



Banora Point Upgrade Alliance

COMMUNITY CONSULTATION REPORT BLASTING PROPOSAL 5MM/S – 10 MM/S

Status Rev 1

Date 27 October 2010

Abigroup Project Number: 221347
RTA Project Number: D/00092
SMEC Project Number: 3001750
Seymour Whyte Project Number: 021001



A team consisting of RTA, Abigroup, SMEC And Seymour Whyte
to upgrade the Pacific Highway at Banora Point

Distribution History and Status

Distribution List

Copy Number	Issued To	Date	Name
Electronic draft	RTA, DECCW, TSC, ER	8 October 2010	Peter Borelli (RTA) Ian Greenbank (DECCW) David Hannah (TSC) Bill Gardyne (ER)
Rev 1	DoP	27 October 2010	Kylie Seretis (DoP)

Revision Status

Revision	Date	Description	Page	Clause	Approved
GM	4 October 2010	Review			
BG	October 2010	Review from independent assessment			
MW	October 2010	Review from RTA			
LK	27 October 2010	Finalise changes			

Table of Contents

1	Executive summary	1
2	Community consultation and blasting	2
3	Objectives in seeking community feedback	3
4	Community presentations	4
5	Methodology	5
6	Meeting outcomes	6
6.1	Blasting meeting 1 - Community information session	6
6.1.1	Issues raised	6
6.1.2	Outcome of meeting 1	6
6.2	Blasting meeting 2 – closest resident meeting	7
6.2.1	Issues raised	7
6.2.2	Outcome of meeting 2	8
6.3	Blasting meeting 3 – Community information session	8
6.3.1	Issues raised	9
6.3.2	Outcome of meeting 3	10
6.4	Blasting meeting 4 – Individual meetings	10
6.4.1	Issues raised	10
6.4.2	Outcome of meeting 4	10
6.5	Blasting meeting 5 – Bione Avenue residents	10
6.5.1	Issues raised	11
6.5.2	Outcome of meeting 5	12
7	Summary	13

Appendices

- Appendix 1 Blasting 1 - Blasting 10mm/s contour zone
- Appendix 2 Blasting Presentation

1 Executive summary

The Banora Point Upgrade Alliance (BPUA) conducted five formal presentations and a number of individual stakeholder discussions from August to September 2010 to inform the community of the upcoming blast activities and to respond to their questions and concerns. These meetings also presented the BPUA an opportunity to gauge community opinions about the BPUA blast management program, the BPUA review of blast criteria, and to determine the best ways to communicate the blasting activities to the community.

The focus of the presentations was to discuss the initial trial blast carried out in August 2010 and then to have follow up discussion on the opportunities for the BPUA, following review of the projects approved blasting criteria, for consideration of increasing blasting limits to 10 mm/s. Demonstrating the benefits, the impacts and the BPUA's capacity and competency in managing the operation, the risks and community concerns.

The presentations held were as follows:

1. The trial blast and blasting program Community Information Session August 2010;
2. Focus group meeting with residents identified as being potentially impacted if the blast limits were increased to 10 mm/s - September 2010;
3. Community Information Session with broader community with feedback on trial blast and review of blasting criteria - September 2010;
4. Individual stakeholder meetings with potentially affected residents and interested stakeholders - September 2010; and
5. Bione Avenue Residents Meeting - September 2010.

Using both individual and group discussion techniques, two main concerns were recurrent and related to:

1. Structural integrity of residential homes
2. Traffic impacts

The presentations and feedback sessions provided the BPUA with an opportunity to engage face to face with key representatives from the community, to put a face to the project, to develop relationships, to listen to individual concerns and overall to better gauge the community's acceptance to the possibility of increasing blasting limits in the future.

2 Community consultation and blasting

A community engagement plan has been developed that forms part of an overall blast management plan and outlines the process and guidelines in effectively engaging and informing the community in relation to this important activity.

It's recognised that managing stakeholder issues and perceptions will be the focus of the communication team during blasting.

Effective communication will assist the project team to address stakeholder concerns, monitoring perceptions, tracking issues and identifying emerging trends in community sentiment.

To counter potentially negative perceptions, the community engagement aims to build and maintain positive relationships with all stakeholders and ensure open and honest dialogue throughout the blasting process. This is vitally important in order to protect the reputation of the BPUA and the RTA.

A planned, strategic approach will ensure issues are managed and stakeholders are kept informed.

3 Objectives in seeking community feedback

The primary communication objectives in seeking community feedback in relation to blasting and blasting limits are to:

- Consult, educate and engage the community about the planned blasting operations;
- Manage issues effectively and in a responsive manner to prevent escalation to crises;
- Ensure project communication is consistent throughout the blasting phases; and
- To ensure the community has an understanding of the impacts of increasing blast limits.

The team is committed to acting with:

- Transparency
- Honesty
- Responsiveness
- Empathy
- Respect and trust.

4 Community presentations

The 5 types of presentations were staged at different locations at different times of the week to afford greater inclusion and accessibility of participants.

The venues, dates and number of participants at each group are outlined in the table below:

Date	Venue	Number of participants
Community Information Session 17 August 2010	Banora Point Upgrade Alliance Site Office	80
Focus Group Meeting with closest residents 15 September 2010	Banora Point Upgrade Alliance Site Office	11
Community Information Session 21 September 2010	Club Banora, Banora Point	160
Individual meetings with stakeholders September 2010	No 6 – 46 Pioneer Pde	17
Bione Avenue residents meeting 30 September 2010	Banora Point Upgrade Alliance Site Office	12
Total participants		280

5 Methodology

To gain a good cross section of the community the following groups were targeted by the following recruitment methods and tools:

- i. General residents
- ii. Closest affected residents
- iii. Businesses
- iv. Motorists

Methods and tools used to engage the community include:

- Invitation sent to over 2000 residents to attend two community information sessions to learn more about the blasting plans;
- Variable Message Board on Pacific Highway both directions alerting residents and motorists of community information session that featured blasting information; and
- Telephone and personal invitation to residents identified as the closest affected.

6 Meeting outcomes

6.1 Blasting meeting 1 - Community information session

A Community Information Session was held at the Community Information Centre on 17 August 2010. Over 80 residents and business representatives attended the meeting. A presentation was given by Construction Manager Jason Moran in relation to blasting.

Attendees were provided with information on the following:

- Overview of blasting;
- Recognition of blasting issues that need to be managed. EG: Vibration, over pressure, fly rock, dust and noise;
- How blasting impacts are measured;
- Effects on residents;
- Blast management plan and issues to be considered eg: School holidays and exams;
- Blasting stages including details on the evaluation blast; and
- Community consultation and the blasting process.

A copy of the presentation can be found in Appendix 2.

Please note: No information had been provided to the community at this stage in relation to the proposal to increase blasting limits to 10mm/s.

6.1.1 Issues raised

Following the presentation, questions were raised by the attendees. The questions and responses given are outlined below:

Q) How deep is the cutting?

A) 18 metres.

JM added that the alliance doesn't expect issues with the blasting – trial blasts only incurred 4 minute delays on the highway.

Q) Will the blasting occur in the middle of the day?

A) Yes, we are anticipating that blasts will occur between 10.30am and 2.30pm as we did in the trial. They will be at a set time during the same day each week.

6.1.2 Outcome of meeting 1

Residents appeared to be satisfied with the blasting program, the results from the evaluation blast and current plans moving forward.

6.2 Blasting meeting 2 – closest resident meeting

A meeting was held on **15 September 2010** at the Banora Point Upgrade Alliance site office. The meeting was attended by closest affected residents within the 10mm/s radius (see Appendix 1 for a copy of the radius).

Project Manager Steve Allan presented a series of slides outlining the blasting locations. Input was also provided by Blasting Consultants John Heilig from Heilig and Partners consulting engineers, Ross Oldman from Orica Construction Services. Both Ross Oldman and John Heilig are both experts in their fields and have over 60 years of experience in blast management.

Attendees were provided with information on the following:

- an explanation of the 50 metre exclusion zone;
- reasons why the BPUA needs to blast;
- details on approved blasting criteria and the restrictions;
- the effects of restrictions on blasting operations;
- how residents are impacted and the mitigation measures to be in place to reduce impacts;
- benefits and impacts of increase blasting criteria to 10mm/s;
- how the blasting criteria 10 mm/s affects homes; and
- community consultation overview going forward.

A copy of the presentation can be found in Appendix 2.

6.2.1 Issues raised

Following the presentation, a number of questions were raised by the attendees. The questions and responses given are outlined below:

Q) Will Laura Street vibrate when you blast?

A) No – the test blast did not vibrate Laura Street homes and we don't anticipate that the proposed 5 mm/s increase will lead to any significant increase in vibration for the majority of residents.

Q) You had yellow spots on a map – what did they indicate?

A) The five spots where we monitor vibration during the blasts.

Q) How many blasts will occur in total?

A) There will be around 30 blasts for 10mm/sec and up to 50 blasts for 5mm/sec.

Q) Won't the Laura St bridge footings move?

A) No – we won't damage the footings – as blasts will occur 28 days after the concrete has cured.

Q) Will we cover the blasts with anything?

A) The 3 metre overburden of earth fill will prevent flying rock - as the blast occurs some 10 metres below ground level. JH indicated that the previously watched blast in Shafton Street, Brisbane would have the same charge as Sexton Hill. He stressed that it is a highly skilled process – and reiterated that blasts at 10 mms would significantly reduce the hammering needed to break the rocks as the secondary activity which has significant noise and vibration impacts.

JG) Our building is 3 stories high – how will that cope with the blast and will you monitor at the top level?

A) We monitor at ground level and one value is sufficient – however, it should be stressed that we blasted only 9 metres from a 20 story building in Brisbane and caused no damage.

Q) When will you commence?

A) We will commence in November – with 1 or 2 per week – on a set day mid week. Traffic figures indicate that Monday and Wednesday around midday are the best times and there will be VMS and resident notifications. LK indicated that some contact will include letterbox drops, door knocks, Community Info session, and website and traffic alert.

SA stressed that up to 50 blasts would be the maximum number.

Q) What will happen at the northern end of blasting into Laura Street?

A) That's where we are building the Laura Street bridge – Laura Street and the Pacific Highway traffic will be halted for 15 minutes when the blast occurs.

Following a question, JH indicated that a house would move less than the thickness of a hair when blasting occurred.

SA stressed that John and Ross were two very experienced blasting experts. Many alliance staff are also very experienced in restricted blasting.

6.2.2 Outcome of meeting 2

At the conclusion of the meeting, residents were asked if they felt comfortable with the possibility of increasing blasting levels from 5mm/s to 10mm/s blasts in light of the information provided.

There was an indication from those present that all were comfortable with the situation.

Residents were comfortable in being notified about upcoming blasting operations via letters and doorknocks as outlined in the community engagement plan for blasting.

6.3 Blasting meeting 3 – Community information session

A Community Information Session was held on **21 September 2010** at Club Banora. Over 160 residents and business representatives attended the meeting. A presentation was given by Project Manager Steve Allan in relation to blasting.

Attendees were provided with information on the following:

- an explanation of the 50 metre exclusion zone

- reasons why the BPUA needs to blast
- details on approved blasting criteria and the restrictions
- the effects of restrictions on blasting operations
- how residents are impacted and the mitigation measures to be in place to reduce impacts
- benefits and impacts of increase blasting criteria to 10mm/s
- how the blasting criteria 10 mm/s affects homes
- community consultation overview going forward

A copy of the presentation can be found in Appendix 2.

6.3.1 Issues raised

Following the presentation, questions were raised by the attendees. The questions and responses given are outlined below:

Q) Will there be any projectiles from the blast?

A) No – there will be no risk- It is highly calculated, charge weights, depth etc.

Q) What roads will be closed?

A) Laura St and Pac highway – only briefly. Monday and Wed at 12.30 and 2.30pm are the low days. Twice a week. 15 minutes at a time.

Q) Drilling?

A) 3 to 5 m deep. We will use a top hammer to drill. There will be little noise.

GM: The alliance needs to demonstrate the justification for a change to criteria and community support. Feedback from people closest to the blast and potentially impacted by the change is important in seeking approval to any modification to the approved criteria

Q) Vibration monitors?

A) Yes at the nearest receiver – if we exceed goals we need to stop.

Q) A resident voiced their concern about traffic flow during the school holidays; they claim it is a nightmare.

A) We will not blast if there are large queues. There will be traffic monitoring throughout the blasting process.

6.3.2 Outcome of meeting 3

Attendees were not asked directly as to whether they were uncomfortable with the possibility of increasing blasting levels from 5mm/s to 10mm/s blasts. However, the questions raised were minimal and there appeared to be no concerns specifically relating to the potential increase.

Following the presentation, no one in attendance indicated that they were uncomfortable with the proposal.

6.4 Blasting meeting 4 – Individual meetings

Meetings were recently held with residents of Pioneer Parade between No's 6 and 46 (properties adjacent to the Pacific Highway). The purpose of the meetings were to discuss the upcoming works adjacent to their properties including the construction of highway retaining walls, discussion on noise walls and also the upcoming blasting considering their location relative to the blast zone.

6.4.1 Issues raised

With respect to the blasting there appeared to be a level of comfort from the residents about the approach and the potential impact. Only one resident indicated that there were some vibrations from the trial blast. Most residents felt the key for them was to remain well consulted on all project activities including the blasting

6.4.2 Outcome of meeting 4

There were no immediate issues in respect to the blasting from the Pioneer Parade community. The alliance will continue to keep them informed of construction progress and the blasting activities.

6.5 Blasting meeting 5 – Bione Avenue residents

A meeting was held with Bione Avenue Residents (closest residents to the project) on Thursday 30 September 2010 at the Banora Point Upgrade Alliance site office. A number of topics were discussed with the Bione Avenue residents, including the blasting program presented by Steve Allan.

Attendees were provided with information on the following:

- an explanation of the 50 metre exclusion zone
- reasons why the BPUA needs to blast
- details on approved blasting criteria and the restrictions
- the effects of restrictions on blasting operations
- how residents on Bione Avenue will be impacted and the mitigation measures to be in place to reduce impacts
- benefits and impacts of increase blasting criteria to 10mm/s
- how the blasting criteria 10 mm/s affects homes

A copy of the presentation can be found in Appendix 2.

6.5.1 Issues raised

Following the presentation, questions were raised by the attendees. The questions and responses given are outlined below:

Q) Have you tested at 10 mm/s?

A) Yes, we have had a trial blast.

Q). Resident claims that cracks had appeared in his residence after the test blast and queried if there had there been a dilapidation assessment before the blast?

Q) Would rock breaking occur?

A) SA relayed that rock breaking would still occur – but it would be significantly reduced because of the blasting and offered that the vibration is higher for rock hammering as the rock is hard basalt.

Q) When will blasting commence.

A) It is likely to occur in November.

Q) Can a dilapidation report be done for our property?

A) GM assured the resident that the alliance would investigate their circumstance.

SA: Yes, if your property is within 50m of construction and 200m of the blast zone - and the trial blasts had concluded.

Q) Resident queried the value of the blasting test data.

A) SA replied that it defines the co-efficiency of the soil and had been very close to the predicted levels.

Q) Will the Alliance send letters to the community advising that the blasts would be higher than 5mm/s?

A) SA assured PG that 95% of the blasts would be at a level of 5mm/s.

GM indicated that the alliance required approval to change the rate. Forty residents were recently invited to a blasting info meeting with 11 in attendance. Those in attendance appeared to support the potential 10mm/s increase.

Q) Resident requested that a letter be sent to residents asking for their approval and they sign an agreement form.

A) GM indicated that this could be arranged.

6.5.2 Outcome of meeting 5

Residents in Bione Avenue appeared to be very interested in the blasting information and made it very clear that they wish to be kept well informed of the blasting program moving forward. No outright objections were made to the potential blasting increase to 10mm/s, however residents did ask to be surveyed in the near future as to their thoughts on the issue. A survey will now be prepared and distributed in the coming weeks. Results will be submitted for review.

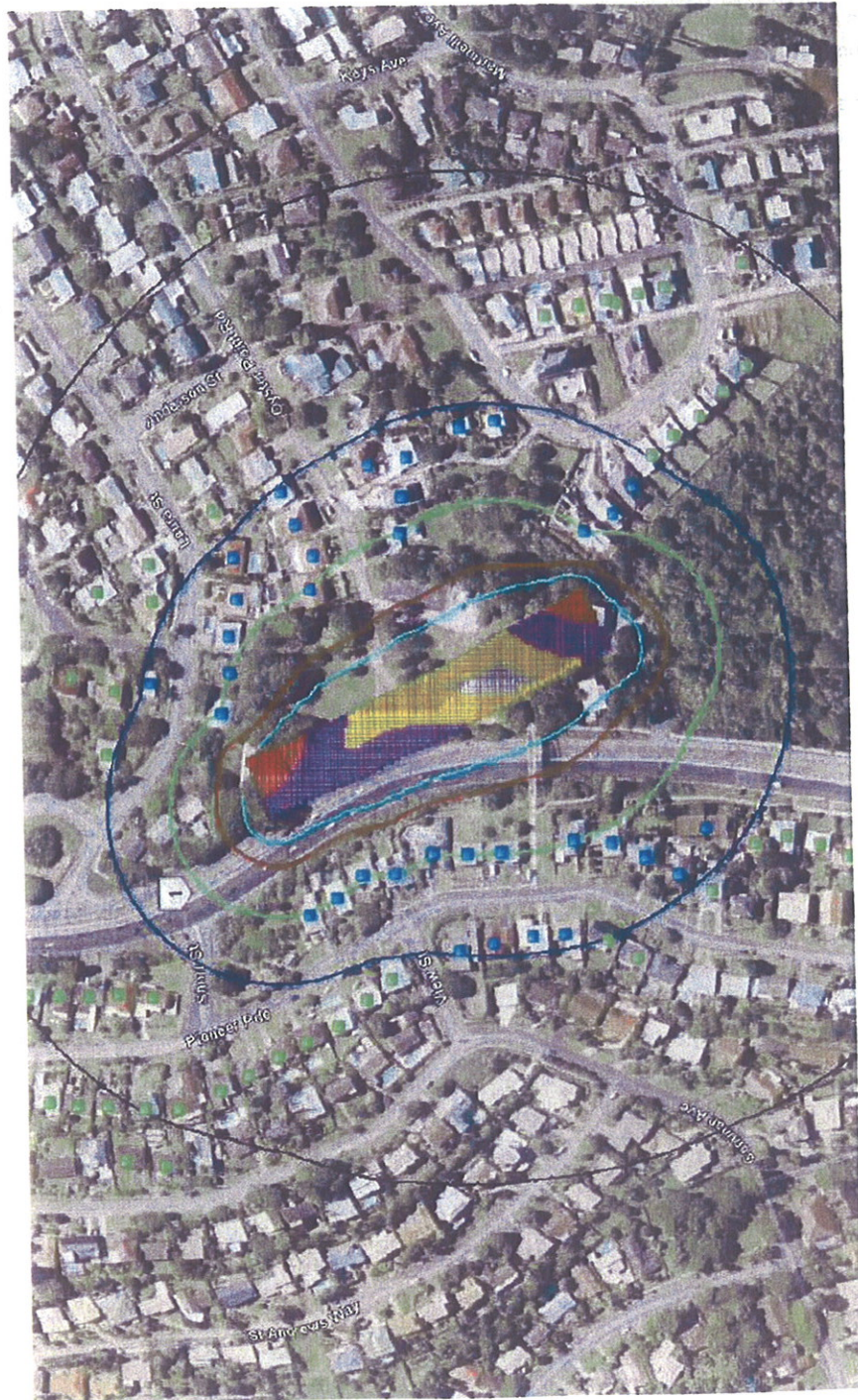
7 Summary

Overall a broad range of stakeholders have been consulted in relation to the blasting program and the possibility of increasing blasting levels from 5mm/s to 10mm/s.

As a result of the community consultation undertaken to date, no one in attendance indicated that they were uncomfortable with the proposal.

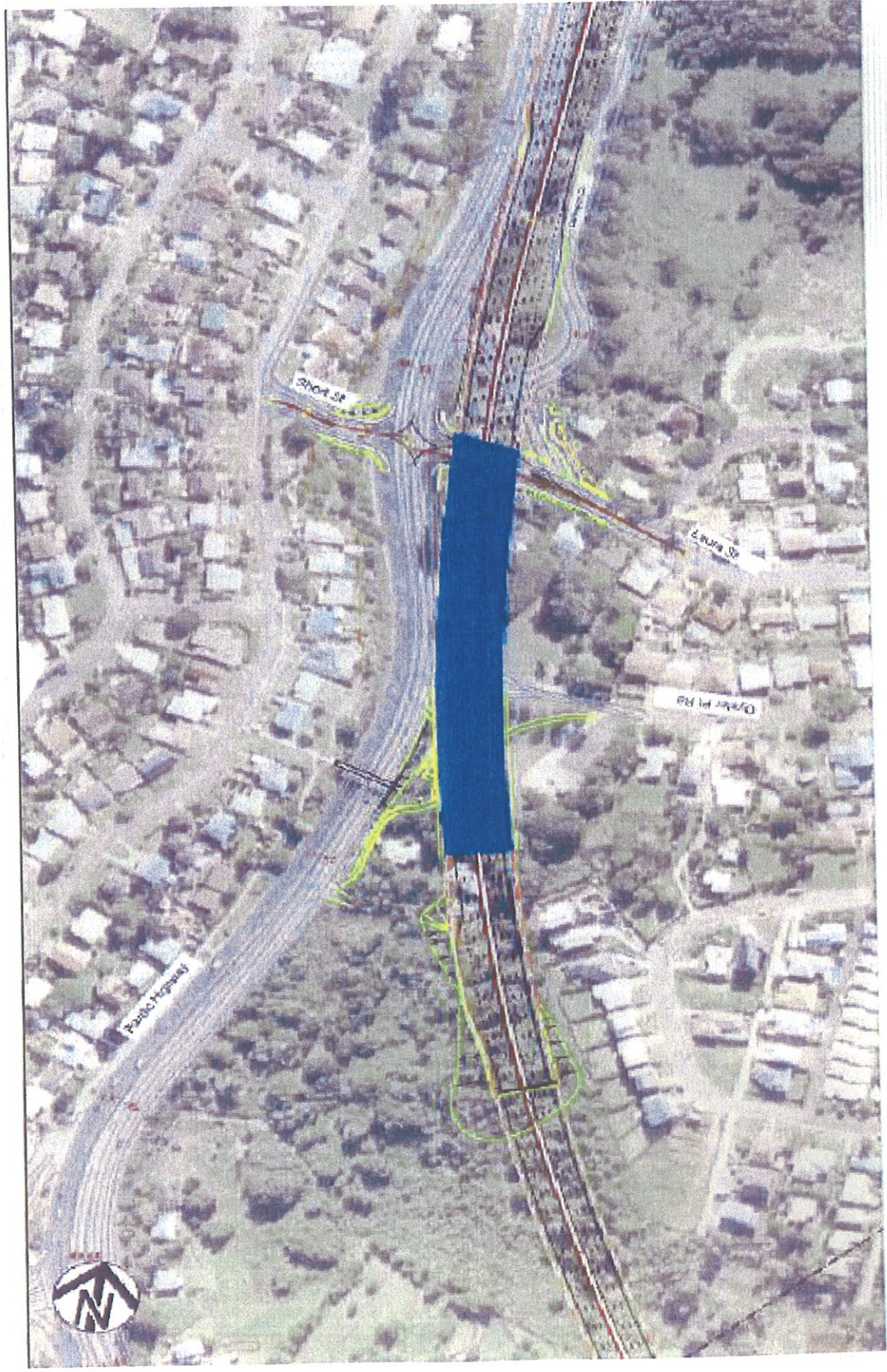
The BPUA Alliance will continue the efforts of consulting the community of blasting activities with the potentially affected residents and the broader community, will implement a survey for closest affected residents and will continue to monitor community concerns and feedback throughout the process.

Appendix 1 – Blasting 10mm/s contour zone



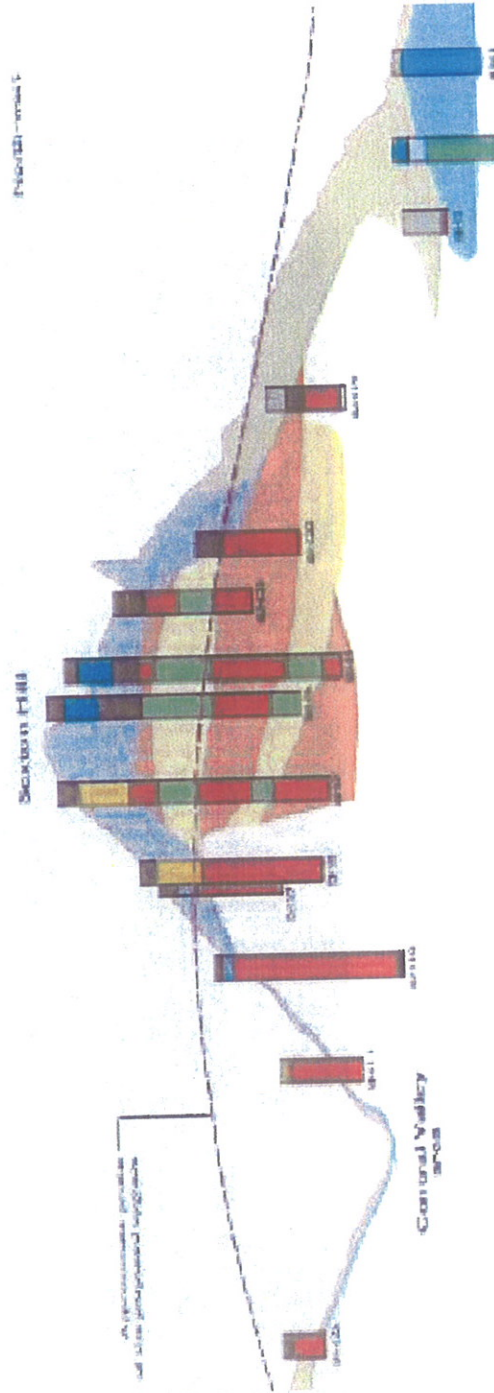
Appendix 2 – Blasting Presentation

Blasting update – Steve Allan



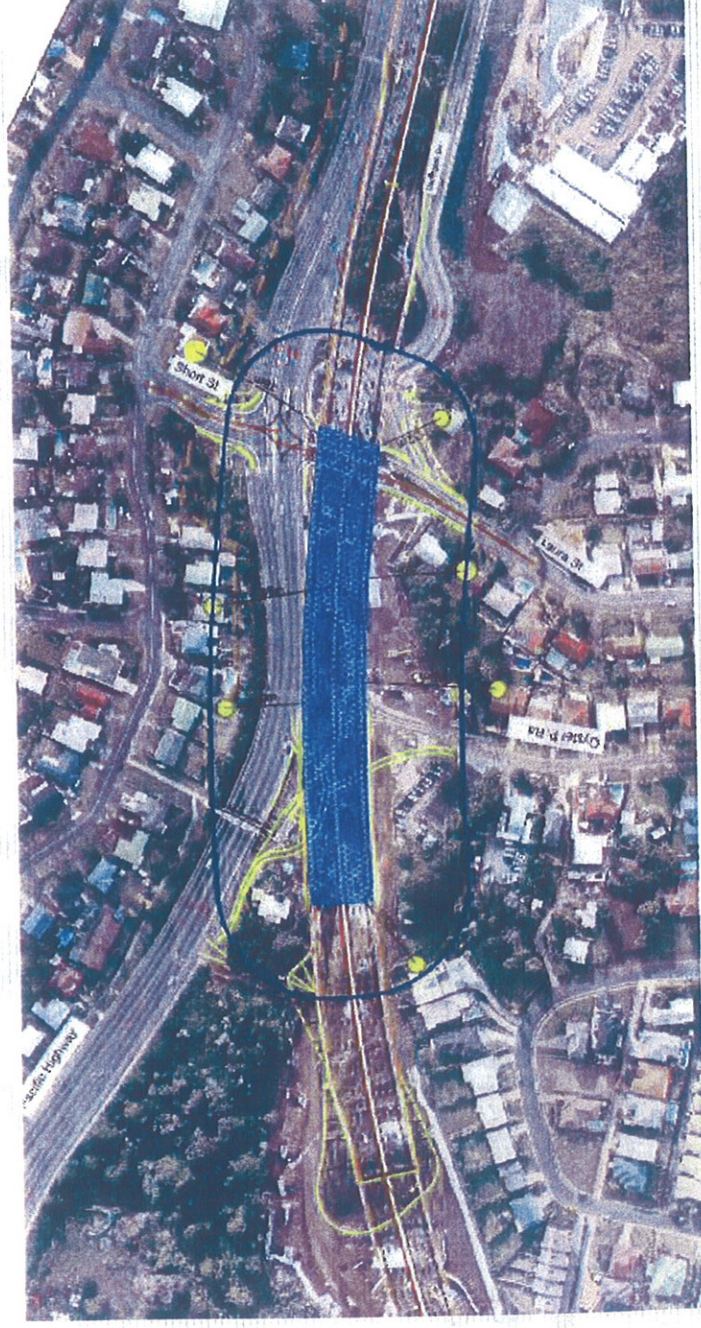
GENERAL LOCATION

Basalt lens ranging in depth from 5m to 10m under the land bridge. No outcropping at the north or south



Proximity to road reserve and properties

50m Exclusion Zone



WHY WE NEED TO BLAST

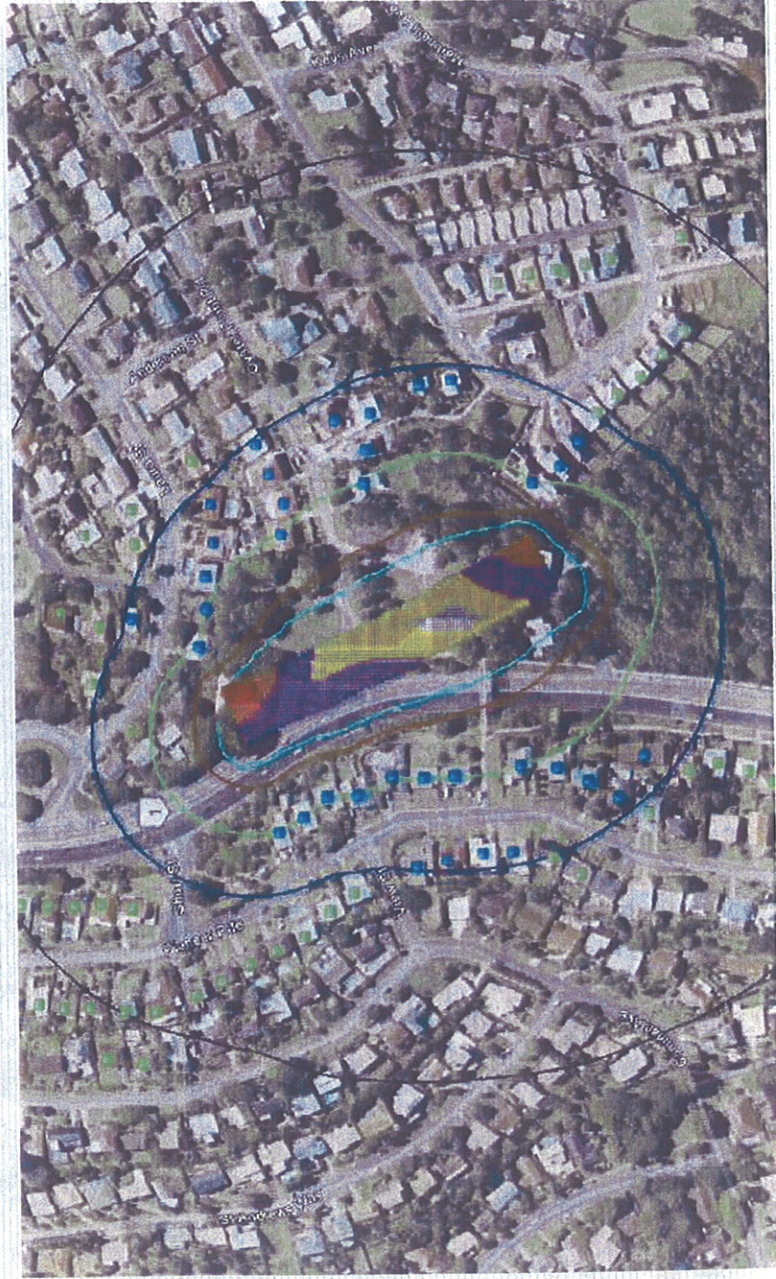
- ❑ 38,000m³ of very hard rock. Up to 200MPa
- ❑ Examples of the rock handed out this evening
- ❑ This is 10 times harder than your concrete driveway
- ❑ This is 5 times harder than what we build bridges from
- ❑ A rock breaker would be required to break up a driveway so imagine how hard it will be for a rock breaker to break material 10 times as hard.
- ❑ Blasting is the best option for rock this hard to significantly reduce this rock breaking and vibration. Blasting will produce significantly less overall vibration. 10 seconds twice a week vs 10 hours per day every day.

Blasting Restrictions - MCoA and MSoC

The three main restrictions are;

- ☐ Vibration (Hammers) – up to 50mm/s depending on frequency.
 - ☐ Vibration (Blasting) – up to 10mm/s for 5% of blasts
 - ☐ Over Pressure – 115dBI to 120dB for only 5% of blasts
- ☐ The reason blasting is lower than rock breaking is the potential to make a mistake and double the vibration is higher than with a rock breaker. Safety net.

10mm/s Contours (Closest Resident)



What are the likely impacts?

- ☐ 25 to 35 Blasts.
- ☐ Traffic Stoppages for each blast.
- ☐ Significant vibration from rock breakers undertaking secondary breakage. The lower charge weights (5mm/s) do not break the rock sufficiently to allow free excavation.
- ☐ Vibration from rock breakers up to 50mm/s as opposed to 10mm/s.
- ☐ Noise from the rock breakers
- ☐ Significant amount of drilling and associated noise and vibration.
- ☐ The effected residents will need to remain indoors during each blast.

What measures can reduce these impacts?

- ☐ Reduce the number of blasts by increasing the number of blasts closer to 10mm/s instead of 5mm/s.
- ☐ Reduce the amount of secondary rock breaking by blasting at 10mm/s instead of rock breaking at 25mm/s.
- ☐ Strictly monitor charge weights to ensure vibration levels remain below 10mm/s to ensure there is no structural damage to properties.
- ☐ Reduce drilling noise and vibration by drilling larger patterns. Need to increase to 10mm/s to do this.
- ☐ Reduce the number of times residents and traffic are impacted by blasts by reducing the number of blasts. Larger blasts.
- ☐ Complete the works faster and return things to normal as soon as possible.

How can we implement these?

- ☐ Currently we can blast up to 10mm/s but for only 5% of the blasts. This is inline with long term urban quarry blasting day in day out not short term construction works.
- ☐ We propose to increase the number of blasts above 5mm/s but NOT increase the maximum level of vibration experienced.
- ☐ This will significantly reduce the number of blasts.
- ☐ This will significantly reduce the amount of rock breaking which is at a higher vibration level.
- ☐ This will significantly reduce the amount of drilling.
- ☐ This will significantly reduce the overall amount and level of vibration experienced by residents.

Case Study

- ☐ Hospital in Brisbane exclusively excluded blasting as method of excavation. After 3 months of rock breaking and community issues, restricted blasting was trialed and selected as the preferred method due to reduced community impact. This was directly beside the existing hospital and no damage to property or their sensitive equipment occurred.

Can these limits be changed and has this occurred before?

There are many instances where these limits have been relaxed by the Department of Planning once the contractor has shown the capacity and competency to manage the blasting, risks, community and put systems in place to ensure no property damage results.

- ❑ **Ballina Bypass – now 25mm/s**
- ❑ **Clem 7 in Brisbane – was relaxed to 25mm/s**
- ❑ **Airport link – now relaxed to 25mm/s**

These all have residents in close proximity and in some cases high rises and high density dwelling with no damage to properties or structures.

Summary

- ❑ Increasing the number of blasts closer to 10mm/s will dramatically reduce noise and vibration from rock breaking and reduce the potential to damage properties.
- ❑ Blasting limits closer to 10mm/s are still significantly below levels that can cause structural damage.
- ❑ The Alliance will be engaging a very experienced subcontractor to undertake the works, a very experienced third party independent consultant to review the methods and has very experienced engineers and manager to administer and control these works.
- ❑ Please review the following videos which show 'restricted blasting' and are at 25mm/s with properties within 20m from the blasts.

Videos

☐ [Quarry Blast](#)

☐ [Restricted Blast - Sewer](#)

☐ [Restricted Blast - Shafston Ave](#)

COMMUNITY CONSULTATION

□ **STEP 1: Notify all affected residents within the 500 metre radius**
All residents within a 500 metre radius of the blast will be notified of the blasting activities via a letterbox drop.

□ **STEP 2: Letter and doorknock prior to blast**
Specific blast notifications shall then occur at 5 days prior to the first blast that will affect the nearest residents.

Additional communication tools to be used to inform the community include: Face to face meetings, 1800 number, **Community info sessions, Blasting fact sheet, Traffic alert, VMS, Website**

