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This document addresses requirements to connect to water and sewer systems in Northern Territory remote communities.

Background

Power and Water Corporation is responsible for electricity, water supply and sewerage services in a range of urban centres and remote communities across the Northern Territory.

Remote community development enquiries and applications are processed through Power and Water's remote development team. This does not include areas declared as outstations. Enquiries and development applications for urban centres, including the gazetted towns of Elliott, Borroloola, Timber Creek, Mataranka and Pine Creek are processed by Power and Water's urban development team.

Developer and contractor information

Development information, including application forms, guidelines and standard drawings, is available on the [Power and Water website](http://powerwater.com.au/developers/remote) (powerwater.com.au/developers/remote).

For further enquiries, please contact our Remote Development team in:

- Darwin Region (north of Tennant Creek)
Phone: 8924 5094
- Alice Springs Region (south of Tennant Creek)
Phone: 8951 7312

Contractor certification requirements

Contractors must hold:

- Power and Water accreditation (<https://www.powerwater.com.au/developers/water-development/accreditation>)
- SitePass (<https://www.powerwater.com.au/customers/safety-and-emergencies/safety-and-access>)
- NT Plumbers Certification

- Access to Apparatus Certification
- Current White Card (any state or territory)

To work on any Power and Water assets (including water meters) contractors must also have Stamped Approved Plans.

Stamped Approved Site Servicing Plans (SSPs)

The process to develop Power and Water **stamped approved plans** is managed through the remote development team.

Developers must submit plans for approval and **works may not proceed** until a stamped approved plan has been issued. Approved plans provide all information required to carry out the works. Much of the detail will come from Power and Water standard drawings.

<https://www.powerwater.com.au/developers/standard-drawings>

Approved fittings must be used for connection works and are listed on the Power and Water website at <https://www.powerwater.com.au/developers/water-and-wastewater/standards-and-guidelines/water-services-products-manual>

Gifted asset projects

Notice of intention to start work (NOI), safe work method statement (SWMS) and inspection test plan (ITP) are required. Power and Water understands that timelines change, sometimes even before a project has started. To facilitate a smoothly run project from construction through to any required testing; to connection and handover; these processes were implemented to reduce delays.

Submission of the NOI informs Power and Water of the proposed start date for commencement of the project. The SWMS advises how the work will be done and conforms with national OH&S; while the ITP and independent certifier details how compliance will be demonstrated.

This is all aimed at reducing the amount of witness and hold point delays previously experienced while providing documented evidence of construction compliance.

Water Meters

To be issued with a water meter, please complete and submit [Application for Connection of water and/or sewer](#) form together with a copy of the stamped approved SSP to remotedevelopment@powerwater.com.au

On approval of submitted applications, Power and Water will notify the contractor to collect the applicable water meter from Darwin, Katherine or Alice Springs. When the meter has been installed, a Meter Movement Advice (MMA) is to be completed, and emailed to the following email addresses within 30 days of installation:

remotedevelopment@powerwater.com.au and
IES@powerwater.com.au

Stages of works

Confirmation of works – Power and Water does not routinely inspect works before backfill, however reserves the right to do so. The Stamped Approved Plan will list the photographic evidence required that the work has been completed in accordance with Power and Water standards and the Stamped Approved Plan.

Refer to the attached examples of installation evidence required with 'as constructed' documentation.

On completion of works – All documents and photographic evidence of the underground and above ground works are to be emailed to remotedevelopment@powerwater.com.au within 30 days of completion. A full list of documents and photos are included in this fact sheet on the following page. These requirements will also be noted on the stamped approved plans (SSP).

Please complete the [Field Return Sheet](#) to include offset distances from known assets such as manholes.

Approved SSP drawing is to be signed and dated by the contractor and noted 'as constructed'. Please ensure that it accurately shows locations of all services.

If anything is different to the approved SSP, please ensure you red pen these changes. This is to ensure that our asset data is accurately updated.

NB: any amendments are to be approved by Power and Water prior to the works being completed.

Standard of works

Remote community requirements often differ from those in urban settings and have separate connection standard drawings. These are available at <https://www.powerwater.com.au/developers/standard-drawings>

Stainless steel, copper or poly – corrosive -vs- non-corrosive water supplies. Materials used for the installation of the water service will vary due to the nature of water produced in different areas of the Territory. The Stamped Approved Plan will give direction as to the type of materials to be used.

Generally the areas of the Top End, north of and including the Katherine region are considered corrosive water supplies, while the areas south of Katherine, in Alice Springs and Tenant Creek region are considered non-corrosive water supplies.

Above ground or underground – The current standard is for above ground metering on all property connections in remote communities. Power and Water has moved away from the previous standard of water service connection/metering being underground and not metered in remote communities.

Use of existing ancient connections – Power and Water has found that older service connections are generally beyond their economic life and are not fit for purpose due to either size, location or condition.

If an existing service is found and thought to be fit for purpose, this will need to be demonstrated prior to Power and Water approving a variation for connection to it (unless already noted on the Stamped Approved Plan). The demonstration of fit for purpose may include CCTV of the service, photos showing the condition or a site inspection with a Power and Water staff member with the service excavated and exposed.

Installation evidence required (and noted on stamped approved plans)

Associated as constructed documents:

1. Meter Movement Advice (MMA)
2. Certificate of Compliance (section 40)
3. Field Return sheet
4. As constructed drawing/ SSP mark-up

Please note: The photos required for the works should include the following:

Water:

1. Connection to water service – showing tapping band and connection arrangement including 45 degree angled pipework take off (and thrust block if relevant)
2. Water service pipework with required loop for expansion/contraction of the PE pipework.
3. Sleeve pipe for road crossings as per the standard drawing
4. Connection between the underground pipework and above ground stainless steel or copper riser (length of pipework underground)
5. Completed water service arrangement showing the meter in place, bollard protection and concrete slab
6. Disconnection, termination of the existing tapping band/service and installation of the repair clamp

Sewer:

1. Sewer connection at main
2. Concrete support under the sewer junction riser (type 1 at riser only , type 2 includes the main and the riser)
3. Sewer IO being braced to maintain verticality as noted on the standard drawings
4. Cement stabilized material where required either being mixed or installed
5. Completed sewer service showing the IO cover embedded into FSL
6. Open IO Cover showing the screw cap on the riser below concrete cover
7. Sewer service Disconnection, termination (removal of the old service) and repair of the main with installation of new pipe and couplings

Road Crossings:

1. Existing road condition (before road crossing)
2. Repaired road surface
3. Cement stabilized material being mixed or installed

Asbestos cement pipework:

1. Existing pipework prepared for works
2. Pipe collars being removed
3. Staff in correct PPE
4. Pipework being wrapped

Septic Tank Pump Stations (STEP system for limited communities):

1. Septic tank
2. Separate pump well
3. Inside of pump well showing cabling, flexible outlet hose and pump lifting chain
4. Isolation valve box
5. Electrical control cubical/post including electrical control box outside pump well
6. Electrical isolation at meter panel
7. Macerator pump specification sheet.

Northern Region – water connection examples

Water example photos - aggressive water (other water connections examples are shown on following pages).



Above: Aggressive water installation (ROW1-1-325).



Above: Water service pipework with required loop.



Above: Sleeve for road crossing.



Above: Connection between the underground pipework and above ground stainless steel riser for Duplex (W1-1-25).



Above: Completed meter arrangement (ROW1-1-325).



Above: Disconnection/termination showing tapping band.

Southern Region – water connection examples

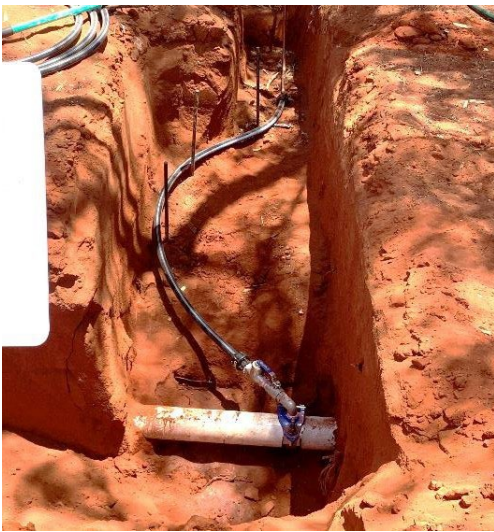
Water example photos – non-aggressive water (other water connections examples are shown on following pages).



Above: Non-aggressive water installation (ROW1-1-425).



Above: Connection between underground pipework and above ground copper riser.



Above: Looping of the water pipework.

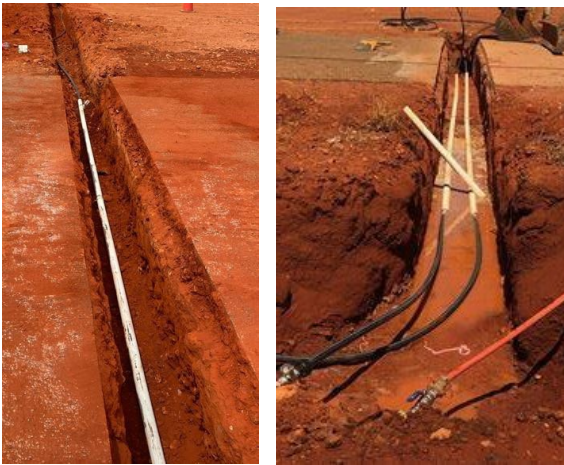


Above: Completed assembly – Duplex (W1-1-29).



Above: Disconnection/termination showing tapping band.

All regions – other water connection examples



Above: Sleeves for road crossings.



Above: Reinstatement of concrete (left) and bitumen (right).



Above: Compacting of the trenching.



Above: Cement stabilised sand.



Above: AC replacement for new water service (no cutting of AC permitted).



Above: DN50 service connection, thrust block no yet installed.



Above: ROW1-1-350 for triplex servicing (W1-1-18A)

All regions – sewer connection examples – Type 1 (W2-1-01)

Refer to water section for road crossing and reinstatement photos required. Sewer is similar.



Above: Type 1 sewer connection W2-2-01 trench.



Above: Concrete thrust block at junction.



Above: Concrete thrust block at riser.



Above: Bracing at riser to maintain verticality.



Above: Termination of old junction.

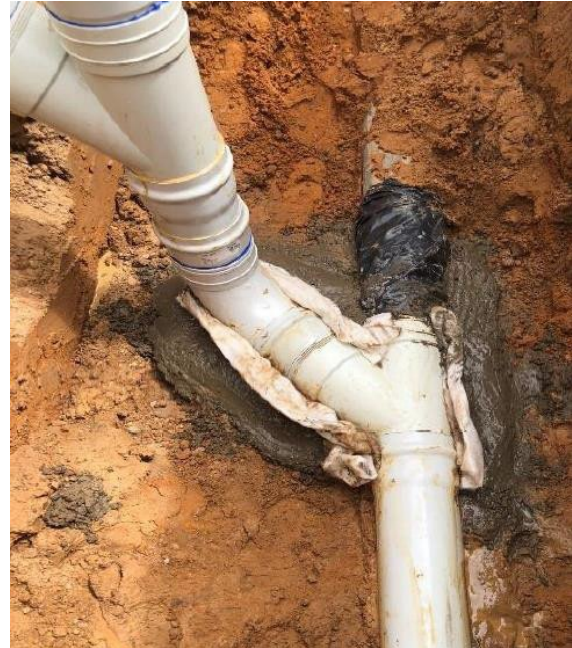
All regions – sewer connection examples – Type 2 (W2-2-02)

Refer to water section for road crossing and reinstatement photos required. Sewer is similar.

Refer to type 1 connection section for bracing/IO cover/termination examples.



Above: Completed IO cover.



Above: Riser at main with thrust block in place.



Above: Completed IO cover.



Above: Continuation of pipework.



Above: Completed IO cover.

All regions – sewer connection examples – Type 4 (W2-1-08)

Refer to water section for road crossing and reinstatement photos required. Sewer similar.

Refer to type 1 connection section for bracing/IO cover/termination examples.



Above: Junction and thrust block installed.



Above: Riser at main in distance (top of image), junction for dual lot servicing (if relevant) and both risers clearly in one image.



Above: Riser at main in distance, junction for dual lot servicing (if relevant) and both risers clearly in one image.



Above: Showing both IO covers associated with the installation for the specific lot.

All regions – sewer connection examples – Type 5 (W2-1-10)

Refer to water section for road crossing and reinstatement photos required. Sewer similar.

Refer to type 1 connection section for bracing/IO cover/termination examples.



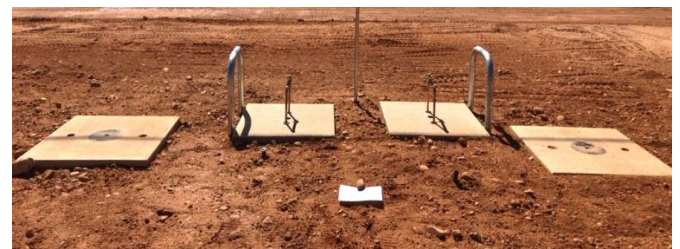
Above: Riser at main with thrust block in place and continuation of pipework from riser.



Above: Riser at main (top of image), junction for dual lot servicing (if relevant) and both risers visible.



Above: Riser at main (top of image), junction for dual lot servicing (if relevant) and both risers visible.

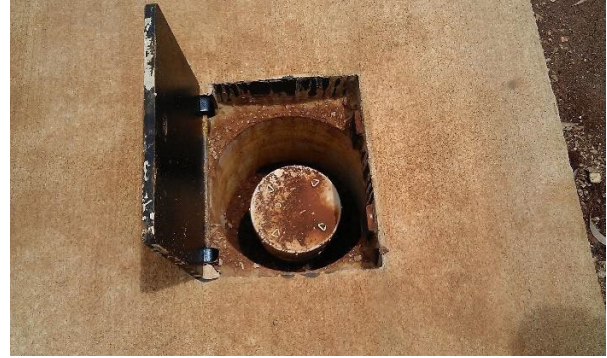


Above: Showing both IO covers for the adjacent lots (and in this case the dual water metering).

All regions – non conforming sewer connection examples



Above: Water meters or fence **incorrectly** installed.



Above: **Incorrect** sewer IO lid and cover to cap.



Above: Sewer MS IO lid **incorrectly** aligned.



Above: **Incorrect** PE tapping to water main.



Above: Sewer IO's **incorrectly** installed.



Above: **Incorrect** extended water assembly.

Example of a stamped approved plan (SSP)

Existing load and new network loads Hydraulic loads in table and electrical loads in note under table for additional buildings on existing serviced site.

EXISTING HYDRAULIC FIXTURES			
Fixtures to be installed	No.	Loading	Total
EX Water Closets	11	2	22
EX Hand Basins	1	1	1
EX Sinks	8	2	16
EX Sinks			
Kitchen	5	3	15
Laundry Trough	1	3	3
EX Hand Closets	6	4	24
Fire Hose Reel	1	8	8
Total			99

NEW HYDRAULIC FIXTURES			
Fixtures to be installed	No.	Loading	Total
Water Closets	4	2	8
Hand Basins	4	1	4
Showers	4	2	8
Sinks			
Kitchen	4	3	12
Laundry Trough	1	3	3
Washing machine	1	3	3
Total			35
P.S.F.R. (kPa)			0.35 US

ELECTRICAL NOTE
 SEE PAGES 19-21 FOR ELECTRICAL METERS

Notes calling up specific site requirements.

Power and Water acceptance box (must be signed)

19th Chief Engineer Works
 305A AVONDA STREET, MAROUBAJ, NSW 2051

SURVEYOR: C.F.J. GULLIVER
DRAWN BY: S.P.R.H. BOLIS
WGS MANAGER: WOH M. PAPAY
PROJECT ENG: C.M.T. STAMMARD

SCALE: AS INDICATED
PROJECT: AUGAP 2015 - 11, KUALA

TITLE: SITE SERVICES PLAN
 385 - 191 - 2A - LSP/S

Existing load and new network load.

More information

For assistance with accessing Power and Water assets in remote communities and for more information contact our Remote Development team on email remotedevelopment@powerwater.com.au or phone 08 8924 5094.