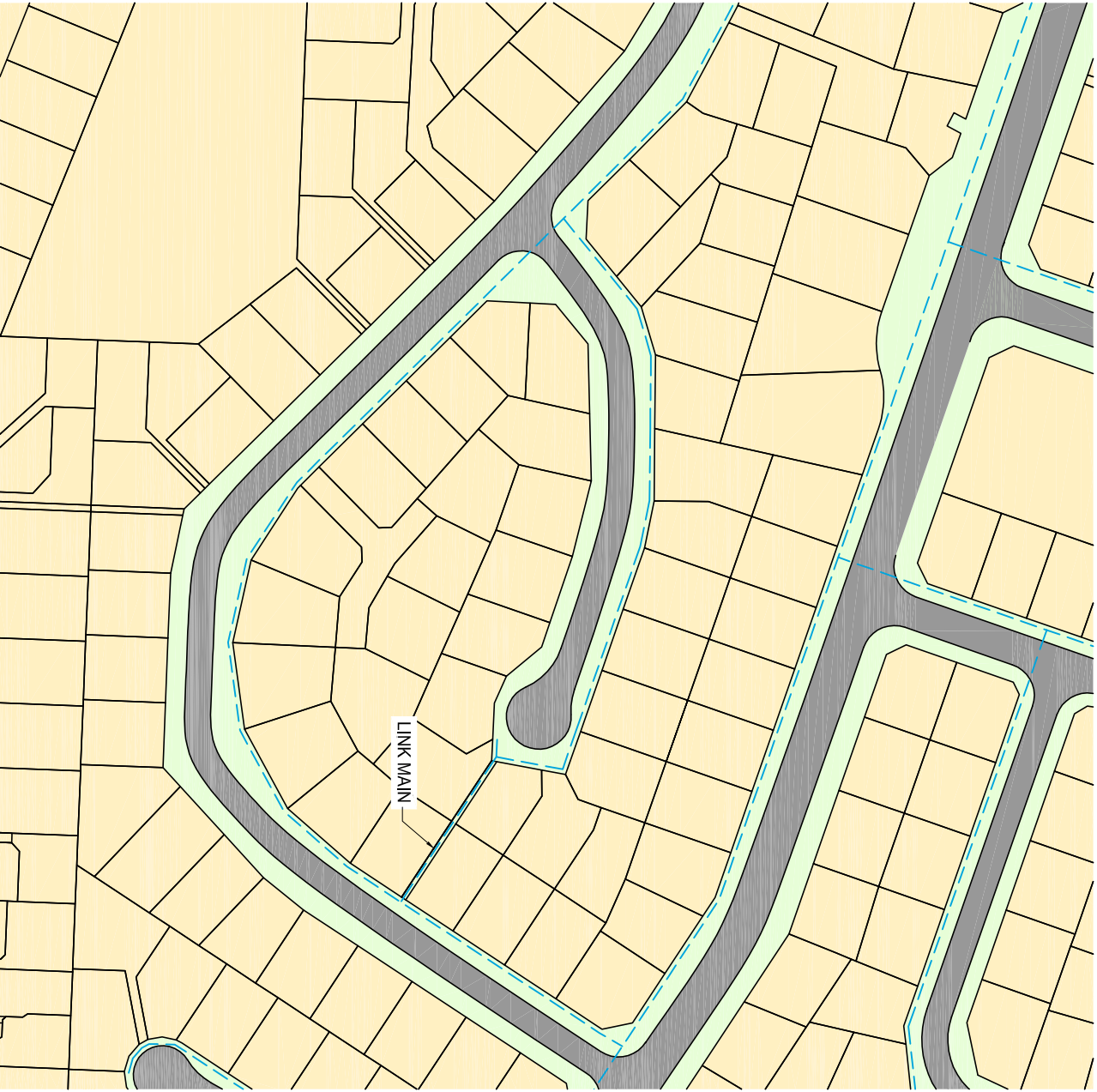


NOTES:

- 1. Rider mains are not shown



WATER SUPPLY
LOOPED AND LINKED PRINCIPAL MAINS

W701

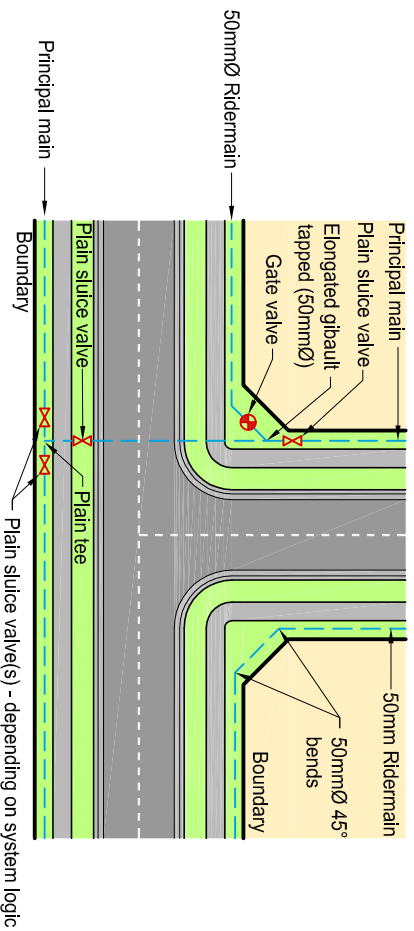
DEVELOPMENT CODE

VERSION 1
AUG 09

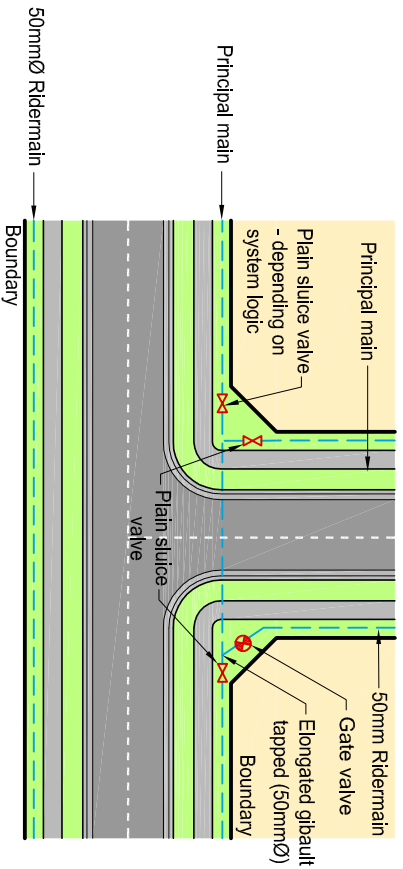
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NOTES:

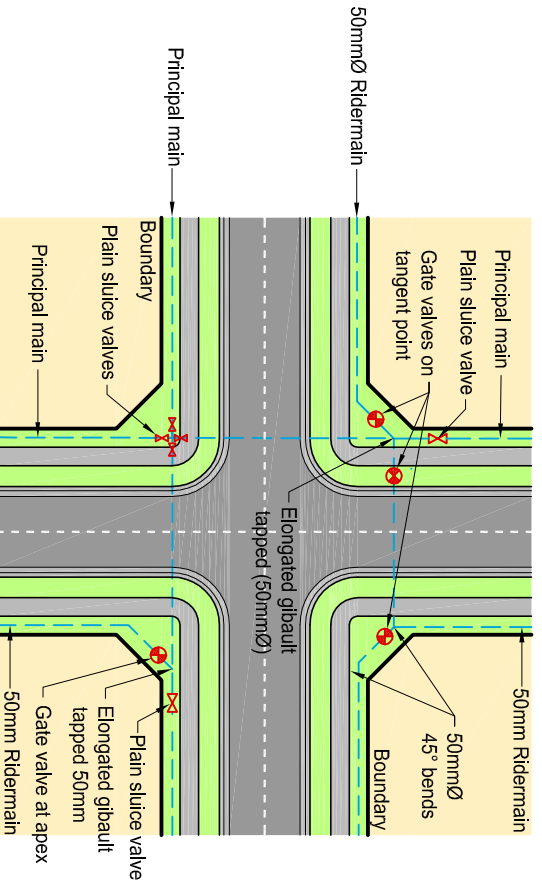
1. Valves to be located adjacent to changes in boundary direction where practicable.



TEE INTERSECTION No. 1



TEE INTERSECTION No. 2



CROSS INTERSECTION

**WATER MAIN
LOCATION AT INTERSECTIONS**

W705

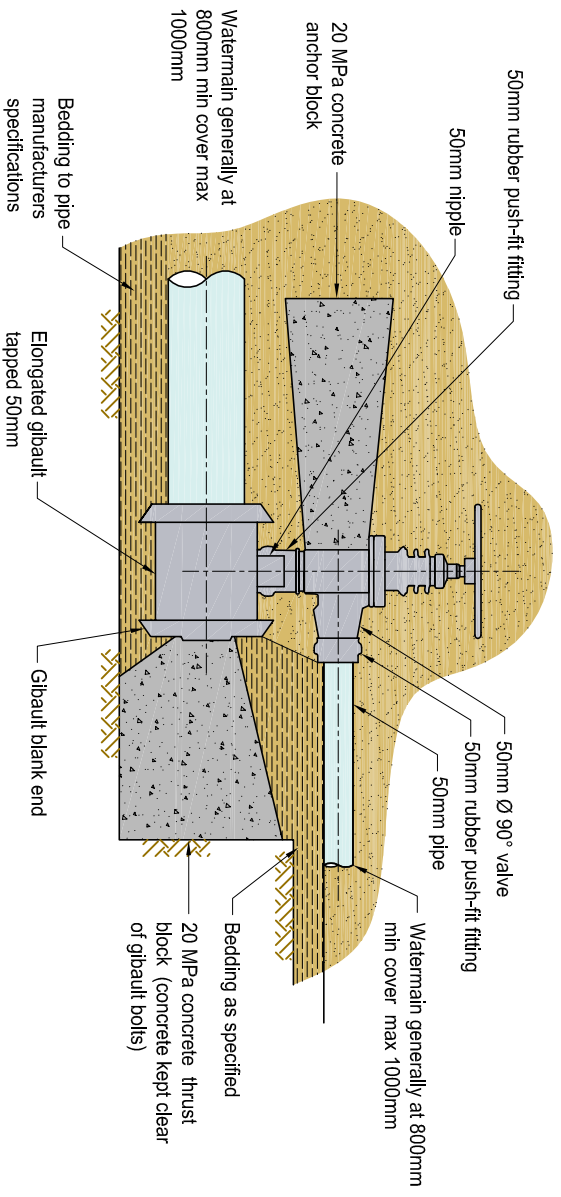
DEVELOPMENT CODE

VERSION 1
AUG 09

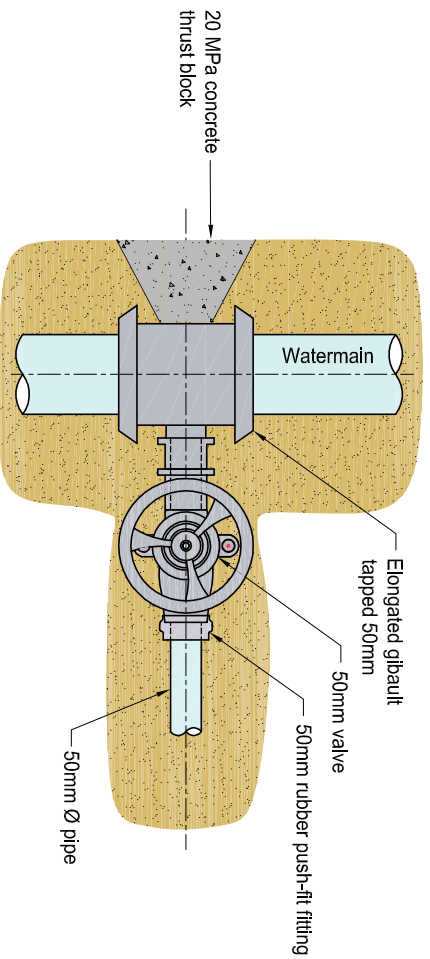
1

NOTES:

1. Watermain cover is generally 800mm to 1000mm max in the berm and footpath and 1000mm to 1200mm max in the carriageway.
2. Spindle extensions may be used on ridermain valves.
3. All fittings to be approved material.
4. Galvanised iron is not an alternative.



STRAIGHT LINE CONNECTION - ELEVATION



90° CONNECTION - PLAN

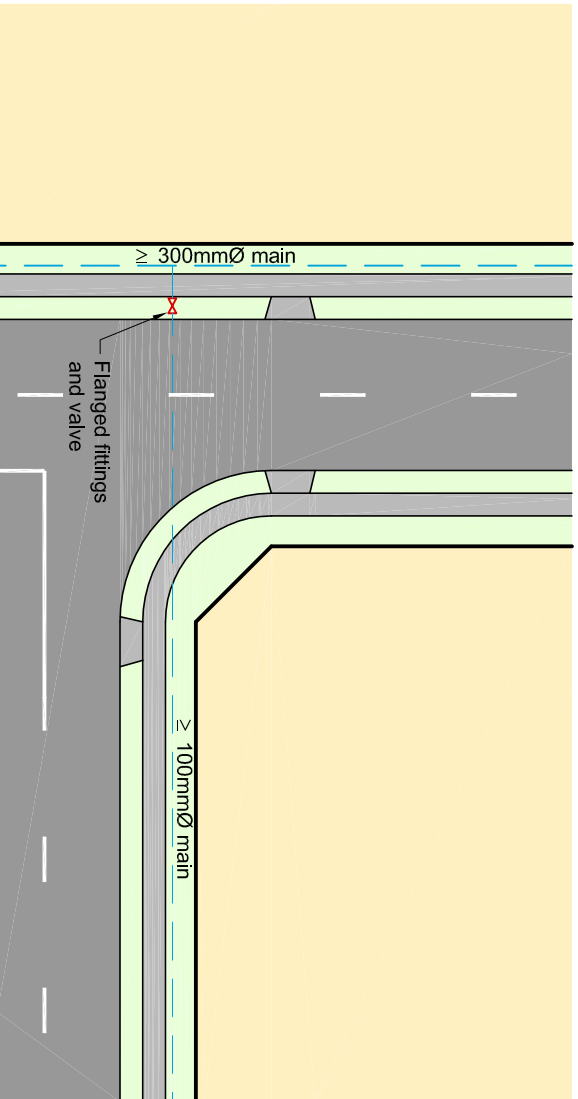
WATER MAIN MAIN TO MAIN CONNECTION

W706

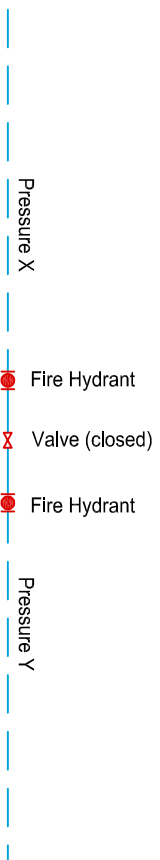
DEVELOPMENT CODE

VERSION 1
AUG 09

1



BRANCH VALVE ADJACENT TO MAIN



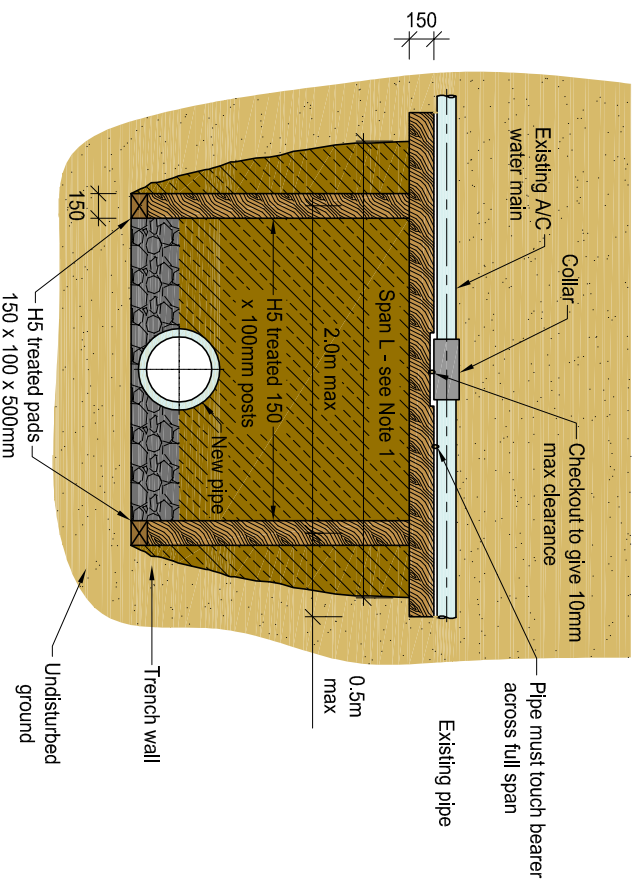
VALVE AND HYDRANT COMBINATION FOR
PRESSURE ZONE DIVIDING VALVES

NOTE:

Pressure 'X' and pressure 'Y' are 2 differing pressures. Closed valve with fire hydrant on each side allows for reading of these pressures or flushing of the line.

NOTES:

1. Supports structures to water mains, where the span 'L' between trench side batter is in excess of 3000mm, require specific design by Engineer.
2. Before backfilling, support **MUST** be checked by a Council representative.
3. All timber to be H5 treated.
4. All cut ends to be treated to prevent moisture damage.



WATER MAIN

SUPPORT FOR ASBESTOS CEMENT MAIN

W709

DEVELOPMENT CODE

VERSION 1
AUG 09

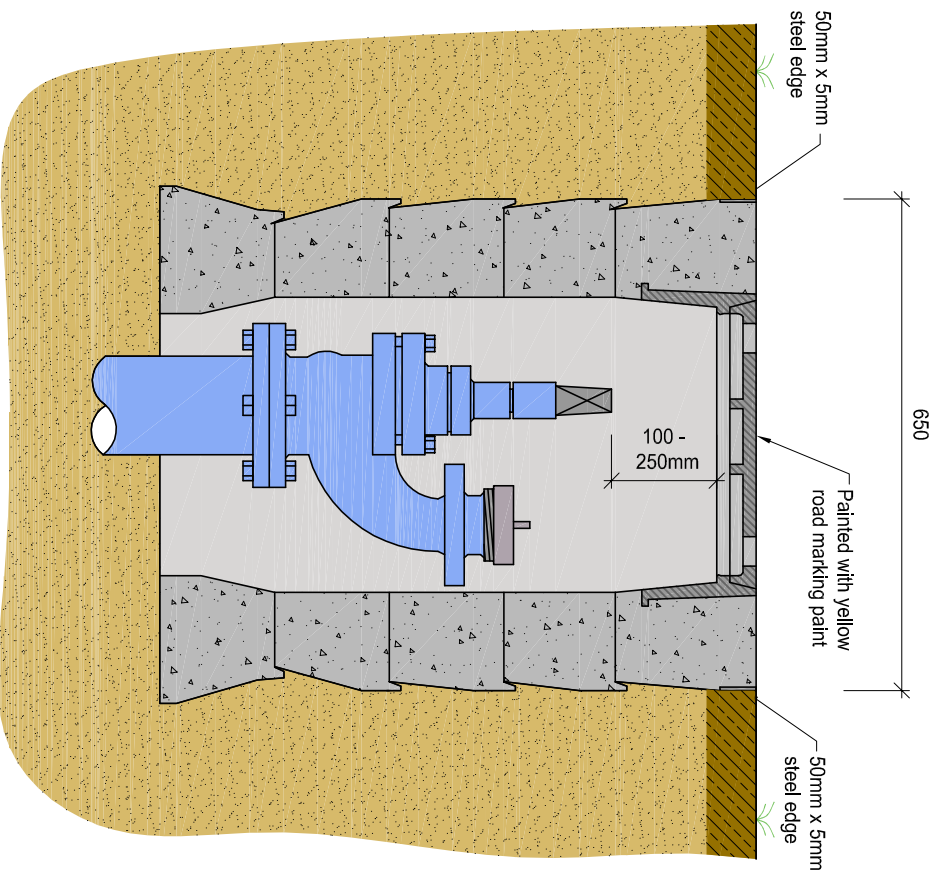
1

WATER

W713



EXAMPLE PHOTO



WATER FITTINGS

HYDRANT SURROUND

W713

DEVELOPMENT CODE

VERSION 1
AUG 09

1



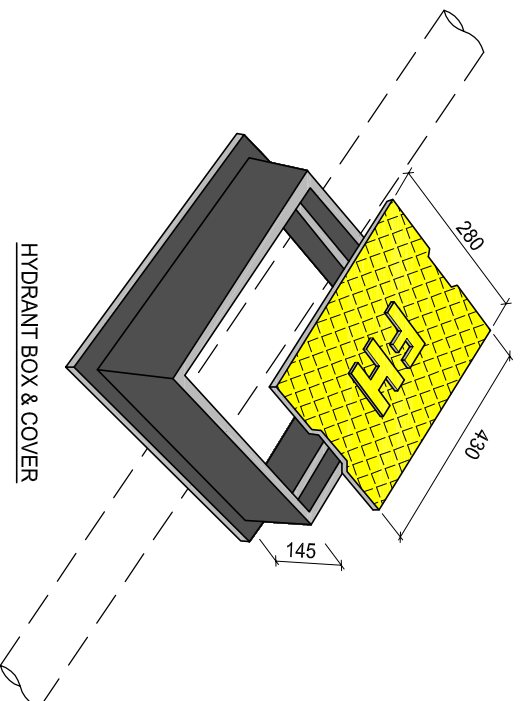
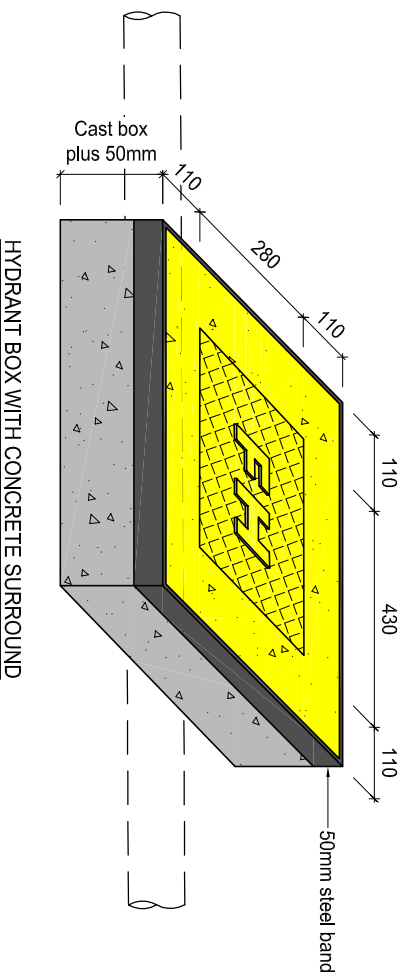
EXAMPLE PHOTO

WATER

W714

NOTES:

1. Dimensions are approximate.
2. Lid to be painted yellow with road marking paint (TNZ M7).



WATER FITTINGS
HYDRANT BOX

W714

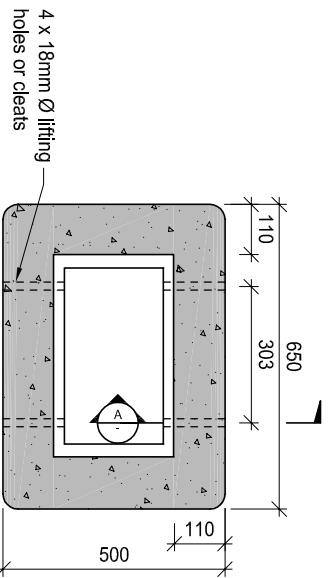
DEVELOPMENT CODE

VERSION 1
AUG 09

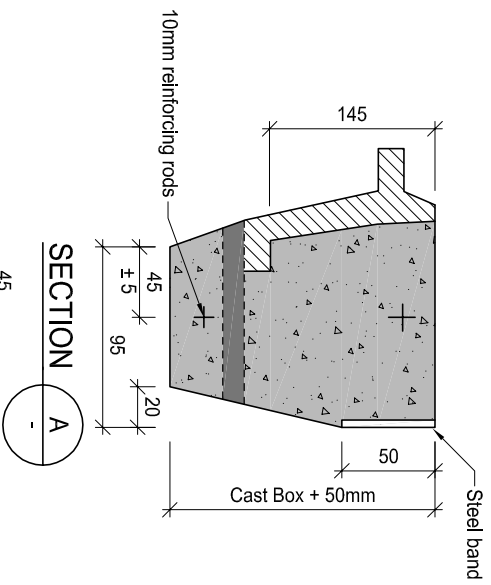
1

NOTES:

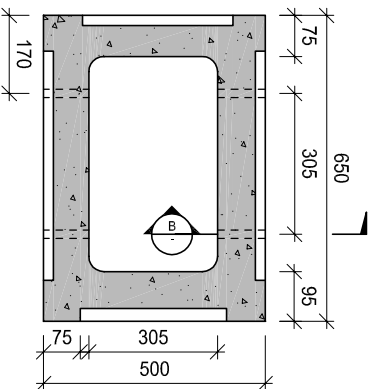
- 1. Concrete to manufacturer's specifications.



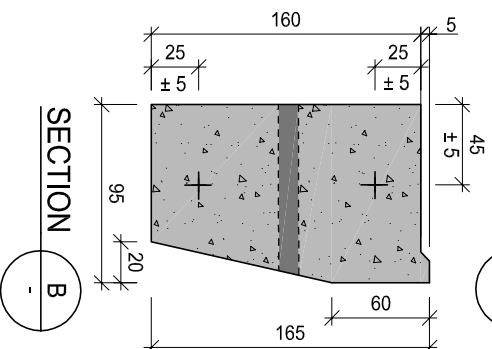
PLAN OF TOP BLOCK



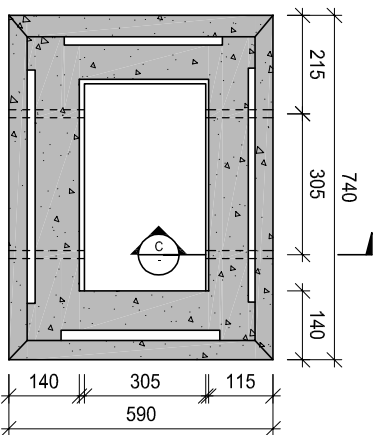
SECTION A



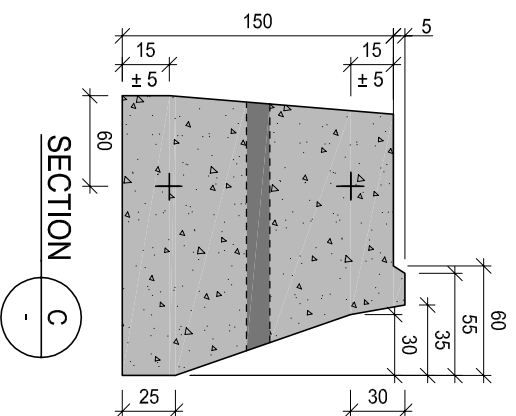
PLAN OF INTERMEDIATE BLOCK



SECTION B



PLAN OF BASE BLOCK



SECTION C

**WATER FITTINGS
HYDRANT SURROUND BLOCKS**

W715

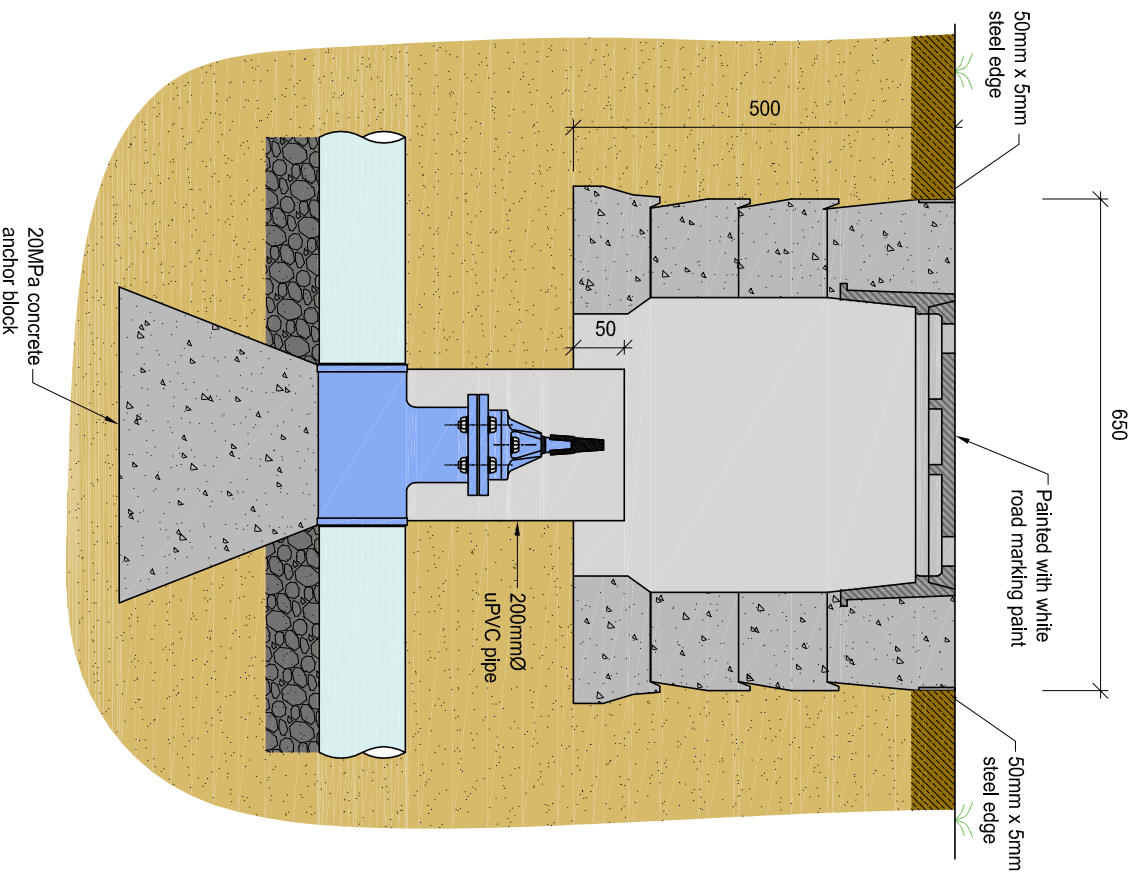
DEVELOPMENT CODE

VERSION 1
AUG 09

1

NOTES:

1. Concrete to manufacturer's specifications.



WATER FITTINGS
VALVE SURROUND

W716

DEVELOPMENT CODE

VERSION 1
AUG 09

1

WATER

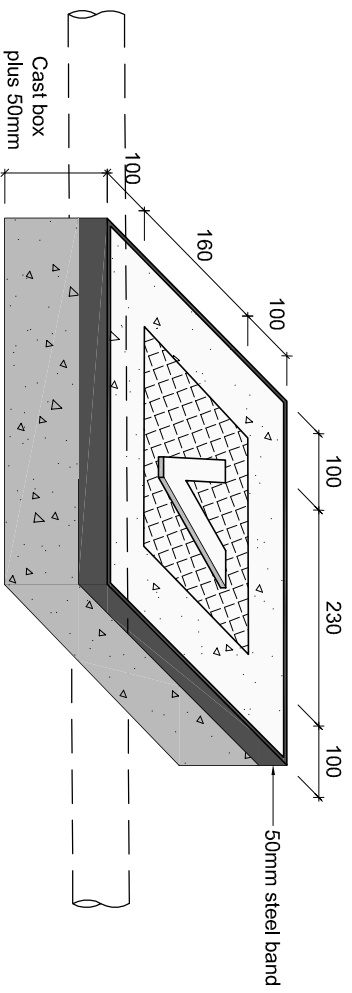
W717

NOTES:

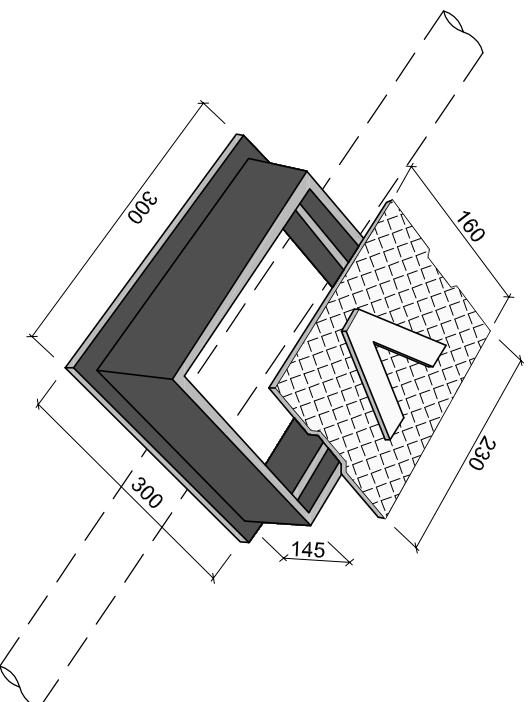
1. Dimensions are approximate.
2. Lid painted White with road marking paint. (TNZ. M7)



EXAMPLE PHOTO



VALVE BOX & COVER
(with concrete surroundings)



VALVE BOX & COVER

WATER FITTINGS
VALVE BOX

W717

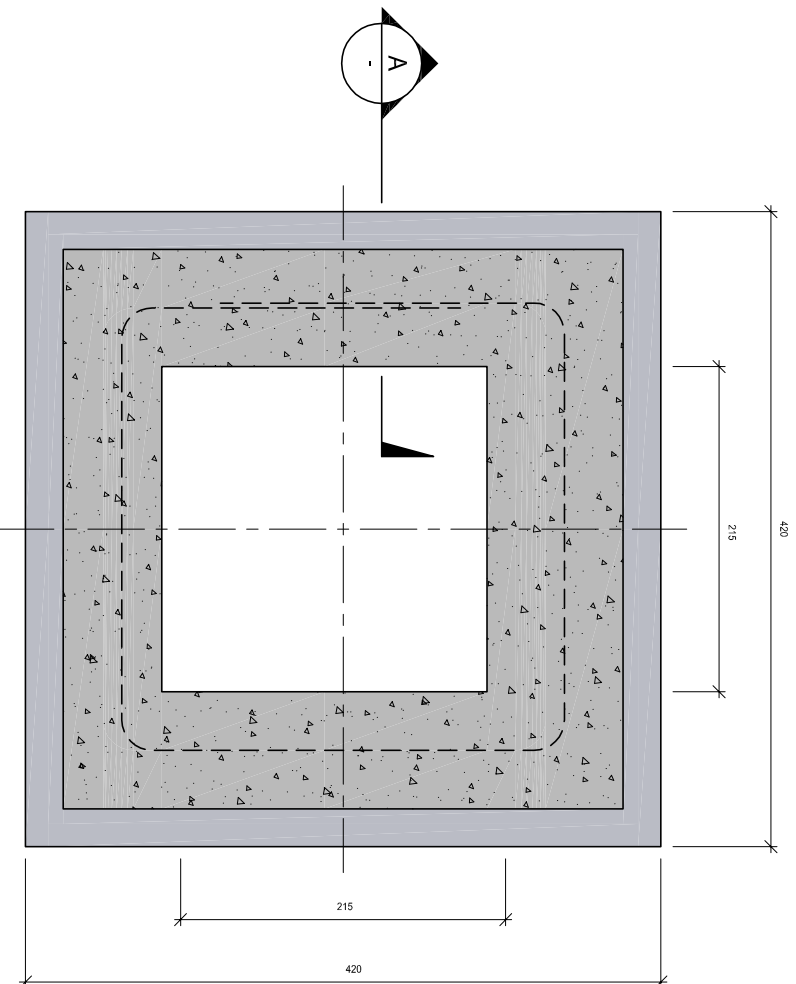
DEVELOPMENT CODE

VERSION 1
AUG 09

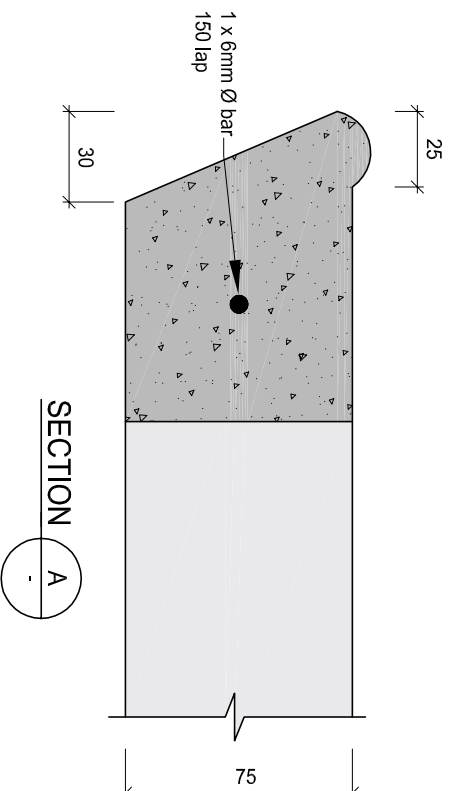
1

NOTES:

1. Minimum 25mm cover to all steel.
2. Concrete strength min 20MPa at 28 days.
3. Overall dimension of opening 215mm min.



PLAN



SECTION A

WATER FITTINGS
VALVE SURROUND 75mm CONCRETE

W718

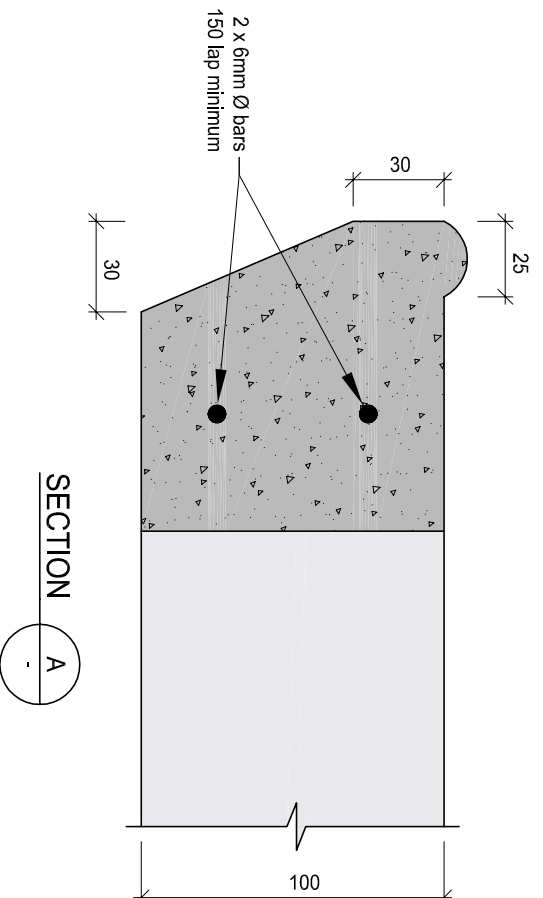
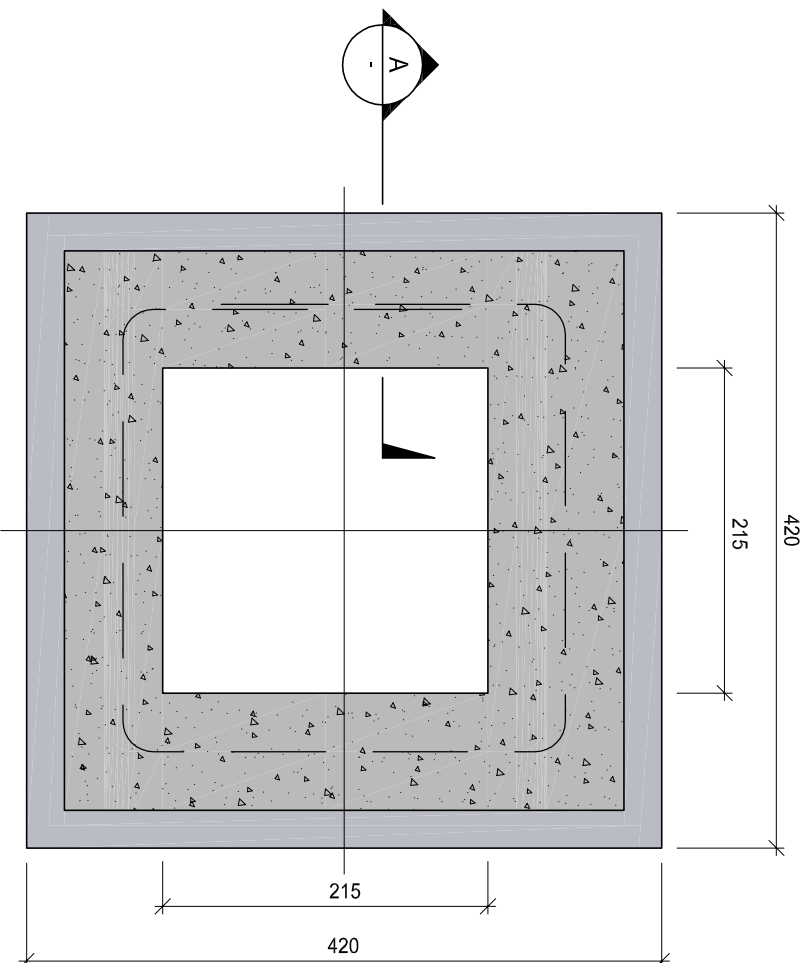
DEVELOPMENT CODE

VERSION 1
AUG 09

1

NOTES:

1. Minimum 25mm cover to all steel.
2. Concrete strength min 20MPa at 28 days.
3. Overall dimension of opening 215mm min.



WATER FITTINGS
VALVE SURROUND 100mm CONCRETE

W719

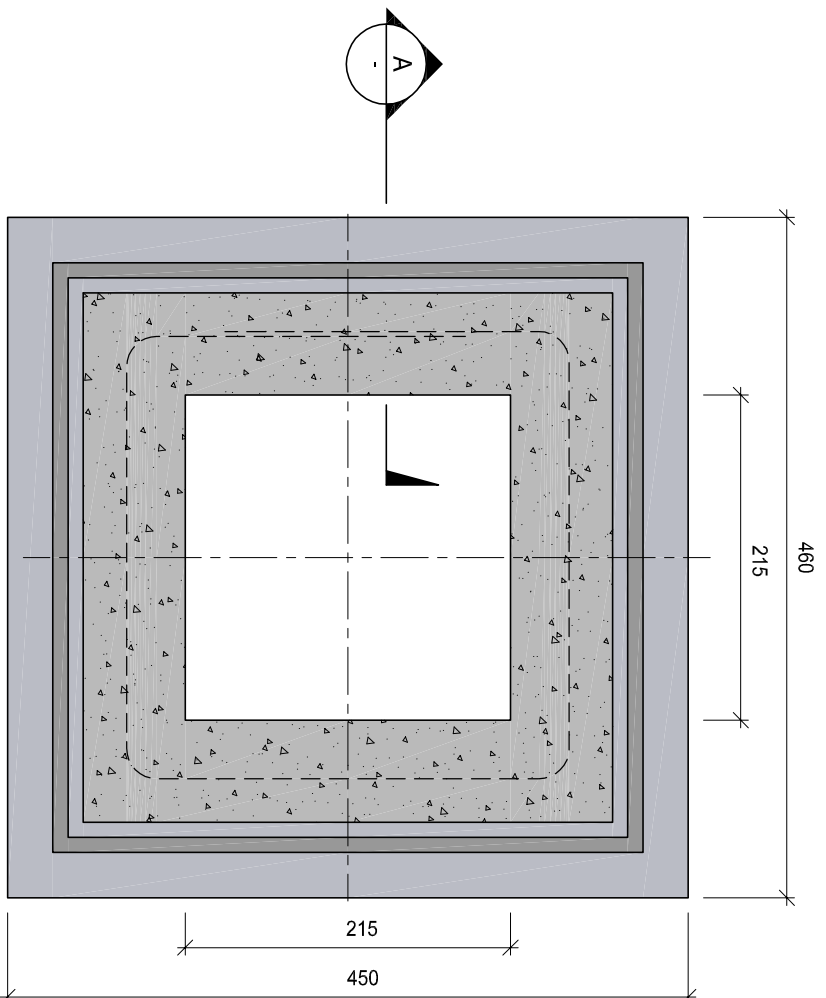
DEVELOPMENT CODE

VERSION 1
AUG 09

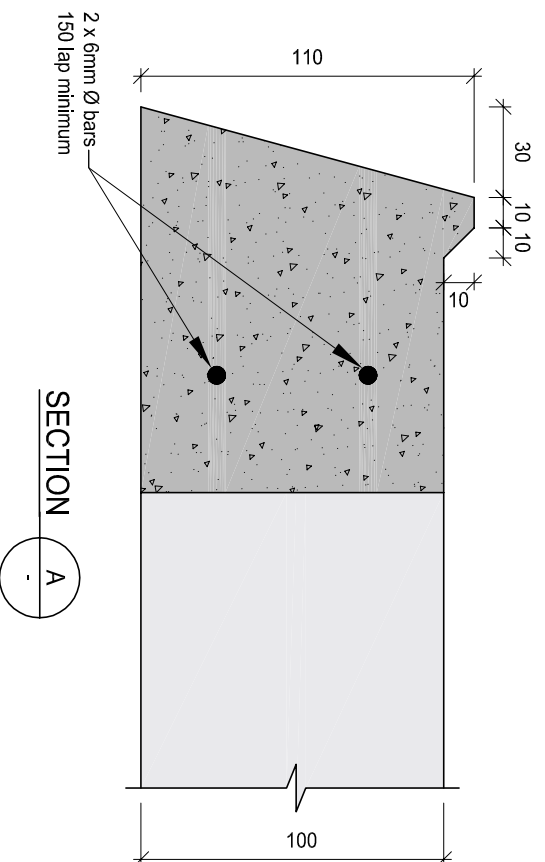
1

NOTES:

- 1. Minimum 25mm cover to all steel.
- 2. Concrete strength min 20MPa at 28 days.
- 3. Overall dimension of opening 215mm min.



PLAN



SECTION

WATER FITTINGS
VALVE SURROUND HEAVY DUTY CONCRETE

W720

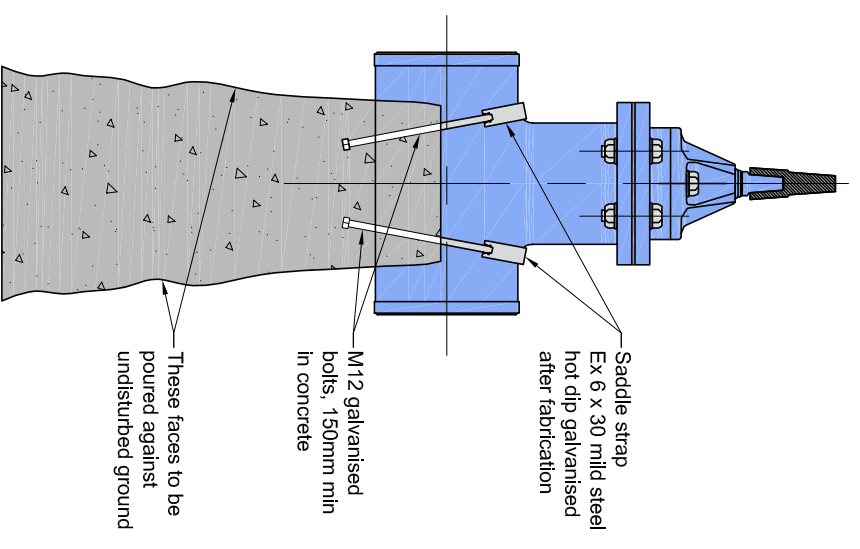
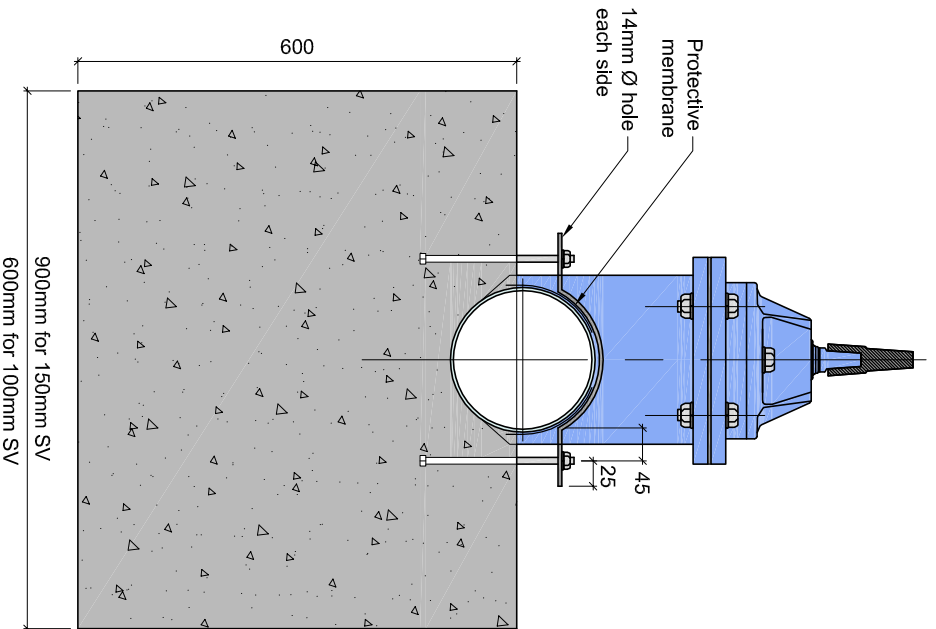
DEVELOPMENT CODE

VERSION 1
AUG 09

1

NOTES:

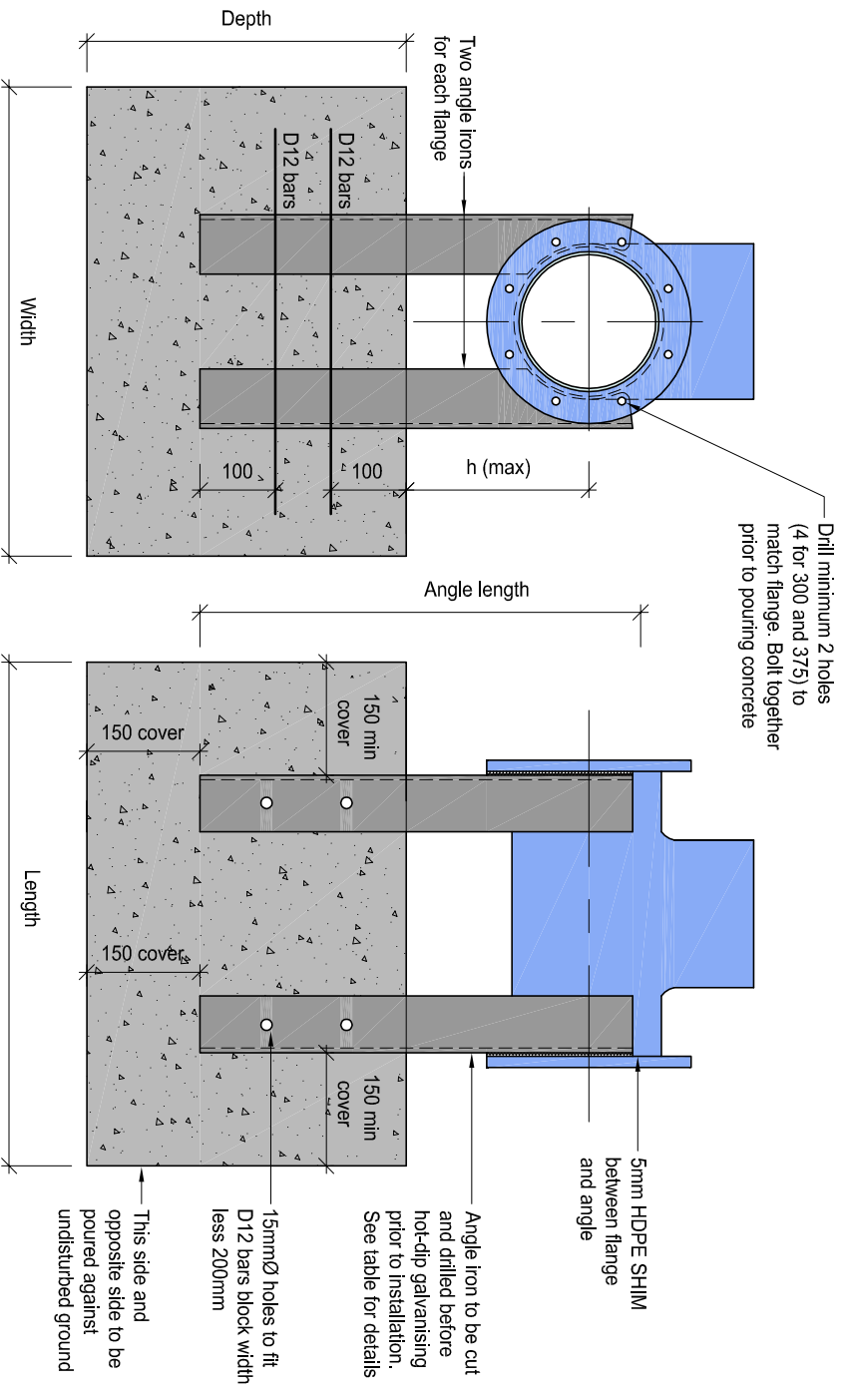
1. Valves larger than 150mm Ø require specific design.



NOTES:

1. This generic anchor block detail is for use in stiff predominantly cohesive free draining volcanic soils encountered locally within the Western Bay of Plenty area, with a minimum shear strength of 75kPa over the depth of the anchor block. Specific anchor block design shall be required where these minimum requirements are not achieved. This detail is not applicable to other soil types (eg within sandy, alluvial or peaty soils) or if elevated groundwater levels are encountered.
2. The soil strength shall be confirmed at each anchor block location by one hand auger undertaken to base of the anchor block with shear vanes undertaken within undisturbed soils at 0.5m centres vertically. Shear vanes to be undertaken in full accordance with the "Guideline for Hand Held Shear Vane Test, NZ Geotechnical Society Inc, August 2001" and corrected in accordance with BS1377:1990.
3. The anchor block excavation shall be excavated to the minimum dimensions shown on the drawing and shall be free from standing water and debris before backfilling with mass concrete.
4. The minimum mass concrete strength is to be 20MPa at time of Pressure Testing pipeline.
5. No excavation shall be undertaken below the top of the anchor block when excavating the pipeline.

Nominal Bore	Block			EA Angles (x4)	Angle Length
	Width	Height	h (max)		
100	600	500	600	75 x 6	560
150	1000	600	600	75 x 6	700
200	1000	1000	800	100 x 6	1150
250	1000	1300	1000	100 x 12	1550
300	1200	1500	1200	125 x 12	1800
375	1500	1800	1200	150 x 16	2200



WATER FITTINGS
ANCHOR BLOCK FOR FLANGED FITTINGS ON MAINS

W722

DEVELOPMENT CODE

VERSION 1
 AUG 09

1

NOTES:

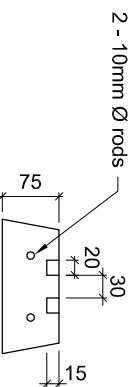
1. Marker posts are multi-use: "V" or "H".
2. Top of marker to be 610mm above finished ground level.



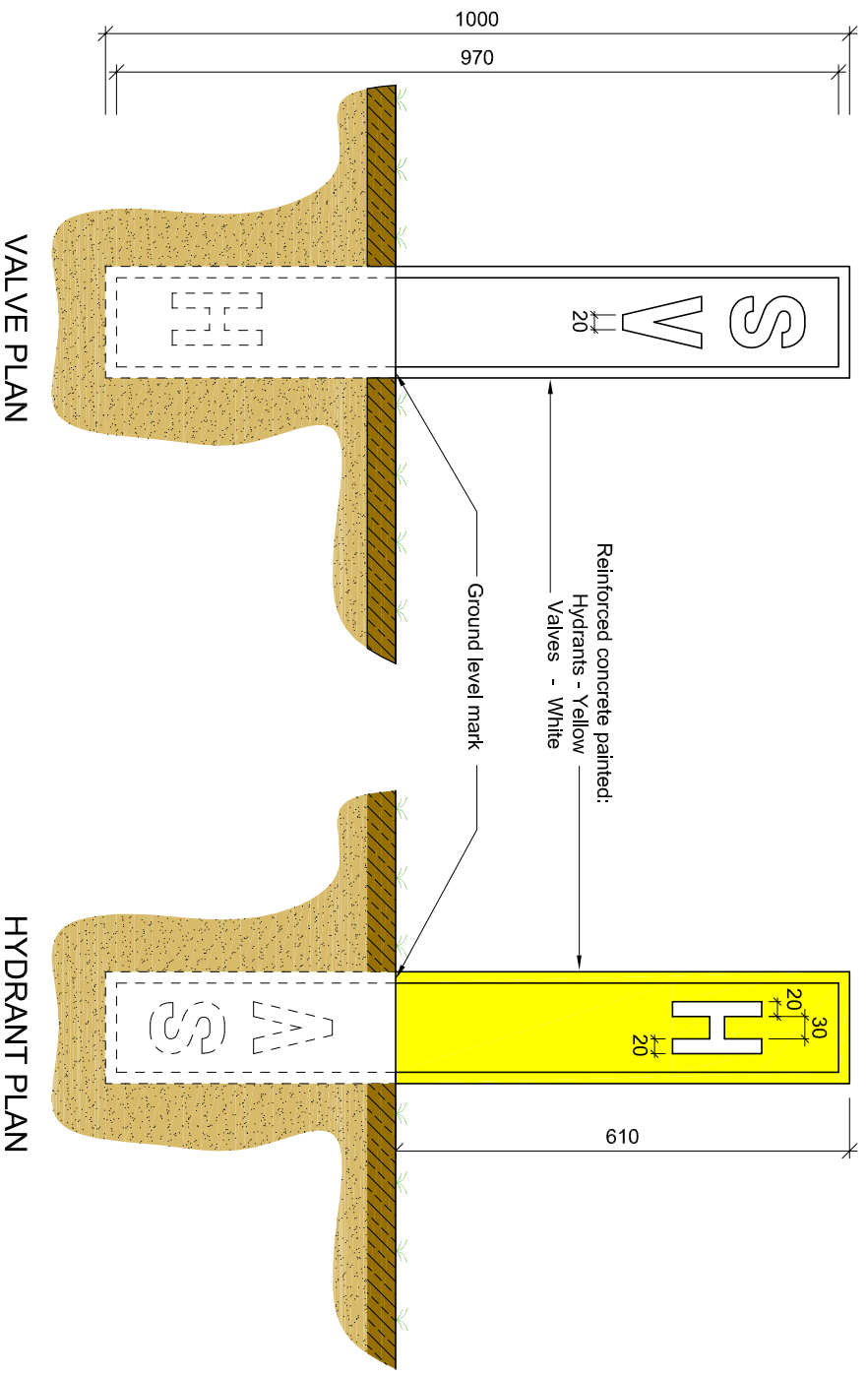
EXAMPLE PHOTO FOR VALVES

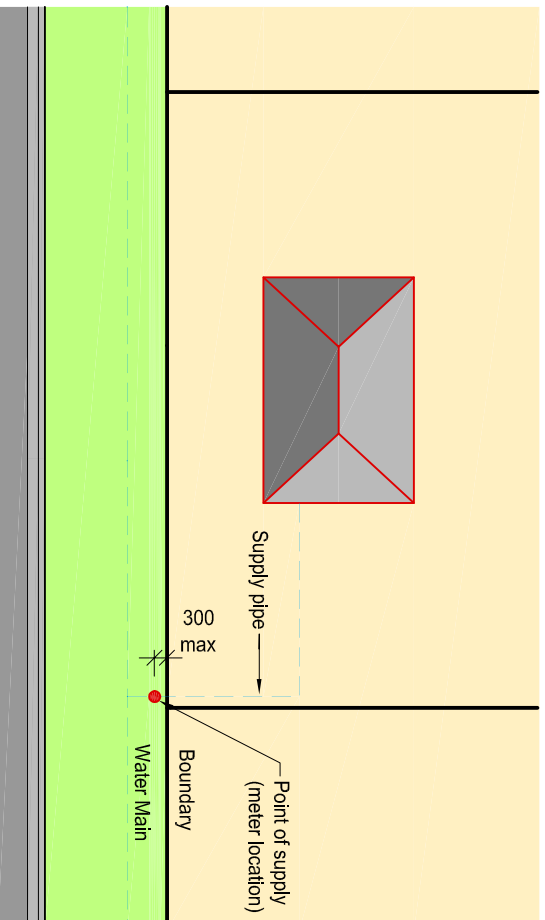


EXAMPLE PHOTO FOR HYDRANTS

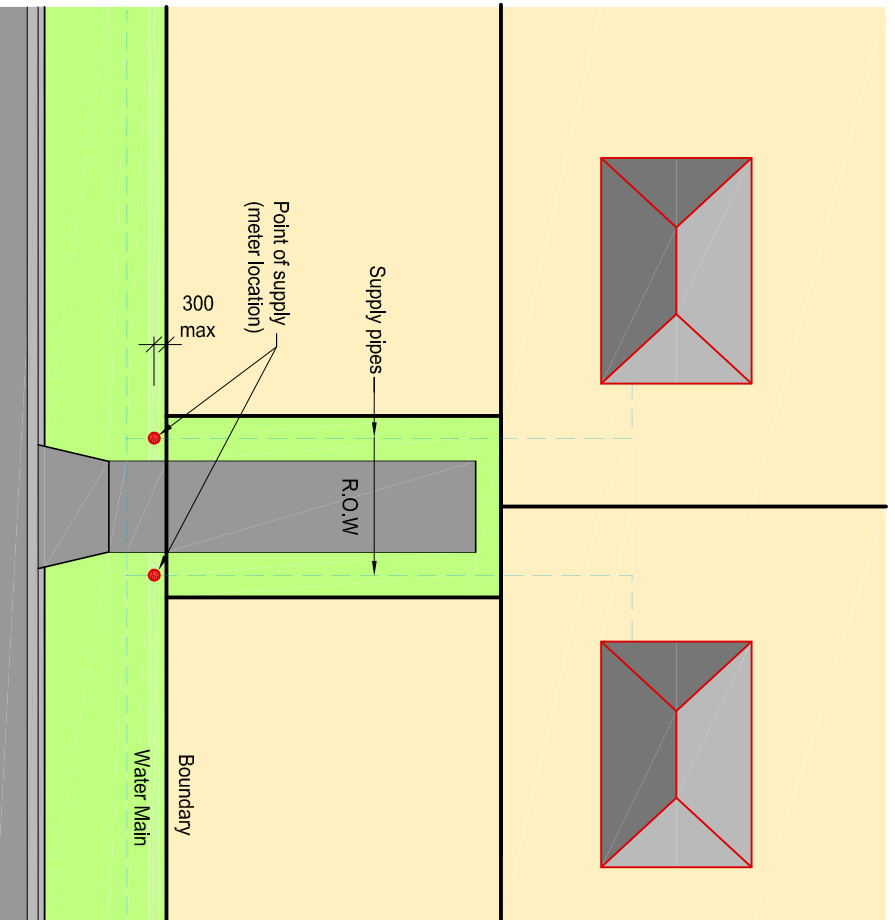


CROSS SECTION





TYPE 1 - HOUSE WITH STREET FRONTAGE



TYPE 2 - REAR LOTS ON RIGHT OF WAY (UP TO 6 CUSTOMERS)

WATER METER

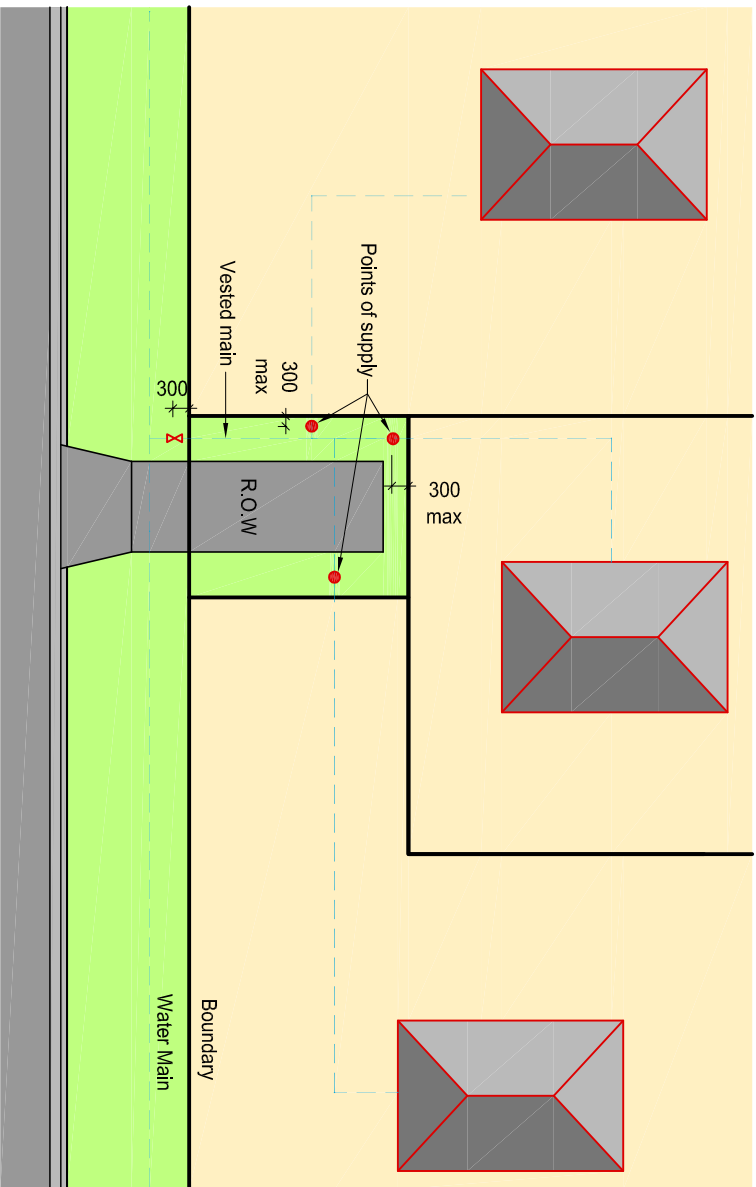
TYPE 1 & 2 POINT OF SUPPLY LOCATION INSTALLATION

DEVELOPMENT CODE

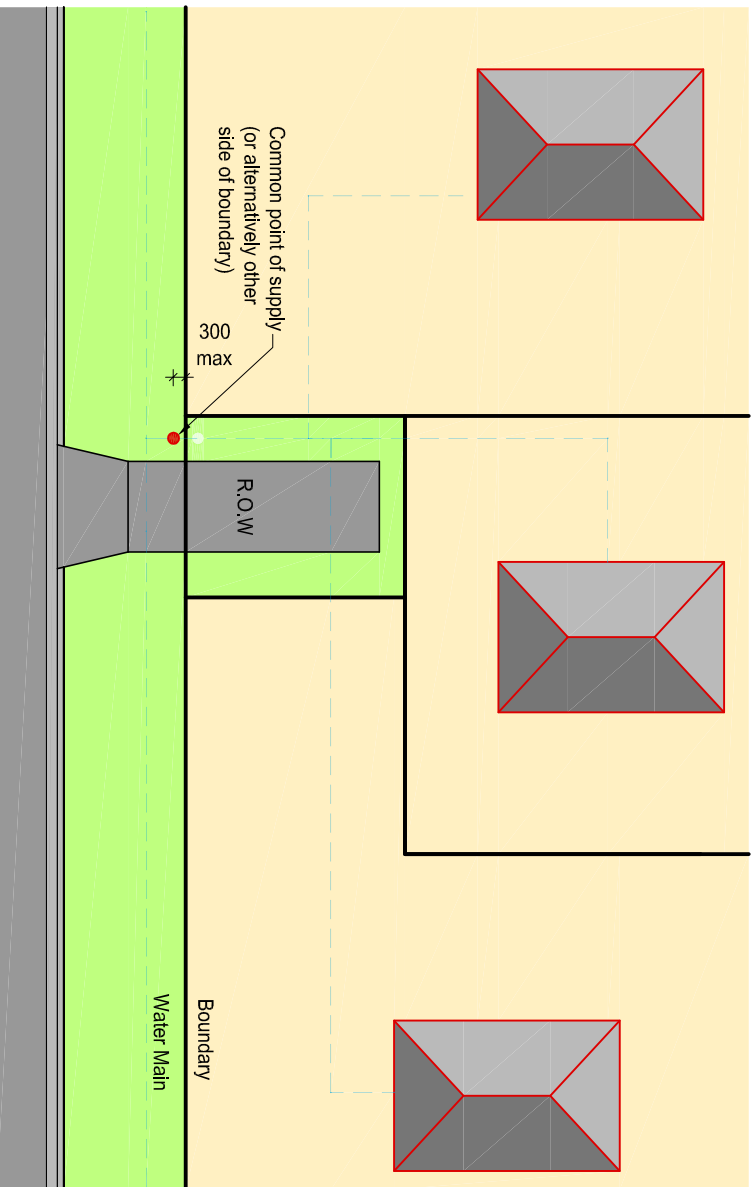
W727

VERSION 1
AUG 09

1



**TYPE 3 - REAR LOTS ON RIGHT OF WAY
(7 OR MORE CUSTOMERS)**



TYPE 4 - COMMON POINT OF SUPPLY FOR BODY CORPORATE

WATER METER
TYPE 3 & 4 POINT OF SUPPLY LOCATION INSTALLATION

W728

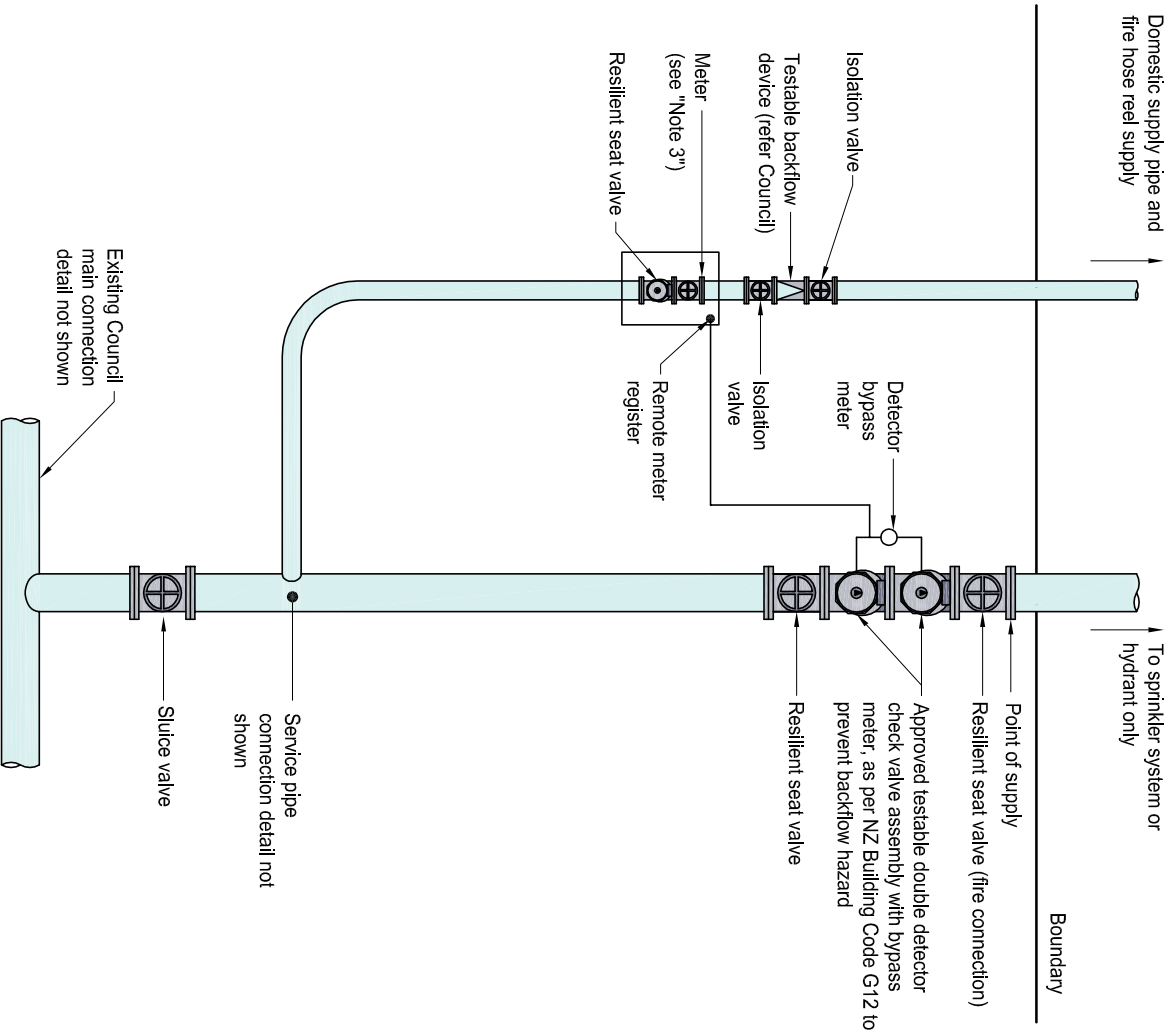
DEVELOPMENT CODE

VERSION 1
AUG 09

1

NOTES:

1. This arrangement is to be used for all premises requiring a fire connection.
2. All water used (except for fire fighting) will be charged for.
3. Upstream and downstream meter clearance as per manufacturer's specifications.



FIRE SYSTEM CONNECTION WITH POTABLE SUPPLY

WATER METER
 FIRE SYSTEM CONNECTION WITH POTABLE SUPPLY INSTALLATION

W729

DEVELOPMENT CODE

VERSION 1
 AUG 09

1