BRIDGES ACOUSTICS
ABN: 73 254 053 305

78 Woodglen Close
P.O. Box 61
PATERSON NSW 2421

Phone: 02 4938 5866
Mobile: 0407 38 5866
E-mail: bridgesacoustics@bigpond.com

5 December 2016
Ref: J0232-01-R2

Martins Creek Quarry Action Group
P.O. Box 500
PATERSON NSW 2421

Attn: Mr James Ashton

Dear James,

RE: ACOUSTIC REVIEW OF THE ENVIRONMENTAL IMPACT STATEMENT, MARTINS CREEK QUARRY – SUPPLEMENTARY REPORT

1. INTRODUCTION

The Environmental Impact Statement (EIS) for Martins Creek Quarry, prepared by Monteith & Powys Pty Ltd and various sub-consultants in September 2016, was placed on public exhibition by the Department of Planning & Environment (DP&E) for the period 13 October to 24 November 2016. A report describing a review of the EIS was prepared for the Martins Creek Quarry Action Group (MCQAG) on 24 November 2016, however at that time not all acoustic aspects of the EIS could be reviewed due to the proponent's delays in providing additional requested data related to the site noise model used to predict quarry operating noise levels to nearby receptors. This supplementary report describes additional comments and recommendations arising from a review of the noise model and should be read in conjunction with the previous review report.

2. NOISE

The EIS includes a Noise Impact Assessment (NIA) report in Appendix I, prepared by RCA Acoustics. This section presents comments and recommendations arising from a further review of that report.

The following section headings appear to be numbered incorrectly, however the sections have retained their earlier numbering from the 24 November 2016 review report to assist in reading the two reports together. The majority of sections in the previous report have been omitted from this supplementary report as no new information or recommendations have arisen since the previous report was prepared.

2.3 Predicted Noise Levels

2.3.1 Operating Noise

Predicted noise levels from the quarrying, processing and loading activities on the site were calculated using noise model software based on the following input data:

Source sound power levels – The previous review report noted not all of the listed source sound power levels in the NIA are correct and provided some examples. Spot checks of the noise model files provided by the proponent have indicated that the lower sound power levels have been used in the NIA, confirming the previous conclusion that the noise model under-predicts noise levels from the quarry.

An example to clearly illustrate this point relates to the proposed new access road direct to Dungog Road, particularly when comparing noise levels indicated by the contours to traffic noise levels reported in the NIA. The majority of noise contour figures in Appendix B of the NIA include noise from truck traffic on the access road from the quarry to Dungog Road, with the obvious exception of the 'existing operations' contours as that road does not currently exist. The best figures to determine predicted noise levels from the access road only are 'Year 5 morning despatch' and most figures for Years 10, 15 and 20 which include quarry plant operating in areas fairly remote from Dungog Road.

The Year 5 morning despatch figure, including a 3 m/s NW wind, indicates a noise level of less than 35 dBA at the nearest residence to the south of the access road, which is 256 Dungog Road and known as Receptor ID 40 according to Table 1 in Section 4.2.1 of the NIA. According to Table 17A, Receptor ID 40 is expected to receive 32 dBA for the Year 5 early morning product despatch scenario which is consistent with the contours. This receptor is approximately 230 m south of the access road, although this distance has been scaled from the contour figures so is subject to a tolerance of perhaps +/-30 m.

Section 6.5.2 of the NIA presents calculated traffic noise levels, from truck and other traffic on Dungog Road, to various receptors. As Dungog Road and the quarry access road carry exactly the same trucks, noise levels from the access road and from Dungog Road would be similar assuming vehicle speed and other relevant parameters are similar. However, Table 25 indicates proposed traffic noise levels from trucks alone, calculated from the difference between the existing and predicted traffic noise levels in the table after swapping the predicted results at 150 m and 300 m as highlighted in bold font below as they were obvious entered into NIA Table 25 in the wrong order, are:

- 256 Dungog Rd 30 m 59.5 – 53.0 = 58.4 LAeq
- 281 Dungog Rd 150 m **52.9** – 46.9 = 51.6 LAeq
- 279 Dungog Rd 300 m **50.0** – 43.9 = 48.8 LAeq

A receptor at approximately 230 m from Dungog Road would receive approximately 50 LAeq, from simple interpolation of the traffic noise levels above, which is 18 dBA higher than at Receptor ID 40 at 230 m from the access road indicated in the noise contour figures as described above. This is approximately equal to the 16 dBA under-prediction reported for road trucks in the previous review report, with a sound power level of 92 dBA adopted for road trucks in the NIA compared to a typical sound power level of 108 dBA for this source type.

While it is true that vehicle speeds and other relevant parameters may not be the same on the access road and on Dungog Road, an error of 18 dBA is far too large to be explained by any differences in input assumptions.

RECOMMENDATION: With such a large error demonstrated above as an example, and other example errors in model input data described in the previous review report, all noise model results in the NIA are demonstrated to be unreliable and should be discarded. The entire NIA should therefore be rejected.

3. CONCLUSION

The additional information presented above clearly demonstrates significant failure of the NIA to predict noise levels and noise impacts from the project to nearby sensitive receptors. A demonstrated difference of approximately 18 dBA in road truck noise levels reported in the NIA, due to the same trucks travelling on the proposed access road and on Dungog Road, cannot be explained by differences in reasonable assumptions such as vehicle speed, rounding errors or other factors. The difference is primarily related to errors in source sound power levels entered into the noise model and, with other sound power errors also identified and previous reported, it is clear that all noise model results are unreliable and generally under-predict noise levels from the project.

The NIA concludes noise levels from the project are generally acceptable at most receptors, however updated noise levels from a significantly revised NIA are likely to show unacceptable exceedances of relevant criteria at a number of residences near the quarry and along the road transport route through Paterson. Mitigation measures to minimise these criteria exceedances have the potential to completely change the quarry plan, for example by sterilising some currently proposed extraction areas close to receptors or requiring larger noise barriers in the form of earth mounds which consume additional ground area, which may have follow on effects on the economic, ecology, visual impact, air quality and other specialist studies and therefore require the entire EIS to be rejected.

Alternatively, in the absence of a significant change to the project to mitigate the noise impacts, a number of rural residential lots are likely to be drawn into a zone of affectation for the project and require application of the Voluntary Land Acquisition and Mitigation Policy. This outcome would at least affect the economic and social impact studies in the EIS and is also likely to result in the EIS being rejected.

Please contact the undersigned for any further information or discussion.

Yours faithfully,

MARK BRIDGES BE (Mech) (Hons) MAAS
Principal Consultant

Appendix 9 Geology & Resource Assessment – Peer Review

PROPOSED MARTINS CREEK QUARRY EXPANSION

REVIEW OF REPORTED GEOLOGY IN THE EIS

At the request of the MCQAG I have undertaken a review of the geology reporting in the Martins Creek quarry expansion EIS. Reading the geological documents two key issues are evident. These are discussed below.

1. **Geology and Blast Vibration Assessment**

This report has two conclusions. The first states:

> The geological assessment showed that there was no direct geological linkage between the quarry and residents, which may create a direct pathway for ground vibration.

The only way for there to be no direct geological linkage would be for the quarry to be suspended in space.

The type of rock does not matter. Blast vibrations travel through all rocks regardless of lithology. It is an unalterable fact that the closer and bigger the blast, the bigger the ground vibrations.

The second conclusion is that a shrink swell test indicates a moderate level of cracking during shrinkage. One the basis of one test this really is an inconclusive statement.

2. **Martins Creek Andesite Quarry Geology Assessment**

Having noted the conclusions of the Geology and Blast Vibration Assessment concern thus arose as to whether statements of the same genre might occur in the main geological assessment prepared for the proponent.

The key feature of the geological assessment is the determination of the reserves of Andesite remaining in the site.

The report states:

> The calculated volume of Latite is 14.1 million cubic metres or 38.07 million tonnes.

This has been checked using a manual method for the determination of the volume of an irregular body as set out in the Field Geologists' Manual published by the Australasian Institute of Mining and Metallurgy, Monograph 9, Edition 3.

The writer also used this method for the determination of the rock reserves for the Diamond Hill Inquiry conducted by the State Pollution Control Commission in 1979 when assisting that Inquiry as a Commission Scientific Officer.

That Inquiry found that the proponent had overstated the reserves, and further that there was insufficient material available to justify a quarry operation.

In determining the likely reserves at Martins Creek Quarry 6 parallel cross sections, spaced 200m apart, were prepared using the proponent's supplied data. Borehole data was checked, the extent of the Andesite (or Latite) body checked, and the base of the Latite body, as shown in Figure 5 checked against the borehole records.

The cross sections were oriented down dip of the dipping latite body, and prepared with vertical and horizontal scales equal. The volume of latite was then calculated for adjacent cross sections. A density factor of 2.61 was applied to determine the tonnage of rock. It is noted that the proponent supplied the figure of 2.7 for reporting of reserves.

The density range given in the field Geologists' Manual for Andesite is between 2.4 and 2.8 with an average of 2.61. It would be unusual for an entire rock mass to maintain a higher end value across a deposit so the average value of 2.61 was selected and used, rather than the higher 2.7 value used by the proponent. In any event the difference is 3.3%, hardly significant for reserves estimation.

The calculated areas for each cross section are shown in Table 1.

Cross Section Number	Area (m^2)
1	6280
2	8820
3	3875
4	8550
5	None
East Pit 4	1830
East Pit 5	4180
East Pit 6	7090

Table 1 : Areas of cross sections used to determine likely rock reserves

The calculated amount of Andesite (or Latite) rock was determined to be 14 million tonnes. The West Pit area contains 10.6 million tonnes of potentially quarryable rock, while the East Pit area contains 3.4 million tonnes. There is an area where the rock reserves in the two pits adjoin. This has been allowed for in area calculations.

The extreme Southwest corner of the West Pit was disregarded due to the close proximity of houses and the railway line. These are undoubtedly why the rock in this corner was left by previous operators.

It is also noted that the proposed Stage 7 area in Figure 5 of the EIS contains no Andesite. It is also noted that proposed Stage 3 in the West Pit has been largely quarried out.

There is a small area where the two pits adjoin, that according to drill logs contains a great thickness of Andesite than occurs in the rest of the deposit. It is shown in EIS Figure 5. In the experience of the writer working in other quarries in volcanic rocks, such thickened zones often contain inferior rock. In any event the area has been treated as containing sound rock.

Conclusions

Since the calculated tonnage of rock is significantly different from that provided in the EIS I would recommend that this be thoroughly reviewed by an independent expert in reserves assessment.

In the event that the above reserves determination is in the correct "ball park" there are insufficient reserves to justify a 25 year operation at 1.5 million tonnes per annum.

With regard to the blasting vibration assessment I recommend that this report be set aside.

Graham Holt B Sc (Hons), M Eng Sci. F AusIMM

22 November 2016

(The author is retired after 50 years experience in exploration geology, quarrying, environmental impact assessment, environmental reporting, marine geotechnical investigations, geotechnical engineering and geophysics in Australia, New Zealand, S W Pacific, South Africa and Thailand.)

Appendix 10 Community Survey

Martins Creek Quarry Action Group PO Box 500 Paterson NSW 2421 T: 02 4938 5873 www.mcqag.org

MCQAG
Martins Creek Quarry Action Group

Community Attitudes towards the Martins Creek Quarry Proposal

Report prepared by:

Martins Creek Quarry Action Group (MCQAG)

August, 2015

1.0 Introduction and Methodology

This report provides a summary of the key outcomes of an online survey undertaken by local residents in relation to the Martins Creek Quarry Project. The survey was developed to document community perceptions and attitudes towards the Project and Daracon (the company), with specific objectives further defined below:

- To determine how Daracon and the Martins Creek Quarry operation are currently perceived by the community;
- To identify key perceived issues and impacts associated with the proposed project;
- To identify the issues of most concern to the community, to assist Daracon (and their consultants) in prioritising and addressing these issues within the environmental assessment process;
- To gain a better understanding of the community's views on how Daracon could work more effectively with the community in relation to their operations and the proposal.

The online survey was administered using Survey Monkey as a platform and was posted across the months of April to August 2015. The survey consisted of 25 items across the following topic areas:

- Top of mind associations with the company (Daracon)
- Attitudes towards the company and its activities (social and environmental), including identification of strategies to improve company-community relationships;
- Knowledge of the Project
- Support for the proposed Project
- Perceived Community issues in relation to the Project
- Degree to which Daracon's activities affect the community
- Recall of local community contributions made by Daracon
- Focus areas for future community contribution by Daracon
- Further information requests

The survey was developed to ensure that the company and other key government agencies (local and state) are fully aware of the issues of relevance and importance to the community; and for inclusion and consideration of these issues in the planning and assessment process for the Project.

It is usually the case that a survey of this nature would be undertaken as part of the Social Impact Assessment for the Project, but in the absence of this being undertaken by Daracon and its consultants, the Martins Creek Quarry Action Group (MCQAG) have developed and implemented the survey themselves.

An online survey method has a number of advantages and disadvantages as summarised in Table 1.

Table 1. Advantages and disadvantages of an online survey method

Advantages	Disadvantages
Ease of data gathering	Absence of interviewer
Minimal costs	Inability to reach certain groups within the community e.g. those not familiar with use of the internet, the elderly, those who do not have good internet access
Automated data input and handling	
Convenience for respondents	
Flexibility of survey design	

The MCQAG have had to utilise this method, instead of other survey methods e.g. telephone survey, largely due to cost. The Group is a no-for-profit community interest group with limited funds.

A total of 82 respondents completed the survey. Survey respondents were drawn from around the Dungog, Maitland and Port Stephens Local Government Areas (LGAs). The following figure illustrates the percentage of response by area. Paterson, Martins Creek and Vacy were the towns most represented across the survey sample.

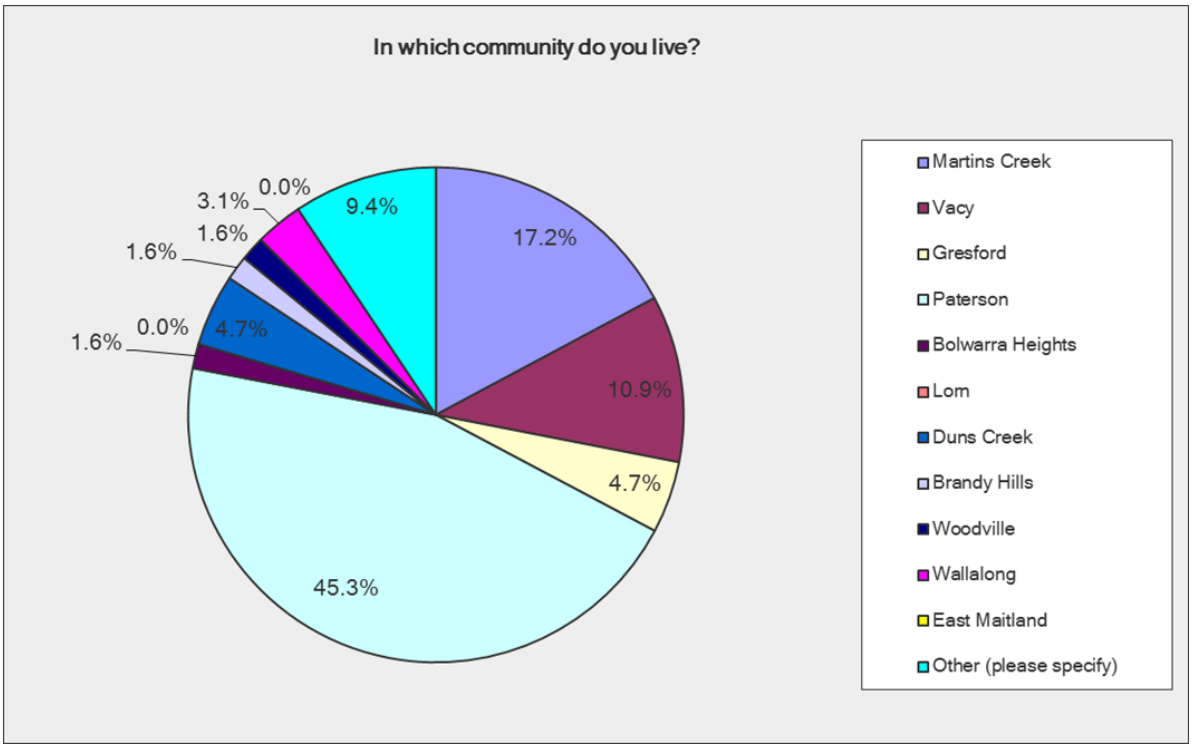

Figure 1. Town/Suburb location of survey respondents

Almost equivalent numbers of males (46.9%) and females (53.1%) participated in the survey. Survey respondents were in the 35-64 year age cohort (70.3%), with lower proportions of respondents from the 18-34 year age group (10.9%) and the 65 years plus age group (18.8%). The majority of survey respondents had not previously worked in the resource sector (76.6%), with the remainder currently working in the sector (9.4%) or having had previous engagement in the sector in

the past (14.1%). Only one participant that completed the survey worked for Daracon. Respondents had resided in their respective communities for 1 to 55 years with an average of 16 years residence, indicating strong attachment to the locality.

2.0 Survey Outcomes

This section summarises the outcomes of the survey across the key topic areas outlined in Section 1.0. Results of the survey have been analysed using descriptive analysis and qualitative analysis, as appropriate. Where relevant, quotes provided by survey particiapnts have been used to highlight issue themes and to facilitate issue interpretation. The results presented represent the collective perceptions of respondents who completed the survey.

2.1 Attitudes towards the Company

Given that the Martins Creek Quarry has been operating in the area for some time, it was considered useful to assess current community attitudes towards the Quarry operator – Daracon. The following sections outline community perceptions associated with the company.

2.1.1 Top of Mind Associations

Respondents were asked to indicate '*what words or things come to mind when people mention Daracon*'. The following word cloud summarises the types of words that respondents outlined. It should be noted, the larger the size of the word in the cloud, the greater the frequency of response.

As the word cloud illustrates, trucks and noisy truck were key terms mentioned by a large number of respondents. Other words related to the type and nature of Daracon's business, namely a civil engineering firm, road builders, professional business, quarrying; and the size of their business e.g. Big-Business, Money and Greed.

Figure 2. Top of Mind Associations Word Cloud

A number of words noted also summarised respondent's perceptions of the relationship between Daracon and the community e.g. arrogant, inconsiderate; as well as respondent's feelings towards the company e.g. anger/frustration.

Other words related to perceived impacts of the company's operation, such as blasting, dust, road safety, road conditions, economic contribution.

2.1.2 Feelings towards the Company

To assess respondents feelings towards the company, one survey item asked respondents to indicate how they would rate their current feelings towards Daracon on a ten point scale from 0 (extremely negative) through to 10 (extremely positive). An average rating of 3.27 was obtained, with almost half of the sample polarised on the ten point scale; 35.9% of respondents provided a rating of 0 (extremely negative) with a further 5.1% of respondents providing a rating of 10 (extremely positive).

Respondents were also asked whether, in the past 12 months, their feelings towards Daracon had become more positive, remained the same or become more negative. A total of 63.6% of the sample expressed that their feelings towards the company had become more negative, with 29.5% indicating that their feelings had stayed the same. A total of 7.7% of respondents' attitudes had become more positive.

The following quote highlights some of the sentiment expressed.

> *'The Daracon owner, at the first meeting, stood before the residents stating "he had worked hard all his life and he does not have to listen to this". I would like the owner to stand before the same meeting and admit that his increase volume of output was illegal and without approval'.*

2.1.3 Attitudes towards the company and its activities

Respondents' were also asked to indicate, using a five point likert scale (Strongly agree, agree, neither agree nor disagree, disagree and strongly disagree) their degree of agreement or disagreement with a number of items that related to Daracon's actions and activities in the area.

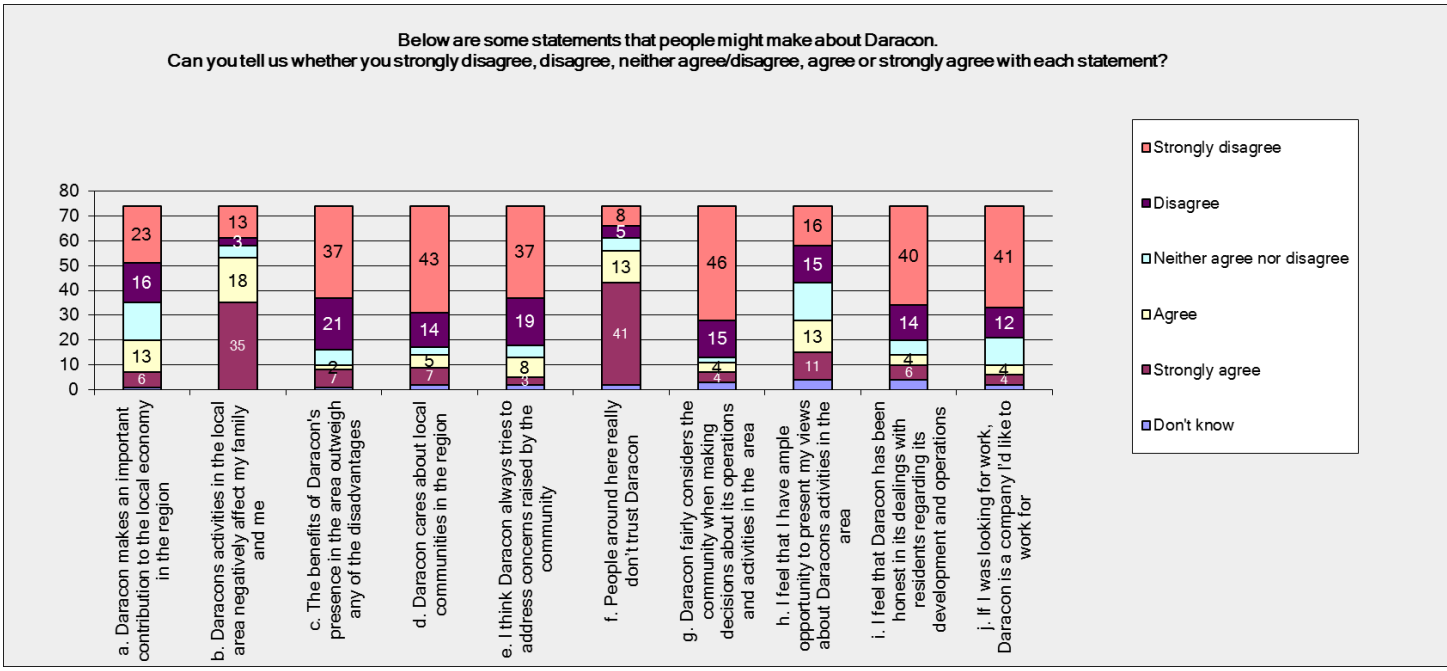

Figure 3. Attitudes towards Daracon and its activities in the area

The following dot points summarise the key outcomes of the attitude scale analysis.

- 52.7% of respondents don't think that Daracon *makes an important contribution to the local economy in the region*; with 26.3% agreeing that they do make an important contribution;
- 71.6% of respondents also don't believe that the benefits of Daracon's presence in the area outweigh any of the disadvantages;
- 72.2% of respondents think that *Daracon's activities in the local area negatively affect themselves and their family*;
- The majority of respondents (77.0%) don't agree that Daracon *cares about local communities in the region* or *addresses concerns raised by the community* (75.7%);
- 82.4% also don't think that Daracon *fairly considers the community when making decisions about their operations and activities in the area;*
- Trust in the company appears low, with 72.9 % of respondents agreeing with the statement that *people around here really don't trust Daracon*; only 17.6% of respondents disagreed with this statement;
- in relation to having *ample opportunity to present their views about Daracon's activities in the area,* 32.4% agree that they have opportunity to present their views, with 41.8% not in agreement with the statement;
- 72.9% of respondents don't believe that Daracon has been honest in its dealings with residents in relation to its operations; and
- 71.6% would not seek out the company for employment reasons.

In relation to the company's environmental practice, the majority of respondents (79.4%) were also not of the opinion that Daracon's environmental performance was an example of good practice; that the company is taking measures to address environmental issues (69.8%) or that the company's activities are environmentally sustainable (76.7%).

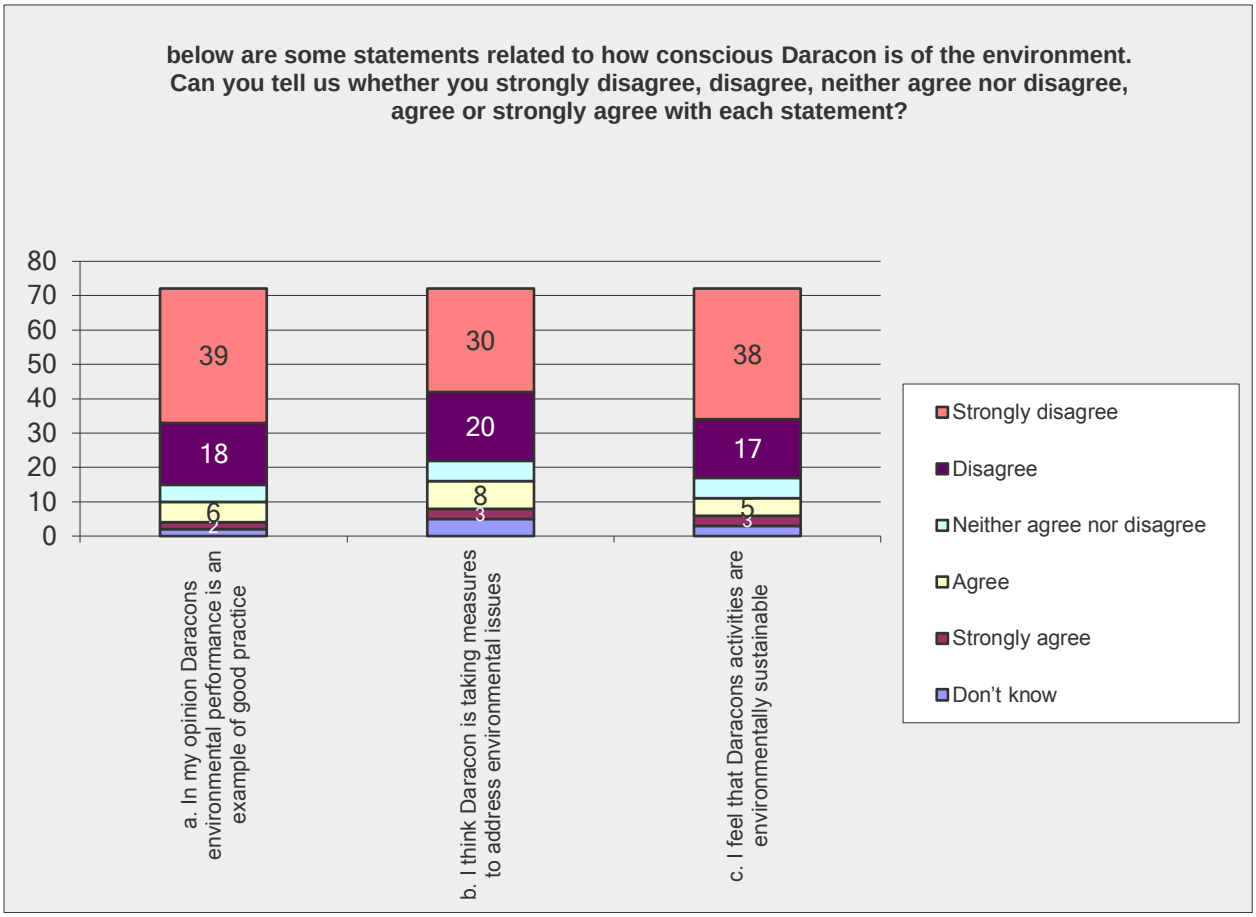

Figure 4. Attitudes towards Daracon's environmental practice

Respondents were also asked to indicate the degree to which their normal activities in the area have been affected, as a direct result of Daracon. Responses indicate that while 20.3% have *not been affected at all*; 40.6% believe they have been affected to *some extent*, with a further 37.5% affected *very much*. Types of affects experienced are highlighted in the following quotes from respondents and largely focus on noise (e.g. sleep disturbance on transport route), dust, road safety, road condition, vehicle damage (e.g. windscreens) and public amenity in the Paterson village:

> *'Greater caution on roads, road noise entering the house early in the morning'*
>
> *'I do not visit Paterson as much as I used to due to the unpleasantness of the truck movements'*
>
> *'Moving rooms in my home to get a better night's sleep due to truck movements past my home at 5.30am, not utilising my off street parking as it is too dangerous getting in and out of the drive onto main road re not enough safe breaks in the traffic'*
>
> *'Several broken windscreens from trucks, can no longer sit out in front of the local cafe as the noise from the trucks is deafening, the blasting is now well within hearing range as is the dust'*

'Roads are not as safe, I have had a rock thrown from a truck into my windscreen. Roads are less safe to bike or walk along'.

'Conducting business around town, dodging trucks as you cross the road with your shopping etc. Parking and exiting vehicle with trucks coming past. At my workplace, customers have commented on noise and dust pollution, poor roads. It turns tourists off our town.'

'Noise and traffic and air pollution ongoing every day'

'Won't let children, who are 13 and 12, walk to the shop or park without discussing road safety. Concerns for other kids who cannot play in yards'

'I grew up in the area & my family still live there. Visiting is now unpleasant sometimes due to the quarry & the trucks on the road are not only damaging the road surface but the drivers seem to care more about getting their load to where it is going than the safety of other road users.'

'I have nearly been wiped out by an empty truck driving around the bend on Gresford Rd near sextons buses, I have elderly parents who a very nervous on the roads because of the trucks'

'Riding and cycling along Brandy Hill drive and Seaham road has become very much more dangerous with excessive truck movements. Also find my love of gardening has diminished because I get upset by the constant truck movements past my house. The noise can be awful.'

'I have to exercise extreme care when using Paterson Bridge as it is not wide enough when a truck is turning onto it at the same time'

'Children's sleep disrupted by early morning trucks. Danger of cycling on local roads'.

2.1.4 Strategies to improve company-community relationship

When asked '*what do you think could be done by Daracon to improve your feelings towards the company'*, a number of suggestions were identified.

While some respondents felt the relationship had been badly affected given lack of engagement to date…

'It's too late; they have already displayed complete ignorance towards the community that have directed their concerns about the current expansion of the quarry and the negative impacts it is having'.

'It's there sense of entitlement, corporate goals over sustainable communities'

David Mingay demonstrates no ethical moral concerns re his company and its impact on the community. His response to concerns re all of the above was "if you don't like it then move."

…other respondents outlined a number of different strategies on how to improve company-community relations, as illustrated in the following quotes:

'Demonstrate some genuine empathy towards the community. Cap hourly truck movements through Paterson, defer opening till 7.00am and stop Saturday working. Fixing the road surface would help too.'

'Cease road transport through community villages and use alternative roads and daytime rail schedules'

'Operate the quarry in accordance with their current 1991 consent conditions and EA (i.e. 24 trucks per day 0.3MMtpa) and via the state significant development process gain approval to transport any additional material from the quarry via rail'.

'More consultation with locals, stop breaking the rules and realise the impact your company is going to have on hundreds of locals who moved out here for the peace and quiet, and donate some funds to the wildlife carers who are picking up the roadkill and caring for injured wildlife'

'Put some of their mega profits back into the community'

In summary, the strategies identified centred on relationship building, operating hours, greater compliance and improved management of product transport and other operational impacts. Some respondents wanted to see the expansion plans ceased completely.

- ✓ Relationship between company and community
  - Greater company consideration of community issues
  - Genuine engagement and collaborative approach
  - More responsible behaviour
  - Contribute to the community ($)
  - Discounted products available to local groups

- ✓ Operating hours
  - 7am start
  - No Saturdays

- ✓ Greater compliance
  - Improved management of impacts e.g. reduce noise and dust
  - More stringent controls

- ✓ Truck movements
  - Cap hourly truck movements
  - Limit hours of truck movements
  - Transport product by rail
  - No trucks through Paterson
  - Greater driver speed compliance
  - Fully cover loads
  - Fix/improve roads

- ✓ Cease expansion plans
  - Leave the area

2.2 Project Related Issues

Survey respondents were also asked a number of questions about the Martins Creek Quarry proposal specifically. Key findings are presented in the sections below.

2.2.1 Knowledge of the Project

Knowledge of the project was relatively high among respondents with an average knowledge rating of 7.12, with 81% of respondents rating their knowledge of the project as greater than 5 on the knowledge scale (0 - no knowledge through to 10 – a high level of knowledge).

2.2.2. Support for the Project

Support for the project was low as measured on a 10 point scale with 0 being not supportive at all and 10 being very supportive. A total of 51.9% of respondents provided a rating of 0 with only 6.33% indicating they were very supportive with a rating of 10. The average level of support was 3.03.

2.2.3 Project Issues

In relation to the Project, respondents were first asked to list their top three issues in relation to the project (unprompted) and were then provided with a list of potential impacts of the project to indicate their level of concern (low, medium or high).

When unprompted, the following figure illustrates the issues of most importance to survey respondents. As the chart shows, the volume/number of truck movements and road safety issues associated with truck movements were two of the top 3 issues identified, along with road and bridge conditions and subsequent damage to cars e.g. broken windscreens. Noise and vibration from truck movements and impacts on the amenity of rural life, sense of community and local businesses in the Paterson village were also frequently mentioned.

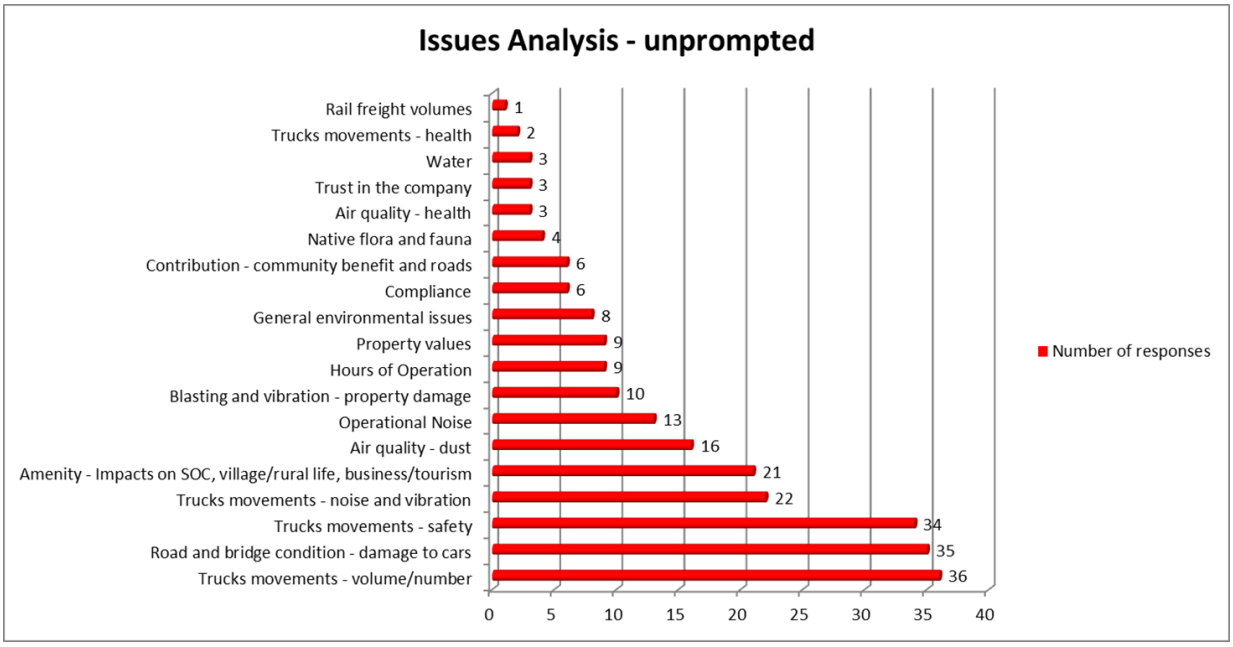

Figure 5. Perceived issues associated with the Project (unprompted)

When provided with a list of issues or potential impacts of the Project, the following levels of concern (low concern = 1; 2 = medium concern; 3 = high concern) were noted. As Figure 6 illustrates, issues of greater concern were the same as those that had been previously identified and included 1) road infrastructure; 2) road safety; and 3) truck movements. Operating hours also had a higher level of concern as well as community amenity and health and wellbeing. The following quotes highlight the perceived loss of village amenity experienced by many locals and perceived impacts on individual health and wellbeing:

> *'Loss to Property valuation and the value of community pride. Community peace and pride can still be achieved with business and economic development, with cooperation and involvement of community and other businesses, no matter how small they are. When people comment frequently "it was a great place Paterson, but too much traffic for a visit now"*

> *'When we first moved to the area, the quarry and the way it was operated had absolutely no impact on us. Since Daracon has taken over it has significantly changed our experience and pleasure living here.'*

> *'I have had to live through Daracon's haulage in some cases with 40 to 60 trucks per hour travelling just metres away from my house for 11 hours per day from 05:30am in the morning, it has caused dilapidation damage to my property due to vibration and resulted in emotional disturbance to my household and myself.'*

Overall, the majority of potential project issues received relatively high levels of respondent concern, with the exception of issues relating to train movements and train noise which received lower ratings.

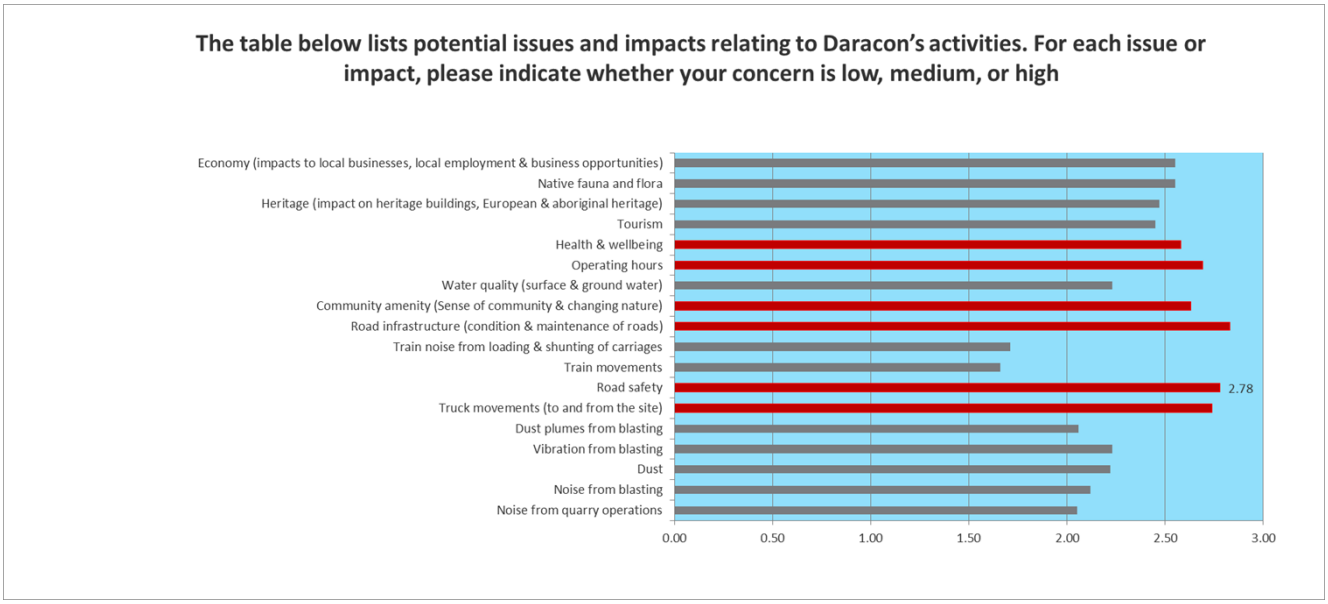

Figure 6. Level of issue concern (prompted issues)

The above analysis clearly indicates the issues of importance and relevance to community respondents and highlights the issues which the community will want to see considered and addressed in the Environmental Impact Statement for the Project.

2.3 Community Contributions

As part of the survey, respondents were asked to recall any local community contributions made by Daracon. A total of 75% of respondents could not recall any local community contributions made by Daracon, with 25% recalling contributions as outlined below:

- Flashing speed sign in Paterson
- Donations to the Paterson Preschool for equipment
- Pedestrian bridge adjacent to the school – Daracon provided the gravel and Rotary undertook the installation
- Provision of cheap gravel for repairs post the recent super storm event
- Dungog Shire Council borrowed the rock crusher at no cost
- Maitland Council Roadworks proposal at Tocal Road – 50% funded by Daracon
- Gresford-Vacy Soccer Club
- Dungog State Emergency Service (SES)
- Paterson River Rugby League Club
- Vacy Country Carnival
- Gravel donation for Rotary Walking Track

Respondents' were also asked to comment on what focus areas should the company consider for future community contributions. Such focus areas could be considered as part of the Voluntary Planning Agreement (VPA) negotiation between the Dungog Shire Council and the company.

A number of the suggestions related to the Project specifically and/or the management of impacts associated with the quarry operation, namely:

- Road safety programs
- Driver safety programs and driver monitoring program
- Permanent road infrastructure contribution (upgrade and maintenance)
- Development of the rail as alternate means of product transport
- Develop a bypass around Paterson
- New quarry entrance to bypass Martins Creek
- Repairing damaged bridges
- Independent traffic studies and traffic monitoring
- Repair and/or compensation for damage to homes/properties
- Double glazing for properties located close to transport route (within 100 metres) (Op)
- Public release of quarry monitoring data
- Effective rehabilitation of the site
- Noise reduction strategies

Other ideas focused more centrally on the community:

- Community development fund
- Annual community grant scheme
- Upgrade and maintenance of parks and public amenities e.g. parks, recreational grounds, pavements, safe bus shelters
- Youth schemes

- Support for local schools
- Support for local events e.g. Carols in the Park
- Provision of gravel for roads and driveways in the community.

Other suggested initiatives were more environmentally focused:

- Native animal care and rehoming
- Native animal trust
- Heritage conservation
- Environmental conservation
- Native bush regeneration
- Weed eradication programs
- Landcare.

In relation to contribution to date, the following quote highlights much of the community sentiment:

> *'Starting from a position of apparent complete apathy, Daracon has a long way to go to build any trust in the community. They might start by putting some serious money into road repair'.*

3.0 Conclusion

This report has provided a succinct summary of a sample of community respondents' views on the Martins Creek Quarry Project and Daracon, the quarry operator. As noted in Section 1 of the report, the survey has been undertaken by the MCQAG as a mechanism to better understand wider community issues on the quarry proposal, beyond the group's membership. The results indicate that community respondents have a number of key issues of concern and relevance; and the survey outcomes are provided to ensure that these issues are adequately noted and addressed in Daracon's environmental impact assessment for the project.

Appendix 11 Business Survey

MCQAG Business Survey Outcomes

Method

- Hard copy survey – drop and pickup – undertaken in November 2015
- Local businesses approached to participate
- 10 respondents in total

Business Characteristics

- All businesses based in Paterson
- Business sectors included hospitality, retail and sales, community and health services
- Businesses had on average 2 full-time employees and 3 part-time/casual employees
- Business owners and employees all resided locally: *Paterson, Vacy, Hilldale, Duns Creek, Brandy Hill, Maitland, Metford, Rutherford*

Economic Association with Martins Creek Quarry

- None of the businesses that participated were current suppliers of the MCQ
- When asked the extent to which their business currently benefits from the presence of the quarry using a scale of 1 (not at all) to 10 (to a great extent), a mean of 2.1 was obtained

Current impacts of MCQ operations

- All current impacts experienced by local business operators who completed the survey, related to trucks and truck movements and included:
  - Noise
  - Dust
  - Volume of trucks
  - Road condition
  - Resident/Pedestrian safety
  - Town Parking
  - Traffic congestion
  - Structural damage to property and heritage buildings (due to vibration)
- Impacts noted were perceived to be medium to high in magnitude

Potential MCQ Project Impacts

- There was also a view that such impacts would be exacerbated if the project was approved:
  - Increased noise
  - Increased dust
  - Increased frequency of truck movements
  - Reduced road safety
  - Increased parking problems
  - Increased traffic congestion in Paterson
  - Further damage to buildings (heritage and non-heritage)
  - Further road deterioration – wear and tear
  - Loss of business income due to decreased patronage of accommodation, traffic/parking issues etc.

In our words…

- “We have had customers leaving after staying one night and complaining about the noise early in the morning”
- “Give the town a break and reduce trucks through our town”
- “We have reduced customers due to their difficulty in getting in and out of the business due to the trucks”
- “I am constantly asked by guests, how do you put up with this? It really spoils the appeal of this historic little town – such a shame!”
- “What damage is being done to the heritage buildings?”

In our words…

- “It’s a danger to customers crossing the road”
- “We do not have a problem with speeding trucks in general, but it is just the volume of vehicles on this supposedly main road”
- “Customers unable to park safely in the area”
- “We benefit in small sales and local employment – all sales are important to a small business”
- “Customers do mention the danger felt with so many big trucks and trying to turn…”

Potential Benefits of the Project

- Some businesses, particularly retail businesses, saw some benefit in further local purchases by quarry truck contractors e.g. purchase of lunches, drinks etc

- Generally, business respondents did not believe that their business would be likely to benefit greatly if the MCQ project was approved

Potential Strategies to manage impacts

- Reduced / cap truck numbers through the town per day
- Nominated hours for truck movements e.g. start later in the day, curfews, no weekends
- Reduced speed limits and greater police presence
- Driver monitoring program to ensure road safety
- Monitoring of vibration impacts on key heritage buildings
- Fully cover loads
- Community contribution
- Prioritise local procurement e.g. sandwiches, fuel etc
- Road contribution
- Discounted product available to local community

Appendix 12 Tourism Profile

1.0 Tourism Profile

1.1 History of Paterson

In 1801 a party led by Lieutenant-Colonel William Paterson explored the lower Hunter Valley, with a permanent convict settlement established at Newcastle in 1804. It was as early as this time that convict gangs commenced cutting of timber on the Paterson River.

In early 1822 the first large-scale grants to settlers in the Paterson area were made to William Dun and James Webber. Dun and Webber were the first of a wave of immigrant settlers attracted to the fertile alluvial soils and prime river frontages of the Paterson area, with easy access to colonial markets via the nearby deep-water port of Morpeth from which vessels regularly voyaged to Sydney.

The trickle of settlers to the Paterson area in 1822 soon became a flood and within a few years most of the prime river frontages had been granted. With the influx of people to the district, the need for a township and public wharf became obvious. In 1833 the plan for the township of Paterson was approved and blocks of land were put up for sale.

Given this history, the Paterson village has a strong local heritage from colonial buildings to vintage trains and famous poetry. The village also has a number of old country pubs, cafes and a number of accommodation houses which line the main street through the small town. A market is held monthly located next to the gallery.

Local attractions include the Paterson Historical Court House Museum, which has a permanent exhibition on Australian poet Dorothy Mackellar, who as a teenager visited the family retreat at nearby Torryburn. A breaking drought in the area was said to have inspired the memorable lines in her famous poem *My Country*.

One of Australia's finest collections of colonial farm buildings dating back to 1822 is at Tocal Homestead, set among fig trees on a vast rural property overlooking the river. The homestead is open on weekends from March to November.

In relation to rail memorabilia, the Paterson Rail Motor Museum is open on the third Saturday of the month and for

the Rail Motor Society Open Day. The rail museum has many old steam and diesel trains.

1.2 Visitation and Visitor Economy

Paterson is located around 2 hours north of Sydney in the Dungog Shire. The following information is sourced directly from the Dungog Shire Visitor and Destination Strategy and Management Plan (2015-2018).

1.2.1 Visitation Statistics

Total visitation to Dungog Shire over the past decade has generally increased from around 160,000 visitors per annum in 2008/2009 to over 200,000 per annum in 2014; and is largely made up of around 65% day-trippers, 34% overnight visitors and 1% international visitors; and is fairly consistent within NSW as a whole.

The visitor economy for the Dungog Shire is worth approximately $47 million with overnight visitors spending approximately $33 million in the Dungog Shire annually. The average length of stay in the Shire is 14.8 nights compared with 24.2 nights for NSW. Expenditure per visitor totals around $1,144 per person (compared with $2,229 for NSW as a whole) with the expenditure per night totalling $67 (compared with $92 for NSW).

The majority of visitors to Dungog Shire come to the area for a holiday (73%), with a further 22% visiting the area to see friends and relatives. Visitors largely travel from regional NSW (58%), with a further 26% coming from Sydney. Dungog Visitor Centre data further documents that around 26% of visitors come from Newcastle, 29% from Sydney, 10% from the Central Coast, 8% from interstate and 5% from international destinations. Areas of interest to the VIC visitors include accommodation (3%), camping (15%), walks (11%) and events (8%).

1.2.2. Motivators for Visitation

A recent project survey undertaken as part of the tourism planning process (Dungog Visitor and Destination Strategy and Management Plan, 2015-2018), has also indicated primary and secondary motivators for visitation to the Shire.

General community residents outlined a number of motivators for visiting the Dungog Shire, as outlined in the following table.

Reason for visiting	Percentage of response (%)
State and National Parks	79
Art, Film, Good and Music Events	77
Horse and Cattle Events	61
Fitness, cycling, swimming and canoeing events	47
Sporting events	36
Mountain bike trails	49

Cycling trails	49
Historic Villages	52
Dungog Common	28

Secondary motivators identified by tourism businesses and the general community as key reasons to visit the Dungog Shire are further outlined in the following table.

Supporting Motivators	Tourism Businesses (% of response)	General Community (% of response)
Antiques and Bric-a-Brac	81	58
Cafes	78	57
Wineries	73	51
Galleries	70	54
Hotels/Pubs	69	64
Markets	68	52
Cultural Heritage	67	41
Restaurants	66	55
James Theatre	64	-
Art Trails	59	-
Historic Villages	57	34

The following dot points were also considered to have a positive impact on visitation to the Dungog Shire, namely:

Visitation	Percentage of Response
Natural Beauty and Fresh Air	100
Proximity to the Barringtons	97
Pristine Rivers	97
Accessibility to the Barringtons	92
Heritage of the countryside	79
Availability of activities for holiday makers	64
Railway links	61
Close proximity to main markets	60

In 2015, approximately 110 events were conducted in the Dungog LGA as defined below.

- 8 major events (2 local shows, 1 Billy Cart Derby, 2 Rodeos, 1 Festival, 1 Village Fair and 1 NYE celebration)
- 19 events with a horse and cattle theme
- Around 50 markets throughout the year
- 1 motor cycle event, 1 car show
- 3 bike riding events

- 20+ film events at the James theatre
- 7 arts and crafts events
- 4 Fairs
- 1 flower show
- 1 ball
- 1 Charity event
- 3 walking or running events
- 10 Music events
- 3 events with food and drink