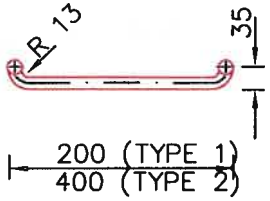
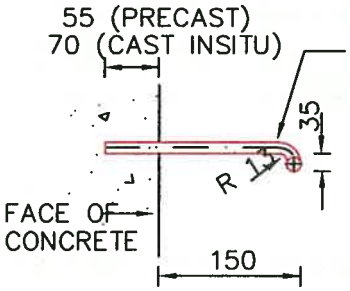
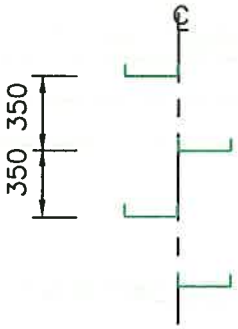


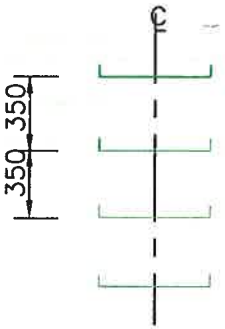
FRONT ELEVATION



SIDE ELEVATION

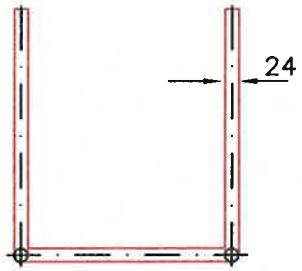


TYPE 1



TYPE 2

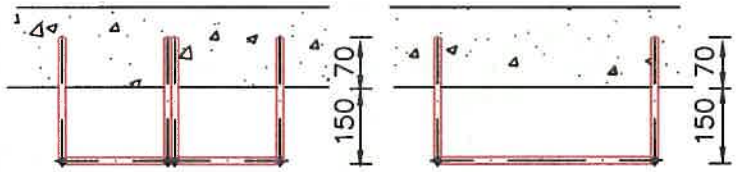
VERTICAL LAYOUT OF STEP IRONS



PLAN

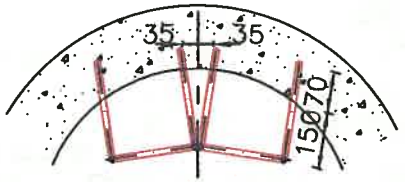
NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. STEP IRONS FORMED FROM 24mm DIA. DEFORMED BAR GRADE 230S TO AS 1302.
3. STEP IRONS TO BE HOT DIPPED GALVANISED AFTER FORMING. GALVANISING TO BE TO AS 1650.



TYPE 1 STEP IRON TYPE 2 STEP IRON

PLAN LAYOUT IN FLAT WALLS

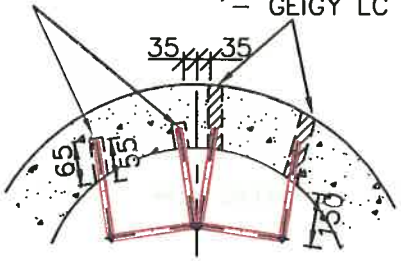


STEP IRONS SET IN FORM PRIOR TO POURING CONCRETE

TYPE 1 STEP IRON PLAN LAYOUT IN CAST IN-SITU MANHOLES

ALTERNATIVE CORED HOLES PARTIALLY THROUGH WALL SECTION & FILLED WITH EPOXY (CIBA -GEIGY LC 273)

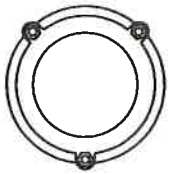
CORE HOLES FILLED WITH EPOXY (CIBA - GEIGY LC 273)

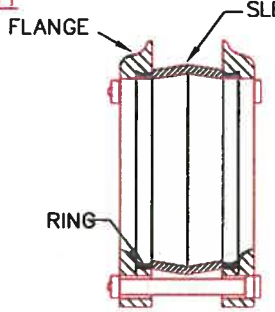


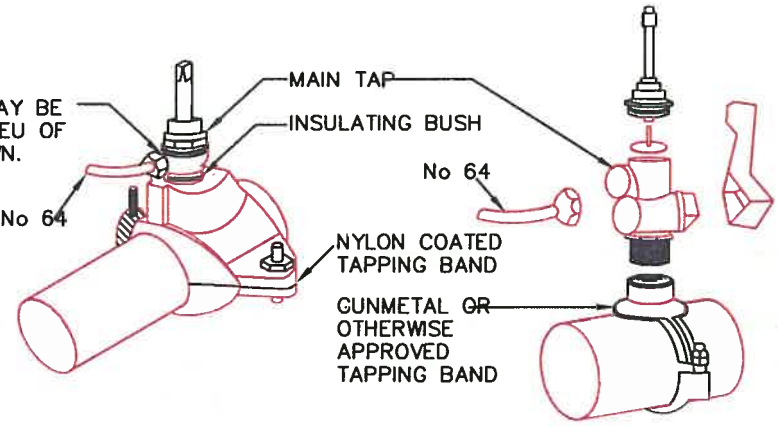
TYPE 1 STEP IRON PLAN LAYOUT IN PRECAST MANHOLES

SNOWY RIVER SHIRE COUNCIL			STANDARD STEP IRONS DROP TYPE					
Surveyed By . . . . Job No . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD34a

GIBAULT JOINT



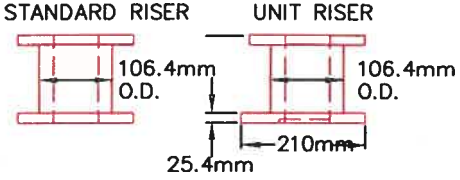




TYPICAL SERVICE

HYDRANT RISER (FIREPLUG DISTANCE PIECE)

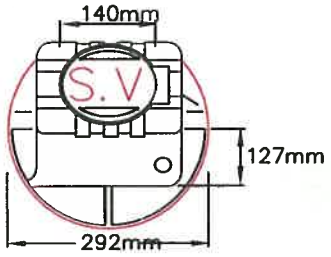
Standard riser to raise level of spring hydrant above hydrant tee.
Unit riser to extend from an existing hydrant unit body and attach new spring hydrant to unit riser.



SPRING HYDRANT

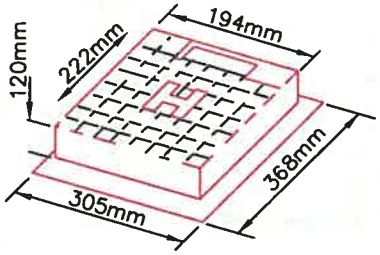
80mm size only. To attach a hydrant tee (fireplug tee) or hydrant riser. Nylon coated to NSW Government Water Supply Standards No 1384.

STOP VALVE BOX



HYDRANT BOX

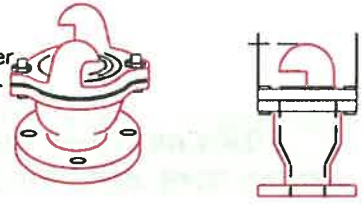
Hydrant lids must be capable of opening a minimum of 15° past vertical.



MARKER PLATE

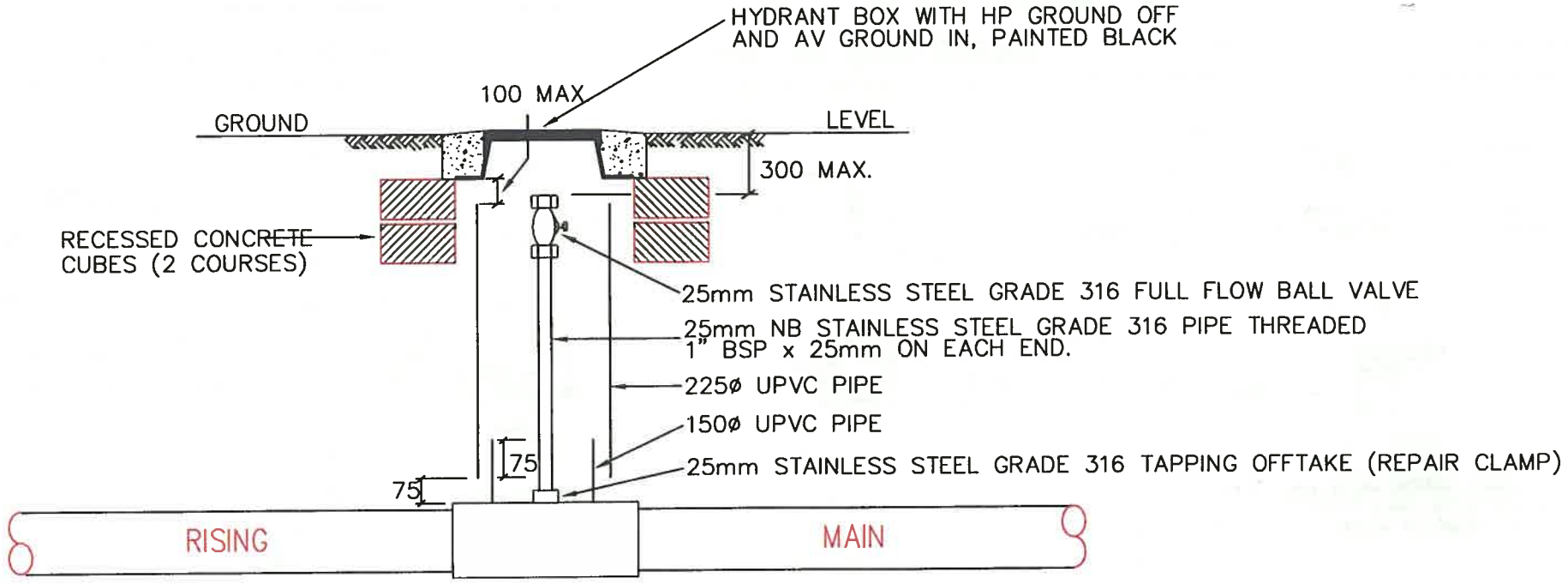
Reflectorised and manufactured in either standard enamel finish or in aluminium. Approved recycled plastic marker posts with lettering cast into post may be used in lieu of the above.

Size: 250mm X 80mm

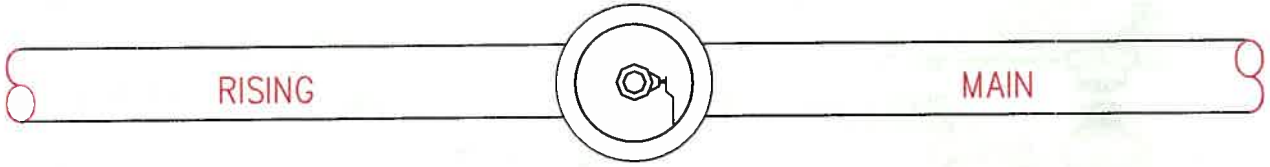


NOTE:
1. All fittings are to be nylon coated to NSW GOV'T Water Supply Standards No 1384.
2. All bolts used are to be grade 316 stainless steel, all nuts to be grade 304 SS.

SNOWY RIVER SHIRE COUNCIL			WATER FITTINGS FOR SUBDIVISIONS					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD 35a
Disk No	Passed By							

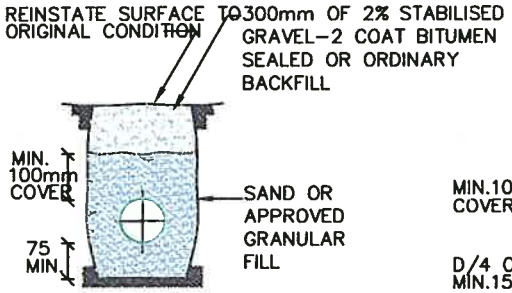


SECTION
N.T.S.

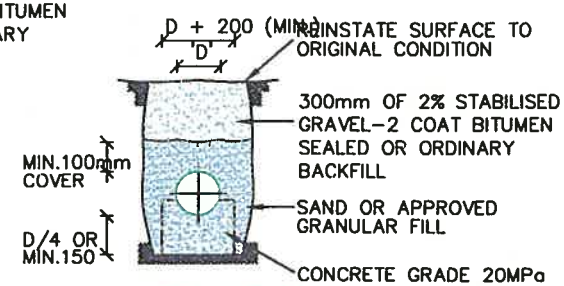


PLAN
N.T.S.

SNOWY RIVER SHIRE COUNCIL			STANDARD DETAIL FOR AIRVAVLES					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD36a

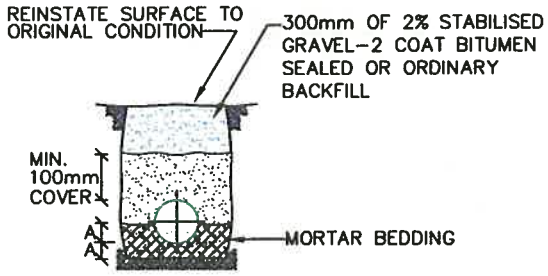


TYPE 1



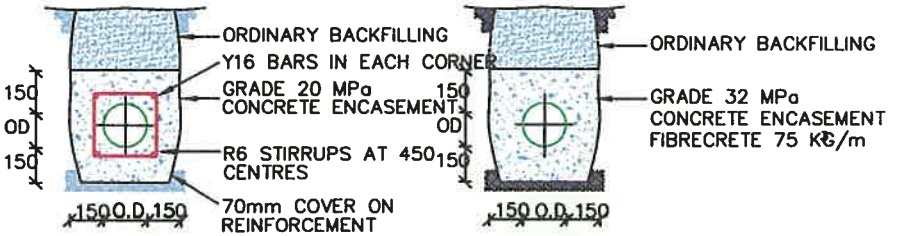
TYPE 3

NOTE: ON FOUNDATIONS OTHER THAN ROCK PROVIDE 12mm BITUMINOUS FELT THROUGH SECTION OF CONCRETE CRADLE AT EACH PIPE JOINT.
PLACE MEMBRANE IN FRONT OF PIPE SOCKET.

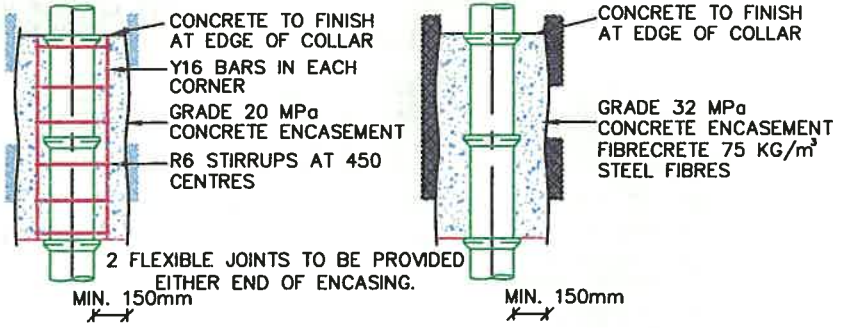


TYPE 2

DIA. OF SEWER	A
150–300	25
375–600	50



SECTION SECTION



PLAN PLAN

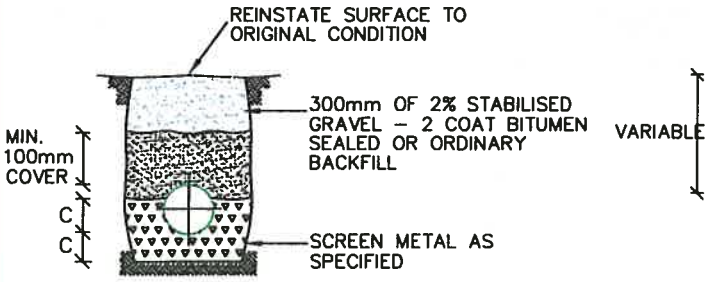
WHERE APPROVED BY THE ENGINEER UNREINFORCED MASS CONCRETE ENCASING MAY BE USED.
TO BE READ IN CONJUNCTION WITH CLAUSE 14.4.15 & 14.13.8

TYPE 4
(WITH STEEL REINFORCEMENT)

TYPE 4
(WITH STEEL FIBRE REINFORCED CONCRETE – FIBRECRETE)

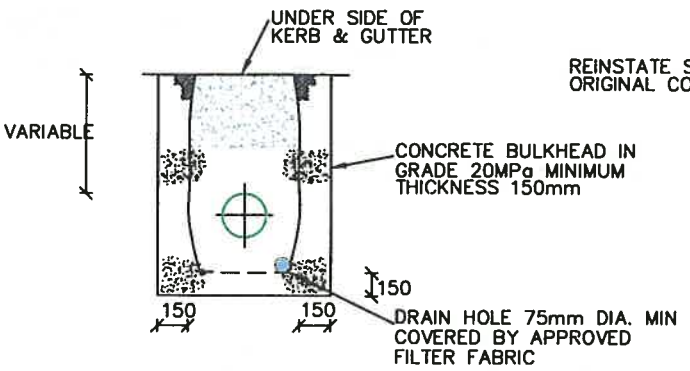
* FOR ENCASEMENT OF EXISTING SERVICES CONSULT WITH COUNCIL ENGINEER REGARDING FLEXIBLE JOINT REQUIREMENTS.

SNOWY RIVER SHIRE COUNCIL			TRENCH STOPS, BULKHEADS & ENCASEING OF SEWERMAINS					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 1of2	Ref. No	Plan No SD37a

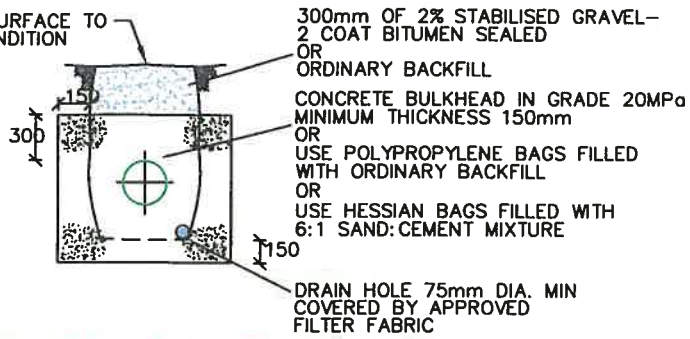


TYPE 5

DIA OF SEWER	C
150 – 300	100
300 – 600	150
> 600	AS SPECIFIED



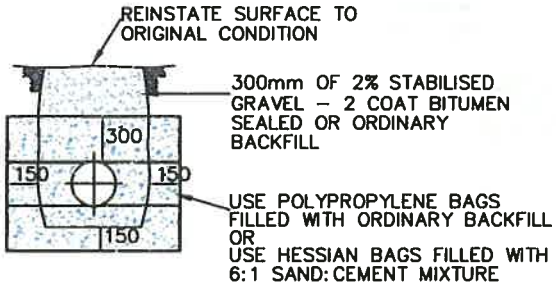
TYPICAL BULKHEAD UNDER KERB & GUTTER



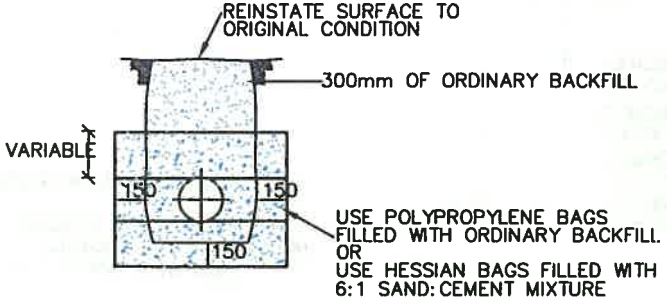
TYPICAL BULKHEAD

ø OF MAIN SEWER	MAX. WIDTH OF TRENCH AT TOP OF PIPE	VOL OF CONC IN BULKHEAD (Cu m)
100	450	0.08
150	525	0.09
225	600	0.10
300	675	0.11
375	775	0.12
450	875	0.13
525	950	0.14
600	1225	0.17

TRENCH WIDTHS & BULKHEAD VOLUMES

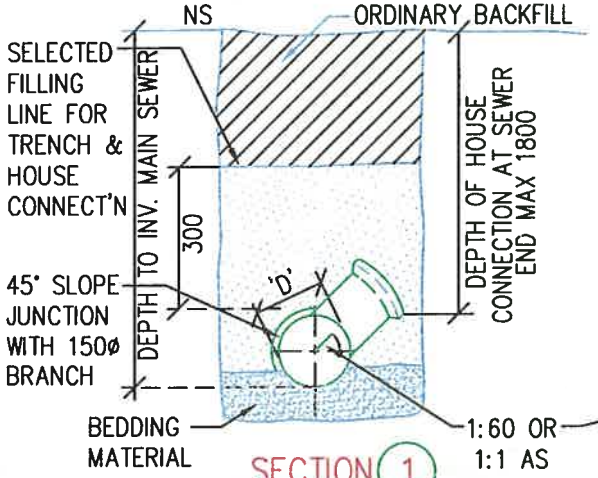


TYPICAL TRENCH STOP

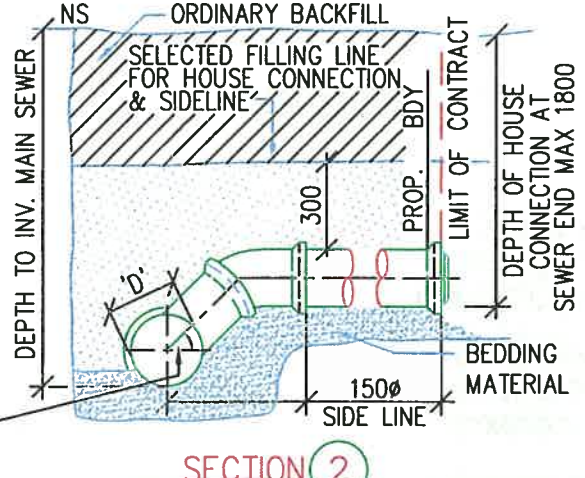


TYPICAL BULKHEAD UNDER TABLE DRAIN

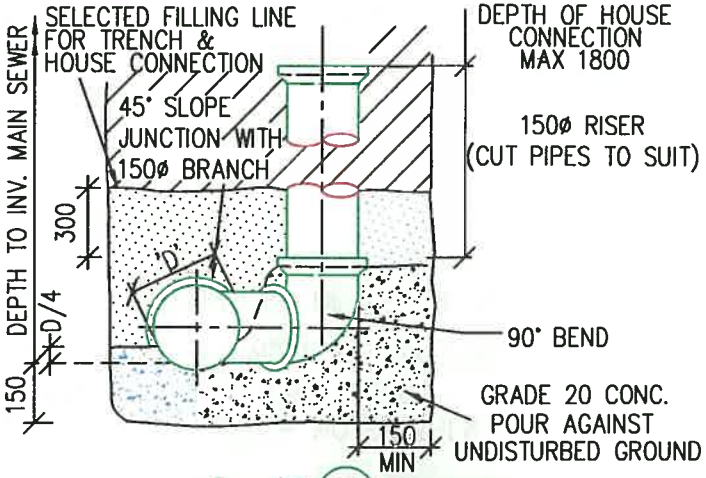
SNOWY RIVER SHIRE COUNCIL			TRENCH STOPS, BULKHEADS & ENCASEING OF SEWERMAINS				
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.				2of2		SD37b
Disk No	Passed By							



SECTION 1

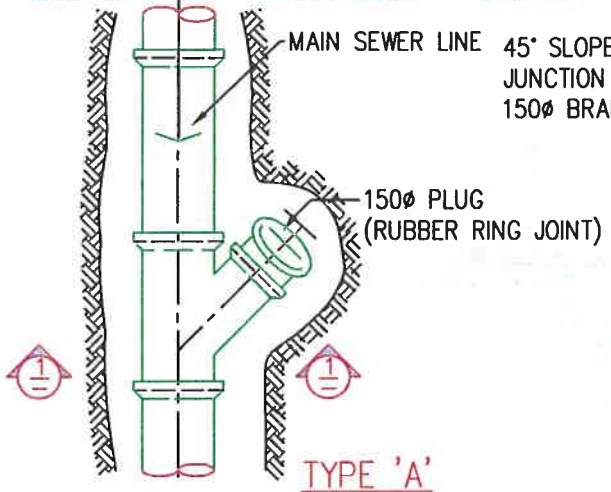


SECTION 2



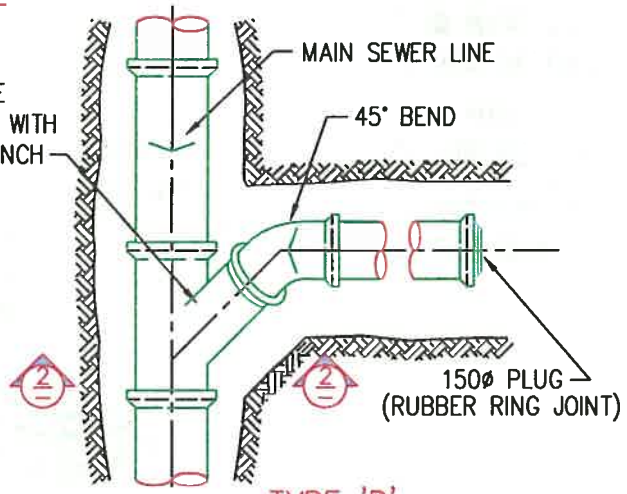
SECTION 3

NOTE : SLOPE RILEY JUNCTION MAY NOT BE USED WITHOUT THE ENGINEERS APPROVAL.



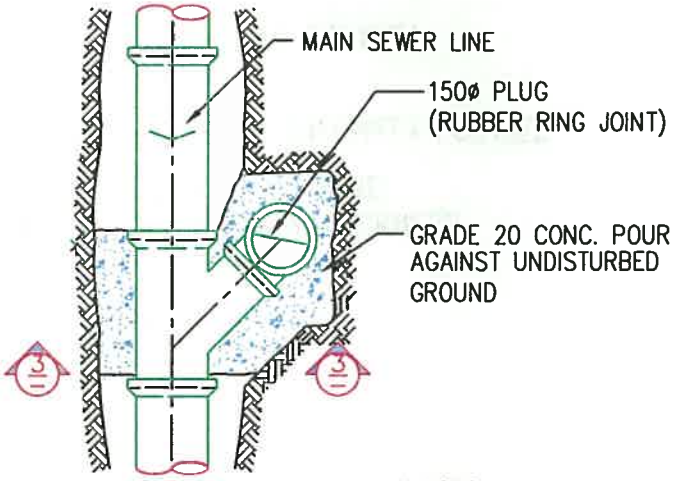
TYPE 'A'

IS TO BE USED WHERE MAIN SEWER IS LESS THAN 2000 DEEP AND IS LOCATED INSIDE THE PROPERTY.



TYPE 'B'

TO BE USED WHERE MAIN SEWER IS LESS THAN 2000 DEEP TO INVERT AND IS LOCATED OUTSIDE THE PROPERTY BOUNDARY.

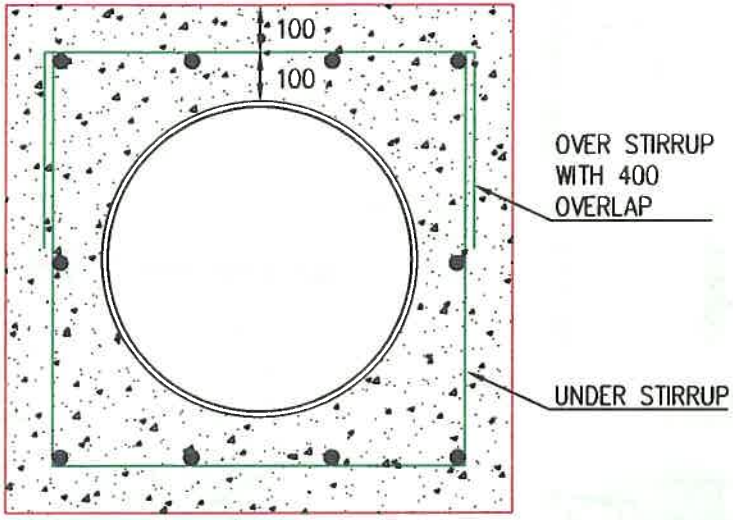


TYPE 'C'

TO BE USED WHERE MAIN SEWER IS GREATER THAN 2000 DEEP AND IS LOCATED INSIDE THE PROPERTY.

SNOWY RIVER SHIRE COUNCIL			SEWER TYPES JUNCTIONS & RISERS					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 1of3	Ref. No	Plan No SD38a

* THIS TREATMENT IS ONLY TO BE USED WHERE APPROVED BY THE ENGINEER.
GENERALLY THE MAIN IS TO BE REPLACED IN DICL OR RELOCATED CLEAR OF ANY PROPOSED WORKS.

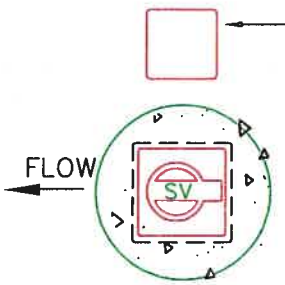


DETAIL

NOTES :

1. 600 M.S. MAIN AND) 200 MINIMUM THICKNESS
   525 A.C. MAIN) 20 MPa CONCRETE.
2. Y16 DEFORM BAR TOP / BOTTOM CENTRALLY LOCATED @ MAX. 280mm CENTRES.
3. Y16 DEFORM BAR SIDES CENTRALLY LOCATED @ MAX. 420mm CENTRES.
4. Y12 DEFORM STIRRUPS @ 450mm MAX. CENTRES.
5. CONCRETE ENCASEMENT TO FINISH NO FURTHER THAN 100mm FROM A RUBBER RING JOINT. EXPANSION JOINTS TO BE PROVIDED AS DIRECTED.
6. FIBRECRETE MAY BE USED IN LIEU OF THE DETAIL SHOWN. DEVELOPER TO LIASE WITH THE ENGINEER TO DETERMINE REQUIREMENTS.

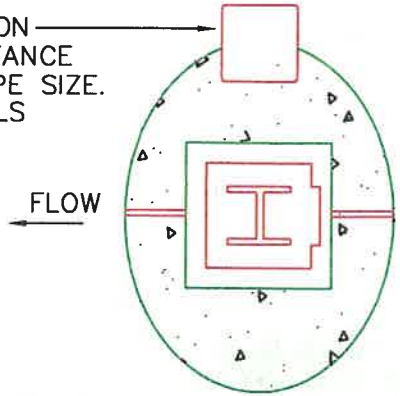
SNOWY RIVER SHIRE COUNCIL			STANDARD CONCRETE ENCASEMENT FOR 600 & 525 WATERMAINS					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD39a
Disk No	Passed By							



PLAN

STOP VALVE BOX AND SURROUND

USE SV AND HP POSTS ON BOUNDARY SHOWING DISTANCE TO MAIN/FITTING AND PIPE SIZE. REFER SD40A FOR DETAILS

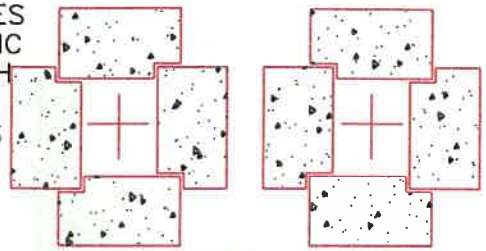


FACE LID HINGES TOWARD TRAFFIC FLOW FOR BOTH STOP VALVES AND HYDRANTS

PLAN

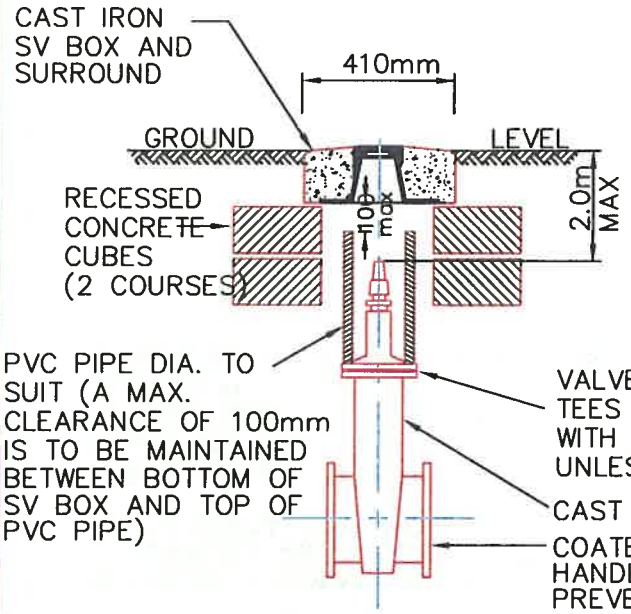
HYDRANT BOX AND SURROUND

(NOT BONDED–TWO PIECE)

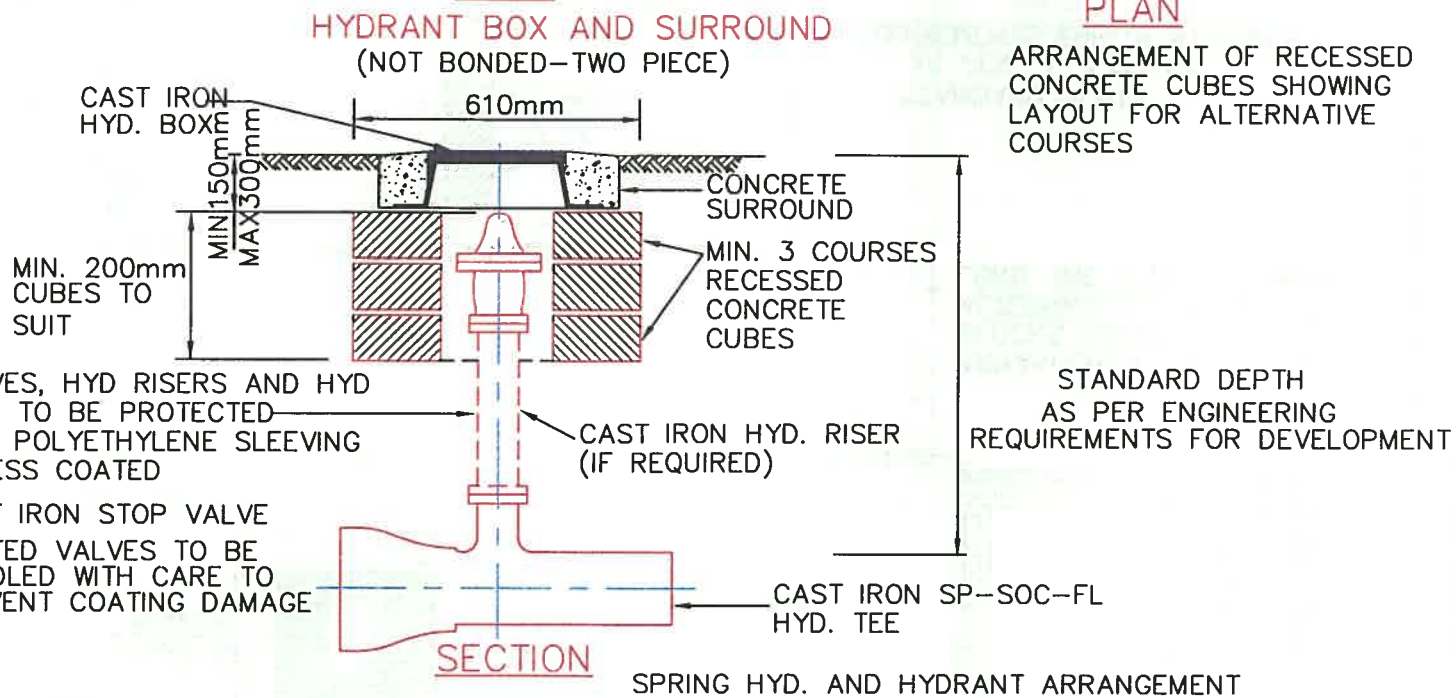


PLAN

ARRANGEMENT OF RECESSED CONCRETE CUBES SHOWING LAYOUT FOR ALTERNATIVE COURSES



SECTION



SECTION

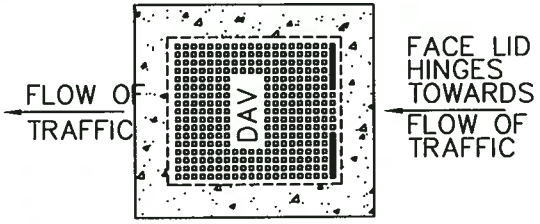
SPRING HYD. AND HYDRANT ARRANGEMENT

SNOWY RIVER SHIRE COUNCIL			HYDRANT, STOP VALVE AND DOUBLE AIR VALVE ARRANGEMENT STANDARD CONSTRUCTION PRACTICE				
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 1of2	Ref. No	Plan No SD41a

NOTE:

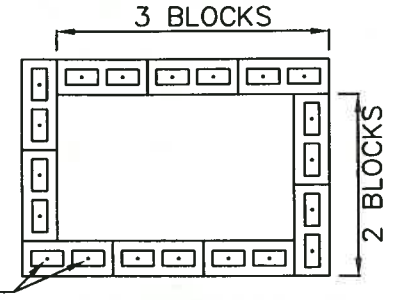
1. USE D.A.V. POSTS ON BOUNDARY SHOWING DISTANCE TO MAIN/FITTING AND PIPE SIZE. REFER SD40A FOR DETAILS

2. FOR ROAD USE ONLY PLACE Y12 BARS CENTRALLY IN EACH VOID AND FILL VOIDS WITH 20 MPa. CONCRETE TO CONCRETE BLOCKS. REFER TO PLAN "B"



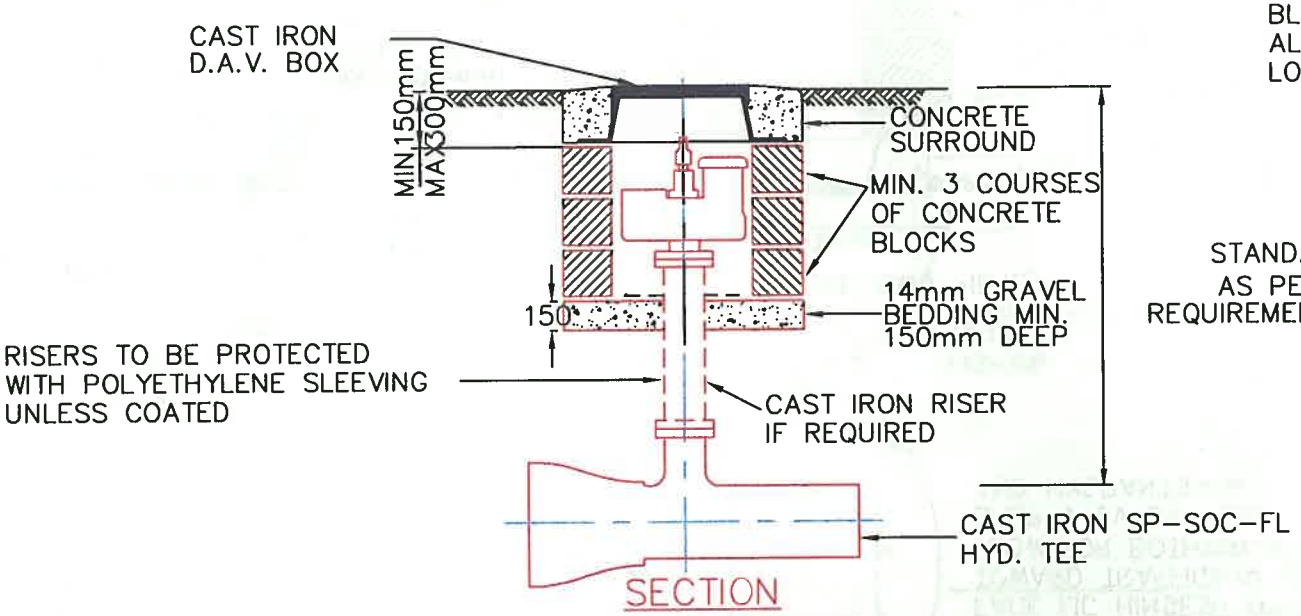
PLAN "A"

DOUBLE AIR VALVE (D.A.V.) BOX AND SURROUND



PLAN "B"

ARRANGEMENT OF CONCRETE BLOCKS SHOWING LAYOUT FOR ALTERNATE COURSES. 3 BLOCKS LONG AND 2 BLOCKS WIDE.



SECTION

SNOWY RIVER SHIRE COUNCIL			TYPICAL SINGLE/DOUBLE AIR VALVE ARRANGEMENT					
Surveyed By . . . . Job No . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 2of2	Ref. No	Plan No SD41b

STOP VALVE

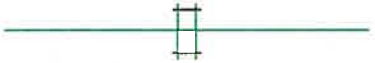
CLOSED STOP VALVE

HYDRANT

TAPER

CHANGE PIPE SIZE

BUTTERFLY VALVE



GIBAULT JOINT

AIR VALVE

SCOUR

REFLUX VALVE

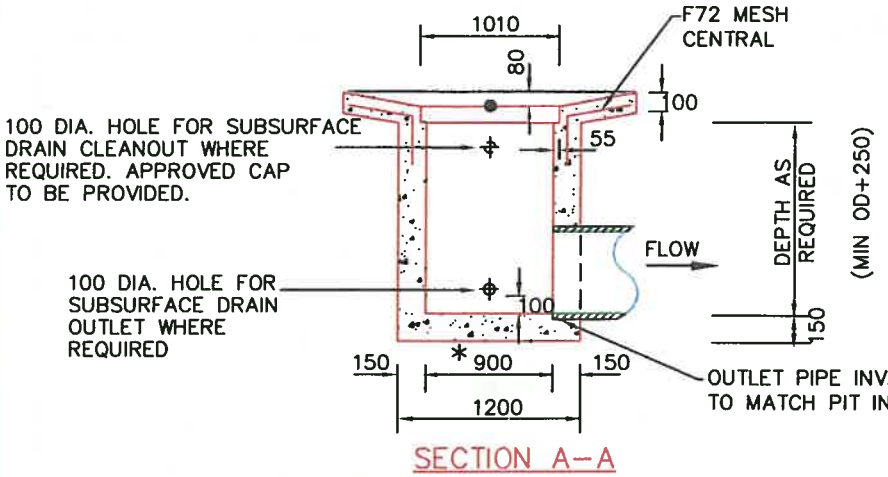
PIPES NOT INTERCONNECTED

INTERCONNECTED PIPES

NOTE:

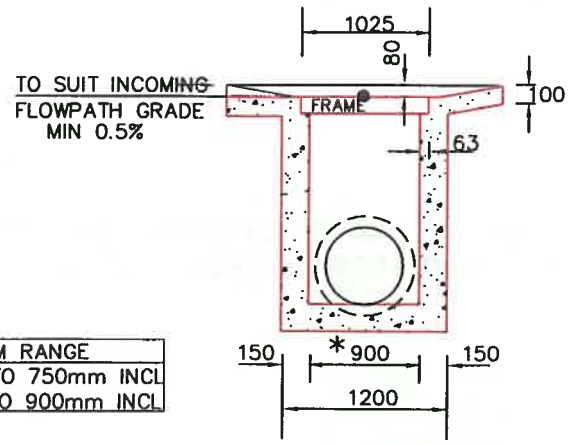
UNLABELLED PIPES ASSUMED TO BE 100mm DIA.
ALL OTHER SIZES ARE SHOWN ON PIPE.

SNOWY RIVER SHIRE COUNCIL			SYMBOLS COMMONLY USED ON WATER SUPPLY PLANS					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD42a

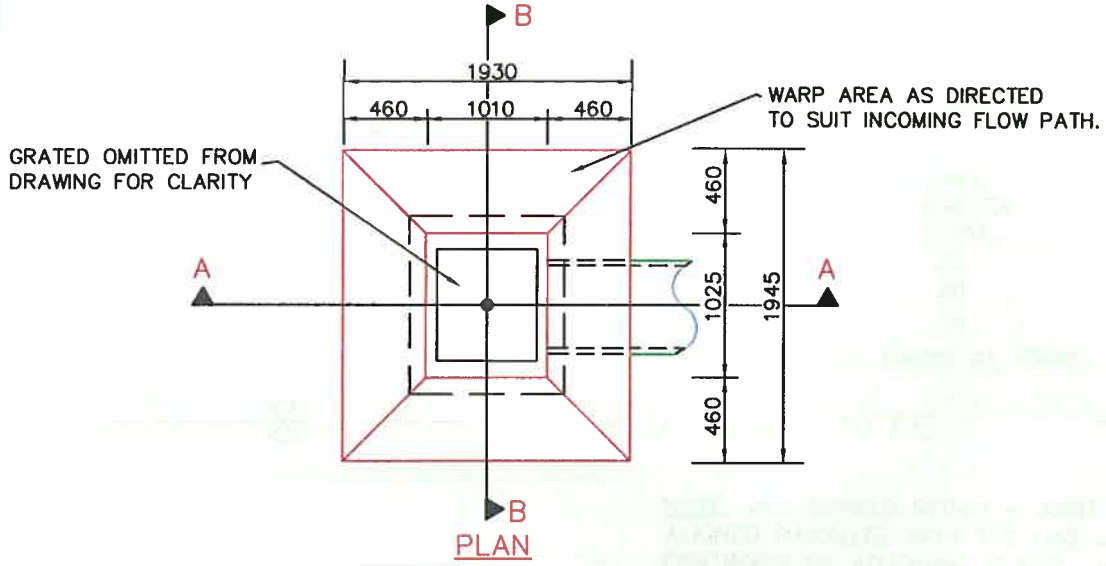


SECTION A–A

*	PIPE DIAM RANGE
900	600mm TO 750mm INCL
1200	825mm TO 900mm INCL



SECTION B–B



PLAN

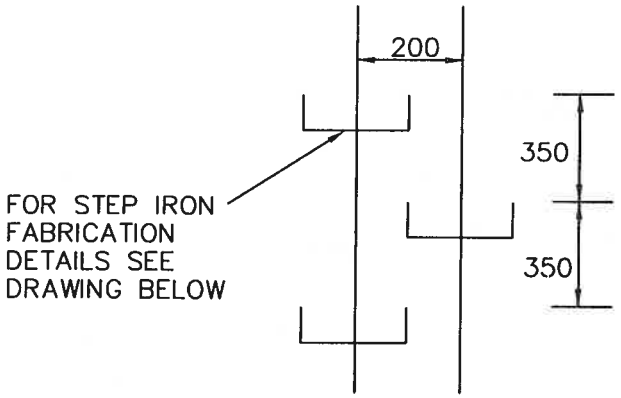
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. DRAWING NOT TO SCALE.
   CONCRETE COMPRESSIVE STRENGTH F'c 25MPA
4. LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFER TO THIS POINT:
5. SIDE WALLS OF ALL PITS DEEPER THAN 1500 ARE TO BE REINFORCED WITH ONE LAYER OF F82 MESH RETURNED 300 INTO BASE.
6. DEPTH OF PIT NOT TO EXCEED 3500.
7. PITS DEEPER THAN 1200 TO BE FITTED WITH PLASTIC COATED OR GALVANISED STEP IRONS AT 350 CENTRES. (SD49)
8. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 RADIUS.
9. FOR DETAILS OF GULLY GRATING AND FRAME SEE WELDLOK GRATE CODE PC9090B OR APPROVED EQUIVALENT.
10. BENCH PITS AS DIRECTED BY SUPERINTENDENT.
11. PROVIDE MIN 900mm PINNED TURF SURROUND.
12. SHAPE ADJACENT AREAS TO ASSIST WATER COLLECTION.

SNOWY RIVER SHIRE COUNCIL

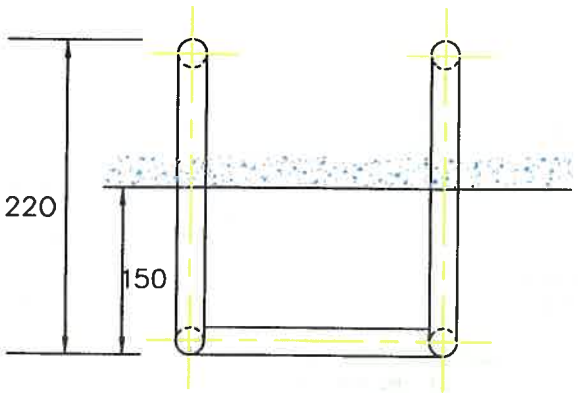
DEPRESSED SINGLE FLUSH GRATED SURFACE INLET PIT

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD47a
Disk No	Passed By							



STEP IRON PLACEMENT DIAGRAM

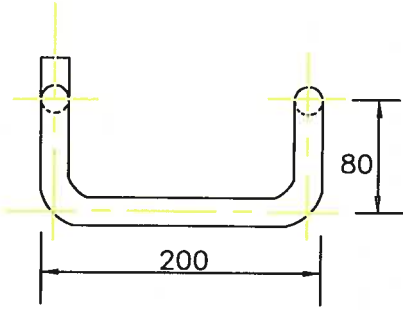
NOT TO SCALE



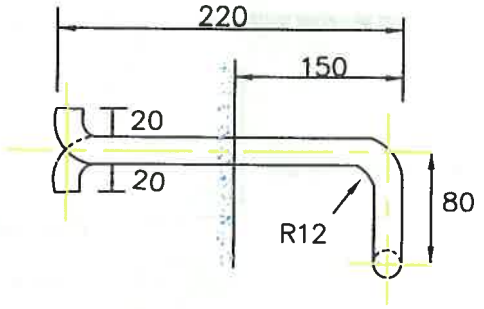
PLAN

NOTES

1. STEP IRON TO BE FABRICATED FROM 24mm DEFORMED BAR GRADE 230S TO AS 1302
2. STEP IRON TO BE HOT-DIPPED GALVANISED
3. PROPRIETARY EQUIVALENT PRODUCT MAY BE USED WHERE APPROVED



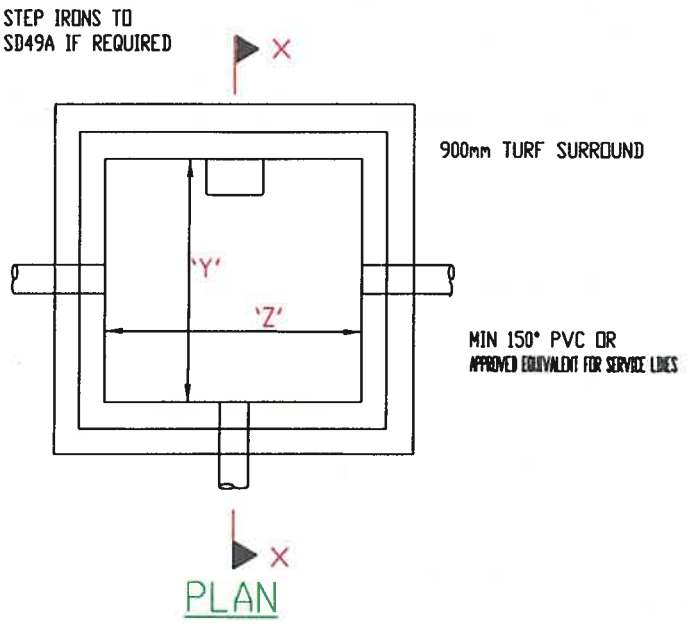
FRONT ELEVATION



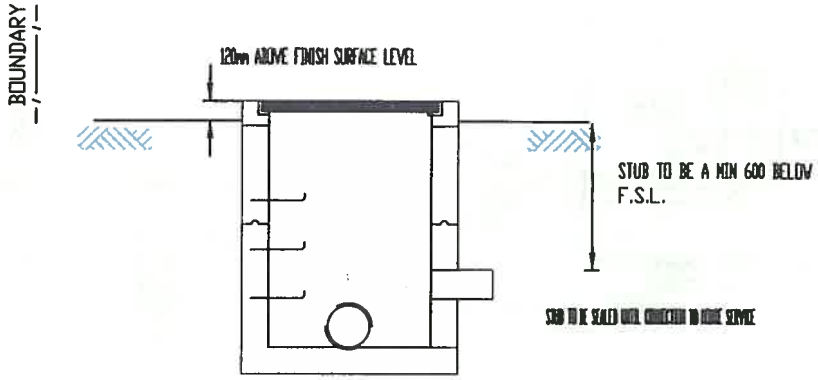
SIDE ELEVATION

NOT TO SCALE

SNOWY RIVER SHIRE COUNCIL			STANDARD STEPIRON DETAIL FOR DRAINAGE PITS					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD49a
Disk No	Passed By							



PLAN



NOTE:
TO BE READ IN CONJUNCTION
WITH CLAUSES 7.10.1 & 8.9.
DETAILING PIT, ETC
MATERIAL REQUIREMENTS.

SECTION X-X

MINIMUM PIT DIMENSIONS

	RESIDENTIAL		INDUSTRIAL
PIT DEPTH	0 - 1200	OVER 1200	ALL
'Y'	600	900	900
'Z'	600	900	900

NOTE:
ALL LIDS ARE TO BE
CONSTRUCTED THE
SAME AS STATED IN
SD48c2

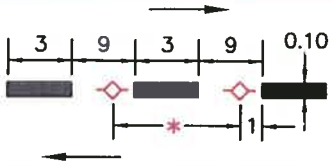
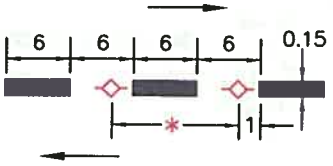
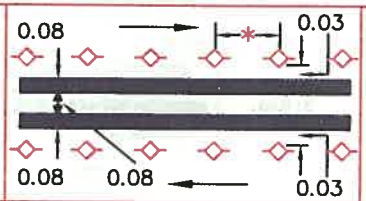
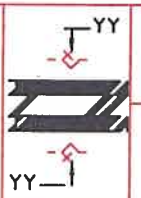
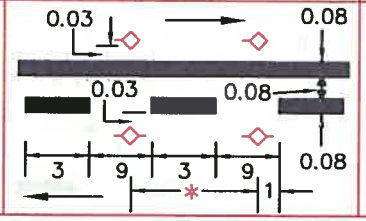
SNOWY RIVER SHIRE COUNCIL

STANDARD INTERLOTMENT DRAINAGE

urveyed By . . .	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
ob No	Checked By	N.T.S.						SD56a
isk No	Passed By							

NOTES:-

1. GENERALLY PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH RTA "INTERIM GUIDE TO SIGNS AND MARKINGS" AND WHERE APPLICABLE AS 1742.2 UNLESS OTHERWISE APPROVED ON THE ENGINEERING PLANS.
2. THE RTA DOCUMENT SHALL SUPERSEDE AS 1742.2 WHERE DISCREPANCIES BETWEEN THE DOCUMENTS OCCUR.
3. THE FACE OF ALL ISLAND OR MEDIAN NOSES & FLARES AS A MINIMUM SHALL BE PAINTED REFLECTIVE WHITE.
4. SIGHT DISTANCE WARRANTS SHALL BE IN ACCORADANCE WITH AUSTROADS AND WHERE ON CLASSIFIED ROADS THE RTA REQUIREMENTS FOR CENTRAL PAVEMENT MARKING.
5. LINE TYPE WARRANTS SHALL BE IN ACCORDANCE WITH NOTE 1.
6. DIRECTIONAL ARROWS, CHEVRONS, PEDESTRIAN CROSSINGS, ADVANCE PEDESTRIAN CROSSING WARNING MARKING ETC. SHALL BE PROVIDED IN ACCORDANCE WITH NOTE 1.
7. RAISED PAVEMENT MARKERS WITH ONE REFLECTIVE FACE (MONO) SHALL BE ORIENTATED TO FACE THE ONCOMING TRAFFIC (SEE SHEET 5).
8. OTHER NON-STANDARD RAISED PAVEMENT MARKERS i.e "CITY STUDS" etc. FOR USE IN TRAFFIC CONTROL DEVICES SHALL BE PROVIDED WHERE NOMINATED ON APPROVED ENGINEERING PLANS.
9. RAISED PAVEMENT MARKERS SHALL BE PROVIDED SO AS NOT TO PRESENT A HAZARD TO CYCLISTS.

LINE TYPE	USE	DIMENSIONS (m)	LINE COLOUR	RAISED MARKER TYPE	RAISED MARKER * SPACING (SEE NOTE 9)
SEPARATION LINES					
S1	SEPARATION LINE ON 2 WAY 2 LANE ROAD (ONE LANE IN EACH DIRECTION)		WHITE	YY	(1) 24 (2) 12
S2	SEPARATION LINE ON MULTI LANE ROAD (MORE THAN ONE LANE IN EACH DIRECTION)		WHITE	YY	(1) 12 (2) 12
BARRIER LINES					
BB (DOUBLE WHITE LINES, 2-WAY BARRIER LINES)	1. REPLACES SEPARATION LINE IF RESTRICTED SIGHT DISTANCE FOR BOTH DIRECTIONS (SEE NOTE 4) OR 2. APPROACH TO MEDIAN/ISLAND OR INTERSECTION		WHITE		(1) 12 (2) 12
BS	1. REPLACES SEPARATION LINE IF RESTRICTED SIGHT DISTANCE IN ONE DIRECTION (SEE NOTE 4) OR 2. CLIMBING LANE OR 3. APPROACHES TO A PEDESTRIAN CROSSING.		WHITE		(1) 12 (2) 12

→ DENOTES DIRECTION OF TRAFFIC FLOW

(1) SPACING APPLIES WHERE NO STREET LIGHTING EXISTS & THE 85th PERCENTILE TRAVEL SPEED IS GREATER OR EQUAL TO 75km/h

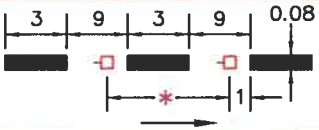
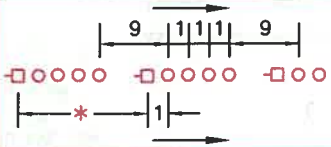
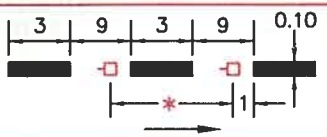
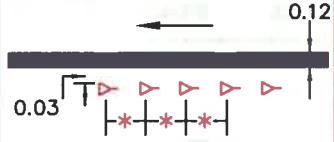
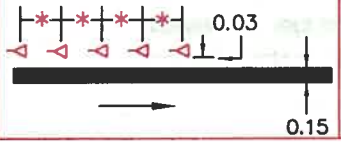
(2) THIS SPACING IS ADOPTED WHERE STREET LIGHTING EXISTS OR 85th PERCENTILE TRAVEL SPEED IS LESS THAN 75km/h

CLOSER SPACING MAY BE REQUIRED AROUND SMALL ISLANDS, SHARP CURVES OR CRESTS.

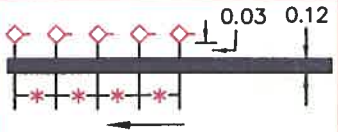
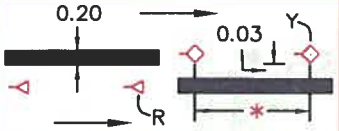
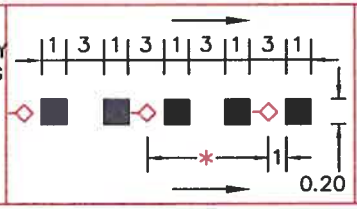
SNOWY RIVER SHIRE COUNCIL

PAVEMENT MARKING

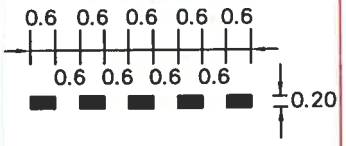
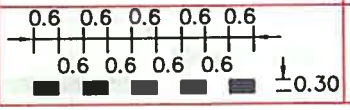
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.				10F5		SD58a
Disk No	Passed By							

LINE TYPE	USE	DIMENSIONS (m)	LINE COLOUR	RAISED MARKER TYPE	RAISED MARKER * SPACING
LANE LINES					
L1	LANE LINE ON MULTI LANE ROAD		WHITE	W	(1) 24 (2) 12
L2	LANE LINE ON MULTI LANE ROAD		WHITE		(1) 24 (2) 12
L3	LANE LINE ON MULTI LANE ROAD (LANE CHANGE PROHIBITED)		WHITE	W	(1) 24 (2) 12
L4	EXIST LANE LINE ON MULTI-LINE ROUNDABOUTS		WHITE	W	(1) 12 (2) 12
EDGE LINES					
E1	LEFT HAND EDGE LINE ON GENERAL PURPOSE ROAD		WHITE	R	(1) 24 (2) 12
E2	LEFT HAND EDGE LINE ON FREEWAY		WHITE	R	(1) 24 (2) 12

SNOWY RIVER SHIRE COUNCIL			PAVEMENT MARKING					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 20F5	Ref. No	Plan No SD58b

LINE TYPE	USE	DIMENSIONS (m)	LINE COLOUR	RAISED MARKER TYPE	RAISED MARKER * SPACING
EDGE LINES					
E3	RIGHT HAND EDGE ON DIVIDED CARRIAGEWAY		WHITE	Y	① 24 ② 12
E4	OUTLINE OF TRAFFIC ISLAND OR FREEWAY RAMP GORE (ON–OFF MERGE CHEVRON AREA)		WHITE	Y R	MIN 3 ① 24 ② 12
E5	OUTLINE OF PAINTED MEDIAN		WHITE	YY	MIN 3 ① 24 ② 12
E6	LINE APPLIED TO INCLINE FACE OF MEDIAN/ISLAND KERB		WHITE	—	—
CONTINUITY LINES					
C1	DEFINES EDGE OF THROUGH CARRIAGEWAY ADJACENT TO TURNING LANE, FREEWAY RAMP BUS BAY AND START OR FINISH OF AUXILIARY (ACCELERATION/ DECELERATION) LANES		WHITE	W	① 8 ② 8

SNOWY RIVER SHIRE COUNCIL			PAVEMENT MARKING					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 30F5	Ref. No	Plan No SD58c

LINE TYPE	USE	DIMENSIONS (m)	LINE COLOUR	RAISED MARKER TYPE	RAISED MARKER * SPACING
TURN LINES					
T1	DEFINES TURNING PATHS AT COMPLEX INTERSECTIONS		WHITE	—	—
TRANSVERSE LINES					
TF	(STOP LINE) STOP SIGNS, TRAFFIC SIGNALS, OPEN LEVEL CROSSING, ONE LANE BRIDGES ETC.		WHITE	—	—
TB	(GIVEWAY LINE) GIVE WAY LOCATIONS ONE LANE BRIDGE, OPEN LEVEL CROSSING ETC		WHITE	—	—

TB IS USALLY 0.20 WIDE ACROSS THE MOUTH OF THE INTERSECTING ROAD
0.3m IN FRONT OF THE PROJECTED KERB LINE
SEE RTA's DETAIL.

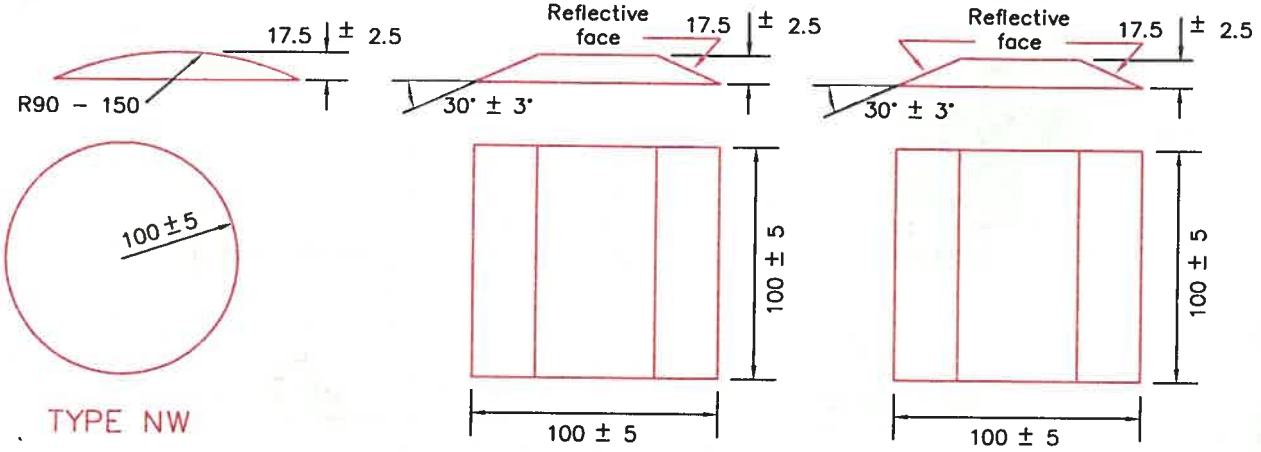
SNOWY RIVER SHIRE COUNCIL			PAVEMENT MARKING					
Surveyed By . . . . Job No . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No 4OF5	Ref. No	Plan No SD58d

RAISED PAVEMENT MARKERS

FIVE TYPES OF RAISED PAVEMENT MARKERS ARE COMMONLY USED. THE TYPES OF MARKER AND THEIR APPLICATION ARE AS FOLLOWS:–

Code	Marker or Term	Applications	Symbol
NW	Non–reflective white	Simulate lane lines	○
W	Mono – directional reflective white	Simulate and augment lane lines	□–
R	Mono – directional reflective red	Augment left hand edge lines	▷–
YY	Bi–directional reflective yellow	Augment separation and barrier lines	◇–
Y	Mono – directional reflective yellow	Outline of traffic island	◇–

THE DIMENSIONS OF THE VARIOUS TYPES OF MARKER ARE AS FOLLOWS:–



TYPE NW

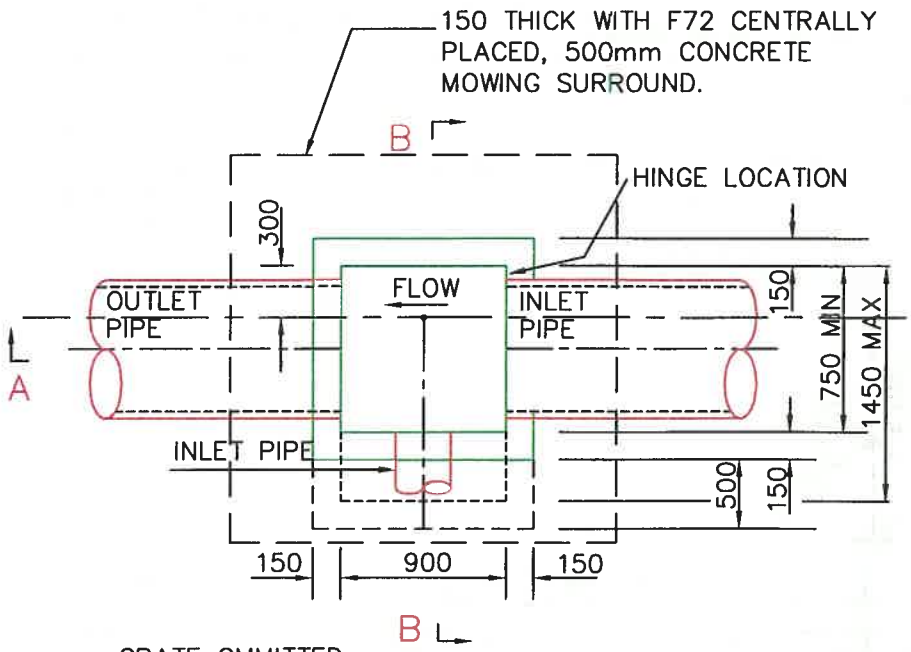
SUCH RAISED PAVEMENT MARKERS SHALL MEET THE REQUIREMENTS OF THE RELEVANT AUSTRALIAN STANDARDS

TYPE W, R & Y

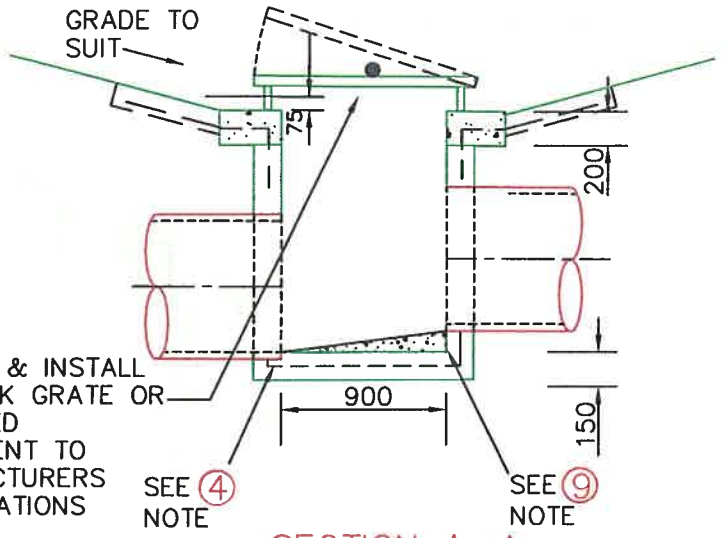
TYPE YY

ALL DIMENSIONS IN mm

SNOWY RIVER SHIRE COUNCIL			PAVEMENT MARKING					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.				5OF5		SD58e
Disk No	Passed By							



PLAN



SECTION A–A

*	PIPE DIAMETER RANGE
900	600mm TO 750mm INCL.
1200	825mm TO 900mm INCL.
D+250	FOR PIPES > 900mm
ND+[250(N–1)]+250	FOR MULTIPLE PIPES

(WHERE N=NUMBER OF LINES)

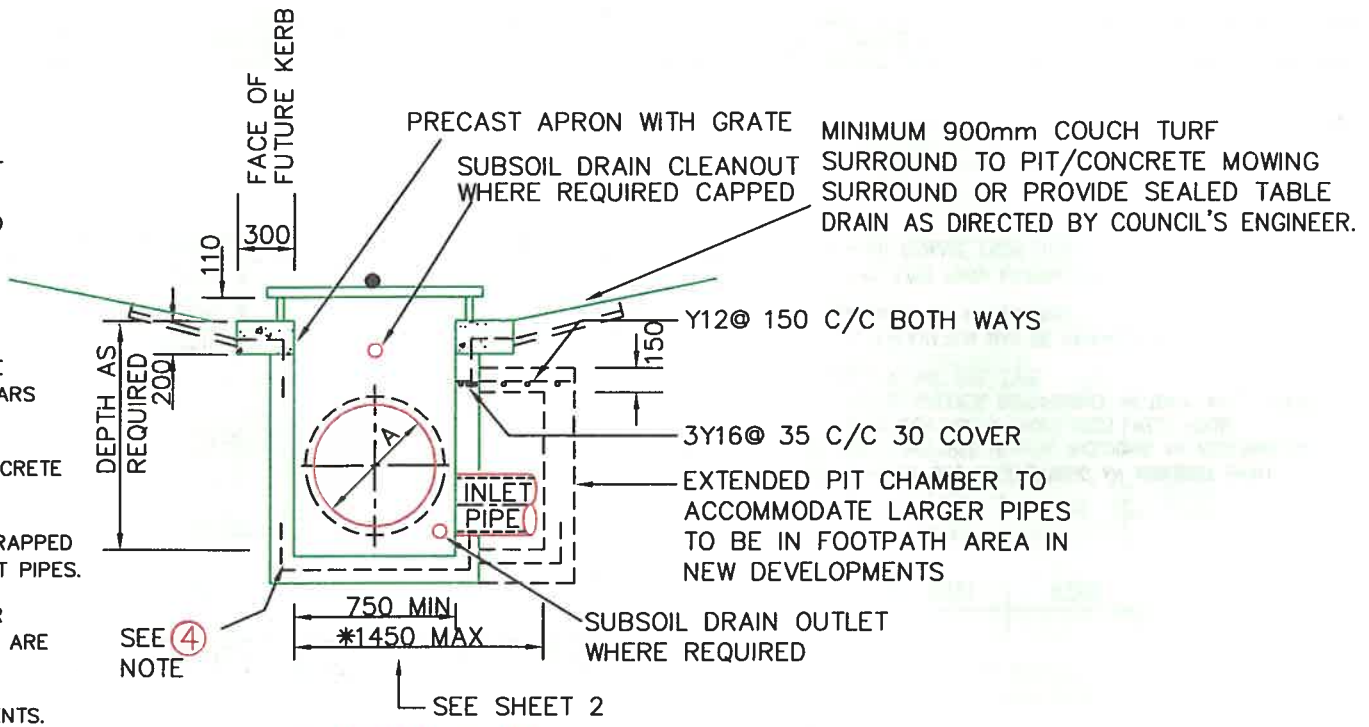
SNOWY RIVER SHIRE COUNCIL

STANDARD LETTERBOX PIT WITH RAISED GRATE

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.				20F2		SD63b
Disk No	Passed By							

NOTES

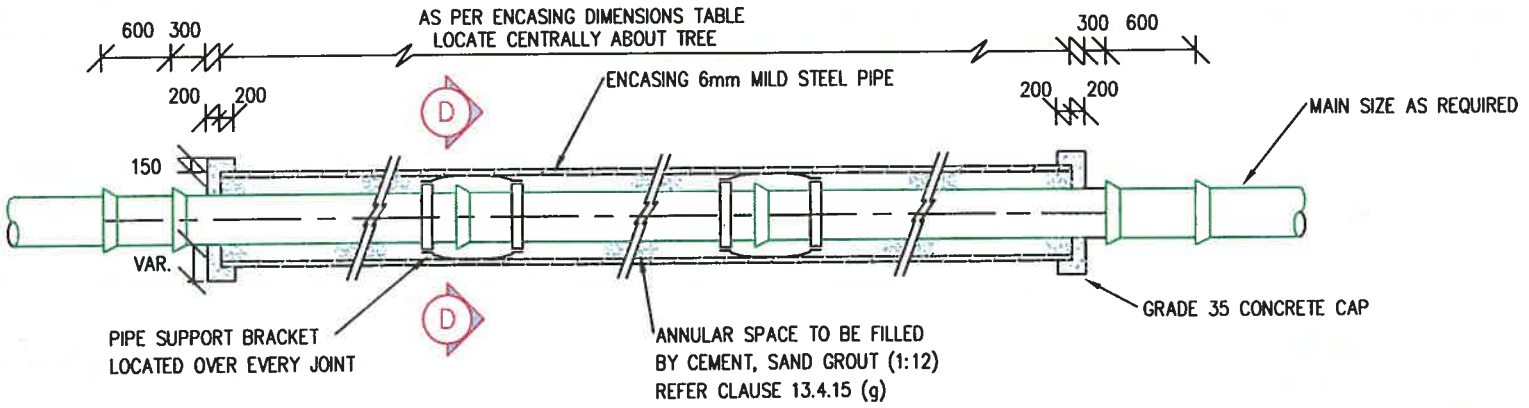
1. ALL DIMENSIONS IN MILLIMETRES.
2. WELDLOCK GRATE SHOWN OR APPROVED EQUIVALENT TO BE USED. GRATE AND FRAME TO BE HOT DIP GALVANISED 80–85 MICRONS THICK. ALL GRATES TO BE PROVIDED WITH LOCKING CLIP.
3. PROVIDE STEP IRONS FOR PITS DEEPER THAN 1.2m SEE SD49A.
4. PITS DEEPER THAN 1.8m TO HAVE WALLS AND BASE WITH F81 MESH CENTRALLY PLACED. Y12 CORNER BARS @ 400 C/C 450 LEGS IN BASE AND SIDE.
5. COMPRESSIVE STRENGTH (FC) FOR CAST INSITU CONCRETE SHALL BE A MINIMUM 25 MPa @ 28 DAYS.
6. 100 DIAMETER SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDE ADJACENT TO INLET PIPES.
7. ALL PITS SHOWN ARE STANDARD 900mm LONG. FOR SPECIAL PITS > 900mm LONG STRUCTURAL DETAILS ARE REQUIRED FOR PIT LIDS.
8. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
9. ALL PITS ARE TO BE BENCHED TO THE SATISFACTION OF THE ENGINEER.
10. WHERE NOMINATED BY THE ENGINEER PROVIDE MINIMUM 2 WHITE REFLECTORISED GUIDE POSTS EITHER SIDE OF PIT.
11. PITS TO BE LOCATED OUTSIDE CLEAR ZONE (REFER RTA GUIDELINES) UNLESS DIRECTED OTHERWISE.



SECTION B–B

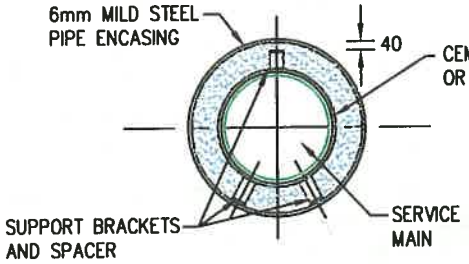
REFERENCE POINT NOTE: LEVEL OF LETTERBOX PIT AND POSITION OF GRATE SHOWN IN THIS DRAWING REFER TO THIS POINT (COUNCIL DESIGN STANDARD ONLY)

SNOWY RIVER SHIRE COUNCIL			STANDARD LETTERBOX PIT WITH RAISED GRATE					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.				10F2		SD63a
Disk No	Passed By							



TYPICAL PIPE ENCASEMENT

N.T.S.



SECTION D

N.T.S.

ENCASING DIMENSION TABLE	
TRUNK DIA AT 1.4m ABOVE NATURAL SURFACE	TOTAL ENCASED LENGTH (LOCATE CENTRALLY ABOUT TREE)
125 – 230mm ø	3m
230 – 350mm ø	6m
350 – 480mm ø	7m
MORE THAN 480mm ø	9m

NOTE:

BEFORE SPECIFYING UNDERBORING AN ARBORIST SHALL DETERMINE THE TREE HEALTH, INCLUDING AN ASSESSMENT OF THE PERCENTAGE OF ROOT LOSS LIKELY FROM EXCAVATION, SPECIES, DISTURBANCE HISTORY, AGE, VIGOUR, CROWN SIZE AND SOIL TYPE.

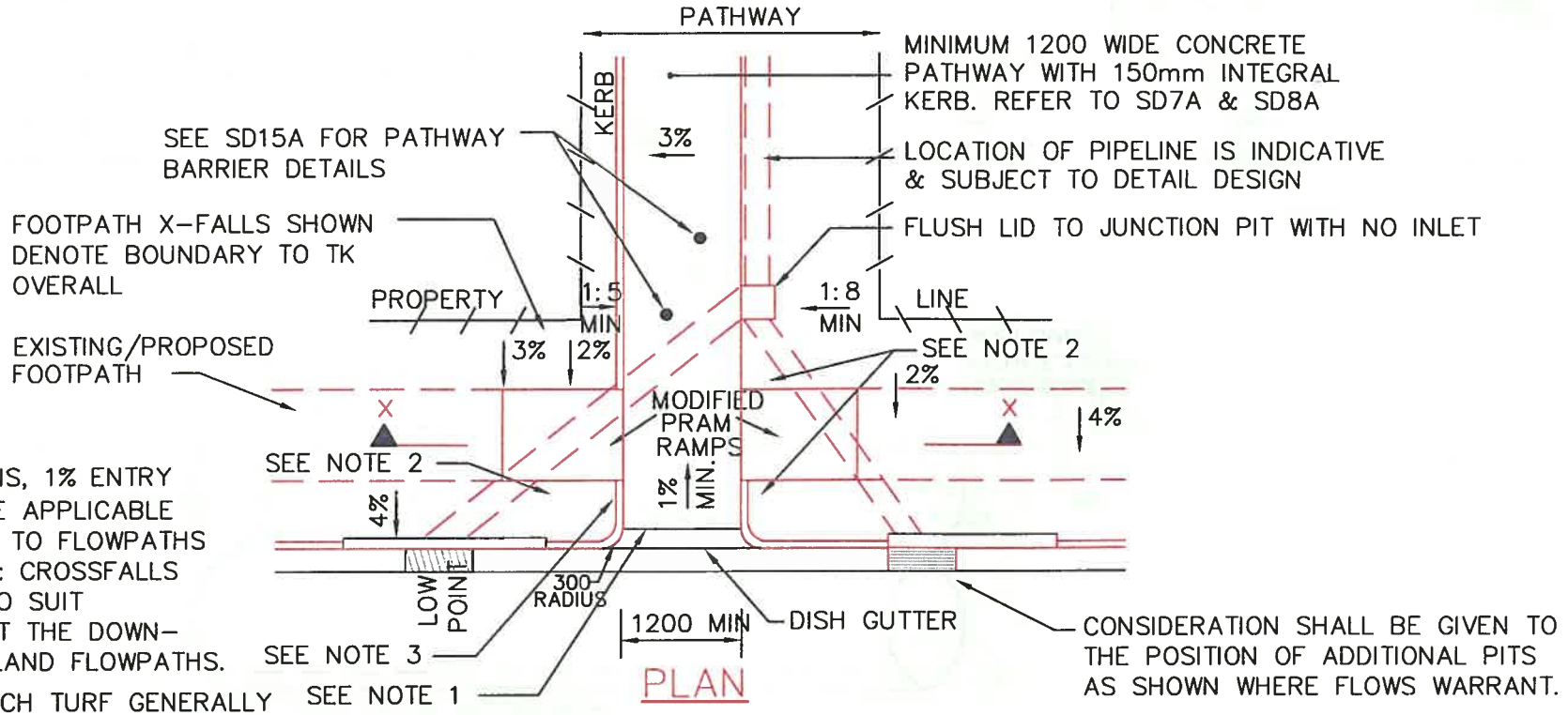
MANUAL EXCAVATION MAY BE REQUIRED IF RECOMMENDED BY AN ARBORIST.

DATA COLLATED FROM WATSON,G.W. 1995.
TREE ROOT DAMAGE FROM UTILITY TRENCHING.

SNOWY RIVER SHIRE COUNCIL

SERVICE MAIN ENCASING DETAIL UNDER TREES

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD64a
Disk No	Passed By							



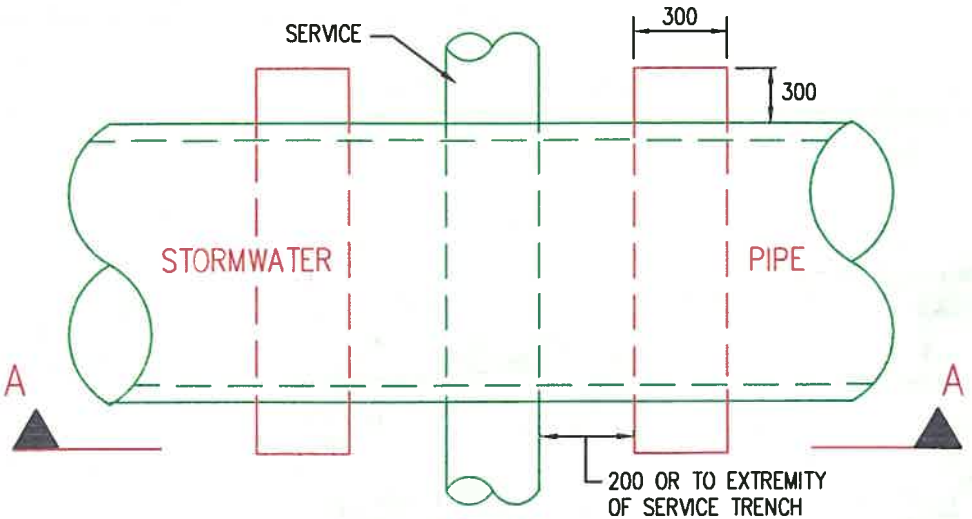
NOTES: –

1. CROSSFALL TRANSITIONS, 1% ENTRY TO FLOWPATH ETC. ARE APPLICABLE AT UPSTREAM ENTRIES TO FLOWPATHS ONLY. SUCH GRADES & CROSSFALLS SHALL BE ADJUSTED TO SUIT STANDARD PROFILES AT THE DOWN–STREAM END OF OVERLAND FLOWPATHS.
2. SHAPE, GRADE & COUCH TURF GENERALLY IN ACCORDANCE WITH STANDARD PRAM RAMP WING SHAPE. (TYPICAL) REFER SD21A.
3. TRANSITION 150mm INTEGRAL KERB TO SUIT MODIFIED PRAM RAMP LEVELS OVER MINIMUM 600mm. (TYPICAL)
4. REFER SD7A & CHAPTER 10 FOR JOINT REQUIREMENTS IN CONCRETE PAVING.
5. MINIMUM 1.0m WIDE COUCH TURF SURROUND TO BE PROVIDED TO KERB & GUTTER, FLOWPATH & RAMP AREAS.

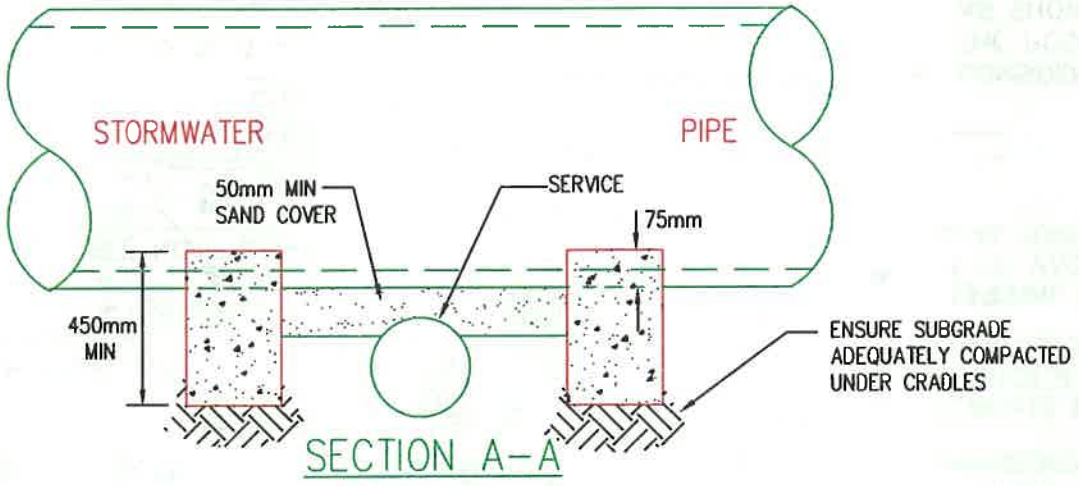
SNOWY RIVER SHIRE COUNCIL

FOOTPATH TREATMENT FOR OVERLAND FLOWPATHS

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD65a
Disk No	Passed By							

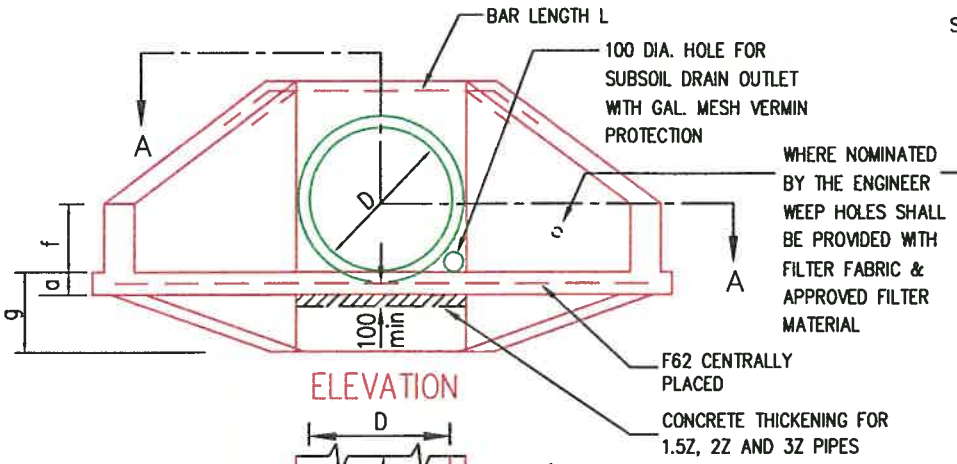


PLAN

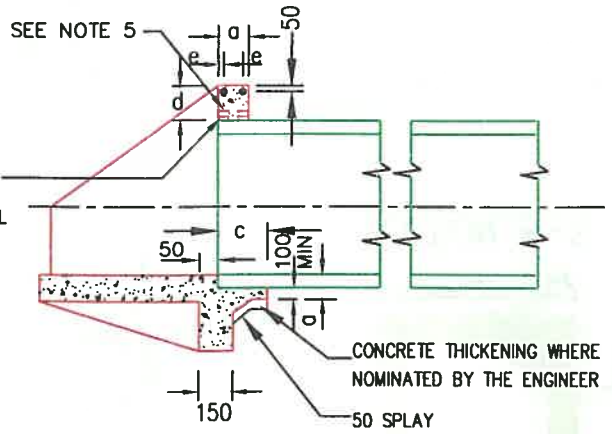


SECTION A–A

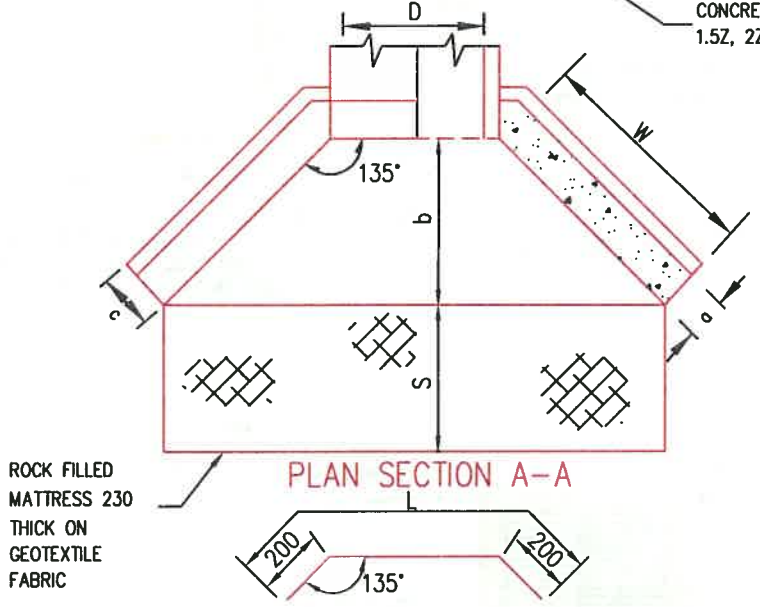
SNOWY RIVER SHIRE COUNCIL			CONCRET SUPPORT CRADLE FOR USE ON PIPELINES IN CLOSE PROXIMITY TO SERVICES					
Surveyed By . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD66a



ELEVATION



LONGITUDINAL SECTION



PLAN SECTION A–A

D	Nominal pipe diameter	(mm)	375	450	525	600	675	750	900
a	Footing, Kerb & Wingwall	(mm)	150	150	150	180	190	205	230
b	Apron length	(mm)	490	590	700	790	910	1025	1260
c	Cut off wall pipe support	(mm)	250	250	250	400	400	400	400
d	Kerb– height	(mm)	230	230	230	300	300	300	300
e	Kerb–cover	(mm)	40	40	40	50	50	50	50
f	Wingwall height	(mm)	300	300	300	380	380	380	380
g	Cut off wall depth	(mm)	450	450	450	530	530	600	600
W	Wingwall length	(mm)	690	840	990	1120	1290	1450	1780
L	Reinforcment length	(mm)	840	915	990	1100	1175	1250	1400
Reinforced dia.		(mm)	10	10	10	12	12	12	12
S	Mattress length (See Note 6)	(mm)	1800	2000	2000	2400	2400	3000	3000

NOTES

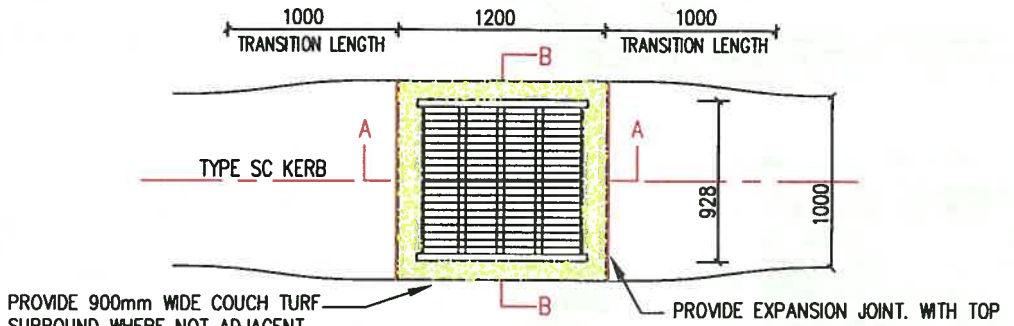
1. 25 CHAMFER ON ALL EXPOSED SURFACES
2. COMPRESSIVE STRENGTH (F'c) FOR CAST INSITU CONCRETE SHALL BE A MINIMUM 25 MPa @ 28 DAYS.
3. ALL DIMENSIONS ARE IN MILLIMETRES.
4. ENERGY DISSIPATORS IN LIEU OF STANDARD HEADWALL SHALL BE PROVIDED WHERE VELOCITIES EXCEED 2.0m/s
5. WHERE ADDITIONAL HEIGHT TO RETAIN FILL IS REQUIRED KERB HEIGHT 'd', WINGWALL HEIGHT 'f' KERB WIDTH 'a' SHALL BE ADJUSTED WITH THE PROVISION OF ADDITIONAL REINFORCING.
6. WHERE NOMINATED BY THE ENGINEER OR SHOWN ON THE APPROVED PLANS THE MATTRESS LENGTH SHALL BE ADJUSTED.
7. SAFETY FENCING SHALL BE PROVIDED AROUND THE HEADWALL WHERE DETERMINED BY THE ENGINEER.

SNOWY RIVER SHIRE COUNCIL

CONCRETE HEADWALLS 375mm TO 900mm DIAMETER

SINGLE PIPES

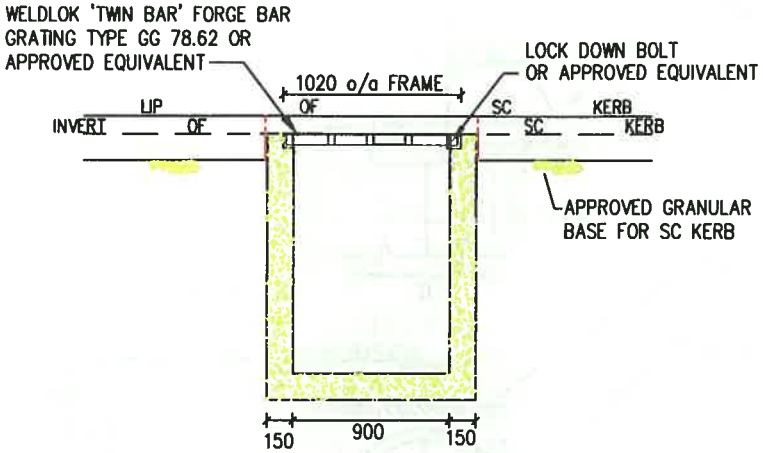
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD67a
Disk No	Passed By							



PLAN

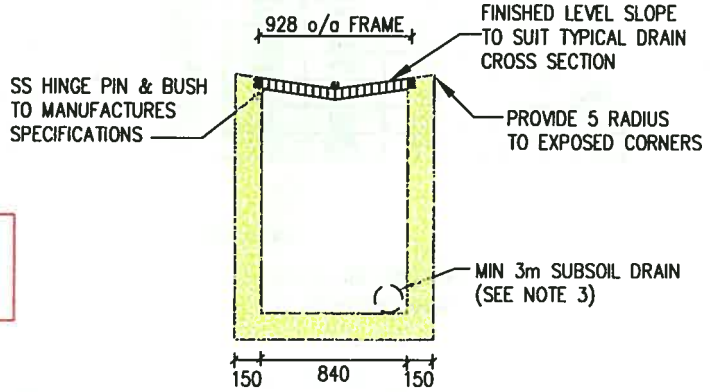
NOTES:

1. SIDE WALLS OF PIT DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF F82 MESH RETURNED INTO BASE. PITS DEEPER THAN 2500 TO HAVE STRUCTURAL DESIGN.
2. COMPRESSIVE STRENGTH (Fc) FOR CAST INSITU. CONCRETE SHALL BE A MINIMUM 25 MPa @ 28 DAYS.
3. 100 DIAMETER SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES.
4. ALL PITS TO BE ADEQUATELY STREAMLINED.
5. PITS DEEPER THAN 1200 TO HAVE STEP IRONS PROVIDED. SEE SD49A.
6. ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
7. NO RENDERING PERMITTED IN STRUCTURAL COMPONENTS.
8. LEVEL AND LOCATION OF PIT REFERS TO POINT ● (COUNCIL USE ONLY).



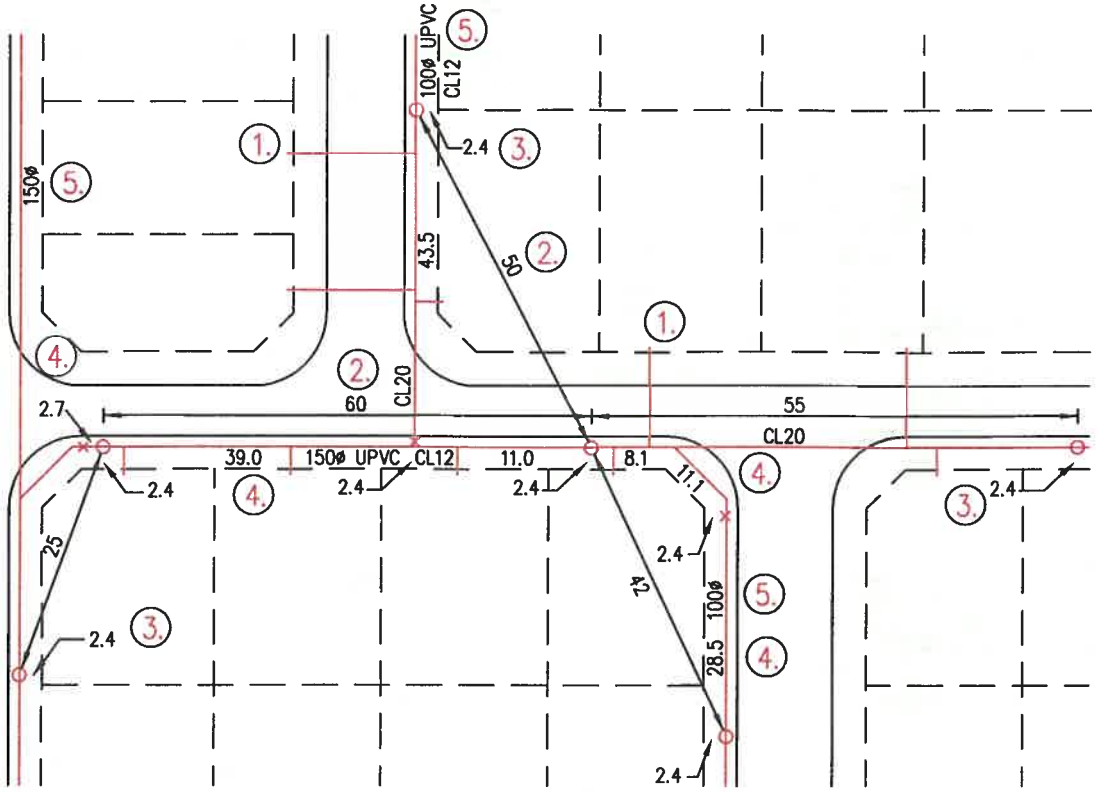
SECTION A–A

PIPELINES NOT SHOWN FOR CLARITY



SECTION B–B

SNOWY RIVER SHIRE COUNCIL			FLUSH GRATED SURFACE INLET PIT FOR SC KERB					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD68a
Disk No	Passed By							



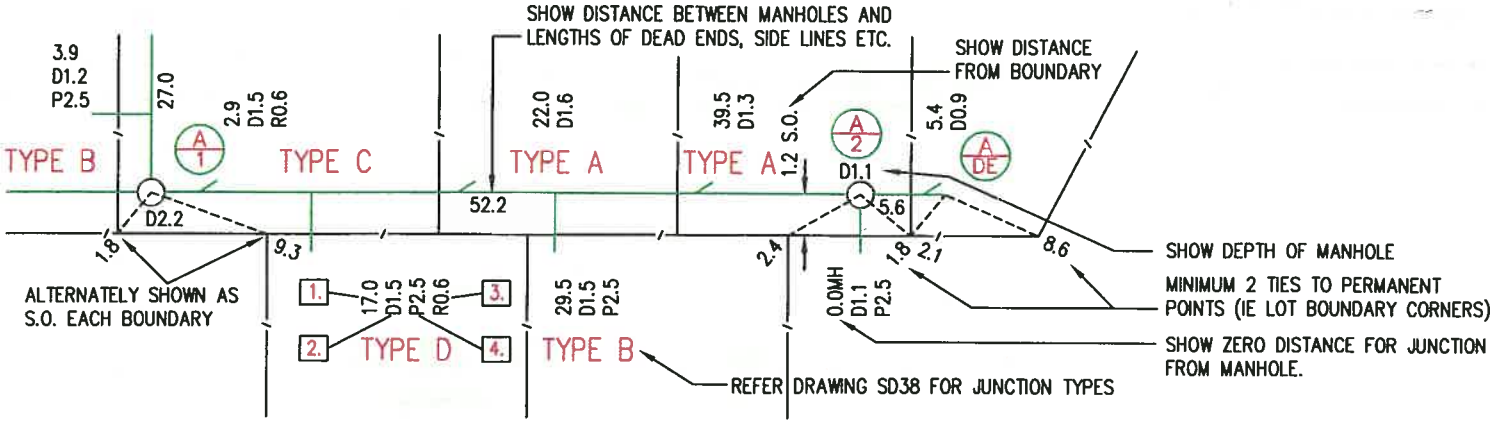
LEGEND

Stop valve ×

Hydrant ○

1. WATER SERVICES TO BE SHOWN AT APPROXIMATE LOCATION TO PROPERTY.
2. STRAIGHT LINE DISTANCES BETWEEN HYDRANTS TO BE SHOWN.
3. DISTANCES FROM BOUNDARY ALIGNMENT TO VALVES AND MAINS.
4. DISTANCE ALONG MAIN BETWEEN FITTINGS AND/OR VALVES.
5. MAIN SIZE, CLASS AND TYPE.

SNOWY RIVER SHIRE COUNCIL			WATER RETICULATION, WORK AS EXCUTED – EXAMPLE					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD70a
Disk No	Passed By							



1. DISTANCE FROM THE CENTRE OF THE DOWNSTREAM MANHOLE.

2. D = DEPTH FROM FINISHED SURFACE LEVEL TO CONNECTION POINT.

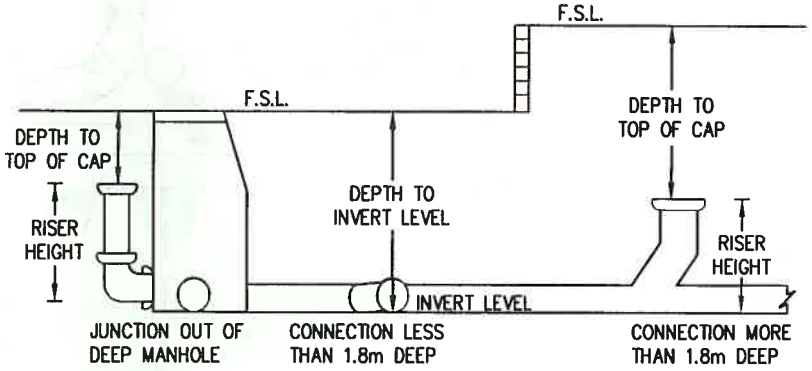
   TO INVERT LEVEL IN CASES OF TYPE A, B, & D CONNECTIONS.

   TO TOP OF CAP IN CASE OF TYPE C CONNECTION.
   REFER DRAWING SD38 FOR JUNCTION TYPES.

3. P = PROJECTION FROM C/L OF MAIN TO CONNECTION POINT.

4. R = RISER HEIGHT FROM INVERT LEVEL OF MAIN TO TOP OF CAP AT CONNECTION POINT.

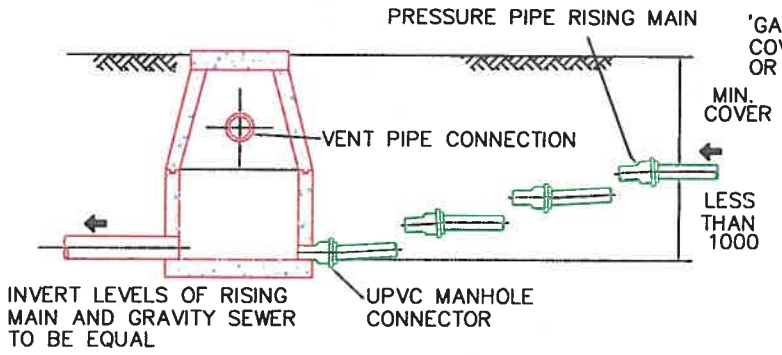
- INFORMATION SHOULD BE SHOWN AT 90° TO LINE SERVING PROPERTY.
- TO BE READ IN CONJUNCTION WITH CLAUSE 14.3.2.
- THIS INFORMATION IS TO BE SHOWN IN RED (DEVELOPMENT WORKS ONLY) ON A COPY OF THE APPROVED PLAN AND SUBMITTED TO THE ENGINEER FOR COUNCIL'S RECORDS.



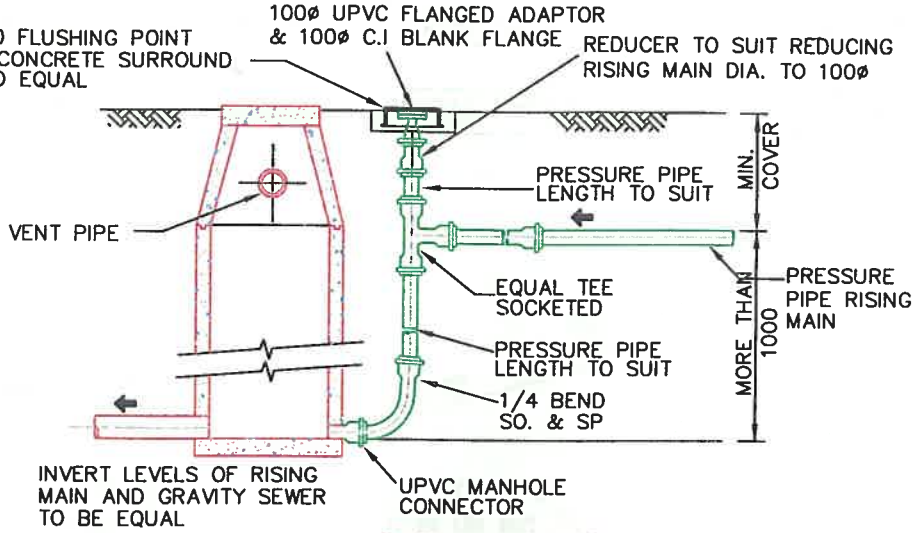
SNOWY RIVER SHIRE COUNCIL

SEWER JUNCTION DETAIL, WORK AS EXECUTED – EXAMPLE

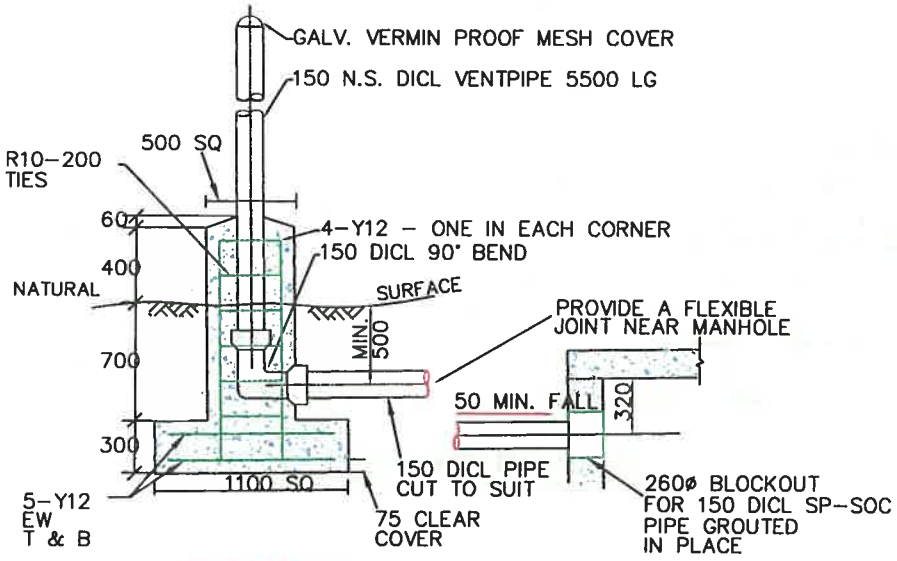
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD71a
Disk No	Passed By							



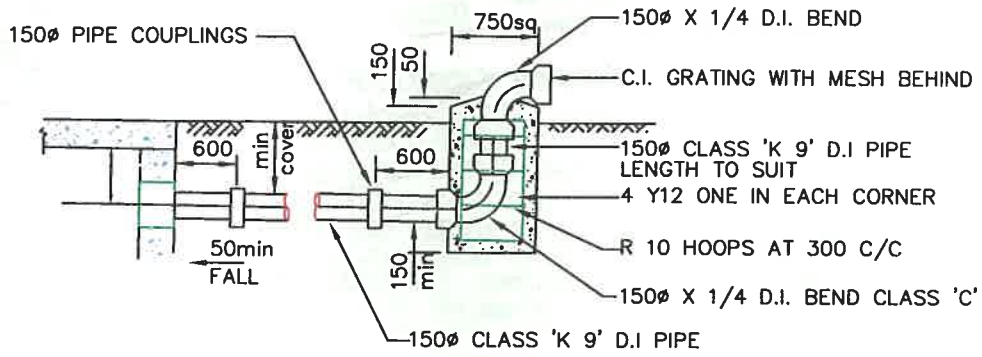
RISING MAIN CONNECTION
TYPE A



RISING MAIN CONNECTION
TYPE B

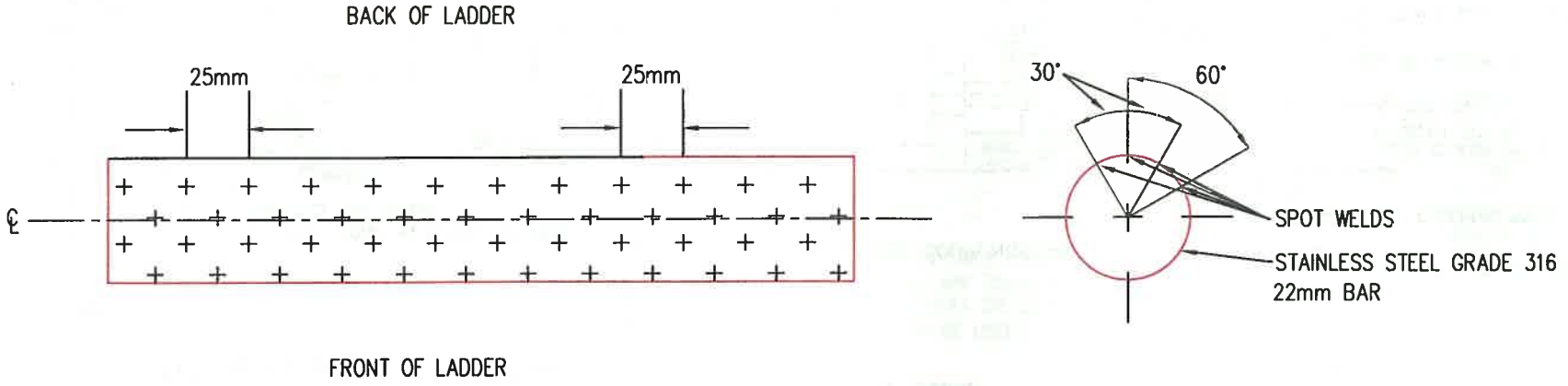


VENT PIPE FOR CONNECTION TO MANHOLE

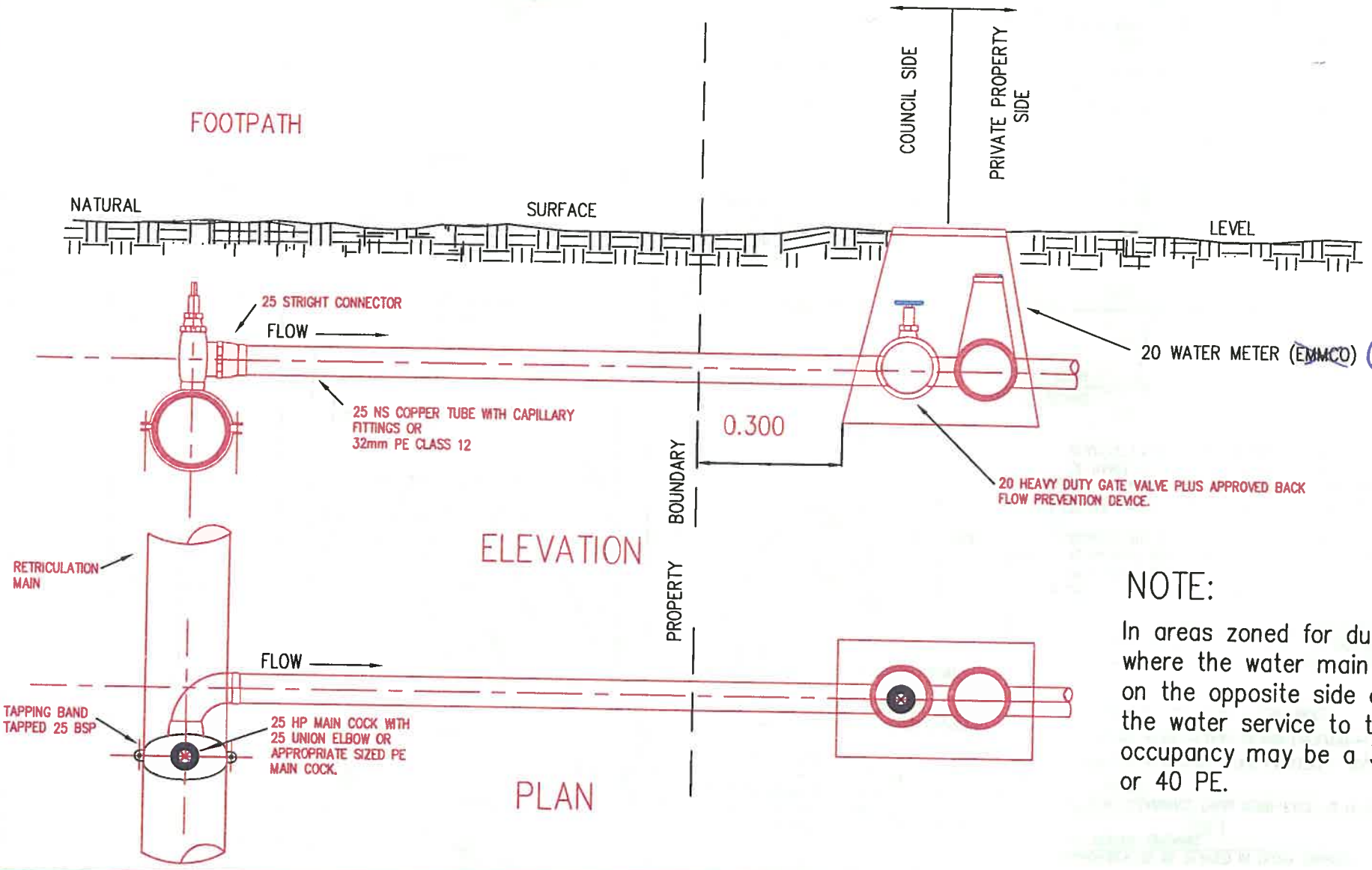


LOW LEVEL VENT PIPE CONNECTION TO MANHOLE OR PUMP STATION

SNOWY RIVER SHIRE COUNCIL			RISING MAIN DISCHARGE MANHOLE DETAILS					
Surveyed By . . . . . Job No . . . . . . Disk No	Drawn By . . . . . Checked By . . . . Passed By	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD72a



SNOWY RIVER SHIRE COUNCIL			STANDARD DETAILS – SLIP REDUCTION ON LADDER RUNGS FOR SEWER PUMP STATIONS					
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD73a
Disk No	Passed By							



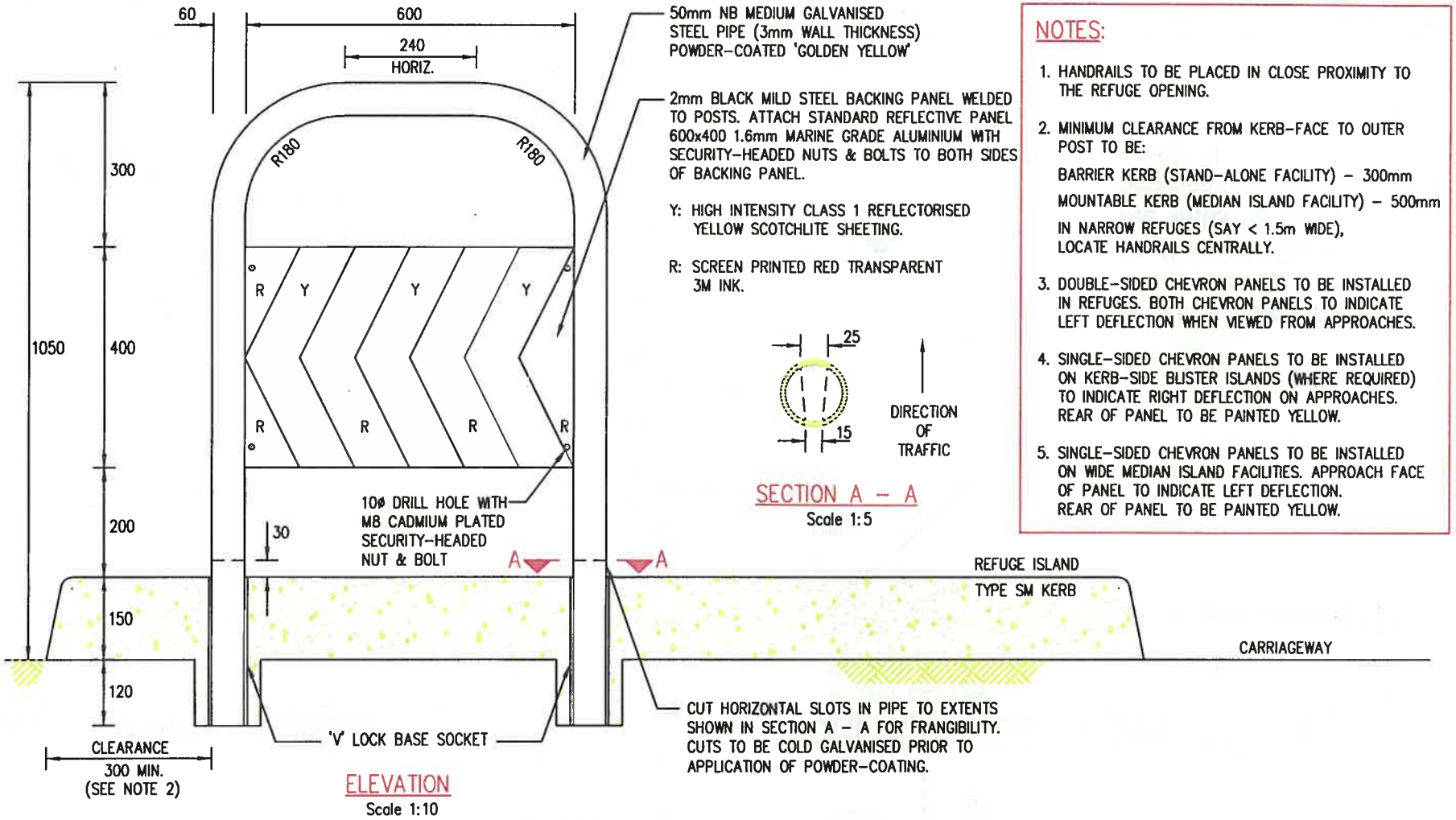
NOTE:

In areas zoned for dual occupancy where the water main is located on the opposite side of the road, the water service to the dual occupancy may be a 32mm copper or 40 PE.

SNOWY RIVER SHIRE COUNCIL

WATER METER ARRANGEMENT INSIDE PRIVATE PROPERTY FOR MAINS 20mm IN DIAMETER AND ABOVE

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Ref. No	Sheet No	Plan No
Job No	Checked By	N.T.S.						SD74a
Disk No	Passed By							



ELEVATION
Scale 1:10

SECTION A – A
Scale 1:5

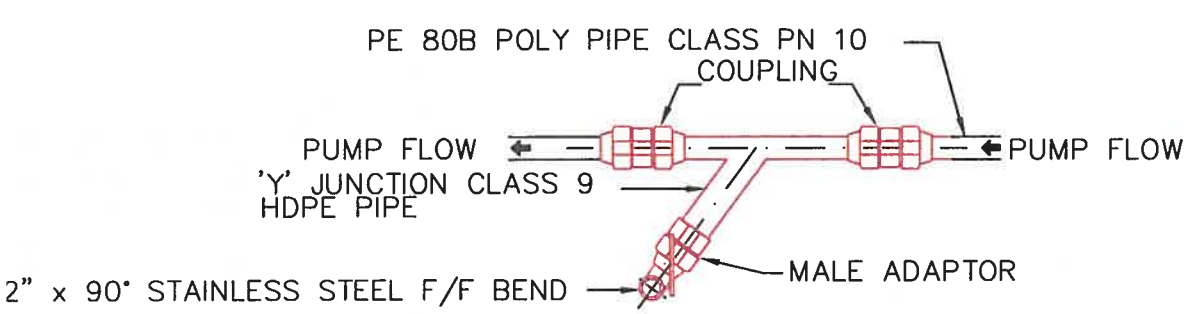
NOTES:

1. HANDRAILS TO BE PLACED IN CLOSE PROXIMITY TO THE REFUGE OPENING.
2. MINIMUM CLEARANCE FROM KERB-FACE TO OUTER POST TO BE:
   BARRIER KERB (STAND-ALONE FACILITY) – 300mm
   MOUNTABLE KERB (MEDIAN ISLAND FACILITY) – 500mm
   IN NARROW REFUGES (SAY < 1.5m WIDE), LOCATE HANDRAILS CENTRALLY.
3. DOUBLE-SIDED CHEVRON PANELS TO BE INSTALLED IN REFUGES. BOTH CHEVRON PANELS TO INDICATE LEFT DEFLECTION WHEN VIEWED FROM APPROACHES.
4. SINGLE-SIDED CHEVRON PANELS TO BE INSTALLED ON KERB-SIDE BLISTER ISLANDS (WHERE REQUIRED) TO INDICATE RIGHT DEFLECTION ON APPROACHES. REAR OF PANEL TO BE PAINTED YELLOW.
5. SINGLE-SIDED CHEVRON PANELS TO BE INSTALLED ON WIDE MEDIAN ISLAND FACILITIES. APPROACH FACE OF PANEL TO INDICATE LEFT DEFLECTION. REAR OF PANEL TO BE PAINTED YELLOW.

SNOWY RIVER SHIRE COUNCIL

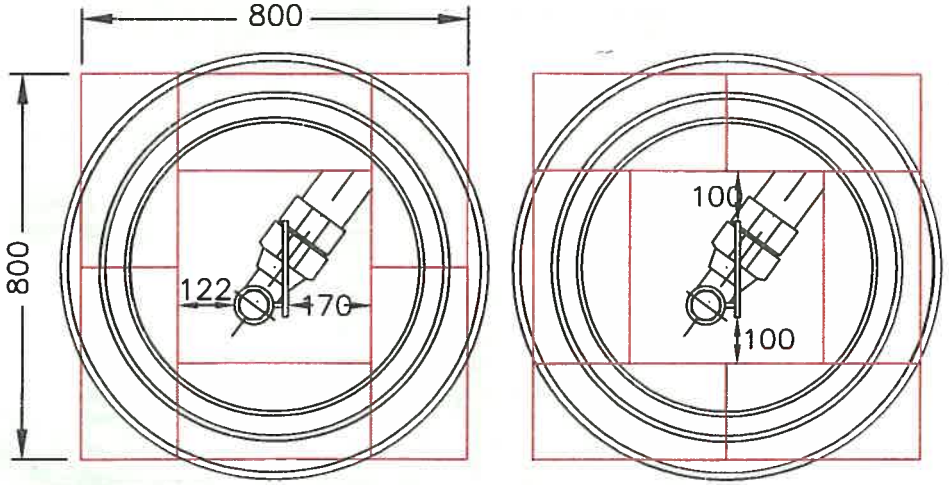
PEDESTRAIN REFUGE HANDRAIL WITH CHEVRON PANEL

Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Ref. No	Plan No
Job No	Checked By	N.T.S.						SD75a
Disk No	Passed By							



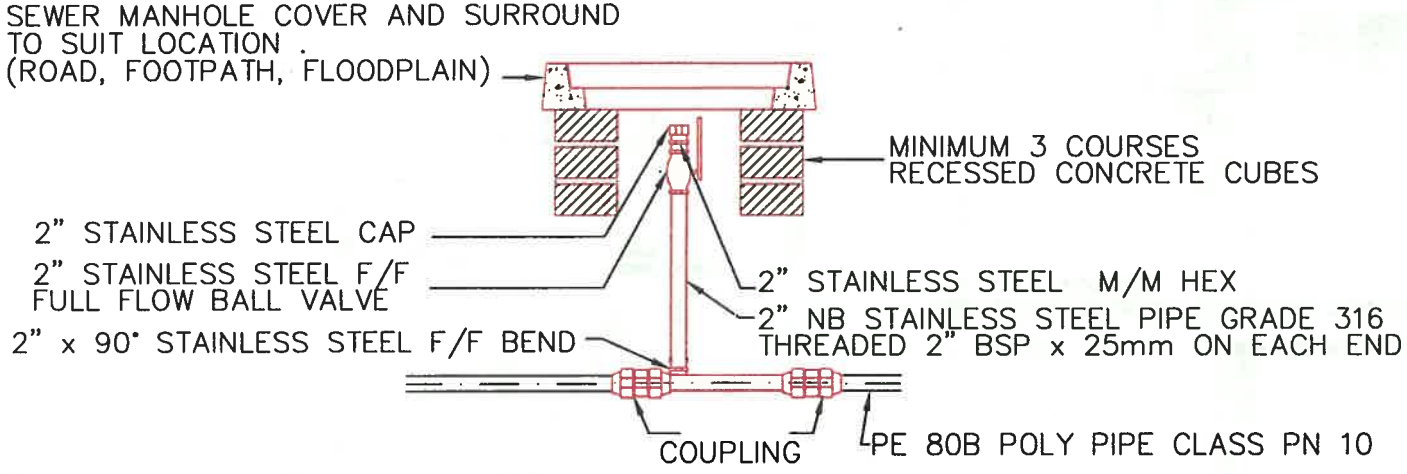
NOTE: – 'Y' JUNCTION TO BE FABRICATED
– ALL STAINLESS STEEL TO BE GRADE 316

PLAN

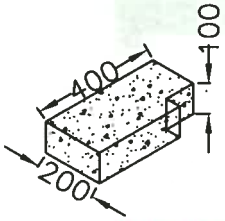


PLAN

ARRANGEMENT OF RECESSED CONCRETE CUBES SHOWING LAYOUT FOR ALTERNATIVE COURSES



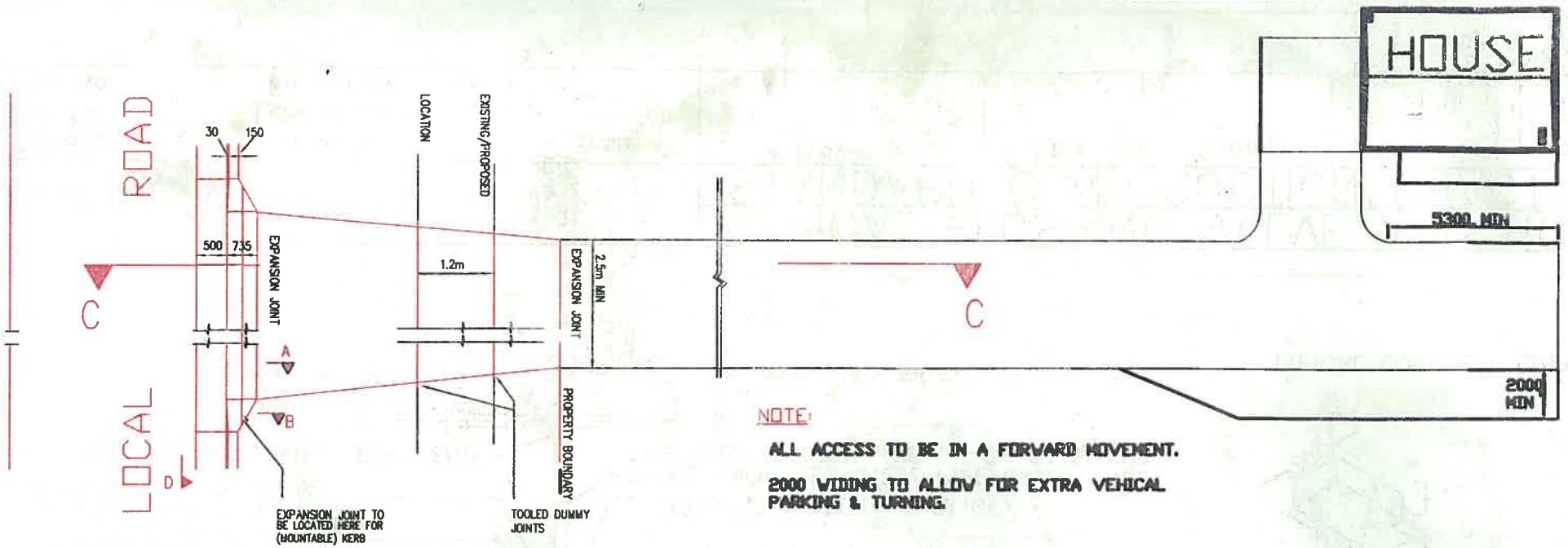
ELEVATION



VIEW

TYPICAL CONCRETE CUBE

SNOWY RIVER SHIRE COUNCIL			TYPICAL FLUSHING VALVE AND HOUSING STANDARD CONSTRUCTION PRACTICE				
Surveyed By	Drawn By	Scale	Approved By	Date	Datum	Sheet No	Plan No
Job No	Checked By	N.T.S.				1	SD76a
Disk No	Passed By						

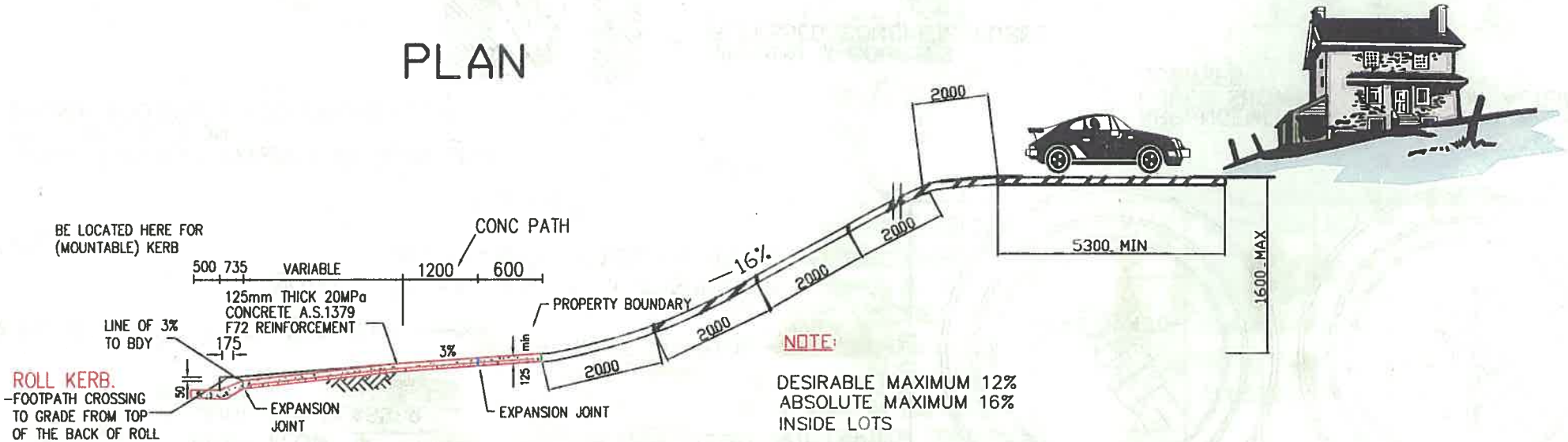


NOTE:

ALL ACCESS TO BE IN A FORWARD MOVEMENT.

2000 WIDING TO ALLOW FOR EXTRA VEHICAL PARKING & TURNING.

PLAN



NOTE:

DESIRABLE MAXIMUM 12%
ABSOLUTE MAXIMUM 16%
INSIDE LOTS

THIS IS AN EXAMPLE AND ONLY TO BE USED AS A GUIDE.

-SUITABLY COMPACTED APPROVED SUBGRADE MATERIAL. PROVIDE REPLACEMENT SUBGRADE IF REQUIRED.

-WHERE CLAY OR ROCK IS ENCOUNTED A 50mm LAYER OF SAND IS TO BE PLACED

SECTION C-C

SNOWY RIVER SHIRE COUNCIL			STANDARD RESIDENTIAL DRIVEWAY					
Surveyed By ... Drawn By ... Job No ... Checked By ... Disk No ... Passed By ...	Scale N.T.S.	Approved By	Date	Datum	Sheet No	Ref. No	Plan No SD80a