



Bulk earthwork fact sheet

Coffs Harbour bypass

February 2024



Transport for NSW acknowledges the Gumbaynggirr people as the Traditional Custodians of the lands on which we work and pays respect to Elders past and present.

The Australian and NSW Governments are funding the \$2.2 billion, 14-kilometre Coffs Harbour bypass project. The bypass will boost the regional economy and improve connectivity, road transport efficiency and safety for all local and interstate motorists.

To build the foundation of the Coffs Harbour bypass, the first major construction activity is a significant bulk earthwork program across the alignment. This involves taking excavated rock and soil from our high points (cuts) and using this to build up lower lying areas (fills). This ensures the gradient of the road is as flat as possible, creating smoother and faster journeys for motorists.

There is more than three million cubic metres of earth to be moved in total. Our bulk earthwork program includes:

- Investigating ground conditions and composition
- Surveying to set out project boundaries and confirm levels
- Installing and maintaining environmental controls
- Removing vegetation
- Stripping topsoil
- Excavating soil and rock
- Moving soil and rock from cut areas to fill areas
- Building the road foundation and earth mounds
- Installing drainage and culverts.

These activities are often being delivered concurrently.



Earthwork operation at Englands Road Interchange



Earthwork operation at Coramba Road Interchange



We are moving about
3 million m³ of earth in total



Geotechnical investigations and testing

Geotechnical testing is used in the planning phase to help us understand the underlying ground condition and inform the design of the road. The data from the geotechnical testing informs the earthwork program and helps us decide what methods and machinery we will use to excavate in different areas along the alignment.

Geotechnical testing continues throughout construction to confirm the excavated materials, either from machinery or controlled blasting, meet the required specifications to build a strong foundation for the road. We also carry out testing to confirm compaction and slope stability, and determine the best approach for managing contaminated materials if found.

Geotechnical investigations cover a wide range of activities including borehole, test pits and geophysics.

Why we do surveying

Surveying helps us understand the land levels along the alignment to identify areas where we need to remove soil and rock and areas where we need to add it. The survey team installs pegs and flags to mark the project boundary and to isolate sensitive environmental areas where construction work will not be carried out.

Throughout construction, survey is continuously used to check levels for drainage, foundations and pavement. This work involves the team using instruments with global positioning systems which can also tell us how much more material needs to be removed or added to an area.



Geotechnical investigations being carried out in the median strip



Surveyor assessing bridge columns at Korora Hill Interchange



Earthwork operation at a cut site near North Boambee Road



Earthwork equipment

For the Coffs Harbour bypass, we are using two main methods of mechanical excavation:

- Digging, hammering and ripping
- Drill and blast.

Some of the equipment we will use for this work includes:

- Excavators, chainsaws and harvesters to remove and mulch vegetation
- Bulldozers to strip topsoil and stack it for loading into trucks
- Excavators to break up soil and some rock and load it into trucks
- Drilling and rock hammering equipment
- Large dump trucks, called moxies, to move soil and rock around the alignment
- Truck and dog trailers to move materials on the public road network.

We use temporary construction roads and the existing road network to transport equipment and materials.



Excavators loading dump trucks at Coramba Road interchange with rollers in action in the background

What we do with excavated material

Where safe and possible, excavated materials are reused in suitable locations within the construction area, including material excavated from the three tunnels.

Excavated material is stockpiled for testing and certification. Any material that is considered unsuitable or unsafe for reuse, such as contaminated soil or heavy metals, is safely removed using dump trucks and relocated to approved containment areas. Some ways we re-use materials throughout construction include:

- Mulched timber for dust management during construction and landscaping
- Topsoil for landscaping, site rehabilitation, and embankments
- Crushed and/or uncrushed rock from digging and controlled blasting activities for foundations and batters.

Minimising impacts

The project's Construction Environmental Management Plan (CEMP) and Earthworks and Spoil Management Plan outline our approach to managing earthwork activities. This includes complying with strict industry guidelines, legislation, and Transport for NSW's specifications for protecting the community and the environment from a range of impacts such as vibration, dust and construction noise.

There can be vibration, dust and noise from activities including controlled blasting, rock crushing, hammering, compacting and rolling. We will plan work to minimise impacts and will use water carts and soil binders to manage dust as required. We monitor vibration, dust and noise throughout our construction to ensure compliance with the Minister's Conditions of Approval (MCoA) and Environment Protection Licence (EPL).

Temporary traffic changes may be required for haulage crossings, and changes to the network including diversions. These activities will use traffic control and signage for the safety of our workforce and the community.

Panama Disease

In some of our construction areas, we have removed banana trees from land acquired for the project. This work has been carefully considered and delivered to minimise the spread of Panama Disease, which can be fatal to Lady Finger, Plantain and Ducasse varieties of bananas. As part of our Panama Disease Control Management Plan, vegetation that is considered at risk of containing Panama Disease has been buried within embankments constructed for the project. Mandatory washdown procedures (rinsing and disinfecting) are required for all construction workers and vehicles entering and existing high-risk Panama Disease areas of the alignment.

Approved construction hours

Earthwork activities will generally be carried out during approved construction hours. Our approved construction hours are:

- **Monday to Friday between 7am and 6pm**
- **Saturday between 8am and 1pm.**

Working hours for blasting operations will occur between **9am and 5pm Monday to Friday, and 9am and 1pm on Saturdays.**





Water cart in action for dust suppression near Coramba Road

For more information

For more information about our construction activities, visit pacifichighway.nsw.gov.au/coffsharbourbypass, and read our fact sheets and newsletters. Fact sheets include:

- Vegetation removal and landscape and habitat restoration
- Tunneling
- Temporary concrete batch plant
- Water management
- Controlled blasting
- Bored piling for bridges
- Bridge building
- Traffic safety
- Safety in construction
- Construction noise and vibration
- Construction dust and air quality
- Safety in construction
- Good neighbour
- Asbestos management
- Panama Disease management.

For any enquiries or complaints, please contact the project team:



Project information and 24-hour enquiries and complaints response line
1800 550 621



View our **community information van** timetable



community@CHBteam.com.au



For the latest traffic updates:
Call 132 701, visit live.traffic.com or download the app Live Traffic NSW



pacifichighway.nsw.gov.au/coffsharbourbypass



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