



Banora Point upgrade

BLASTING INFORMATION SHEET DECEMBER 2010

The NSW Roads and Traffic Authority (RTA) has formed an alliance with Abigroup Contractors, Seymour Whyte Constructions and Snowy Mountains Engineering Corporation to design and construct the 2.5 kilometre Pacific Highway upgrade at Banora Point. This project is jointly funded by the NSW and federal governments.

This information sheet provides information on blasting work required for this project.

What is controlled blasting?

Controlled blasting is a process used in road construction to break up material that is unable to be broken up by means of traditional machinery. The material is later removed by earthworks equipment.

What is bulk blasting?

Bulk blasting is used to break up high strength rock for removal by earthworks equipment. The process involves drilling small holes deep into the rock in a predetermined pattern and loading each hole with explosives. The detonation of these explosives is then delayed through various sections of the cutting to limit the amount of energy being released at any particular moment.

The energy released from the detonation of the explosive breaks the hard rock into smaller pieces which makes the material easier to remove and reuse in the new road embankments.

Why is controlled blasting required?

The vertical alignment of the upgrade has been designed to minimise the extent of hard rock excavation through Sexton Hill while still providing a gentle gradient for drivers. A flatter road grade also has the added benefits of reducing noise levels associated with vehicle engines and truck braking.

To avoid the hard rock in Sexton Hill and to achieve a flatter (vertical) gradient, a cutting of up to 23 metres deep is proposed. Geotechnical investigation and testing has determined that while the mass rock is below the level of the new highway there are parts of the cutting that is of a high strength and will require controlled blasting to allow it to be excavated by earthworks equipment.

When is controlled blasting likely to start?

Controlled blasting for the major cut at Sexton Hill is expected to commence March 2011.

How often will controlled blasting occur?

It is anticipated that there will be up to two blasts per week in the main cutting over a six month period.

Blasting will not take place on weekends, public holidays or school holidays unless otherwise advised in advance.

What time will each controlled blast occur?

Blasting is planned to occur between 12noon and 1.30 pm on selected days when highway traffic is at its least busiest.

What are the impacts of controlled blasting?

Controlled blasting is often used in road construction and other industries. The alliance engages contractors who are very experienced in carrying out safe blasting.

Blasting has a number of issues which need to be managed including:

- Ground vibration, such as shaking of the ground and structures and buildings.
- Air blast or noise.
- Dust.
- "Fly rock" scatter.

These issues will be carefully managed by the alliance to minimise the potential impact to local residents and schools. The noise expected from the controlled blasts will be minimal and will only last for a few seconds.

Banora Point Upgrade Alliance

A team consisting of the Roads and Traffic Authority, Abigroup, Seymour Whyte Constructions and Snowy Mountains Engineering corporation
www.rta.nsw.gov.au/pacific T 1800 012 611

The vibration from blasts is expected to be very minor beyond the immediate vicinity of the blast. Monitoring will be carried out to record noise and vibration for each controlled blast.

There should be minimal dust and no "flyrock" beyond the immediate vicinity of the blast.

Blasting is subject to weather and is not generally undertaken when cloud cover is low or dense or electrical storms are approaching.

How do we manage the impacts of controlled blasting?

The blasting is controlled using the size of the instantaneous charge which is the amount of explosive detonated at any particular instant. The size of the instantaneous charge is adjusted to ensure that the limits for ground vibration and air blast for each sensitive receiver are not exceeded. The size of the instantaneous charge is managed by using delays on the detonators so that the blast is set off in sections.

What are the blasting mitigation measures?

Affected residents and businesses will be informed prior to a blast.

Public safety and Government guidelines require that all people, vehicles and livestock are a safe distance away from the blast.

To ensure people are at a safe distance from each blast, mitigation measures will include:

- Temporary closure of access locations to Wilson Park, local roads, and property accesses.
- Delaying the traffic on Pacific Highway for up to 15 minutes during routine blasts when the highway is within the safety zone.
- Temporary relocation of some residents or requesting that some residents remain inside during controlled blasting. A Banora Point Alliance representative will be in contact with these residents in advance.

Roadside electronic message signs and traffic alerts will in place to notify road users of the blast activities on a daily basis. The public are requested to follow all traffic controller instructions.

Animals and pets during controlled blasting

It is advisable to keep smaller pets inside the house or shed during blasting for their safety and well being.

What should I do if I have valuables and antiques in my house?

It is advisable to remove any valuables and antiques from shelves during blasting.

What should I do if I think I have damage to my house?

Contact the project community relations team on 1800 012 611 (toll free). The project team will arrange to have the damage inspected and ensure ongoing monitoring of your dwelling during future blasts. If the damage was caused by blasting, the project team will arrange for damage to be repaired.

What is the impact of increasing the blasting limits?

The alliance is proposing to increase blasting limits from 5 millimetres per second to 10 millimetres per second. If blasting limits are increased, there is a 5 per cent chance that 14 properties will receive an increase in vibration levels.

The benefits of the increasing the vibration limit to 10 millimetres per second will reduce the duration of noise and vibration experienced from the associated activities, improving overall comfort levels for residents.

What are the benefits of increasing the blasting limits?

- 50% less rock breaking will reduce the duration of noise that residents will be exposed to.
- 24% less drilling will reduce the amount of dust.
- 20% less blasts.
- 20% less closures of the Pacific Highway will reduce traffic delays.