

9.4 Appendix 4

Construction Audit Check

Construction Audit Checklist – Water

Subdivision	Stage	Checked By	Date

Criteria	Complete	Comments
MATERIALS		
1. Approved Westernport Water Design Plans		
2. Pipe type MPVC Class 16 (Blue) Potable and RCW (Purple/Lilac)		
3. Bedding – washed river sand		
4. (Confirm Westernport Water approved) Stop valves, bends, hydrants, pre-tap connectors, 20mm PE Pipe (Black with Blue strips), surrounds for SV and Hydrants		
WATER MAIN CONSTRUCTION		
5. Separation for Water and RCW is 300mm (marker tap)		
6. Cross-check offsets with property pegs and design plans		
7. Bedding requires 100mm on bottom and 100mm on top		
8. Thrust blocks before and after (see table on plans for type)		
9. RCW and Potable 90 degree bends horizontally and vertically offset and thrust blocks to have solid ground and form work prior to pouring		
10. Bends to have plastic barrier or sand bags to protect pipe when pouring thrust blocks		
11. Set-up - SV, Puddle flange and Hydrant (wrapped in plastic) end of line		
12. All SV and Hydrants to be wrapped in Plastic (Blue for potable and Purple/Lilac for RCW)		

Criteria	Complete	Comments
WATER SERVICES		
13. 25mm PE service pipe (Black and Blue stripes) with no joins in new services		
14. Services potable (RHS) and RCW (LHS) 300mm apart located in the middle of the property lot		
15. No pre-tap connectors to be within one (1) metre of another pre-tap connector or bend		
16. Black location bucket over potable water service in property and Purple/Lilac location bucket over RCW service and backfilled with sand <i>Note: If Gas is in the Estate, service into the property must be located right side of potable service with Gas location tape (Yellow)</i>		
17. Ball Valve on water main (On) and Ball Valve on service inside property (Off) Potable and RCW		
18. "W" and "RCW" to be on curb and footpath for easy location road crossing		
19. "W" on footpath if on short side		
TRENCHING		
20. Depth of trench one (1) metre		
21. 100mm bedding on bottom of trench before laying pipe 100mm above pipe		
22. No excavated rock material to be backfilled back into trench on to pipe - must be clean backfill		
23. All excavated material to be clear of trench for easy access and OHS		
24. Blue marker tap to be located 300mm–400mm above pipe		

Criteria	Complete	Comments
OH&S		
25. PPE (High-vis clothing)		
26. Helmets		
27. Signage		
28. Barricades (if required)		
29. Fencing (if required)		
30. First aid kit		
31. Site amenities		
PE WATER MAINS		
32. Check pipe dates, class and size are correct		
33. Bedding – washed river sand		
34. Check connection points, flanged connection from existing pipe to PE flange, puddle flange and thrust block <i>(Check WMRA Std drawings prior to going on site)</i>		
35. Tappings must be SS tapping band off PE main <i>(Not preferred by Westernport Water)</i>		
36. Check electro fusion couplings, check snails ears are fully extended for a good fusion weld		
37. If on site prior to welding, check PE pipe preparation and welding technique is correct		
38. Check detailed design plan against on site works to make sure it has been constructed correctly		

Construction Audit Checklist – Sewer

Subdivision	Stage	Checked By	Date

Criteria	Complete	Comments
MATERIALS		
1. 150mm SN8 UPVC Pipe Rubber Ringed Joint (RRJ)		
2. Bedding material 7mm screenings (Quarter minus)		
3. Check dates of pipe manufacture (should read in reverse 17/10/5)		
4. Check OB		
5. 45 degree bends, 100mm PVC pipe for Type 4A HBCs (Solvent Joint)		
6. Sanded manhole pipe connection stubs		
7. Check manhole lids		
8. Check Maintenance Chambers and TMS		
PIPE LAYING		
9. Check with contractor that laser is set at correct grade		
10. Check with contractor that the starting Invert Level is correct		
11. Check that 100mm bedding is laid in trench before the pipe has been laid and bedding finishes top level of pipe (Check with contractor that pipe is haunched)		
12. Cross-check offsets with property pegs and design plans		

Criteria	Complete	Comments
TRENCHING		
13. 900mm wide trench with 600mm pipe trench		
14. Check depth of trench must use shields or benching if over 1.5 metres deep		
15. Make sure excavated material is clear of trench and stable during construction		
16. Make sure shield is in place when manhole is being constructed		
17. Pipe layer must be wearing a helmet in trench when machine operating		
18. Make sure that pipe layer is in shield at all times - must not go outside of shield		
19. No excavated rock material to be backfilled into trench on to pipe - must be clean backfill		
20. If shields not being used make sure that the battering of the trench meets trenching standards		
21. If it does not meet standards then contractor is to stop works and make trench compliant		
OHS		
22. PPE (High-vis clothing)		
23. Helmets		
24. Signage		
25. Barricades (if required)		
26. Fencing (if required)		
27. First aid kit		
28. Site amenities		

Criteria	Complete	Comments
HBCs		
29. Check 100mm PVC pipe		
30. Check for two (2) x FF 45 degree bends and short piece of pipe for sweeping 90 degree bend		
31. Check for concrete support under 90 degree bend (2 x 45 degree bends)		
32. Bedding material is to have 100mm under pipe before laying pipe, haunched bedding around pipe and finished level top of pipe		
33. Quarter minus to be backfilled with IS		
34. Check for Blue location tape on IS to surface		
35. Cross-check the property's HBC location on design plan		
MANHOLES		
36. Check concrete delivery docket for concrete N32		
37. Contractor must have shield in place when manhole is being constructed		
38. Check base set up - firm ground with crushed rock base		
39. Check base set up that direction of chase is correct		
40. Check that the foam chase moulds are supported to prevent the concrete from pushing the mould out when pouring the manhole base (<i>check ILS if possible</i>)		
41. Confirm with contractor that there is 30mm fall across base for good flow		
42. Check that scoring concrete has been done and starter bars in place for manhole construction		
43. Make sure base is trowelled off smoothly with fall towards chase		
44. Check that form work cone is facing upstream and step irons are located downstream or facing onto the larger section of the base		
45. Once form work is in place and the manhole has been poured, check with contractor to make sure the concrete has been vibrated to remove the air bubbles in the concrete		
46. Check that manhole top is 600mm to first step iron		
47. Check finished surface level		
48. Check for correct manhole cover type, eg Heavy, Light or Medium Lid <i>Note: Check for droppers for one (1) or more HBC in manholes - this can determine if manhole needs to be a 1200mm or a standard 1050mm. (This should be checked at design plan approval stage)</i>		

Criteria	Complete	Comments
DROPPERS		
49. All droppers over one (1) metre should be supported by a stainless steel or galvanised pipe bracket at one (1) metre intervals		
50. All droppers must have a removable gun bend for access to main for future access		
51. All droppers must have a 45 degree bend to direct waste into chase		
MAINTENANCE CHAMBERS (MC) & TERMINAL MAINTENANCE SHAFT (TMS)		
52. Check base set up - firm ground with quarter minus bedding		
53. Check direction of chase is correct		
54. Cross-check location of MC or TMS on design plans		
55. Check chamber size is correct, ie 600mm MC and 225mm TMS		
INSPECTION SHAFT (IS)		
56. IS must be 150mm pipe		
57. Screw cap		
58. Two (2) x 45 degree bends for sweeping bend		
59. Quarter minus backfill to surface		
60. IS concrete surround with timber supports at ground level		

