STANDARD DRAWINGS FOR WATER WORKS

CITY OF COFFS HARBOUR

DISCLAIMER Council shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, or consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

NOTE: THESE STANDARD DRAWINGS REPLACE ALL PREVIOUS ISSUES

DWG No.	DESCRIPTIONS	REVISION
W - 400 - 01	DRAWING INDEX - WATER	Rev 1 12/2024
W - 400 - 02	CONSTRUCTION NOTES - WATER	Rev 1 12/2024
W - 400 - 03	WATER MAIN CLEARANCE TO EXISTING SERVICES & FEATURES	Rev 1 12/2024
W - 400 - 04	STOP VALVE DETAILS - SHEET 1 OF 2	Rev 1 12/2024
W - 400 - 05	STOP VALVE DETAILS - SHEET 2 OF 2	Rev 1 12/2024
W - 400 - 06	HYDRANT DETAILS	Rev 1 12/2024
W - 400 - 07	AIR VALVE GENERAL ARRANGEMENT	Rev 1 12/2024
W - 400 - 08	AIR VALVE TEE THRUST RESTRAINT	Rev 1 12/2024
W - 400 - 09	AIR VALVE FL-FL & FL-BSP TRHEADED ADAPTORS	Rev 1 12/2024
W - 400 - 10	OFFSET AIR VALVE GENERAL ARRANGEMENT	Rev 1 12/2024
W - 400 - 11	TYCO DUAL AIR VALVE WITH NSW AV COVER	Rev 1 12/2024
W - 400 - 12	SCOUR VALVE DETAILS	Rev 1 12/2024
W - 400 - 13	CUL-DE-SAC WATER MAIN ARRANGEMENT	Rev 1 12/2024
W - 400 - 14	LONG & SHORT WATER SUPPLY SERVICE	Rev 1 12/2024
W - 400 - 15	DN20 - DN25 PROPERTY SERVICE DETAILS	Rev 1 12/2024
W - 400 - 16	DN40 - DN50 PROPERTY SERVICE DETAILS	Rev 1 12/2024
W - 400 - 17	DN80 OR LARGER PROPERTY WATER SERVICE DETAILS	REV 1 12/2024
W - 400 - 18	DN80 OR LARGER PROPERTY FIRE SERVICE DETAILS	Rev 1 12/2024
W - 400 - 19	TYPE 1 MARKER POST- 60Ø GALVANISED MARKER POST	Rev 1 12/2024
W - 400 - 20	TYPE 2 & 3 MARKER POST - CONCRETE & POWDERCOATED STEEL MARKER POST	Rev 1 12/2024
W - 400 - 21	WATER MAIN MARKER PLATES	Rev 1 12/2024
W - 400 - 22	VALVE IN-GROUND EARTHING RING DETAIL	Rev 1 12/2024
W - 400 - 23	HDPE TO DICL JOINTING	Rev 1 12/2024
W - 400 - 24	DESIGN MINIMUM REQUIREMENTS	Rev 1 12/2024
W - 400 - 25	WORK AS EXECUTED MINIMUM REQUIREMENTS	Rev 1 12/2024

LISTED BELOW ARE WATER SERVICES ASSOCIATION OF AUSTRALIA DRAWINGS ACCEPTED OR NOT ACCEPTED BY THE CITY.

WSA03 - 2011 CODE OF AUSTRALIA
PART 1: PLANNING AND DESIGN - THIRD EDITION - Ver. 3.1

WAT-1200	ACCEPTED AND INCORPORATED INTO STD DRG T-550-10
WAT-1201	ACCEPTED AND INCORPORATED INTO STD DRG T-550-02
WAT-1202	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1203	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1204	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1205	ACCEPTED
WAT-1206	NOT ACCEPTED BY CHCC
WAT-1207	MODIFIED TO CHCC STOP VALVE DETAIL STD DRG W-400-04
WAT-1208	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT -1209	MODIFIED AND INCORPORATED INTO STD DRG T-550-04
WAT-1210	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1211	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1212	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1213	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1214	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1300	ACCEPTED
WAT-1303	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1307	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1310	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1311	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1312	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1313	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1400	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1401	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1402	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1403	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT-1408	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)
WAT 1409	ACCEPTED HOWEVER NOT USED IN CHCC STANDARD DRAWING (DESIGN APPROVAL REQUIRED)

STANDARD NOTES - WATER

1. ALL WATER SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER THE CITY OF COFFS HARBOUR CITY STANDARD DRAWING W-400-14.
2. PVC PIPES TO BE MPVC OR OPVC CLASS 16 RRJ SERIES 2 AND COMPLY WITH AS/NZS 2977, BLUE IN COLOUR AND WITH ELASTOMERIC SEAL SPIGOT AND SOCKET JOINTS.
3. ALL DICL PIPEWORK TO BE CLASS PN35 R.R.J WITH FLANGE FITTINGS PN16 TO A.S.4087 FIG B5.
4. DICL ROAD CROSSINGS TO BE CLASS PN35 AND COMPLY WITH AS/NZ2280, PROTECTED BY 'BLUE" PE WRAPPING AND TO EXTEND MINIMUM 300mm BEHIND BACK OF KERB U.N.O.
5. DICL PIPE SHALL NOT BE CONNECTED INTO UPVC SOCKET JOINTS. CONNECTION TO BE MADE WITH LONG SLEEVE GIBAULT JOINT OR DI SOCKET, SHORT SLEEVE GIBAULT JOINTS NOT APPROVED FOR USE.
6. ALL GALVANISED BOLT, NUTS ON GIBAULTS AND HYDRANTS ETC. TO BE DENSO WRAPPED OR STAINLESS STEEL.
7. WATERMAINS TO BE LAID TRUE TO GRADE AT ALIGNMENT FROM BOUNDARY AS SHOWN ON STANDARD DRAWING R-210-04 & R-210-05 FOR NEW SUBDIVISION WORKS FOR 5000 & 6500 VERGE WIDTHS UNLESS NOTED OTHERWISE. MATCH EXISTING ALIGNMENT OF WATERMAINS FOR ESTABLISED EXISTING AREAS, TYPICALLY 2400 FROM BOUNDARY.
8. WATER MAINS AROUND CURVED BOUNDARIES TO BE LOCATED BETWEEN 2100 AND 2700 ALIGNMENT FROM BOUNDARY.
9. PIPES TO BE LAID IN FULL LENGTHS USING BENDS AND MAXIMUM DEFLECTION AS SPECIFIED BY MANUFACTURER.
10. MINIMUM DEPTH OF COVER OVER PIPE COLLARS IN ROADWAYS AND IN EMBANKMENTS IN ACCORDANCE WITH THE CITY'S STD DRG DRG. T-550-02. NOMINAL DESIREABLE MAXIMUM DEPTH OF COVER TO BE 1000mm FOR DN100 & DN150 RETICULATION MAINS UNLESS OTHERWISE DIRECTED.
11. WATER MAIN TO BE LAID SUCH THAT STORMWATER LINES ARE AVOIDED OR WATERMAIN TO PASS OVER STORMWATER PIPE WITH CLEARANCE SHOWN IN WSA. WHERE A NEW WATER MAIN IS REQUIRED TO PASS UNDER AN EXISTING STORMWATER PIPE THE WATERMAIN IS TO BE SLEEVED IN A MILD STEEL PIPE.
12. KERBS TO BE STAMPED DIRECTLY ABOVE WATERMAIN ROAD CROSSINGS. 'W" FOR MAINS CROSSINGS. "WS" FOR SERVICE CROSSINGS.
13. THE CONTRACTOR MUST LEAVE A CONSTRUCTION GAP OF MIN 600mm BETWEEN EXISTING WATER AND NEW WATER MAIN. THIS MAY REQUIRE THE INSTALLATION OF A TEMPORARY HYDRANT FOR LINE TESTING. FINAL CONNECTION TO EXISTING WATER MAIN IS TO BE MADE BY THE CONTRACTOR AFTER THE WORK AS EXECUTED DRAWINGS HAVE BEEN LODGED WITH THE CITY AND ALL TESTS HAVE BEEN CARRIED OUT AND APPROVED. THE FINAL CONNECTION WILL BE BY THE CITY (QUOTATION REQUIRED).
14. ELECTRICAL AND WATER CONDUITS ARE TO BE ON OPPOSITE BOUNDARIES ON EACH LOT. WHERE THIS IS NOT POSSIBLE 600mm SEPERATION BETWEEN WATER AND ELECTRICITY IS TO BE ACHIEVED.
15. THRUST BLOCKS AND ANCHOR BLOCKS ARE TO COMPLY WITH DESIGN THRUST SCHEDULE AND BE INSPECTED PRIOR TO PLACING CONCRETE AND PRIOR TO BACK FILLING (NOMINATED HOLDPOINT). BATCHED CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF AS NOMINATED ON DESIGN PLANS AT 28 DAYS.
16. CONTRACTOR TO CHECK ALL LEVELS PRIOR TO COMMENCEMENT OF WORK TO VERIFY DESIGN LEVELS.
17. DESIGN OMMISSIONS ON APPROVED STAMPED CONTRUCTION PLANS MUST BE RECTIFIED TO COMPLY WITH THE CITY'S TECHNICAL SPECIFICATION AND OR AS3500.
18. ALL PIPE WORK IS TO BE INSPECTED AND DOCUMENTED BY THE CITY AND THE SUPERINTENDENT PRIOR TO BACKFILL.
19. ALL ADDITIONAL HOLDPOINTS TO BE INSPECTED AND DOCUMENTED BY THE SUPERINTENDENT.
20. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
21. CONNECTIONS TO EXISTING WATER MAINS TO BE CARRIED OUT BY THE CITY AT THE PRINCIPALS COST. CONNECTIONS INTO EXISTING WATER MAINS BY THE CITY TO BE NOT LONGER THAN ONE PIPE LENGTH AND THE NEW MAIN IS TO BE LAID IN LINE HORIZONTALLY AND VERTICALLY WITH THE EXISTING MAIN.
22. ALL WATERMAINS THAT ARE SITUATED ON THE SAME SIDE AS THE FOOTPATH, SHALL HAVE THEIR FITTINGS POSITIONED TO BE CLEAR OF THE FOOTPATH. AN INSPECTION WILL BE CARRIED OUT BY THE SUPERINTENDENT PRIOR TO THE POURING OF THE CONCRETE FOOTPATH TO DETERMINE IF ANY REMEDIAL ACTION IS NECESSARY.
23. EVENLY TRIM ALL FOOTPATHS AFFECTED BY CONSTRUCTION, THEN TOPSOIL & LAY TURF. REMAINING DISTURBED AREAS ARE TO BE RESTORED WITH ORIGINAL TOPSOIL & SEEDED FOR GRASS.
24. PLACE MARKER POSTS & PLATES INDICATING SIZE, DEPTH & ALIGNMENT AT VALVES & CHANGES IN DIRECTION AND 200m INTERVALS ON STRAIGHT REACHES & PIPE ENDS ON PIPELINES.
25. PLACE MARKER PLATES INDICATING DEPTH & SIZE ON KERB FACE WHERE MAINS CROSS ROAD.
26. THE CITY SHALL BE CONTACTED MIN. 7 DAYS IN ADVANCE TO ARRANGE WATERMAIN SHUTDOWNS OR NOTIFICATIONS.
27. LAY BLUE COLOUR DETECTABLE TAPE OVER NEW WATER MAIN MINIMUM 150mm ABOVE TOP OF PIPE.
28. DICL PIPELINES TO BE WRAPPED IN APPROPRIATELY COLOURED POLYETHYLENE SLEEVING TO SPECIFICATION.
29. CONSTRUCTION SUPERVISOR TO NOTE CHANGES IN DEPTH & ALIGNMENT TO DESIGN & LOCATIONS OF NEW SERVICES ON PLAN & LONG SECTION WHEN WORK IS COMPLETED & TO FORWARD WORK AS EXECUTED DRAWINGS TO SUPERINTENDENT.
30. LOCATION OF EXISTING SERVICES IS INDICATIVE ONLY. IT IS THE SUPERVISOR'S RESPONSIBILITY TO CONFIRM LOCATION OF ALL EXISTING SERVICE LINES, INCLUDING WATER MAINS, TELECOMMUNICATION CABLES & ESSENTIAL ENERGY CABLES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND TO AVOID DISTURBANCE OF THESE SERVICES. THE SUPERVISOR IS TO CONTACT THE RELEVANT AUTHORITY IF CONFLICTS WITH EXISTING SERVICES OCCUR.
31. NEW PIPELINES ARE TO BE PRESSURE TESTED TO MIN.1200kPa HEAD PRIOR TO COMMISSIONING.
32. WHERE ACID SULPHATE SOILS HAVE BEEN IDENTIFIED THEY SHALL BE TREATED TO EPA GUIDELINES.

STOP VALVE & HYDRANTS

33. ALL HYDRANTS AND VALVES TO BE F.B.E. COATED
34. EACH STOP VALVE AND HYDRANT TO HAVE A WHITE POST AND MARKER PLATE.
35. STOP VALVES TO COMPY WITH THE CITY STANDARD DRAWINGS AND TO HAVE ANTI-CLOCKWISE CLOSING SPINDLES TO CONFORM TO BS 1218 CLASS I. ALL FITTINGS TO BE PROTECTED BY 'BLUE" PE WRAPPING.
36. VALVE COVERS TO BE WHITE AND KERBS ADJACENT TO VALVES TO BE MARKED WITH WHITE PAINT & OR MARKERS.
37. DISTANCE BETWEEN FINISHED SURFACE AND VALVE SPINDLE TO BE 150-300mm.
38. HYDRANTS TO COMPLY WITH THE CITY STANDARD DRAWING. MAXIMUM DISTANCE BETWEEN HYDRANTS 60 METRES.
39. PLACE HYDRANTS WHERE POSSIBLE AT LOT BOUNDARIES OR BEHIND KERB INLET PIT.
40. DISTANCE BETWEEN FINISHED SURFACE AND TOP OF HYDRANT TO BE 100-200mm
41. HYDRANTS BOX IN FOOTPATH OR PAVED AREAS TO BE CAST ON FOOTING AS PER THE CITY STANDARD DRAWING.W-400-06.
42. HYDRANT COVERS TO BE YELLOW AND KERBS ADJACENT TO HYDRANTS TO BE MARKED WITH YELLOW PAINT & OR MARKERS.
43. EACH HYDRANT TO BE MARKED WITH A BLUE DELINEATOR SET IN ROAD SURFACE AND 100mm OFFSET FROM ROAD CENTRELINE ON HYDRANT SIDE. REFER STD DRG W-400-21 FOR DETAILS.

Drawn	B.P.S					
Checked	C.B					
Approved	D.S.					
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STANDARD DRAWINGS

CONSTRUCTION NOTES

Council Plan No. W-400-02

Orig. Size A3

Revision 1

TABLE - CLEARANCES FOR WATER MAINS & UNDERGROUND SERVICES

EXISTING UTILITY SERVICE	MINIMUM CLEARANCE (mm)		
	HORIZONTAL		VERTICAL
	WATER MAIN DN 200 or less	WATER MAIN OVER DN 200 TO DN 375	ALL SITUATIONS
WATER MAINS OVER DN 375	600	600	150
WATER MAINS DN 375 AND UNDER	300 (c)	600	150
TELECOMMUNICATION CONDUITS AND CABLES	300 (c)	600	150
ELECTRICITY CONDUITS AND CABLES	500	1000	225
STORMWATER DRAINS	300 (c)	600	150
SEWERS	500/1000 (a)	500/1000 (a)	150 (d)
KERBS	300	450/600 (b)	-

(a) WHEN THE SEWER IS UP TO 500mm BELOW THE WATER MAIN, MAINTAIN 1000mm HORIZONTAL CLEARANCE. WHEN THE SEWER IS MORE THAN 500mm BELOW THE MAIN, MAINTAIN 500mm HORIZONTAL CLEARANCE.

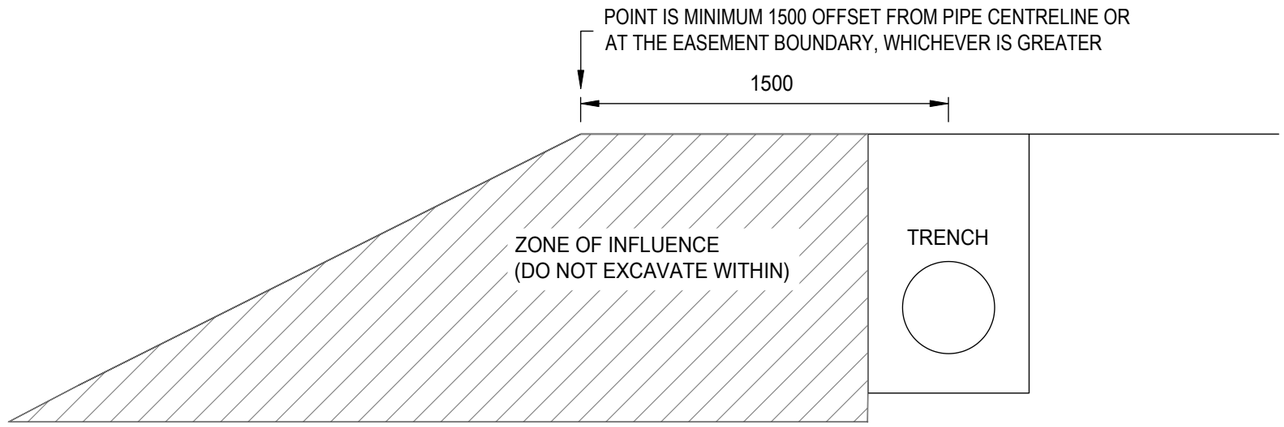
(b) THE LARGER THE SIZE, THE GREATER CLEARANCE IS REQUIRED FOR OPERATION AND MAINTENANCE. CLEARANCE FROM KERBS SHALL BE MEASURED FROM THE NEAREST POINT OF THE KERB.

(c) CLEARANCES CAN BE FURTHER REDUCED TO 150mm FOR DISTANCES UP TO 2000mm WHEN PASSING INSTALLATIONS SUCH AS POLES, PITS AND SMALL STRUCTURES, PROVIDING THE STRUCTURE IS NOT DESTABILIZED.

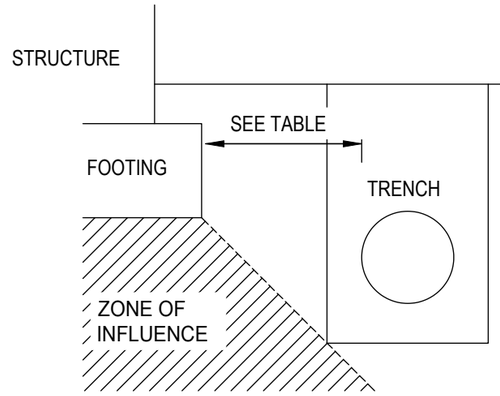
(d) WATER MAINS SHOULD ALWAYS CROSS OVER SEWERS. FOR CASES WHERE THERE IS NO ALTERNATIVE AND THE WATER MAIN MUST CROSS UNDER THE SEWER, CONSTRUCTION SHALL BE CONCRETE ENCASED IN ACCORDANCE WITH WSA DRAWING WAT-1204. CLEARANCE TO ENCASING SHOULD BE 150mm MINIMUM.

NOTES:

1. THE MINIMUM CLEARANCE REQUIREMENTS FROM UNDERGROUND SERVICES ARE SHOWN IN THE TABLE ABOVE. SERVICES SHOULD CROSS AT 90 DEGREES IF POSSIBLE BUT NOT LESS THAN 45 DEGREES
2. CLEARANCES FROM OTHER SERVICE UTILITY ASSETS SHOULD BE MAXIMIZED WHEREVER POSSIBLE.
3. WATER MAINS CONSTRUCTED FROM METALLIC MATERIALS SHALL NOT BE LOCATED WITHIN 30m (MEASURED HORIZONTALLY) OF OVERHEAD ELECTRICITY TRANSMISSION TOWERS OR POLES WITH VOLTAGE 66KV OR HIGHER



EXCAVATION OR EMBANKMENTS NEAR WATER MAINS



TYPCIAL WATER MAIN CLEARANCE FROM STRUCTURES	
PIPE DIAMETER DN (mm)	MINIMUM CLEARANCE TO WALL OR BUILDING
LESS THAN 100	600
100 TO 150	1000
200 TO 300	1500
375	2000

FOR ADDITIONAL GUIDANCE ON TRENCHING ADJACENT FOOTINGS REFER TO STD DRG T-550-06

FOR WATER MAINS LOCATED CLOSE TO EXISTING STRUCTURES SUCH AS FOUNDATIONS FOR BUILDINGS AND RETAINING WALLS, THE ON GOING STABILITY OF THE STRUCTURE NEEDS TO BE MAINTAINED. THE LOCATION SHALL BE CLEAR OF THE "ZONE OF INFLUENCE" OF THE STRUCTURE FOUNDATIONS TO ENSURE THE STABILITY OF THE STRUCTURE IS MAINTAINED AND THAT EXCESSIVE LOADS ARE NOT IMPOSED ON THE WATER MAIN. REFER TO THE CITY'S POLICY "CONSTRUCTION IN THE VICINITY OF AND PROTECTION OF COUNCIL UNDERGROUND ASSETS PROCEDURE (PRO-091 13/02/2018) FOR FURTHER LIMITATIONS.

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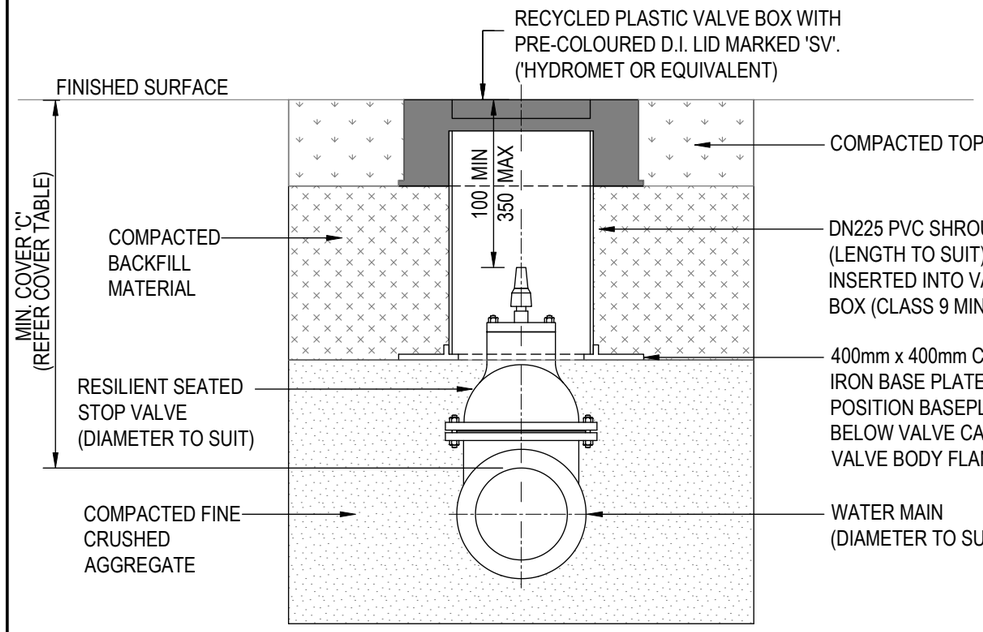
STANDARD DRAWINGS

WATER MAIN CLEARANCE TO EXISTING SERVICES & FEATURES

Council Plan No. W-400-03

Orig. Size A3

Revision 1



STOP VALVES (WITH NO VEHICULAR LOADING)

SCALE 1:10

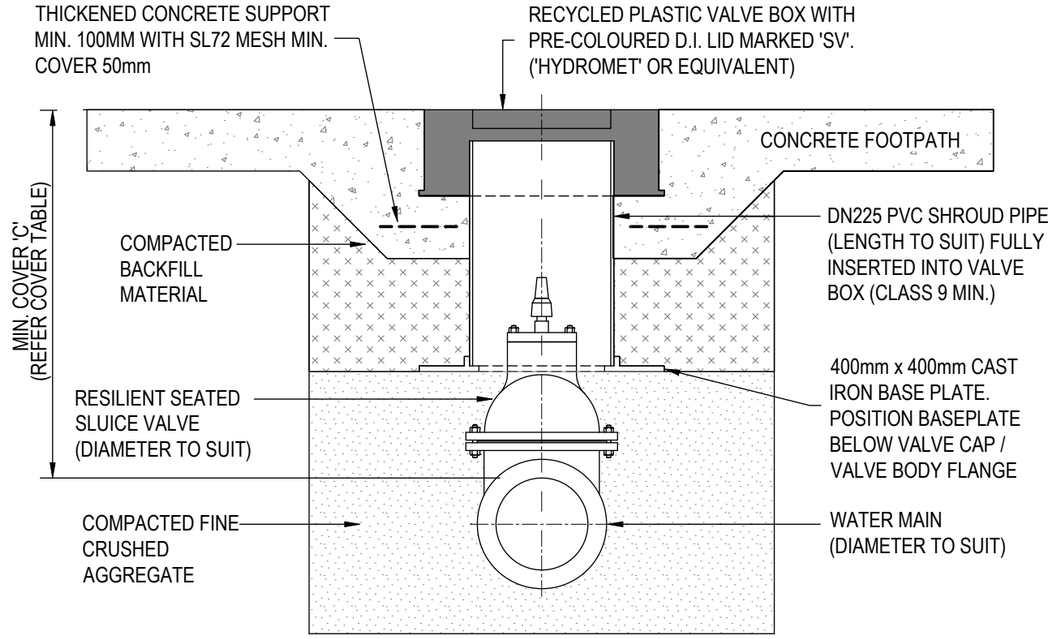
100 MIN

COVER TABLE

(FOR VERTICALLY PLACED VALVES)

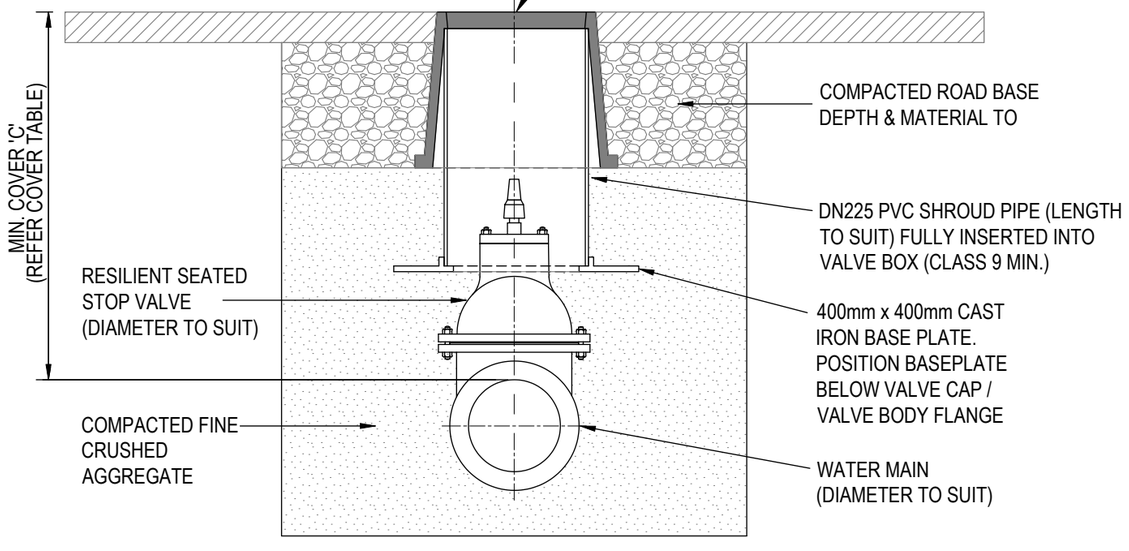
VALVE DIAMETER (mm)	MINIMUM COVER 'C' (mm)
100	500
150	550
200	630
250	730
300	810
375	980
450	1160
500	1285
600	1475
750	2000

(REFER TO SD-500-02 FOR ADDITIONAL COVER REQUIREMENTS)



STOP VALVES (IN CONCRETE FOOTPATH)

SCALE 1:10

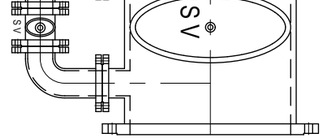


STOP VALVES (IN SEALED ROAD PAVEMENT)

SCALE 1:10

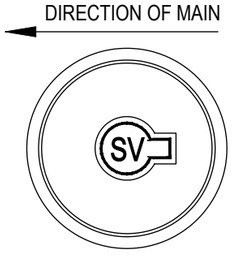
NOTES:

1. STOP VALVES ARE TO BE MANUFACTURED TO AS2638 WITH APPROVED THERMAL BONDED COATING TO AS4158.
2. STOP VALVES ARE TO HAVE RESILIENT SEATING AND BE COUNTER CLOCKWISE CLOSING FOR WATER. FOR SEWER RISING MAINS & REUSE WATER CLOCKWISE CLOSING VALVES ARE TO BE USED.
3. STOP VALVE LOCATION IS TO ALLOW ISOLATION OF 20 TO 40 DWELLINGS. IF STOP VALVES ARE NOT AT AN INTERSECTION THEY ARE TO BE LOCATED NOMINALLY IN THE CENTRE OF ALLOTMENT FRONTAGES & NOT ARE PERMITTED IN EXISTING OR FUTURE DRIVEWAYS.
4. VALVE THRUST TO BE RESTRAINED IN ACCORDANCE WITH STANDARD DRAWING SD-550-16
5. FOR IN-LINE VALVES, 100Ø & 150Ø SOC-SOC STOP VALVES COUNTER CLOCKWISE CLOSING WITH ANCHOR LUGS (PENTAIR CODE: VZ10ANCHORKIT OR APPROVED EQUIVALENT) TO BE USED. REFER TO T-550-22 FOR DETAILS. SPIGOT/SPIGOT STOP VALVES NOT APPROVED FOR USE WITHOUT CITY APPROVAL (IN BROWNFIELD SITES ONLY)
6. FOR STOP VALVES 200Ø AND GREATER, VALVE ARE TO BE FLANGED & THRUST RESTRAINT PROVIDE WITH A THRUST CONNECTOR WITH PUDDLE FLANGE.
7. IN URBAN AREAS, IN LIEU OF MARKER PLATES THE VALVE KERB ADJACENT TO EACH VALVE IS TO BE PAINTED WITH TWO (2) COATS OF APPROVED NONSLIP PAINT AS FOLLOWS :
   - VALVES - WHITE
   - VALVES CLOSED VALVES - RED
   - VALVES (REUSE) - LILAC
8. TO PREVENT THE TRANSFER OF TRAFFIC LOAD TO THE MAIN, ENSURE SHROUD AND ANY SHROUD SUPPORT RING DOES NOT COME IN CONTACT WITH THE GATE VALVE.
9. INSTALL AN EXTENSION SPINDLE WHERE DEPTH FROM SURFACE LEVEL TO TOP OF GATE VALVE EXCEEDS 350mm. REFER TO STD DRG W-400-05 FOR SPINDLE DETAILS.
10. DEPTH OF MAIN MAY BE LOCALLY INCREASED TO ACHIEVE REQUIRED MINIMUM VALVE SPINDLE COVER.
11. COVER OPENING IS TO BE CENTRED OVER THE STOP VALVE SPLINDLE
12. ALL DICL PIPE AND FITTINGS INCLUDING FCP STOP VALVES & TO BE COMPLETELY WRAPPED WITH BLUE LPS (LOOSE POLYETHYLENE SLEEVING)
13. COVER AND SURROUND IS TO BE SET TO MATCH FINISHED LEVEL OR SLOPE OF FOOTPATH



TYPICAL BYPASS VALVE FL R.S. STOP VALVE + BYPASS > 375Ø

AVK GATE VALVE PN16 + DN80 BYPASS OR APPROVED EQUIVALENT, PROVIDE BY-PASS FOR VALVES GREATER THAN 375Ø



STOP VALVE COVER

Drawn	B.P.S					
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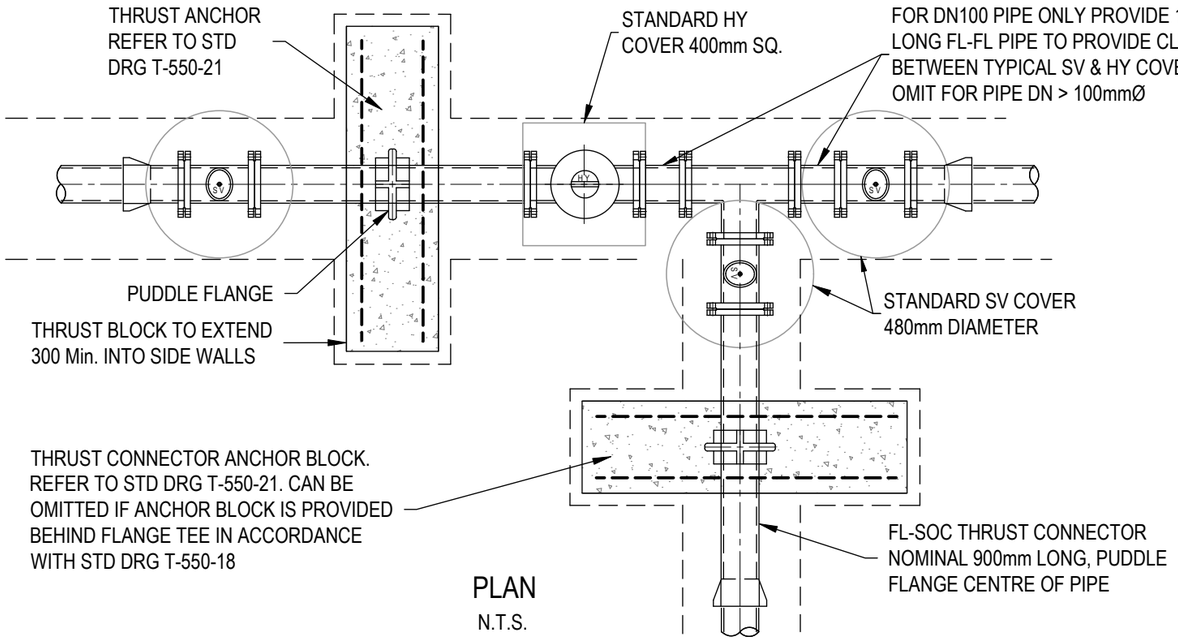
STANDARD DRAWINGS

STOP VALVE DETAILS - SHEET 1 OF 2

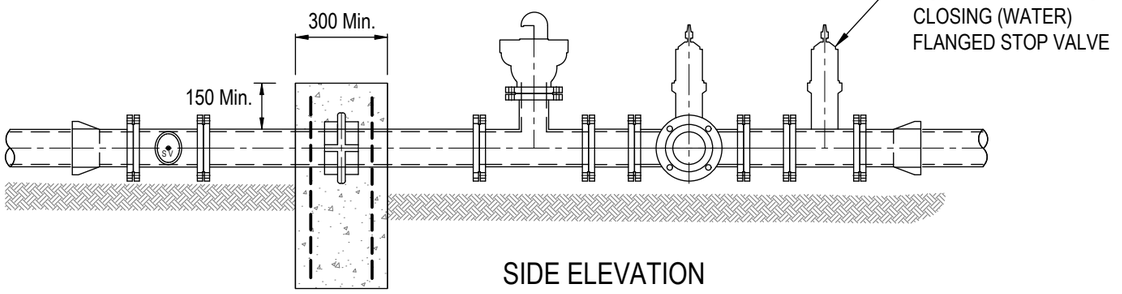
Council Plan No. W-400-04

Orig. Size A3

Revision 1

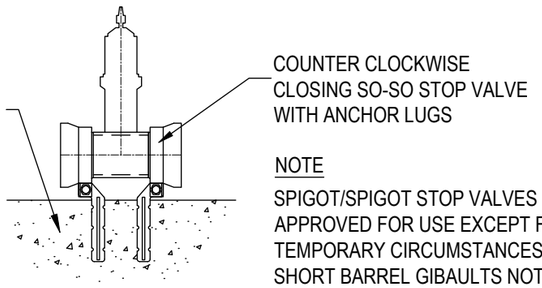


PLAN
N.T.S.



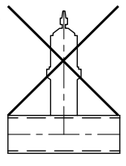
SIDE ELEVATION
N.T.S.

3 WAY STOP VALVE TEE ASSEMBLY WITH HYDRANT
(FOR 100mm & 150mm MAINS)



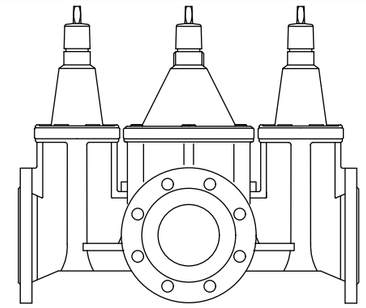
NOTE

SPIGOT/SPIGOT STOP VALVES NOT APPROVED FOR USE EXCEPT FOR TEMPORARY CIRCUMSTANCES. SHORT BARREL GIBAULTS NOT APPROVED FOR USE.



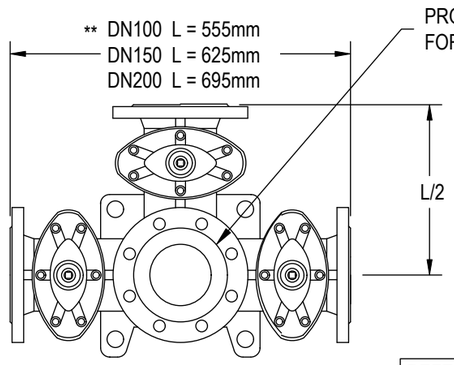
VALVE ANCHORAGE FOR IN LINE 100Ø AND 150Ø PIPES SO - SO ANCHORED STOP VALVE

(PENTAIR CODE: VZ10ANCHORKIT OR APPROVED EQUIVALENT)
(ONLY FOR DN100 AND DN150 PIPES)



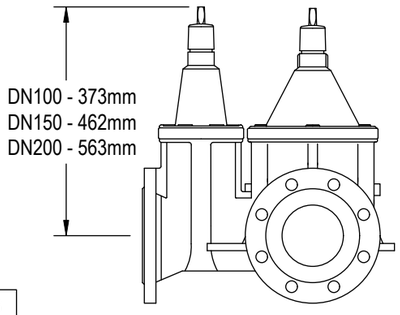
ELEVATION

**NOTE: APPROVED ALTERNATIVE COMBI 3 WAY VALVE WITH INTEGRAL HYDRANT RISER FOR DN100, DN150 & DN200 MAINS, "HAWLE" PART No. 4460E2 OR APPROVED



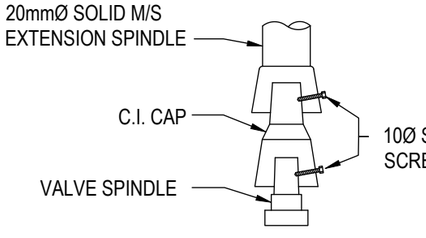
PLAN
SCALE 1:10

REFER TO STD DRG T-550- 23
FOR ANCHOR BLOCK DETAILS

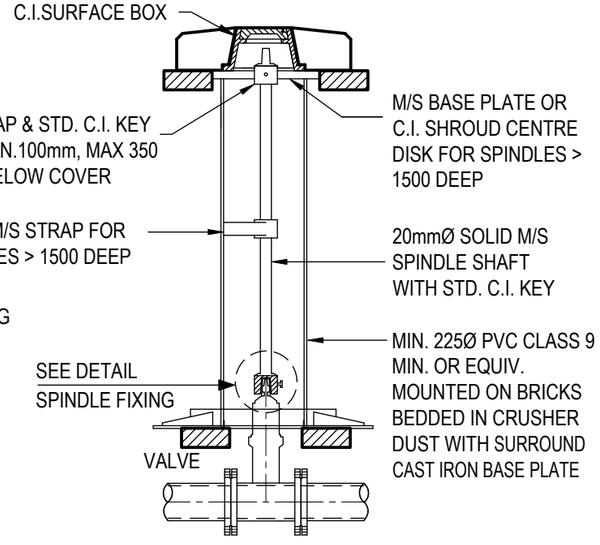


SIDE ELEVATION
SCALE 1:10

3 WAY COMBI VALVE WITH HYDRANT



DETAIL
SPINDLE FIXING



EXTENSION SPINDLE SHALL BE USED WHERE DEPTH FROM SURFACE LEVEL TO TOP OF VALVE EXCEEDS 350mm

EXTENSION SPINDLE

NOTES:

1. TO PREVENT THE TRANSFER OF TRAFFIC LOAD TO THE MAIN, ENSURE SHROUD AND ANY SHROUD SUPPORT RING DOES NOT COME IN CONTACT WITH THE GATE VALVE.
2. INSTALL AN EXTENSION SPINDLE WHERE DEPTH FROM SURFACE LEVEL TO TOP OF GATE VALVE EXCEEDS 350mm.
3. DEPTH OF MAIN MAY BE LOCALLY INCREASED TO ACHIEVE REQUIRED MINIMUM VALVE SPINDLE COVER.
4. COVER OPENING IS TO BE CENTRED OVER THE STOPVALVE SPLINDLE
5. ALL DICL PIPE AND FITTINGS INCLUDING FCP STOP VALVES & TO BE COMPLETELY WRAPPED WITH BLUE LPS (LOOSE POLYETHYLENE SLEEVING)
6. COVER AND SURROUND IS TO BE SET TO MATCH FINISHED LEVEL OR SLOPE OF FOOTPATH

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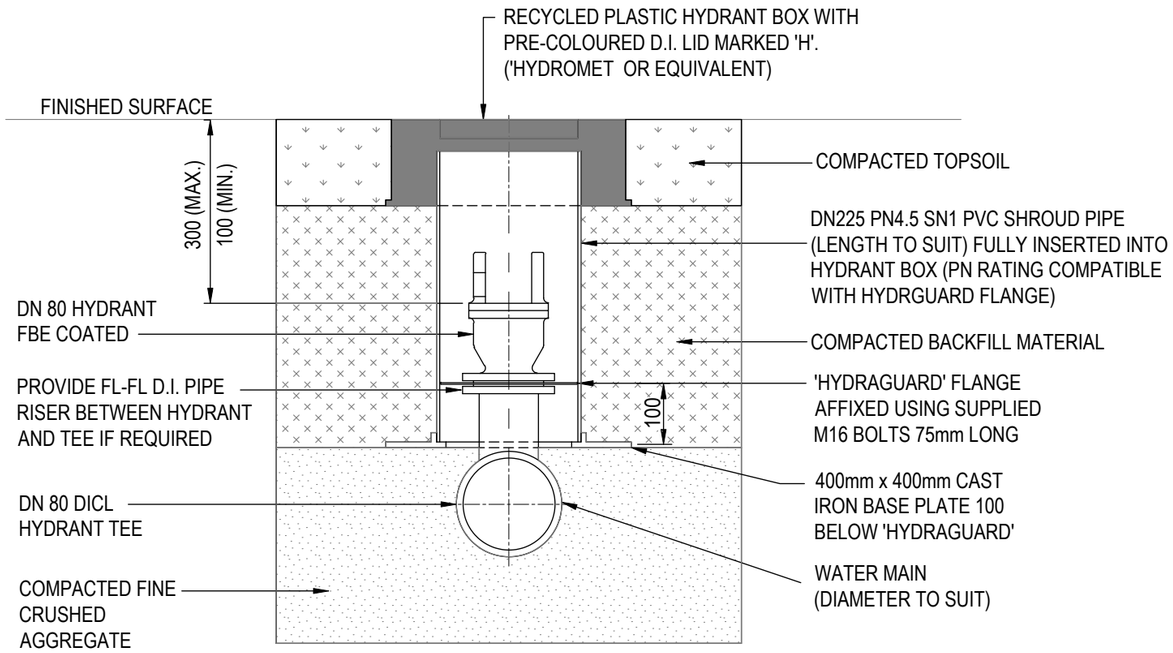
STANDARD DRAWINGS

STOP VALVE DETAILS - SHEET 2 OF 2

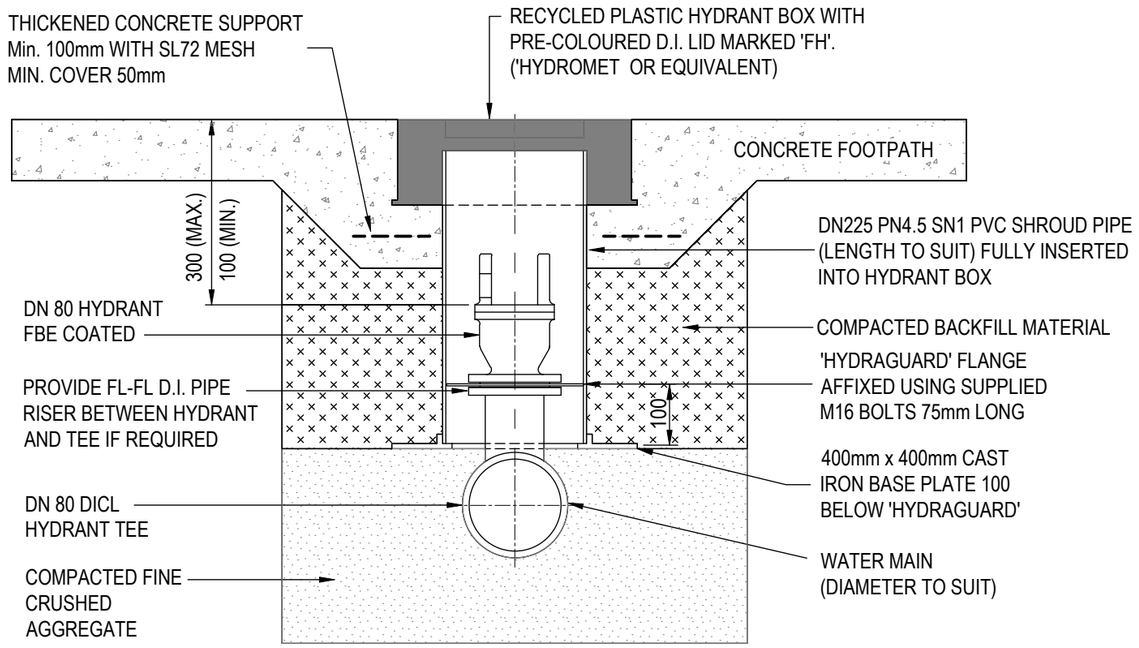
Council Plan No. W-400-05

Orig. Size A3

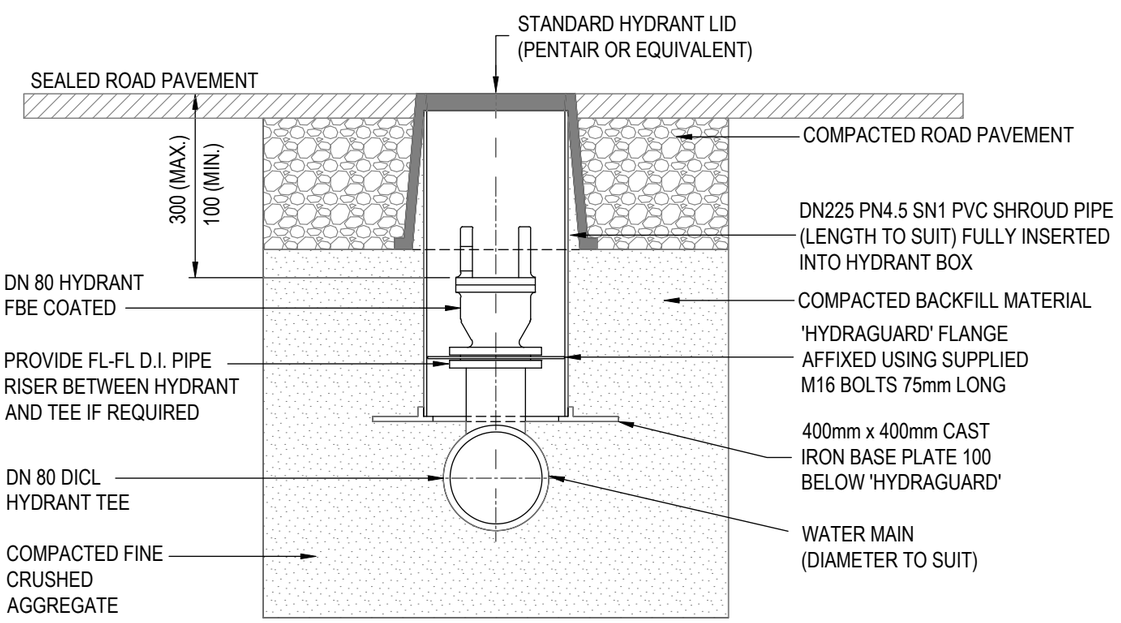
Revision 1



FIRE HYDRANTS (WITH NO VEHICULAR LOADING)



FIRE HYDRANTS IN CONCRETE FOOTPATH



FIRE HYDRANTS (IN SEALED ROAD PAVEMENT)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. HYDRANTS TO BE LOCATED AT ALL HIGH POINTS, LOW POINTS AND DEAD ENDS. DISTANCE BETWEEN HYDRANTS SHALL NOT EXCEED 60m. IN RETICULATION MAINS IN RESIDENTIAL / INDUSTRIAL AREAS. PLACE HYDRANTS WHERE POSSIBLE AT LOT BOUNDARIES OR BEHIND KERB INLET PIT.
3. TO PREVENT THE TRANSFER OF TRAFFIC LOAD TO THE MAIN, ENSURE SHROUD AND ANY SHROUD SUPPORT RING DOES NOT COME IN CONTACT WITH THE HYDRANT.
4. PROVIDE HYDRANT RISERS WHERE REQUIRED TO ACHIEVED DEPTH FROM FINISHED SURFACE LEVEL TO TOP OF HYDRANT BETWEEN 100 - 200mm
5. DICL PIPES AND FITTINGS WITH BITUMINOUS EXTERNAL COATING TO BE PROTECTED WITH LOOSE POLYETHYLENE SLEEVING INCLUDING FCP STOP VALVES.
6. ANT GUARDS ARE TO BE PROVIDED FOR HYDRANT ASSEMBLIES. INSTALL 'HYDRAGUARD' DISC AND GASKETS FOR ALL NEW WORK. FOR EXISTING HYDRANTS INSTALL 'RETROGUARD' PLATE. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS. HYRAGUARD DISC ARE COMPATIBLE WITH DN225 PN4.5 PVC SHROUD.

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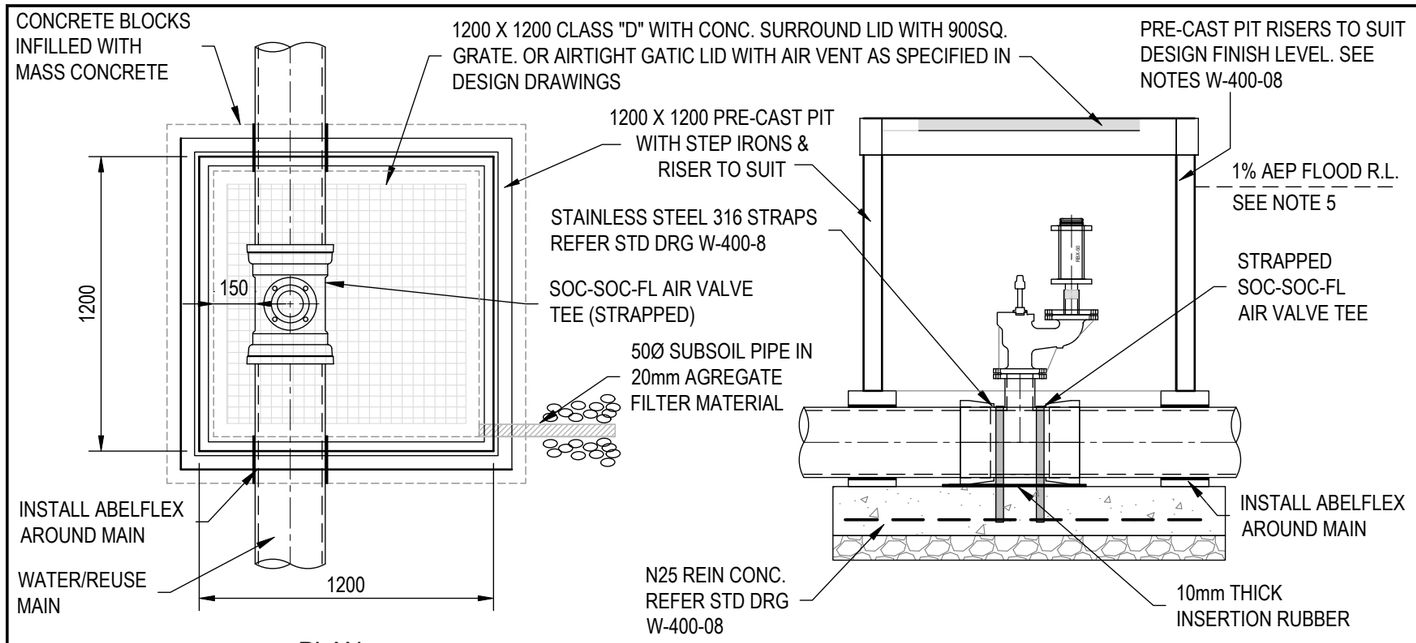
STANDARD DRAWINGS

HYDRANT DETAILS

Council Plan No. W-400-06

Orig. Size A3

Revision 1

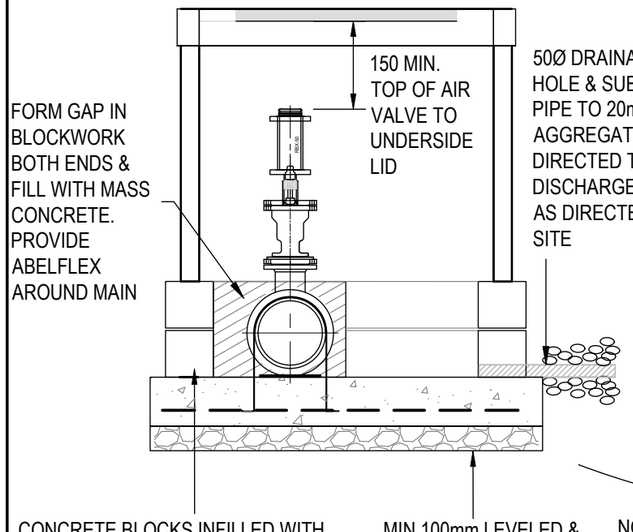


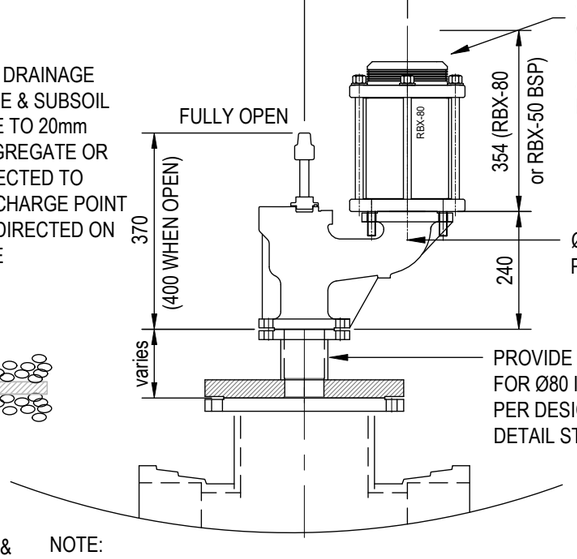
A.V. PIT - GENERAL ARRANGEMENT

TABLE 1. - PIPE & NOMINAL AIR VALVE SIZES

PIPE A.V. TEE NOM.Ø	WATER A.V TYPE & ADAPTOR	ISOLATION VALVE	COMMENT
DN150-DN80 TEE (3)	DN25 SCREWED VENTOMAT "RBX 25Y1" OR EQUIV. WITH DN100 OR DN80 FL - BSP DN25 THREAD FEMALE ADAPTOR.	TYPE 3 BALL VALVE	NOMINAL AIR VALVE SIZES FOR MAINS IN TABLE ARE A GUIDE SUBJECT TO DETAILED DESIGN ANALYSIS. SIZES SHOWN ARE BASED ON NOMINAL MAXIMUM PIPELINE VELOCITY OF 2m/s FOR VENTOMAT "RBX" AIR VALVES. AIR VALVE SIZING FOR OTHER MANUFACTURES TO BE CHECKED.
DN200-DN100 TEE		TYPE 2 - DN100 FL HYDRANT VALVE	
DN225-DN100 TEE			
DN250-DN100 TEE	DN50 SCREWED VENTOMAT "RBX 25Y1" OR EQUIV. WITH DN100 OR DN80 FL - BSP DN50 THREAD FEMALE ADAPTOR		
DN300-DN150 TEE			
DN375-DN200 TEE		TYPE 1 - DN80 FL HYDRANT VALVE	
DN450-DN250 TEE	DN80 FL WITH STUDS VENTOMAT "RBX 1631" OR EQUIV. WITH FL - FL ADAPTOR SEE DETAIL STD DRG W-400-09		
DN500-DN250 TEE			
DN600-DN300 TEE			

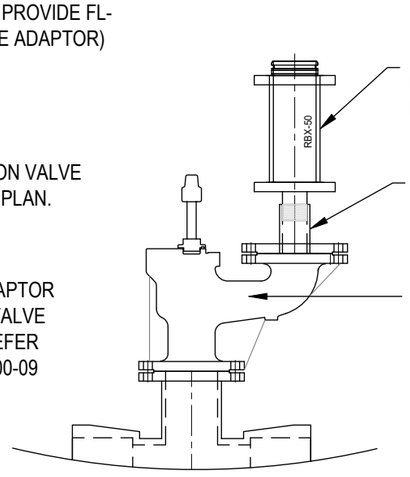
1. THIS PLAN SHOWS VENTOMAT "RBX" OR APPROVED EQUIVALANT AIR VALVES FOR WATER / REUSE MAINS. FOR SEWER RISING MAINS VENTOMAT MODEL "RGX" ARE REQUIRED, REFER TO STD DRG S-500-15.
2. PROVIDE HYDRANT CONTROL VALVE / AIR VALVE ISOLATOR FOR Ø80, Ø100 FLANGED AIR VALVES. PROVIDE FLANGE - FLANGE ADAPTER TO SUIT TEE & AIR VALVE DIAMETER AS DETAILED ON STD DRG W-400-09. FL-FL ADAPTORS TO BE MILD STEEL WITH FUSION BONDED COATING OR STAINLESS STEEL.
3. PROVIDE BALL VALVE / AIR VALVE ISOLATOR FOR Ø25 BSB THREADED AIR VALVES AS TABLED. PROVIDE TAPPED BSP THREAD GRADE 316 STAINLESS STEEL IN BLANK FLANGE FITTING TO TEE FOR BALL VALVE
4. AIR VALVES SHALL BE SITED AT HIGH POINTS. CONSIDER PROVIDING AIR VALVES WHERE VERTICAL CHANGES OF GRADE ARE GREATER THAN 1 IN 7.
5. AIR VALVE PITS SHALL BE ABOVE 1% AEP FLOOD LEVEL. WHERE THIS CAN NOT BE ACHIEVED A SINGLE ACTING VALVE SHALL BE USED RATHER THAN A DUAL ACTING AIR VALVE.
6. DN200 & DN150 DISTRIBUTION MAINS WITHOUT WATER SERVICES REQUIRE AIR VALVES. FOR DN200 & DN150 MAINS WITH WATER SERVICES, AIR VALVES ARE NOT REQUIRED. CONSIDERATION OF HYDRANT SPACING SHALL BE MADE TO PROVIDE HYDRANTS ADJACENT HIGH POINTS AND LOW POINTS IN THE ALIGNMENT.





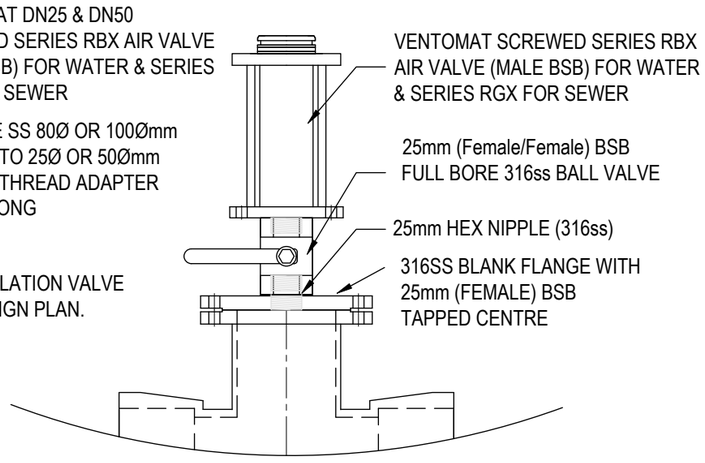
NOTE:
1. FOR FLANGED AIR VALVE 80Ø & 100Ø ONLY.
2. FOR MAINS Ø300 AND ABOVE PROVIDE SOC-SOC-FL TEE WITH FLANGED TEE EQUAL TO HALF OF PIPE DIAMETER

TYPE 1 - DN80 & DN100 FL AIR VALVE WITH HYDRANT ISOLATION VALVE FOR MAINS >=300



NOTE:
1. FOR 50Ø & 25Ø BSP THREAD AIR VALVE ONLY
2. FOR MAINS LESS THAN EQUAL TO DN250

TYPE 2 - DN50 BSP AIR VALVE WITH HYDRANT ISOLATION VALVE FOR MAINS <=DN250



NOTE:
1. FOR 25Ø BSP THREAD AIR VALVE ONLY, 50Ø SIMILAR
2. FOR DN150 DISTRIBUTION MAINS ONLY WITHOUT PROPERTY SERVICES

TYPE 3 - DN25 BSP AIR VALVE WITH BALL VALVE AIR VALVE FOR MAINS DN150

TYPICAL AIR VALVE ARRANGEMENTS

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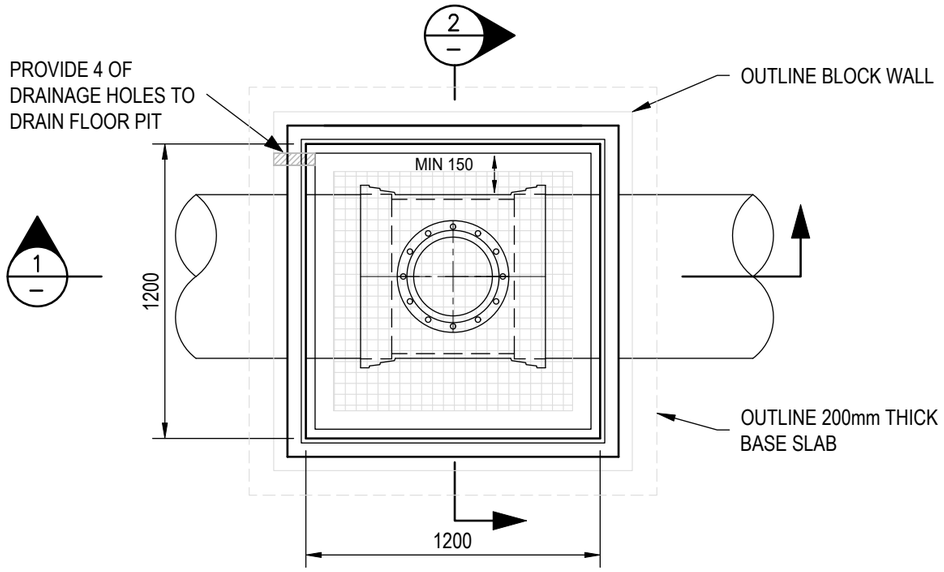
STANDARD DRAWINGS

AIR VALVE GENERAL ARRANGEMENT
SHEET 1 OF 3

Council Plan No. W-400-07

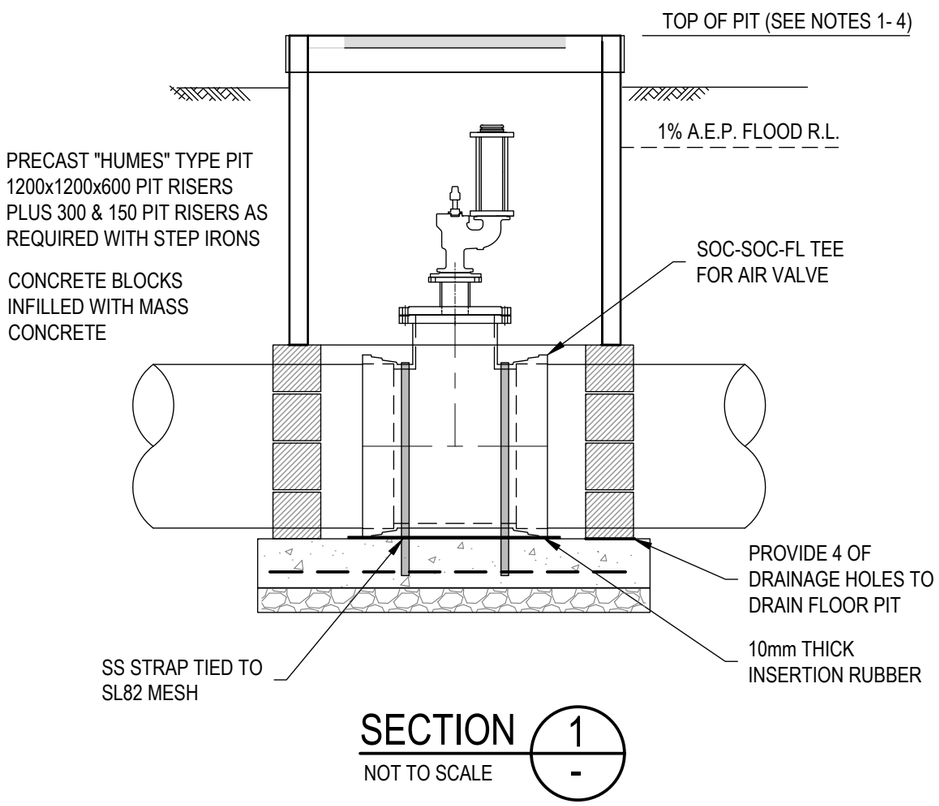
Orig. Size A3

Revision 1

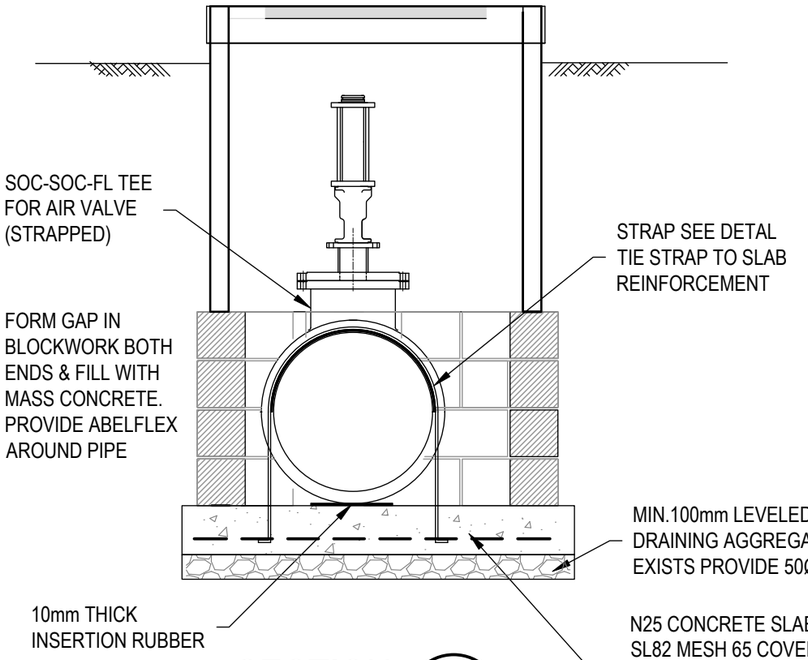


PLAN OF AIR VALVE TEE STRAPPED ANCHOR

DETAIL A
NOT TO SCALE



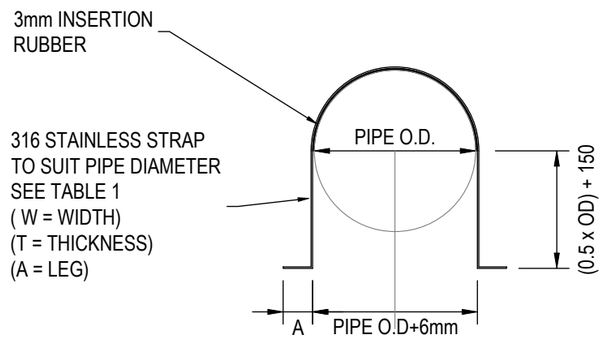
SECTION 1
NOT TO SCALE



SECTION 2
NOT TO SCALE

TOP OF PIT LEVEL

1. TOP OF AIR VALVE PIT TO BE DESIGNED 500mm ABOVE THE 1 IN 100 YEAR FLOOD HEIGHT.
2. SET CHAMBER TO BE 300mm ABOVE NATURAL SURFACE IN NON TRAFFICABLE AREAS.
3. SET CHAMBER TO BE 50mm ABOVE FINISHED SURFACE IN TRAFFICABLE AREAS.
4. SET CHAMBER TO BE FLUSH WITH EXISTING BITUMEN/CONCRETE IN ROADWAY AND FOOTPATHS.



PIPE STRAP DETAIL
ELEVATION
NOT TO SCALE

TABLE 1 - STRAPPED AIR VALVE TEE

		STAINLESS STEEL STRAP			200mm THICK BASE SLAB	
PIPE DN	PIPE O.D.	WIDTH (W)mm	THICKNESS (T)mm	LEG (A)mm	WIDTH (mm)	LENGTH (mm)
150	177	25	3	50	1600	1600
200	232	25	3	50		
225	259	25	3	50		
250	286	25	3	50		
300	345	25	5	75		
375	426	25	5	75		
450	507	50	5	75		
500	560	50	5	100	1800	1800
600	667	50	5	100		

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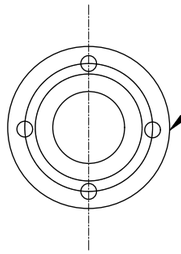
STANDARD DRAWINGS

AIR VALVE TEE THRUST RESTRAINT

Council Plan No. W-400-08

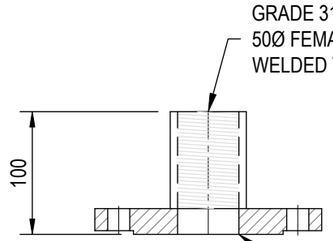
Orig. Size A3

Revision 1



STANDARD 80Ø OR 100Ø PIPE FLANGE AS PER DESIGN PLANS TO CONFORM TO AS4087 AND AS2129

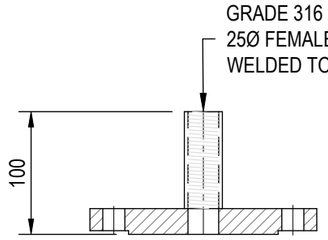
PLAN - TOP FLANGE



GRADE 316 STAINLESS STEEL 50Ø FEMALE BSP THREAD PIPE WELDED TO FLANGE

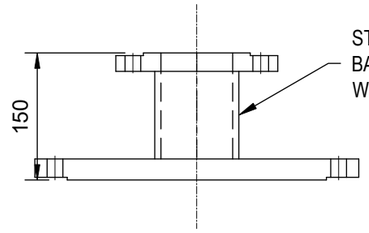
RAISED FLANGE WITH 50Ø INLET HOLE DRILLED CENTRALLY.

SECTION



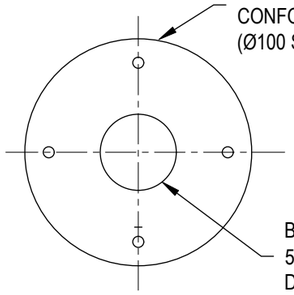
GRADE 316 STAINLESS STEEL 25Ø FEMALE BSP THREAD PIPE WELDED TO FLANGE

SECTION



STANDARD 80Ø OR100Ø PIPE BARREL AS PER DESIGN PLANS WELDED TO FLANGES

SECTION

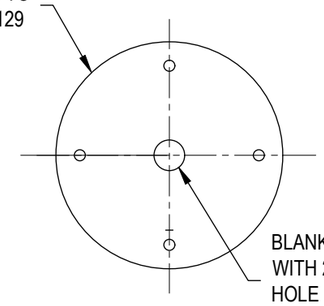


STANDARD Ø80 STAINLESS STEEL FLANGE AS PER DESIGN PLANS TO CONFORM TO AS4087 AND AS2129 (Ø100 SIMILAR)

BLANK FLANGE WITH 50Ø INLET HOLE DRILLED CENTRALLY.

DN80 FL - DN50 BSP
(Ø100 FL SIMILAR)

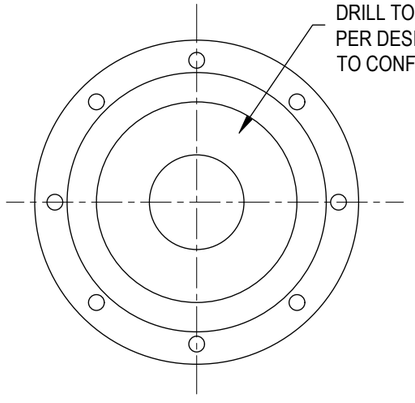
PLAN



BLANK FLANGE WITH 25Ø INLET HOLE DRILLED CENTRALLY.

DN80 FL - DN25 BSP
(Ø100 FL SIMILAR)

PLAN



STANDARD Ø PIPE BLANK FLANGE DRILL TO SUIT ADAPTOR RISER AS PER DESIGN PLANS.
TO CONFORM TO AS4087 & AS2129

PLAN - BOTTOM FLANGE

FL -FL ADAPTORS

GRADE 316 STAINLESS STEEL FLANGES & PIPEWORK OR MILD STEEL FUSION BONDED COATED TO AS4158

DETAIL A
SCALE 1:5
-

FL - B.S.P. THREAD ADAPTORS

PLAN - BOTTOM FLANGE

DETAIL B
SCALE 1:5
-

TABLE 1. - WATER MAIN AIR VALVE ADAPTORS

DICL AIR VALVE TEE	FL-FL ADAPTOR	FL-BSP ADAPTOR
DN150 - DN80	-	DN80 - DN25
DN200 - DN100	-	DN100 - DN25
DN225 - DN100	-	DN100 - DN25
DN250 - DN100	-	DN100 -DN50
DN300 - DN150	DN150 - DN80	DN80 - DN50
DN375 - DN200	DN200 - DN80	DN80 - DN50
DN450 - DN250	DN250 - DN80	-
DN500 - DN250	DN250 - DN80	-
DN600 - DN300	DN300 - DN80	-

TABLE 2. - SEWER RISING MAIN AIR VALVE ADAPTORS

DICL AIR VALVE TEE	FL-FL ADAPTOR	FL-BSP ADAPTOR
DN150 - DN100	-	DN100 - DN50
DN200 - DN100	-	DN100 - DN50
DN225 - DN100	-	DN100 - DN50
DN250 - DN100	-	DN100 - DN50
DN300 - DN150	DN150 - DN100	DN100 - DN50
DN375 - DN200	DN200 - DN100	DN80 - DN50
DN450 - DN250	DN250 - DN80	-
DN500 - DN250	DN250 - DN80	-
DN600 - DN300	DN300 - DN100	-

NOTE:

1. FL-FL ADAPTORS TO BE EITHER GRADE 316 STAINLESS STEEL FLANGES & PIPEWORK OR MILD STEEL FUSION BONDED COATED TO AS4158.
2. FL - B.S.P. THREAD ADAPTORS TO BE GRADE 316 STAINLESS STEEL BASE PLATE FLANGE WITH DN50 OR DN25 WELDED FEMALE BSP RISER
3. TABLE 1 SHOWS FL-FL & FL-BSP ADAPTORS FOR WATER MAINS FOR VENTOMAT RBX TYPE AIR VALVES.
4. TABLE 2 SHOWS FL-FL & FL-BSP ADAPTORS FOR SEWER RISING MAINS FOR VENTOMAT RGX TYPE AIR VALVES.
5. HYDRANT RISER MAY BE USED IN CONJUNCTION WITH FL-FL ADAPTORS TO MINIMISE DEPTH BELOW FINSHED SURFACE LEVEL OF AIR VALVES FOR DEEP INSTALLATIONS.
6. REFER TO DESIGN DRAWINGS FOR ISOLATION AIR VALVE TEE FL DIA., AIR VALVE DIA. SIZE & SUBSEQUENT FL-FL ADAPTOR DIMENSIONS
7. REFER TO STANDARD DRAWING S-500-17 FOR TYPICAL SEWER RISING MAIN AIR VALVE DETAILS.
8. REFER TO STANDARD DRAWING W-400-07 FOR TYPICAL WATER MAIN AIR VALVE DETAILS.

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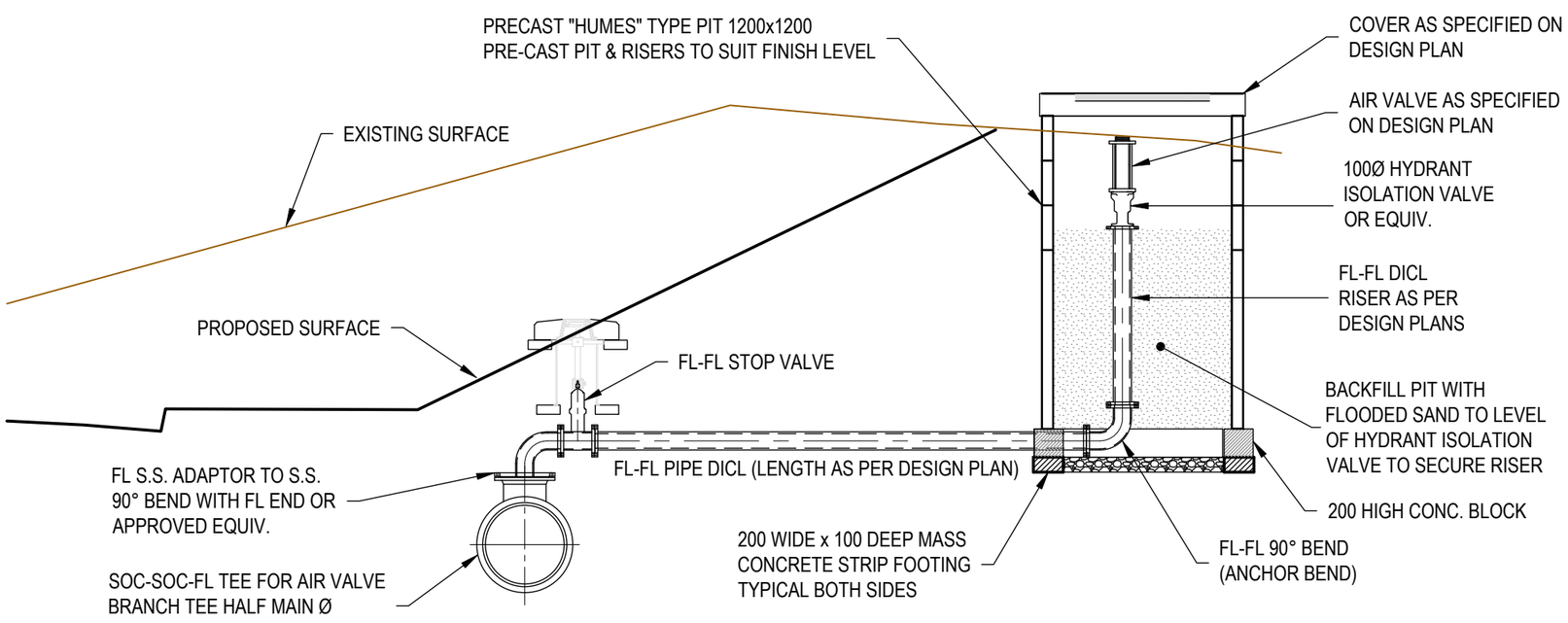
STANDARD DRAWINGS

TYPICAL DETAILS
AIR VALVE FL - FL AND FL - SBP THREAD ADAPTORS

Council Plan No.
W-400-09

Orig. Size A3

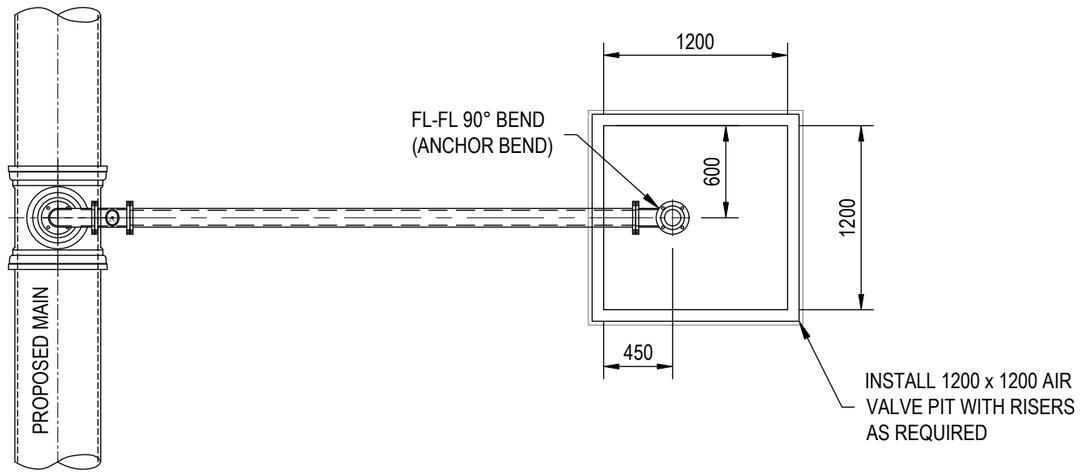
Revision 1



SECTION

NOTES:

1. THIS PLAN SHOWS TYPICAL GENERAL ARRANGEMENT FOR AN OFFSET AIR VALVE FOR INFORMATION PURPOSES ONLY.
2. PROVIDE STAINLESS STEEL FL-FL ADAPTOR 90° BEND OFF AIR VALVE TEE WITH STOP VALVE AS SHOWN.
3. PROVIDE FL-FL DICL PIPE AS PER DESIGN PLANS TO SUIT POSITION OF AIR VALVE PIT AS SHOWN
4. PROVIDE ANCHORED 90° FL - FL BEND WITH RISER TO SUIT TOP OF PIT LEVEL AS SHOWN. FOR RISERS OVER 750mm BACKFILL PIT WITH FLOODED SAND TO SECURE RISER.
5. INSTALL AIR VALVE & ISOLATION VALVE AS SPECIFIED ON PROJECT SPECIFIC DESIGN PLANS.



PLAN - TYPICAL OFFSET AIR VALVE

DETAIL A
SCALE 1:20 -

Drawn	B.P.S					
Checked	C.B					
Approved	D.S.					
Date	DEC 2024	1	ISSUED FOR USE	B.P.S	D.S.	12/2024
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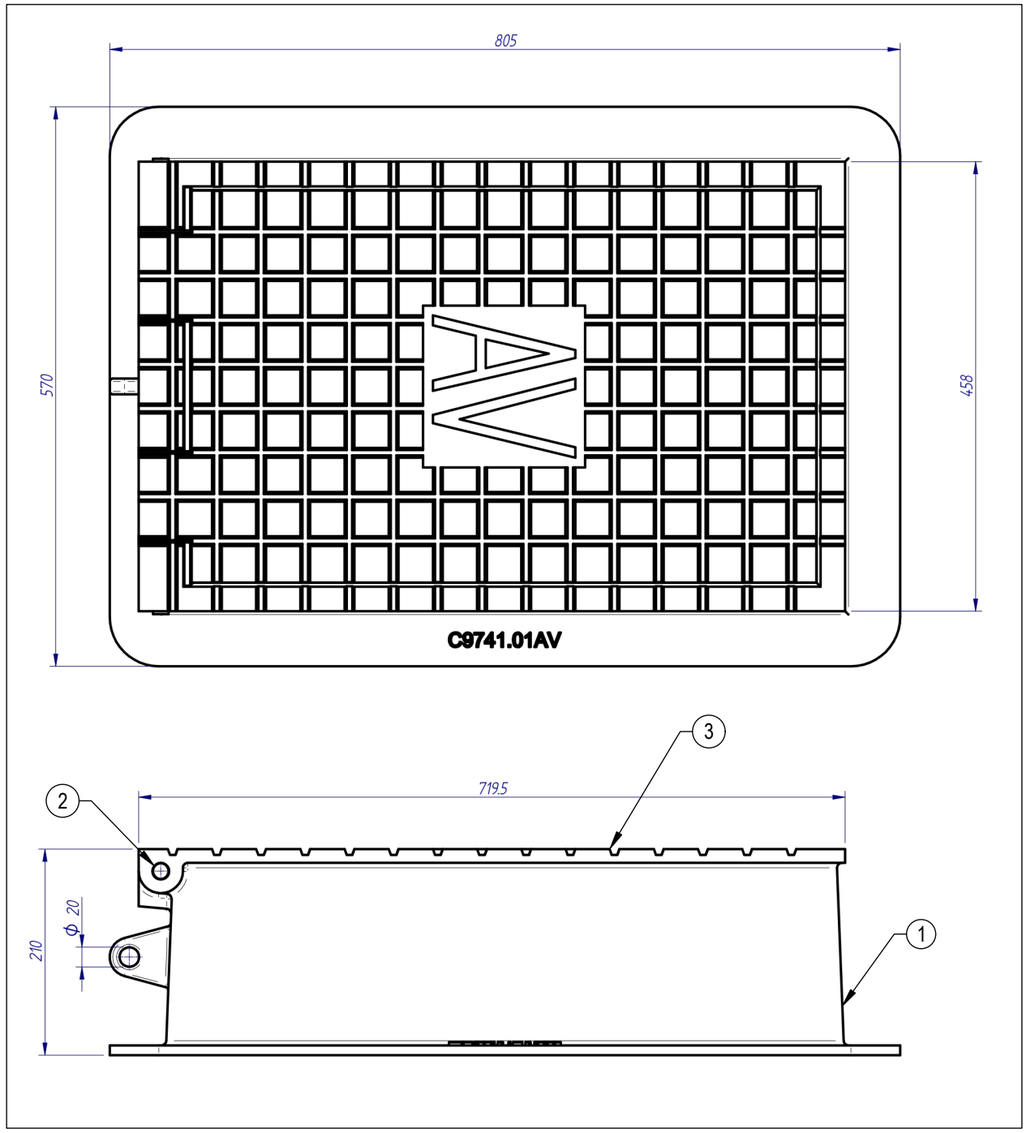
STANDARD DRAWINGS

OFFSET AIR VALVE GENERAL ARRANGEMENT

Council Plan No. W-400-10

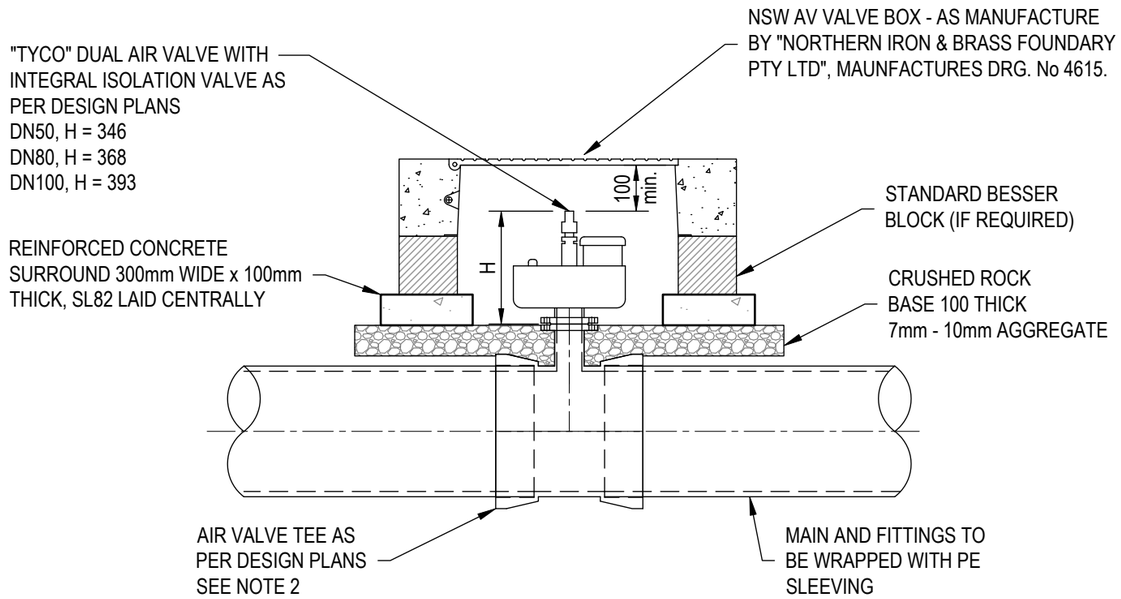
Orig. Size A3

Revision 1



NSW VALVE BOX - AV ASSEMBLY

ITEM No	DESCRIPTION	MATERIAL	MASS
1	NSW VALVE BOX AV BOX	DUCTILE IRON	53.3 kg
2	Ø16 x 464 HINGE PIN	MILD STEEL	0.7 kg
3	NSW VALVE BOX AV LID	DUCTILE IRON	35.2 kg



ELEVATION

NOT TO SCALE

TYPE 4 - FL "TYCO" DUAL AIR VALVE WITH INTEGRAL ISOLATOR VALVE

DETAIL A
N.T.S.
-

(NON STANDARD, USE SUBJECT TO CITY APPROVAL, SEE NOTE 1 & 3)

NOTES:

1. THIS PLAN SHOWS TYPICAL GENERAL ARRANGEMENT FOR "TYCO" DUAL AIR VALVE WITH INTEGRAL ISOLATION VALVE. USE OF THESE AIR VALVES IS INTENDED FOR SITUATIONS WHERE SITE CONSTRAINTS DO NOT PERMIT THE USE OF STANDARD AIR VALVE ASSEMBLIES AS SHOWN ON STD DRG W-400-07 AND IS SUBJECT TO CITY APPROVAL.
2. INSTALL STRAPPED AIR VALVE TEE TO ANCHOR BLOCK AS SHOWN ON DRG. W-400-08
3. AIR VALVE PITS SHALL BE ABOVE 1 IN 100 YEAR FLOOD LEVEL. WHERE THIS CAN NOT BE ACHIEVED, THE USE OF THESE DUAL AIR VALVES IS NOT PERMITTED
4. AIR VALVE SIZE AS SPECIFIED ON DESIGN PLANS.
5. INSTALL CAST IRON NSW AV VALVE BOX WITH CONCRETE SURROUND ON REINFORCED CONCRETE STRIP FOOTING WITH STANDARD CONCRETE BLOCKS (IF REQUIRED)

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Approved	D.S.					
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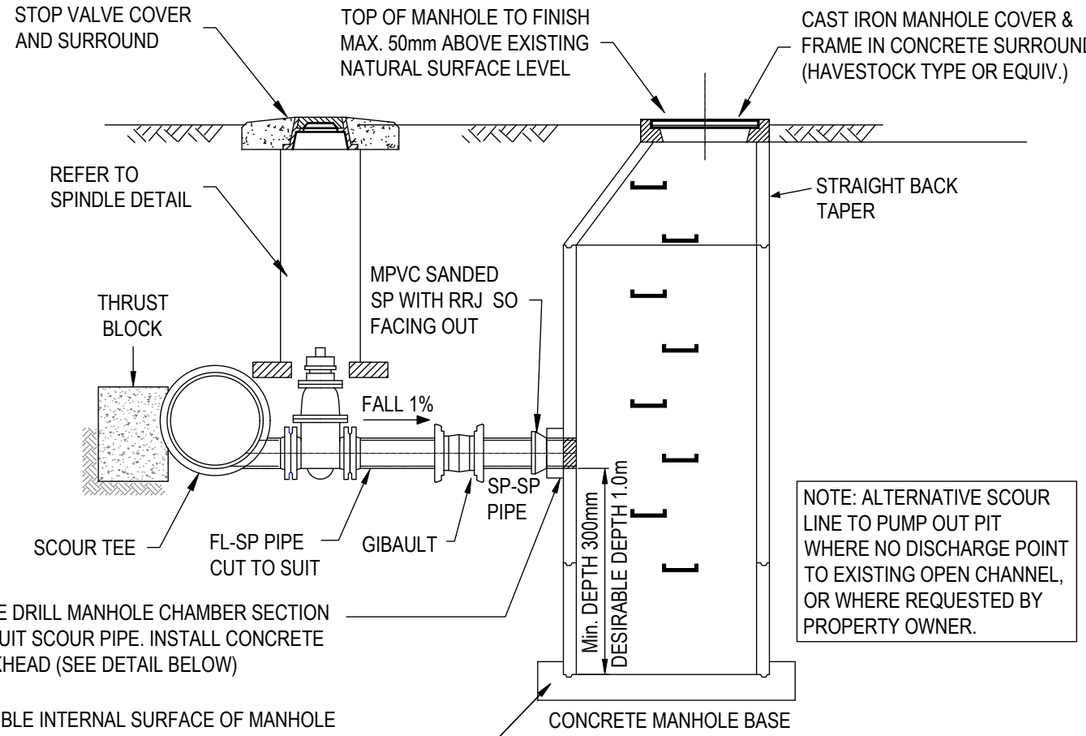
STANDARD DRAWINGS

TYCO DUAL AIR VALVE WITH NSW AV COVER

Council Plan No. W-400-11

Orig. Size A3

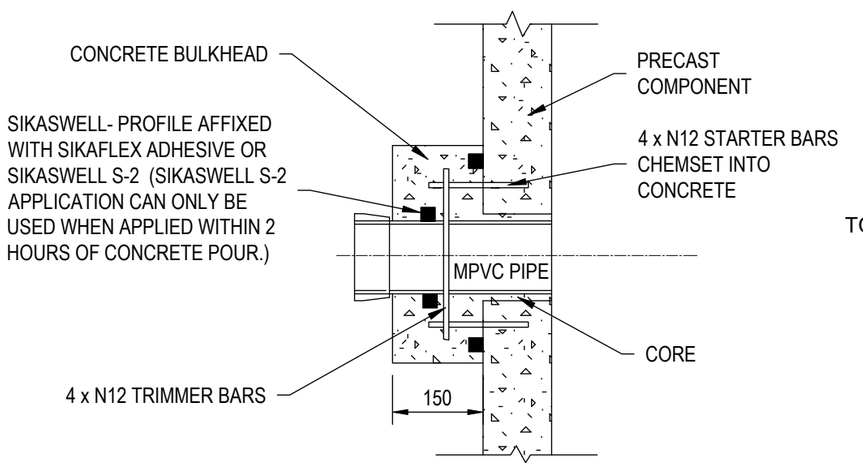
Revision 1



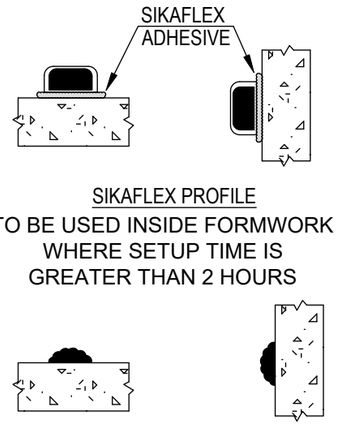
SECTION

TYPE 1

TYPICAL SCOUR FOR WATER PUMPOUT PIT DETAILS FOR MAINS ≥ 100 DIA.



CONCRETE BULKHEAD DETAILS

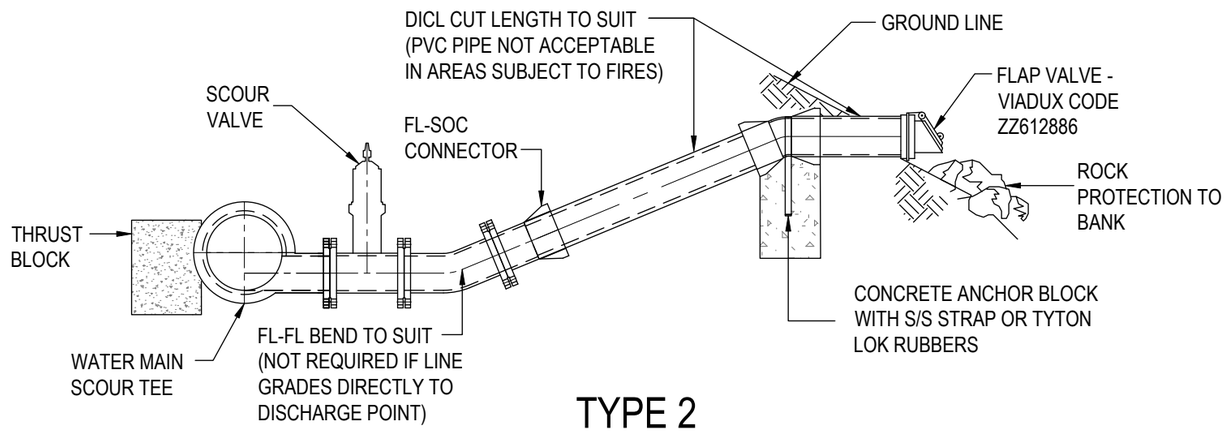


SIKAFLEX PROFILE

TO BE USED INSIDE FORMWORK WHERE SETUP TIME IS GREATER THAN 2 HOURS

SIKASWELL S-2

ONLY USE INSIDE FORMWORK WHERE SETUP TIME IS LESS THAN 2 HOURS

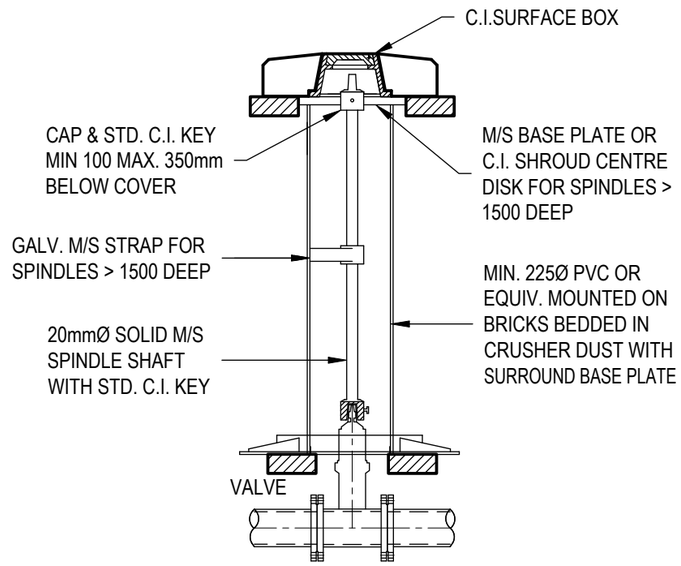


TYPE 2

TYPICAL DIRECT SCOUR LINE DETAILS TO WATERCOURSE FOR MAINS > 100 DIA.

(NOT TO BE USED FOR REUSE MAINS)

**NOTE: WHERE SCOUR LINE CAN GRADE DIRECTLY A DISCHARGE POINT OMIT VERTICAL BENDS



EXTENSION SPINDLE SHALL BE USED WHERE DEPTH FROM SURFACE LEVEL TO TOP OF VALVE EXCEEDS 350mm

EXTENSION SPINDLE

NOTES:

1. TO PREVENT THE TRANSFER OF TRAFFIC LOAD TO THE MAIN, ENSURE SHROUD AND ANY SHROUD SUPPORT RING DOES NOT COME IN CONTACT WITH THE GATE VALVE.
2. INSTALL AN EXTENSION SPINDLE WHERE DEPTH FROM SURFACE LEVEL TO TOP OF GATE VALVE EXCEEDS 350mm.
3. DEPTH OF MAIN MAY BE LOCALLY INCREASED TO ACHIEVE REQUIRED MINIMUM VALVE SPINDLE COVER.
4. COVER OPENING IS TO BE CENTRED OVER THE STOPVALVE SPLINDLE
5. ALL DICL PIPE AND FITTINGS INCLUDING FCP STOP VALVES & TO BE COMPLETELY WRAPPED WITH BLUE (WATER) OR LILAC (REUSE) LPS (LOOSE POLYETHYLENE SLEEVING)
6. COVER AND SURROUND IS TO BE SET TO MATCH FINISHED LEVEL OR SLOPE OF FOOTPATH

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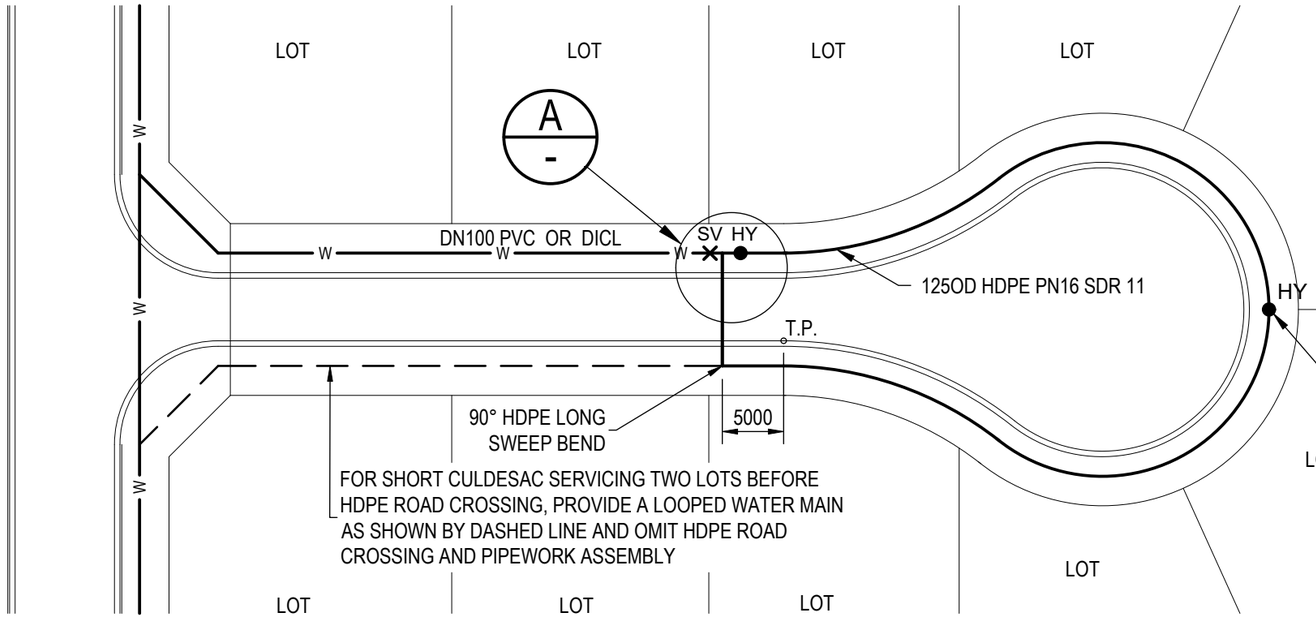
STANDARD DRAWINGS

SCOUR VALVE DETAILS

Council Plan No. W-400-12

Orig. Size A3

Revision 1



TYPICAL CUL-DE-SAC WATER MAIN ARRANGEMENT

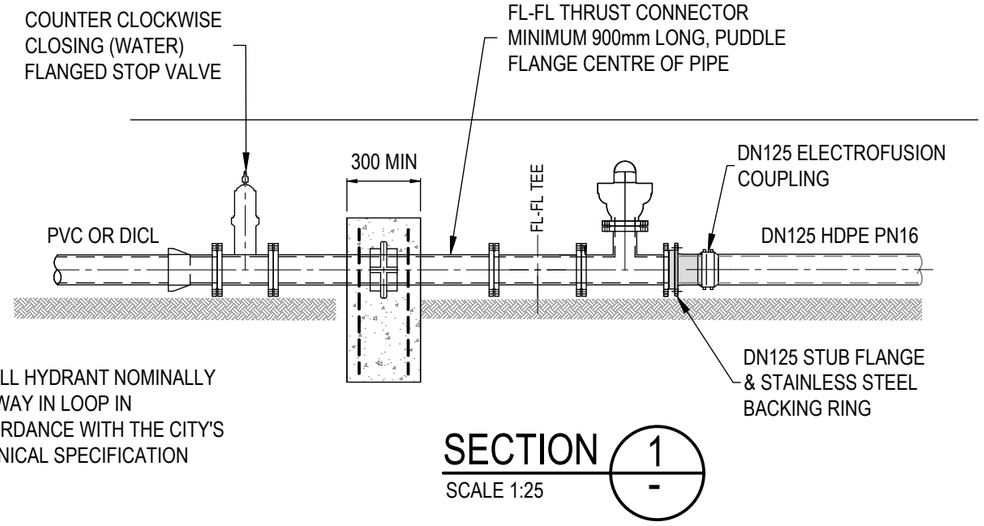
PLAN

NOT TO SCALE

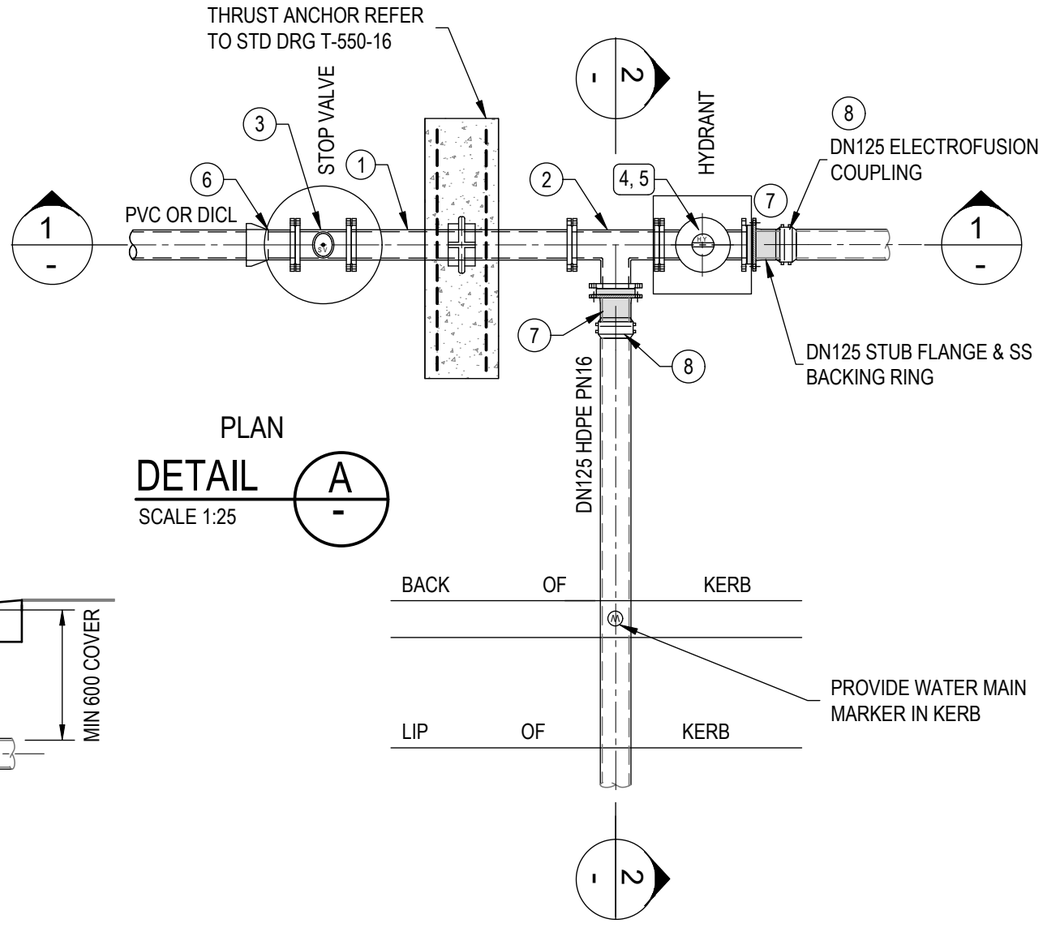
NOTES

1. PLANS SHOWS CUL-DE-SAC HDPE WATER MAIN CONSTRUCTION IN LIEU OF TRADITIONAL PVC /DICL PIPEWORK WITH BENDS OR CURVED PVC PIPEWORK CONSTRUCTION.
2. SEE STD DRG R-200-09 FOR TYPICAL CUL-DE-SAC DIMENSIONS.
3. ALL BOLTS TO BE SS316. NUTS AND WASHERS TO BE SS304. ANTI-SEIZE PASTE TO BE APPLIED TO THREADS.
4. BOLTS AND FLANGES TO BE WRAPPED WITH DENSO TAPE.
5. DICL PIPE TO BE WRAPPED IN POLYETHYLENE SLEEVING.
6. MINIMUM COVER TO CONDUIT BENEATH ROAD TO BE 600mm.
7. WHERE PEDESTRIAN ACCESS EXISTS BETWEEN CUL-DE-SACS (ie LANEWAY), A WATER MAIN LINKING WITH 100Ømm MAIN SHOULD BE UTILISED & THE LOOP MAIN NOT INSTALLED.

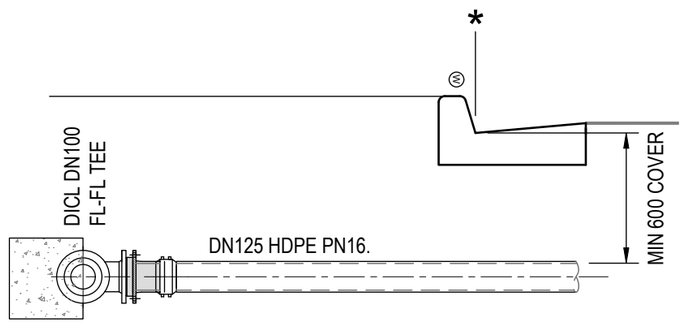
MATERIAL SCHEDULE		
ITEM	DESCRIPTION	No OF
1	DN 100 DICL FL-FL PIPE MIN. 900 LONG WITH PUDDLE FLANGE PLACED CENTRAL	1
2	DN 100 DICL FL TEE	1
3	DN 100 DICL FL RESILIENT SEATED VALVE, FBE COATED	1
4	DN 100 x 80 FL DICL HYDRANT TEE	1
5	DN 80 SPRING HYDRANT FBE COATED	2
6	DN 100 FL-SOC CONNECTOR	1
7	DN125 STUB FLANGE & SS BACKING RING	2
8	DN125 ELECTROFUSION COUPLING	2



SECTION 1 - SCALE 1:25



PLAN DETAIL A - SCALE 1:25



SECTION 2 - SCALE 1:25

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Approved	D.S.					
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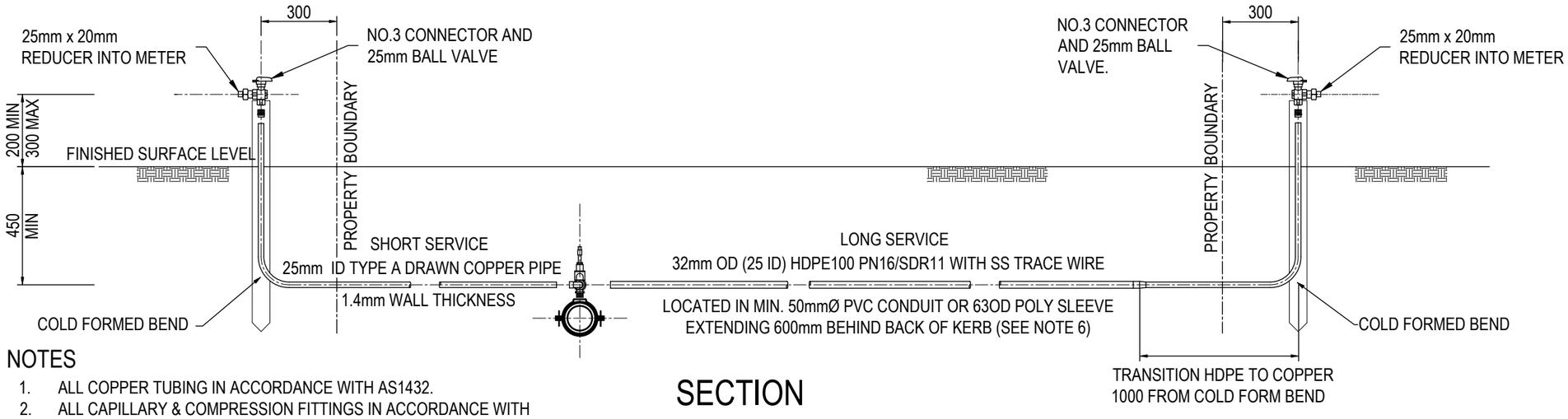
STANDARD DRAWINGS

CUL-DE-SAC WATER MAIN ARRANGEMENT

Council Plan No. W-400-13

Orig. Size A3

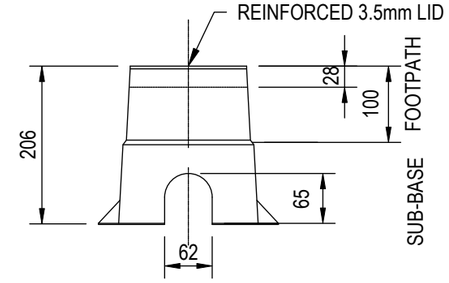
Revision 1



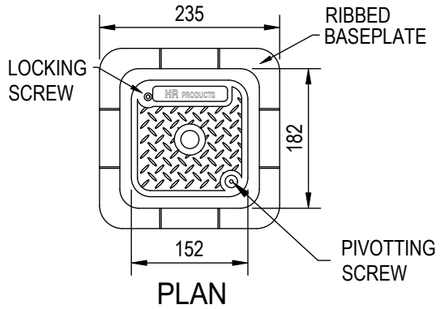
SECTION

NOTES

1. ALL COPPER TUBING IN ACCORDANCE WITH AS1432.
2. ALL CAPILLARY & COMPRESSION FITTINGS IN ACCORDANCE WITH AS3688.
3. ALL DRILL SHAVINGS TO BE FLUSHED FROM WATER MAIN.
4. ONE SERVICE ONLY PER TAPPING.
5. WATER SERVICES TO BE LOCATED AT OPPOSITE BOUNDARY TO POWER SUPPLY. WHERE THIS IS UNAVOIDABLE, THE WATER SERVICE SHALL HAVE AN OFFSET OF 1000mm FROM THE POWER TO BE APPROVED BY THE CITY.
6. WHERE THE LONG SERVICE IS INSTALLED VIA UNDERBORE, THE TRACE WIRE SHALL BE PROVIDED AND THE 50mm ID CONDUIT IS NOT REQUIRED.



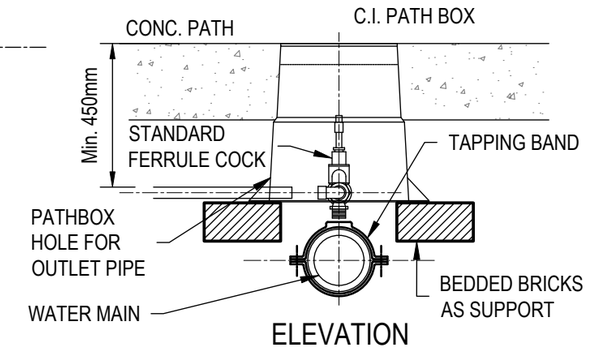
ELEVATION



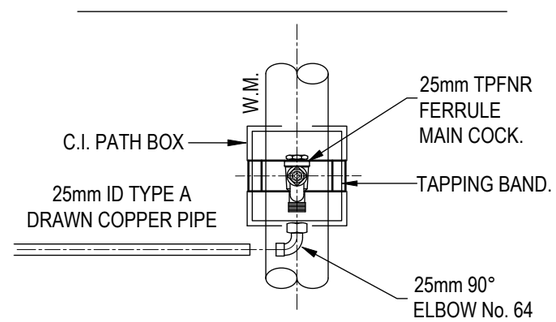
PLAN

TYPICAL PATH BOX

N.T.S.

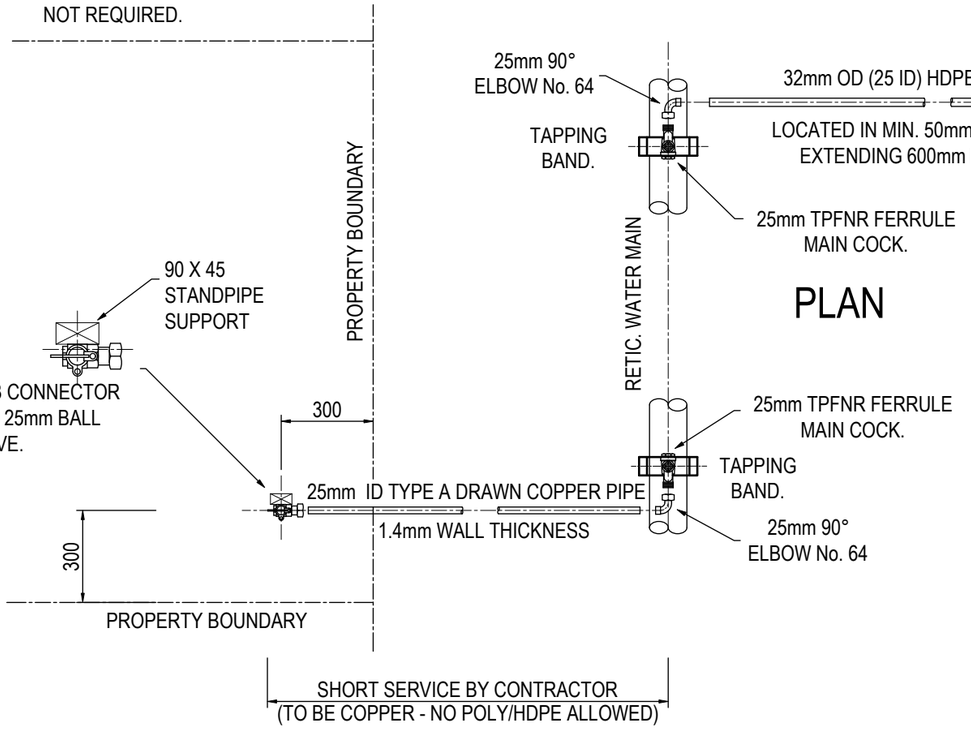


ELEVATION

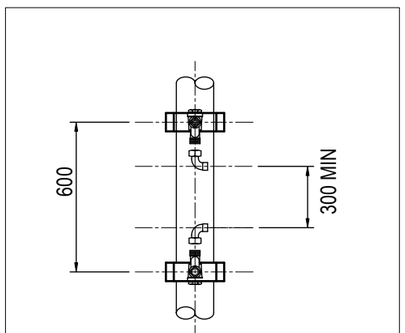


PLAN

WATER SERVICE - TYPICAL (25mm)
CONNECTION UNDER CONC. PATH



PLAN



PLAN

ADJACENT TAPPING DETAIL
(LONG SERVICES)

Drawn	B.P.S					
Checked	C.B					
Approved	D.S.					
Date	DEC 2024	1	ISSUED FOR USE	B.P.S	D.S.	12/2024
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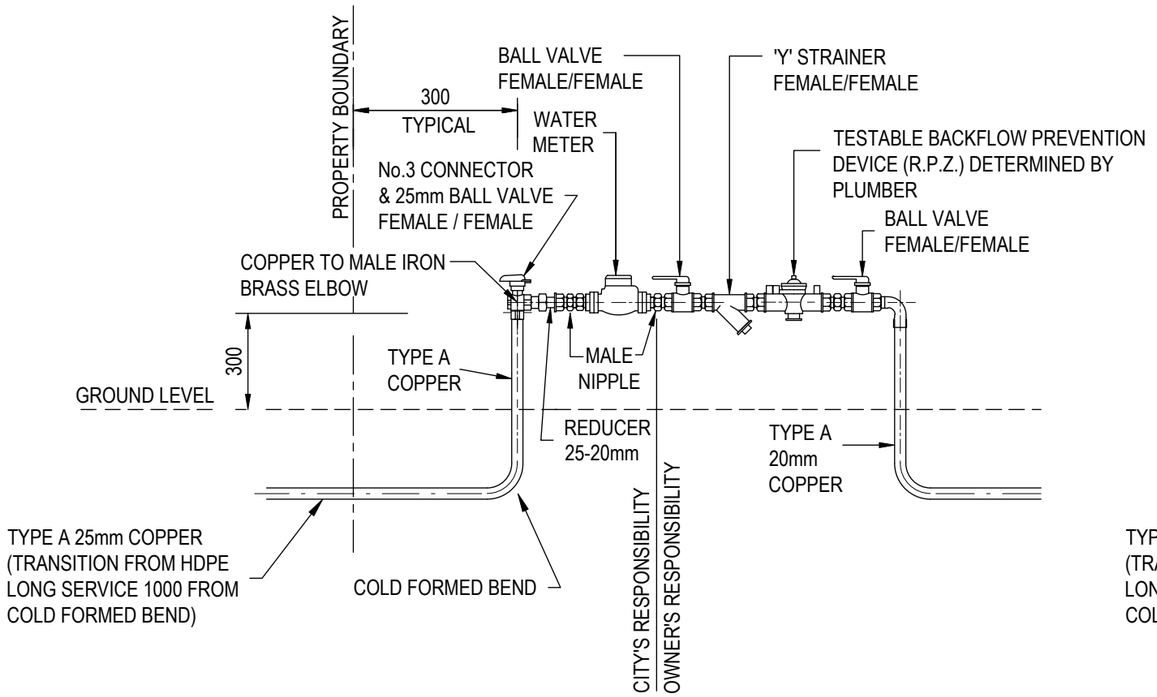
STANDARD DRAWINGS

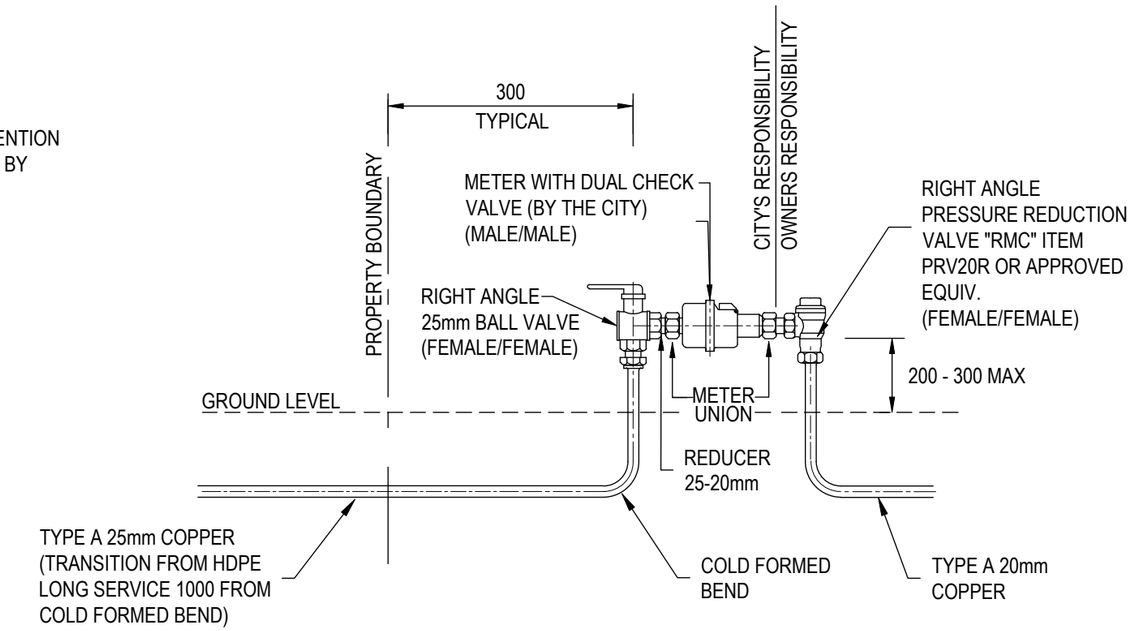
LONG & SHORT WATER SERVICE

Council Plan No.
W-400-14

Orig. Size	Revision
A3	1



25mm COMMERCIAL/INDUSTRIAL WATER METER
MEDIUM/HIGH BACKFLOW HAZARD RATING



25mm DOMESTIC / COMMERICAL WATER METER
LOW HAZARD

NOTES:

1. REFER W-400-14 FOR SHORT & LONG SERVICE LAYOUT DETAILS, SERVICE CONDUITS DETAILS AND CONNECTION DETAILS.
2. ANY IRRIGATION LINE TAKEN OFF THE SUPPLY SHALL REQUIRE ADDITIONAL BACKFLOW PREVENTION DEVICES.
3. PROVIDE TEMPORARY SUPPORT FOR METER INSTALLATION UNTIL CONNECTION MADE BY PROPERTY OWNERS PLUMBER.
4. CHANGE IN SERVICE SIZE TO OCCUR AFTER BALL VALVE.
5. ALL PE FITTINGS TO BE ELECTROFUSION COUPLINGS OR BUTT WELDED FITTING OR MECHANICAL COUPLINGS TO AS/NZS 4129. COMPRESSION FITTINGS WILL NOT BE PERMITTED.
6. TRACER WIRE REQUIRED FOR ALL PE SERVICES TERMINATING/CONNECTED TO METAL COMPONENT AT EACH END.

Drawn	B.P.S					
Checked	C.B					
Approved	D.S.					
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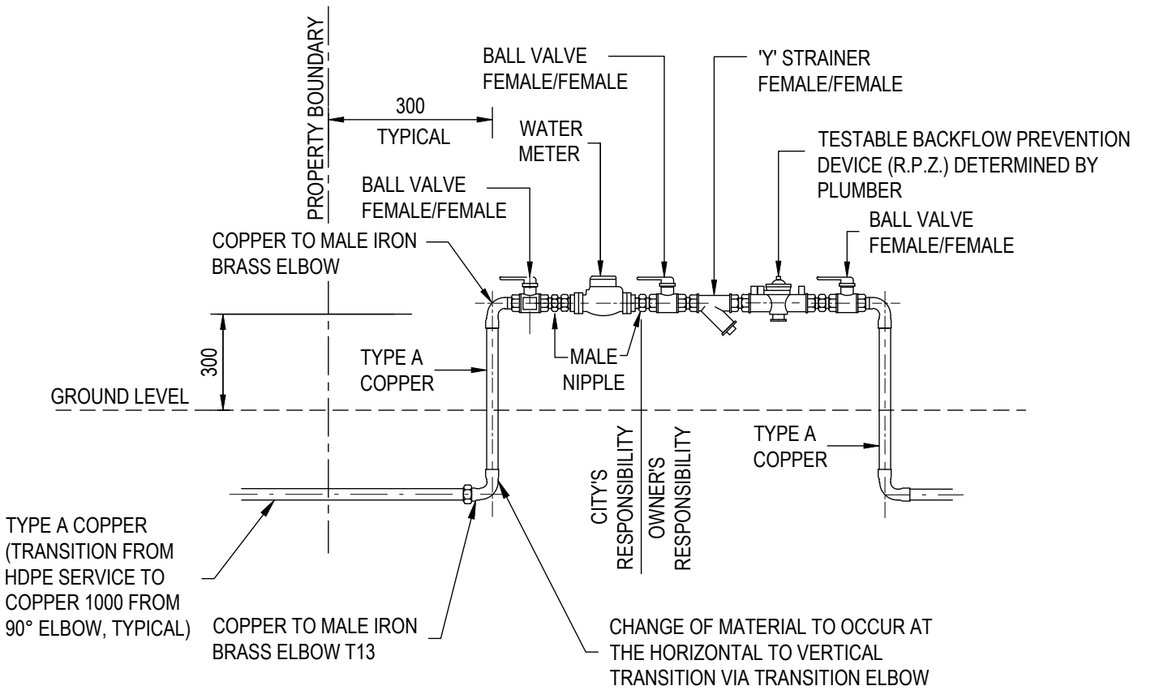
STANDARD DRAWINGS

DN20 - DN25 PROPERTY SERVICE DETAILS

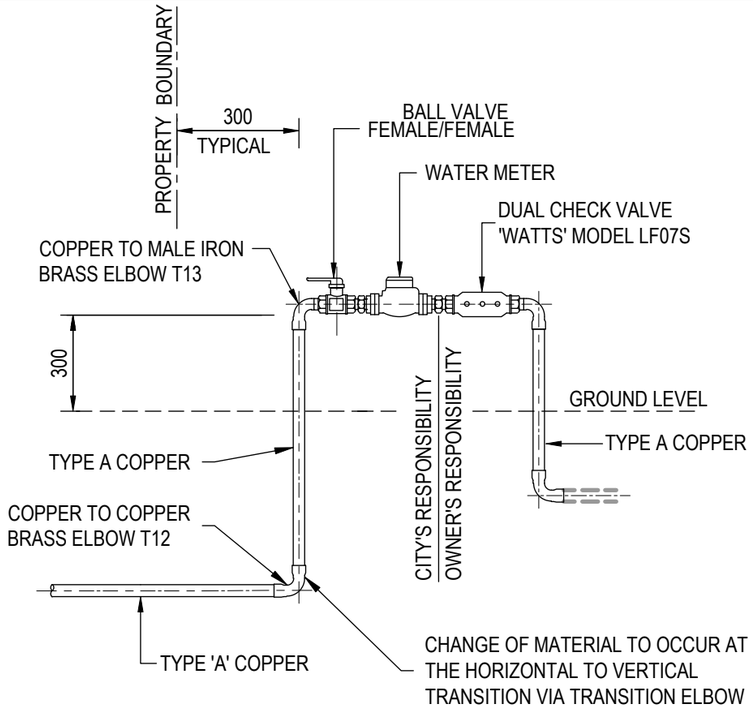
Council Plan No.
W-400-15

Orig. Size
A3

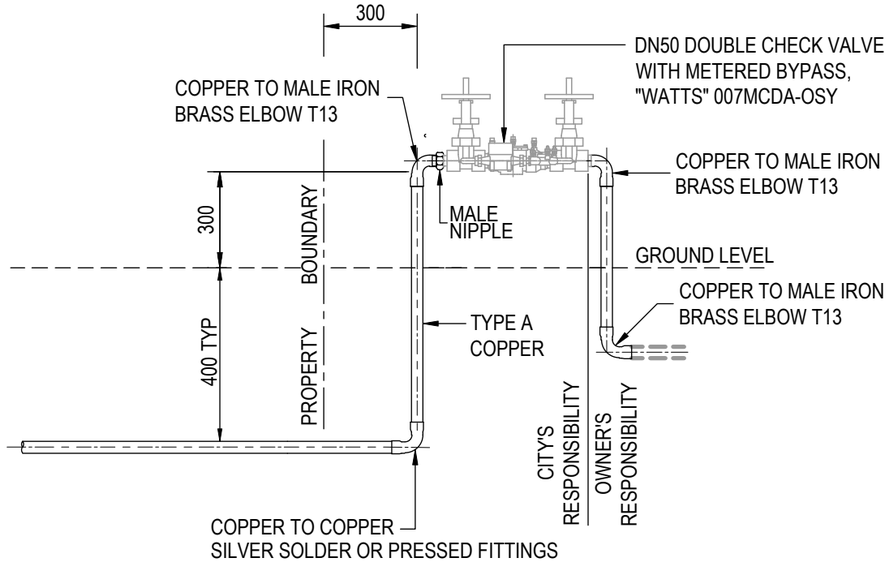
Revision
1



DN40/DN50 COMMERCIAL/INDUSTRIAL/DOMESTIC METERED WATER SERVICE
MEDIUM/HIGH BACKFLOW HAZARD RATING



DN40/DN50 COMMERICAL/DOMESTIC WATER METER
LOW BACKFLOW HAZARD RATING



DN40/DN50 WALL OR WINDOW
DRENCHER SERVICE

NOTES:

1. REFER W-400-14 FOR INDICATIVE SHORT & LONG SERVICE LAYOUT DETAILS, SERVICE CONDUITS DETAILS AND CONNECTION DETAILS.
2. ANY IRRIGATION LINE TAKEN OFF THE SUPPLY SHALL REQUIRE ADDITIONAL BACKFLOW PREVENTION DEVICES AT THE TAKE OFF POINT.
3. PROVIDE TEMPORARY SUPPORT FOR METER INSTALLATION UNTIL CONNECTION MADE BY PROPERTY OWNERS PLUMBER.
4. WALL OR WINDOW DRENCHER SPRINKLER SUPPLY MAY BE TAKEN OFF FIRE SPRINKLER SERVICE.
5. ALL PE FITTINGS TO BE ELECTROFUSION COUPLINGS OR BUTT WELDED FITTING OR MECHANICAL COUPLINGS TO AS/NZS 4129. COMPRESSION FITTINGS WILL NOT BE PERMITTED.
6. TRACER WIRE REQUIRED FOR ALL PE SERVICES TERMINATING/CONNECTED TO METAL COMPONENT AT EACH END.
7. TRANSITION FROM HDPE TO COPPER TO WATER SERVICE TO OCCUR 1000 FROM THE 90° VERTICAL ELBOW.

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Approved	D.S.					
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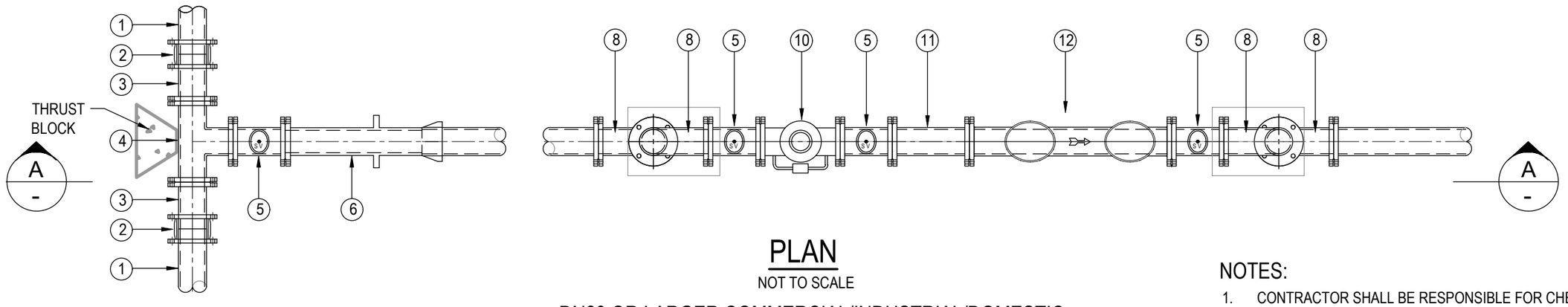
STANDARD DRAWINGS

DN40 - DN50 PROPERTY SERVICE DETAILS

Council Plan No. W-400-16

Orig. Size A3

Revision 1



PLAN

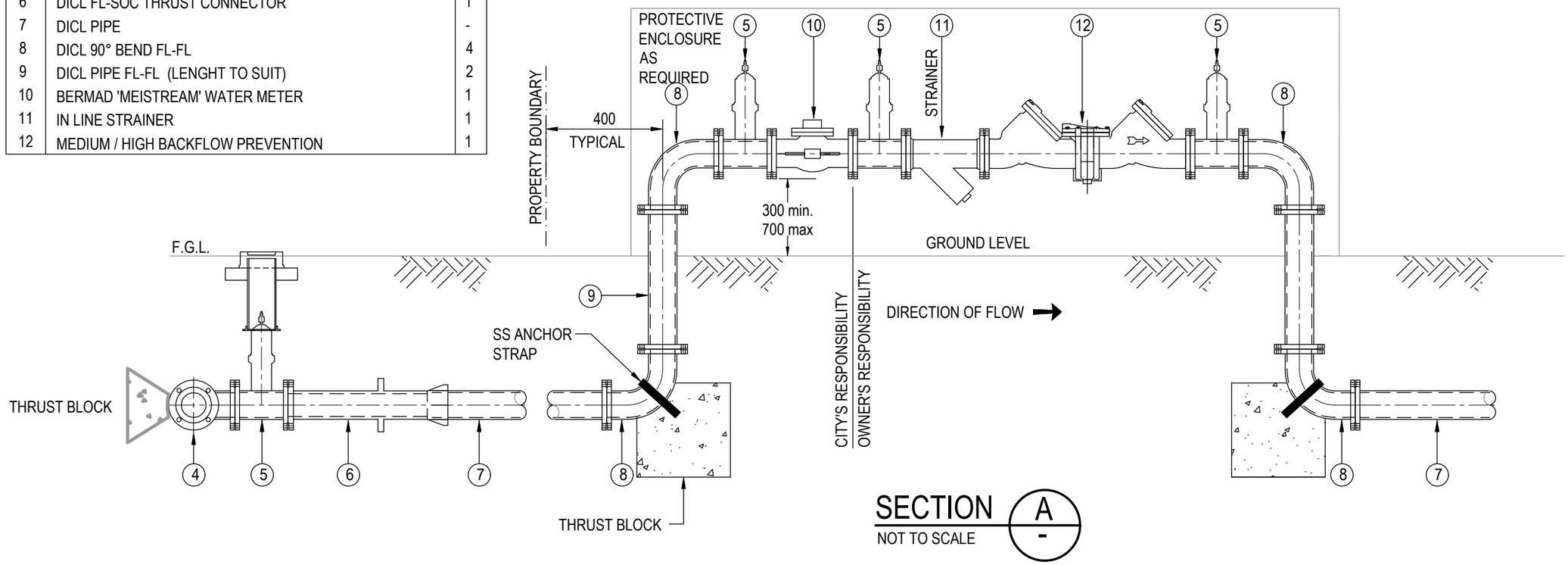
NOT TO SCALE

DN80 OR LARGER COMMERCIAL/INDUSTRIAL/DOMESTIC METERED WATER SERVICE MEDIUM/HIGH BACKFLOW HAZARD RATING

MATERIAL LIST		
ITEM	DESCRIPTION	No.
1	EXISTING COUNCIL WATER MAIN	-
2	GIBAULT FBE COATED WITH S/S NUTS & BOLTS	2
3	DICL FL-SP CONNECTOR	2
4	DICL TEE FL-FL-FL	1
5	SLUICE VALVE FL/FL, RESILIENT SEATED, FBE COATED	4
6	DICL FL-SOC THRUST CONNECTOR	1
7	DICL PIPE	-
8	DICL 90° BEND FL-FL	4
9	DICL PIPE FL-FL (LENGHT TO SUIT)	2
10	BERMAD 'MEISTREAM' WATER METER	1
11	IN LINE STRAINER	1
12	MEDIUM / HIGH BACKFLOW PREVENTION	1

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING PIPE LENGTHS AND FITTINGS TO ENSURE CONSTRUCTABILITY PRIOR TO ORDERING PIPES AND FITTINGS.
2. ANY IRRIGATION TAKEN OFF THE DOMESTIC SERVICE SHALL REQUIRE AN ADDITIONAL BACKFLOW PREVENTION DEVICE TO BE INSTALLED AT TAKE OFF POINT.
3. PADLOCKED CHAIN TO BE INSTALLED ON VALVES.
4. ALL FITTINGS TO BE FBE COATED.



SECTION A - A

NOT TO SCALE

Drawn	B.P.S					
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Approved	D.S.					
Date	DEC 2024	1	ISSUED FOR USE	B.P.S	D.S.	12/2024
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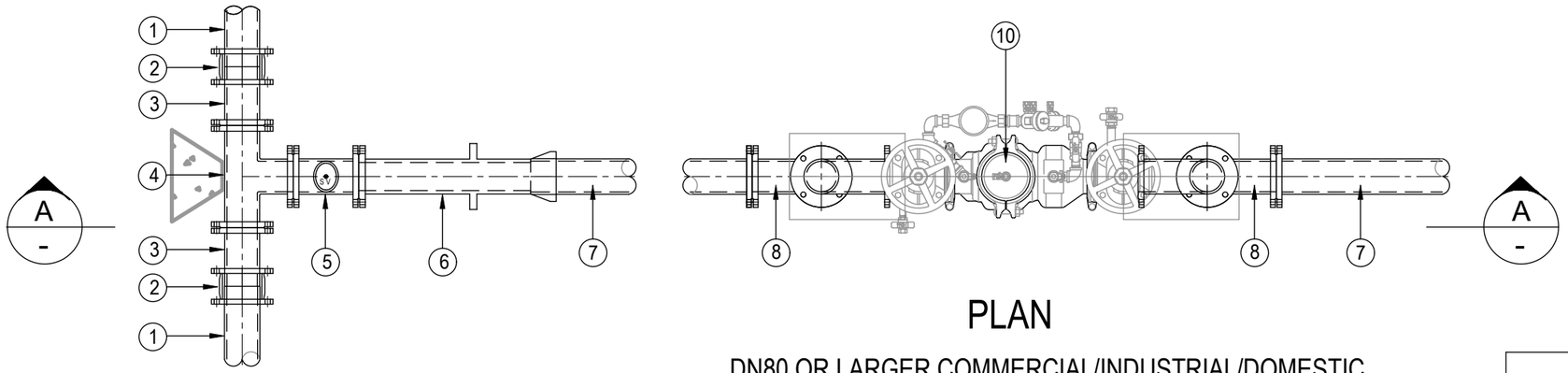
STANDARD DRAWINGS

DN80 OR LARGER PROPERTY WATER SERVICE DETAILS

Council Plan No. W-400-17

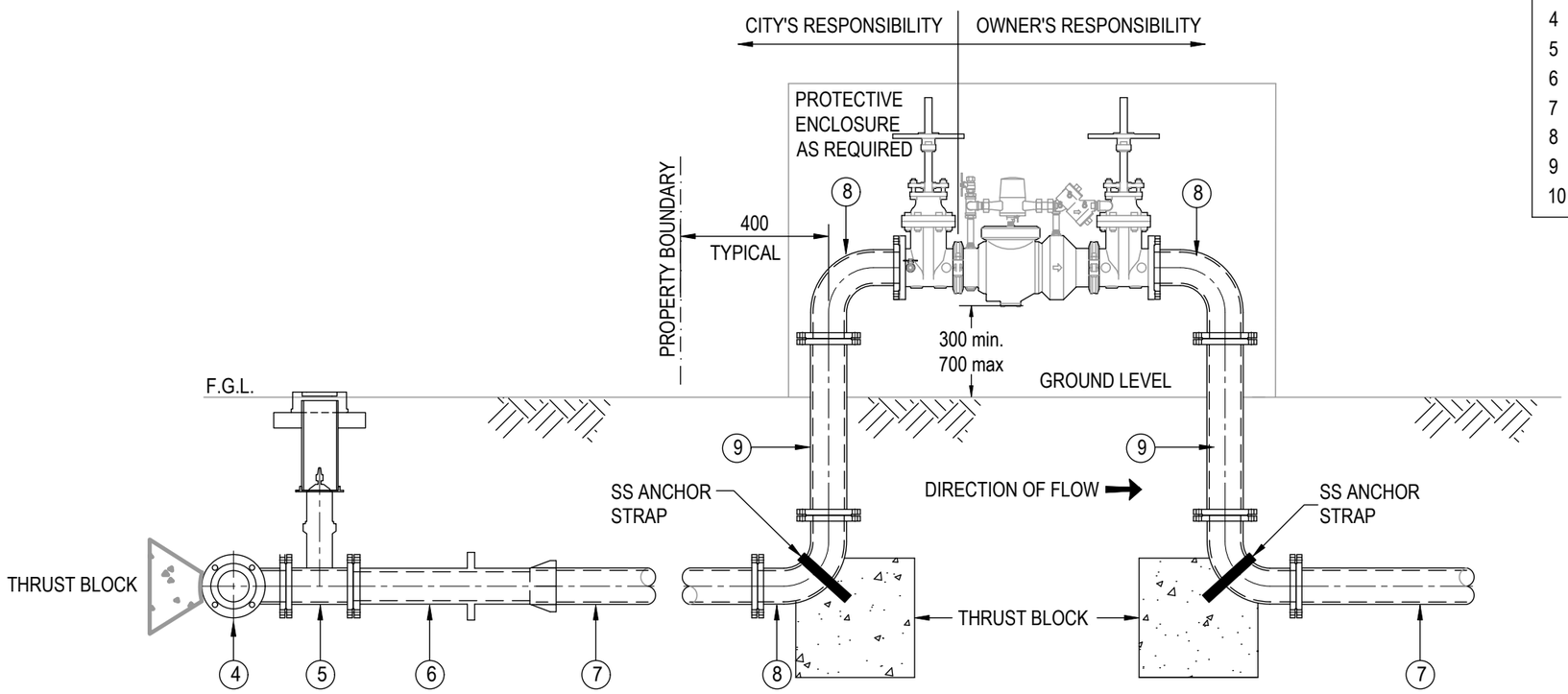
Orig. Size A3

Revision 1



PLAN

DN80 OR LARGER COMMERCIAL/INDUSTRIAL/DOMESTIC METERED FIRE SERVICE MEDIUM/HIGH BACKFLOW HAZARD RATING



MATERIAL LIST		
ITEM	DESCRIPTION	No.
1	EXISTING COUNCIL WATER MAIN	-
2	GIBAULT FBE COATED WITH S/S NUTS & BOLTS	2
3	DICL FL-SP CONNECTOR	2
4	DICL TEE FL-FL-FL	1
5	SLUICE VALVE FL/FL, RESILIENT SEATED, FBE COATED	1
6	DICL FL-SOC THRUST CONNECTOR	1
7	DICL PIPE	-
8	DICL 90° BEND FL-FL	4
9	DICL PIPE FL-FL (LENGHT TO SUIT)	2
10	WILKINS MODEL 350ADA DOUBLE DETECTOR CHECK ASSEMBLY	1

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING PIPE LENGTHS AND FITTINGS TO ENSURE CONSTRUCTABILITY PRIOR TO ORDERING PIPES AND FITTINGS.
2. PADLOCKED CHAIN TO BE INSTALLED ON VALVES.
3. ALL FITTINGS TO BE FBE COATED.

WILKINS MODEL 350ADA
OUTDOOR HORIZONTAL INSTALLATION

SECTION A - A
NOT TO SCALE

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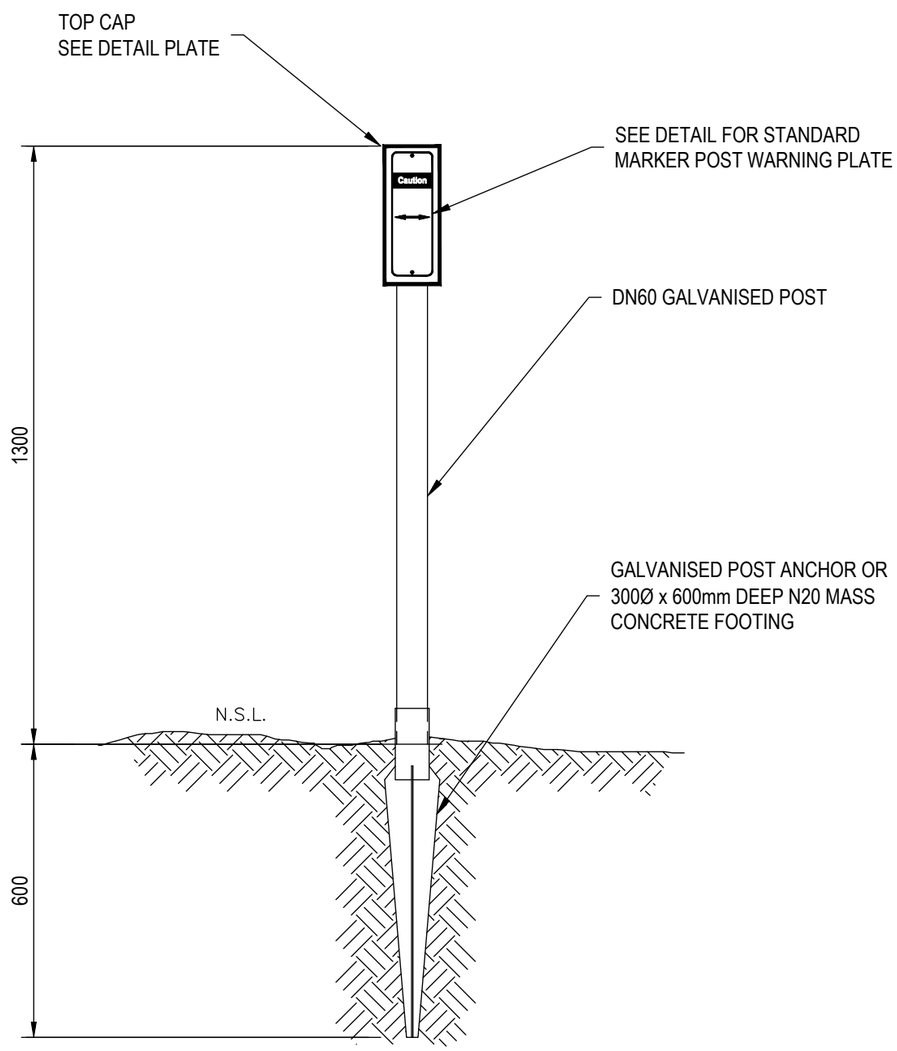
STANDARD DRAWINGS

DN80 OR LARGER PROPERTY FIRE SERVICE DETAILS

Council Plan No. W-400-18

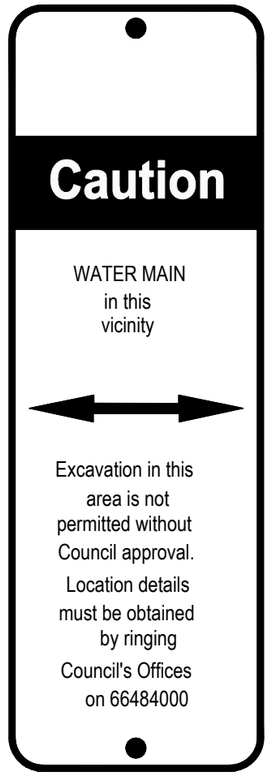
Orig. Size A3

Revision 1



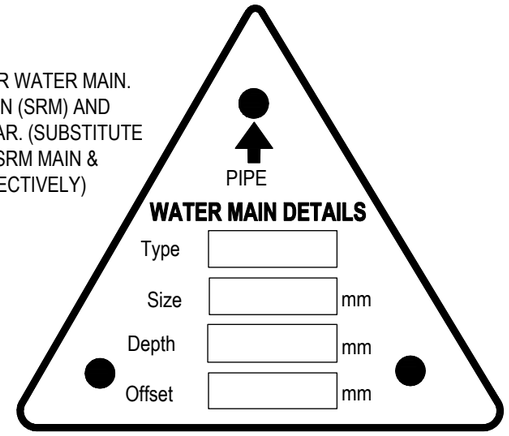
MARKER POST

TYPE 1



STANDARD WARNING PLATE

DETAIL SHOWN FOR WATER MAIN. SEWER RISING MAIN (SRM) AND REUSE MAIN SIMILAR. (SUBSTITUTE WATER MAIN FOR SRM MAIN & REUSE MAIN RESPECTIVELY)



DETAIL PLATE

NOTES:

1. WATERMAIN (WM) MARKER POSTS WHERE REQUIRED SHALL BE LOCATED AT ALL CHANGES OF HORIZONTAL ALIGNMENT AND AT 200 METRES MAXIMUM CENTRES
2. MARKER POST, STANDARD WARNING PLATE AND DETAIL PLATE TO BE PURCHASED FROM OR PROVIDED BY THE CITY OF COFFS HARBOUR.
3. ALL MARKER POST LOCATIONS AND POST ANCHORING DETAILS ARE TO BE APPROVED BY THE CITY OF COFFS HARBOUR PRIOR TO ERECTION.
4. THE MINIMUM CONCRETE STRENGTH SHALL BE 20MPa
5. THE DEVELOPER OR CONTRACTOR IS RESPONSIBLE FOR COMPLETION OF INFORMATION STAMPED ON DETAIL PLATE.
6. ALL DIMENSIONS ARE IN MILLIMETRES.

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STANDARD DRAWINGS

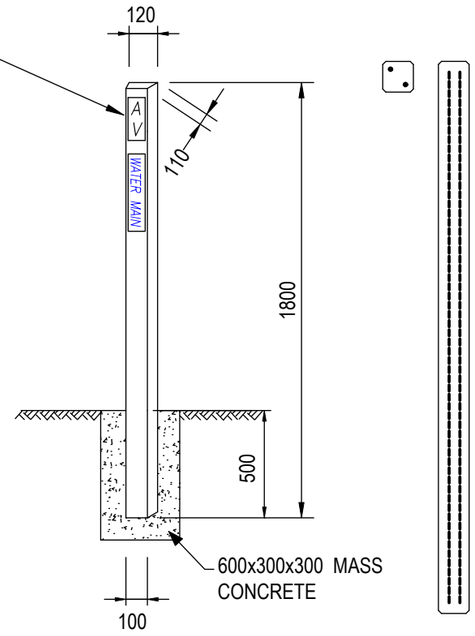
TYPE 1 MARKER POST
60Ø GALVANISED MARKER POST

Council Plan No. W-400-19

Orig. Size A3

Revision 1

ALUMINIUM PLATE WITH MAIN TYPE & SIZE, FITTING TYPE, DISTANCE TO FITTING & DEPTH OF FITTING STAMPED OR ENGRAVED ON FACE, FIXED TO PRE-CAST CONCRETE POST.



CONCRETE MARKER POSTS
- USED FOR IDENTIFICATION OF VALVES AND HYDRANTS
- HEAVY DUTY, SOLID CONCRETE
- SIZE 100mm SQUARE X 1800mm LONG

2 X N8 BARS MIN 40mm COVER
40MPa CONCRETE

PAINT CONCRETE POST THE FOLLOWING COLOUR:
- WATER : BLUE
- REUSE : LILAC
- SEWER :BRUNSWICK GREEN

ELEVATION

CONCRETE MARKER POST MARKING POST & PLATE DETAILS

TYPE 2

(FOR HEAVY DUTY SERVICE AREAS)
(SEE NOTE 5)

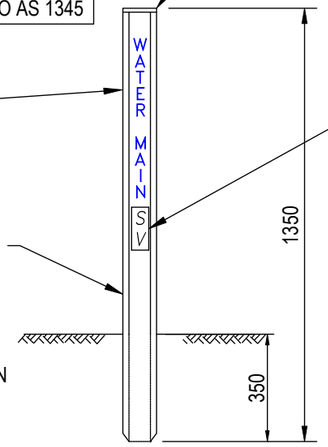
NOTE: ALTERNATIVELY, A 50mm HIGH PLATE WITH Min. 24mm LETTERS CAN BE ATTACHED TO FACE OF MARKER POST INSTEAD OF WHITE VINYL LETTERS.
ALL COLOURS USED TO CONFORM TO AS 1345

ATTACH ENGRAVED ALUMINIUM PLATE SHOWING MAIN SIZE, DEPTH AND OFFSET INFORMATION TO FRONT OR REAR OF DURA-POST

DURA-POST WITH WHITE VINYL LETTERS Min. 24mm HIGH.
- WATER MAIN
- REUSE MAIN
- SRM MAIN

POWDERCOATED DURA-POST COLOUR FOR
- WATER : BLUE BLAZE
- REUSE : LILAC BLAZE
- SEWER : BRUNSWICK GREEN BLAZE

POWDERCOATED DURA-POST DRIVEN INTO FIRM GROUND. USE MASS CONCRETE BASE IF REQUIRED



MARKER POST PLATE. SEE STD DRG W-400-21

ELEVATION

MARKING POST & PLATE DETAILS OR DURA-POST OR EQUIVALENT

TYPE 3

(FOR LIGHT DUTY SERVICE AREAS)
(SEE NOTE 5)

NOTES

1. PLANS SHOWS TYPICAL DETAILS FOR MARKER POSTS FOR WATER, REUSE AND SEWER RISING MAINS.
2. FOR TYPE 3 MARKER POST AS SHOWN PROVIDE COLOUR POWDERED COATED TO SERVICE AS SHOWN.
3. WATERMAIN (WM) MARKER POSTS WHERE REQUIRED SHALL BE LOCATED AT ALL CHANGES OF HORIZONTAL ALIGNMENT AND AT 200 METRES MAXIMUM CENTRES.
4. PROVIDE MARKERS POSTS FOR STOP VALVES, AIR VALVES , SCOUR VALVES AND HYDRANTS.
5. LIGHT SERVICE AREAS ARE CONSIDERED TO BE RESIDENTIAL URBAN STREETS, WHERE AS HEAVY DUTY AREAS AREA OPEN PUBLIC, DRAINAGE RESERVES, OPEN PADDOCKS, RURAL ROAD RESERVES ETC. OR OTHERWISE AS SPECIFIED BY THE DESIGNER.
6. TYPE 1 DN50 GALVANISED POLE MARKER POSTS AS SHOWN ON DRAWING W-400-19 ARE ACCEPTABLE FOR USE IN LIGHT OR HEAVY DUTY AREAS

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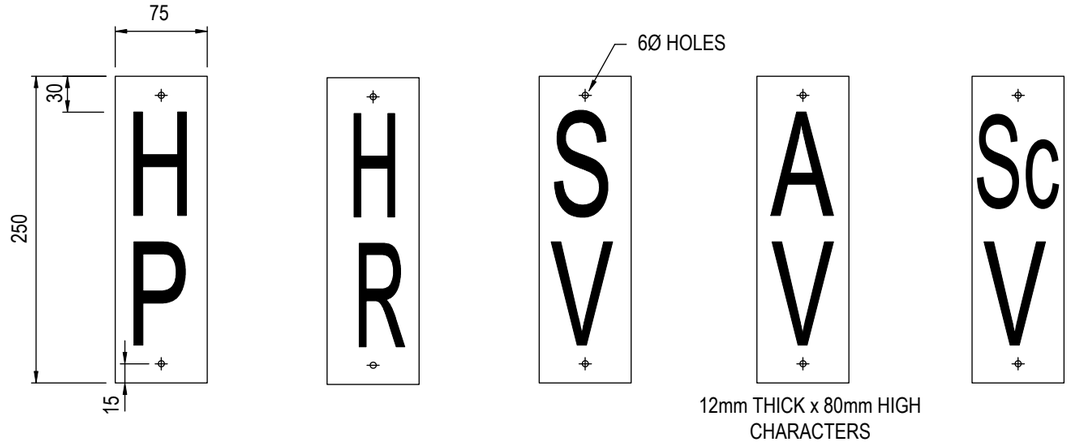
STANDARD DRAWINGS

TYPE 2 & 3 MARKER POST
CONCRETE & POWDERCOATED STEEL MARKER POST

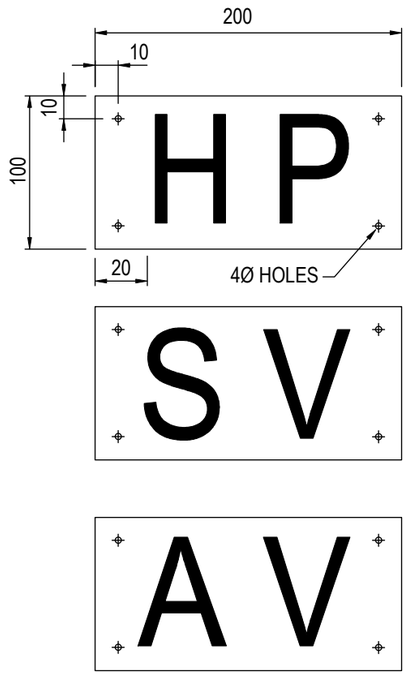
Council Plan No. W-400-20

Orig. Size A3

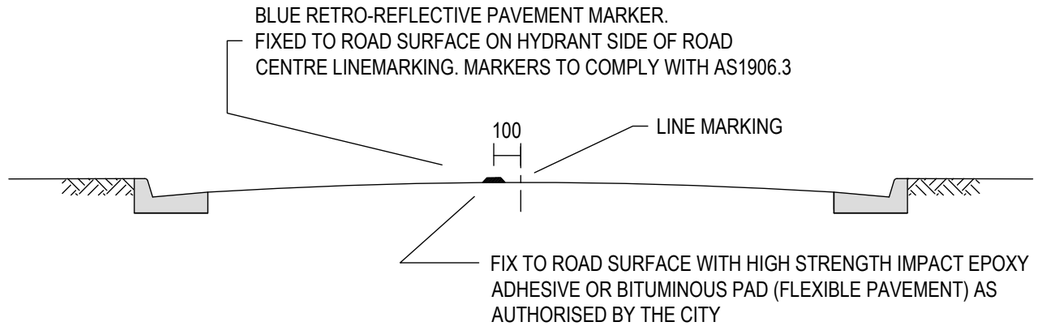
Revision 1



MARKER POST PLATES



KERB MARKER PLATES



HYDRANT PAVEMENT MARKER

NOTES:

1. IN URBAN AREAS, IN LIEU OF MARKER PLATES THE VALVE OR HYDRANT COVER AND THE KERB ADJACENT TO EACH VALVE OR HYDRANT IS TO BE PAINTED WITH TWO (2) COATS OF APPROVED NONSLIP PAINT AS FOLLOWS :
   VALVES - WHITE
   VALVES CLOSED VALVES - RED
   HYDRANTS - YELLOW
   VALVES (REUSE) - LILAC
2. ALL HYDRANTS, STOP VALVES, SCOUR VALVES, AIR VALVES SHALL BE MARKED WITH MARKER PLATES. MARKER POSTS SHALL BE USED IN THE ABSENCE OF A SUITABLE KERB POSITION OR AS DIRECTED BY THE CITY OF COFFS HARBOUR.
3. MARKER POSTS WHERE REQUIRED SHALL BE LOCATED AT ALL CHANGES OF HORIZONTAL ALIGNMENT AND AT 200 METRES MAXIMUM CENTRES
4. MARKER PLATES SHALL BE CONSTRUCTED FROM 1.60MM ALUMINIUM SHEET
5. LETTERS FOR ALL MARKERS SHALL BE PAINTED IN RED ENAMEL WITH THE BACKGROUND TO BE PAINTED WITH WHITE ENAMEL PAINT.
6. VALVE AND HYDRANT MARKER POSTS WHERE REQUIRED IN LOW DENSITY RESIDENTIAL DEVELOPMENTS, ADJACENT TO SEWER PRESSURE MAINS OR THROUGH CROWN LAND, SHALL BE LOCATED 200 CLEAR OF ROAD / PROPERTY BOUNDARY WITH THE MARKER PLATE FACING THE MAIN.
7. VALVE AND HYDRANT MARKER POSTS SHALL NOT BE LOCATED GREATER THAN 5000mm CLEAR OF THE WATER MAIN ALIGNMENT
8. KERB MARKERS SHALL BE FIXED TO THE FACE OF KERB WITH 2.4Ø X 20 CONCRETE NAILS WITH WASHERS AND POSITIONED DIRECTLY IN LINE WITH VALVE / HYDRANT.
9. ALL DIMENSIONS ARE IN MILLIMETRES

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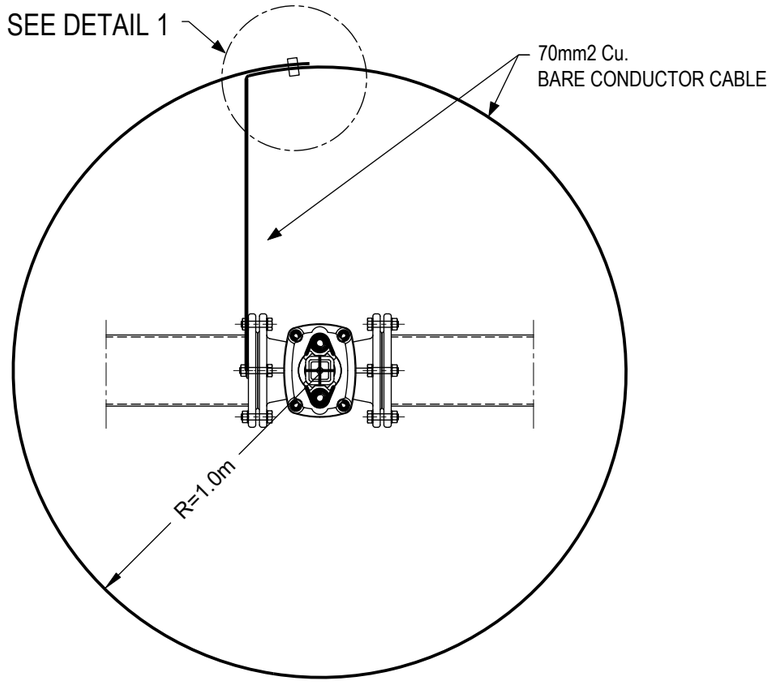
STANDARD DRAWINGS

WATER MAIN MARKER PLATES

Council Plan No. W-400-21

Orig. Size A3

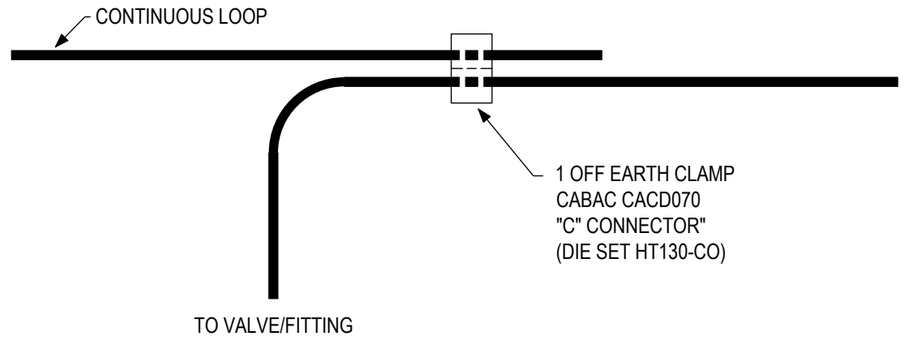
Revision 1



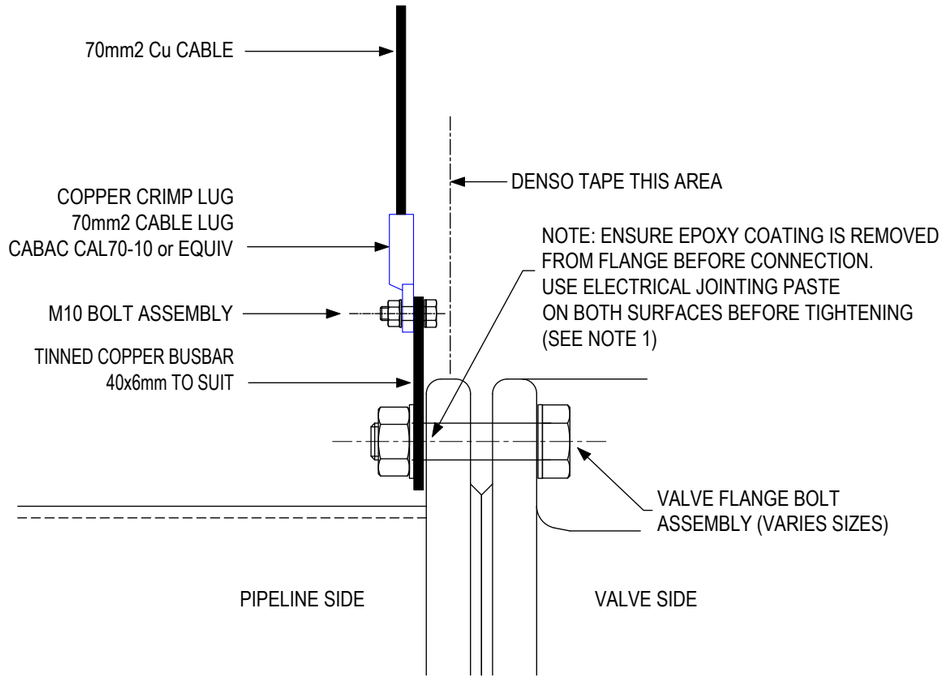
PLAN VIEW

ELEVATION VIEW

INGROUND EARTHING RING DETAIL



DETAIL 1



NOTE

1. ELECTRICAL JOINTING PASTE IS A UNIQUE ELECTRICAL JOINTING COMPOUND, FORMULATED TO PREVENT GALVANIC CORROSION AND ENHANCE CONNECTIONSIN ELECTRICAL JOIN

DETAIL 2

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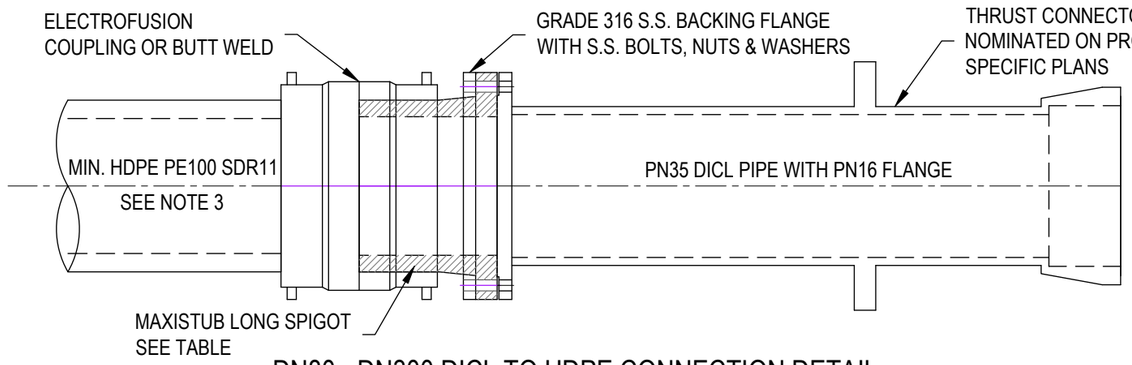
STANDARD DRAWINGS

VALVE IN-GROUND EARTHING RING DETAIL

Council Plan No. W-400-22

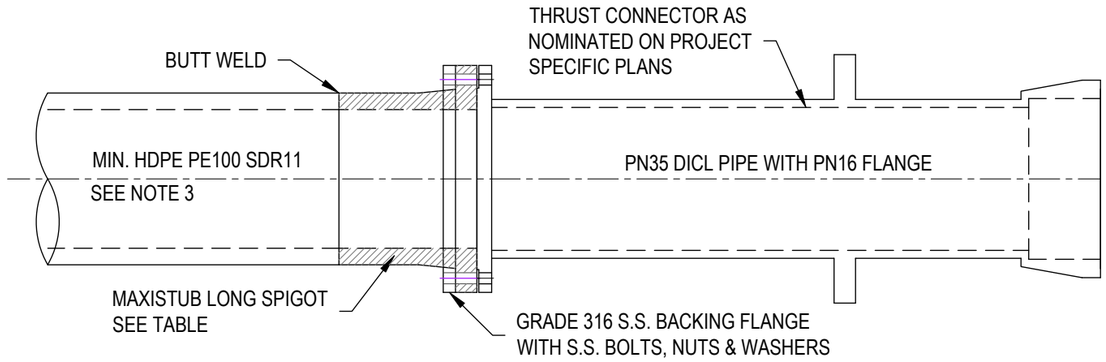
Orig. Size A3

Revision 1



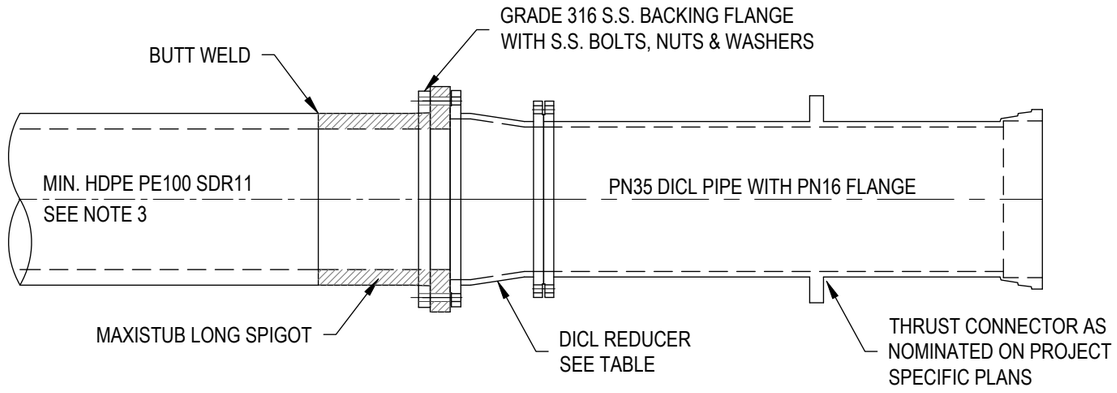
DN80 - DN300 DICL TO HDPE CONNECTION DETAIL

(EITHER ELECTROFUSION COULPLING & BUTT WELD ACCEPTABLE WHERE HDPE 400Ø OD OR LESS)



DN375 DICL TO HDPE CONNECTION DETAIL WITH BUTT WELD

(FUSION BUTT WELD ONLY WHERE HDPE > 400Ø OD)

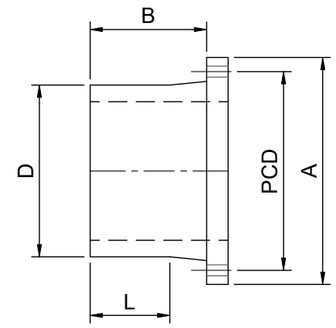


DN450 - DN600 DICL TO HDPE CONNECTION DETAIL

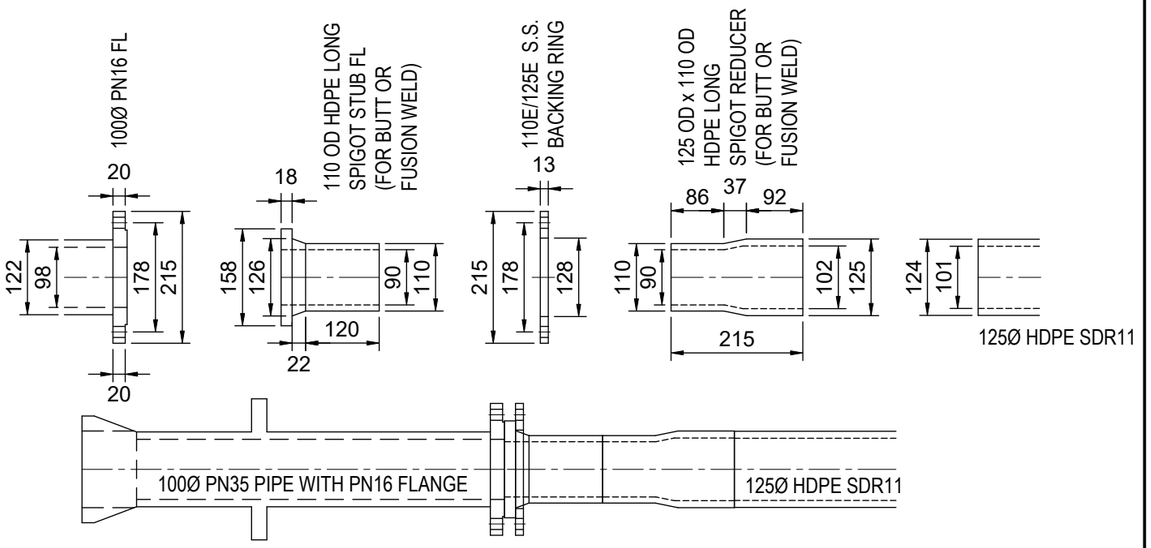
DICL MAIN		DICL FL-FL REDUCER	HDPE SDR11 PN16	
NOM .DIA.	I.D.		O.D.	I.D.
450	471	DN450 - DN500	560	455.8
500	524	DN500 - DN600	630	512.6
600	629	DN600 - DN750	710	577.6

DICL MAIN	HDPE LONG STUB MAXISTUB					BOLTS		
NOM .DIA.	D	A	B	L	T	BOLT	No.	PCD
80	90	185	112	85	20	M16	4	146
100	125	215	134	110	20	M16	4	178
150	180	280	137	110	25	M16	8	235
200	250	370	197	160	35	M16	8	292
225	280	370	215	170	40	M16	8	324
250	315	405	230	185	40	M20	8	356
300	355	455	250	190	45	M20	12	406
375	450	550	285	225	55	M24	12	495
450	560	705	332	265	65	M24	16	641
500	630	760	337	265	80	M27	16	756
600	710	760	337	265	80	M30	20	927

INDICATIVE DIMENSIONS ONLY - REFER TO MANUFACTURES SPECS.



TYPICAL LONG STUB MAXI STUB



ALTERNATIVE 100Ø DICL TO 125 OD HDPE CONNECTION DETAIL

(ALTERNATIVE TO MAXI STUB FOR 100Ø DICL)

NOTES:

1. PLANS SHOWS TYPICAL PIPE JOINTING DETAILS FOR HDPE PIPEWORK TO DICL.
2. HDPE PIPE SHALL BE DESIGNED IN ACCORDANCE WITH WSA01.2004.3.1 POLYETHYLENE PIPELINE CODE AND AS4130.
3. UNLESS NOTED OTHERWISE ON PROJECT SPECIFIC DESIGN PLANS HDPE PIPE SHALL BE A MINIMUM SDR11 (PN16) PE100. THE PRESSURE CLASS FOR PIPES AND FITTINGS SHALL BE BASED UPON DESIGNATED RISK FACTORS DETERMINED IN ACCORDANCE WITH WSA01-2004-3.1. CLAUSE 2.10.3 AND AS4130. HIGHER CLASS HDPE MAYBE REQUIRED
4. ALL DICL PIPEWORK TO BE PN35 R.R.J WITH FLANGE FITTINGS PN16 TO A.S.4087 FIG B5.
5. MAXI STUB FITTINGS IN ACCORDANCE WITH AS4129.
6. UNLESS NOTED OTHERWISE PROVIDE LONG SPIGOT MAXI STUB FITTING WITH STAINLESS STEEL BACKING PLATE FOR THE CORRESPONDING DICL NOMINAL PIPE DIAMETER AS SHOWN IN TABLE.
7. SHORT SPIGOT MAXI STUBS ARE ONLY SUITABLE FOR BUTT WELDED HDPE JOINTING.
8. ELECTROFUSION COUPLINGS TO BE USED ONLY FOR HDPE PIPES 400OD OR LESS.
9. REFER TO PIPA POP007 – METAL BACKING FLANGES FOR USE WITH POLYETHYLENE (PE) PIPE FLANGE ADAPTORS, FOR BACKING RING DETAILS AND FLANGE JOINT INSTALLATION.
10. HDPE PIPE TO BE COLOUR CODED TO MATCH TYPE OF SERVICE, IE WATER, SEWER & REUSE.
11. PROVIDE THRUST CONNECTOR FOR ANCHOR BLOCK AT CONNECTION AS NOMINATED ON PROJECT SPECIFIC PLANS

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STANDARD DRAWINGS

HDPE TO DICL JOINTING

Council Plan No. W-400-23

Orig. Size A3

Revision 1