

Detail design checklist

1. Design details			
Address on development consent:			Case Number
Asset Stream:	<input type="checkbox"/> Wastewater <input type="checkbox"/> Potable Water <input type="checkbox"/> Recycled Water <input type="checkbox"/> Stormwater	Asset Size Asset Type	
Design Version (select relevant version) <input type="checkbox"/> Initial design <input type="checkbox"/> Amendment No <input type="checkbox"/> Variation			
Design categories (select all that apply) <input type="checkbox"/> W1 <input type="checkbox"/> S1 <input type="checkbox"/> RW <input type="checkbox"/> LP <input type="checkbox"/> W2 <input type="checkbox"/> S2 <input type="checkbox"/> SW <input type="checkbox"/> W3			
Does the design adhere to the requirements in the NOR (point of connection, size etc)? <input type="checkbox"/> Yes <input type="checkbox"/> No If you answered "No" above, please explain below why and how it is different.			

2. Designer details		
Designer Name	Competency level	
Verifier Name	Competency level	

3. Site and risk assessment
<p>Is the route of the works on;</p> <p><input type="checkbox"/> The developers site <input type="checkbox"/> Other private land <input type="checkbox"/> Council roadway/footway</p> <p>If the route of the works is on "Other private land", do you have permission to enter the land from the owner/s of the property?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If you do have permission, please attach this with the design submission</p>
<p>Does the development or the proposed works impact on Sydney Water?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If 'Yes', please indicate the reasons for the impact from the options below (select all that apply):</p> <p><input type="checkbox"/> Create or extinguish an easement <input type="checkbox"/> Adjoins SWC property <input type="checkbox"/> Acquire land for SWC purposes</p>

Has an initial site visit been carried out?
 Yes No
 Date of initial site visit:
An initial site visit must be completed before a design can be submitted.

Dates of any follow up site visits			

Provide details of any site, route or service constraints identified:

Will any critical assets be affected (including trunk mains, critical customers, SWC facilities etc)?
 Yes No
If 'Yes', a risk assessment must be undertaken and submitted with the design.

4. Wastewater Catchment Analysis Compliance

Is a wastewater catchment analysis required? (mandatory for all deviations, where the EP >300 or when the size of the pipe of the proposed works is ≥ 300 mm)
 Yes No – go to Section 5
If 'Yes', a catchment plan, flow diagram and flow schedule must be submitted with the design.

If a wastewater catchment analysis is required, does the design meet the requirements for self-cleansing grades and slime control?
 Yes No
If 'No', please indicate the reasons below and advise us of the impacts on the wastewater system.

5. Standards Compliance

Which of the following applies to the design (select one only)?

- The design complies to WSAA/Sydney Water codes and standards & DTC drawings are correctly referenced on the design plan
- The design proposes an alternate solution - **You must submit an engineering report and certification with the design package and complete the Engineering Compliance (section 6) below**

6. Engineering Compliance

Is an Engineering Design Proposal (EDP) required? (mandatory for an Alternate Solution, Out of scope Building Plan Approval or Sewer in building/basement)

- Yes
- No – go to section 6.1

If 'Yes' which of the following applies?

- Alternate Solution
- Out of scope BOA/BAA
- Sewer in building/basement
- Other (please indicate the reason)

If an EDP is required, you need to complete the EDP section on pages 5-8. The specific design components need to be identified where DTC drawings are not suitable.

The design proposal submitted will constitute the "Works" being considered. "Works" that do not comply with standards and are not included in the proposal will be deemed unauthorised in all instances.

6.1 Geotechnical Compliance

Do geotechnical requirements apply to this design?

- Yes
- No – go to Section 6.2.

If 'Yes', select all the relevant criteria from the options below

- Mine subsidence
- Unstable/steep land
- Filled ground
- Landslip
- Contaminated land

If 'Yes', a geotechnical report must be submitted with the design.

6.2 Environmental Compliance

Select the environmental requirements that apply to this design from the options below.

- | | |
|--|---|
| <input type="checkbox"/> Environmental Impact Statement – EIS | <input type="checkbox"/> Heritage report |
| <input type="checkbox"/> Review of Environment factors – Part 5 (Sydney Water) | <input type="checkbox"/> Aboriginal Land report |
| <input type="checkbox"/> Review of Environment Factors – Part 4 (Council DA) | <input type="checkbox"/> Flora / Fauna report |
| <input type="checkbox"/> Construction Environmental Management Plan | <input type="checkbox"/> Other |

All relevant environmental reports must be submitted with the design package.

7. Connection Compliance

Do you require an up-front connection?

Yes No Not sure

If 'Yes', please provide the reason that you require an up-front connection and the steps you will take to manage the existing water and/or wastewater network.

If an up-front connection is required after the design has been accepted, your constructor will need to provide details on the steps that will be taken to manage the existing water and/or wastewater network before construction commences.

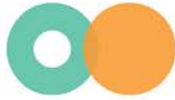
8. Work as Constructed Verification

Reviewed by:	Yes	No	NA	Comments/Date
Work as Constructed plan				
Restoration has been certified				
Field testing has been certified				
Easement/land clearance has been obtained				
Costs have been verified				
Disconnected assets have been verified				
File naming convention has been applied				Refer to: <i>Preparation of Work-As-Constructed Plans for Electronic File Submission</i>

I certify that:

- I have prepared and reviewed the above information
- That the information is correct and accurate
- A site visit was carried out before the Work as Constructed plans were prepared

Designer Name	Date	
Verifier Name	Date	
WSC certifying officer	Date	



Engineering Design Proposal (EDP) – please complete if you answered “yes” in Section 6

Attention should be drawn to section 9 of the WSA 02 code and the WSA 03 Code which requires Designers to undertake a design review to ensure that designs comply with the requirements of the code. This design summary is not intended to replace that requirement but represents elements of the design which in our experience more regularly fail to meet compliance with the codes and require more specific attention from Designers.

1. Please provide a summary of the works, listing the design elements involved in the project (for example)

Example: Deviating an existing 225mm VC wastewater pipe through a basement with 4 maintenance structures to be constructed (2 x MH, 2 x MS). Lay 18m of DN225mm uPVC pipe in ground and 22m of DN225mm DICL in basement supported on wall brackets. Traffic bollards to be installed in the basement for pipe protection.

2. Using the elements from 1 above, please provide a detailed breakdown of the design elements in the table. List the key elements of each, indicating compliance or non-compliance with the relevant sections of the code.
3. If there is a structural element affecting the pipeline assets, please provide engineering certification that the works will not affect Sydney Water’s pipes or assets.
4. Are there abnormal geotechnical conditions (ie groundwater, cut slope, deep excavations etc) affecting the assets? If yes, please provide an engineering certificate that the proposed works will not affect Sydney Water’s assets.
5. Please list key components which do not comply with the codes and standards, providing an explanation on why they do not comply.

Summary of Works

Key component	Code/Guideline section or clause	Indicate compliance or non-compliance for each element.
Maintenance Structures		
Type (MH, MS, MC etc)	WSA 02 Table 6.1 WSA 02 CI 6.5	
Location	WSA 02	
Access/working space	WSA 02	
Drop through structure	WSA 02 Sec 4.6.6	
MH change of direction	WSA 02 Table 4.1	
Wastewater Pipelines		
Material selection		
Design capacity (size & grade)	WSA 02 Sec 4.5	
Alignment	WSA 02 Sec 4.2.3	
Accessories (couplings, junctions etc)		
Protection		
Minimum cover	WSA 02 Sec 4.6.3 WSA 02 Table 4.8	
Services clearances	WSA 02 Table 4.2	

Key component	Code/Guideline section or clause	
Basement Installations		
Pipe diameter (<=225mm)	RSIB Sec 1	
Wall penetration	RSIB Sec 3.3 RSIB Fig 2 and 3	
Maintenance structure (location and type)	RSIB Sec 2.6	
Alignment	RSIB Sec 2.4	
Vehicle protection (ie bollards)	RSIB Sec 3.4 RSIB Sec 3.5	
Supports/wall brackets	RSIB Sec 3.2	
Access (24/7)	RSIB Sec 2.3	
Working clearances	RSIB Sec 2.3 RSIB Sec 2.5 RSIB Sec 2.7	

Building Over/Adjacent to pipe assets		
Works in the Zone of Influence (vehicle loading, foundations etc)	BOAPA Sec 2.8 Fig 4, 5, 6 & 7	
Clearances from structures (horizontal and vertical)	BOAPA Sec 3	
Protection	BOAPA Sec 2.3 BOAPA Sec 2.4	

PCP/PSC		
Connection methodology	WSA 02 CI SW 5.3.4	
Depth	WSA 02 CI 4.6.5.4 SEW-1151-S	
Location	WSA 02 Sec 5.6	

Minor Works		
Junction insertions	Minor Works Sec 13.2	
PCS construction	Minor Works Sec 13.4	

Potable Water Pipelines		
Material selection	WSA 03	
Design capacity (size & grade)	WSA 03	
Alignment	WSA 03	
Minimum cover	WSA 03	
Services clearances	WSA 03	
Appurtenances – valves	WSA 03	
Appurtenances – scours	WAS 03	
Appurtenances – hydrants	WSA 03	

Glossary

WSA 02/03 – Sewerage Code of Australia (Sydney Water edition), Water Supply Code of Australia (Sydney Water edition)

BOAPA – Sydney Water’s technical guidelines *Building Over and Adjacent to Pipe Assets*

RSIB – Sydney Water’s technical guidelines *Reticulation Sewers in Basements*

Minor Works – Sydney Water’s *Technical Requirements and Work Instructions for Minor Works (sewer)*



Example of how you might complete a section of an EDP proposal.

Example		
Type (MH, MS, MC etc)	WSA 02 Table 6.1 WSA 02 CI 6.5	MH1: compliant, MH 2; non-compliant, MH 3: compliant. Engineering design for MH 2, to effect non-standard material for visual amenity
Location	WSA 02	Compliant
Access/working space	WSA 02	Compliant
Drop through structure	WSA 02 Sec 4.6.6	Minimum drop not met, steepness of grade and EP maintain hydraulic design
MH change of direction	WSA 02 Table 4.1	MH 1: compliant, MH 2; compliant: MH3; compliant