



# June 2022 TAG Meeting Products for endorsement



# Direct assessment of new products

# 11. Gatic DN250 DI Top Hat IS/IO access cover

**Manufacturer & Supplier:** Iplex / Crevet

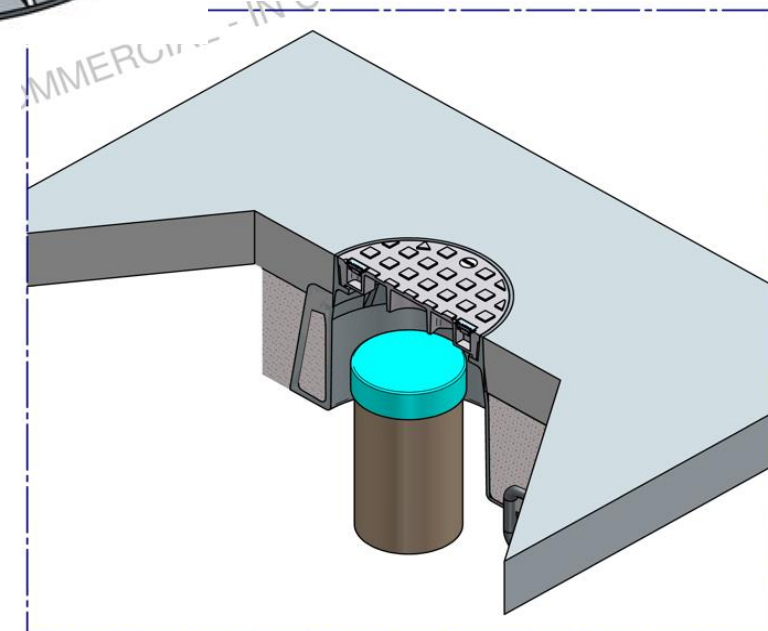
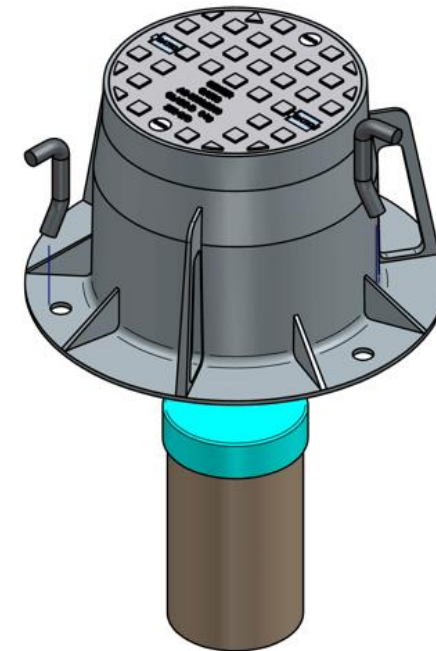
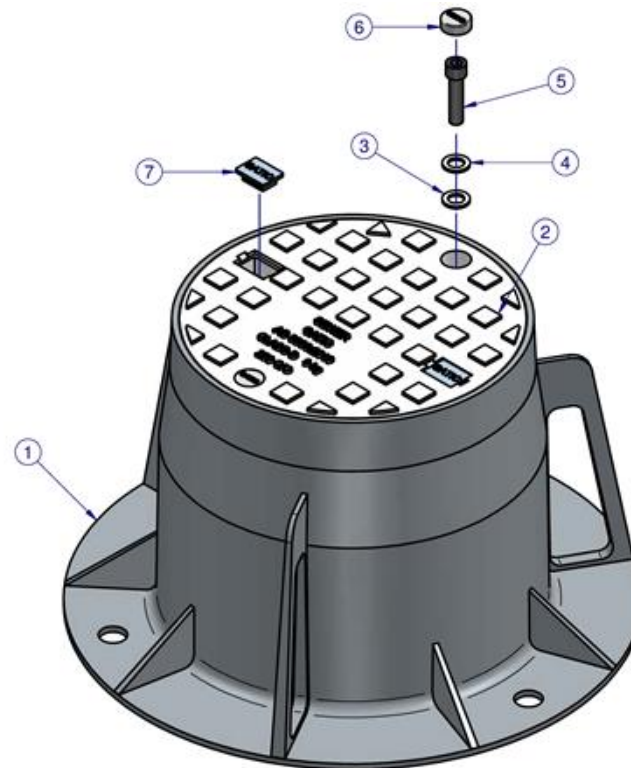
**Standard:** AS 3996:2019 Access covers and grates

**WSAA Products Spec:** None

**Recommendations:** GATIC DI DN250 Top Hat Class D Inspection Shaft and Inspection Opening cover for gravity sewer application for below locations:

- Inspection Shaft of 150 and 225mm
- Inspection Opening 100 and 150mm that has to be brought to the surface for connecting town houses from road reserve reticulation as shown in Figure 3

The top hat has a 300mm deep frame that restricts the soil covering the inspection shaft and has a 250mm clear opening at top and 325mm at bottom that facilitates ease of maintenance activities.







- Iplex supplied a sample to PFM Brooklyn depot in Feb 2022 for trial installation.
- With the recent change to AS3996:2019 all new products are supplied with 2 x M12 bolts in order to be compliant with the new standard.
- The bolts are under the white plugs on the photo.

As per Section 4.2.2.2 of AS3996, load test was conducted using the serviceability load of 160kN and ultimate design load of 240kN on 250mm clear opening Class D DI top hat.

The limits for permanent set and deflection are given in Table 4.2 of AS3996 as below for Class D DI top hat.

**TABLE 4.2**

**SERVICEABILITY LOAD PERMANENT SET AND DEFLECTION LIMITS**

Class	Condition	Maximum permanent set	Maximum deflection
A and B	All sizes	CO/100	CO/45
C to G	CO ≤500 mm	1 mm	CO/100
	CO >500 mm	CO/500	or CO/45 [when designed and tested to Clause 3.2.1.2(d)]

### Test Results:

The sample passed with permanent set 0.28mm (< 1mm) and deflection 1.40mm (<2.50mm) and it sustain both the serviceability load 160kN and ultimate design load 240kN without visible cracking, collapse or other similar forms of structural failure

MECHANICAL TESTS			Class D	SDL	Perm Set	Deflect	ULSD
Circular Opening (CO)			250mm	Spec Min :			
Test Block			200mm Circle	Spec Max	After 5 cycles	1.00mm	2.50mm
Prod'n Run Id	Sample Ref	Test Number	Test Piece	Type Test	160kN	160kN	4.4.2.2
21ORGATIC016	OR3	09 07 21	1	Cover	Load	0.28mm	1.40mm
							Pass

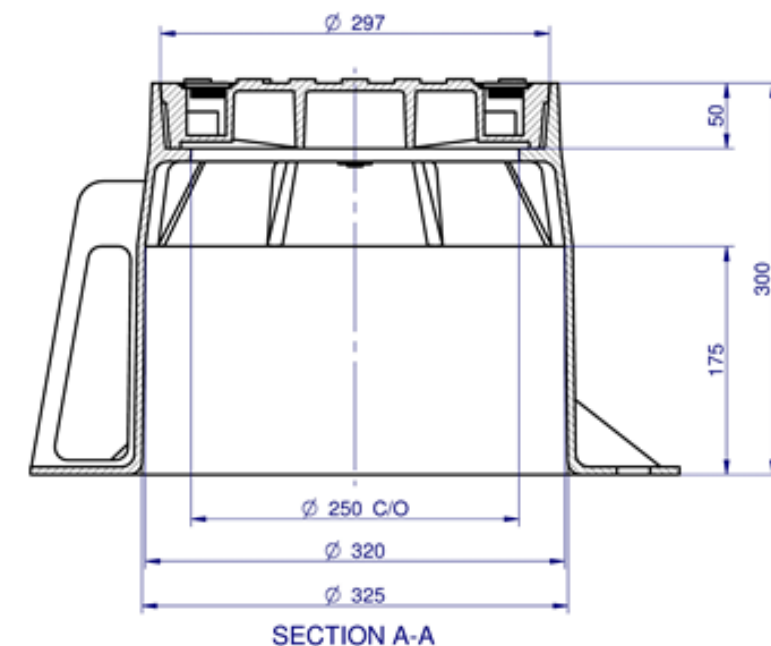
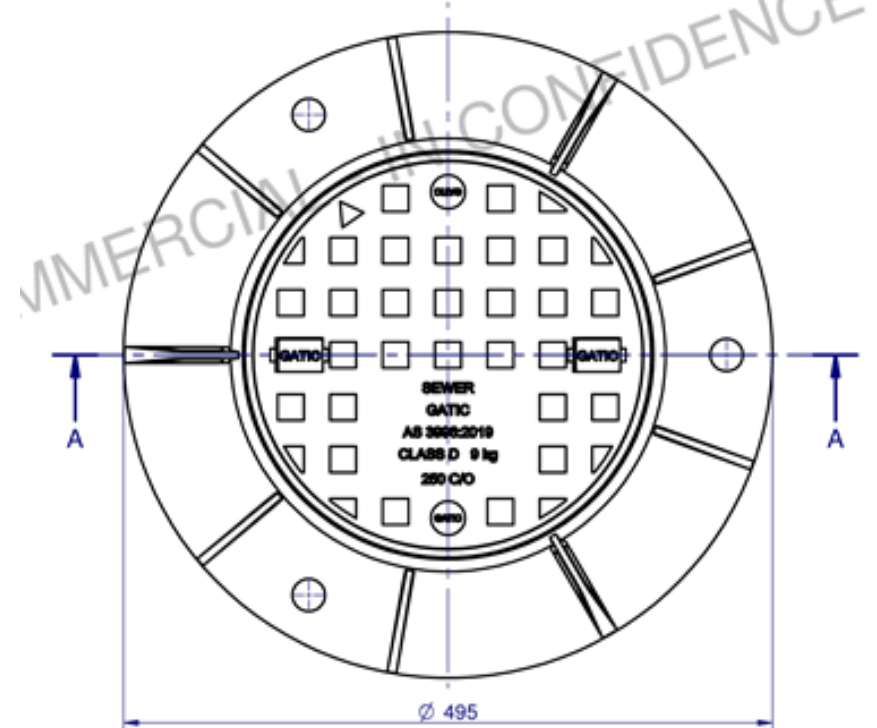
- Proposing access covers for Inspection Openings at the 27A was discussed and closed off when the standards were updated in Dec 2020.
- The use of an access cover for IO at the 27A was not considered as a viable option.
- IO will remain buried till the Private Plumber access it after PIC
- However an access cover Class D is recommended for providing sewer connection for town houses from road reserve reticulation where the IO has to be brought to the surface, as shown in Figure 3.

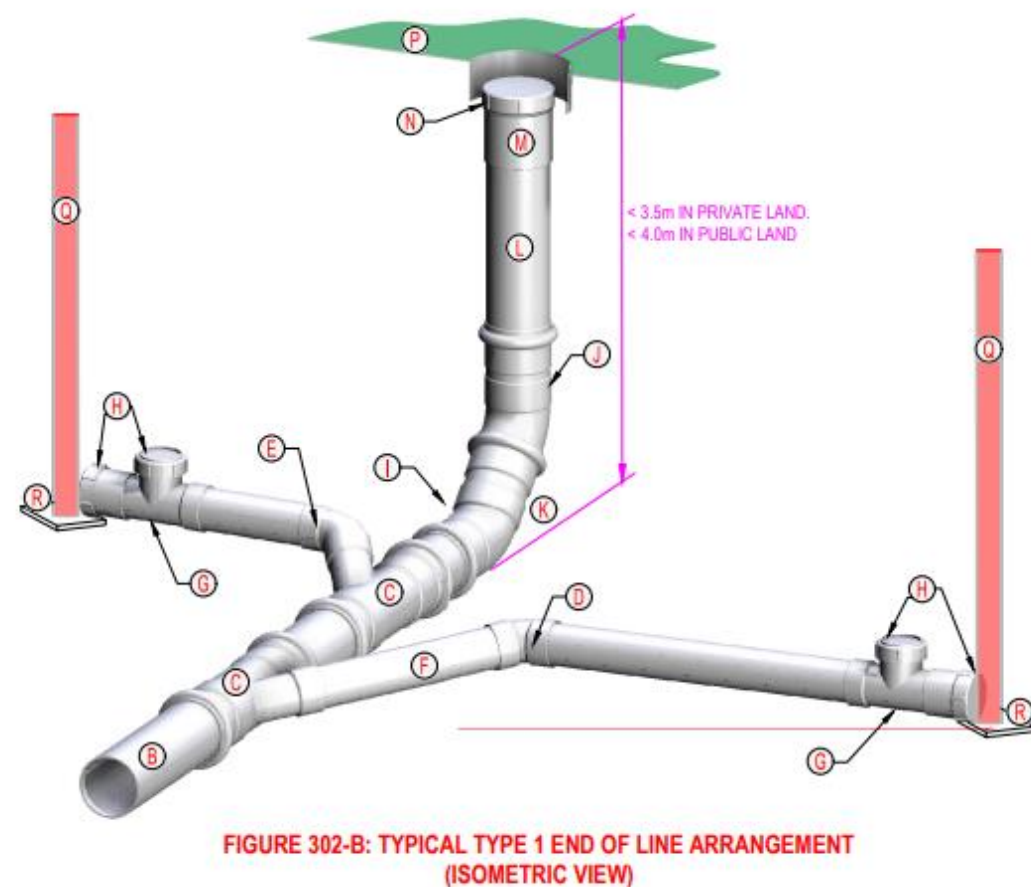
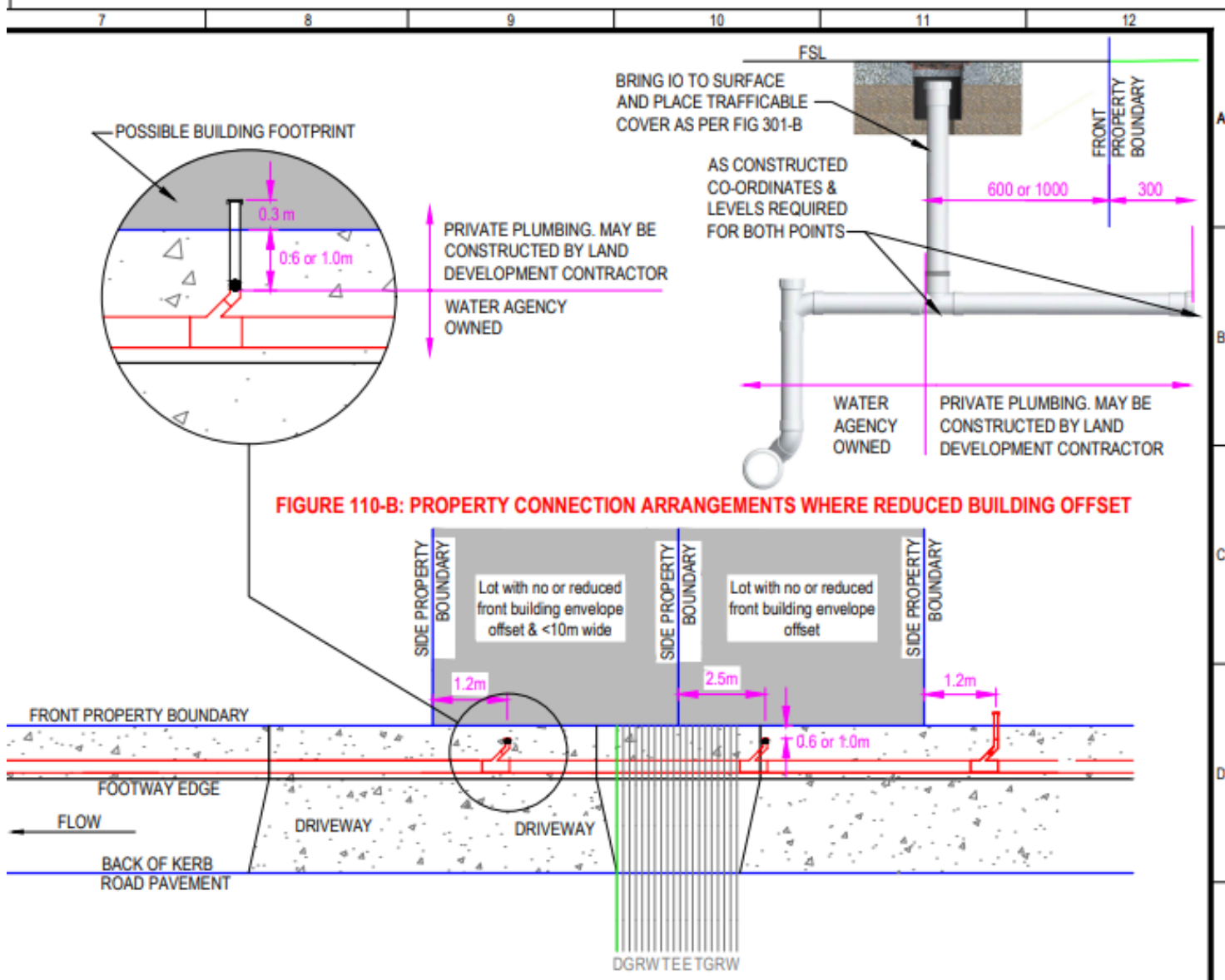
AS/NZS 1260:2017

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**TABLE 4.1**  
**DIMENSIONS OF PLAIN WALL PIPES**

Nominal size DN	Mean outside diameter $D_m$		Out-of-roundness max.	Wall thickness min.	Mean internal diameter min.	Tolerance on end squareness
	min.	max.				
32	36.2	36.5	1.0	1.9	30	1
40	42.8	43.1	1.0	2.0	36	1
50	55.7	56.0	1.2	2.2	48	2
65	68.7	69.1	1.6	2.7	60	2
80	82.3	82.7	1.7	2.9	73	3
100	110.0	110.4	2.7	—	98	4
150	160.0	160.5	3.9	—	143	6
175	200.0	200.6	4.8	—	178	7
225	250.0	250.7	6.0	—	224	9
300	315.0	315.9	7.6	—	274	11
375	400.0	401.0	9.6	—	352	14
475	500.0	501.0	12.0	—	440	17
600	630.0	631.0	15.2	—	554	22





**Figure 4: Typical Type 1 end of line arrangement**

<https://mrwa.com.au/Shared%20Documents/Standards/MRWAWSA02/MRWA-S-302.pdf>

**Figure 3: Road Reserve Reticulation connecting with Town Houses**

<https://mrwa.com.au/Shared%20Documents/Standards/MRWAWSA02/MRWA-S-110.pdf>





Inspection Shaft Access Covers currently in use





# Thank you

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