Geotechnical investigations

ARTC is undertaking geotechnical investigations to gain an understanding of the ground conditions along the planned 1,700km freight rail line.

The type and strength of the ground conditions (soil and rock) will inform the design and final alignment of Inland Rail.

Investigations start early in the design process. They are undertaken by a specialist subcontractor and the designer/service provider who is contracted to ARTC. While the investigations are conducted on behalf of ARTC, any Land Access Agreement is between you and ARTC.

Commitment

ARTC is committed to working with landowners at every stage of the planning and development of Inland Rail between Melbourne and Brisbane.

To undertake an investigation on your land we will work with you to prepare a Land Access Agreement.

Part of these negotiations include discussing your expectations and requirements of our field teams when undertaking and completing geotechnical investigations on your land. This includes the duration and types of activities our teams will undertake as part of the investigations. We will work with you to agree a suitable time for the investigations to take place.

Our field teams will be advised of the access and completion requirements agreed as part of your Land Access Agreement.

Once the investigations are complete, our field teams will liaise with you to close out their work. We are committed to leaving investigation sites in accordance with the Land Access Agreement.

About Inland Rail

Inland Rail is a once-in-a-generation project connecting regional Australia to global markets, transforming the way we move freight around the country. It will complete the ‘spine’ of the national freight network between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland.

This new 1,700km line is the largest freight rail infrastructure project in Australia. Early works will start in 2017, and based on the 10-year delivery schedule developed in 2015, the first train is expected to operate in 2024/25.

The Australian Government, through Australian Rail Track Corporation (ARTC), is delivering the multi-billion dollar infrastructure in partnership with the private sector.
What is required?

Boreholes and test pit excavations are required for investigating the ground conditions of existing rail corridors and new areas where an alignment for rail needs to be identified.

Samples are collected and sent to laboratories for testing. Depending on the location and extent of drilling required, permits from Government agencies may be required for the geotechnical drilling to be undertaken. These may be needed for vegetation clearing, potential disturbance to animals and their habitat and also for the potential disturbance and management of cultural heritage values. ARTC will be responsible for obtaining and ensuring all necessary permits are in place prior to beginning geotechnical investigations.

What will happen?

As part of the land access negotiations, we will advise you of the type of geotechnical investigation planned within your property, and agree how we will access the survey site. Vehicles will enter your property at the agreed location, and travel to the survey site. Access tracks may need to be constructed and vegetation clearing may be required in some locations. Some localised noise will occur, from the operation of excavators and drilling machinery.

Timing of the work

The geotechnical investigations will usually occur during daylight hours. Exceptions to this would be discussed and agreement obtained between you, ARTC and the contracted parties, in accordance with the Land Access Agreement.

This means multiple vehicles including machinery will be on site during daylight hours. Occasionally in remote or hard to reach areas the equipment would stay on site overnight or on weekends with security present.

Drilling

- The vehicles for drilling on a site include a truck with a drilling rig and a support vehicle, which is typically a 4WD ute with a 1,500 – 2,000L water tank.
- The work area for drilling a borehole is usually 15m x 10m, but this will vary depending on the investigation type and surrounding geography.
- The hole bored is 100mm in diameter and the depth drill will vary. For example, the investigation hole for a proposed tunnel may be 150m or more to account for the ground above and below the tunnel. An investigation hole for a bridge foundation pile may be 20–30m depending on ground conditions and anticipated loading onto the foundation.
- The time taken to drill the hole varies; however, usually 20-25m can be drilled in a day.
- Waste water from the drilling process is removed from the site.

Who does the work?

The work is undertaken by a lead driller, a drilling hand or offside, an engineering geologist undertaking the technical work (logging or subsampling) and cultural heritage representative. At times an ARTC supervisor will be on site.

Test pits

- Test pit excavations will require an excavator, backhoe or similar and will have a support vehicle.
- The work area for a test pit is generally smaller than 15m x 10m. Some earthworks and vegetation clearing might be required to prepare the site.
- Investigations for shallow embankment and formation works may require a 2-3m deep trench excavation.

Who does the work?

The work is undertaken by an excavator or backhoe operator, an engineering geologist and cultural heritage representative. At times an ARTC supervisor will be on site.

Want to know more?

ARTC is committed to working with State and local governments, communities and landowners as a vital part of our planning and consultation work, and we value your input. If you have any questions or comments about geotechnical investigations in your area please let us know.

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