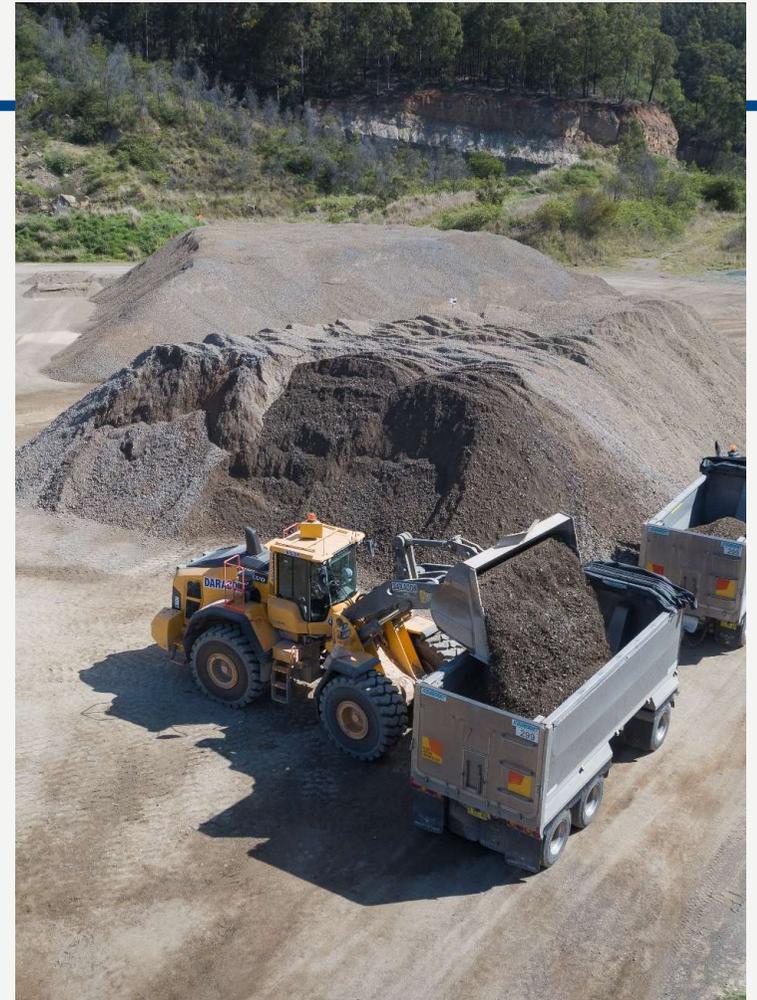


# Martins Creek Quarry Project

Independent Planning Commission

19 October 2022



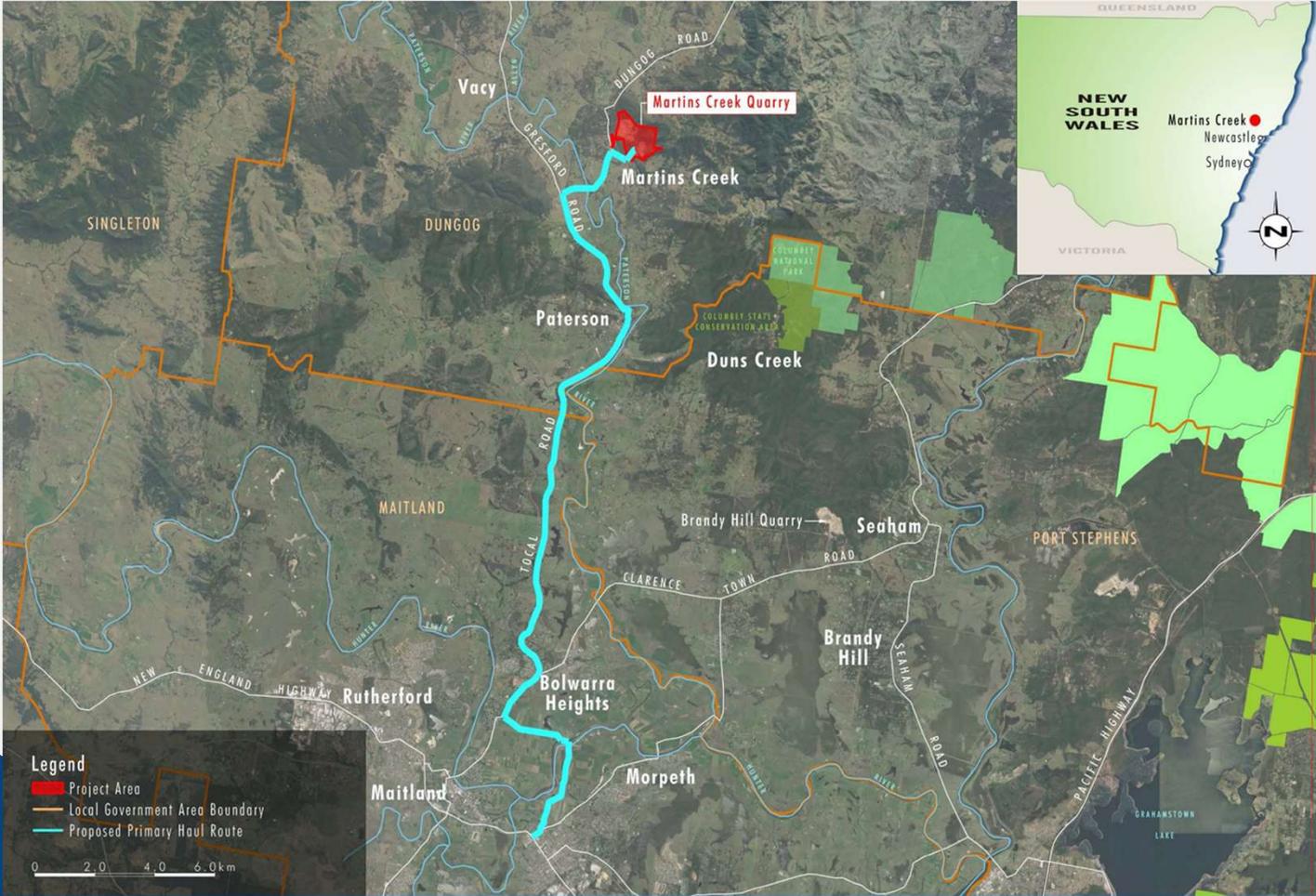
# Agenda

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- **Introduction**
- **Overview of amended application and impacts**
- **Overview of key issues**
  - **Project overview including mine plan and associated infrastructure**
  - **Site specific ESG factors (water, biodiversity, noise and air quality, emissions)**
  - **Traffic and transport (road and rail) including associated amenity impacts**
  - **Socioeconomic impacts**
- **Project timeframes**
- **Draft recommended conditions**

# Overview of amended application and impacts

# Project Locality

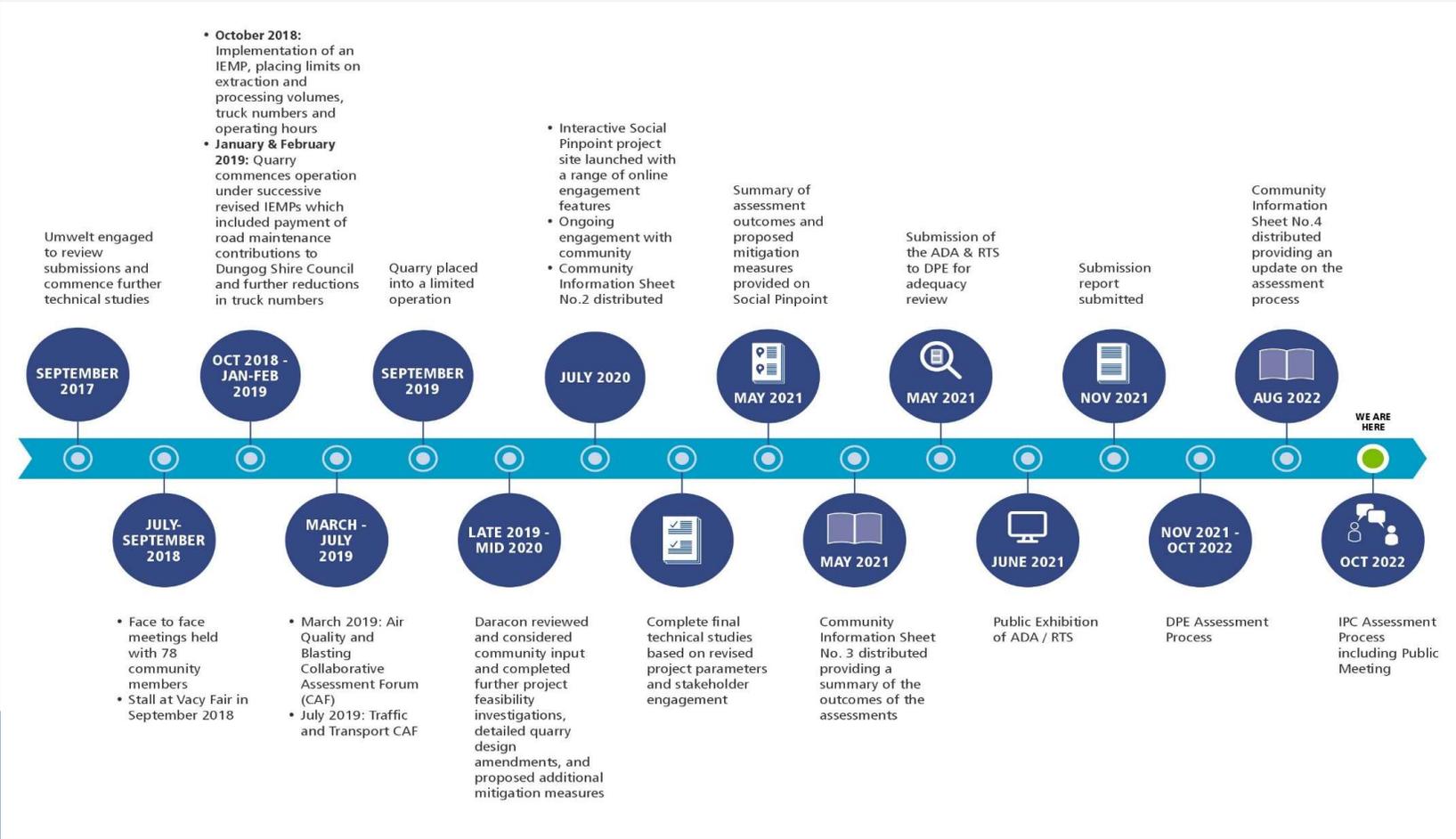


# Brief History and Recent Operations

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- 1914 – 2012: Martins Creek Quarry established by NSW Government Railways and operated continuously by various NSW Government transport departments, authorities and corporations
- December 2012: Daracon secured long term licence
- Development application for Original Project submitted in September 2014
- Dungog Shire Council action against Daracon in 2015 in relation to the 1991 development consent.
- EIS publicly exhibited in late 2016 (Monteath & Powys)
- Umwelt engaged in 2017 to review submissions, advise Daracon on Project Design and further stakeholder engagement and assessment requirements

# Project Timeline



## Brief History and Recent Quarry Operations

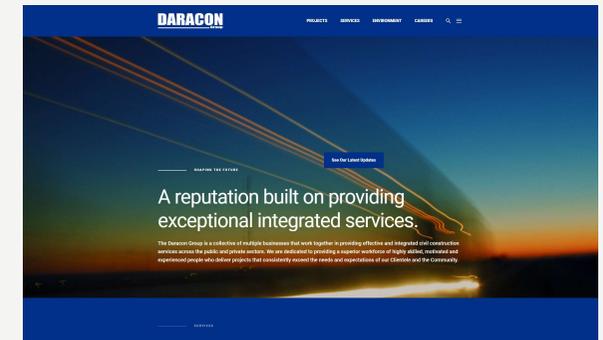
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- From October 2018 to 24 September 2019, Daracon operated in accordance with an Interim Environmental Management Plan (IEMP), including agreed parameters with Dungog Shire Council from February 2019.
- On 24 September 2019, the Quarry was placed into limited operations within the parameters of the existing consent deemed as approved by the Court of Appeal. Effectively limiting operations to:
  - (a) winning material primarily for railway ballast from a limited area in the West Pit
  - (b) total production no more than 449,000 tonnes per annum
  - (c) not greatly more than 30% of that total production transported by road.
- Production under the limited operations for the previous two years has been:
  - 2020: 22,164 t
  - 2021: 20,581 t

# Who is Daracon?

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- The Daracon Group provides effective and integrated civil construction services across the public and private sectors.
- Daracon employ over 800 people dedicated to delivering projects that consistently exceed the needs and expectations of our clientele and the community.
- Daracon offers a range of services, including:
  - Quarries
  - Civil engineering
  - Plant hire
  - Transport
  - Subdivision construction
  - Concrete
  - Mining services
  - Rail
  - Landscaping
  - Site Remediation
  - Polywelding
  - Mine fill grouting



Visit [www.daracon.com.au](http://www.daracon.com.au) for more information

# Project Need

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- Martins Creek Quarry supplies and delivers high quality material and products for use in rail, concrete, asphalt and general civil construction, including products to meet the specifications of Transport for NSW (TfNSW), ARTC and Sydney Trains.
- Martins Creek Quarry produces materials for supply to all sectors, including products to the highest specified requirements. This is an important point of difference between the quarry and other hard rock quarry producers in the Hunter Region.
- Demonstrated sustained market demand for a range of quarry products.
- Martins Creek Quarry is the only quarry in the Lower Hunter with direct rail access.

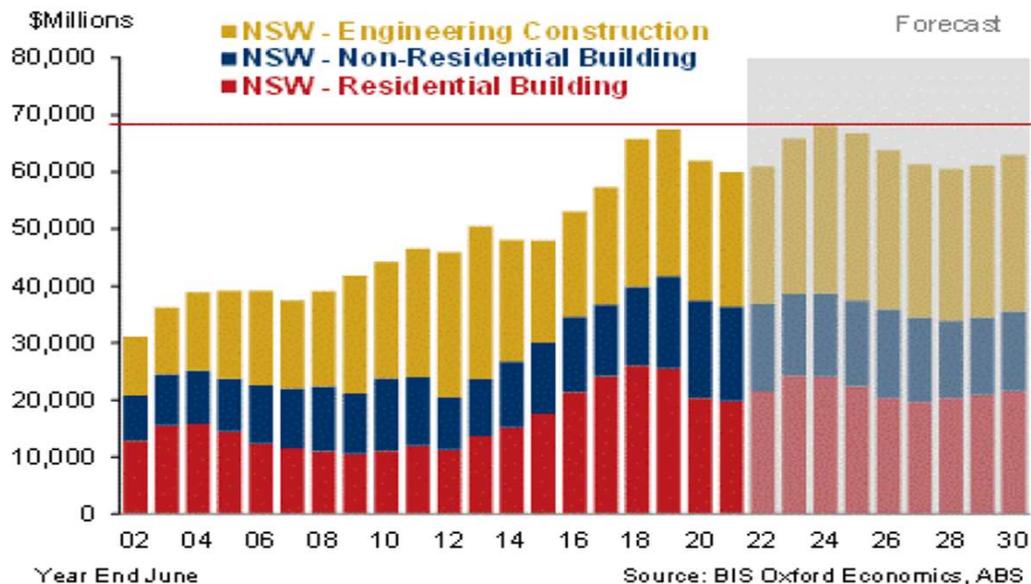
# Project Need

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- The Revised Project seeks the capacity for ongoing supply of construction material to regional markets of the Hunter and Central Coast, local markets, major regional infrastructure and to supplement Sydney markets.
- Regionally significant resource with physical material properties conducive to the production of concrete aggregates and construction materials to very stringent specifications.
- The proposed development of the resource would make a **significant contribution to the easing and securing of future construction material supply constraints** and is considered to be an orderly and economical use of the land:
  - optimising use of an existing quarry and processing facility
  - proven high quality products
  - access to main road and rail transport.

# Construction Material Demand & Supply Issues

## New South Wales



### The Construction industry & regional NSW economy

- ABS 2020-21 data – construction industry contributed **\$47 b** to NSW economy
- 4<sup>th</sup> largest industry in Regional NSW (behind rental / real estate, Mining and Health care) ~\$15b contribution
- Nov 2021 – 108,000 (9%) people in regional NSW working in the industry directly.

### Quarrying Industry links to regional NSW & construction industry

- Australia's quarries play a vital role in supplying materials used in the construction industry
- Thriving Mining & extractive industry in regional NSW
  - world class deposits, highly skilled workforce, Innovative & responsible practices
  - major employer
  - essential to economies of many regional NSW centres
  - continuing goal of DRNSW that these industries continue to generate prosperity for the people of Regional NSW
- Government and DRNSW desire to drive economic activity, population growth and private & public investment in major infrastructure in NSW & in Regional NSW is only expected to see an:

**Increased demand for quarried materials over the short to medium term**

Source: NSW Public Works Advisory (2022)

# Current Hunter Region Project Work – Infrastructure Boom

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A large pipeline of infrastructure projects including:

- Inner City Bypass
- Hexham Straights Project
- M1 to Raymond Terrace – South and North
- Muswellbrook Bypass
- Singleton Bypass
- Tomago Gas Plant
- Newcastle Container Terminal
- Housing Boom and Land availability
- Council funding spend
- Drought proofing works – water industry
- Solar and wind renewables

# Significant Construction Material Supply Constraints

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- Hanson Brandy Hill Quarry and Hanson Kulnurra closed for the rest of the year to the public
- Boral Peats Ridge closed for the rest of 2022 due to poor rock and flooding
- Boral Seaham limiting tonnages and numerous issues with availability of aggregate / road base
- Metromix restrictions and limits apply
- QPN source rock under water, daily limits apply
- Concrush extremely limited feed
- SCE Mayfield limited/no road bases available
- SCE Hebden unable to produce road bases in significant quantities
- Sand limitations at all sand suppliers
- Martins Creek currently still undergoing DA approval
- Ardglen currently undergoing modification approval
- Other Local Quarries supplying Sydney Market with their tonnage limits leaving local and regional projects short

# Significant Construction Material Supply Constraints (cont)

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- Daracon currently investigating and sourcing aggregates from the Wollongong, Taree, Gunnedah and Liverpool Ranges to meet construction project requirements.
- Aggregates supply across NSW is limited.
- Delays (up to 2hrs) are often being experienced at quarries due to the volume of materials being loaded and the demand.
- Selected Material Size (SMZ) and road base supplies extremely limited and material is no longer in stock.
- Limited or in some cases no feed for recycled materials.

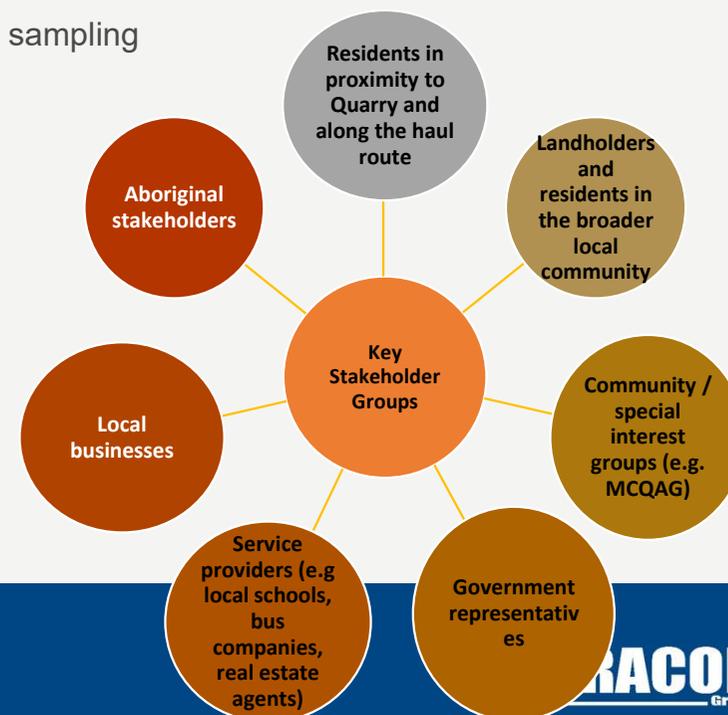
# Current Major Lower Hunter Infrastructure - Increases Construction Material Requirements

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- Current total estimate of construction material requirements in the Lower Hunter for upcoming Major Infrastructure is in excess of 3.5 Mt
  - Inner City Bypass – approximately 500,000 tonnes
  - Hexham Straights – approximately 125,000 tonnes
  - M1 North – approximately 1.2 million tonnes
  - M1 South – approximately 1.67 million tonnes
- This is over and above the existing shortage in construction materials for the current regional requirements.

# Community and Stakeholder Engagement

- Upon review of the Original EIS and associated SIA, the Department of Planning and Environment *'identified significant shortcomings with the SIA and the consultation undertaken to support the preparation of the EIS'* (DPE, 2016).
- Umwelt was engaged by Daracon to prepare the SIA as a part of the Response to Submissions to the Original Project EIS and the broader Amended Development Application (ADA) for the Revised Project.
- Stakeholders were identified through a variety of mechanisms:
  - door knocking / letterbox drops
  - community members and interested parties were invited to be involved in engagement / share their views or ask questions of the project team via:
    - distributed information sheets
    - Paterson Psst updates
    - MCQAG website
  - Submissions received for original EIS
  - Search for businesses and service providers in proximity to Quarry and haul route
  - Snowball sampling



# Community and Stakeholder Engagement

## Throughout the SIA process stakeholders consulted and informed via a range of methods:

- **Personal / group interviews and surveys** with local residents, community / special interest group members (including former CCC and Martins Creek Quarry Action Group) and local business and service provider representatives
- **Project briefings** with local and State Government
- **Collaborative Assessment Forums:** Topic specific meetings to provide outcomes of assessments (air quality and blasting, traffic and transport, noise and social impact assessment)
- **Vacy Fair Stall (2018):** To share information about the process, preliminary feedback of issues, proposed technical studies with representatives from Daracon and Umwelt present to address questions
- **Social Pinpoint website:** Online engagement platform to provide project updates, outcomes of engagement activities and to seek feedback via community surveys, active from August 2020 to present
- **Community information sheets** x 4, approx. 3,700 distributed to residents and businesses in localities proximal to the Quarry and haulage route, and to key locations in Paterson and Vacy
- **Paterson Psst** updates
- Ongoing email and telephone correspondence
- Employment of a Community Liaison Officer (Daracon)



# Scoping of Issues and Engagement Activities

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## Stakeholders were invited to discuss:

- Level of awareness and knowledge of the Project
- History of the Quarry in the community
- Positive and negative impacts of the Project and potential mitigation and enhancement strategies
- Views on identified Project changes and refinements at key points
- Engagement – experiences to date, preferences and evaluation
- Community values of importance
- Regional and Community challenges, needs and aspirations
- Feedback on technical assessment outputs
- Level of support and acceptance of the Project
- Suggestions for potential initiatives/programs to contribute to the community

# Outcomes of Engagement and Project Refinements

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Feedback from the community and outcomes of engagement were used to identify a range of suggestions for project design changes and mitigation measures that were considered by the project team in the ADA.

As a result, project design changes and additional mitigation and management measures were committed to minimise the project's social amenity and environmental impacts including:

- reduced road transportation volumes
- reduced peak hourly truck movements
- refined operational hours
- reduced proposed disturbance footprint
- reduced proposed quarry operation approval term
- further mitigation for site operations and product haulage.

# Overview of key issues



# Key Project Changes

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The key features of the Revised Project include:

- extraction of up to a maximum of 1.1 Mtpa of quarry product material over 25 years, transporting up to 500,000 tpa by road and the remainder by rail
- 16.8 ha reduction in the proposed disturbance footprint, including avoiding approximately 15.3 ha of native vegetation in the former East Pit
- revised product transport arrangements, including:
  - reduced **peak** daily laden trucks of 140 per day (280 movements) for 50 days/year otherwise 100 per day (200 movements) with a peak of:
    - 20 laden trucks per hour (40 movements), Monday to Friday between 7.00am and 3.00pm
    - 15 laden trucks per hour (30 movements), Monday to Friday between 3.00pm and 6.00pm

*Peak truck numbers are required to service large infrastructure projects. Most typically truck numbers are likely to be 12 laden trucks/hour or less*

- no road haulage of quarry product on Saturday, Sunday, public holidays or between 24 December and 1 January, inclusive
- no trucks through Paterson Village before 6.45 am
- increased quarry product transported by rail

# Key Project Changes

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- revised operating hours of 7.00 am to 6.00 pm, Monday to Saturday:
  - with the exception of road haulage of quarry product which will only occur Monday to Friday, and
  - no evening or night operation, apart from rail loading and transportation and necessary maintenance activities
- removal of Haul Route 2 as a primary haul route (now proposed only to service local jobs as required)
- construction and use of a new access road and bridge crossing from Dungog Road, over the North Coast rail line, to allow for all heavy vehicle movements via the new access
- improvements at the Dungog Road and Gresford Road intersection and the King Street and Duke Street intersection (within the village of Paterson)
- upgrades to the approach to Gostwyck Bridge
- extension of the rail spur to facilitate longer trains to transport more quarry product and access rail markets
- establishment of noise bunds and noise attenuation of the existing fixed processing plant with further upgrades and replacements to reduce noise and air quality impacts
- progressive rehabilitation of the quarry.

# Revised Project Considerations

| Key Feature            | Environmental Impact Statement (exhibited 2016)   | Revised Project parameter (as per ADA, 2021)   |
|------------------------|---|--|
| Operating Period       | 30 years  | 25 years   |
| Approvals              | Consolidation of existing operations and approvals  | No change  |
| Limits on Extraction   | 1.5 million tonnes per year   | 1.1 Mt/pta (limit of 500tpa transportation via road)   |
| Quarry Extent          | Original Project disturbance area of 82.2 ha, including previously cleared land   | Revised Project disturbance area of 66 h, including previously cleared land – a reduction of 16.8 ha   |
| Operating Hours        | In pit operations - 6am-6pm Monday to Saturday (quarrying)  | In-pit operations 7am to 6pm Monday to Saturday<br>No in-pit mobile crushing in the West Pit<br>Blasting of quarry material only between 11.00 am and 3.00 pm Monday to Friday   |
| Evening/Night Works    | Evening/Night Works – Including processing (6am-10pm) and pugmill mixing and binder delivery operations (430am – 10pm Monday to Friday and 430am -6pm Saturday) | No quarrying or processing during evening period (6.00 pm to 10.00 pm)<br>No operations during night period (10.00 pm to 7.00 am)<br>No crushing or processing prior to 7.00 am Monday to Saturday   |
| Road Transport         | Sales loading and stockpiling for road transport - 530am-7pm Monday to Saturday   | 7am to 6pm Monday to Friday - No loading of product trucks prior to 7am. No road haulage of product on Saturdays, weekends or public holidays.<br>No quarry trucks through Paterson prior to 6.45 am Monday to Friday<br>No road haulage of quarry product on Saturday or between 24 December and 1 January  |
| Train Loading          | Train loading 24 hours / seven days per week  | No change  |
| Rehabilitation         | Rehabilitation of the Project Area  | No change  |
| Workforce Numbers      | Operation – an additional 16 jobs at full capacity<br>Construction and Decommissioning – up to 155 jobs   | Operation – 22 full time equivalent positions<br>Construction, pre-clearing, rehabilitation and decommissioning – in the order of 120 jobs over the life of the construction/decommissioning, with a peak of 20-30 construction workers in any given phase.  |
| Product Transportation | Maximum 215 loaded product trucks per day (430 movements per day)<br>Maximum 40 loaded product trucks per hour (80 movements) per hour                          | Reduced peak daily laden trucks of 140 per day (280 movements) for up to 50 days per year, otherwise 100 laden trucks per day (200 movements). The hourly peak consists of: <ul style="list-style-type: none"> <li>• 20 laden trucks per hour (40 movements), Monday to Friday between 7.00am and 3.00pm</li> <li>• 15 laden trucks per hour (30 movements), Monday to Friday between 3.00pm and 6.00pm</li> </ul> |

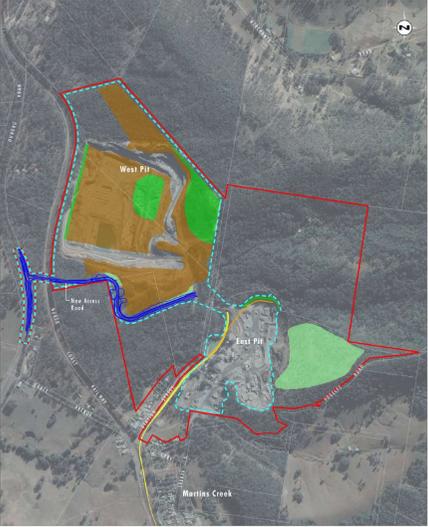
# Quarry Staging



Year 2



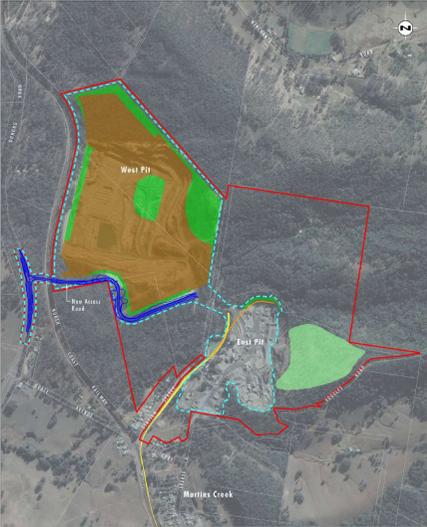
Year 6



Year 10



Year 15



Year 20

# Resource Optimisation and Quarry Plan Refinements

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The Revised Project allows for the optimised use of the existing resource, with proposed staging and design providing for:

- clearing of native vegetation in the additional disturbance area to be undertaken incrementally over a period of 15 to 20 years, with site rehabilitation further progressed incrementally from the initial two years of the Revised Project
- well shielded quarry operations, with no views into most of the quarry pit due to the nature of the adjoining landform and surrounding bushland
- relocation of quarry mobile equipment in noise enhancing weather conditions to lower, more shielded benches for periods of time, as needed to minimise noise impacts at surrounding private residences
- continuation of current blast practices, with well designed, targeted blasting to meet the needs of the quarry operations, whilst minimising blast impacts on the local community

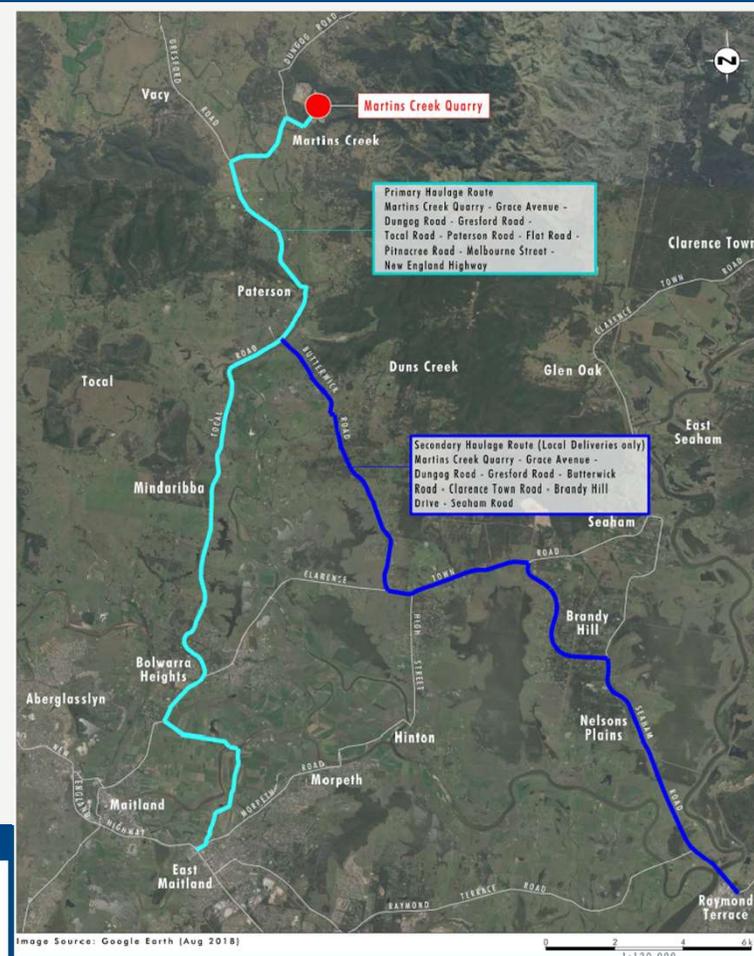
# Traffic and transport

# Access and Haulage Options Considered

- Haul Route 2 was also proposed as part of the Original Project, to the east via Paterson Road/Butterwick Road/ Clarence Town Road/Brandy Hill Drive/Seaham Road to connect with the Pacific Highway at Raymond Terrace. This option further proposed a daily peak of 215 laden trucks (430 movements) and 40 laden trucks per hour (80 movements). Due to ongoing concern, this haul route has been removed as a primary route.
- Previously, a road corridor for a bypass of Paterson was included in Dungog Shire Council's local planning provisions, however Daracon was advised in 2014 that DSC no longer supported that proposal, and the land has been developed for other purposes.
- Another option considered was using Martins Creek Road for empty trucks and the Paterson Route for loaded trucks, however this was deemed not feasible due to physical and engineering constraints.

## Legend

-  Primary Haulage Route
-  Secondary Haulage Route



# Revised Road Haulage

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## Road Haulage of Quarry Product

- Maximum of 500,000 tpa transported by road
- Despite extensive investigation, there is no current feasible option to use rail logistics to supply the local and regional market for the Revised Project.
- Ability to increase rail distribution of aggregates within current local and regional distribution area is limited by the lack of suitable rail unloading facilities, large number of product destinations and types, short haulage distances and the fact that a number of competing quarries use the road system as a more commercially viable and flexible supply to service the same markets.

## Frequency of Truck Movements

- Average daily truck movements associated with the Revised Project will be much lower than the peak, and the number of days this is likely to occur will also in effect be capped by the 500,000 tpa limit for transport by road
- 25% reduction in the maximum loaded truck movements per hour from 40 to 30 per hour
- 35% reduction in total loaded truck movements per day from 215 to 140 per day
- No product truck movements prior to 7am
- Reduced frequency of truck movements to a peak of 15 laden trucks per hour between 3.00 pm and 6.00 pm to further ameliorate traffic impacts during higher activity in Paterson village and interactions with school finishing times.

# Proposed New Site Access Road

- Proposed new site access road off Dungog Road, which will bypass Martins Creek village
- Involves a bridge crossing over the North Coast rail Line
- Planned to be completed by end of Year 2 of the Project, subject to timing of approvals and construction period
- From that time, Station street access will be used for emergency access, only if required.



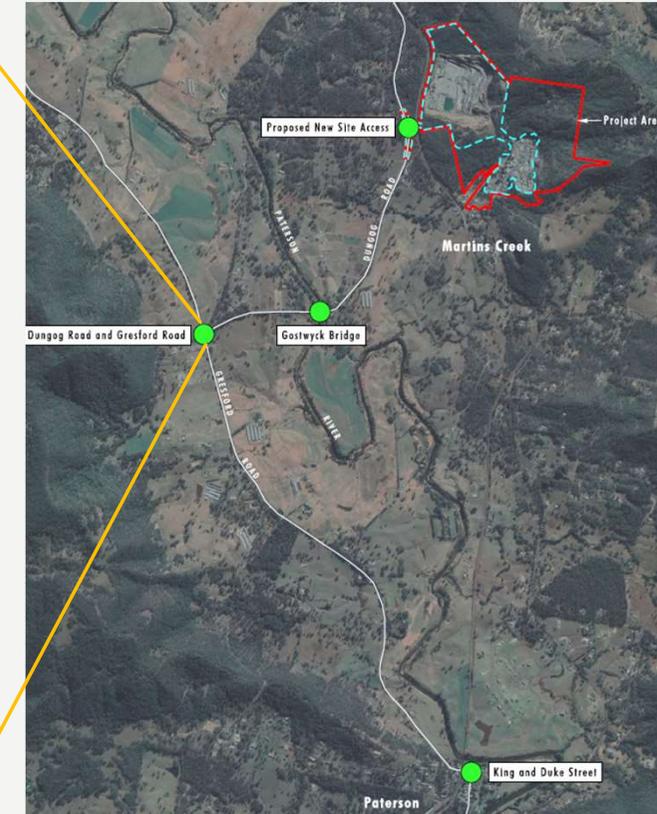
# Proposed Gostwyck Bridge Approach Upgrade

- Realign Dungog Road, incorporating a series of curves to raise driver awareness and associated new line marking
- install Vehicle Activated Signage alerting drivers approaching the bridge to reduce speed
- relocate existing hazard signage
- remove redundant signage
- modify existing property accesses as required on either side of Dungog Road.



# Proposed Intersection Upgrade – Dungog and Gresford Road Intersection

- Realign Gresford Road north and south of the intersection with Dungog Road to locate road pavement more central to road reserve
- refresh the line marking on the existing diverge taper and left turn lane from Gresford Road onto Dungog Road
- construct a channelised right turn intersection (CHR) incorporating storage length for 3 design vehicles turning right onto Dungog Road (eastbound) and associated line marking
- realign Dungog Road on approach to intersection incorporating storage length for 1 design vehicle turning right onto Gresford Road (northbound) and diverge taper into acceleration lane on Gresford Road (southbound)
- median, painted markings, give way sign and refreshed line marking on Dungog Road
- extend existing acceleration lane and merge taper along revised Gresford Road alignment.





# Assessment Overview

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- Traffic and transport issues are of key concern to the community, in particular with regards to the volume of truck movements, transportation hours, road safety and road capacity, noise emissions, emissions to air, truck vibrations and social amenity impact.
- A comprehensive Traffic Impact Assessment (TIA) was completed, in accordance with the SEARs, Austroads Guide to Traffic Management, the Road Design Guide and Guide to Traffic Generating Developments published by the RMS/TfNSW.
- The results show that the traffic volumes generated by the Project would not result in any change in the existing level of service of the roads along the primary haulage route.
- The signalised intersections of Pitnacree Road/Melbourne Street/Lawes Street and Melbourne Street/New England Highway are predicted to deteriorate from current overall levels of service of 'D / D' and 'E / D' respectively, to overall levels of service of 'F / F' (the worst performance level) by 2028 – this occurs with or without the Project.

# Traffic Assessment Outcomes

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- All assessments were completed for baseline scenario with and without existing quarry road haulage.
- The assessment of operational traffic impacts assumed a background traffic growth rate of 2% per annum up to the year 2030. It also considered existing and approved truck movements associated with the Brandy Hill Quarry, which would occur along southern portions of the primary haulage route (through Bolwarra Heights, Bolwarra and East Maitland). While future deterioration of road network performance is predicted, for the most part, this is not a Project-induced impact.
- With consideration of proposed upgrades and mitigation measures, the TIA concludes that traffic associated with the Revised Project would have an acceptable impact upon the operation of the key intersections along the primary haul route and is not expected to have any adverse impacts on the safety of the road network.

# Historic Road Tonnages 1993 - 2019

- The Project would be limited to road haulage of 500,000 tpa, with the balance of the approved maximum production (1.1 Mtpa) to be transported via rail.
- The proposed maximum annual road transportation limit under the Revised Project is consistent with previous operations.



# Traffic Management and Mitigation

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- Key Project changes and further road improvement works to address existing road safety concerns within the road network
- Restriction of proposed maximum daily truck movements to only occur up to 50 days per year
- Reduced truck movements between 3-6pm weekdays to avoid higher community traffic / school pick up times
- No road haulage of product on weekends, public holidays or between 24 December and 1 January
- Plan quarry activities, and revise haulage as required around days when there is extra traffic in Paterson due to community events, e.g. Tocal Field Days, car show events, Baptist Church events and funerals
- The use of radar variable message signs
- Establishment of a Camera Monitoring Station at the King and Duke Street Intersection in Paterson Village to enable identification of relevant trucks associated with any complaints or enquiries
- Continued rigorous assessment and pre-qualification process prior to the engagement of any transport subcontractors

# Traffic Management and Mitigation (cont)

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- Driver Code of Conduct:
  - Review and update annually
  - All drivers required to sign and adhere
  - Regular communication and consultation of truck speed limits
- All trucks, including contractors, to have appropriate signage
- Regular audits of transport subcontractors
- Investigation of all complaints and potential breaches of Daracon's Traffic and Transport policies
- Further monitor driver conduct and truck convoing, as suggested by the community, including fleet management technologies and GPS monitoring for non-Daracon vehicles.

# Site specific assessments

# Noise

# Assessment Overview

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- Noise is a key issue for the local community, particularly in relation to the historic operations at the quarry, including truck movements on site and off site via the public road network.
- A detailed NIA was prepared to assess the potential noise impacts associated with the Revised Project in accordance with the SEARs and the NSW Noise Policy for Industry, 2017 (NPfI) (EPA, 2017).
- The NIA also considered road and rail traffic impacts associated with the Revised Project as well as the noise impacts from construction activities in accordance with NPfI, the Interim Construction Noise Guideline (ICNG) (EPA 2009), NSW Road Noise Policy (RNP) (DECCW 2011) and Rail Infrastructure Noise Guideline (RING) (EPA 2013).
- As an existing industrial noise source, the NIA has taken into account both the historical operational aspects of the quarry and the proposed expansion of the quarry operations.
- The design of the Revised Project was completed on an iterative basis to enable the minimisation of noise impacts as far as practicable. The Revised Project proposes several changes to the East Pit processing plant and rail loading system by incorporating noise bunds and walls and the extension of the rail spur to move loading operations further away from receivers.
- Reasonable and feasible physical noise control measures and operational noise controls are proposed for the life of the Revised Project to further improve noise mitigation.

# Key Features of the Revised Project to reduce noise impacts

- Extending the rail spur so train loading activities can be relocated into the northern end of the East Pit processing area
- Construction of a dedicated access road onto Dungog Road removing trucks off Station Street, which will bypass the Martins Creek village
- Significant changes to the proposed hours
- Significant reduction in road haulage volumes
- Only loading trains during the day-time until the performance of the noise controls are validated before moving to evening train loading. The assessment process would be replicated before moving to night-time train loading.



# Key Features of the Revised Project to reduce noise impacts

## Noise Mitigation

- Physical noise control incorporated into the Revised Project includes noise barriers in key locations
- Physical noise control incorporated into the Revised Project includes modifications to the processing plant
- Proposed Noise Barrier along Station Street



# Noise Assessment Outcomes

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- The detailed NIA confirms that key measures will reduce operational noise levels experienced by many residences in close proximity to the existing quarry processing and rail loading area. That said, a number of these close residences will experience day time noise levels that are marginally to moderately above contemporary limits in accordance with the NPfl.
- Residences that are predicted to be marginally or moderately impacted, including:
  - R1, R2 and R3 predicted to experience significant impacts during night-time rail loading activities
  - R1 would also experience 'Moderate' impacts during the evening period and while R2 and R3 would experience 'Moderate' impacts during the evening shoulder period until the new access road is constructed.
  - R25 (which is the closest receiver to the new access road) would experience 'Moderate' impacts during the daytime period once the new access road is commissioned.
- In addition, 'Marginal' residual impacts would occur at 20 receptor locations during the daytime period, five locations during the evening shoulder period (reducing to two locations following commissioning of the new access road), two locations during the evening period and three locations during the night-time period.

# Noise Assessment Outcomes

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- With addition of a 4 metre barrier along Station Street and shutting down extraction in the West Pit whilst train loading, there would be no receivers experiencing noise levels greater than 5 dB above the respective PNTL.
- In accordance with the DPIE's Voluntary Land Acquisition and Mitigation Policy (2018), the significant and moderately impacted residences will be subject to proactive noise management and monitoring to guide operations and minimise the potential impacts of the Revised Project.
- The addition of quarry trucks at the capped maximum daily and hourly rates only results in an exceedance of the EPA's Road Noise Policy (RNP) criteria at one residence where it was not already calculated to exceed the criteria with the baseline traffic levels. Where the RNP criteria are already exceeded, or is predicted to be exceeded with quarry haulage, the predicted increase in road traffic noise due to the quarry trucks is predicted to be less than 2 dB. The RNP states that noise level increases of up to 2 dB are considered barely perceptible to the average person.

# Noise Management and Mitigation

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Operational noise control incorporated into the Revised Project includes:

- no in-pit mobile crushing in the West Pit
- use three new smaller quieter trucks operating in the West Pit
- load trains at the northern end of the East Pit processing area
- relocate machines in the West Pit during adverse weather conditions
- load trucks in the evening shoulder period (up to 10) in preparation for dispatch the following morning (i.e. so loading does not occur before 7am the following morning)
- park trains north of the existing Station Street entrance
- strategic use of the Southern Stockpile for product storage

# Noise Management and Mitigation

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To support the operational noise controls the Revised Project will use:

- a predictive weather forecast system to identify the potential for adverse operating conditions that enhance noise propagation
- continuous real-time noise monitors to report on the noise level generated by the quarry
- alarms generated by the continuous real-time noise monitors to trigger changes in the operations

# Air Quality

# Assessment Overview

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- A comprehensive assessment of potential air quality impacts of the Revised Project has been completed, in accordance with relevant EPA guidelines.
- Air Quality Impact Assessment (AQIA) predicted compliance with EPA criteria at all surrounding private properties for PM10, PM2.5, TSP, deposited dust and NO2.
- The maximum cumulative 24-hour average PM10 concentrations were predicted to increase from 34  $\mu\text{g}/\text{m}^3$  to 51  $\mu\text{g}/\text{m}^3$  at R1 in Year 20 of operations. This would exceed the EPA's assessment criterion of 50  $\mu\text{g}/\text{m}^3$ . Daracon has demonstrated to the satisfaction of the EPA and the Department's independent air quality expert that, with the implementation of its proposed proactive and reactive air quality management system, this exceedance could be avoided.
- Diesel exhaust emissions well below EPA criteria.
- The estimated maximum annual average respirable crystalline silica concentration at the site boundary was 2  $\mu\text{g}/\text{m}^3$ , which is less than the 3  $\mu\text{g}/\text{m}^3$  criterion. Concentrations further from the site boundary, including at sensitive receptors, would be lower than 2  $\mu\text{g}/\text{m}^3$ .

# Air Quality Peer Review

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- DPE commissioned an independent peer review of the Air Quality Impact Assessment by Katestone Environmental in May 2022. Following the provision of additional information, the peer review concluded:

*“In summary, the peer review has found that the revised AQIA has identified the significant matters in relation to emissions to air from the Revised Project and made an assessment of these matters against the relevant standards.”*

- The EPA also sought additional information regarding the AQIA assessment methodology and proposed mitigation measures. Following its review of the Submissions Report and the additional information provided by Daracon, the EPA advised that its issues had been adequately addressed.

# Key Relevant Change to the Revised Project

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- Air quality impacts were identified by the local community as one of the key issues of concern.
- Key measures included in the Revised Project design that have minimised air quality emissions include:
  - reduction of the overall disturbance footprint by approximately 16.8 ha through optimisation of the proposed extraction within the West Pit and therefore reducing the area of operations that could generate dust
  - limiting the number of internal haulage routes (where feasible), thus minimising associated dust generation and diesel emissions
  - progressive rehabilitation of disturbed areas to reduce wind generated dust, where feasible
  - substantial processing plant upgrades.

# Air Quality Management and Mitigation

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- Enclosure of primary, secondary and tertiary crushers and screening plant in the processing area
- Restriction on vehicular speed within the quarry and processing area and clearly marked internal haul routes
- Automated water sprays on crushing plant and stockpiles
- Haul road dust control including water carts, maintenance of haul route
- Implement real-time (i.e., hourly) monitoring of PM10 near Station Street, the potentially highest impact area
- Implement an air quality alert system as part of the real-time monitoring system
- Implement a daily site-specific air quality / meteorological forecast system which enables operations to be adjusted to reduce risks of exceeding 24 hour criteria
- Review air quality impact modelling and management procedures prior to implementing mobile crushing operations in the final stage of the quarry in the East Pit.

# Greenhouse gas and energy

# GHGEA

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- The Greenhouse Gas and Energy Assessment (GHGEA) has considered the energy usage and GHG emission impacts associated with each phase of the Revised Project, namely construction and operations.
- The Project would result in the generation of GHG emissions through the use of purchased electricity and combustion of fuels associated with machinery, processing equipment and transportation. The GHGEA estimated that the Project would generate Scope 1 emissions of approximately 1,600 t CO<sub>2</sub>-e annually and approximately 39,000 t CO<sub>2</sub>-e over the life of the quarry. The predicted emissions would contribute approximately 0.0000030% to global emissions annually.
- Over the life of the quarry, the Project would contribute up to approximately 33,000 t CO<sub>2</sub>-e and 162,000 t CO<sub>2</sub>-e of Scope 2 and 3 emissions respectively. Most Scope 3 emissions would be associated with product transport.
- Daracon proposes to minimise GHG emissions by implementing energy efficiency initiatives, optimising productivity, undertaking effective maintenance of plant and equipment and considering new technologies as they become available.

# Biodiversity

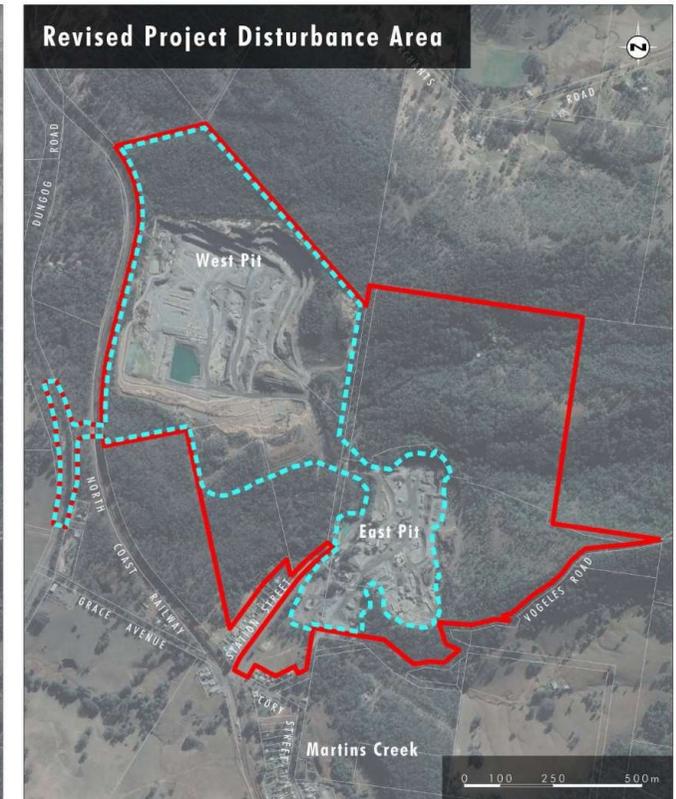
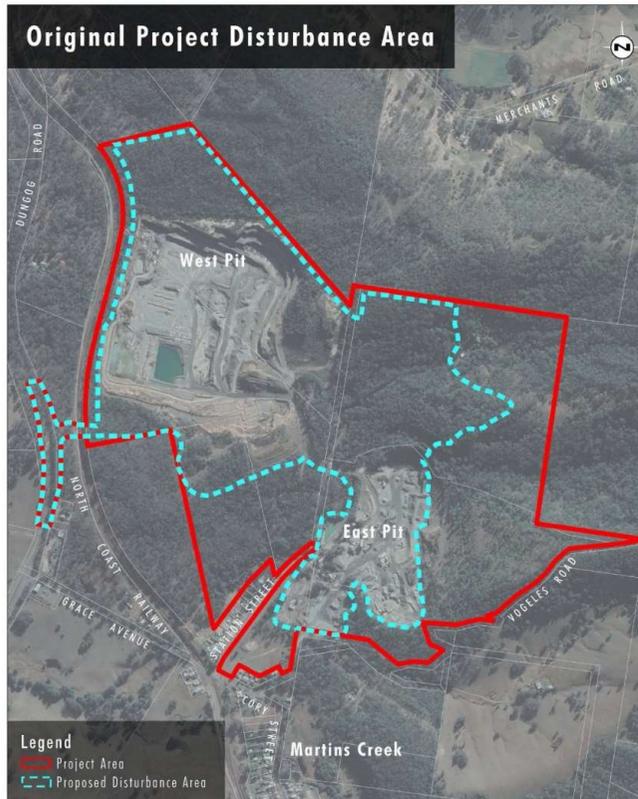
# Assessment Overview

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- A comprehensive Biodiversity Assessment Report (BAR) has been prepared for the Revised Project. The potential ecological impacts of the Revised Project have been assessed following the NSW Framework for Biodiversity Assessment – NSW Biodiversity Offsets Policy for Major Projects (FBA).
- Biodiversity impacts were identified by the community and other key stakeholders as an issue of concern, largely relating to clearing of land and habitat loss.
- Potential biodiversity impacts have been recognised and thoroughly considered throughout the project planning process with consideration of the principles of avoid, mitigate and offset.

# Key Changes to the Revised Project

- Daracon redesigned the quarry plan for the Revised Project by committing to no quarrying in the previously proposed extension of the East Pit resulting in a reduction of the disturbance area of 16.8ha.
- Avoids clearing 15.3 ha of native vegetation.
- The Project involves an approximately 22 ha of additional disturbance of native vegetation over the life of the quarry.

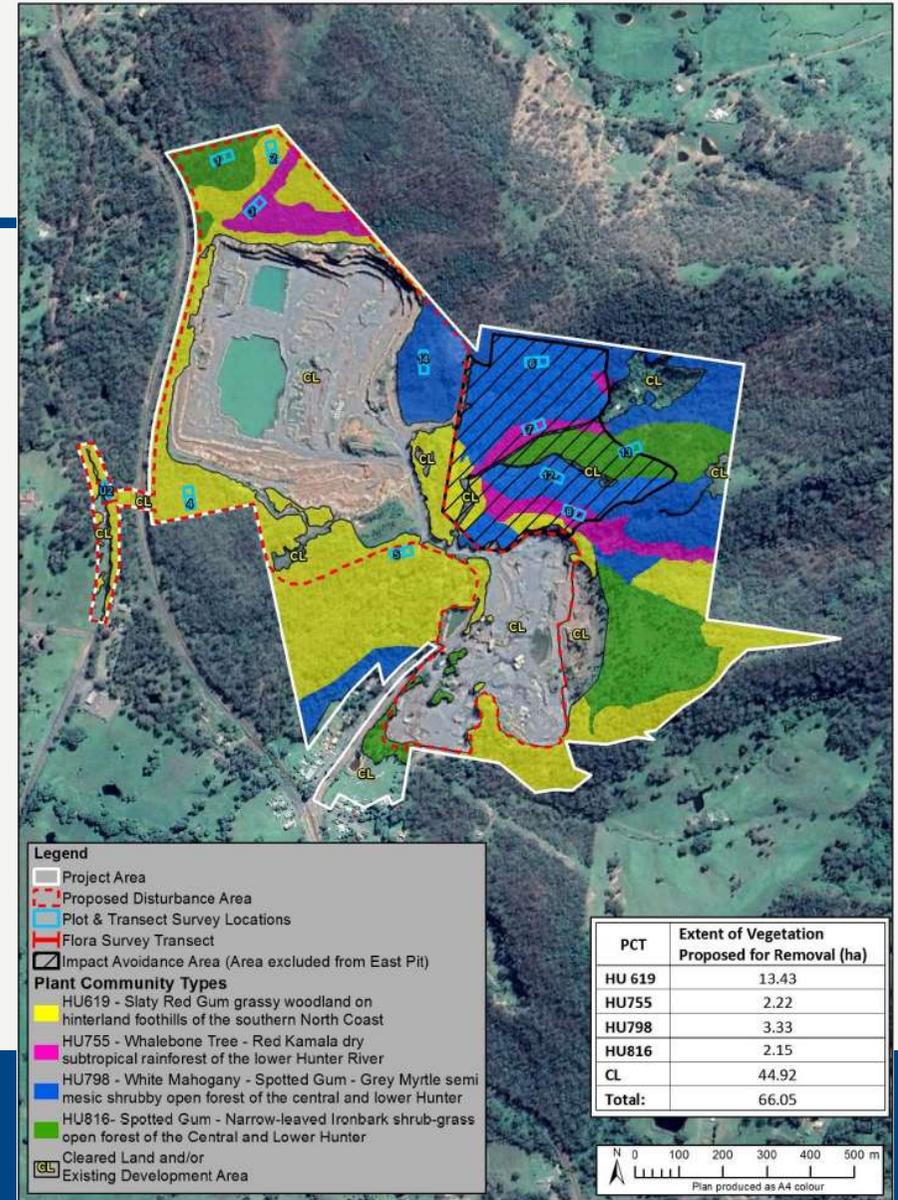


# Biodiversity Assessment Outcomes

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- Direct biodiversity impacts include loss of native vegetation and fauna habitats, habitat fragmentation or isolation, altered hydrology regimes and the potential incremental decline in quality and extent of habitat as a result of clearing works and works associated with the construction and operation of the Revised Project.
- Impacts of the Revised Project on vegetation communities include:
  - HU 619 Slaty Red Gum grassy woodland on hinterland foothills of the southern North Coast (13.43 ha)
  - ***HU 755 Whalebone Tree - Red Kamala dry subtropical rainforest of the lower Hunter (2.22 ha) (VEC - BC Act)***
  - HU 798 White Mahogany – Spotted Gum – Grey Myrtle semi mesic shrubby open forest of the central and lower Hunter Valley (3.33 ha)
  - HU 816 Spotted Gum – Narrow-leaved Ironbark shrub-grass open forest of the Central and Lower Hunter (2.15 ha)
- Species credits will be required for the following species:
  - Eucalyptus glaucina (Slaty Red Gum)
  - Myotis macropus (Southern Myotis)
  - Phascogale tapoatafa (Brush-tailed Phascogale)
  - Phascolarctos cinereus (Koala).

# Vegetation Communities



# Biodiversity Management and Mitigation

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Daracon is committed to delivering a Biodiversity Offset Strategy (BOS) that appropriately compensates for the unavoidable loss of ecological values as a result of the Revised Project.

The BOS will be further developed in consultation with the Biodiversity Conservation Division and DPE and based on the credits required to be retired to offset the impacts of the Revised Project, being:

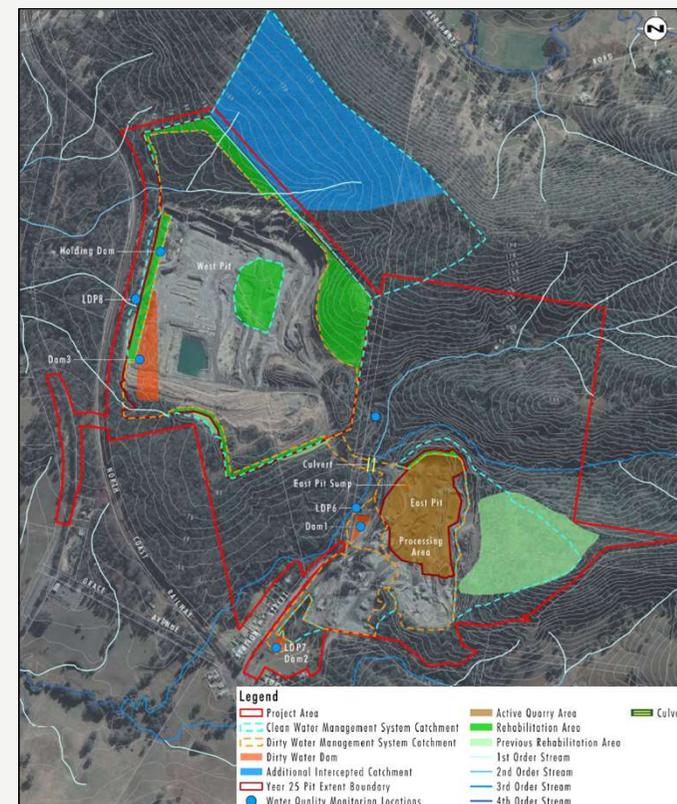
- land based offsets through the establishment of new Stewardship Sites
- purchasing credits from the market, and/or
- paying into the Biodiversity Conservation Fund.

Daracon will prepare a Biodiversity and Rehabilitation Management Plan as part of the implementation of the Revised Project which will set out all management and mitigation measures relating to biodiversity at the quarry.

# Water Resources

# Assessment Overview

- A comprehensive assessment of groundwater and surface water impacts of the Revised Project were undertaken in accordance with the SEARs
- The assessments found:
  - No significant impact on surface or groundwater resources, including for downstream users
  - Due to the reduced disturbance footprint, the Revised Project will no longer intercept a third order stream
  - No significant impacts on downstream water quality, flows, flowing or water users
  - Similar groundwater drawdown impact to current quarry, with no impact on private bores and no impact on any groundwater dependent ecosystems
  - Daracon holds adequate groundwater licences for the Revised Project.



# Blasting

# Assessment Overview

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- During stakeholder engagement blasting impacts were identified by local residents as an issue of concern, particularly in relation to the potential for damage to private property. A comprehensive assessment of potential blasting and vibration impacts of the Revised Project has been undertaken.
- In response to feedback, Daracon committed to reducing the blasting window, and independent blast monitoring.
- Detailed monitoring over many years, and further analysis prepared for the Revised Project confirms that ground vibration and blast overpressure levels can be managed to meet relevant blast emission criteria at all sensitive receiver locations through appropriate blast design and the implementation of appropriate control measures.

# Blasting Management and Mitigation

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- Continue to manage blasting practices for the Revised Project within a reduced blasting window. That is, between the hours of 11.00 am - 3.00 pm Monday to Friday, with no blasts being fired on weekends or public holidays.
- Continue to undertake blasting for the Revised Project in accordance with a detailed blast design process that considers operational, geological and environmental constraints, with the design and size of each blast determined to meet these constraints and meet blasting criteria.
- Blasts will be designed to achieve compliance with the site-specific blast conditions.
- Independent blast monitoring to be undertaken for three blasts within the first year of the Revised Project by an independent qualified person, and in consultation with the EPA. Daracon will consult with the Martins Creek CCC and/or representative of DSC in relation the monitoring times and locations. Independent monitoring would be conducted 3 times per year, every 5 years thereafter.
- Continue to implement the existing blast monitoring regime at three locations, as established under EPL 1378, and will review and update the blast monitoring as required to cover the sensitive receivers located in the vicinity of the Project Area.
- Continue to consult with residents via letter box drops to inform them of the blast time, as well as an SMS or email prior to the blast notifying neighbours of the time of day the blast is to occur.

# Heritage

# Assessment Overview

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## Cultural Heritage

- Quarry is located on the traditional lands of the Wonnarua people and Worimi people
- Assessment conducted in consultation with Registered Aboriginal Parties found that the quarry is located in an area of low Aboriginal archaeological potential
- Revised Project is unlikely to harm any known Aboriginal objects or cultural heritage values.

## Historic Heritage

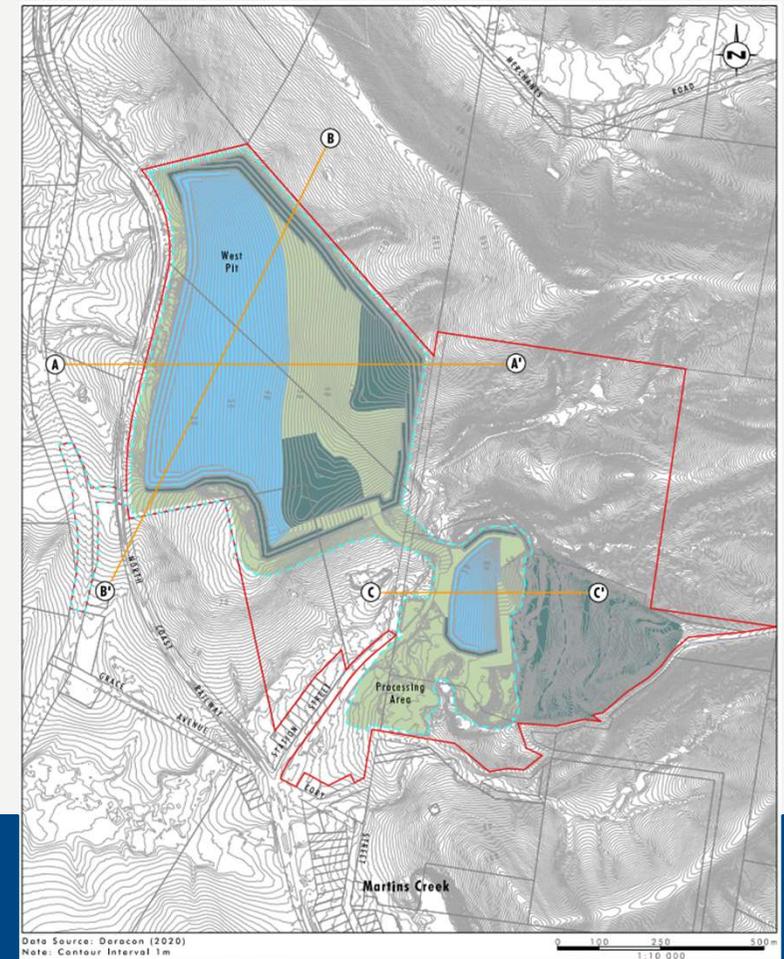
- The proposed primary haulage route extends through two heritage conservation areas (HCAs); Paterson Village HCA, and the Bolwarra HCA
- Assessment found that the Revised Project is unlikely to result in any adverse visual or physical impacts to the heritage significance of the HCAs or individually listed heritage items

# Rehabilitation and Final Land Use

# Rehabilitation and Final Land Use

- A safe, stable and non-polluting landform
- Several final land use options are available for the quarry
- Current final land use is focused on:
  - promoting the rural landscape by establishing native grassland or exotic pastures in low lying areas
  - reintroduction of pockets of woodland species across the benches consistent with endemic vegetation types

| Legend  |   |
|---|---|
|  | Project Area  |
|  | Proposed Disturbance Area   |
|  | Rehabilitation Area - Native and Pasture Grass                                  |
|  | Rehabilitation Area - Native and Pasture Grass with Pockets of Woodland Species |
|  | Pit Void Lake   |
|  | Cross Section   |



# Socioeconomic impacts

# Social Impact Assessment

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- The detailed SIA prepared by Umwelt was reviewed by DPE's internal experts and assessed as being leading practice in SIA.
- The detailed SIA has identified a range of actual or perceived social issues and impacts that Daracon would need to consider as a part of the Revised Project, if approved.
- Key negative social impacts predicted include:
  - impacts relating to social amenity (as a result of traffic related impacts)
  - changes to sense of community and community cohesion and culture
  - noise
  - personal safety
  - livelihoods
  - health and wellbeing impacts.

## Social Impact Assessment (cont)

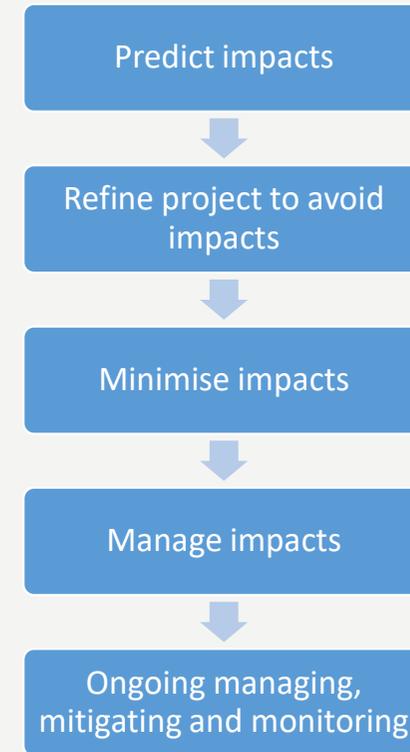
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- Positive impacts of relevance include potential economic benefits to the region and State through employment, procurement and business opportunities. The Revised Project will also provide for secured availability of construction materials for local markets.
- Consideration of the identified concerns and stakeholder feedback on potential mitigation measures to address these has resulted in a number of changes to the Revised Project's parameters— largely related to proposed truck movements, hours of quarry operations and proposed monitoring and management activities.
- While in combination it is expected that the implementation of these measures will minimise the extent to which social impacts may be felt and experienced, it is however still acknowledged that the outcomes of the Revised Project will be experienced differently throughout the community.

# Responding to social impacts

Response measures to social impacts include:

1. Measures to **avoid** or **minimise** impacts by amending the project design / project refinements
2. Measures to **mitigate** / **manage** impacts such as:
  - Technical solutions (*as identified in technical assessments*)
  - Investment in community projects / enhancement activities, e.g. sponsorships,
  - Public benefits, e.g. Voluntary Planning Agreements
3. An ongoing plan for ongoing mitigation, monitoring and adaptively managing impacts



# Management and Mitigation

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A number of measures have been proposed, including:

- key project changes - restriction of proposed maximum daily truck movements and operating hours
- quarrying activities to be planned around likely extra traffic days within the community
- reduced speed limits for quarry trucks travelling through Paterson Village
- use of radar variable message signs, provision of a Camera Monitoring Station at the King and Duke Street Intersection to enable truck identification as required and reduced truck speeds to 20-25km/ hr when travelling through this intersection
- review and update of Driver Code of Conduct
- a restructured Community Engagement Strategy
- focusing future social investment / community contribution activities via a refocused Community Contributions Program
- implementation of Local Employment and Procurement Policy that encourages supporting businesses and recruiting locally where possible
- implementation of a Voluntary Planning Agreement with the Dungog Shire Council and Maitland City Council
- development and implementation of a Social Impact Management Plan (SIMP).

# Economic Assessment

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A key benefit of the Revised Project includes the economic benefit to the State and region. Employment and economic benefits were the most common response from the community when they were asked to identify the benefits of the Revised Project during consultation.

The Economic Assessment describes a range of positive benefits from the Revised Project that will result at a local, regional and State level. These benefits include:

- continued employment of approximately 22 full time equivalent employees
- the Revised Project is estimated to provide a net benefit of \$58 million to NSW, in net present value (NPV) terms
- the Revised Project is estimated to generate \$11.5 million in NPV terms for Australia, of which \$3.7million is attributed to NSW
- the Revised Project is estimated to generate \$1.5 million in royalties, payroll tax and Council rates in NPV terms
- the Revised Project is estimated to provide a net producer surplus attributed to NSW of \$13.5 million in NPV terms.

# Key Benefits

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Key benefits of the Revised Project include:

- Supply and delivery of high-quality materials and products for use in rail, concrete, asphalt and general civil construction.
- Heavy construction materials play a vital role in delivering the infrastructure required to support population and economic growth in the Hunter Region and more broadly in NSW.
- Employment of approximately 22 full time equivalent employees.
- The Cost Benefit Analysis estimates a net benefit of \$58 million to NSW in NPV terms.
- Contributions to the improved maintenance of road infrastructure via a Voluntary Planning Agreement with the Dungog Shire Council and Maitland City Council.

# Project timeframes

# Project timeframes

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Key Project timeframes include:

- Commencement of development – approximately 3 months from development consent
- Access road – within 2 years from development consent, pending ARTC and DSC approvals
- Rail spur extension – planned within 4 years from development consent (based on 500,000 t production)

# Draft recommended conditions

# Draft recommended conditions

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- **DPE's draft conditions provide robust operating criteria and requirements to manage and mitigate impacts.**
- The rail spur extension requires the extraction of approximately 800,000 tonnes of quarry product to provide for its construction. Limiting the annual production from the quarry will delay the ability to extract this resource and as a result delay the rail spur extension. The rail spur extension is required to allow greater access to the rail market.
- Daracon prefer a higher initial production level to meet current and future demand in the transition period and to enable the rail spur extension within the initial 4 year period. That said, Daracon understands the Department's position in relation to the need for road upgrades and the associated 250,000 t limit, as specified in draft condition A11. The reduced production will make the planned 4 year timeframe to construct the rail spur extension difficult to achieve.

# Meeting Close

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Questions?