

Drawing Checklist for Water and Sewer Drawings for Building Developments, Extensions and Subdivisions

The proponent's hydraulic designer/draftsperson, should use this checklist as a guide to Power and Water's documentation requirements for water and sewer project drawings. Ensure your development drawings comply with this checklist before submitting to Services Development. For more information contact Customer Service on 1800 245 092 or visit www.powerwater.com.au

General/Cover Sheet

- Designs must conform to all requirements of the Power and Water Connection Code and associated documents.
- Ensure each Power and Water Corporation drawing sheet has a specific 'Registered Drawing Number' issued by the Technical Record Section of Department of Construction and Infrastructure (DCI). Call Technical Records on 8924 7371 or send email request to technicalrecords.dpi@nt.gov.au for drawing numbers.
- Ensure each of the drawing sheets have a descriptive title including:
 - subdivision name (i.e. Bellamack, Stage 1, Subdivision of lot 3100)
 - lot numbers (i.e. Proposed lots 5220 and 5221)
 - street details (i.e. Chung Wah Avenue)
 - location/region (i.e. Town of Palmerston)
 - project type (i.e. Water and sewer services)
 - sheet description, for example:
 - DN100 water service, cover sheet
 - Sewer connection, cover sheet
 - Water (or sewer) details
 - Water (or sewer) plan sheet 1 of 4
 - Sewer longitudinal section Line 1 sheet 1 of 2
 - Thrust block details
- A cover sheet drawing should be supplied and include:
 - Power and Water's standard notes as a minimum and any others as required
 - a list of water and sewer project drawings and standard drawings
 - a locality plan showing adjacent lots and roads
 - a legend.
- For large subdivisions provide 30%, 70% and 90% drawings to Power and Water for comment.

Clearances/Approvals

- Ensure all relevant authorities (Department of Construction and Infrastructure - Road Networks, Power and Water – Power Networks, and Office of General Counsel, Telstra, local Councils, etc.) have proofed and approved the design proposal.
- Show AAPA clearance certificate no. with associated restriction (if any) on project drawings.

- Ensure the drawing was proofed, signed & dated by both the checker and designer before being sent to Power and Water for approval or review. Designer and certifier initials, signature and dates of check to be included on design drawing. Show appropriate revision numbers to reflect Power and Water's review stages (preliminary, 30%, 70%, 90%, final).
- On each sheet include a Power and Water Corporation design approval signature box as per the template below. Design must be updated to current standards and re-submitted for approval if construction does not commence within the 2 year validity period. Re-analysis may occur to determine if upgrades are required.

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY	
SIGNED _____	DATE _____
ON BEHALF OF WATER SERVICES FOR THE INCORPORATION INTO POWER AND WATER CORPORATION'S NETWORK.	
This permission to Use this Approved Design is given on the basis that the developer and/or Consultant is not absolved from full responsibility for the correctness and accuracy of the design and/or documents so associated.	
This drawing is valid for 2 years from the date of signing.	

Format/Set Out

- Submit drawings in A3 printable electronic format (*.pdf). For as-constructed submission of CAD files (*.dgn/*.dwg) is also required. For large subdivisions one hard copy set should also be delivered to Services Development.
- For water, show chainage/location (MGA 94, levels to AHD) for all valves, fire hydrants, tees, bend and line ends. Show separation distances/levels for intersecting services.
- For sewer show location (MGA co-ordinate system accepted by Power and Water, and levels to AHD) of all maintenance holes/shafts, inspection openings, separation distances/levels to crossing services, type of lot service connections, distance of all service connections form downstream maintenance holes/shafts, invert levels of type 2, 3, 4 and 5 service connections to certify compliance of the drawings.
- Show typical service allocation plans and sections for both road reserve and lot services.

Plans/Longitudinal Sections/Details

- Scale and text are to be suitable for A3 sized drawing sheets.
- Ensure a drawing bar scale, A3 written scale and north point is provided on each sheet.
- For staged developments, each stage of development will require clear labelling and separate location diagram or plans detailing each stage of works.
- Ensure the lot number, zoning, ultimate equivalent population (EP) for each non-SD lot is clearly indicated on the plans.
- Show road reserve boundary and water and sewer easements outside the road reserve. Provide easements outside road reserve in accordance with Power and Water's Easement Policy Guidelines.
- All water and sewerage compilation plans are to be provided on separate sheets. Non-potable or recycled water are not to be shown on potable water plans.
- Master services plan should show all services including; power, telecom and stormwater drains, non-potable in addition to water and sewer mains.
- Ensure that all components of the water and sewer services, both new and existing are clearly distinguishable on the drawing. For clarity, make the proposed water and sewer mains 'bold' and other existing services light weight. Do not use greys or colours.
- Ensure all pipework is clearly labelled on the plans. Show pipe sizes, material, type and class of all proposed pipes.

- Remove all unnecessary layers from the drawing (eg. contours, electricity, communications, sewer detail in a water supply drawing, water detail in a sewer layout drawing, non-potable/recycled water in a potable water drawing). For subdivision drawings contours are to be shown on sewer drawings during planning and early review processing only.
- When designing new services in existing serviced areas, the designer shall provide a longitudinal section detailing all existing services and levels.
- Long sections are required for water mains equal or greater than DN250, and for all sewer reticulation and rising mains. Long sections are to show pipe location & chainage, dia, class, grade, invert and finished surface level, existing and future services crossing, embedment and backfill material types, location of fire hydrants, valves, etc.
- Provide details of all connections to existing water and sewer infrastructure, and typical water branch connection details (i.e. schematic single line diagrams, or outline drawings) showing all the various applicable valves, tee or bend arrangements. Show all joints (typical and special) and restraints.
- Provide cross reference to all joint details and long sections.
- Show thrust and anchor blocks on all water mains and sewer pressure mains.

Inspections

- For building developments and small subdivisions (as approved) include Power and Water's required inspections box as per the template/s below. Large subdivisions are not to use these templates and instead will refer to the Master Specification for inspection hold points.

Minimum required inspections by hydraulic certifier - WATER

INSPECTION 1

Inspect excavated trench and verify bedding type required for the subsoil condition. Take advice of a Geotechnical Engineer before accepting an alternative bedding material. Get approval from PWC.

INSPECTION 2

Main/service completed with connection to existing main and a stainless steel blanking plate (spade) installed between flanged joint, or water main/service completed waiting for connection to existing main. All thrust blocks installed. Verify as constructed information.

INSPECTION 3

All joints exposed, carry out air test before undergoing pressure test. Inspection 3 not required for lengths greater than 6m and for all road crossings.

INSPECTION 4

Witness of disinfection, flushing and water sampling.

INSPECTION 5

Conduct handover with Power and Water.

INSPECTION 6

Final inspection to ensure all outstanding items/defects are complete for clearance.

Minimum required inspections by hydraulic certifier - SEWER

INSPECTION 1

Inspect excavated trench and verify bedding type required for the subsoil condition. Take advice of a Geotechnical Engineer before accepting an alternative bedding material. Get approval from PWC.

INSPECTION 2

Main/service completed with connection to main/MH with double isolation, or main/service completed waiting for connection to main/MH. All thrust blocks installed (rising mains). Verify as constructed information.

INSPECTION 3

All joints exposed, carry out air test before undergoing hydrostatic (gravity) or pressure test (rising mains), and CCTV inspection (gravity). Inspection 3 not required if total length is less than 6m and there are no MH/MS's.

INSPECTION 4

Conduct handover with Power and Water.

INSPECTION 5

Final inspection to ensure all outstanding items/defects are complete for clearance.