



# Consultant's Design Certification Checklist Pipes and Structures

EXAMPLE FOR CONSULTANT'S OPTIONAL INTERNAL USE  
NOT REQUIRED TO BE SENT TO MELBOURNE WATER

**Project name and EPMS ref:** \_\_\_\_\_

**Subdivision:** \_\_\_\_\_

**Municipality:** \_\_\_\_\_

**Developer:** \_\_\_\_\_

**Consultant:** \_\_\_\_\_

**Consultant rep:** \_\_\_\_\_

**Melbourne Water assessor:** \_\_\_\_\_























































**Consultant ref:** \_\_\_\_\_














































**Melbourne Water ref:** \_\_\_\_\_













**Melways ref:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Pipes and Structures		Yes	No	N/A	Comments
1	Compaction requirements are stated on the drawings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Backfill requirements are stated on the drawings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Loads on pipes are allowed for in the design.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	The cover over the pipe is acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	All service cover/offset requirements are to Melbourne Water standard.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Pipe block outs are acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Standard drawings referred to are correct/acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Steel reinforcement is acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	All culverts are to Melbourne Water standard.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	Requirements for tunnelled and jacked pipes are specified.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	Pipe-pit connections meet Melbourne Water /Council standard (not entering through pit corners).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	The pit specifications are to Melbourne Water specifications, e.g. size, step irons, lid etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	Council's written acceptance to any assets they will be maintaining has been provided (including GPTs).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	Pipelines for smaller than 60 ha catchments have been designed to incorporate Council standards.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	All affected land owners have accepted the design and construction in writing.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	All services passing under the asset meet <a href="#">Melbourne Water / Council's standards</a> .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	Heavy-duty Gatic Type BV covers (or equivalent) have been specified (no Terra Firma lids).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	Manhole spacing and location meet Melbourne Water <a href="#">maintenance requirements (5.3.5) as per the Planning &amp; Building website</a> .	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

19	A manhole is located at Melbourne Water's drainage limit.				
20	Manhole opening size caters for maintenance requirements.				
21	All Melbourne Water pits are to be constructed in-situ.				
22	Detail is provided on drawings for any non-standard structures.				
23	<a href="#">Pipe outlet standards</a> have been met.				
24	The pipeline is unencumbered by trees, or proposed planting is as per Melbourne Water's requirements.				
25	Slope of HGL has been calculated or determined from pipe friction charts based on Colebrook-White formula.				
26	The HGL along the pipe is appropriate. (No uncontrolled surcharging will occur.)				
27	Allowance has been made for change in HGL through pits, e.g. drop through pit.				
28	The pipe size is maintained or increases as you work your way down the system.				
29	Allowance has been made for all <a href="#">head losses described in the standards and specifications section of the Planning and Building website</a> .				
30	Pipeline design peak flow rates have been calculated using the Rational Method.				
31	Design peak flow rate has not been reduced while progressing down the catchment.				
32	Partial area effects have been considered.				
33	The design flow vs. capacity is acceptable.				
34	The pipe outlet velocity is acceptable.				
35	The pipe grade is acceptable. (<1:10 may require anchor block.)				
36	The pipe has been appropriately selected, i.e. RRJ or IJ.				

37	Splay pipes and angles have been designed in accordance with Melbourne Water's <a href="#">structural design requirements (5.3.4) as per the Planning and Building website</a> .				
38	Drop structures have been designed in accordance with <a href="#">Figure 5 in 5.3.2 (hydrologic and hydraulic design) of the Planning and Building website</a> .				
39	Duckunders are designed in accordance with the examples shown in <a href="#">Figures 6 and 7 in 5.3.2 of the Planning and Building website</a> .				
40	Surface inlet/outlet pits have been designed in accordance with the example shown in <a href="#">Figure 8 in 5.3.2 of the Planning and Building website</a> .				
41	Inlet and outlet grates have been designed in accordance with Melbourne Water's <a href="#">hydrologic and hydraulic design requirements (5.3.2) as per the Planning and Building website</a> .				
42	Major/overland drainage system has been designed to cater for flows of 100 year ARI.				
43	Pipelines for smaller than 60 ha catchments have been designed to incorporate Council standards.				
44	Rainfall intensities have been calculated or selected from Australian Rainfall & Runoff.				
45	Drain has been designed to flow full at its design capacity.				
46	Slope of HGL has been calculated or determined from pipe friction charts based on Colebrook-White formula.				
47	Allowance has been made for change in velocity head.				
48	Minimum velocity requirements for self-cleaning have been observed.				
49	Inlet and outlet grate requirements have been met.				
50	Requirements for tunnelled and jacked pipes specified.				
51	Drain embedment and backfill are in accordance with <a href="#">Section 6 of the Planning and Building website</a> .				

53	Design of concrete structures conforms to relevant codes, standards and specifications.				
54	Cement type and concrete strength have been specified.				
55	Reinforcement cover has been specified.				
56	Heavy-duty Gatic Type BV covers (or equivalent) have been specified.				
57	Connections from the local catchment to the Melbourne Water drainage asset have been minimised and have been designed to meet Melbourne Water's requirements.	