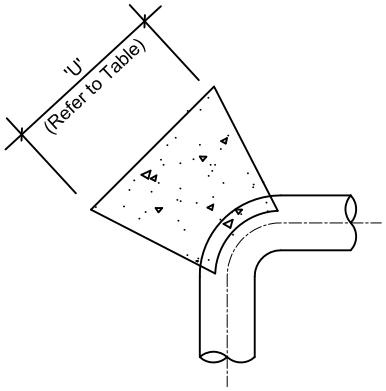
TEE JUNCTION



22.5° BEND



45° BEND



90° BEND

PIPE OUTSIDE DIAMETER, OD (m)	TEE HEIGHT / WIDTH (m)	22.5°BEND HEIGHT / WIDTH (m)	45°BEND HEIGHT / WIDTH (m)	90°BEND HEIGHT / WIDTH (m)
OD	$X = \sqrt{\frac{OD^2 \times P}{64}}$	$Y = \sqrt{\frac{OD^2 \times P}{164}}$	$Z = \sqrt{\frac{OD^2 \times P}{83}}$	$U = \sqrt{\frac{OD^2 \times P}{45}}$
0.115	0.50x0.50	0.31x0.31	0.44x0.44	0.59x0.59
0.165	0.72x0.72	0.45x0.45	0.63x0.63	0.85x0.85
0.180	0.78x0.78	0.49x0.49	0.68x0.68	0.93x0.93
0.225	0.98x0.98	0.61x0.61	0.85x0.85	1.16x1.16
0.250	1.09x1.09	0.68x0.68	0.95x0.95	1.29x1.29
0.280	1.22x1.22	0.76x0.76	1.06x1.06	1.45x1.45
0.315	1.37x1.37	0.85x0.85	1.20x1.20	1.63x1.63
0.355	1.54x1.54	0.96x0.96	1.35x1.35	1.83x1.83
0.400	1.74x1.74	1.08x1.08	1.52x1.52	2.07x2.07
0.500	2.17x2.17	1.36x1.36	1.90x1.90	2.58x2.58

- For pipe sizes specified and for a design pressure of 1200kPa, use the thrust block dimensions specified in the Table
- For non-standard pipe size or where the design pressure is not 1200kPa, use the formula supplied, which requires the following inputs
  OD = Design Pipe Outside Diameter (m)
  P = Design Pressure (kPa)

Notes:

- Faces X, Y, Z and U to be poured against natural ground.
- Thrust blocks designed for minimum soil bearing capacity of 50kPa. Thrust blocks in unsuitable soils required specific design.
- Concrete to be 15MPa, 150mm slump, unreinforced.
- Do not use for upward thrust (specific design required).
- Bends and tees adjacent to concrete shall be wrapped with 6mm Denso tape or 250 microns Polyethylene film or equivalent.
- A safety factor is not included or required unless otherwise stated by Council.

WAIMAKARIRI DISTRICT COUNCIL

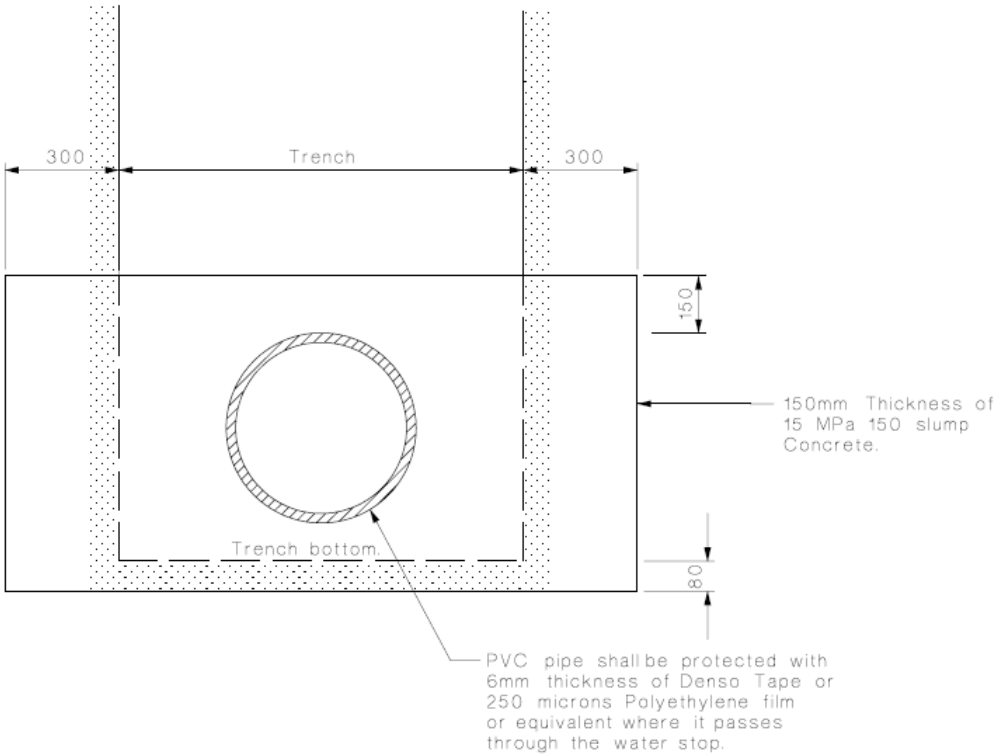
PROJECT TITLE: Standard Drawings

SHEET TITLE: Thrust Blocks

PLAN No. 600

ISSUE B

SHEET 346



NOTES:

1. Water stops shall generally be at the following spacings:

PIPE GRADIENT	MAXIMUM SPACING (metres)
1 : 15 or steeper	12
1 : 25	15
1 : 50	30
1 : 100	60

Provided:

a. Intermediate grades are determined by interpolation.

b. Manholes poured against a trimmed excavation may be reckoned as water stops.

c. Where a flatter grade occurs below a steeper grade, at least one further water stop shall be located on the upper section of the flatter grade at a distance from the change in grade equal to the above table spacing for the upper grade.

Based on CCC Drawing SD347

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

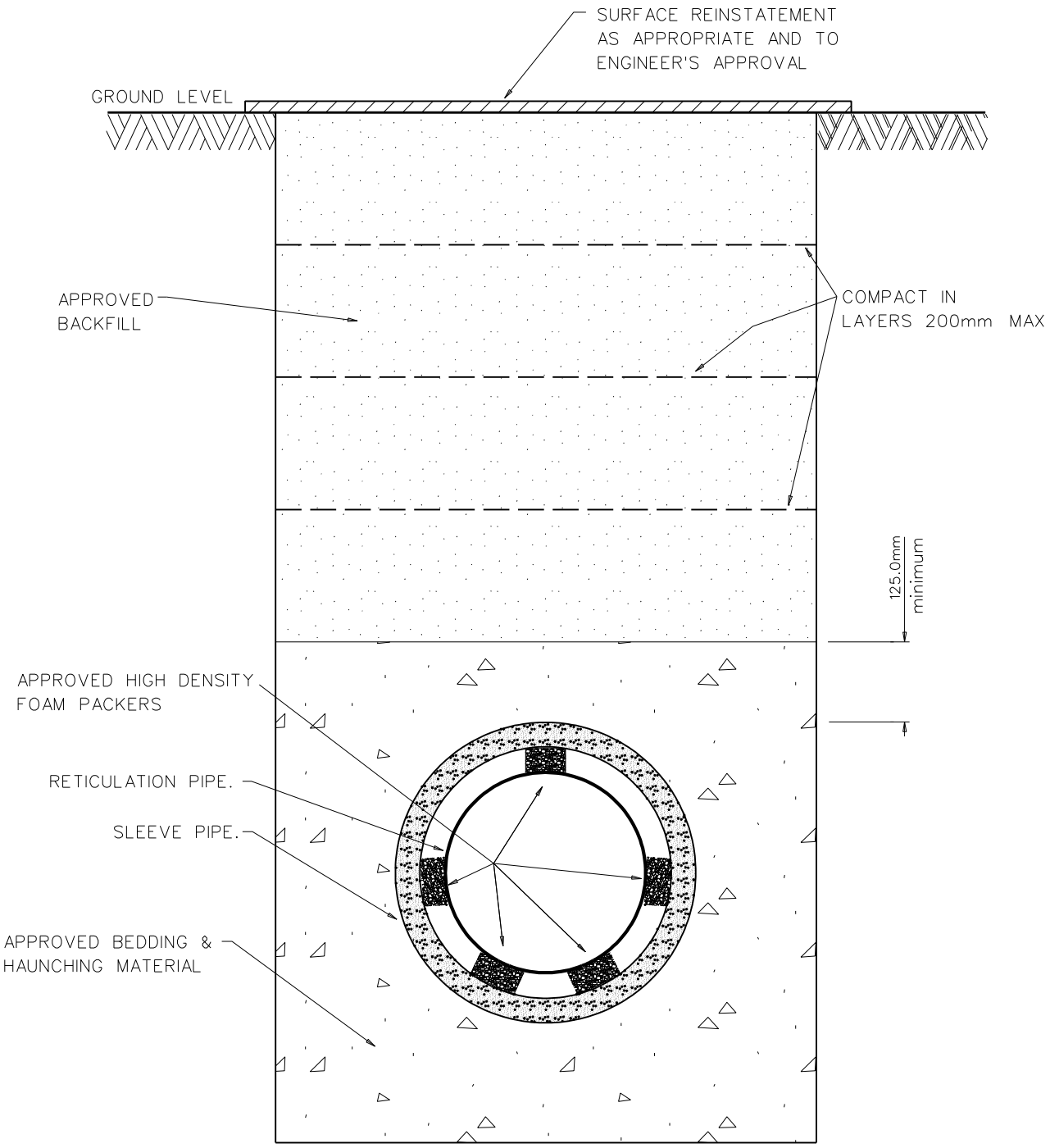
SHEET TITLE: WATER STOPS

PROJECT TITLE: STANDARD DRAWINGS

SHEET: 347

ISSUE: B

PLAN No.: 600



WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	SLEEVING RETICULATION MAINS	STANDARD DRAWINGS	351

ISSUE	PLAN No.
C	600

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

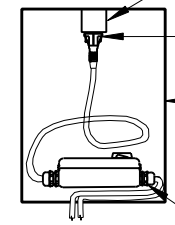
SHEET TITLE
Septic Tank Wet Wells on Council Retic. Rural Schemes

PROJECT TITLE
STANDARD DRAWINGS

SHEET
352A

ISSUE
E

PLAN No.
600



PDL 56SO320

PDL 56P320

Vynco Hi Box
(NEAG 3546)
Or Similar

Pump Controller and
Overload Switch

View Inside
Hi Box

Note

When Pumps Require Service,
Return Complete With Controller

Door Opening
Away From Lid

Support Angle

Access Lid Must Be Water Tight
and Finished 100mm Above
Finished Ground

Sealed Joint

100Ø Pipe

Socla Non Return Valve

Vent to suit local conditions

Reinforced Concrete Lid

Ground level

Bracket

Lifting
Chain

50mm Pressure Pipe
to Boundary

Flexible Coupling

Stainless Steel
Camlock Quick
Coupling

High Level Alarm

110Ø Sewer From
Septic Tank Fitted With
a Biological Filter

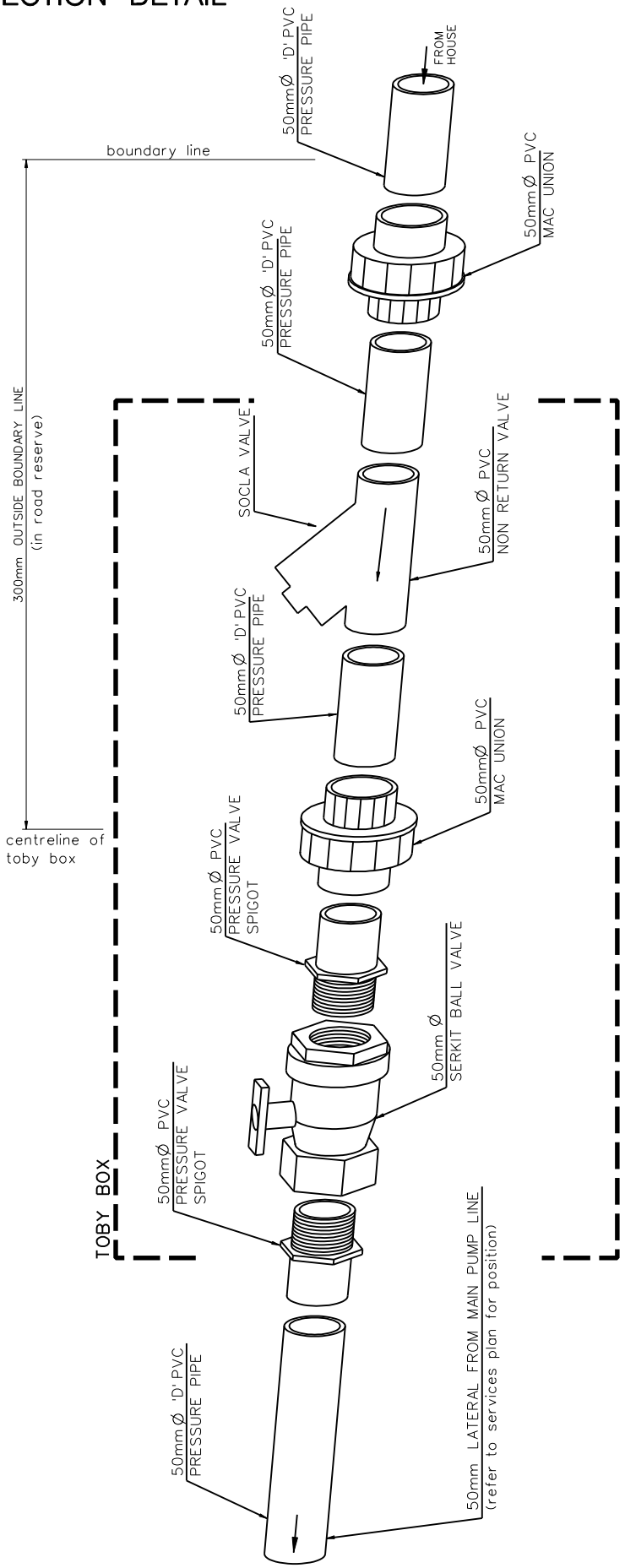
On/Off Float Switch

Lowara Pump
GLM-55-WDC

900 ID Reinforced
Concrete Chamber 1200mm Long

Concrete Benching

TYPICAL CONNECTION DETAIL

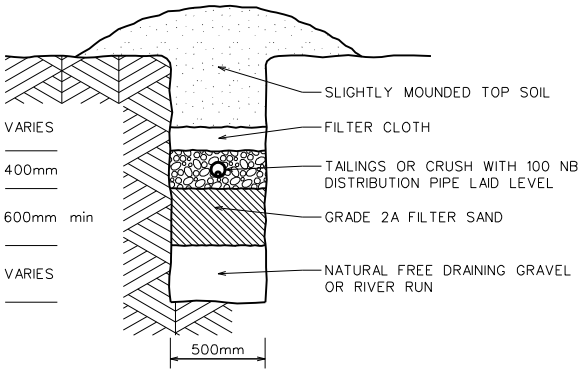


WAIMAKARIRI DISTRICT COUNCIL
technical services

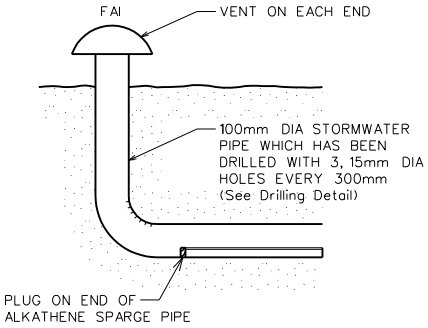
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	Rural Zone Package Sewage Treatment Service Lateral	STANDARD DRAWINGS	352B

ISSUE	PLAN No.
D	600

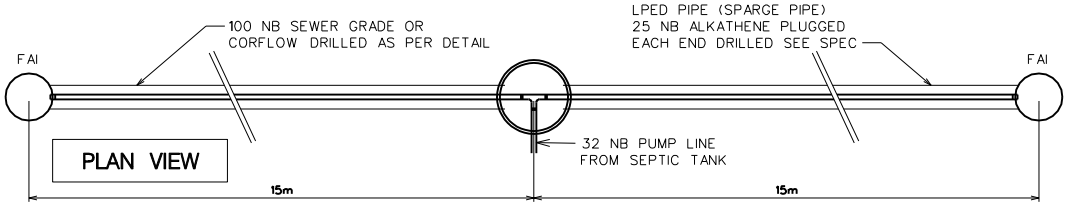
STANDARD 30m SAND FILTER SUITABLE FOR EFFLUENT TREATMENT DISPOSAL INTO FREE DRAINING GRAVEL WITH GROUND WATER GREATER THAN 1.5m DEEP



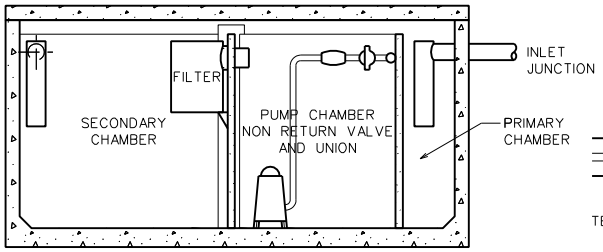
TRENCH CROSS SECTION



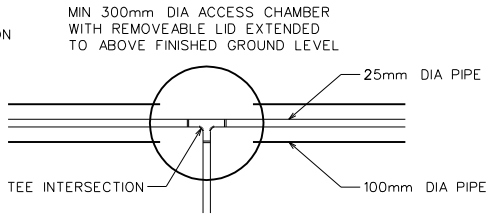
SECTION THROUGH VENT ON END OF 100mm PIPE



PLAN VIEW

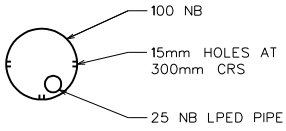


TYPICIAL 5000 LITRE MULTI CHAMBER SEPTIC TANK AND PUMP SETUP



DETAIL OF JUNCTION BOX (PLAN VIEW)

DRILLING DETAIL



SPECIFICATION NOTES:

1.) GENERAL: THIS SYSTEM IS DESIGNED FOR TREATMENT/DISPOSAL OF HIGH QUALITY SEPTIC TANK EFFUENT TO MAXIMUM WASTEWATER FLOW OF 800 LITRES PER DAY ROUGHLY THE FLOW FROM A THREE-BEDROOM RESIDENTIAL HOUSE WITH 5-6 PEOPLE IN RESIDENCE. NO OTHER DRAINAGE WATER SHALL ENTER THE SYSTEM, EITHER BEFORE OR AFTER THE SEPTIC TANK STAGE.

2.) SEWAGE FROM THE HOUSE SHALL BE PRE-TREATED AS A MINIMUM BY A TWO CHAMBER OR DUAL SEPTIC TANK AS PER THE CAPACITY RECOM-MENDATIONS OF NZS 4610:1982. CONNECTION FROM THE FIRST CHAMBER TO THE SECOND, AND THE FINAL OUTLET SHALL BE BY "TEES" HAVING THE SUBMERGED INLET FITTED WITH A GAS-DEFLECTING BAFFLE. A LIST OF COMMERCIAL SUPPLIERS OF SUITABLE TWO-CHAMBER SEPTIC TANKS (THAT INCLUDES ALSO AN ANAEROBIC UPFLOW ROCK FILTER (UARF)) MAY BE OBTAINED FROM THE COUNCIL.

3.) THE SEPTIC TANK EFFLUENT SHALL BE COLLECTED IN A PUMP CHAMBER FITTED WITH A SUBMERSIBLE OR SURFACE-MOUNTED PUMP CONTROLLED BY FLOAT SWITCH(S) TO DELIVER A 200 LITRE DOSE VIA A FEED PIPE TO THE LOW PRESSURE DISTRIBUTION PIPE. THERE SHALL BE A VALVE FITTED TO PREVENT BACKFLOW. SUITABLE PUMPS ARE CENTRIFUGAL PUMPS HAVING ZERO FLOW AT A STATIC HEAD IN THE RANGE 5 TO 10 METRES AND A PUMPING CAPACITYOF 50 TO 150 LITRES/MINUTE AT 2m STATIC HEAD. THERE SHALL BE AN ALARM FLOAT SWITCH INSTALLED TO GO ON AT WATER LEVEL 100mm ABOVE OPERATING HIGH WATER LEVEL; THE ALARM SHOULD BE SUITABLY LOCATED IN THE DWELLING. THERE SHOULD BE FAILURE STORAGE OF ABOUT 200 LITRES BEFORE THE SYSTEM BACKS UP. THERE SHOULD NOT BE A FAILURE OVERFLOW DRAIN.

4.) THE FEED PIPE FROM THE PUMP TO THE LOW PRESSURE DISTRIBUTION PIPE (LPDP) SHOULD BE 32 OR 40mm DIAMETER PVC PIPE. IT SHOULD BE BURIED TO PROTECT IT FROM MECHANICAL DAMAGE AND FROM FREEZING. IF USE OF LONG FEED LINE (GREATER THAN 50 METRES) OR AN ELEVATION OF GREATER THAN 1.0m FROM THE HIGH WATER LEVEL IN THE PUMP-SUMP TO THE INVERT OF THE LPDP IS REQUIRED, THEN A LARGER PUMP MAY BE NEEDED. IF THERE IS A FALL OF GREATER THAN 2.5m FORM THE OUTLET OF THE TANK TO THE LPDP, THEN THERE IS THE POSSIBILITY OF USING A TIPPING BUCKET OR DOSING SIPHON INSTEAD OF A PUMP FOR LOADING THE LPDP.

5.) SIZING AND SPACING OF HOLES IN 25mm LDPE PIPE: BEFORE THE 25mm PIPE IS PLACED INSIDE THE 110 STORMWATER PIPE, IT IS IMPORTANT TO TEST THE HOLE SIZING AND SPACING AND MATCH THESE HOLES TO THE CAPACITY OF THE PUMP BEING USED. START WITH 5mm HOLES EVERY 1000mm (1.0m), PLUG THE END AS SHOWN ON THE PLAN, CONNECT BOTH 25mm RUNS OF PIPE, BUT LAY ON GROUND ADJACENT TO TRENCH, CONNECT THE 32mm PIPE FROM THE PUMP CHAMBER, SO THAT THE DISTANCE THE EFFLUENT IS PUMPED IS SIMILAR. FILL CHAMBER, SET PUMP OPERATING, AND CHECK FLOW OF WATER OVER THE COMPLETE LENGTH OF BOTH RUNS OF THE 25mm PIPE. THE SIZE OF HOLES MAY NEED TO BE INCREASED SLIGHTLY AT THE END, AND POSSIBLY THE SPACING OF THE HOLES DECREASED, SO THAT A SIMILAR FLOW OF WATER IS ACHIEVED FROM EACH PIPE OVER THE COMPLETE LENGTH.

SEE ALSO GENERAL SEPTIC TANK INSTALLATION SPECIFICATIONS.

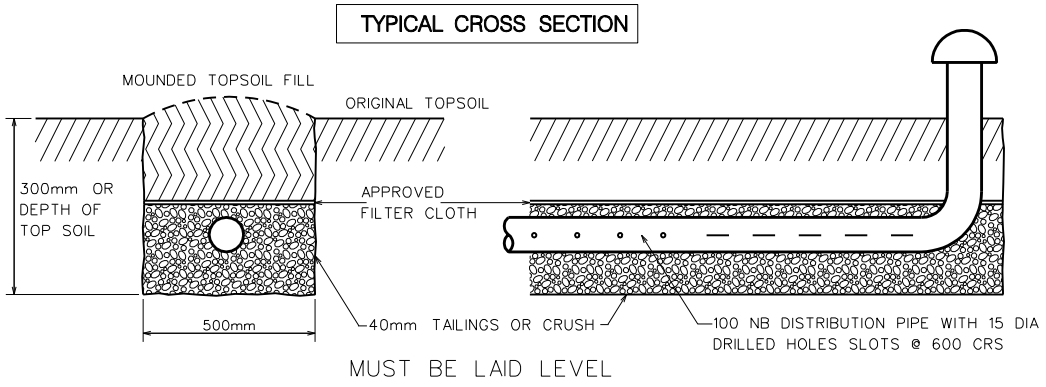
IN ALL CASES EFFLUENT DISPOSAL MUST COMPLY WITH THE CANTERBURY REGIONAL COUNCILS GENERAL AUTHORISATION.

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	LAND BASED TREATED EFFLUENT DISPOSAL SYSTEM 1D	STANDARD DRAWINGS	354A

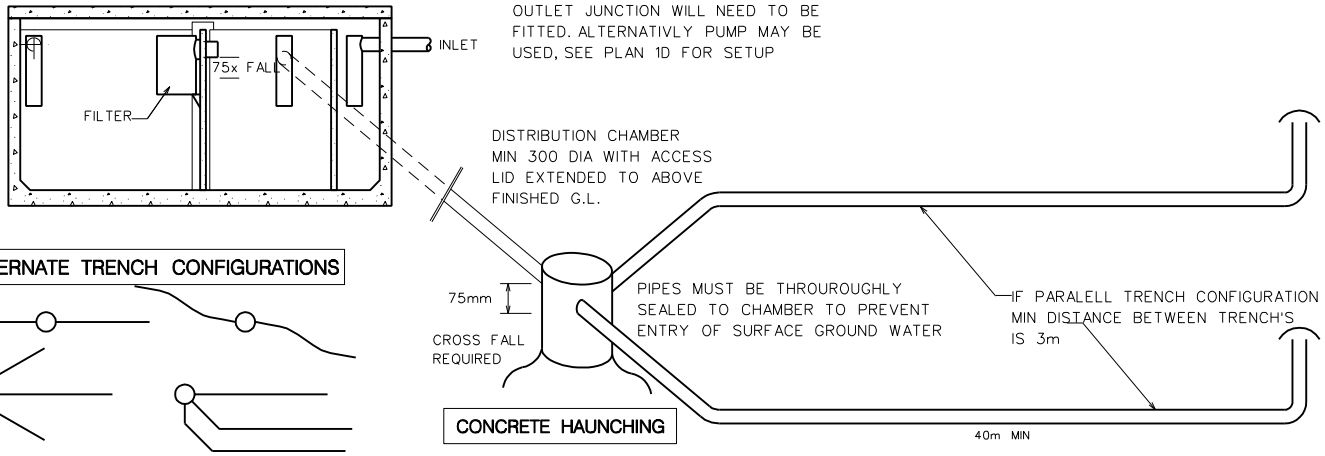
ISSUE	PLAN No.
B	600

TYPICAL CROSS SECTION



PARTIAL EVAPOTRANSPIRATION SHALLOW TOP SOIL EFFLUENT DISPOSAL SYSTEM (EUT, FIELD TILE) FOR USE OVER CLAY WHERE GROUND WATER CONTAMINATION IS UNLIKELY.

TYPICAL 5000 LITRE MULTI CHAMBER SEPTIC TANK. ON GRAVITY SITUATIONS OUTLET JUNCTION WILL NEED TO BE FITTED. ALTERNATIVLY PUMP MAY BE USED, SEE PLAN 1D FOR SETUP



SPECIFICATION NOTES:

1.) INITIALLY BASED ON NZS4610 BASIC FIELD TILE SYSTEM AND SOIL LIMITATION CATEGORY C–D. LOCAL EXPERIANCE HAS SHOWN IN MOST CASES THAT 80m IN LENGTH WILL BE SUFFICIENT BASED ON A MINIMUM OF 300mm OF TOP SOIL COVER AND AN 800 LITRE PER DAY MAX FLOW RATE.

2.) SITING: THE TRENCH SYSTEM SHOULD BE SITED IN A HIGH AND DRY AREA EXPOSED TO THE SUN AND WIND FOR BEST RESULTS AND AWAY FROM LARGE TREES, OPEN DRAINS, STREAMS OR PONDS. THE AREA SHOULD BE AS LEVEL AS POSSIBLE. SURFACE AND STORMWATER MUST BE DIRECTED AWAY FROM THE DISPOSAL AREA AND ON HILL SITES SURFACE WATER CUT OFF DRAINS SHOULD BE INSTALLED GENERALLY HILL SITES GREATER THAN 15 WILL NOT BE SUITABLE WITHOUT SPECIAL DESIGN CONSIDERATIONS.

3.) TRENCH'S SHOULD BE CAREFULLY EXCAVATED WITH UNIFROM WIDTH AND DEPTH AND TO FOLLOW GROUND CONTOURS, LOW SPOTS SHOULD BE AVOIDED OR MAY NEED TO BE BUILT UP. EXCAVATION BEYOUND THE TOP SOIL DEPTH INTO THE CLAY WILL NOT BE BENIFICIAL AND SHOULD BE AVOIDED. THE TRENCH SIDES AND BASE MUST BE SCARIFIED BEFORE PLACING ANY FILTER MATERIAL.

4.) THE DISTRIBUTION PIPES MUST BE DRILLED OR SLOTTED EVENLY ALONG EACH SIDE OF THE PIPE AND MUST BE LAID LEVEL WITH A MINIMUM OF 100mm OF MEDIA BENEATH. THIS IS TO PROMOTE AN EVEN DISTRIBUTION OF EFFLUENT OVER THE WHOLE TRENCH SYSTEM.

5.) THE DISTRIBUTION CHAMBER SHOULD BE CENTRALLY LOCATED TO THE TRENCH SYSTEM AND BE LARGE ENOUGH TO PERMIT READY ACCESS FOR CLEANING AND INSPECTION. THE CHAMBER MUST EXTEND TO ABOVE THE FINISHED GROUND LEVEL. IF A PVC CHAMBER IS USED IT SHOULD BE SET IN A MIN 150mm CONCRETE BASE HAUNCHED AND PLASTERD TO THE INSIDE. THE INLET AND DISTRIBUTION PIPES MUST BE SEALED TO
THE CHAMBER. ON PVC, EPOXY RESIN SHOULD BE APPLIED TO THE INSIDE
AND OUTSIDE OF THE CHAMBER AFTER BACKFILL COMPLETION TO AVOID DISTRUBANCE OF THE JOINT.

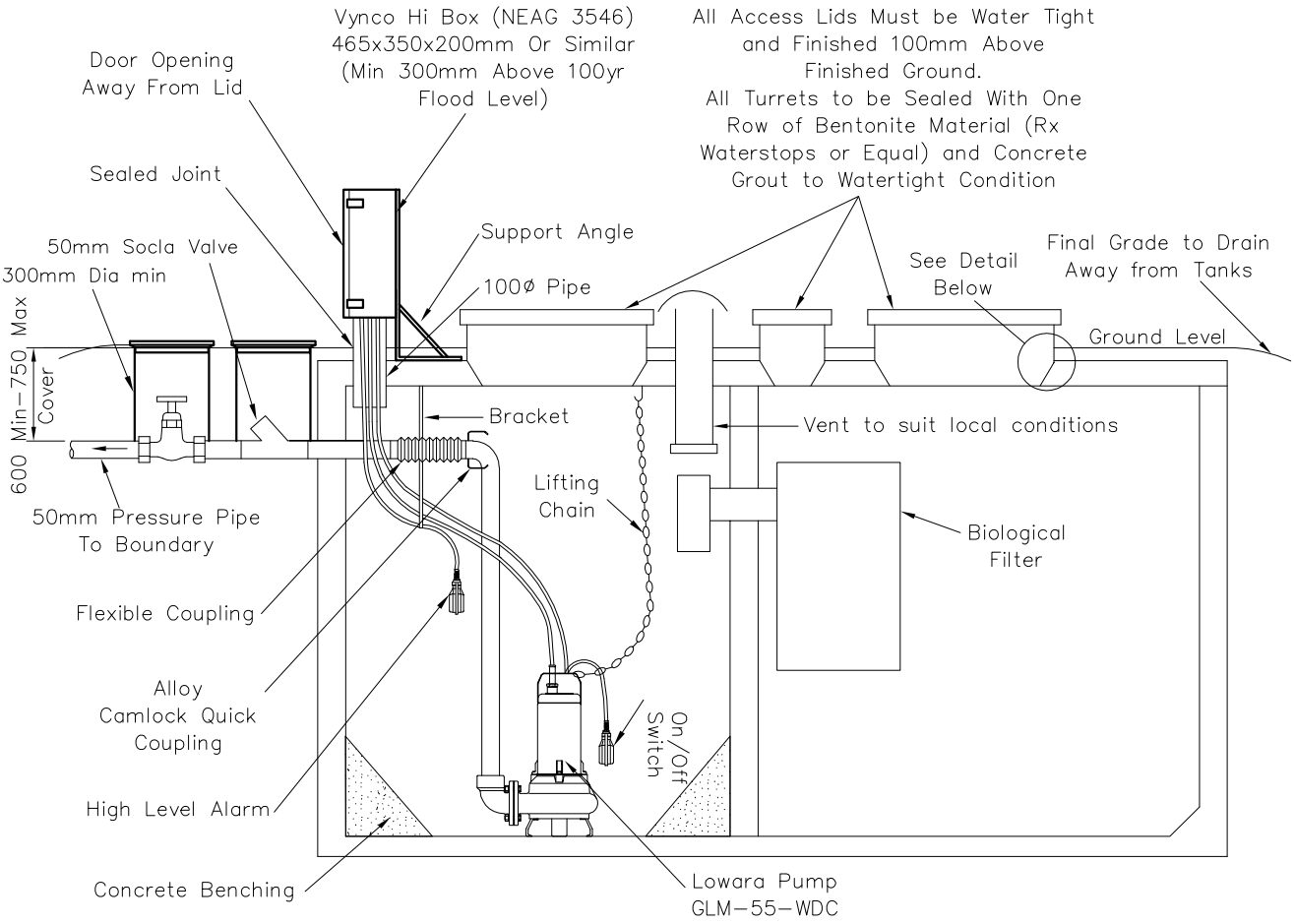
SEE ALSO GENERAL SEPTIC TANK INSTALLATION SPECIFICATIONS.

IN ALL CASES EFFLUENT DISOSAL MUST COMPLY WITH THE CANTERBURY REGIONAL COUNCILS, GENERAL AUTHORISATION.

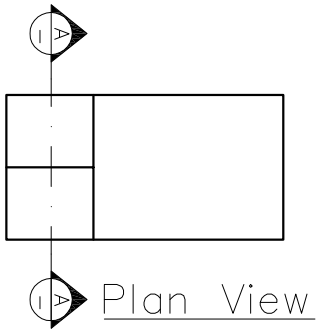
WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	LAND BASED TREATED EFFLUENT DISPOSAL SYSTEM 2	STANDARD DRAWINGS	354B

ISSUE	PLAN No.
B	600

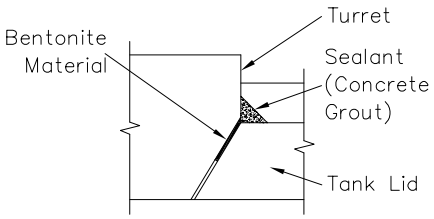


Section A–A

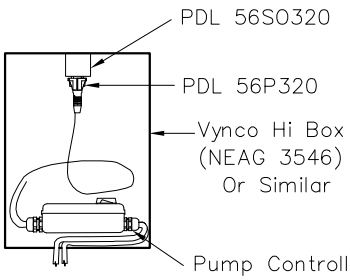


Plan View

Typical Three Chamber
Septic Tank



Lid Sealing
Detail



View Inside
Hi Box

The Wastewater Treatment Unit shall be a Three–Chamber Septic Tank designed to cater for the number of people for which the dwelling is designed.

The Wastewater Unit shall be designed in accordance with AS/NZS 1546.1:2008. The Wastewater Unit may require a hydrostatic flange to be included in some areas.

The Wastewater Unit shall have a biological filter to screen suspended solids from entering the pump chamber.

The Pump shall be a Lowara GLM–55–WDC (Brown Brothers Christchurch).

The Wastewater Unit Shall Have a Maximum Depth of 1.5m and shall not be sited in areas susceptible to surface flooding.

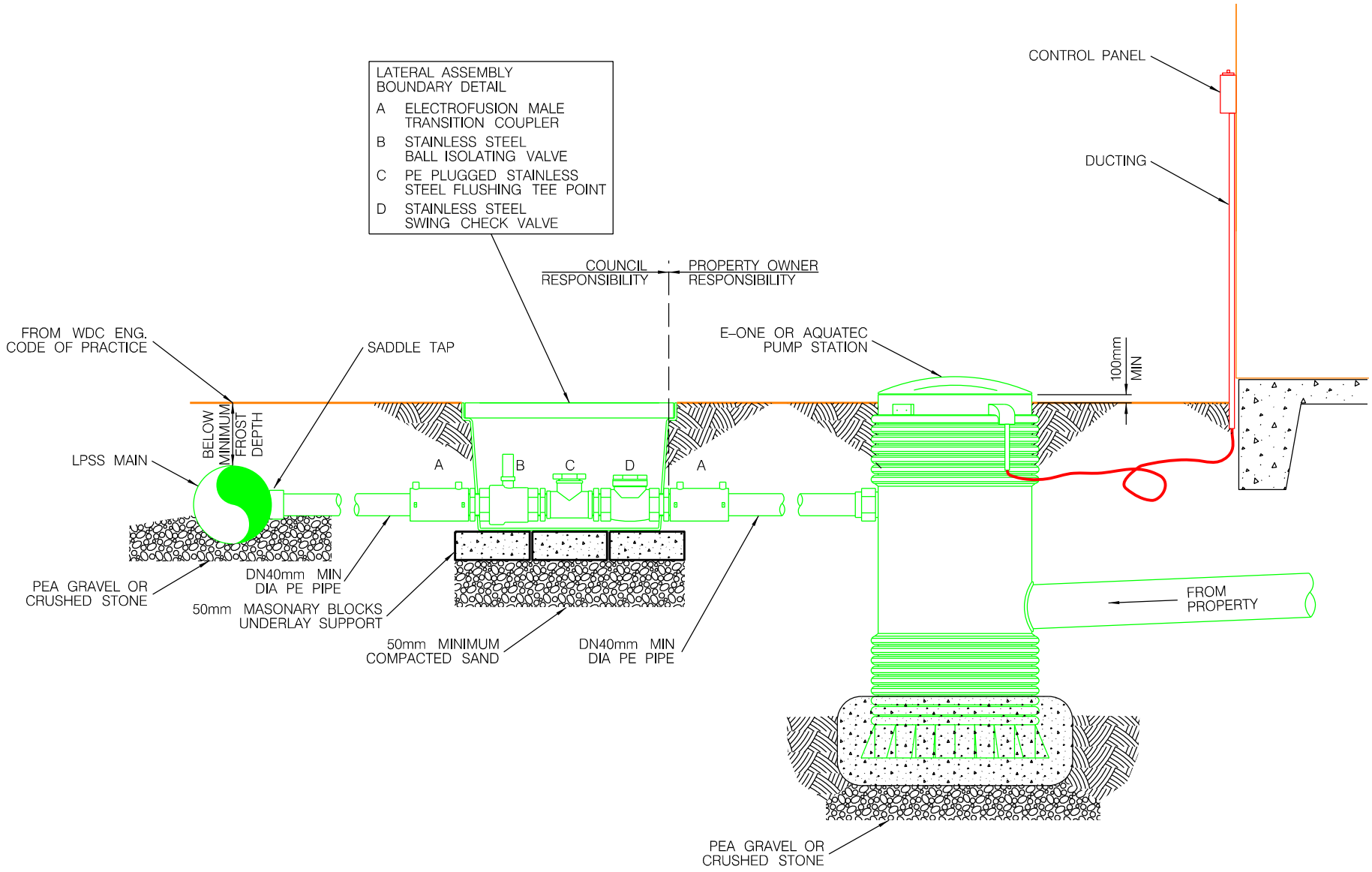
All lids shall be watertight and permanently accessible. Lids to be Securely Sealed (Concrete or Plastic) to Prevent Unintentional Access. Specific approval is required if risers are to be installed. The camlock fitting must be accessible without entry into the pumping chamber.

A High Level Warning Alarm is required to be installed. This should be located in the dwelling house. The High Level Alarm should be set to operate 100mm above the normal on position. In the event of a pump failure this should allow sufficient time for repairs.

The Property Owner is responsible for all maintenance associated with the Septic Tank and associated pipeline to the boundary, including mechanical and electrical.

NOT TO SCALE

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: SEPTIC TANK ON COUNCIL RETICULATED STEP SCHEMES	SHEET TITLE: STANDARD DRAWINGS	PLAN No. 355A ISSUE H SHEET 600



ISSUE	AMENDMENT
A	FIRST ISSUE

NOT TO SCALE

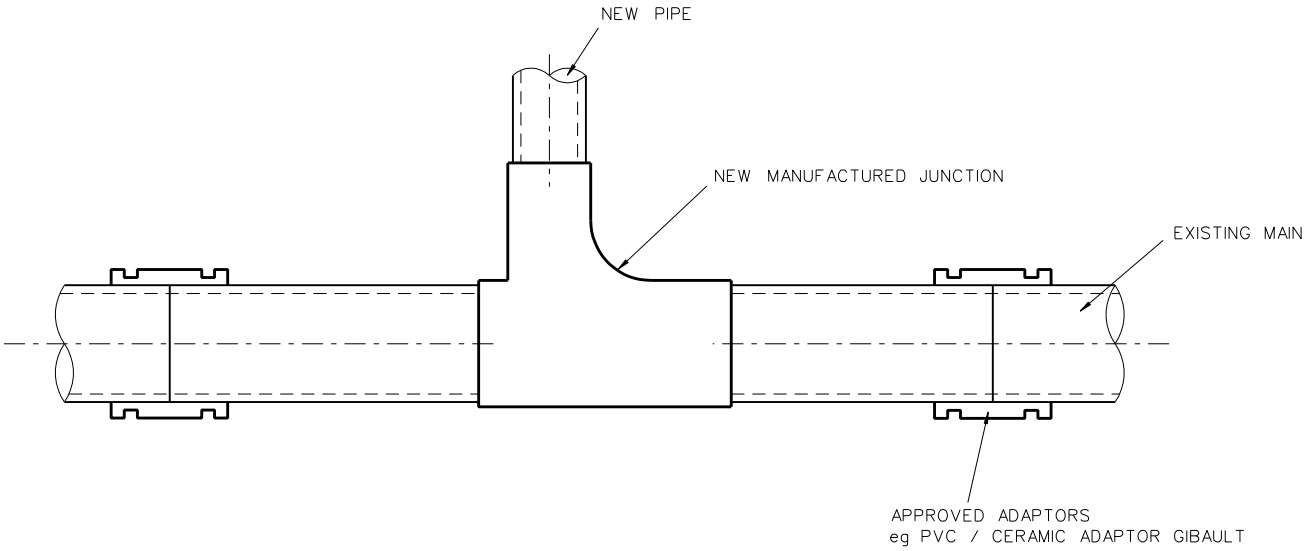
SHEET TITLE: LATERAL CONNECTION FOR SINGLE RESIDENTIAL PROPERTY ON PRESSURE SEWER COUNCIL RETICULATED SCHEMES

PROJECT TITLE: STANDARD DRAWINGS

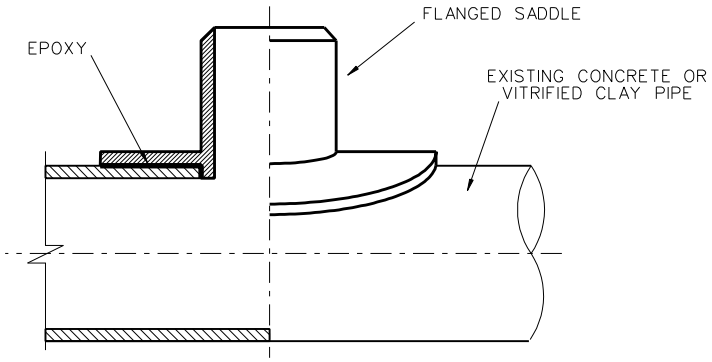
SHEET: 355B

ISSUE: B

PLAN No.: 600

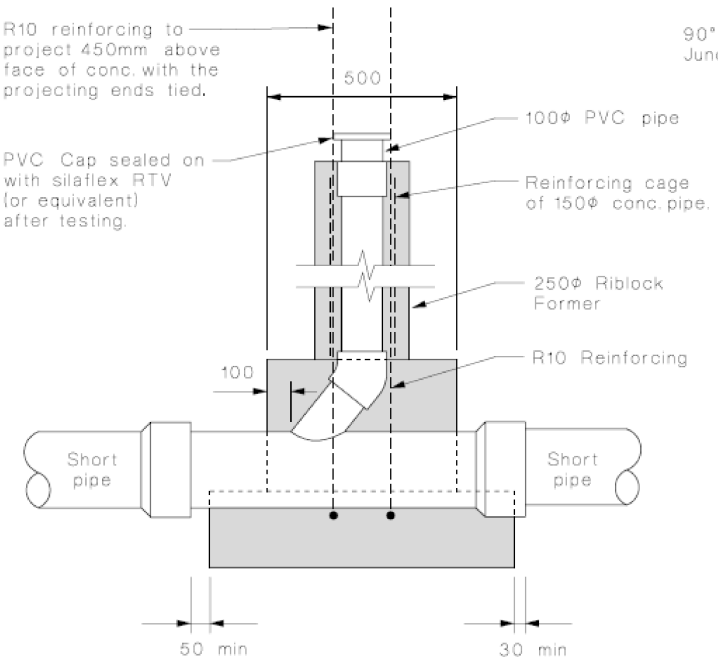


JUNCTIONS INSERTED INTO
EXISTING MAINS < OR = 300mm

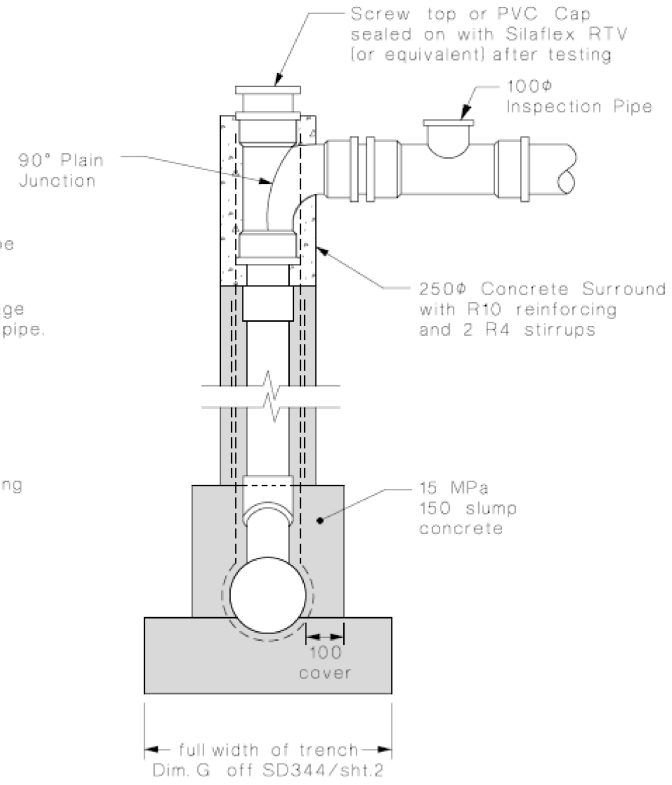


VITRIFIED CLAY SADDLE INSERTED
INTO EXISTING PIPE > 300mm

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: DIRECT CONNECTIONS TO EXISTING PIPES	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 361
				ISSUE: B
				PLAN No.: 600



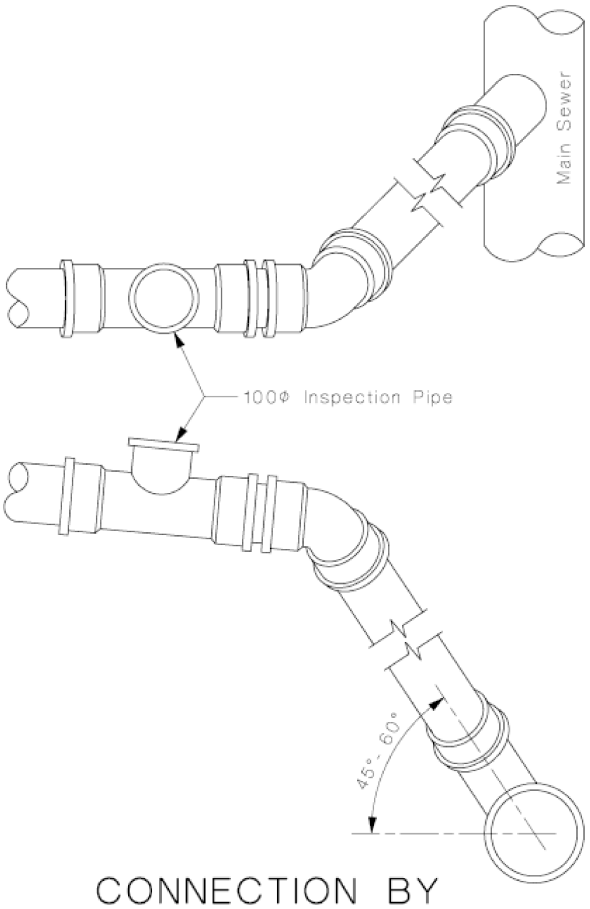
VERTICAL RISER JUNCTION



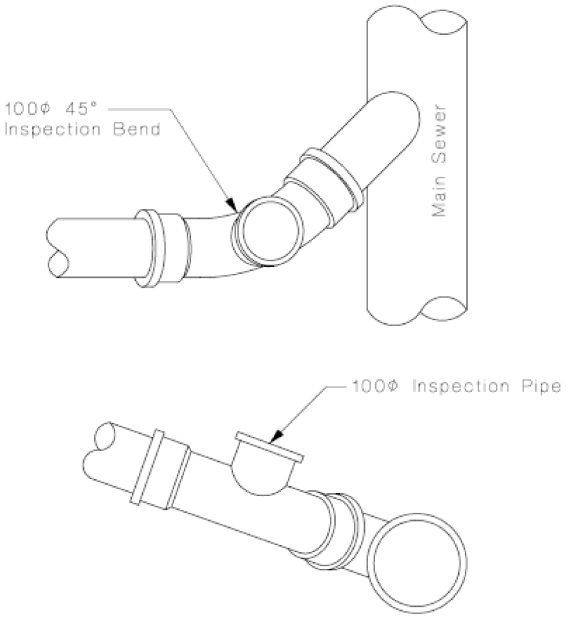
VERTICAL RISER JUNCTION AND CONNECTION

NOTES:

1. PVC pipes adjacent to concrete shall be wrapped with 6mm Denso tape or 250 microns Polyethylene film or equivalent.
2. Bottom of trench to be a stable and approved foundation.



CONNECTION BY RAMPED RISER



CONNECTION TO 45° SIDE JUNCTION

Based on CCC Drawing SD311A

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

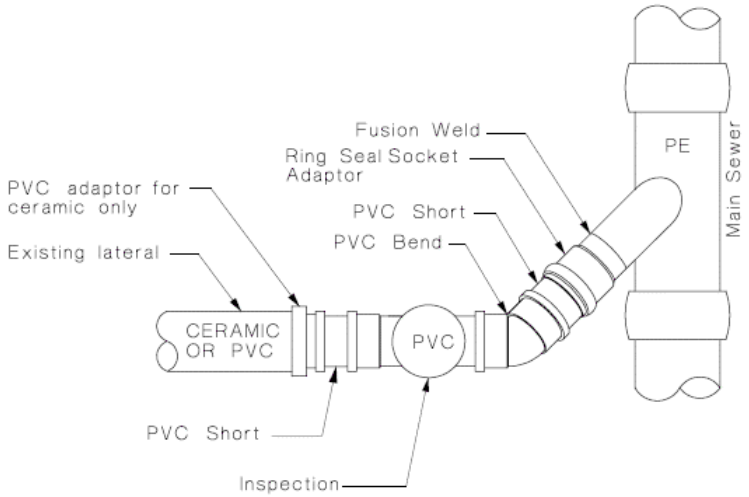
SHEET TITLE: PIPELAYING JUNCTIONS OFF FACTORY MOULDED & VERTICAL RISER

PROJECT TITLE: STANDARD DRAWINGS

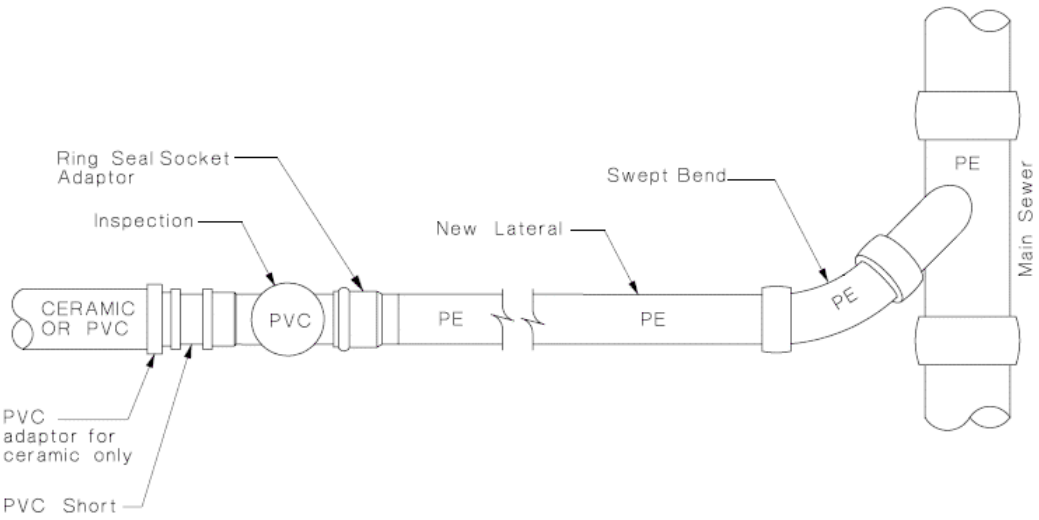
SHEET: 363

ISSUE: A

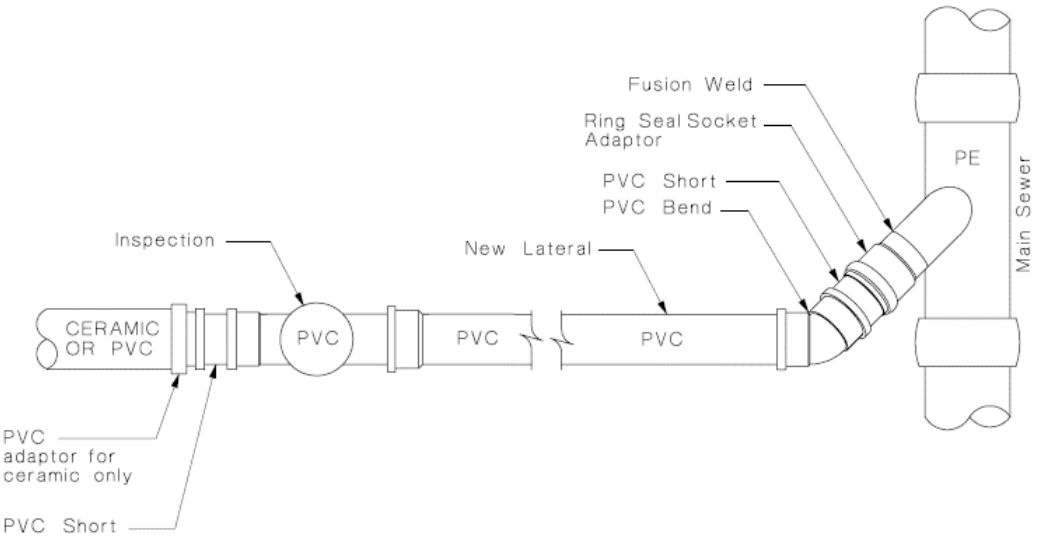
PLAN No.: 600



TYPE 1



TYPE 2



TYPE 3

Based on CCC Drawing SD364

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

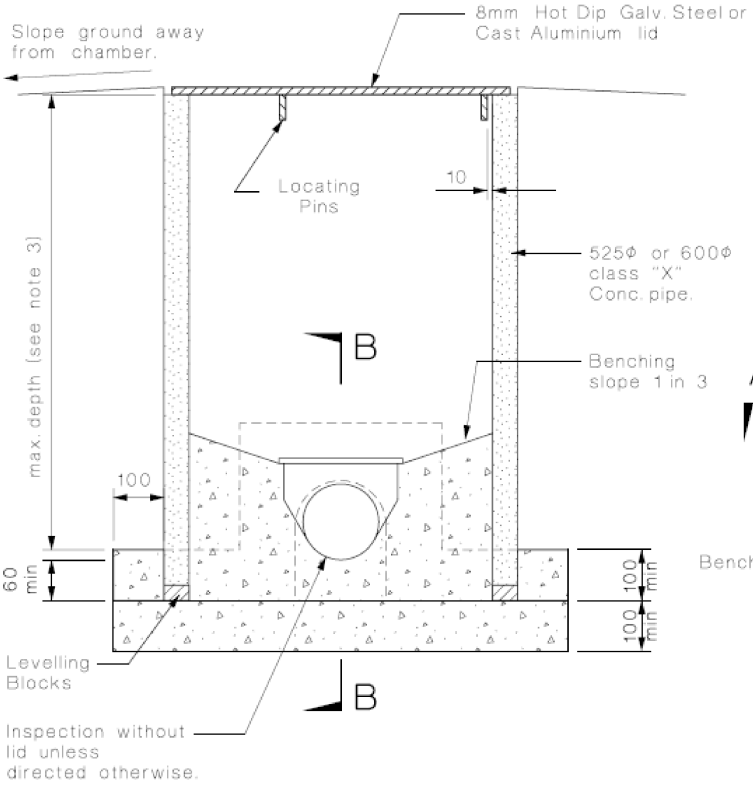
SHEET TITLE
PE JUNCTIONS, SWEPT BENDS INSPECTIONS & ADAPTORS

PROJECT TITLE
STANDARD DRAWINGS

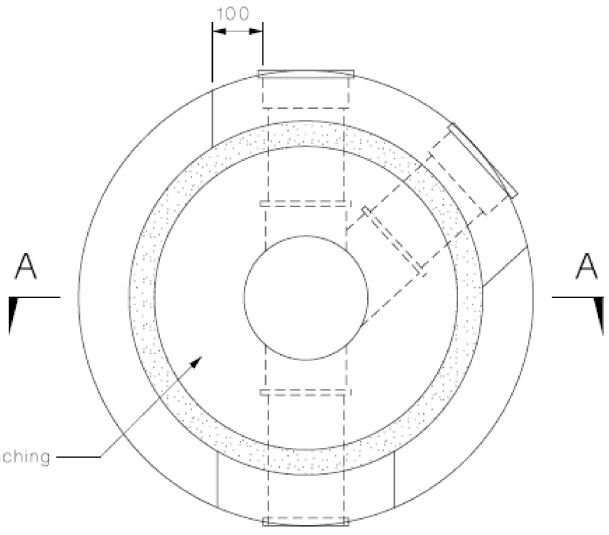
SHEET
364

ISSUE
A

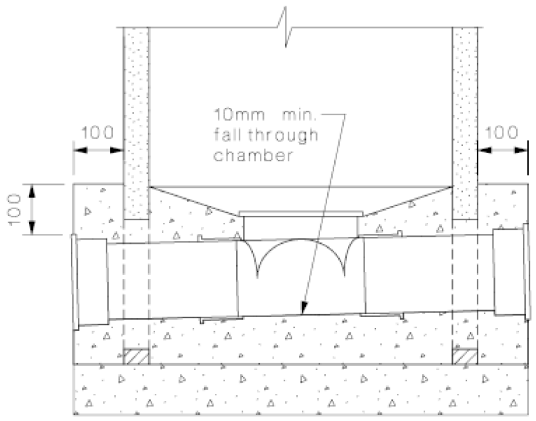
PLAN No.
600



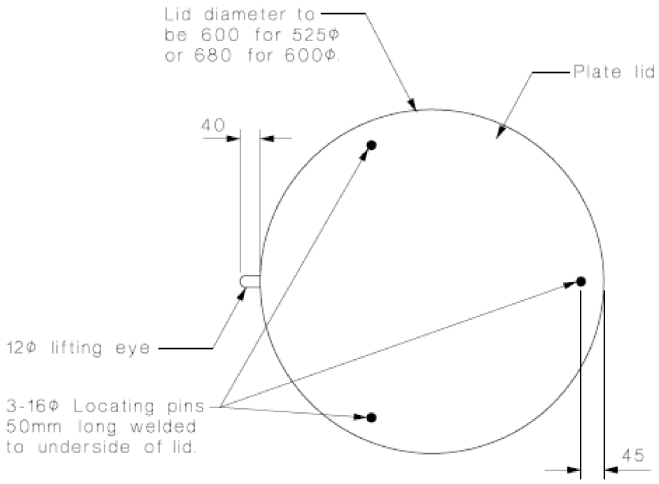
SECTION A-A



PLAN



SECTION B-B



LID DETAIL

NOTES :

1. Inspection chamber as detailed shall not be subject to traffic loading.
2. Diameter of inspection chambers:
   Up to 700mm deep - 525Φ
   700mm to 900mm - 600Φ
   A standard manhole shall be used when the depth exceeds 900mm.
3. Inspection chambers on drains connected to sanitary sewer shall be positioned so as to avoid the entry of surface water and grit.
4. Bends adjacent to the inspection chamber shall not be greater than 45°.
5. Steel lids shall be hot dip galvanised after fabrication. Lids shall be a good fit to avoid rocking or jamming.

Based on CCC Drawing SD376

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

TO BE REVISED

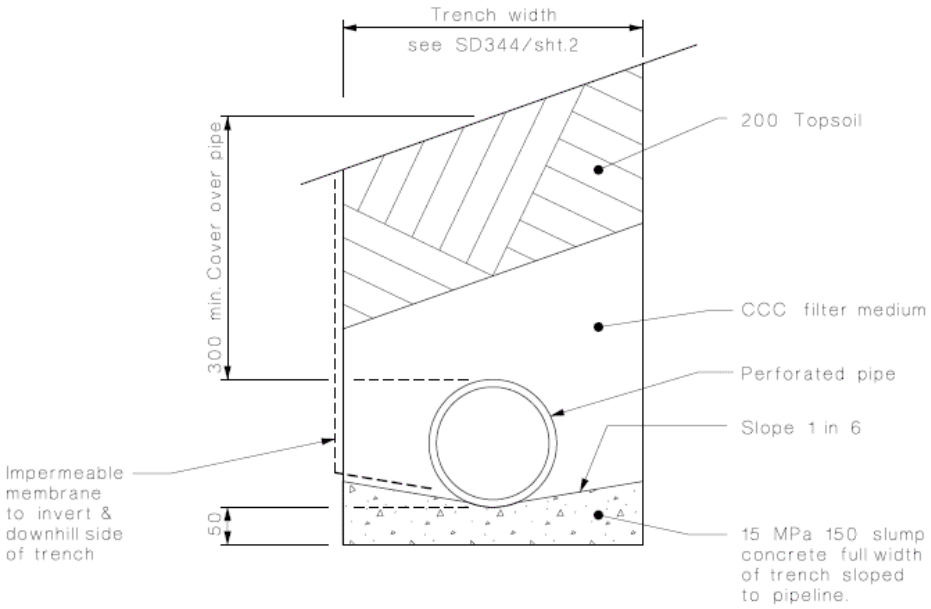
SHEET TITLE: STANDARD CIRCULAR INSPECTION CHAMBER

PROJECT TITLE: STANDARD DRAWINGS

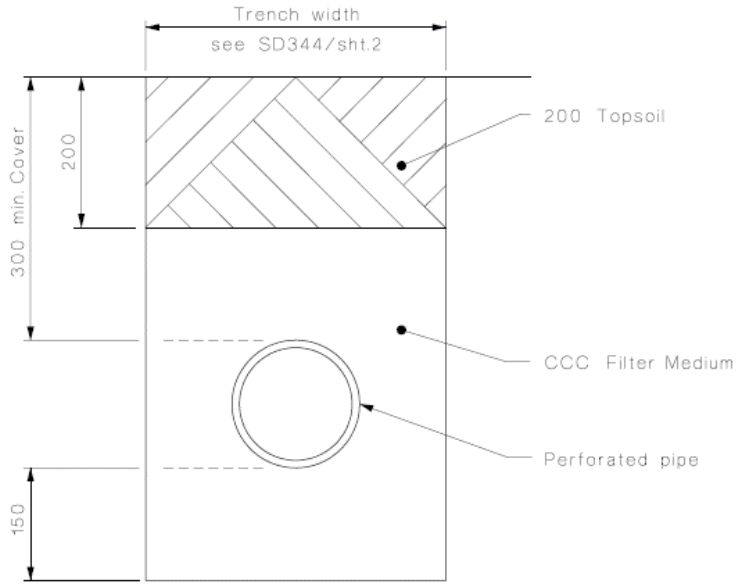
SHEET: 376

ISSUE: A

PLAN No.: 600



HILLSIDE INTERCEPTOR DRAIN



INTERCEPTOR DRAIN

Based on CCC Drawing SD377/1

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

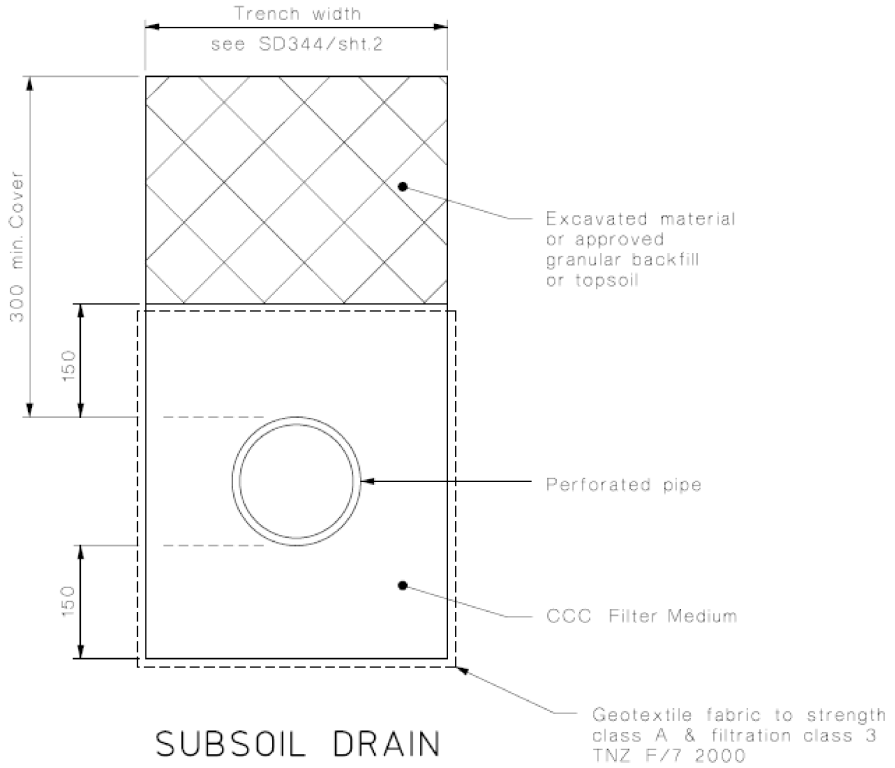
SHEET TITLE: SUBSOIL DRAIN INTERCEPTORS

PROJECT TITLE: STANDARD DRAWINGS

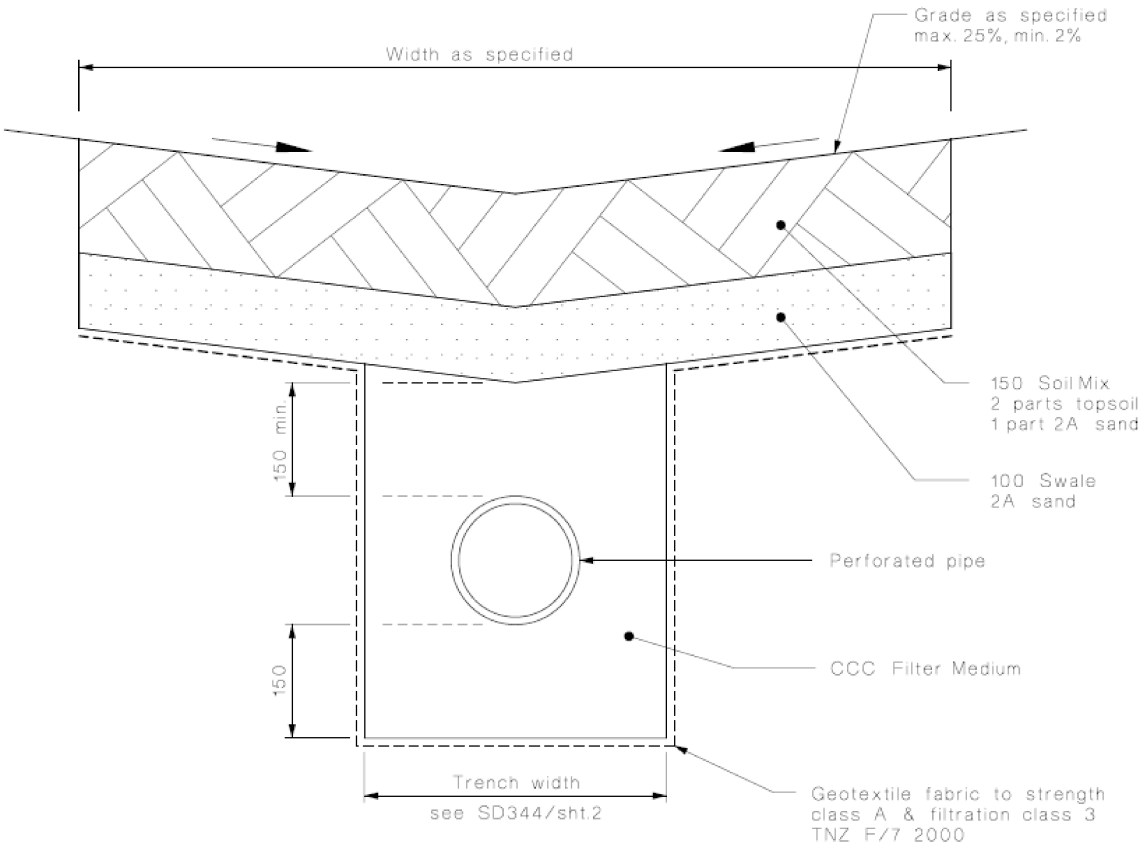
SHEET: 377A

ISSUE: A

PLAN No.: 600



SUBSOIL DRAIN



SWALE SUBSOIL DRAIN

Based on CCC Drawing SD377/2

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

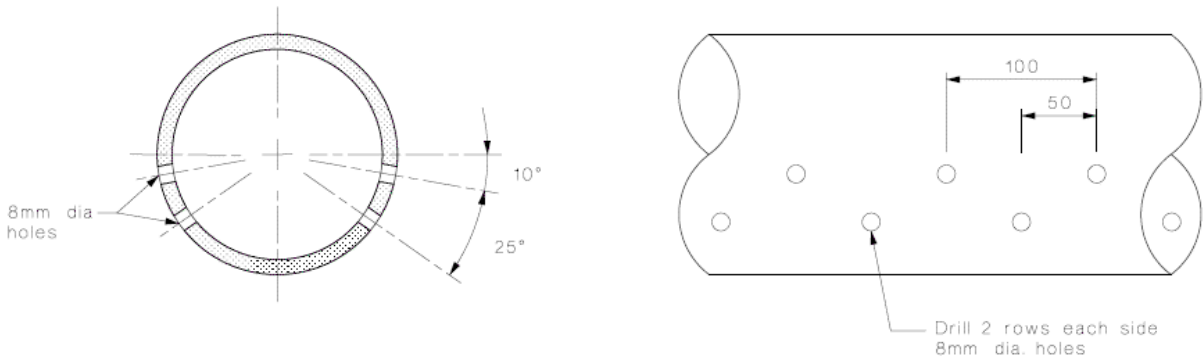
SHEET TITLE: SUBSOIL DRAIN SWALES

PROJECT TITLE: STANDARD DRAWINGS

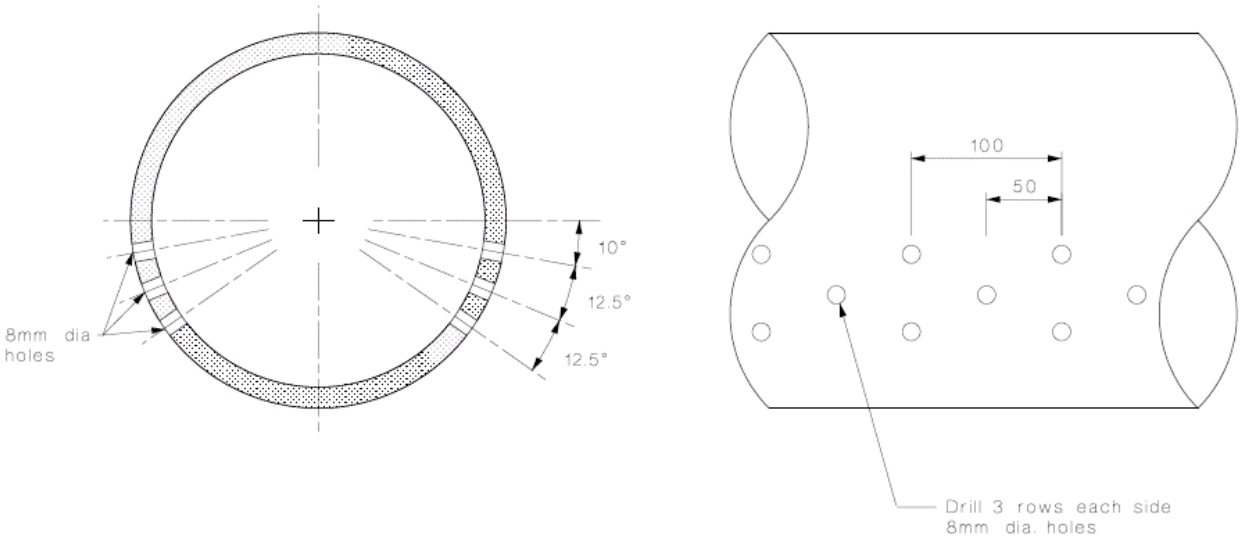
SHEET: 377B

ISSUE: A

PLAN No.: 600



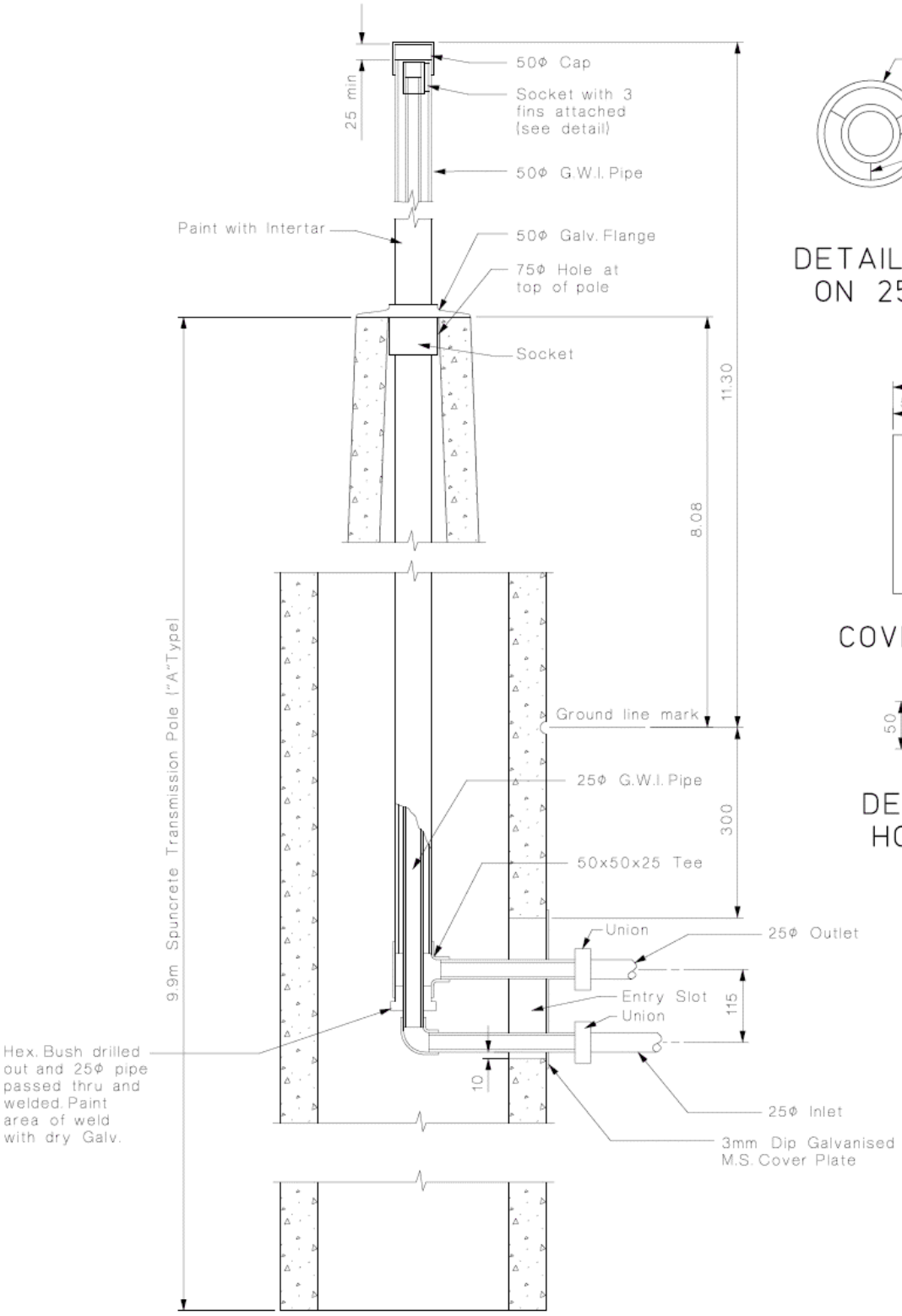
DN100 and DN150



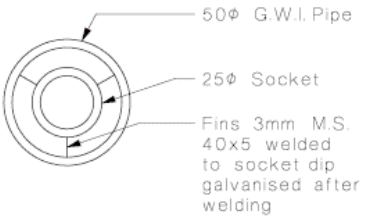
DN200, DN225 and DN300

Based on CCC Drawing SD377/3

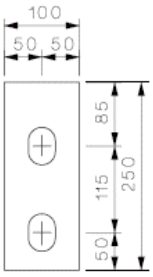
WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE: TO BE REVISED	SHEET TITLE: SUBSOIL DRAIN PIPES	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 377C ISSUE: A PLAN No.: 600



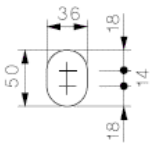
SECTION ON CENTRE LINE



DETAIL OF SOCKETS ON 25Φ G.W.I. PIPE



COVER PLATE



DETAIL FOR HOLE SIZE

Based on CCC Drawing SD381

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

TO BE REVISED

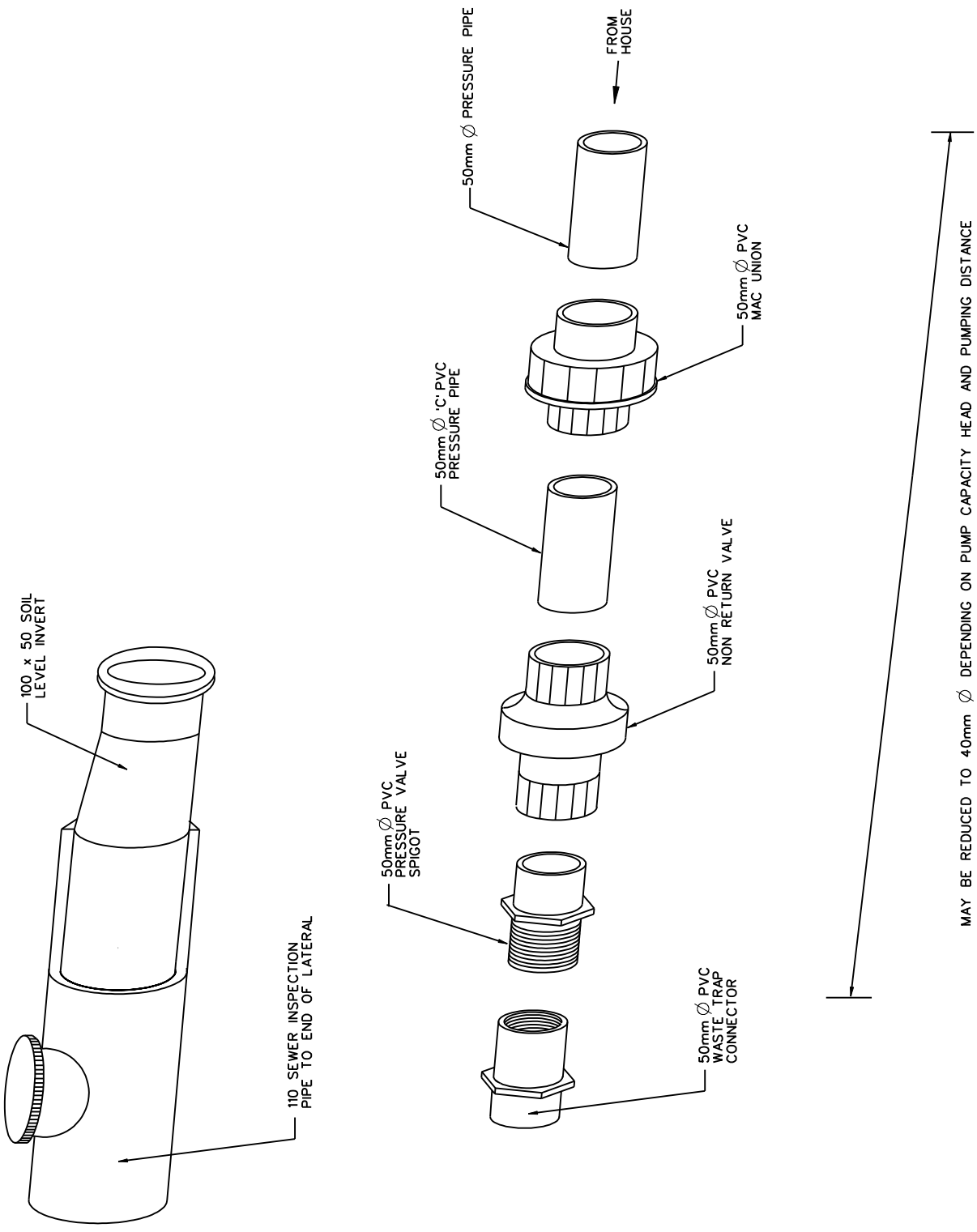
SHEET TITLE
VACUUM COLUMN BACKFLOW PREVENTER

PROJECT TITLE
STANDARD DRAWINGS

SHEET
381

ISSUE
A

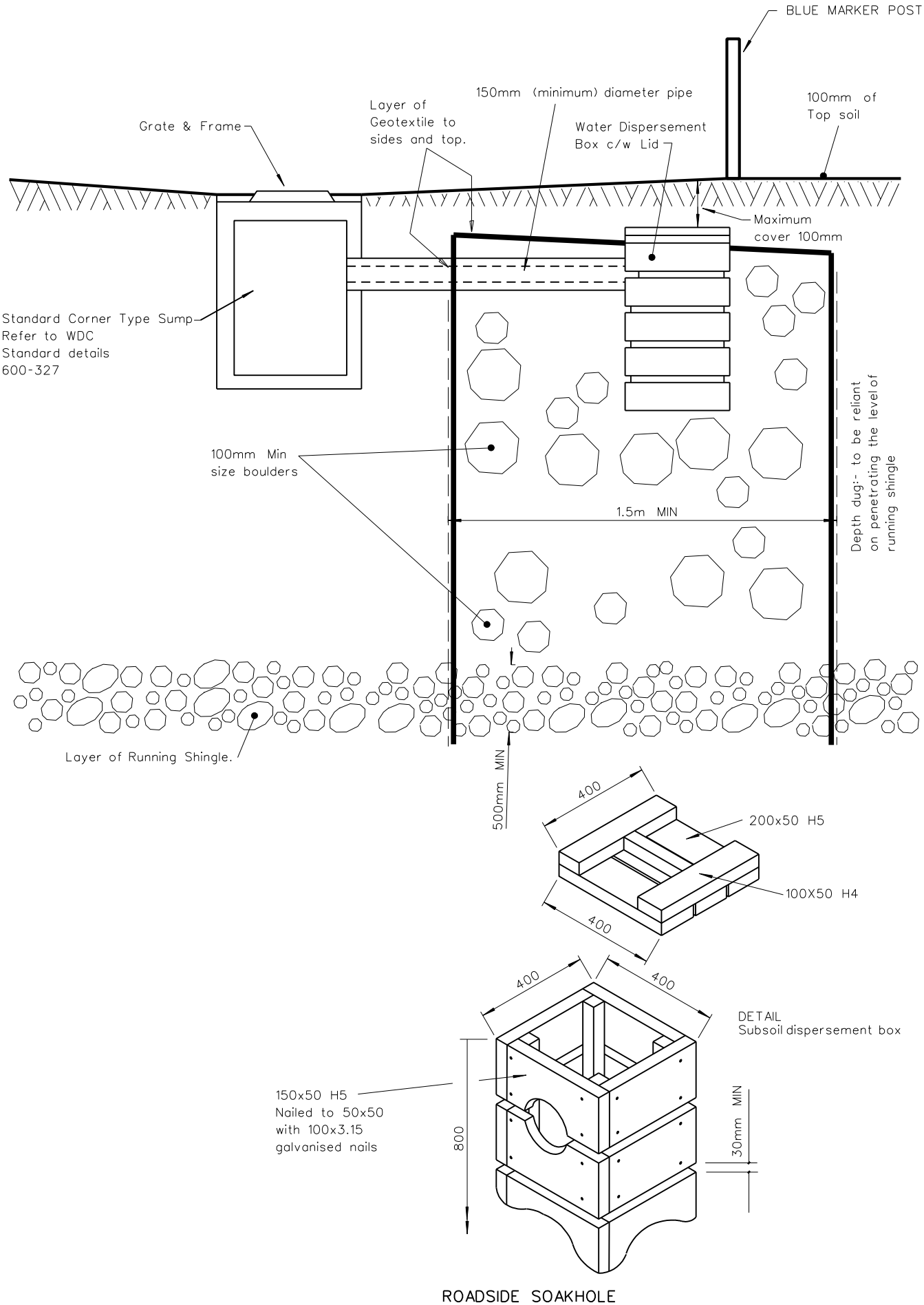
PLAN No.
600



WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	STANDARD PUMP LINE CONNECTION TO GRAVITY WASTEWATER LATERAL	STANDARD DRAWINGS	382

ISSUE	PLAN No.
B	600

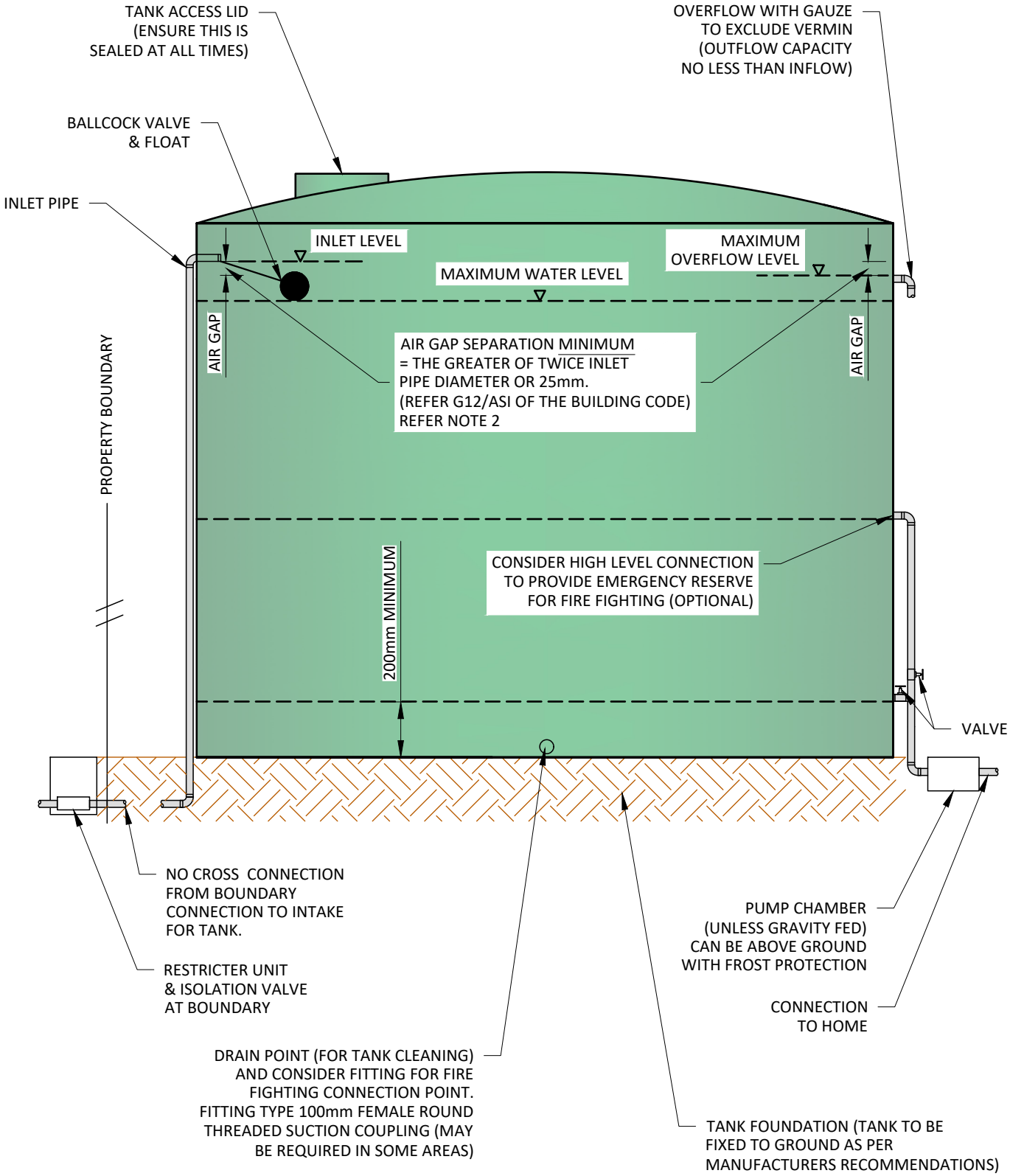


ROADSIDE SOAKHOLE

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	ROADSIDE SOAKHOLE	STANDARD DRAWINGS	390

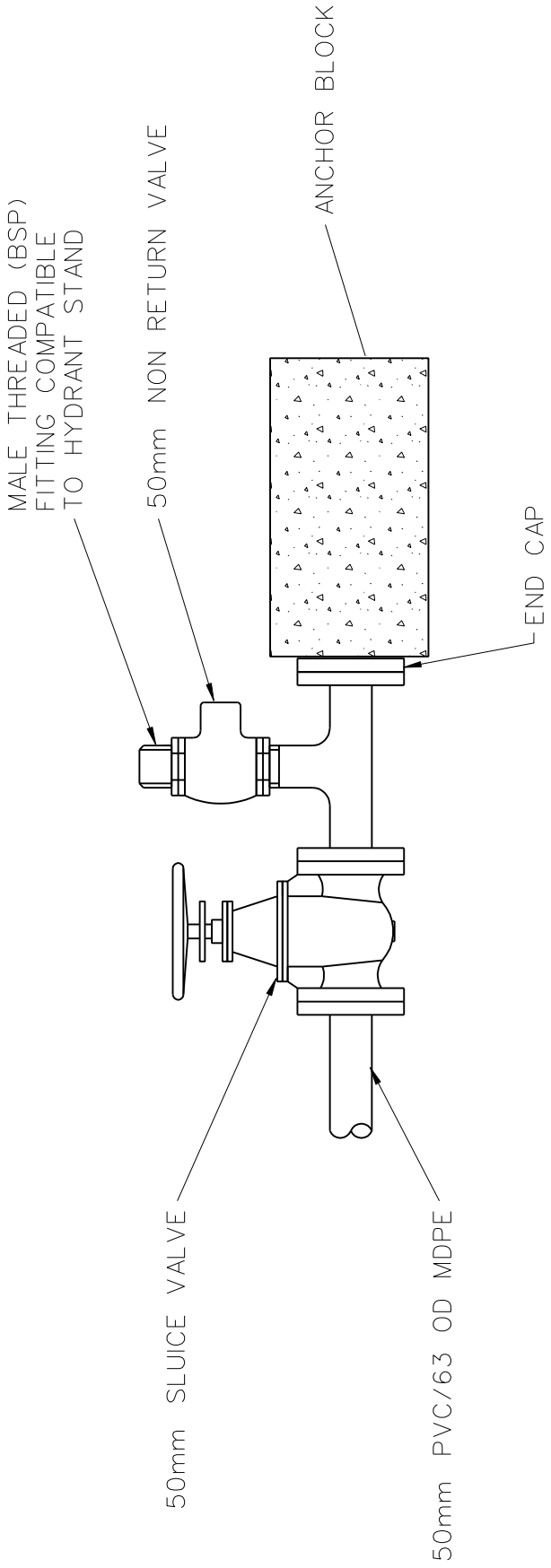
ISSUE	PLAN No.
F	600



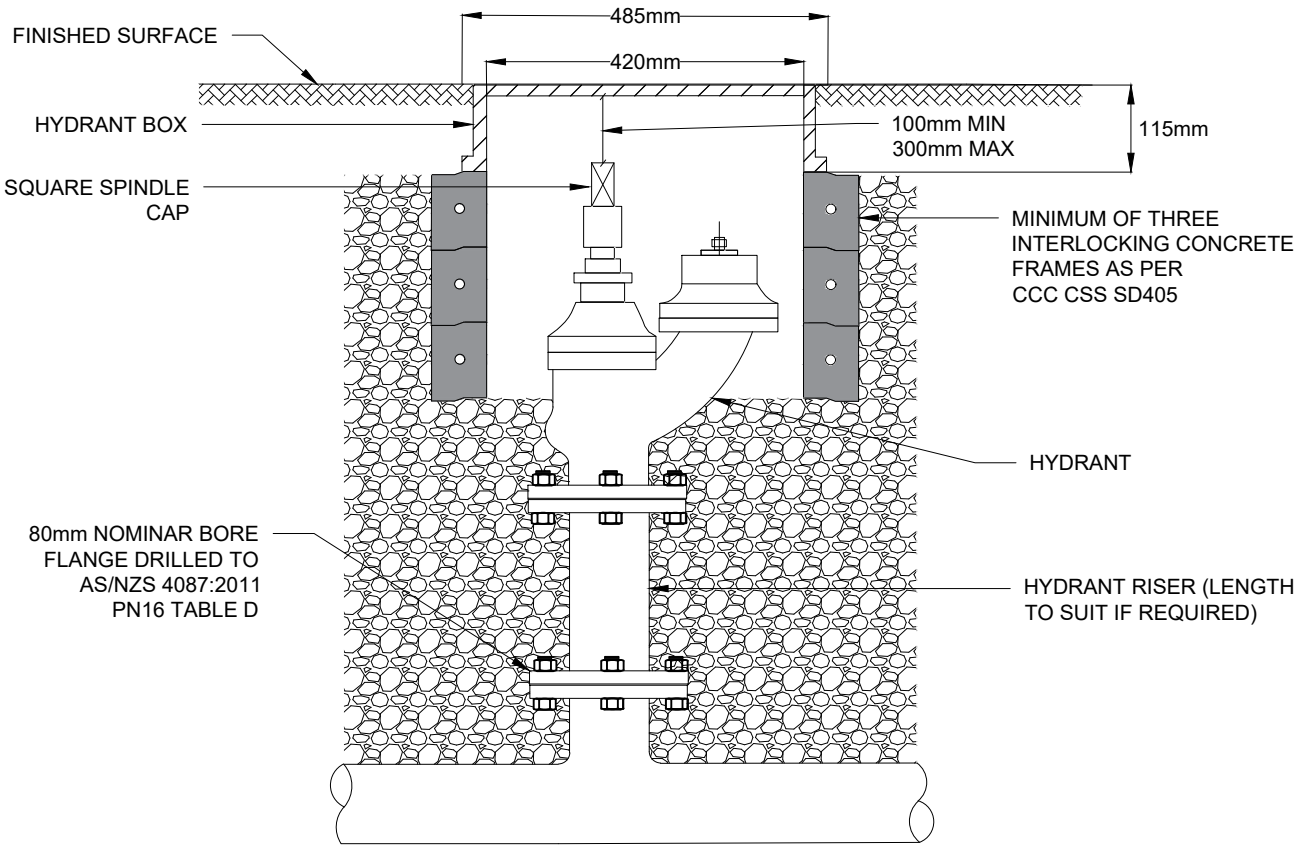
NOTES:

1. TANK TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. AIR GAP IS THE HEIGHT SEPARATION BETWEEN THE INLET LEVEL AND MAXIMUM OVERFLOW LEVEL.

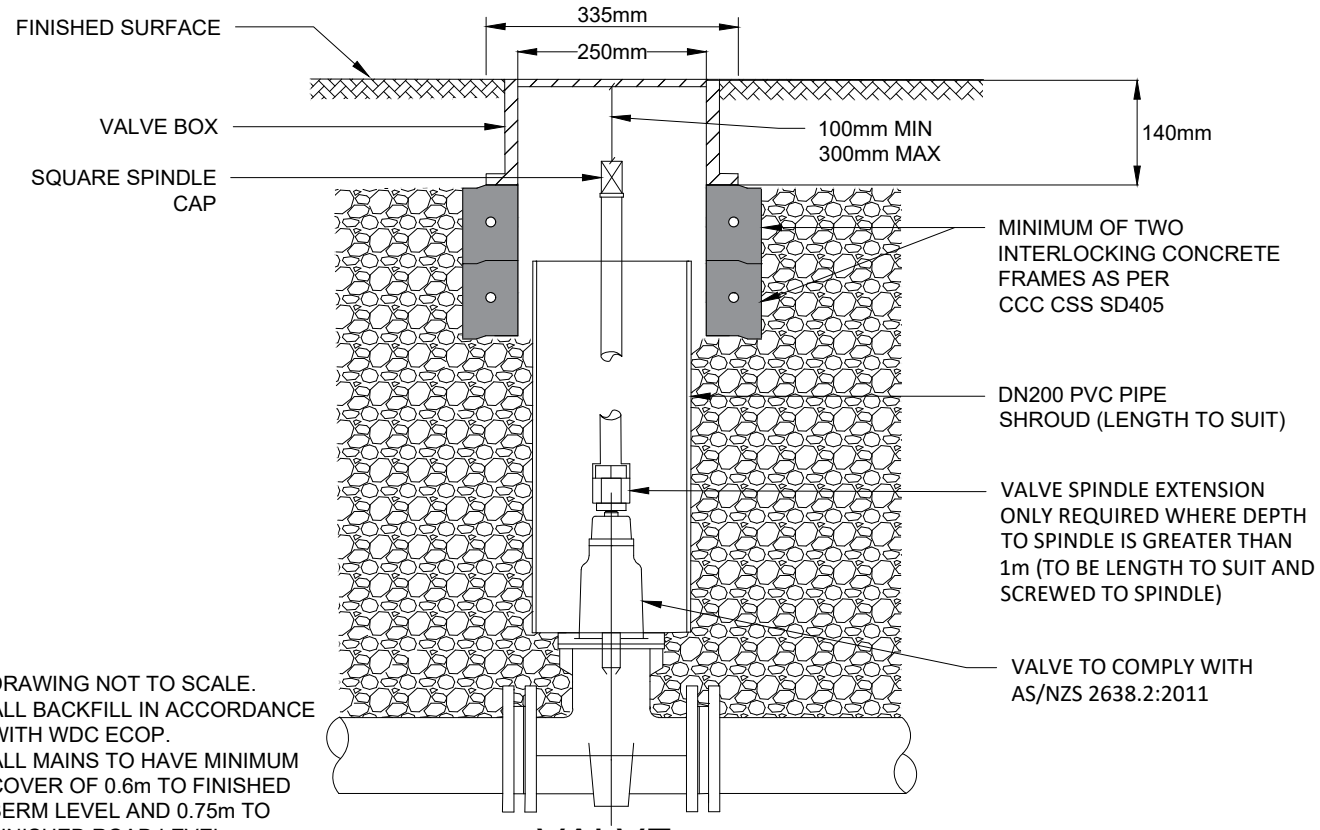
WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE PRIVATE WATER TANK (RESTRICTED SCHEME)	SHEET TITLE STANDARD DRAWINGS	SHEET 403 ISSUE: A PLAN No.: 600



WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: FLUSHING POINT (DEAD–END ON 50MM MAIN)	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 404
				ISSUE: B / PLAN No.: 600



FIRE HYDRANT



VALVE

NOTE:

1. DRAWING NOT TO SCALE.
2. ALL BACKFILL IN ACCORDANCE WITH WDC ECOP.
3. ALL MAINS TO HAVE MINIMUM COVER OF 0.6m TO FINISHED BERM LEVEL AND 0.75m TO FINISHED ROAD LEVEL, UNLESS OTHERWISE APPROVED.

WAIMAKARIRI DISTRICT COUNCIL

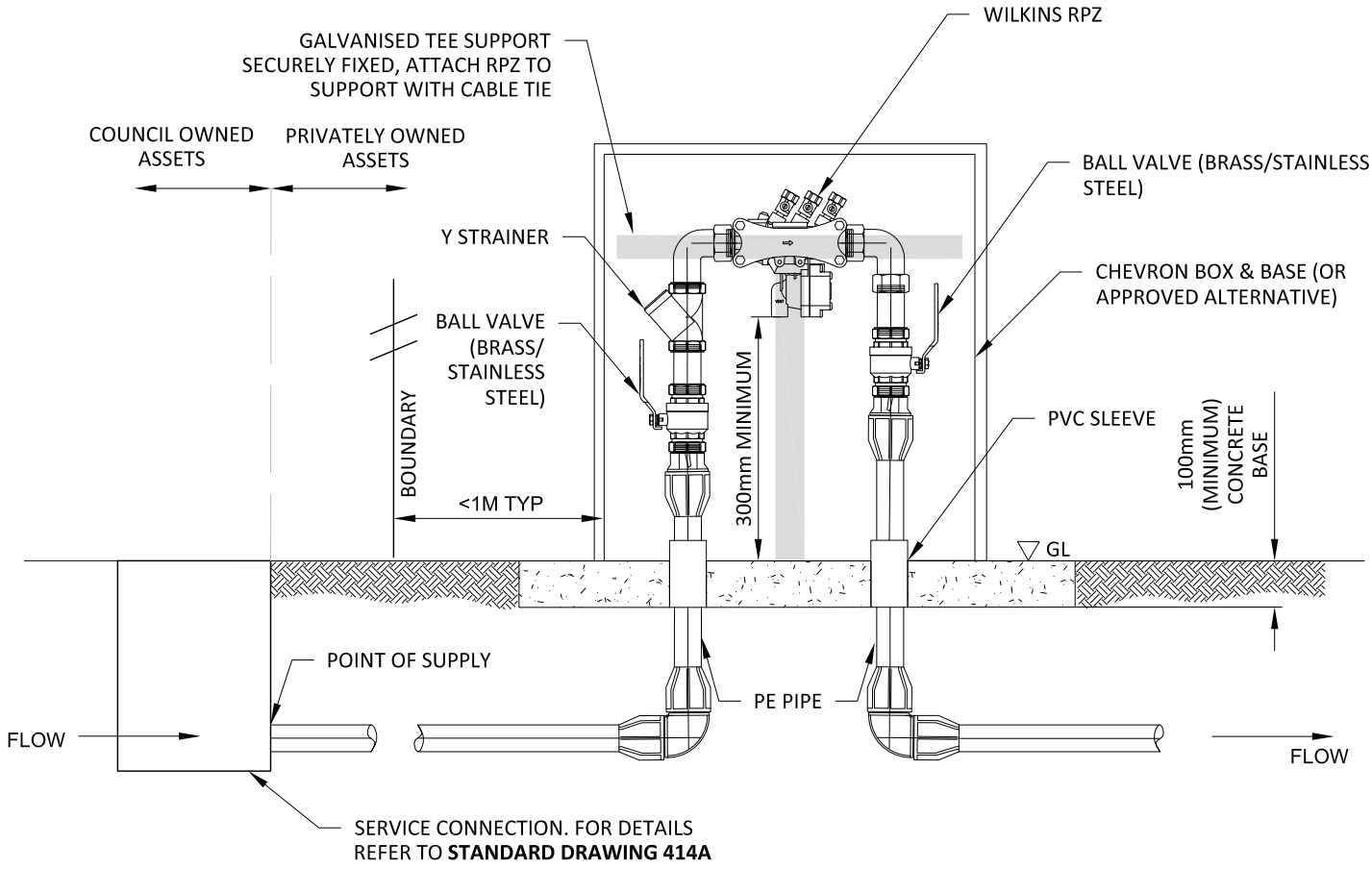
SHEET TITLE: WATER VALVE AND HYDRANT INSTALLATION

PROJECT TITLE: STANDARD DRAWINGS

SHEET: 406

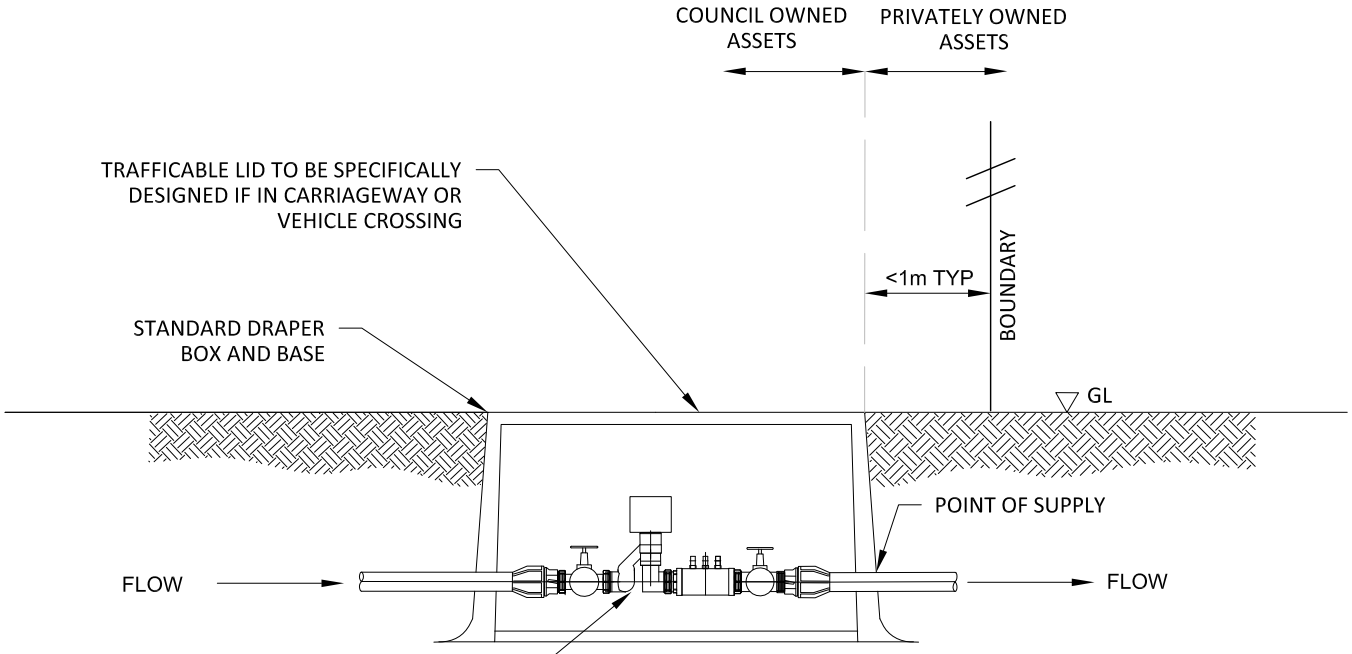
ISSUE: C

PLAN No.: 600

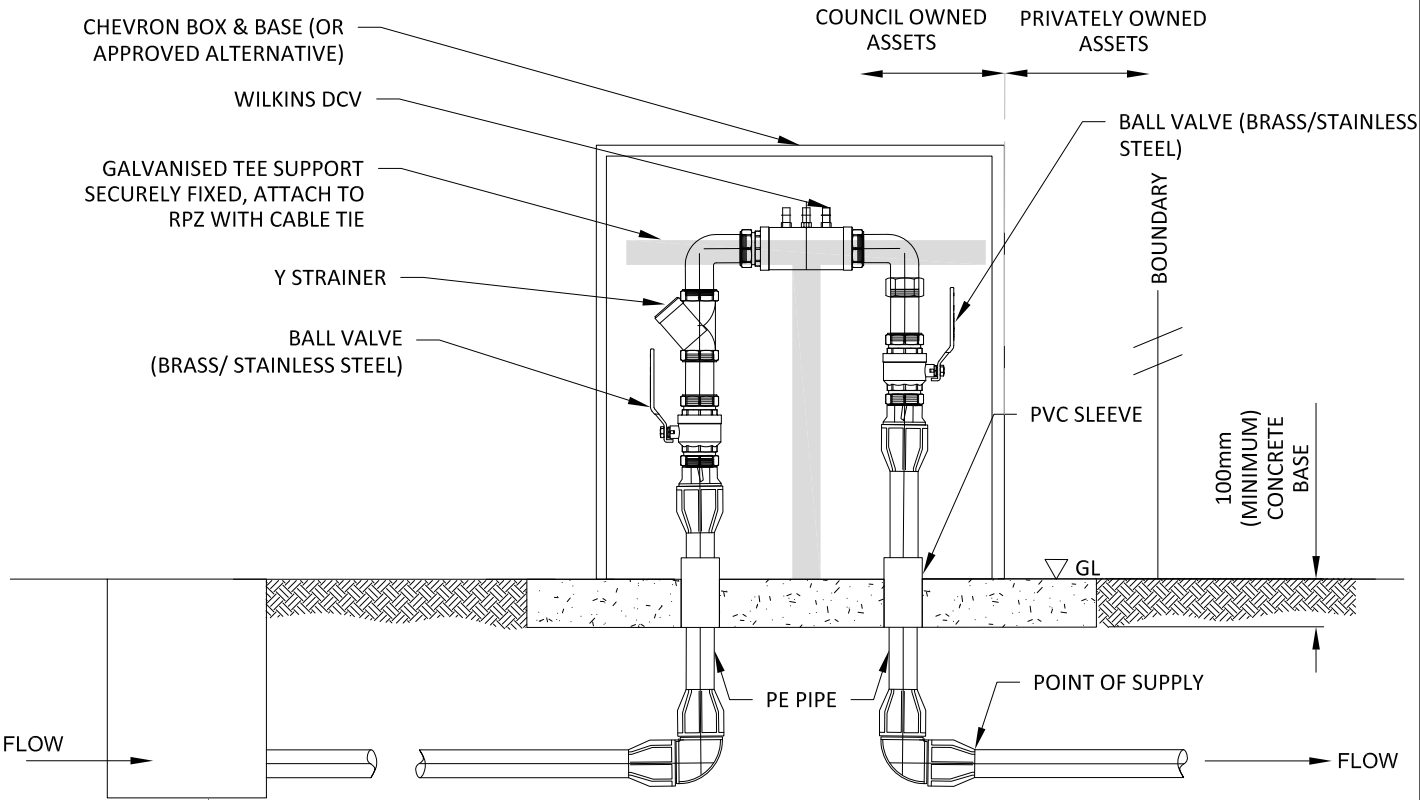


REDUCED PRESSURE ZONE BACKFLOW PREVENTER
Ø15 - 50mm I.D.
N.T.S.

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: STANDARD DRAWING	SHEET TITLE: HIGH HAZARD BACKFLOW PREVENTER	PLAN No.: 600
			ISSUE: B / SHEET: 409A

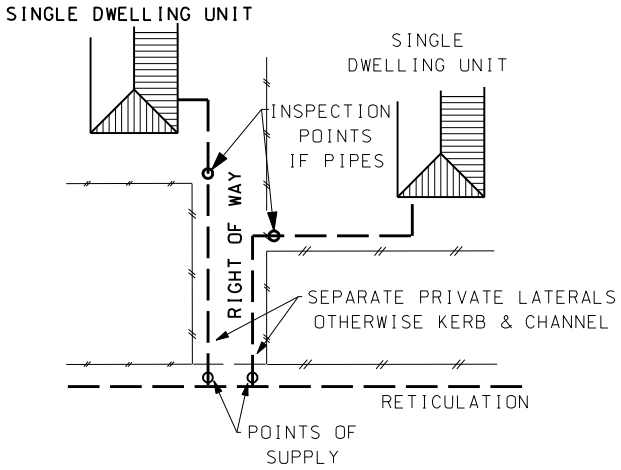


DOUBLE CHECK VALVE BACKFLOW PREVENTOR
Ø15 - 20mm I.D.
N.T.S



DOUBLE CHECK VALVE BACKFLOW PREVENTER
Ø25 - 50mm I.D.
N.T.S

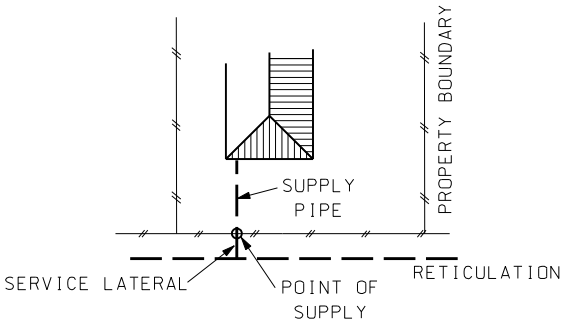
WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: STANDARD DRAWING	SHEET TITLE: MEDIUM HAZARD BACKFLOW PREVENTER	PLAN No.: 600
			ISSUE: B / SHEET: 409B



WITH STREET FRONTAGE

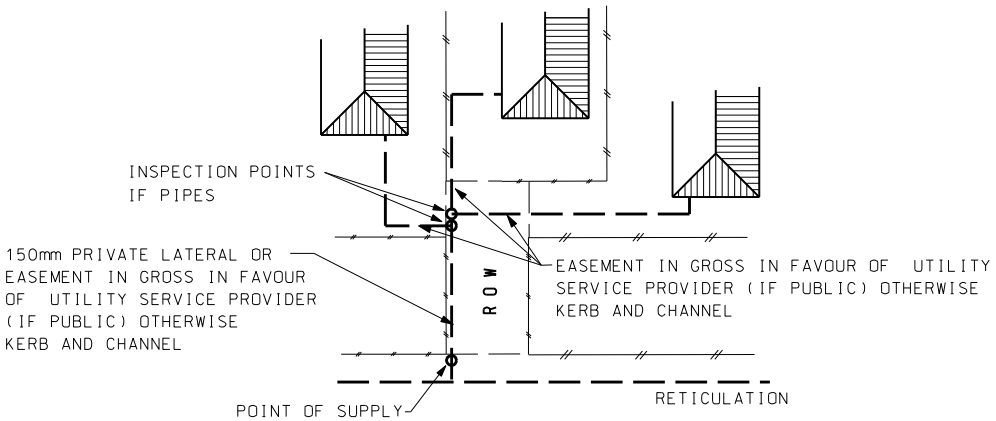
See Note

FOR ALL NEW INSTALLATIONS



Point of supply location – single dwelling units

NOTE: Where the lateral connection discharges to kerb & channel, the pipe may be redirected from a sump to meet the kerb face, as necessary. Kerb outlets shall not be placed in vee-channel or cutdowns.



REAR LOTS ON RIGHT OF WAY

See Note

NUMBER OF LOTS	Compliance Criteria for Residential Zone Lots Between 300 & 800m^2
1	100mm DIAMETER
2	100mm DIAMETER
3	MAX of Design Storm 20% AEP or 150mm DIA, otherwise Kerb & Channel
4	MAX of Design Storm 20% AEP or 150mm DIA, otherwise Kerb & Channel
5	Design Storm 20% AEP (BY SPECIFIC DESIGN)
6	Design Storm 20% AEP (BY SPECIFIC DESIGN)
7	Design Storm 20% AEP (BY SPECIFIC DESIGN)
Detention & Secondary Flow Path Requirements shall be met where Council Requires. Refer Section 6 "STORMWATER & LAND DRAINAGE"	

Refer also NZS 4404 CODE OF PRACTISE FOR URBAN LAND SUBDIVISION

WAIMAKARIRI DISTRICT COUNCIL technical services

NOT TO SCALE

SHEET TITLE: RESIDENTIAL STORMWATER LATERAL LOCATION

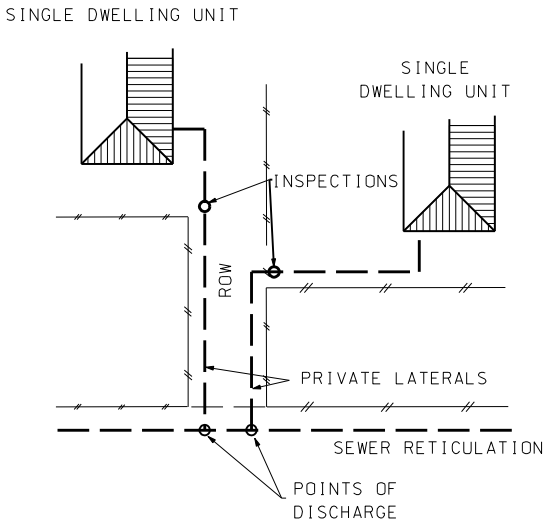
PROJECT TITLE: STANDARD DRAWINGS

SHEET: 410

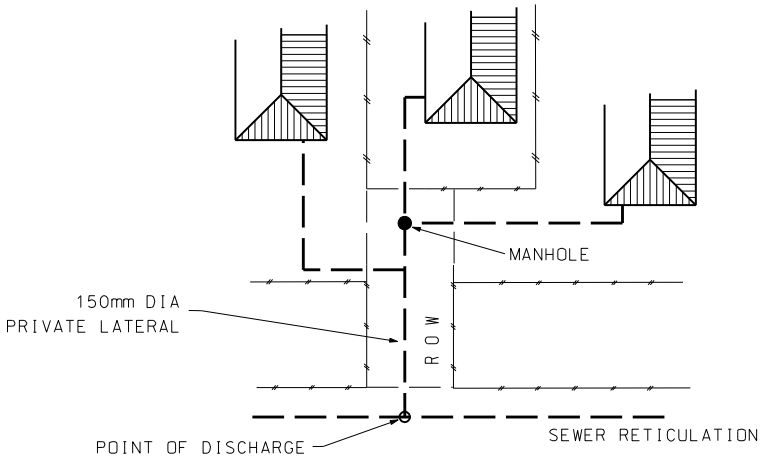
ISSUE: B

PLAN No.: 600

POINT OF SUPPLY LOCATION:
SINGLE DWELLING UNIT -

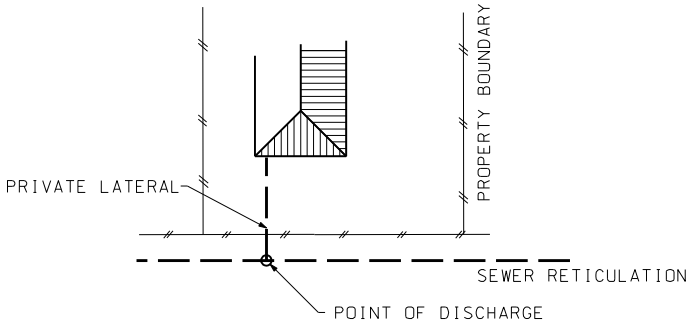


WITH STREET FRONTAGE



REAR LOTS ON RIGHT-OF-WAY

(eg. Ø150mm WHERE COUNCIL HAVE TAKEN OVER THE MAIN)



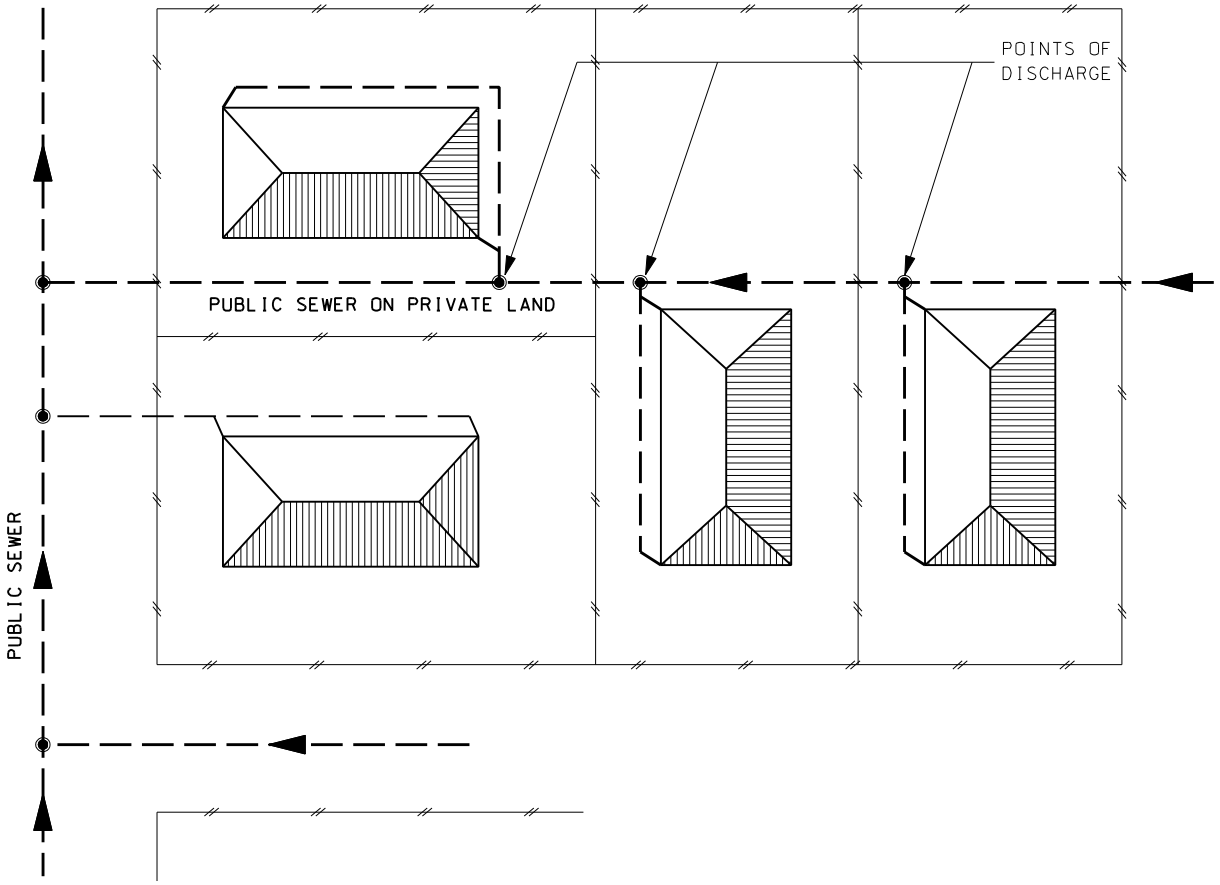
FOR ALL NEW INSTALLATIONS

(TYPE 2)

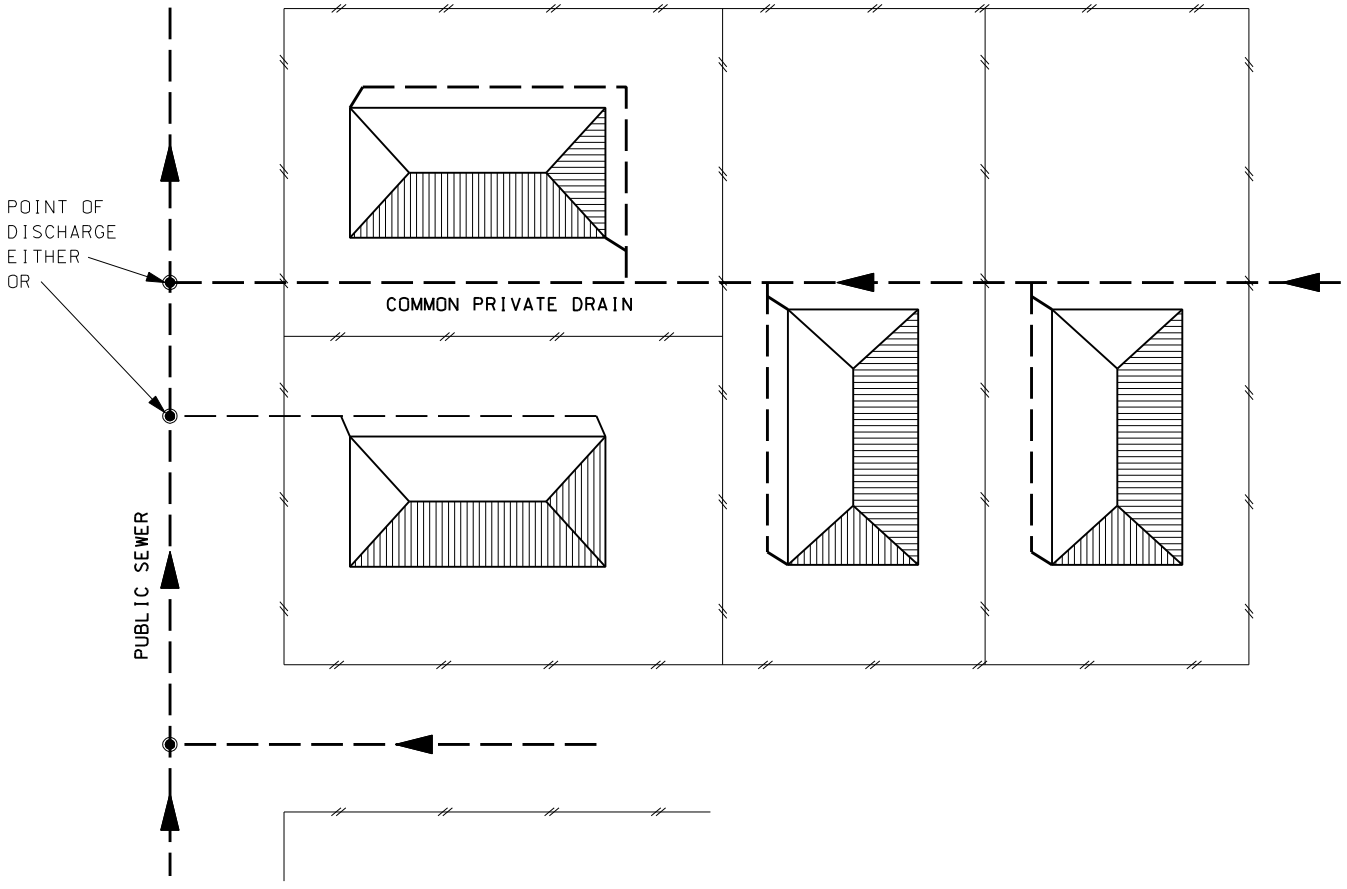
NOTES:
Refer WDC COP Part 6: Wastewater, and also
NZS 4404 Code of Practice for Urban Land Subdivision

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	RESIDENTIAL WATSTEWATER LATERAL LOCATION (Over Public Land)	STANDARD DRAWINGS	411A
			ISSUE: C / PLAN No.: 600



PUBLIC SEWER ON PRIVATE LAND



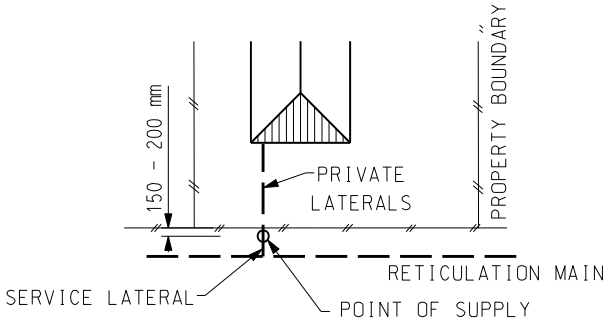
COMMON PRIVATE DRAIN

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	RESIDENTIAL WASTEWATER LATERAL LOCATION (Over Private Land)	STANDARD DRAWINGS	411B

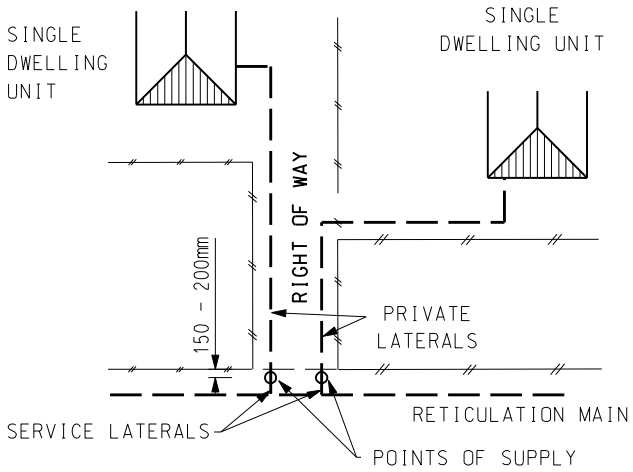
ISSUE	PLAN No.
B	600

POINT OF SUPPLY LOCATION:
SINGLE DWELLING UNIT -



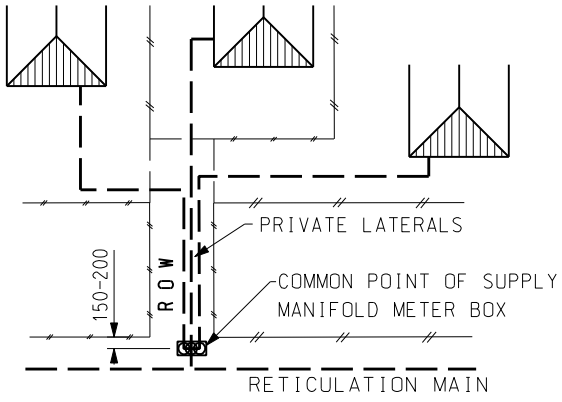
WITH STREET FRONTAGE

(SERVICE PIPE NOMINAL 15mm DIAMETER)



REAR LOTS ON RIGHT-OF-WAY

(2 DWELLING SERVICE LATERALS & SUPPLY PIPES EACH NOMINAL 20mm DIAMETER)



READ LOTS ON RIGHT-OF-WAY

(3 OR MORE DWELLINGS)

NOTES:
Refer WDC COP Part 7: Water Supply, and also
NZS 4404 Code of Practice for Urban Land Subdivision

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE

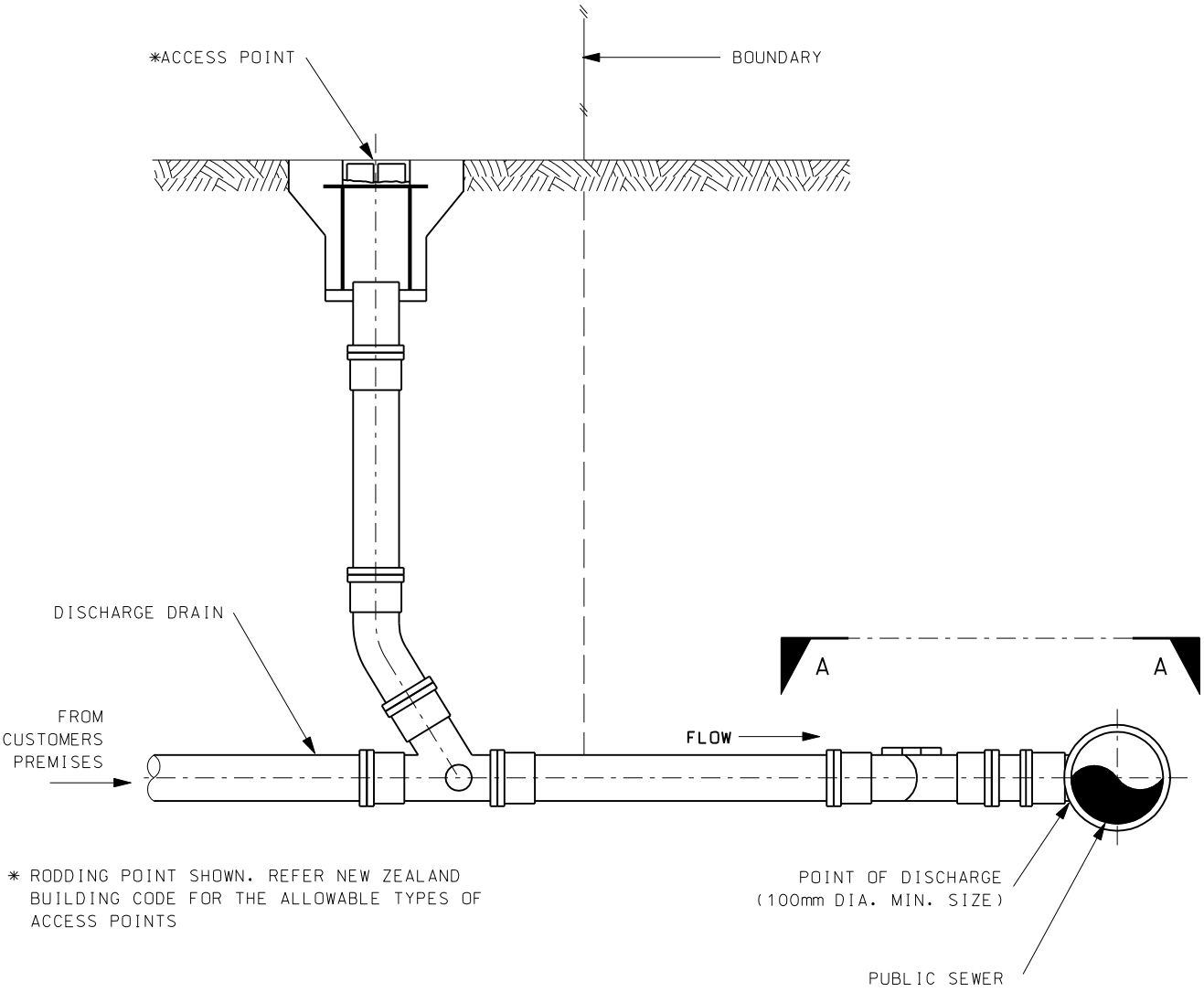
SHEET TITLE
RESIDENTIAL WATER SUPPLY LATERAL LOCATION

PROJECT TITLE
STANDARD DRAWINGS

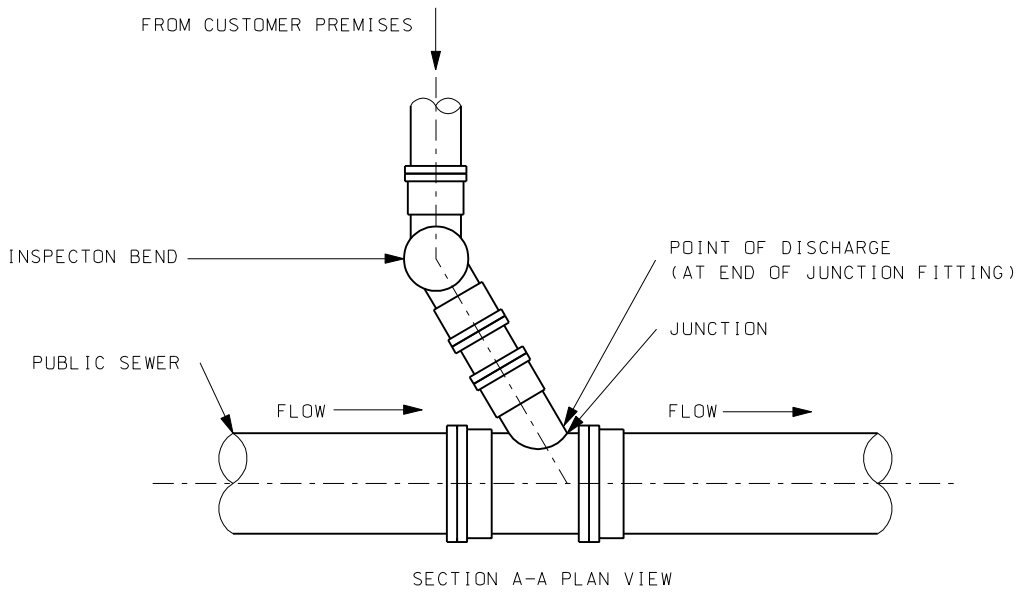
SHEET
412

ISSUE
B

PLAN No.
600



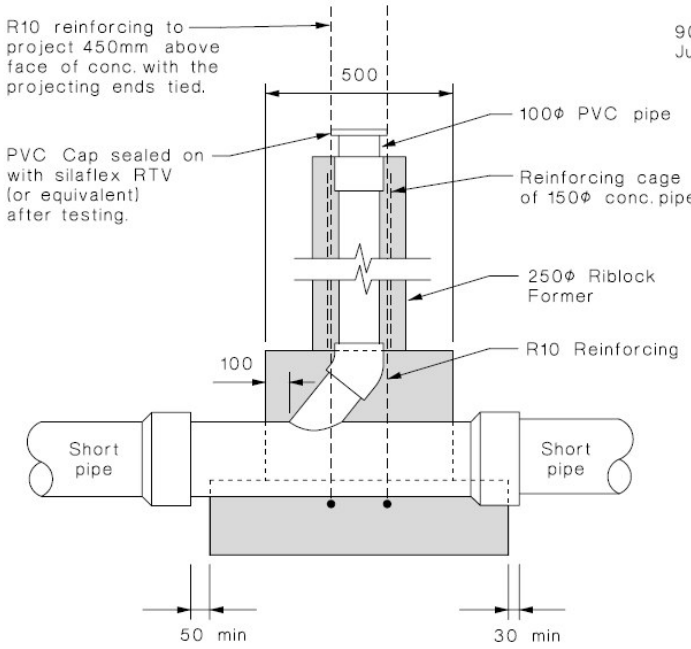
EXAMPLE 1 – DOMESTIC DISCHARGE



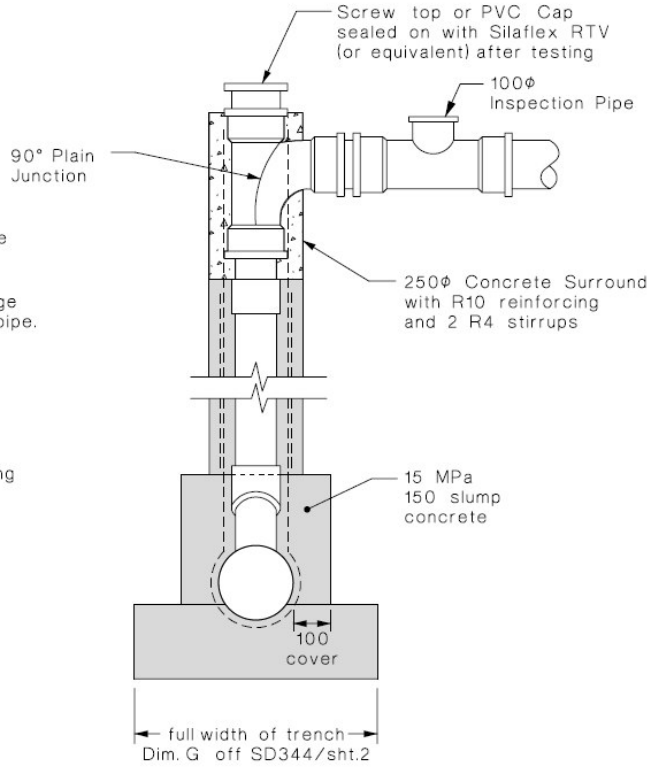
SECTION A–A PLAN VIEW

EXAMPLE 2 – DOMESTIC DISCHARGE TO PUBLIC SEWER ON PRIVATE LAND AND A–A FROM EXAMPLE 1

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: RESIDENTIAL SEWER LATERAL LAYOUT AT POINT OF DISCHARGE	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 413A ISSUE: B PLAN No.: 600



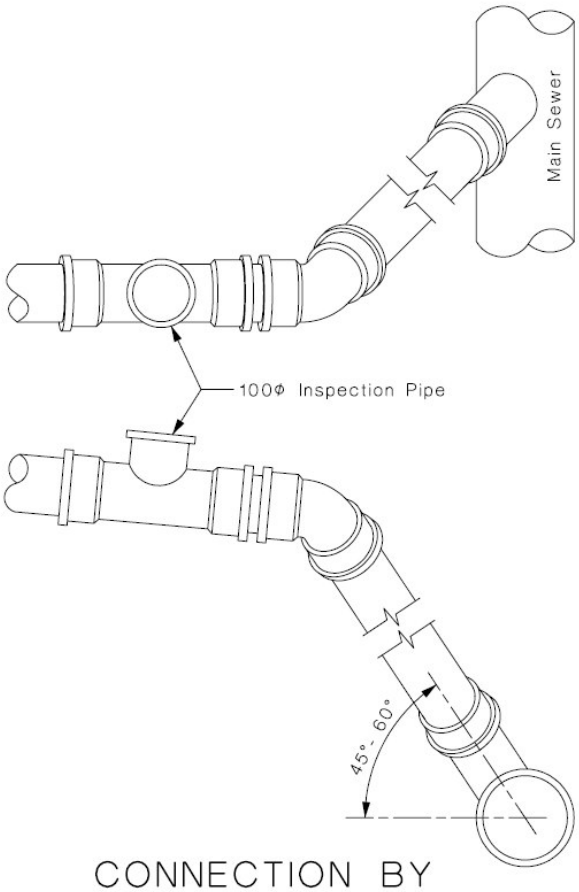
VERTICAL RISER JUNCTION



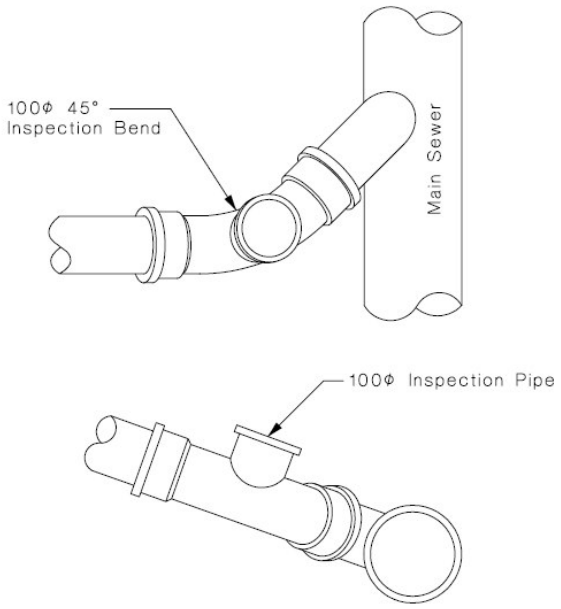
VERTICAL RISER JUNCTION AND CONNECTION

NOTES:

1. PVC pipes adjacent to concrete shall be wrapped with 6mm Denso tape or 250 microns Polyethylene film or equivalent.
2. Bottom of trench to be a stable and approved foundation.



CONNECTION BY RAMPED RISER

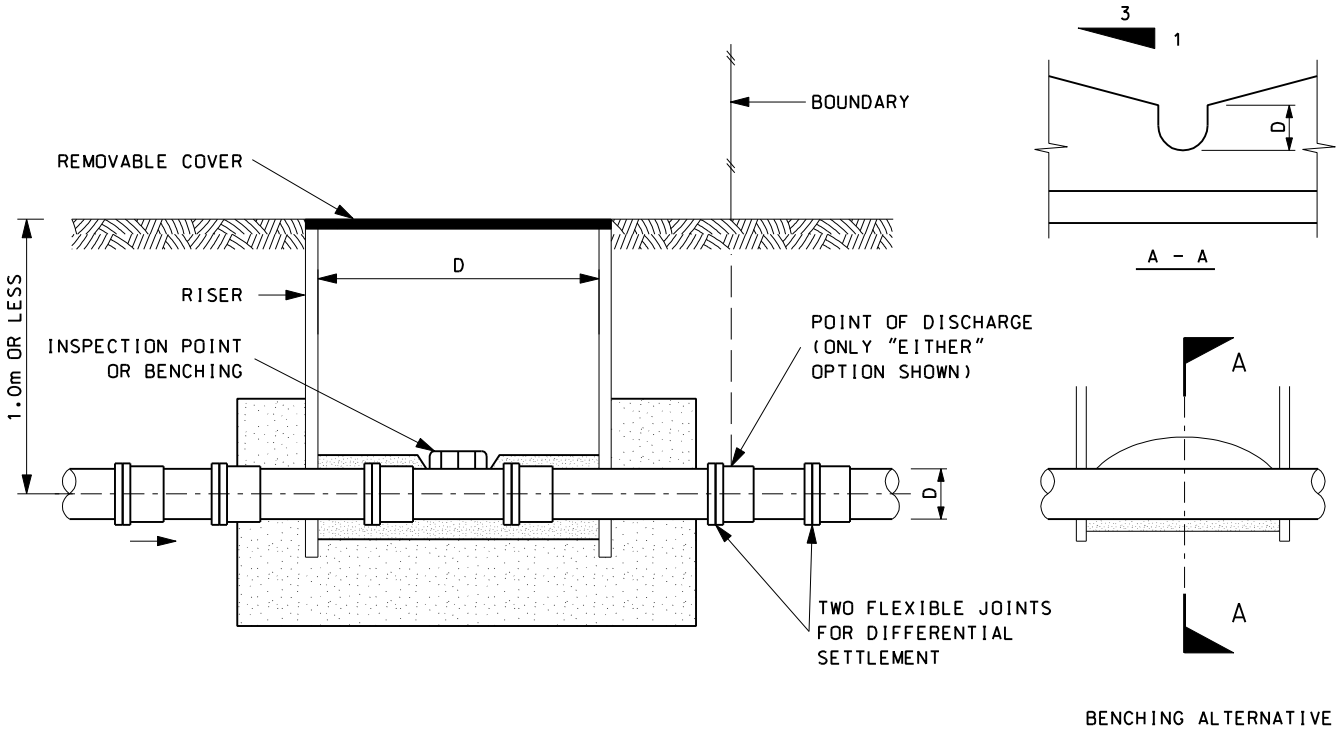


CONNECTION TO 45° SIDE JUNCTION

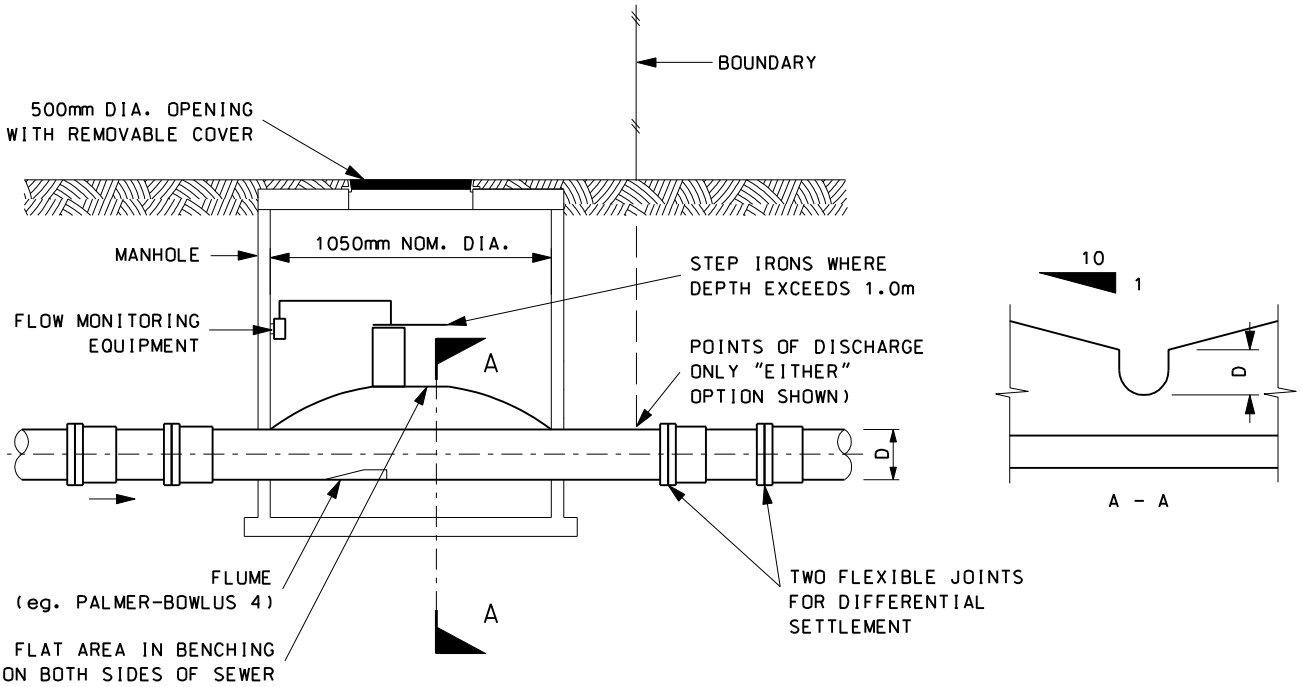
Based on CCC drawing SD363

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE TO BE REVISED	SHEET TITLE: RESIDENTIAL SEWER LATERAL JUNCTIONS	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 413B; ISSUE: C; PLAN No.: 600

D = 450mm DIA. FOR D = 100mm DIA.
D = 600mm DIA. FOR D = 150mm DIA.

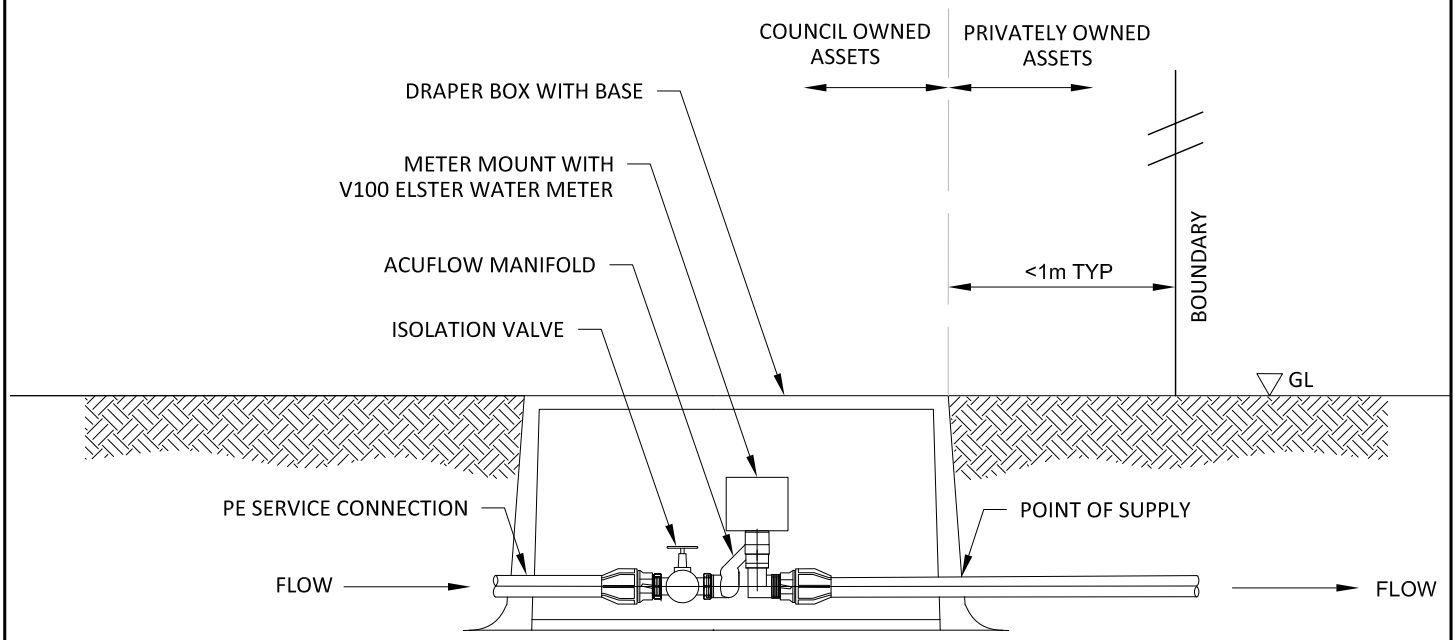


EXAMPLE 3 – CONTROLLED TRADE WASTE DISCHARGES, NOT GREATER THAN 1.0m DEEP

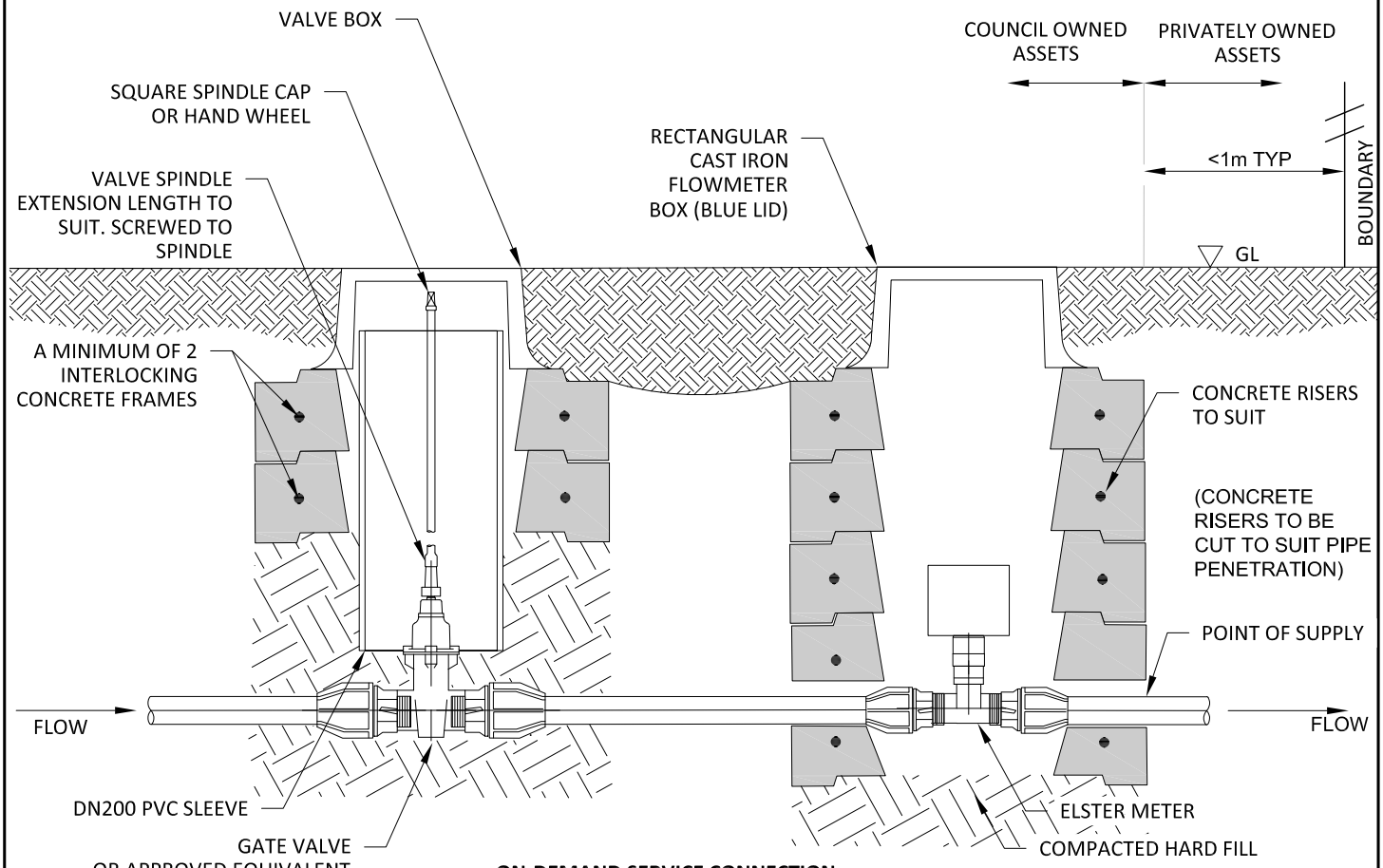


EXAMPLE 4 – OTHER TRADE WASTE DISCHARGES

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: TRADE WASTE POINT OF DISCHARGE	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 413C ISSUE: B PLAN No.: 600



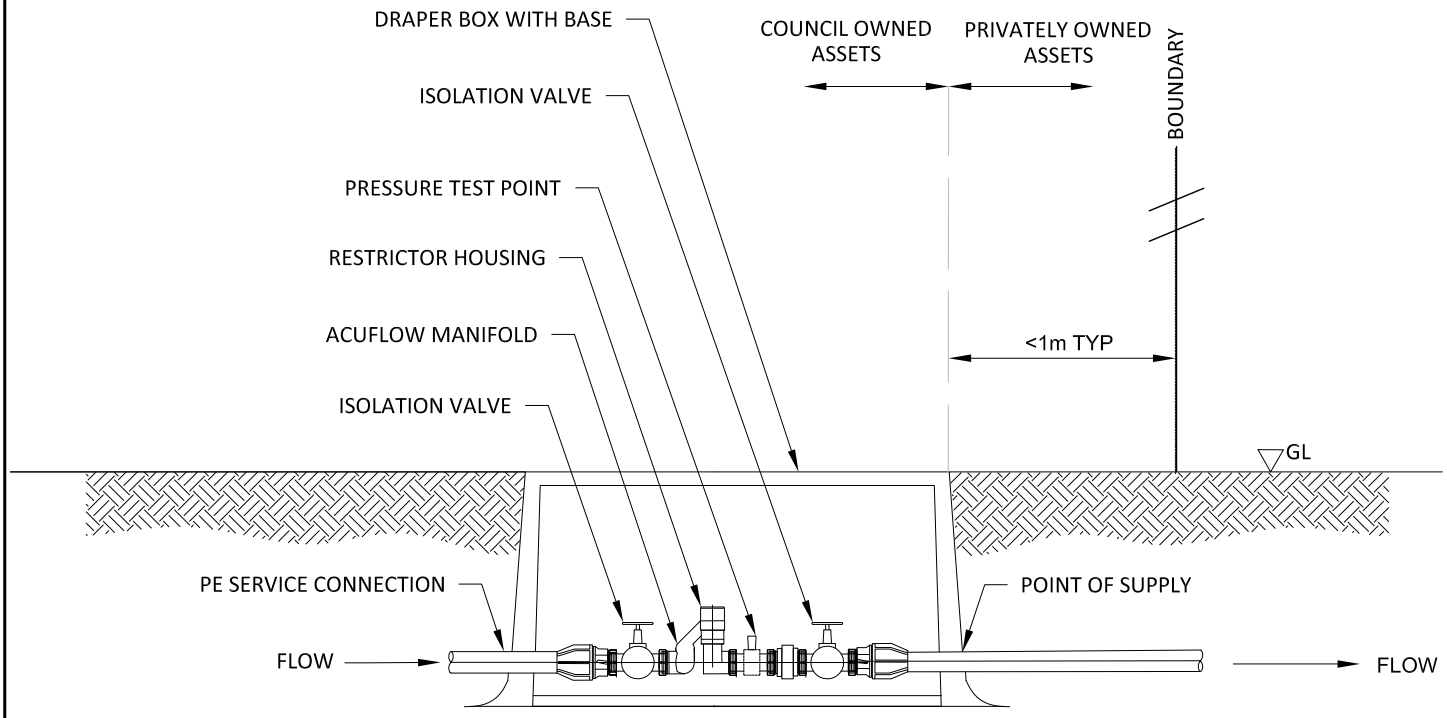
ON-DEMAND SERVICE CONNECTION
Ø15 - 20mm I.D.
N.T.S.



ON-DEMAND SERVICE CONNECTION
> 20mm I.D.
N.T.S.

NOTE:
1. IF IN ACCESSWAY, SPECIFIC DESIGN REQUIRED
2. CONNECTIONS >20mm I.D. MUST HAVE A BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH 409A OR 409B

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: STANDARD DRAWING	SHEET TITLE: URBAN WATER SUPPLY CONNECTION	PLAN No.: 600
			ISSUE: D
			SHEET: 414A



RESTRICTED SERVICE CONNECTION
N.T.S.

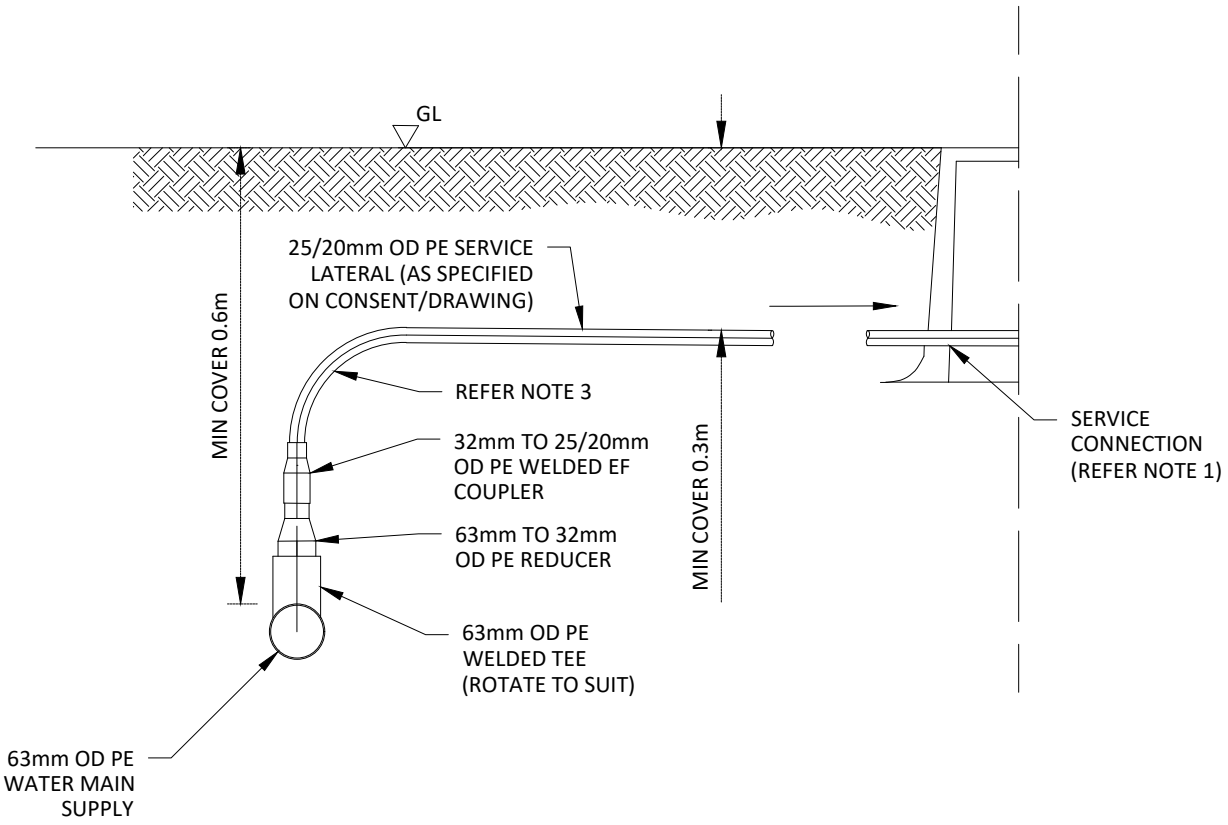
NOTE:

1. LOCATE RESTRICTED CONNECTION TOBY BOXES ADJACENT TO PROPERTY ACCESS/ ENTRANCES WHERE POSSIBLE.
2. ALL TOBY BOXES TO BE MARKED BY MARKER POST AS PER ENGINEERING CODE OF PRACTICE.

WAIMAKARIRI DISTRICT COUNCIL	PROJECT TITLE: STANDARD DRAWING	SHEET TITLE: RURAL & RURAL RESIDENTAL WATER SUPPLY CONNECTION	PLAN No.: 600
			ISSUE: D / SHEET: 414B

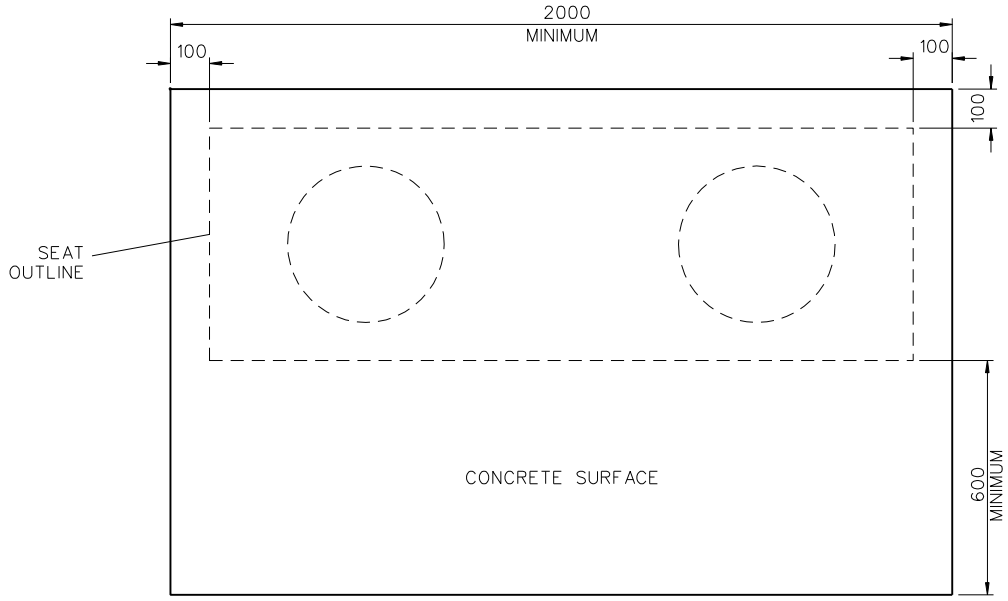
NOTE:

1. REFER TO WDC ECOP STANDARD DRAWINGS 600-414A FOR ON DEMAND OR 600-414B FOR RESTRICTED SERVICE CONNECTIONS.
2. WHERE LATERAL CONNECTION IS OFF A 63mm OD PE WATER MAIN, 63mm OD PE EQUAL TEES ARE REQUIRED (NOT SADDLES). WHERE PE LATERALS CONNECT TO PE PIPE WORK LARGER THAN 63mm OD PE, WELDED PE SADDLES ARE ACCEPTABLE.
3. WHERE MINIMUM BEND RADIUS OF PE PIPE IS LESS THAN 35 TIMES DIAMETER OF PE PIPE, CONTRACTOR TO ALLOW FOR WELDED PE BEND.
4. THIS DRAWING SHOWS A TYPICAL CONNECTION OFF A 63mm OD PE RIDER MAIN, IF CONNECTION IS TO PVC PIPE THEN THE FOLLOWING NOTES APPLY.
   a. TAPPING SADDLES ARE REQUIRED IN PLACE OF WELDED PE TEES OR SADDLES. IN THIS CASE, 4N TAPPING SADDLES ARE TO BE USED (GUN METAL IS NOT APPROVED).
   b. ANY TAPPING INTO PVC PIPE SHALL BE LESS THAN $\frac{1}{3}$ OF PIPE DIAMETER.

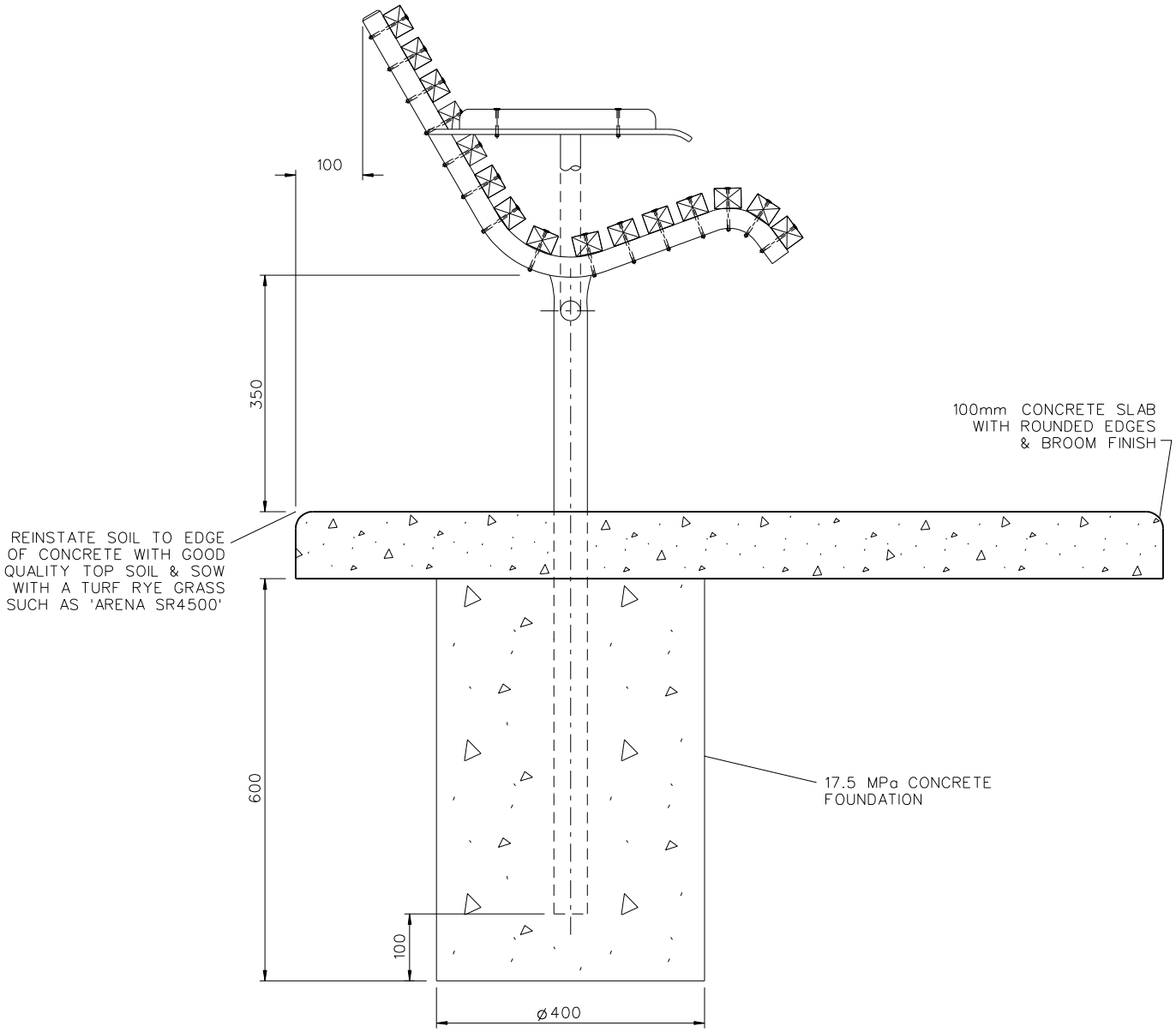


Ø25 - 20m LATERAL CONNECTION FROM 63mm OD PE WATER MAIN - REFER TO NOTES 2 AND 4 FOR OTHER WATER MAIN MATERIALS AND SIZES

WAIMAKARIRI DISTRICT COUNCIL	SHEET TITLE: SERVICE LATERAL CONNECTION FROM WATER MAIN	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 414C ISSUE: A PLAN No.: 600



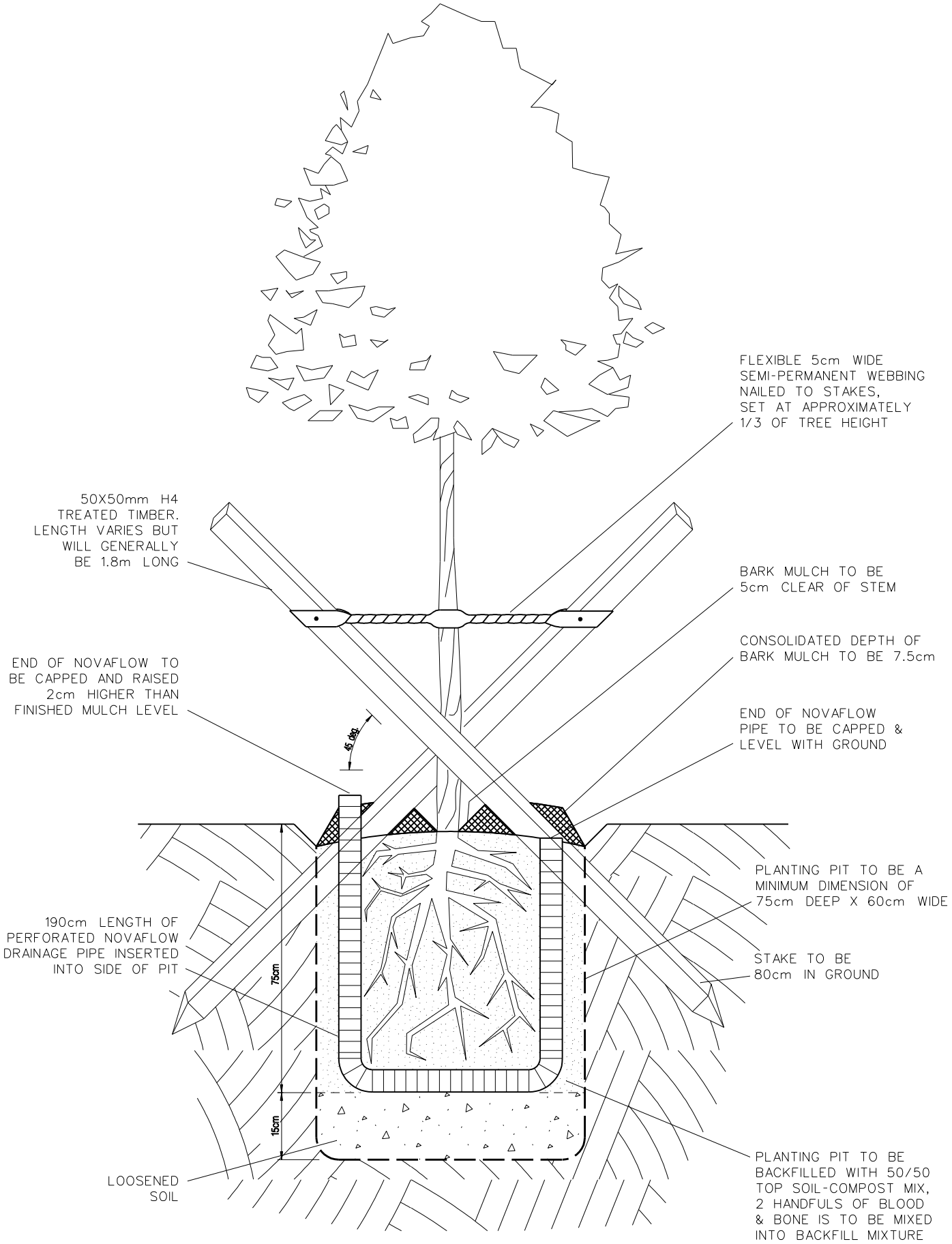
FOUNDATION PLAN



FOUNDATION DETAIL

Based on CCC drawing SD712

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: STREET BENCH INSTALLATION	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 500
				ISSUE: B / PLAN No.: 600

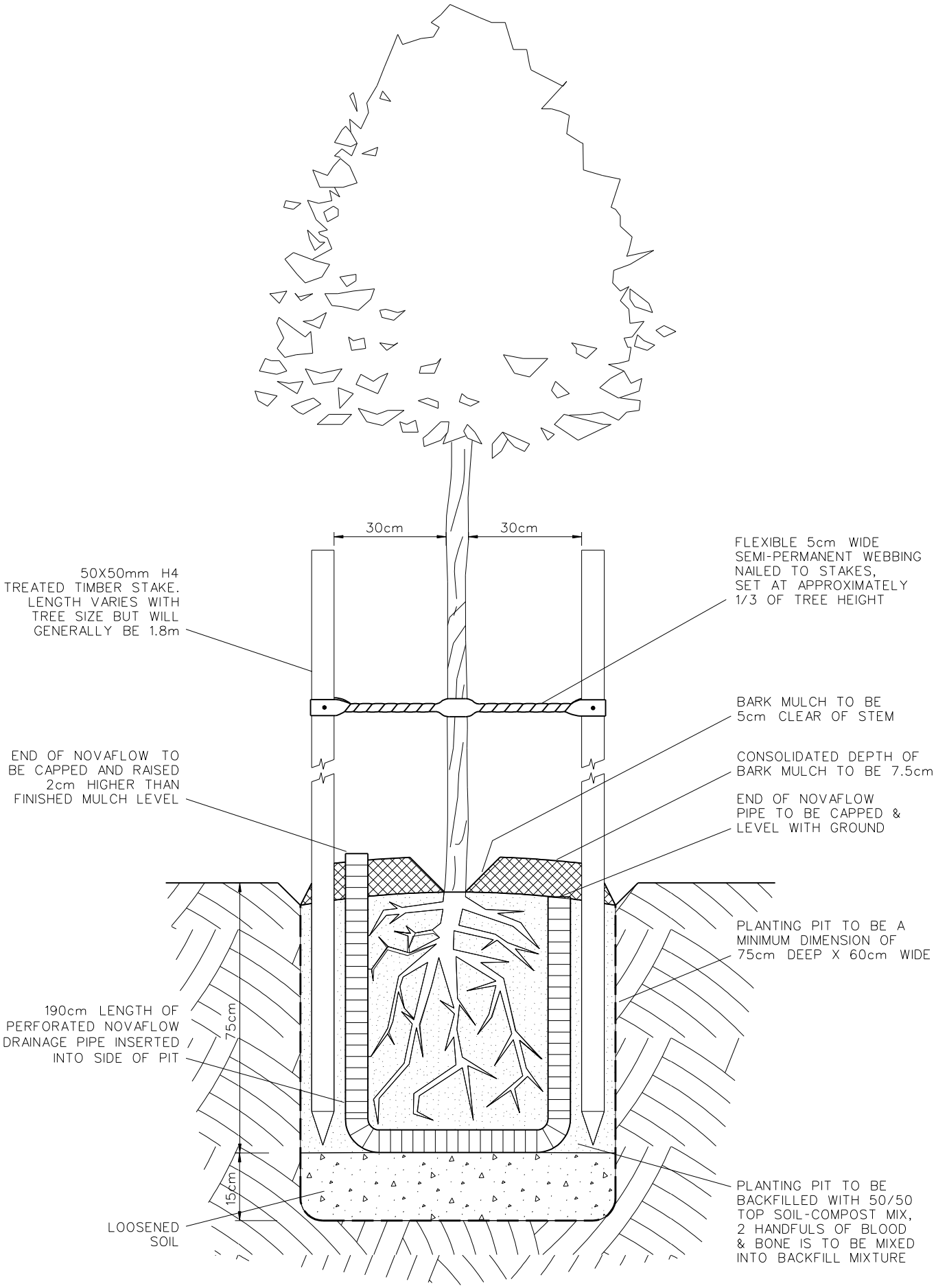


Based on CCC drawing SD701

WAIMAKARIRI DISTRICT COUNCIL
technical services

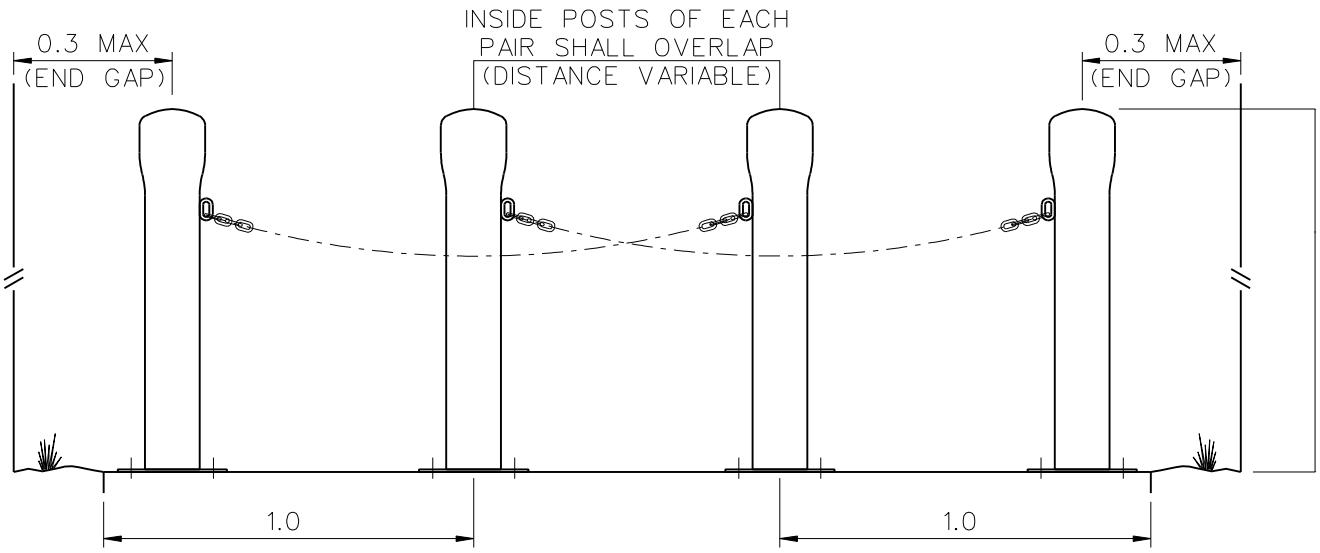
NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	DIAGONAL TREE STAKING	STANDARD DRAWINGS	501A

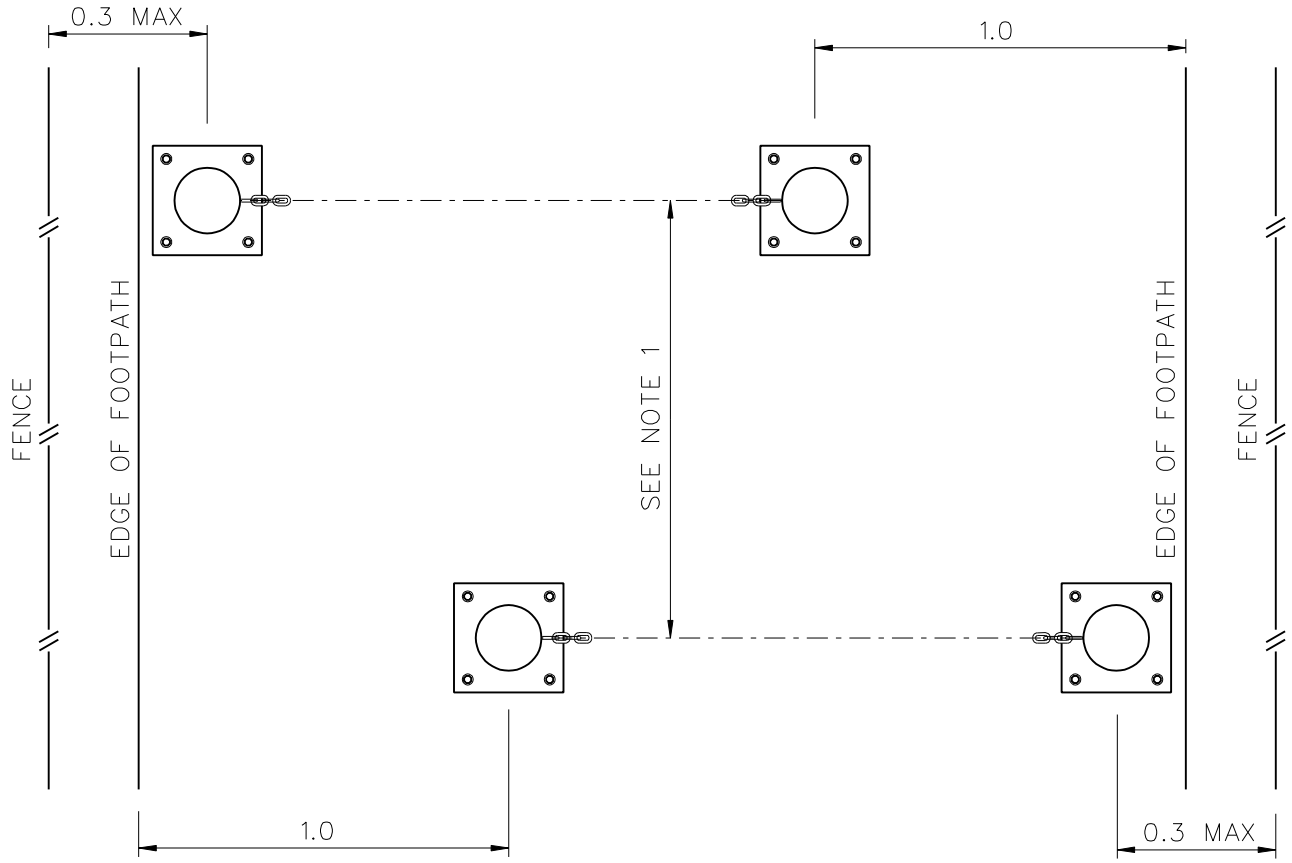
ISSUE	PLAN No.
B	600



Based on CCC drawing SD702

WAIMAKARIRI DISTRICT COUNCIL technical services	NOT TO SCALE	SHEET TITLE: VERTICAL TREE STAKING	PROJECT TITLE: STANDARD DRAWINGS	SHEET: 501B; ISSUE: B; PLAN No.: 600





SURFACE MOUNTED STEEL BOLLARDS

NOTES:

1. FOR LARGER DIAMETER BOLLARDS MAINTAIN MINIMUM 0.9m INSIDE CLEARANCE IN BOTH DIRECTIONS (OTHERWISE 1.0m CENTRES).
2. CHAINED LENGTH (OR EQUIVALENT) WILL VARY DEPENDING ON PATH WIDTH.
3. DIMENSIONS APPLICABLE TO DIFFERENT SURFACES AND STEEL OR WOODEN BOLLARDS.

STEEL BOLLARD SPECIFICATION

USE APPROVED 0.8m HIGH STEEL BOLLARDS, LUGGED ON ONE SIDE AND POWDER COAT FINISHED IN APPROVED COLOUR. BOTTOM PLATE TO BE 6mm THICK WITH 4 HOLES SUITABLE FOR 12mm x 100mm GALVANISED THRU BOLTS (STAINLESS STEEL IN BEACH ENVIRONS). CONCRETE SURFACES TO BE MINIMUM DEPTH OF 100mm. ALL BOLTS TO BE SECURELY TIGHTENED, EXCESS THREAD REMOVED AND REMAINDER BURRED OVER AND ZINC SPRAYED TO PREVENT LOOSENING AND RUST.

WAIMAKARIRI DISTRICT COUNCIL
technical services

NOT TO SCALE	SHEET TITLE	PROJECT TITLE	SHEET
	PEDESTRIAN ACCESSWAY CHICANE	STANDARD DRAWINGS	502

ISSUE	PLAN No.
B	600