

Mackay City Substation Upgrade - Project Update



June 2020

Momentum continues on our upgrade works at the Mackay City Substation in Tennyson Street.

Our Mackay City Substation Refurbishment has made some great progress in 2019, reaching several important milestones. Like so many businesses, we had to navigate and adapt to the challenges of COVID-19, which has slowed our progress on the project. Work may have slowed on site, but we have been busy behind the scenes planning the next phases of the project, so that our momentum on the ground can recommence in the coming weeks.

Our June update looks at some of the milestones the project team have achieved since our last update and provides you with some detail about the next phase of work that we have scheduled.

Recent Project Milestones

Transformer No 1 installed

The first of the two new transformers was lifted into place in the back of the new substation and the old transformer was drained and removed from site.



Fig 1 - Transformer No 1 is lifted into place in the new substation.

Control Room Buildings

With the first transformer installed in the back of the substation, the new control buildings could be lifted into place at the front of the site. This complex job involved multiple Ergon teams as well as a range of external contractors, including crane operators and doggers from Universal Cranes, local high load transportation drivers and pilots, a 'high wire' team to raise powerlines along the transportation route, Queensland Police Service, traffic control crews and the planning team at Mackay Regional Council.

A significant amount of civil work was carried out prior to the building lift to establish the concrete slabs and communications pits for the new buildings, as well as to construct the steel foundations so that the buildings will be well above storm surge levels.



Fig 2 - Crews establish the steel foundations for the buildings.

The buildings were craned onto semi-trailer transports at the Ergon Depot on Cemetery Road and escorted, by a high wire escort and police, through the streets of Mackay to the substation in the CBD.



Fig 3 – Control building under high load and police escort from the depot in Cemetery Road through town to the CBD.

The buildings were then unloaded using a 220-tonne crane and safely manoeuvred into place with millimetre precision next to the live operational Mackay City Substation, where they were secured on the steel foundations.



Fig 4 – Building No 1 is manoeuvred into place next to live operational substation and secured onto the steel foundations.

We captured this complex two-day operation in this 2-minute time-lapse video of the job. You can view the video on our project webpage here:

<https://www.ergon.com.au/network/network-management/network-infrastructure/major-projects/regions/central/tennyson-street-substation-refurbishment>

Security Fencing

New security fencing was established in March along the southern perimeter of the substation and the temporary building fencing was removed. This new fencing is designed to provide public safety and security for the substation. Completion of this work has improved the safety and access for our neighbouring businesses in Gordon Street. We would like to thank you for your patience whilst this work was completed.



Fig 5 – Completed southern substation security fence.

Next steps – Major Civil Works

Most of the work to date has been inside the substation, however the next stage of activities on the construction schedule will see our civil contractors, Jai-cor take our works outside the substation site and into Tennyson Street and surrounds. The work will be completed in stages.

Stage 1 of these civil works commenced on 25 May and is well underway. It involves the excavation of trenches for electrical and communications cables from the substation, as well as stormwater drainage.



Fig 6 – Stage 1 civil excavation work commences at substation.



Fig 7 – Excavating the exit cable pit.

We have planned the civil work in stages to limit disruption to businesses and the community. Trenching and cable installation work adjacent to businesses will be progressed in daily sections with each section of the excavation refilled at the end of each working day for safety and to limit any inconvenience.

During the civil works all excavated areas, including footpaths and road surfaces, will be temporarily reinstated and completely reinstated to Council specifications upon completion of the works. The remainder of the civil work stages are scheduled as follows:

Victoria Street Feeder (scheduled 8 to 15 June)

– Excavation of underground trenching along the east side of Tennyson Street for the Victoria Street feeder. This work will involve excavating along the footpath from our site office opposite the substation, past Tennyson House and up to TechServe. Carparking on the eastern side of Tennyson Street will be within the work zone and unavailable during this time, however parking on the opposite side of the road will be available. Half of the road will be closed off and under traffic control. Pedestrian access to businesses will be facilitated by the traffic controllers.



Fig 8 – Location of Victoria Street Feeder civil works.

Tennyson Street south and Gordon Street east (scheduled 16 June to 13 July)

– This phase of work will include the excavation and underground boring of southern sections of Tennyson Street and an eastern section of Gordon Street for the installation of underground cable and communications pits. Some of this work will use open trench excavation; other sections (across Gordon Street) will be under-bored. Car parks along the work zone will be unavailable, however parking on the adjacent side of Tennyson and Gordon Streets will be available.

Tennyson Street will be closed to through traffic and under traffic control, with a detour in place while the trenching across the street is completed. Otherwise streets will remain open to through traffic.



Fig 9 – Location of Tennyson St south & Gordon Street east civil work.

Gordon Street North West (scheduled 14 to 21 July)

– This phase of work will include excavation along the footpath down the north-west section of Gordon street in front of Jeff's Bikes and Focus on Flooring Xtra for installation of cables. Carparking directly in front of Jeff's Bikes and Flooring Xtra will be impacted, however parking in front of Ideal Electrical and around the corner in Tennyson Street will be available with pedestrian access.



Fig 10 – Location of Gordon St West civil work.

Shakespeare Feeder installation in Tennyson & Gordon Streets (scheduled 22 July to 7 August)

– This phase of work will connect the Shakespeare Street powerline to the Mackay City Substation. This will require our contractors to trench along Tennyson Street to the corner of Gordon Street in the south. They will then bore under Gordon Street, from corner of the roundabout next to Flooring Xtra, across to the other side of the road in front of Ideal Electrical. Trenching will recommence along the footpath in front of Ideal Electrical.

Traffic control will be in place along the work sites, with through traffic permitted and controlled pedestrian access. The car parks in front of Ideal Electrical on Gordon Street will be unavailable at times throughout this phase of work.



Fig 11 – Location of Tennyson and Gordon St civil work for the Shakespeare Feeder.

Cable recovery & Final Restoration (scheduled Nov to Dec)

– The final stage of the civil works is to recover the old cables from the Tennyson Street Substation that are currently servicing the electricity needs of the community. We will then reinstate all the footpath and road surfaces in these work zones to their final state, as agreed with Council.

Whilst recovering the redundant cables will result in additional work, it is important that we remove them, and it presents several benefits. One of the benefits is that it simplifies future fault finding for our crews by reducing the number of underground cables to only those that supply electricity to the surrounding area. So, should we have a cable fault in the future, our crews will be able to find it faster. We can also recycle recovered cables, helping to offset some of the project costs and result in a better outcome for the environment.

The final reinstatement work will involve replacing the footpaths and road surfaces, disturbed during the civil work stages, to their final state.



Fig 12 – Cable recovery and footpath and roadway reinstatement.

These civil works will unfortunately create some disturbances, including noise, dust and various vehicle and pedestrian access limitations. However, we have planned each phase very carefully to reduce the impacts to our neighbouring businesses and the broader community.

Getting in touch with us

Here we have provided you with an outline of the works that we will be undertaking in the coming months on the Mackay City Substation Refurbishment Project. We will continue to provide you with updates as the work progresses.

As always, we thank you for your patience while these works are underway and encourage you, if you have any questions about the Mackay City Substation Refurbishment Project, to contact Kate Austin - Senior Community Engagement Advisor - on 1300 653 055 or email us at:

NetworkProjectEngagement@energyq.com.au

You can also keep up to date on the project by visiting our project website:

<https://www.ergon.com.au/network/network-management/network-infrastructure/major-projects/regions/central/tennyson-street-substation-refurbishment>