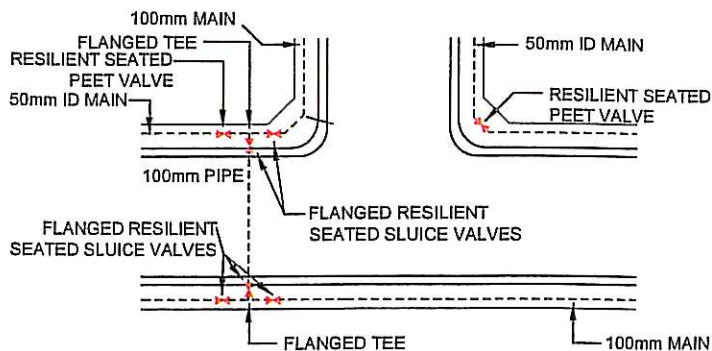
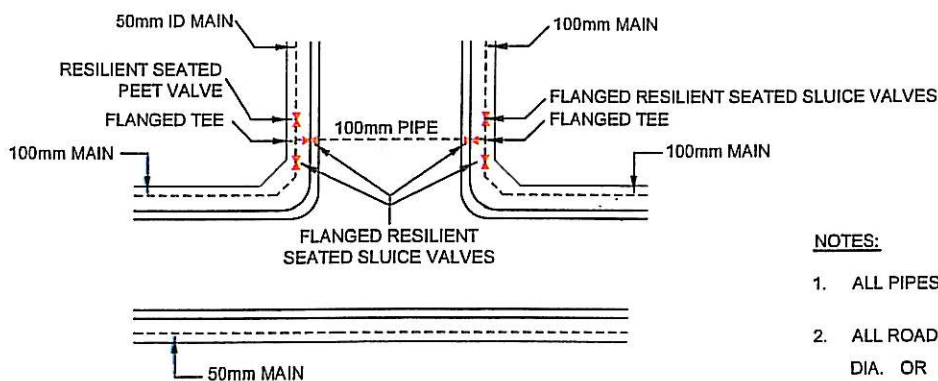
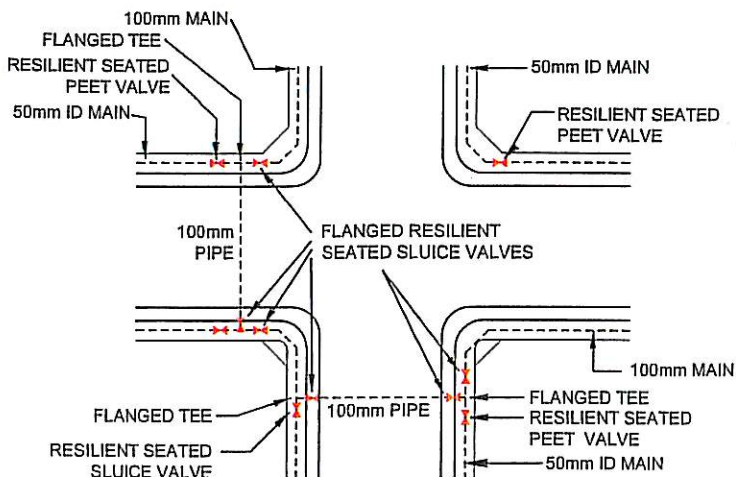




TEE INTERSECTION 1



TEE INTERSECTION 2



CROSS INTERSECTION

NOTES:

1. ALL PIPES 1.4m FROM BOUNDARY.
2. ALL ROAD CROSSINGS SHALL BE 100mm DIA. OR LARGER EXTENDING FROM MAIN TO MAIN.
3. BENDS ARE TO BE LONG RADIUS BENDS OR FLANGED BENDS WITH FLANGE ADAPTORS.
4. ALL JOINTS IN STEEL PIPES UNDER ROADS TO BE EITHER FIELD WELD BANDS OR FLANGED JOINTS (WRAPPED IN APPROVED PROTECTIVE LAPS).
5. PVC PIPES MAY BE LAID UNDER ROAD BUT DEPTH SHALL BE INCREASED UNDER CARRIAGEWAY TO 900mm COVER.
6. THESE DETAILS APPLY TO 100mm AND 150mm ID. PRINCIPAL MAINS - LARGER DIA. MAINS SHALL GENERALLY PASS STRAIGHT THROUGH INTERSECTIONS.



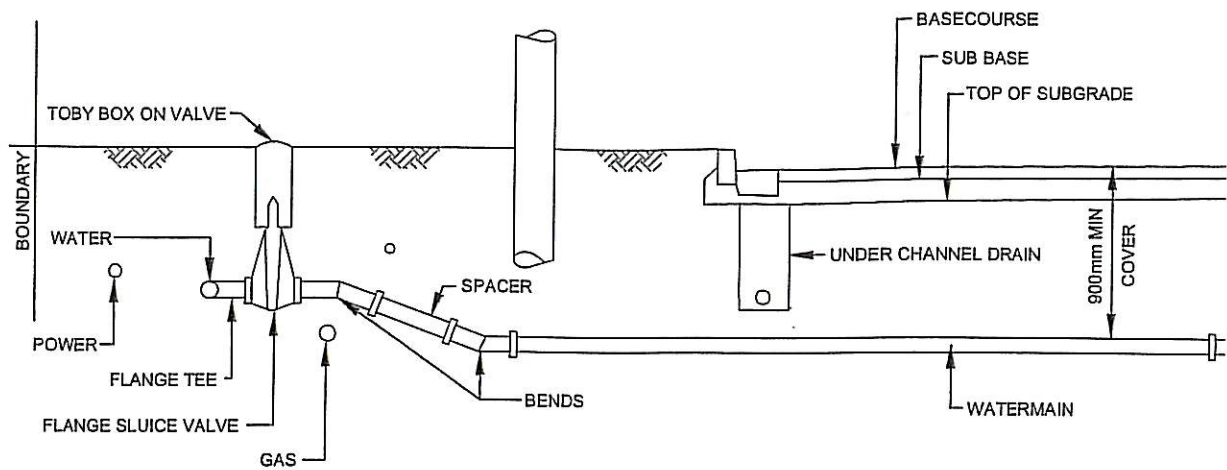
Franklin
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STANDARD DETAIL

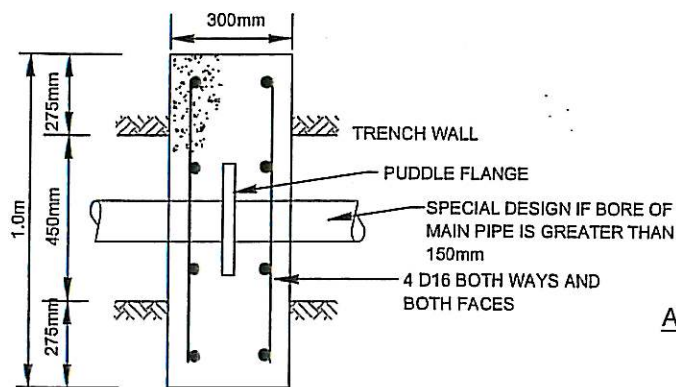
**WATERMAIN LOCATIONS
AT INTERSECTIONS**

DATE: AUGUST 2010

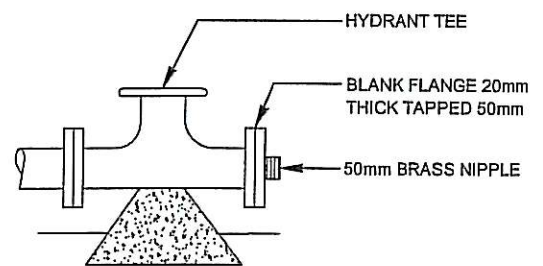
No: W 1



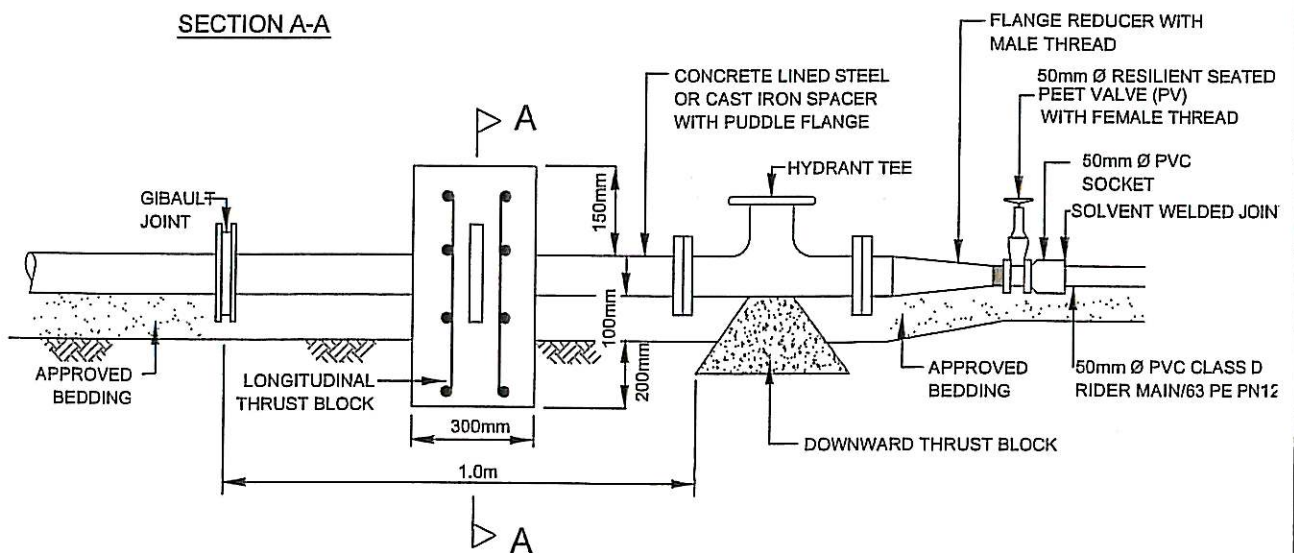
PIPE CROSSING UNDER ROAD



SECTION A-A



ALTERNATIVE TO A FLANGED REDUCER



TYPICAL REDUCTION TO A 50mm RIDER MAIN



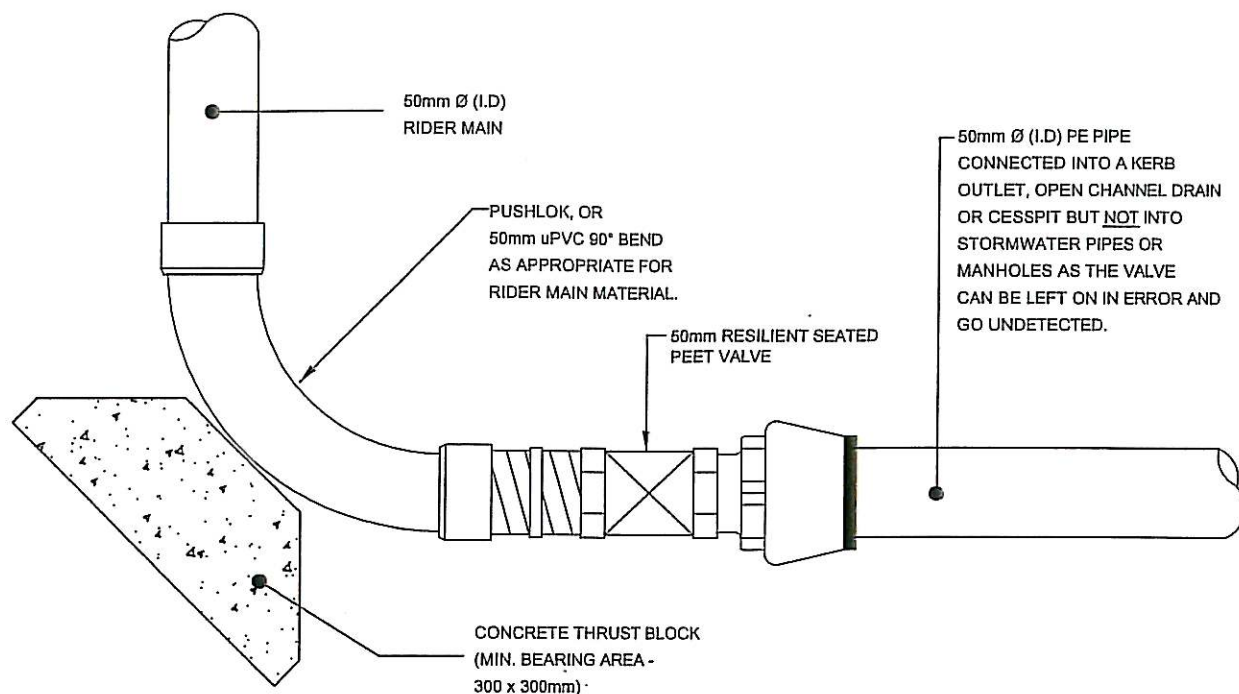
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DATE: AUGUST 2010

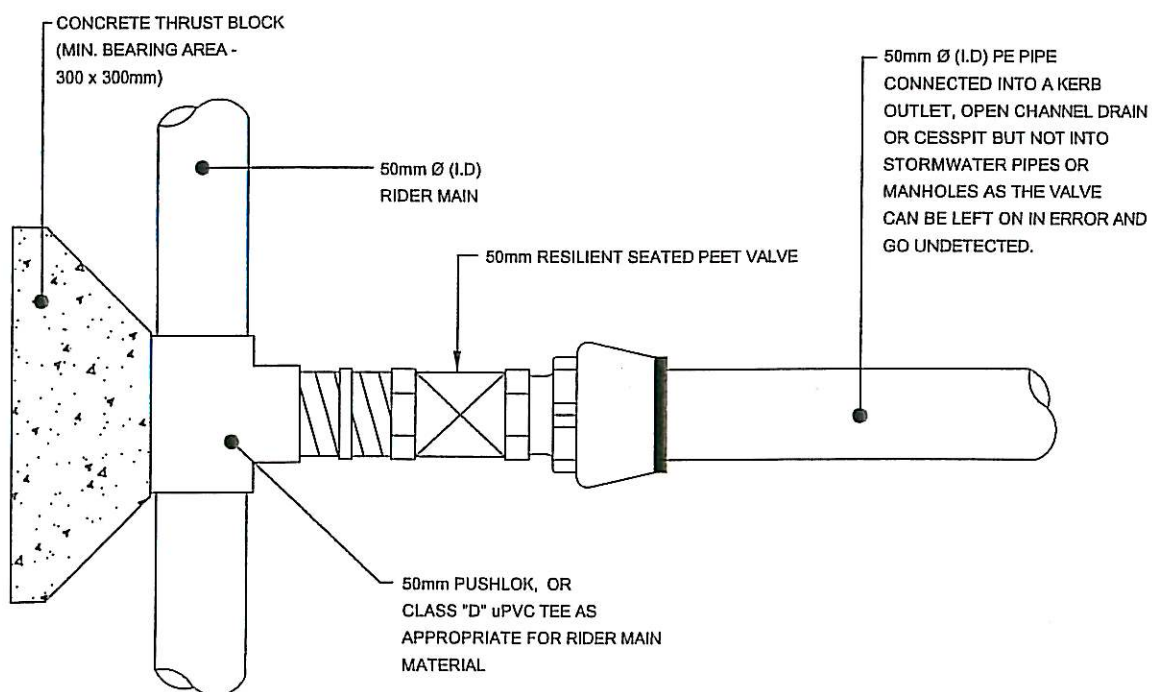
No: W 2

STANDARD DETAIL

PRINCIPAL MAIN TO RIDER MAIN CONNECTIONS



DEAD END SCOUR VALVE DETAIL



ON LINE SCOUR VALVE DETAIL

NOTES:

1. GATE VALVE TO BE KEPT CLOSED AND POST, KERB LID ETC. TO BE PAINTED RED.
2. VALVE TO BE LABELLED AS "SCOUR VALVE - KEEP CLOSED" ON ALL PLANS.



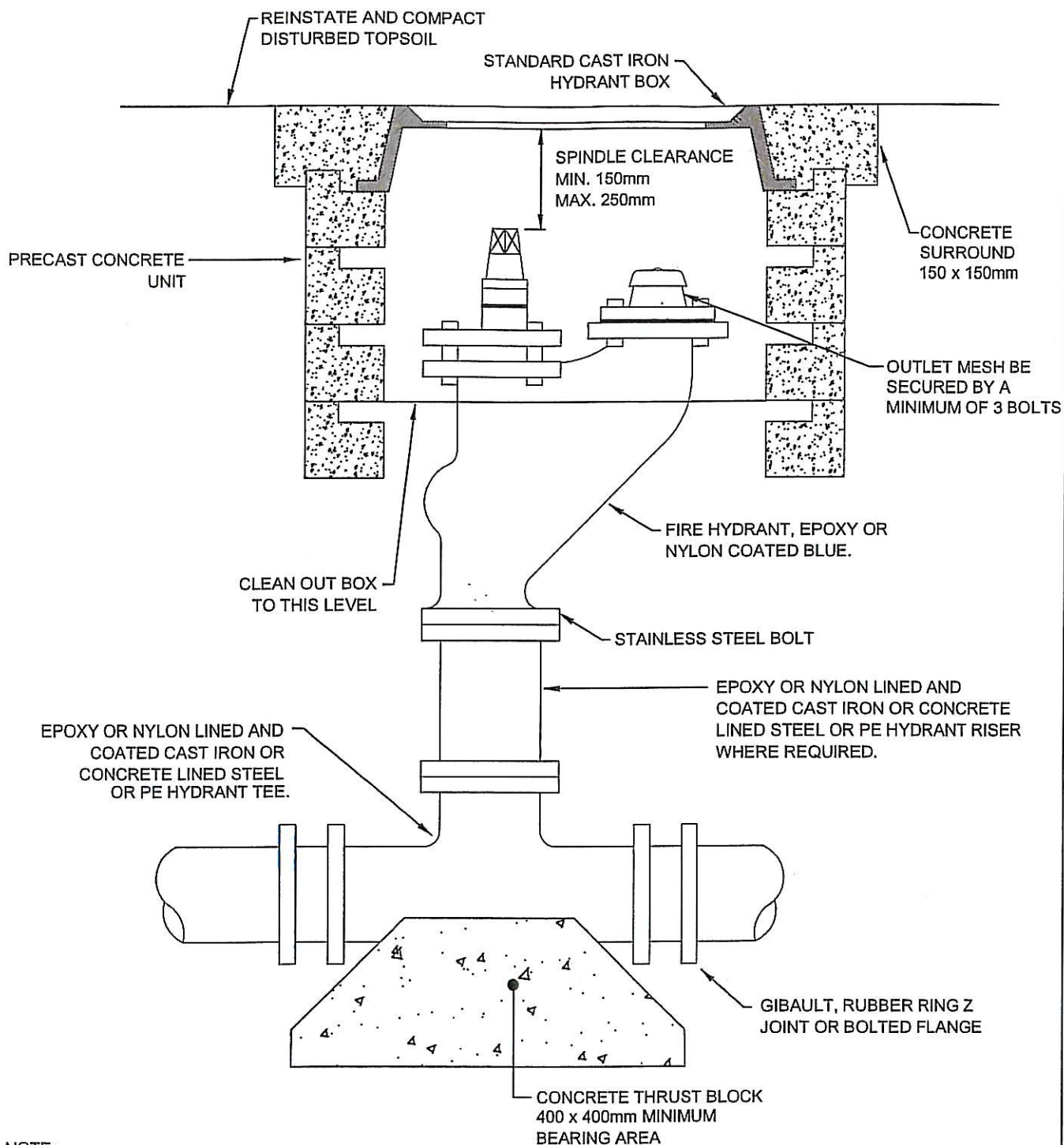
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DATE: AUGUST 2010

No: W 3

STANDARD DETAIL

SCOUR VALVE DETAIL FOR 50mm DIA RIDERMAINS



NOTE:

1. FIRE HYDRANTS SHALL BE TALL OR MEDIUM PATTERN CLOCKWISE CLOSING IN ACCORDANCE WITH NZS/BS 750:1984.
2. THRUST BLOCKS TO BE CONSTRUCTED USING 20 MPa CONCRETE.
3. CONCRETE LINED STEEL FITTINGS MUST BE WRAPPED WITH AN APPROVED FORM OF PROTECTIVE COATING.
4. HYDRANT MARKINGS SHALL BE AS PER STANDARD DETAIL W7.
5. HEAVY DUTY LIDS TO BE USED IN ALL TRAFFICKED AREAS.
6. IN BERM AREAS POLYETHELENE FIRE HYDRANT BOXES MAY BE USED.
7. ALL BOLTS USED ON GIBAULTS OR FLANGE MUST BE 316 STAINLESS STEEL AND WRAPPED IN DENSO TAPE



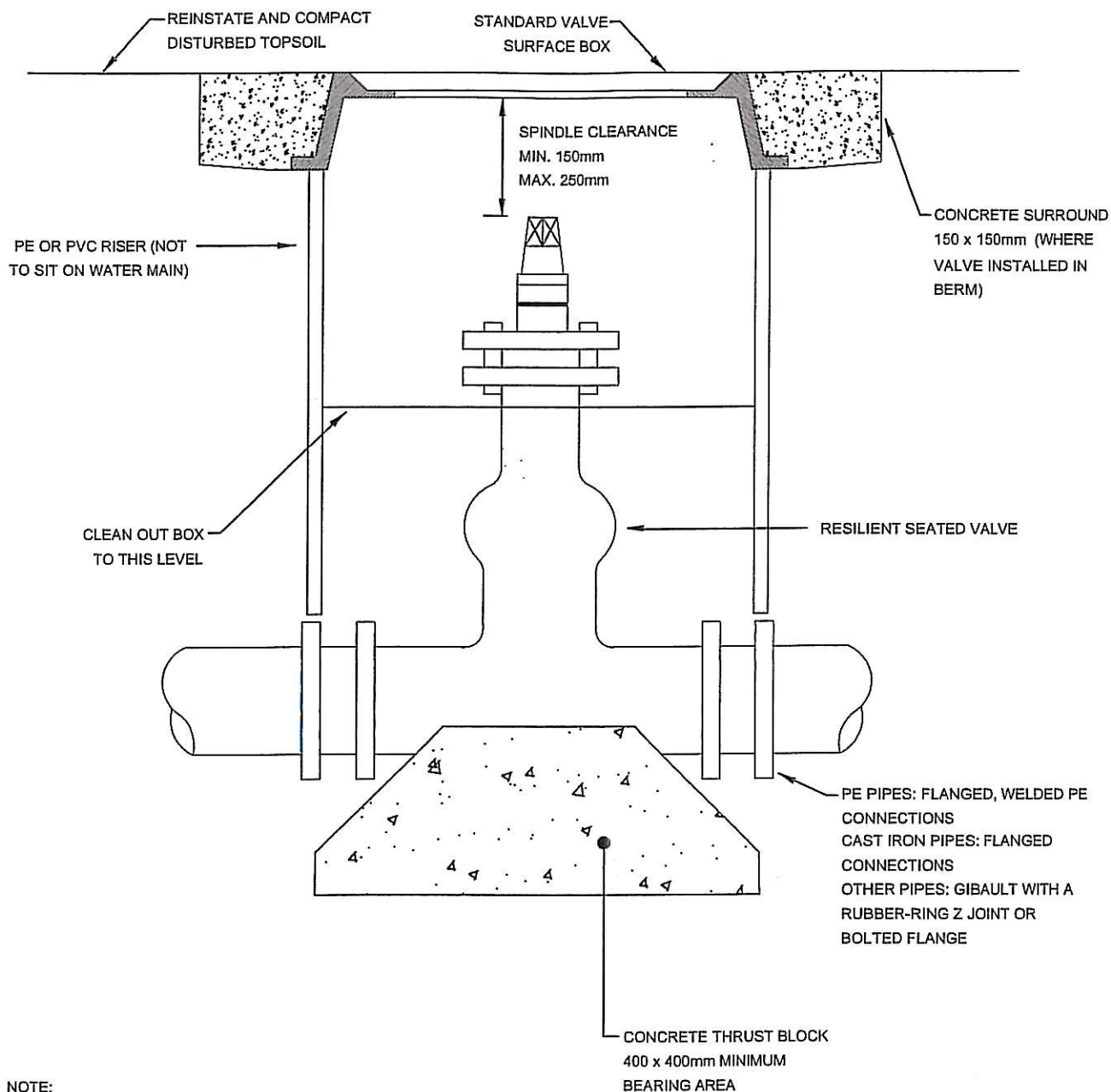
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STANDARD DETAIL

STANDARD FIRE HYDRANT INSTALLATION

DATE: DEC 1999

No: W 4



NOTE:

1. VALVES SHALL BE ANTI-CLOCKWISE CLOSING WITH NON - RISING STEM
2. VALVES TO BE CLASS 1 CONFORMING TO BS 5163 & PN 16.
3. THRUST BLOCKS TO BE CONSTRUCTED USING 17.5 MPa CONCRETE.
4. CONCRETE LINED STEEL FITTINGS MUST BE WRAPPED WITH AN APPROVED FORM OF PROTECTIVE COATING.
5. HEAVY DUTY LIDS TO BE USED IN ALL TRAFFICKED AREAS.
6. ALL BOLTS USED ON GIBALTS OR FLANGE MUST BE 316 STAINLESS STEEL AND WRAPPED IN DENSO TAPE
7. ALL VALVE SURFACES TO BE EPOXY OR THERMAL BONDED POLYMER COATED
8. VALVE SPINDLE DEEPER THAN 650mm SHALL HAVE A FIXED SPINDLE EXTENSION



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STANDARD DETAIL

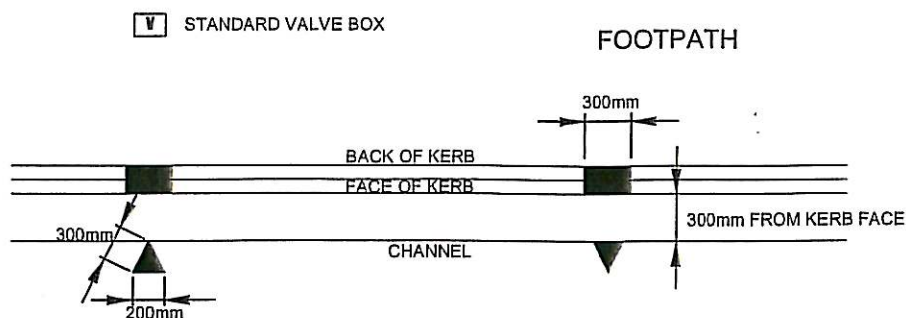
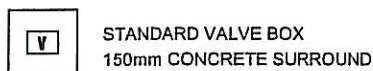
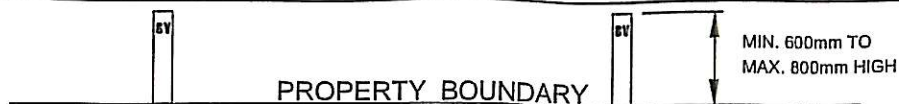
DATE:

AUGUST 2010

No:

W 5

STANDARD VALVE INSTALLATION



THE LETTER 'V' MUST BE CUT INTO
TOP OF KERB WITH POINT OF 'V'
POINTING TOWARDS VALVE



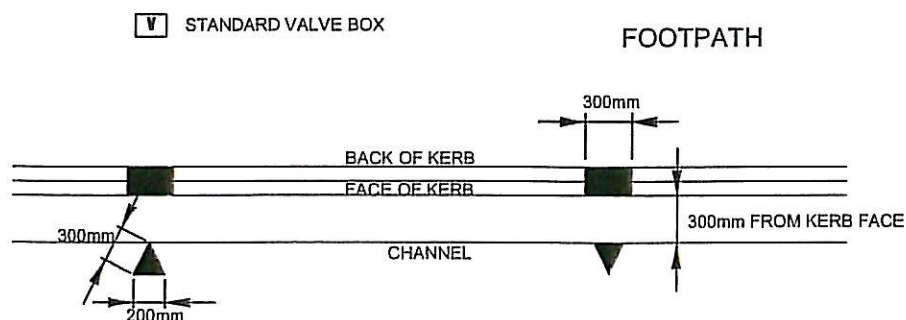
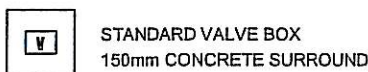
VALVE MARKINGS - RURAL AREAS

MARKER POST MAY BE OMITTED
IF VALVE BOX IS IN SEALED
FOOTPATH - AS DIRECTED BY
ENGINEER.

PAINT USED FOR ALL MARKINGS
SHALL BE NZTA 'ROAD MARKING
PAINT' AS FOLLOWS:

- HYDRANTS - YELLOW
PROTECTIVE PAINTS LTD.-
WAY CODE 880-403 OR
RESENE M7-W
- VALVES (PV, SV) - WHITE
PROTECTIVE PAINTS LTD.-
WAY CODE 885-703
- AV'S AND SPECIAL CONTROL
VALVES (SHUT) - RED/BROWN
PROTECTIVE PAINTS LTD.-
WAY CODE 885-620

PROPERTY BOUNDARY



'V' ON LID TO ALIGN WITH
DIRECTION OF MAIN



VALVE MARKINGS - URBAN AREAS



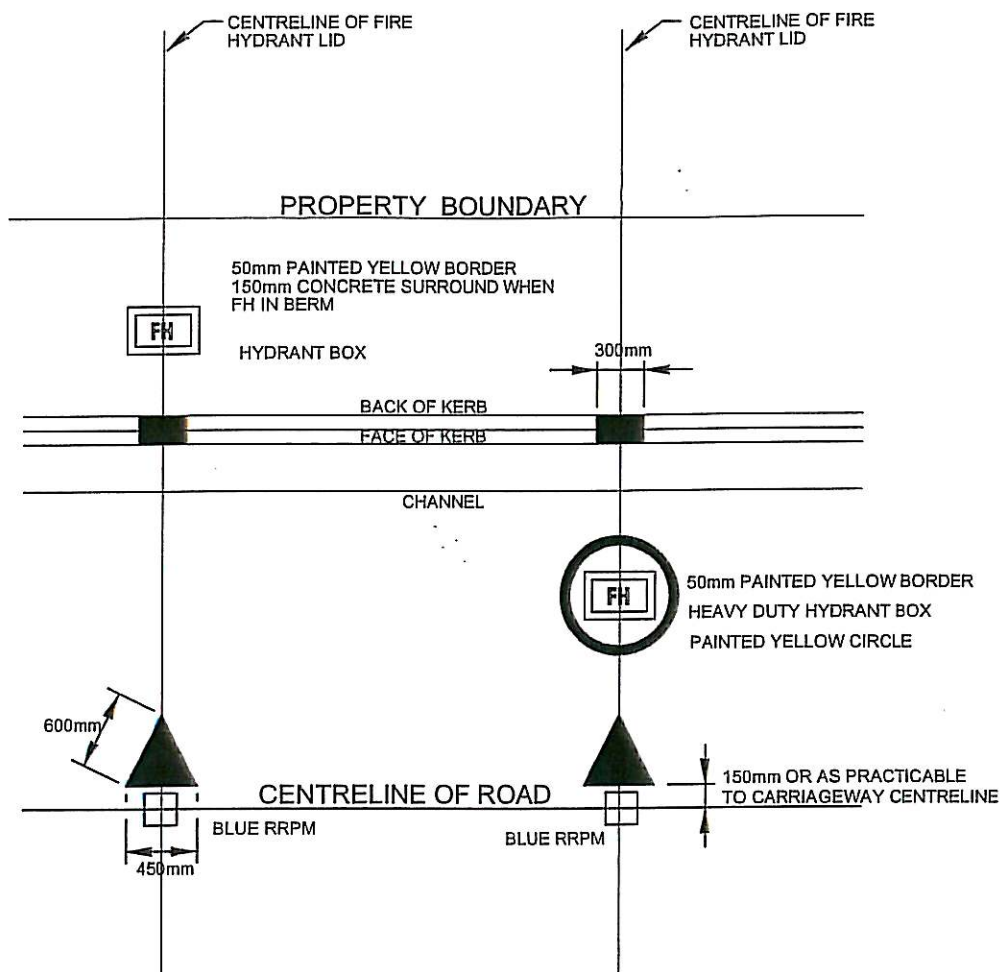
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STANDARD DETAIL

DATE: AUGUST 2010

No: W 6

VALVE MARKING



NOTES:

1. PAINT USED FOR ALL MARKINGS SHALL BE YELLOW NZTA 'ROAD MARKING PAINT'. (SEE ALSO W6)
2. THERMOPLASTIC YELLOW ISOCELES TRIANGLE MUST BE APPLIED TO CARRIAGEWAY
3. LETTER 'H' MUST BE CUT INTO TOP OF KERB



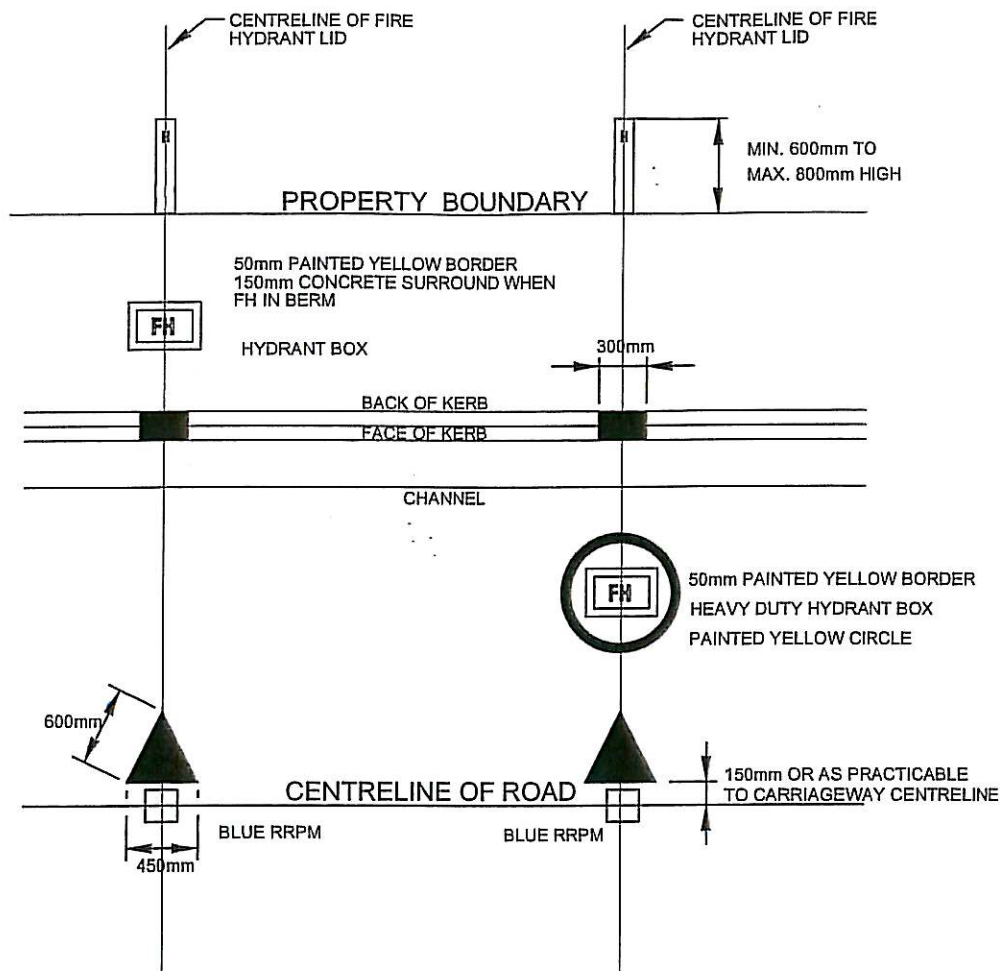
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STANDARD DETAIL

HYDRANT MARKING - URBAN AREAS

DATE: AUGUST 2010

No: W 7



NOTES:

1. PAINT USED FOR ALL MARKINGS SHALL BE YELLOW NZTA 'ROAD MARKING PAINT'. (SEE ALSO W6)
2. THERMOPLASTIC YELLOW ISOSCELES TRIANGLE MUST BE APPLIED TO CARRIAGEWAY
3. LETTER 'H' MUST BE CUT INTO TOP OF KERB
4. MARKER POST MAY BE OMITTED IF VALVE BOX IS SEALED IN FOOTPATH - AS DIRECTED BY ENGINEER



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DATE: AUGUST 2010

No: W 8

STANDARD DETAIL

HYDRANT MARKING - RURAL AREAS

POLYETHYLENE REVERSE
TAPER METER BOX, ALLOW
MINIMUM OF 10mm
CLEARANCE BETWEEN METER
BOX AND ROTATING VALVE
HANDLES

15mmØ KENT METER CLASS C

ACUFLO DIAPHRAGM VALVE

PUSH LOK CONNECTOR

GUNMETAL (LG2) FERRULE
(OR PE FERRULE MAY
BE USED ON PE MAINS
ONLY)

PUSHLOK CONNECTOR

DUAL CHECK VALVE TO AS/NZS 2845.1

STD BRASS METER TAIL-PIECE

REDUCER

PUSHLOK CONNECTOR

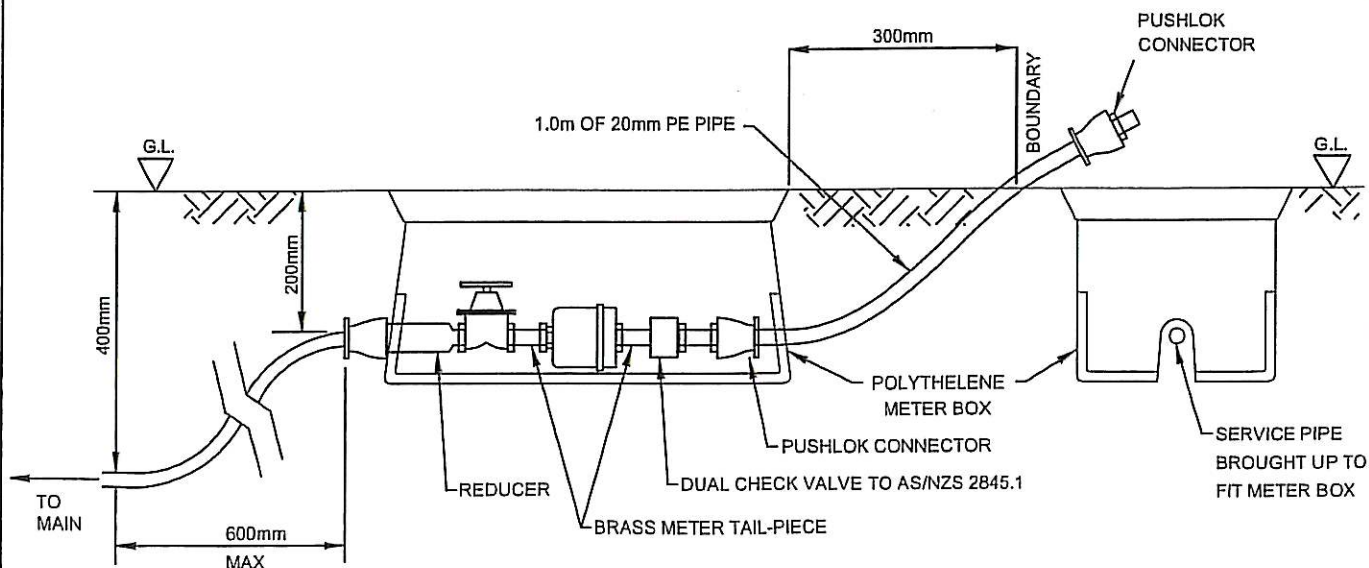
20 OR 25 Ø (I.D)
PE (BLUE) SERVICE PIPE
MINIMUM COVER 400mm EXCEPT
AT METER BOX WHERE THE
THE COVER MAY BE REDUCED
TO 200mm

PRINCIPAL OR RIDER MAIN

GUNMETAL (LG2) TAPPING
BAND (OR PE TAPPING
BAND MAY BE USED ON
PE MAINS ONLY)

NOTE:

THE DIAPHRAGM VALVE AND BACKFLOW PREVENTION DEVICE SHALL BE THE SAME DIAMETER AS THE WATER METER.



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STANDARD DETAIL

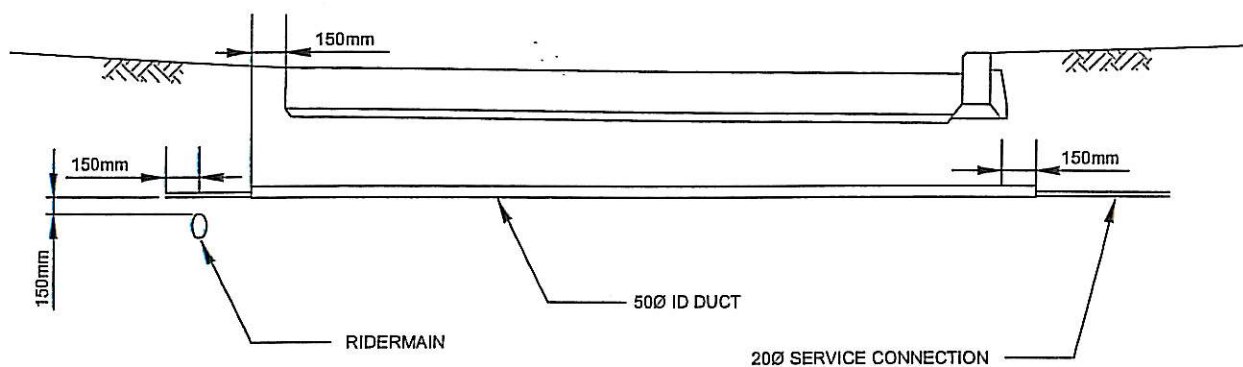
SERVICE CONNECTION INSTALLATION

DATE:

AUGUST 2010

No:

W 9



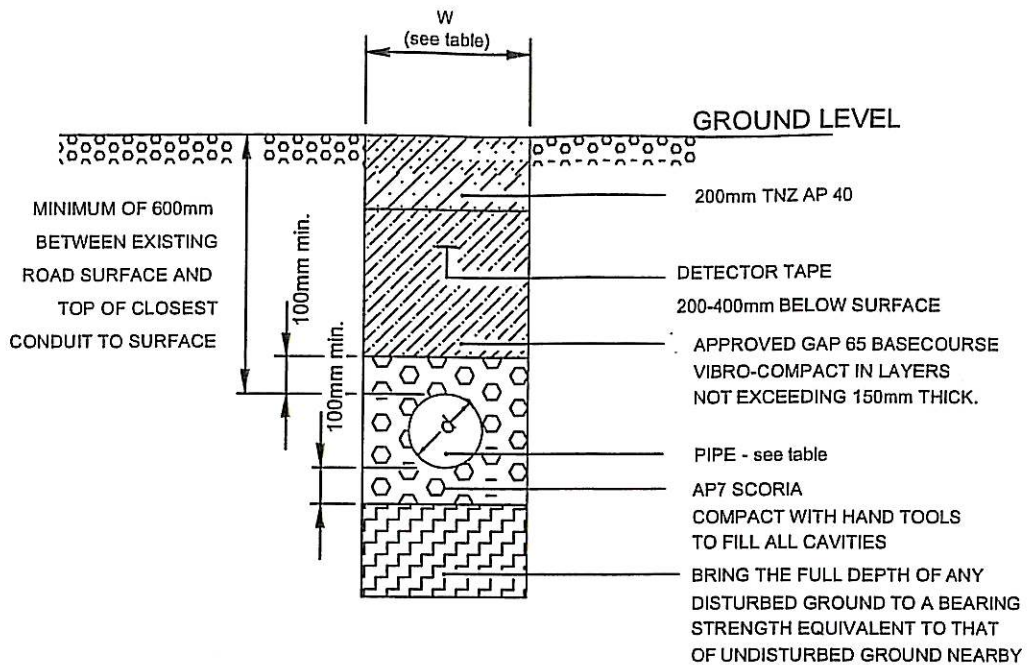
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STANDARD DETAIL

DUCTED WATER CONNECTION

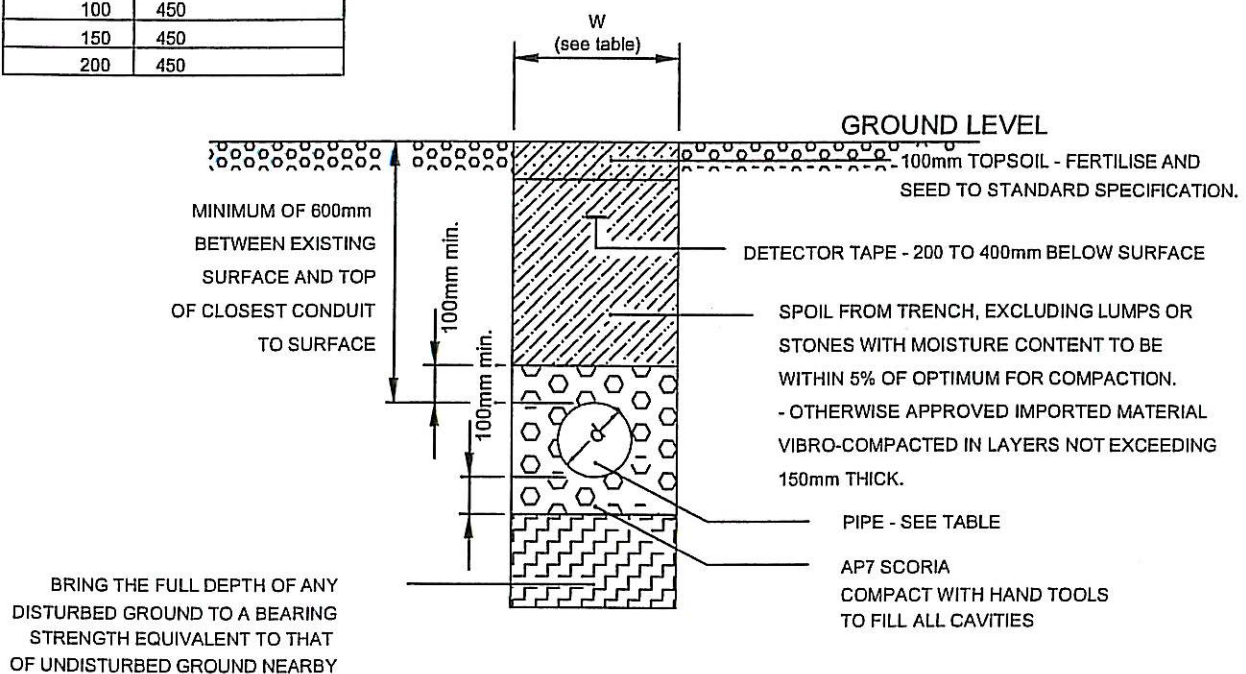
DATE: APRIL 2009

No: W 10



METALLED SURFACE AREAS

PIPE Ø (D)	TRENCH WIDTH (W)
50	300
100	450
150	450
200	450



GRASSED AREAS



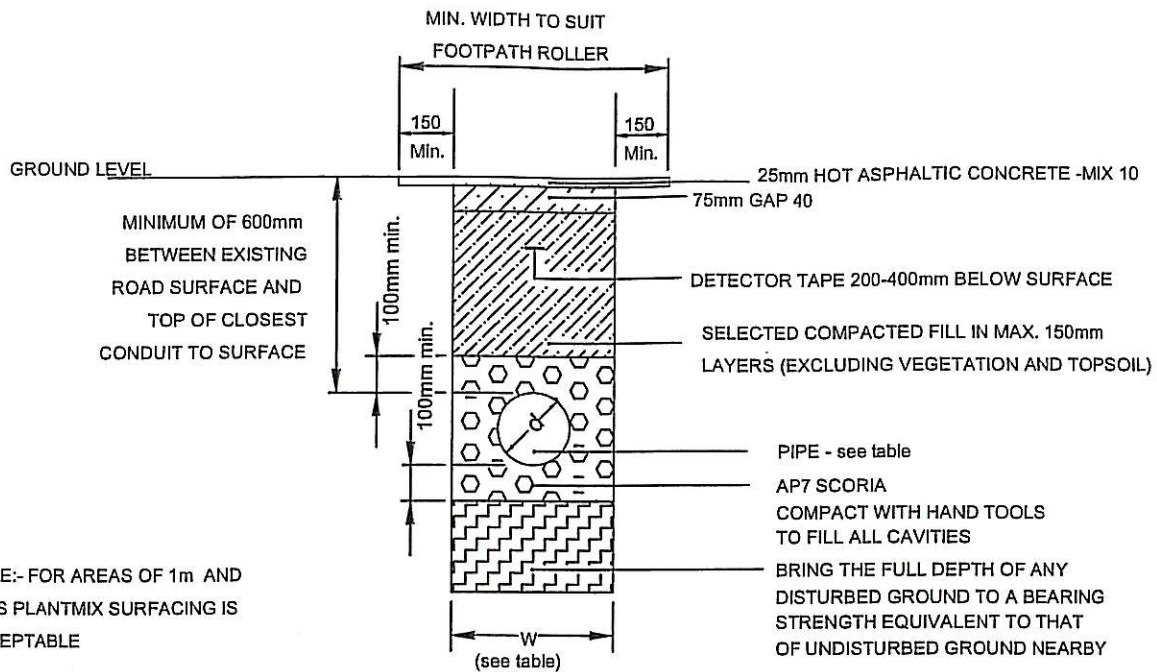
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DATE: APRIL 2009

No: W 11

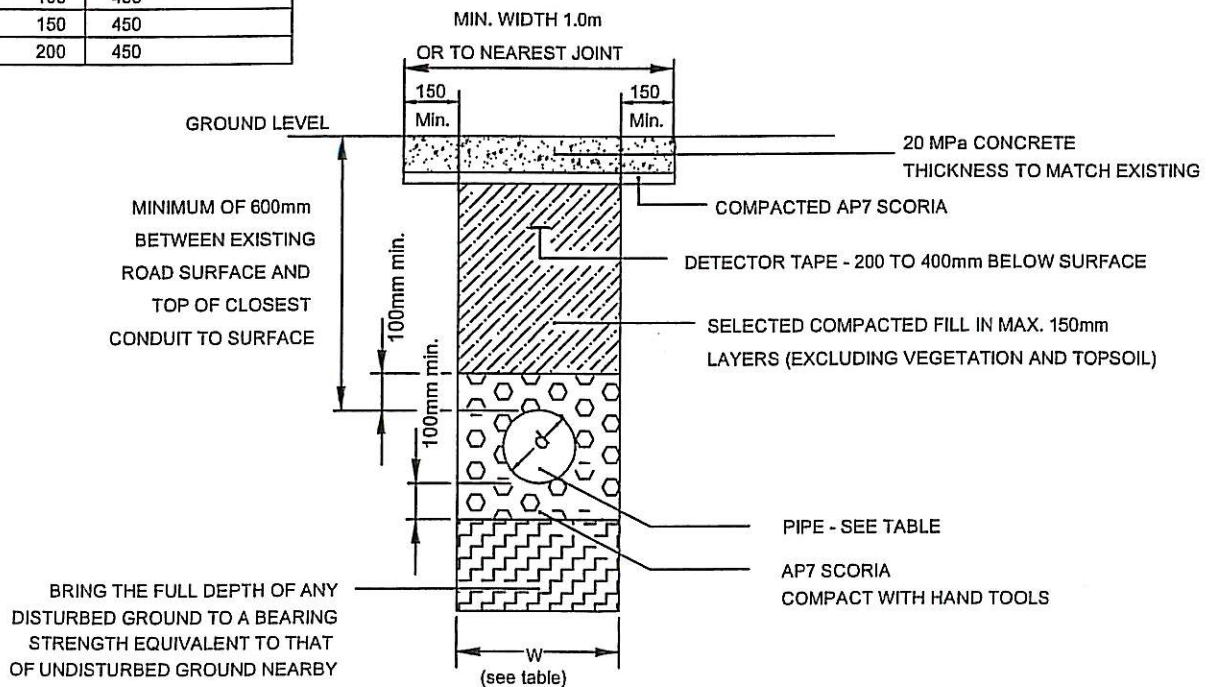
STANDARD DETAIL

REINSTATEMENT AND PIPE BEDDING DETAILS WITHIN ROAD BOUNDARIES, METALLED & GRASSED AREAS



HOTMIX FOOTPATHS

Pipe Ø (d)	Trench Width (W)
50	300
100	450
150	450
200	450



CONCRETE FOOTPATHS



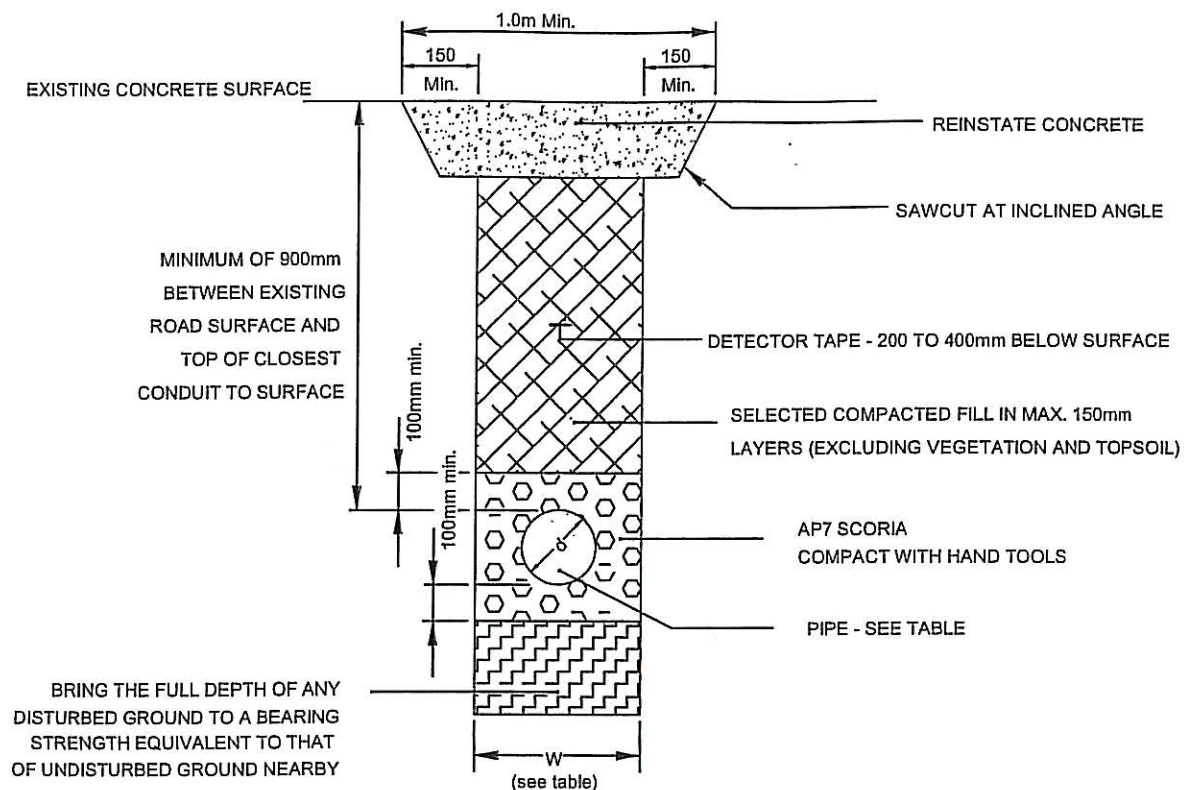
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DATE: APRIL 2009

No: W 12

STANDARD DETAIL

REINSTATEMENT AND PIPE
BEDDING DETAILS WITHIN ROAD
BOUNDARIES. CONCRETE &
HOTMIX FOOTPATHS.



CONCRETE VEHICLE CROSSINGS

PIPE Ø (D)	TRENCH WIDTH (W)
50	300
100	450
150	450
200	450



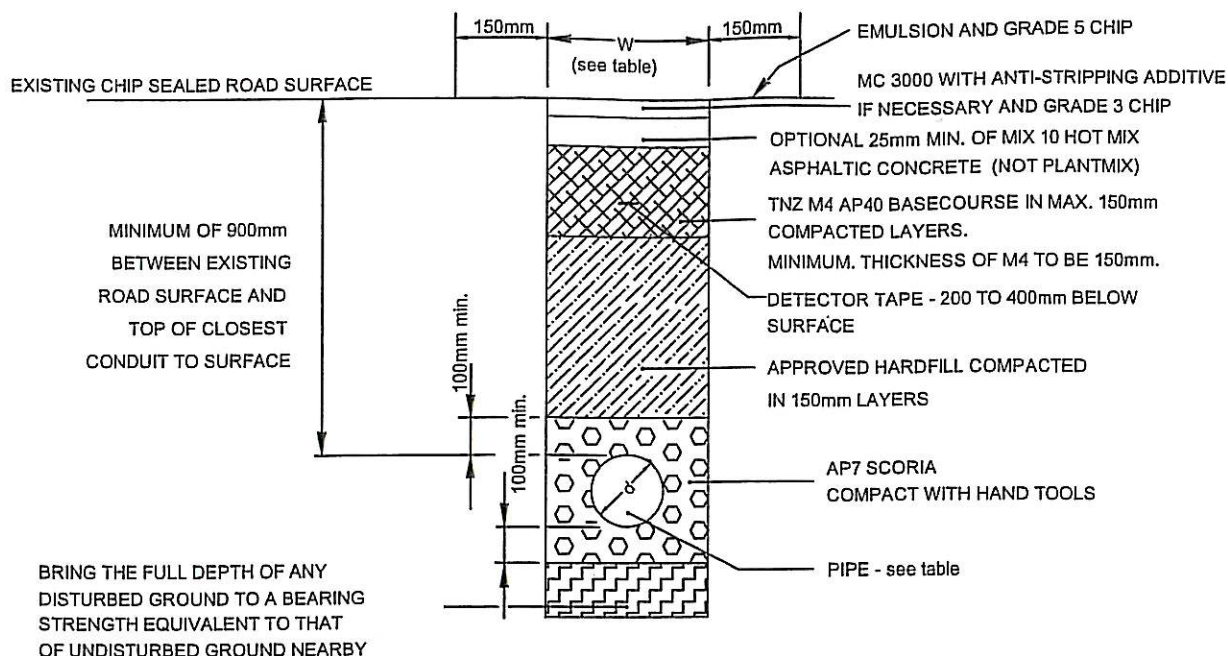
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DATE: APRIL 2009

No: W 13

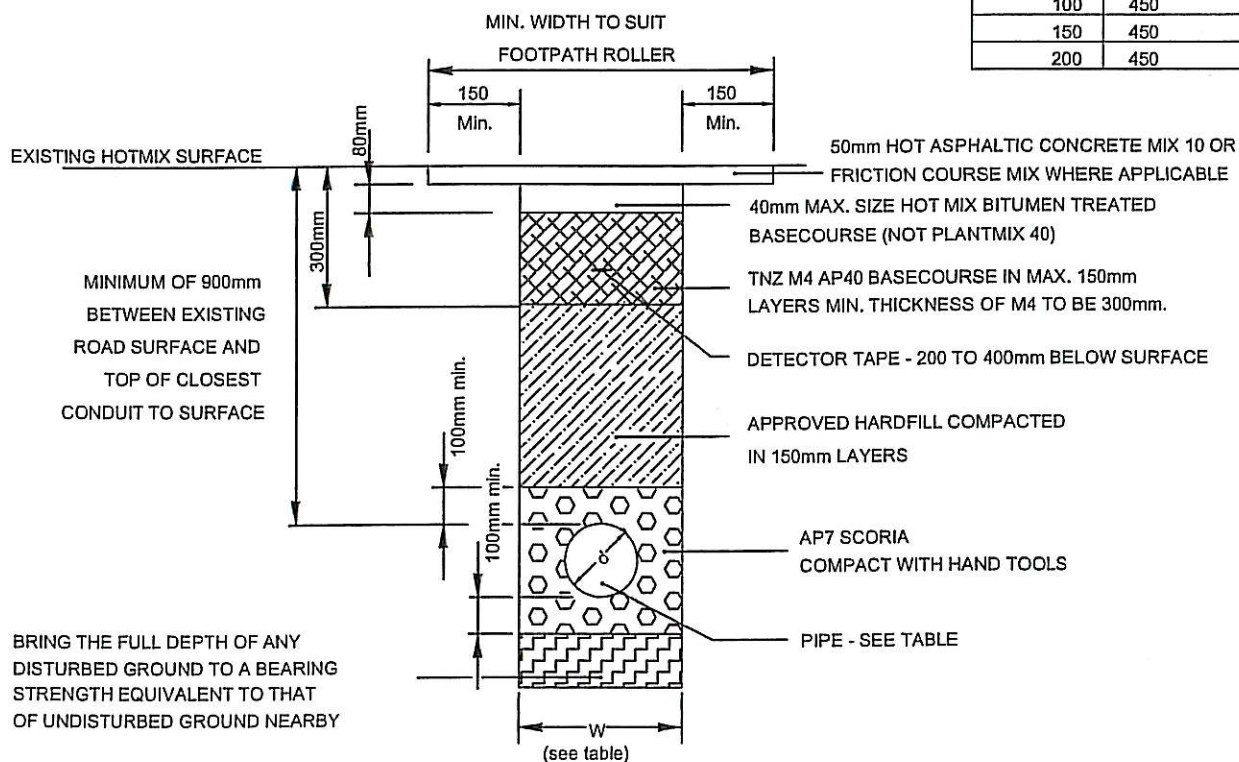
STANDARD DETAIL

REINSTATEMENT AND PIPE
BEDDING DETAILS - CONCRETE
CARRIAGEWAYS AND VEHICLE
CROSSINGS



CHIP SEALED CARRIAGEWAYS

PIPE Ø (D)	TRENCH WIDTH (W)
50	300
100	450
150	450
200	450



HOTMIX CARRIAGEWAYS



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DISTRICT COUNCIL

STANDARD DETAIL

REINSTATEMENT AND PIPE BEDDING
DETAILS: CHIP SEAL AND
HOTMIX CARRIAGEWAYS.

DATE: APRIL 2009

No: W 14