Transmission Pole Replacement

What is transmission pole replacement?
Many of our lower voltage transmission lines (and some higher voltage lines) have been built using single poles (known as monopoles) or pairs of poles (known as pipoles). Over time, they may require replacement due to normal age-related wear and tear or to ensure safe ground clearances are maintained.

What does pole replacement work involve?
The work involves:
- excavating for the new pole(s) beside the existing pole(s) and on the same line alignment
- installing new pole(s) using a crane or hiab (truck crane)
- reinstating the soil around the new pole(s)
- attaching new cross arm(s)
- transferring the conductors (wires) of the line from the old structure to the new.
- removing the existing pole(s) by excavation and crane-extraction (if an old wooden pole cannot be easily extracted it is cut off 600 mm below ground level)
- stripping and removing the existing poles from site (or as per agreement with landowner).

Some poles may also require extra support by way of guy wires or block foundations. Guy wires are light steel cables attached high on a pole and connected to a buried concrete strainer (or ‘deadman’ ground anchor).

Block foundations involve a buried block of concrete or timber below ground of a sufficient size to bear against the pole and help prevent pole lean.

What sort of crew and equipment is needed to replace poles?
Actual equipment and crew size will depend on the complexity of the pole replacement work (including whether the line is energised or not). For fairly standard replacement activity, approximately three to four people will be needed on site (with additional visits by engineering, supervisory and inspection personnel on an as needed basis). Typical equipment includes:
- up to three light four-wheel drive type vehicles
- a hiab crane truck with pole trailer and/or larger crane if needed
- an excavator (up to about 20 tonne)
- one or two petrol compactors.

The equipment and vehicles will occupy an area of about 1000 m² directly around the pole structure.
What about the impact of the work on property?
Where possible, we work with landowners to minimise disruption during this work and this includes agreeing access and timing of work on the property. The activity will be confined to the area around the transmission pole structures and access routes. Following the works, the land will be reinstated to its pre-work condition. For pasture, that includes re-sowing with approved seed and fertiliser.

How long does pole replacement work take?
Work crews typically complete pole replacement at a rate of about two pole sites per week, so the time that any one landowner is disrupted should be minimal.

What happens to any surplus soil?
It is normal practice to slightly taper or contour the soil up around the base of the pole to allow water to drain away. Generally, our crews will spread any other excess soil over the excavation site, however we can also remove from the site entirely or place in a location elsewhere on site as agreed with the landowner.

How long will a pole last?
Wooden poles generally last about 40-50 years dependent on wood type. Concrete poles generally last about 50-60 years.