Section 6
Draft Statement of Commitments

This section has been prepared in accordance with the requirements of Part 3A of the Environmental Planning and Assessment Act 1979, and presents a compilation of the actions and initiatives Rocla commits to implement if the proposed Calga Sand Quarry Southern Extension is approved. These commitments are effectively built upon a wide range of actions that Rocla implements within the existing quarry and are designed to effectively manage, mitigate, guide and monitor the Project from commencement through to full production and eventually rehabilitation of the Project Site.

The Environmental Assessment of the Project has identified a range of environmental, social and management outcomes and measures, all required to avoid or reduce the environmental and social impacts of the Project.

*All parties involved in the design, establishment and operational phases of the Project will be required to undertake their work in accordance with these commitments. The commitments are presented in tabular form (**Table 6.1**) and identify the desired outcome, action and timing of commitments.*

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Table 6.1
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
1. Area of Activities and Operations			
All approved activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid individual trees).	1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	Prior to any vegetation clearing.
	1.2	Fence the Aboriginal Sites #45-3-2195, Calga SA1 and #45-3-2196 and provide appropriate signage in accordance with Commitments 8.2 to 8.4.	Prior to any vegetation clearing.
	1.3	Survey and mark the location of the Southern Entrance and peg the centre line of the access road from the Southern Entrance to the Stage 4 Processing Area(s).	Prior to construction of the Southern Entrance and Stage 4 Access Road.
Satisfaction of the requirement of Industry and Investment NSW for production data.	1.4	Provide annual production data to Industry and Investment NSW (and include in the AEMR).	Annually (July)
2. Operating Hours			
Management of operations in accordance with the approved operating hours.	2.1	Undertake extraction and processing activities between 6:00am and 10:00pm on Monday to Fridays and 6:00am to 6:00pm on Saturdays.	During operations (Monday to Saturday).
	2.2	Undertake product transportation activities between 5:00am and 10:00pm, Monday to Saturday.	During operations.
	2.3	Restrict activities undertaken outside the hours identified in Commitments 2.1 and 2.2 to routine, low noise activities such as oil changes, minor welding and servicing of equipment.	During operations.
3. Waste Management			
Minimisation of general waste creation and maximisation of recycling, wherever possible.	3.1	Place all paper and general wastes originating from the administration area, together with routine maintenance consumables from the daily servicing of equipment in garbage bins located adjacent to the various buildings.	Ongoing.
	3.2	Segregate waste into recyclable and non-recyclable materials for removal by a licensed contractor.	Ongoing.
Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	3.3	Organise the regular collection of industrial wastes.	Fortnightly
	3.4	Store waste oils and greases within the workshop area in either self-bunding containers or within suitably contained areas.	Ongoing.
	3.5	Ensure waste oil and filters are collected and removed by licensed recycling operators.	Ongoing.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
3. Waste Management (Cont'd)			
Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	3.6	Collect all parts and packaging and transfer to the workshop area for disposal or recycling.	As required.
	3.7	Store potentially hydrocarbon-contaminated water in the oil/water separator for regular removal from site by a licensed contractor.	As required.
	3.8	Maintain a pump out septic system.	Ongoing.
4. Rehabilitation and Biodiversity Offset Management			
The creation of a stable final landform, available for the proposed future use(s) of agriculture and/or nature conservation.	4.1	Adopt a progressive approach to rehabilitation to ensure that areas are shaped and vegetated as soon as practicable, ie. following silt deposition, consolidation and stabilisation, to provide a stable landform.	As areas become available.
	4.2	Retain all soil and suitable cleared vegetation resources for use in rehabilitation of the final landform. See Commitments 12.1 to 12.6 for detail on management of soil resources.	Ongoing.
	4.3	Stabilise earthworks, drainage lines and disturbed areas no longer required for quarry-related activities.	During first year of progressive rehabilitation.
	4.4	Blend the created landforms with the surrounding land fabric. Stages 3 and 4 are to create a free-draining landform diverting water to Dams 7a, 7b/c, 16 and 17 which discharge to the Cabbage Tree Creek catchment either as surface flows or recharged groundwater base flows. Stage 5 is to be water holding, which in turn would provide recharge to groundwater base flows of the Cabbage Tree Creek catchment.	Ongoing during rehabilitation activities.
	4.5	Utilise appropriate grass, shrub and tree species to revegetate the final landform, commensurate with the intended final land use. Revegetation of the quarry benches and drainage lines of the final Stage 3 and 4 landforms would use the species (or equivalent species) presented in **Table 2.8**.	Ongoing during rehabilitation activities.
	4.6	Include *Callistemon linearifolius* and species of *Allocasuarina* in the revegetation of the Project Site.	Ongoing during rehabilitation activities.
	4.7	Encourage the growth of *Hibbertia procumbens* and *Darwinia glaucophylla* on the final landform.	Ongoing during rehabilitation activities.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
4. Rehabilitation and Biodiversity Offset Management (Cont'd)			
The creation of a stable final landform, available for the proposed future use(s) of agriculture and/or nature conservation.	4.8	Undertake weed spraying and/or other appropriate weed controls over rehabilitated areas as well as areas of the Project Site and "Glenworth Valley" property managed for conservation, ie. Biodiversity Offset Areas.	Annually.
	4.9	Remove all infrastructure from the Project Site (at the completion of the extraction and processing operations). Close, rip and cover with previously cleared, broken and stockpiled vegetation all internal roads and tracks.	At the completion of all extraction and processing activities on the Project Site.
	4.10	Document completed and planned rehabilitation work against the KPIs established in the VMP in each Annual Environmental Management Report	Annually (July).
	4.11	Fence the biodiversity offset areas of the Project Site and "Glenworth Valley" property to prevent unauthorised access to these areas and erect signage identifying these areas as "areas managed for conservation".	Prior to commencement of the Project.
	4.12	Implement a legally binding arrangement on the land titles on which the biodiversity offsets occur such that these remain as conservation areas for as long as the titles remain valid.	Within 12 months of the commencement of the Project.
5. Groundwater			
Prevention of groundwater contamination.	5.1	Securely store all hydrocarbon products within designated and bunded areas.	Ongoing.
	5.2	Refuel all earthmoving equipment within designated areas of the Project Site.	Ongoing.
	5.3	Undertake all maintenance activities within designated areas of the Project Site, ie. workshop area.	Ongoing.

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
5. Groundwater (Cont'd)			
Prevention of groundwater contamination.	5.4	In the event of a spillage of a potentially contaminating material, eg. oil, a 3-phase remedial action plan would be followed. – **Phase 1 – Initial Recovery:** Recover as much as possible at the source by pumping free material from the surface and excavating other contaminated materials. – **Phase 2 – Source Control:** Begin hydraulic control of the source to prevent spreading of contamination. – **Phase 3 – Recovery:** If necessary, install boreholes to remove and treat contaminated groundwater.	Ongoing
Continuous monitoring of groundwater throughout the life of the project and effective communication of results to land owners within 1km of the Project Site.	5.5	Maintain and monitor the monitoring piezometers on and surrounding the Project Site (CQ1 to CQ13 and MW1 to MW17) and the private bores on surrounding properties (CP1 to CP8).	
	5.6	Update the Site Water Management Plan currently implemented for the approved Calga Sand Quarry to include all the monitoring locations identified in Commitment 5.5.	Within 6 months of receiving Project Approval.
	5.7	Provide the results of monitoring on Rocla's website (http://quarry.rocla.com.au/).	Monthly - within 1 month of receiving results.
	5.8	Provide the results of monitoring to respective bore owners (if requested) together with a comparison of groundwater levels and those predicted in GeoTerra (2009).	On request from the relevant land owner.
Ensure no local groundwater user is adversely affected by groundwater drawdown impacts attributable to the Project.	5.9	Develop replacement and/or compensatory measures in consultation with the affected land owner. These measures may include: - deepening of the affected bore to increase the available saturated thickness; - drilling and installation of a replacement bore outside the area of drawdown impact; - construction of surface water capture and containment structures such as dams or rainwater tanks to supplement reduced groundwater source; or - transfer of groundwater drawn from a Rocla-owned bore or the void itself.	As required.
	5.10	Update the Calga Sand Quarry Groundwater Contingency Plan to formalise these replacement and/or compensatory measures.	Within 6 months of receiving Project Approval.

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
6. Flora and Fauna			
Minimisation of long term impact on flora and fauna on and around the Project Site.	6.1	Limit disturbance to the footprint identified on **Figure 2.1**. In particular, ensure the disturbance avoids: - the sandstone hanging swamp vegetation community along Creek B; - the two identified locations of *Callistemon linearifolius*; and - the habitat areas for the Red-crowned Toadlet and Giant Burrowing Frog (see **Figure 5.17**).	For the life of the Project.
	6.2	Clearly identify the biodiversity offset areas on quarry plans and fence and sign these areas in accordance with Commitment 4.11.	Prior to commencement of disturbance on Stage 4.
	6.3	Construct the access road between Stages 4 and 5 to utilise, as far as practicable, the cleared easement for the transmission lines which traverse the Project Site.	Prior to commencement of disturbance on Stage 5.
	6.4	Clearly define all areas to be cleared and conduct all soil stripping campaigns on an as-needs basis.	Prior to clearing in each substage.
	6.5	Limit vegetation clearing to that required for no more than the ensuing 12 months quarry development.	During clearing.
	6.6	Whenever possible, directly transfer stripped soil resources onto rehabilitation areas to maximise the opportunity for retention of the natural seed stock, and thereby maximise the revegetation of the final landform with endemic species.	Ongoing.
	6.7	Carry out, where possible, vegetation clearing, especially the mature trees in late spring and early autumn to avoid spring nesting birds and over-wintering bats.	Ongoing.
	6.8	Collect seed from felled vegetation for use in future re-vegetation programs.	Following clearing.
	6.9	Replant cleared areas of the Project Site not required for Project-related activities with *Allocasuarina* species to increase the available foraging habitat for the Glossy Black-cockatoo.	Following clearing (as relevant).

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
6. Flora and Fauna (Cont'd)			
Minimisation of long term impact on flora and fauna on and around the Project Site.	6.10	Commence progressive rehabilitation of the Project Site as soon as possible.	Within 12 months of Project Commencement.
	6.11	Control noxious weeds at all times.	Ongoing.
	6.12	Fence the extraction area to prevent native fauna from entering and being harmed.	Ongoing.
	6.13	Complete targeted field surveys for threatened flora and fauna species within the proposed biodiversity offset areas.	Spring 2009.
7. Surface Water			
Diversion of clean water flows away from areas of project related disturbance.	7.1	Construct diversion banks DB1 to DB6 in accordance with the design specifications provided in Section 5.2.4.3.2 of the *Environmental Assessment*.	Prior to disturbance in the relevant catchment of the Project Site.
	7.2	Inspect the diversion banks and undertake maintenance work as necessary.	Monthly or following rainfall of >25mm/24hours.
Capture of dirty water flows from areas of project related disturbance.	7.3	Construct sediment basins SB1 and SB2, and sediment dam SD1, in the locations identified on **Figures 5.9** to **5.12,** and in accordance with the design specifications provided in Section 5.2.4.3.2 of the *Environmental Assessment*.	Prior to disturbance in the relevant catchment of the Project Site.
	7.4	Inspect the sediment basins and maintain as necessary.	Monthly or following rainfall of >25mm/24hours.
	7.5	Review general performance of catchment and settlement structures and upgrade the existing structures or install additional structures to ensure all dirty water is captured and settled prior to discharge.	Ongoing.
Ensure water is discharged at non-erosive velocities.	7.6	Install 3 x 600mm diameter pipes at a grade of 1% from Dams 16, 17 and 18.	Prior to commencement of extraction activities on Stage 4.
Discharged water quality to meet nominated criteria.	7.7	Ensure drainage paths between the catchment and settlement structures are well grassed.	Ongoing
	7.8	Ensure the quality of any water discharged from the Project Site meets the Environment Protection Licence 11295 criteria and falls within the natural variation measured at surface water monitoring sites to date.	Ongoing

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
7. Surface Water (Cont'd)			
Prevention of hydrocarbon contamination of water on the Project Site.	7.9	Securely store all hydrocarbon products.	Ongoing.
	7.10	Refuel all but the less mobile equipment which would be refuelled within the active extraction area, within designated areas.	Ongoing.
	7.11	Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110% of the largest storage tank capacity.	When constructed or installed.
8. Aboriginal Heritage			
Provide appropriate protection to existing identified Aboriginal artefacts.	8.1	Lodge amended Site Recording Forms for each of the sites on the Project Site with the DECC (NPWS) Sites Registrar.	Complete.
	8.2	Erect a security fence around Aboriginal Site #45-3-2196, providing a buffer of at least 20m to the identified site.	Prior to commencement of disturbance on Stage 4.
	8.3	Erect a fenced buffer zone of 120m x 50m around Aboriginal Site #45-3-2195 and Calga SA1.	Prior to commencement of disturbance on Stage 4.
	8.4	Install signage on fences of Aboriginal Sites #45-3-2195, Calga SA1 and #45-3-2196 identifying them as culturally significant and prohibiting unauthorised access.	Prior to commencement of disturbance on Stage 4.
	8.5	Identify the locations of the remaining identified Aboriginal sites of the Project Site on quarry plans and inform site personnel of their location, significance and the requirement for all activities to remain at least 20m from these sites.	Prior to commencement of disturbance on Stage 4.
	8.6	Install appropriate erosion and sediment controls upstream of the identified sites.	Prior to commencement of disturbance on Stage 4.
A full appreciation of the presence or absence of Aboriginal sites and artefacts in areas currently with impenetrable vegetation.	8.7	Undertake a controlled burn of the vegetation in Stages 4 and 5 to allow a further survey for Aboriginal sites and artefacts in areas containing impenetrable vegetation.	Following receipt of Project Approval and prior to any vegetation clearing in approved extraction areas.
Employees who are sensitive and respectful of possible identified Aboriginal sites and artefacts.	8.8	Conduct a Cultural Heritage Awareness Induction Course for staff, contractors and any heritage monitors working on the Project Site. This induction would include making all staff and contractors aware of their responsibilities with respect to Aboriginal heritage under the *National Parks and Wildlife Act 1974.*	With 7 days of commencement of employment / contract activities at the Calga Sand Quarry.

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
8. Aboriginal Heritage (Cont'd)			
Equity of Aboriginal involvement in the identification and management of Aboriginal Cultural Heritage Issues.	8.9	Provide the details of the proposed site protection measures (see Commitments 8.1 to 8.6) to a representative(s) of Guringai Tribal Link Corporation and provide an opportunity to recommend additional controls.	At least 5 days prior to commencement of extraction near the relevant site to be protected.
	8.10	Inform the Darkinjung LALC and Guringai Tribal Link Corporation if and when any Aboriginal sites are found.	As required.
	8.11	Maintain and continue equitable communication and involvement in the management of Aboriginal cultural heritage by all registered Aboriginal parties.	Ongoing.
Achieve appropriate protection of any future identified Aboriginal artefacts.	8.12	Invite Aboriginal stakeholders to observe soil removal activities.	At least 5 days prior to commencement.
	8.13	Abide by the requirements of the *National Parks and Wildlife Act 1974* (as amended), which requires all earthmoving activities to cease in the event that any bone or stone artefacts, or discrete distributions of shell, or any objects of cultural association, being unearthed during earthmoving. Work should not recommence in the area of the find, until both the police (if bone has been found) and those officials or representatives have given their permission to do so.	Ongoing.
Notification of Aboriginal Sites under Part 6 s91 NPW Act.	8.14	Supply formal site cards for all identified Aboriginal artefacts to the DECC Aboriginal Heritage Information Management System (AHIMS) Registrar.	Following identification of an Aboriginal artefact or site.
9. Noise and Vibration			
The Project is designed to minimise and/or mitigate noise emissions received at surrounding residences and other sensitive receivers.	9.1	Commence extraction within Stage 4/1, located at the lowest elevation on the Project Site and is most distant from the surrounding residences.	During the first year of the Project.
	9.2	Commence extraction within Stage 5 only after it is demonstrated that the noise levels from Stage 4 operations at the closest sensitive receivers complies with the noise criteria for these residences.	Prior to commencement of Stage 5.
	9.3	Position the processing sites below natural surface level (such that natural acoustic shielding is provided) and where distance between these operations and the assessment locations is maximised.	Prior to relocation of processing plant.
	9.4	Complete construction of 5m high acoustic bund wall around each extraction stage prior to commencement of extraction activities in that stage as identified.	Prior to the commencement of extraction in each extraction stage.

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
9. Noise and Vibration (Cont'd)			
All activities are undertaken in such a manner as to reduce the noise level generated and minimise impacts on surrounding landholders and/or residents.	9.5	Construction of acoustic bund walls is to undertaken during the day time only.	During construction of the acoustic bund walls.
	9.6	Extraction activities to be completed at least 10m below surface in adjacent stages when the acoustic bund wall is being constructed.	During construction of the acoustic bund walls.
	9.7	Adhere to the hours of operation of Commitments 2.1 to 2.3.	Ongoing.
	9.8	Regularly service all equipment on site to ensure sound power levels remain at or below the levels specified in the noise assessment for the EA.	Ongoing.
	9.9	Undertake all maintenance work on equipment away from noise sensitive areas and confine these activities to standard daytime operational hours.	Ongoing.
	9.10	Instruct all truck drivers to avoid the use of engine brakes when approaching the Project Site entrance and transport route intersections and whilst on site.	Ongoing.
	9.11	Upgrade the Calga Sand Quarry Noise Monitoring Program (NMP), in consultation with the DECCW (EP&RG), to allow noise modelling predictions to be validated and noise levels compared to the Project noise criteria. The NMP would include a noise monitoring protocol which would include the contingent measures to be followed should non-compliant noise levels be measured.	Within 6 months of Project Approval.
10. Traffic and Transport			
Intersections with public roads operate efficiently and without adversely impacting on existing road users.	10.1	Manage any construction related traffic in accordance with the relevant Australian Standards, including a short term reduction in the speed limit approaching and adjacent to road construction works.	Prior to commencement and during any road works on or adjacent to Peats Ridge Road.
	10.2	Construct an entrance to Lot 1, DP 805358 and intersection with Peats Ridge Road ("the Southern Entrance") to meet the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and to the satisfaction of the NSW RTA.	Prior to commencement of Phase 2 transport operations.
	10.3	Upgrade the northern entrance to Lot 2, DP 229889 such that it operates as an exit only, and meets the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and is to the satisfaction of the NSW RTA.	Prior to commencement of Phase 2 transport operations.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
10. Traffic and Transport (Cont'd)			
Intersections with public roads operate efficiently and without adversely impacting on existing road users.	10.4	Upgrade the southern entrance to Lot 1, DP 805358 and intersection with Peats Ridge Road ("the Southern Entrance") to a two-way entrance/exit such that it meets the requirements of the *Road Design Guide* (RTA, 1999) and "*Part 5: Intersections at Grade*" of Austroads (2005), and is to the satisfaction of the NSW RTA.	Prior to commencement of Phase 3 transport operations.
Internal roads are constructed and operated to minimise risks of traffic or other environmental incident.	10.5	Construct all internal roads with a horizontal alignment which complies with the maximum grades and changes of grade outlined in the Australian Standards for Off-Street Commercial Vehicle Facilities (approximately 10%).	Ongoing.
	10.6	Construct the Stage 3 and Stage 4 access ramps with a minimum width of 10m, ie. combined width of 20m, to ensure two-way traffic can be undertaken safely on both ramps. Bollards or other markers would be installed between the Stage 3 and 4 ramps with signage erected at the top and bottom of each ramp identifying the correct direction of vehicle travel.	As required.
	10.7	Construct earth bunds at least ½ the height of a standard road truck tyre on the outside edge of any ramp constructed within or between Stages 3 and 4.	Ongoing.
Transport operations are undertaken with minimal impact on other road users and local residents.	10.8	Contact all potentially affected landowners and surrounding residents prior to any road works or intersection construction to inform / discuss the proposed works.	Prior to commencement of construction activities.
	10.9	Undertake all transport activities strictly in accordance with the project approval and environment protection licence.	Ongoing.
	10.10	Adhere as closely as possible to the proposed transport schedule, ie. minimise the volume of traffic movements during Sydney peak periods.	Ongoing.

Table 6.1 (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
10. Traffic and Transport (Cont'd)			
Transport operations are undertaken with minimal impact on other road users and local residents.	10.11	Undertake all deliveries of "oversize" loads in accordance with RTA and Council restrictions on transport hours and safety / warning requirements.	Ongoing.
	10.12	Ensure all exiting product carrying trucks pass over the site weighbridge, thereby preventing the exit of any overweight vehicles onto Peats Ridge Road, ie. all vehicles to have a GVM of less than 50t unless varied by the RTA.	Ongoing.
	10.13	Ensure all vehicles exiting the Project Site pass through a wheel-wash facility to remove dust-generating material from the vehicles.	Ongoing.
	10.14	Adopt a covered load policy to all trucks transporting quarry products.	Ongoing.
	10.15	Ensure all truck drivers operate in accordance with a Drivers Code of Conduct adopted for the Project.	Ongoing.
	10.16	Immediately investigate any complaints received regarding driver behaviour or transport operations generally and act decisively on substantiated incidents, which could include the banning the offending driver(s) from the Project Site.	Ongoing.
11. Air Quality			
Site activities are undertaken without exceeding DECC air quality criteria or goals.	11.1	Minimise clearing ahead of extraction activities.	Ongoing.
	11.2	Minimise the construction of minor roads and access tracks for soil stripping, extraction operations and rehabilitation.	Ongoing.
	11.3	Operate a 12 000L water cart (or equivalent) to water internal roads and exposed areas. Based on experience, watering of the unsealed roads would occur at least 5 times per day with an application of at least 2L/m^2 per application.	Ongoing.
	11.4	Avoid stripping soil in periods of high wind.	Ongoing.
	11.5	Minimise the drop heights between front-end loader buckets and trucks carrying sand, soil or overburden through operator training and education on the management of dust.	Ongoing.
	11.6	If required, water sandstone and sand stockpiles to prevent dust lift off during high winds.	As required.
	11.7	Install bund walls and wind breaks as required.	Ongoing.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
11. Air Quality (Cont'd)			
Site activities are undertaken without exceeding DECC air quality criteria or goals.	11.8	Seed topsoil stockpiles, acoustic bund walls and areas where landform preparation is complete with either native or pasture species to assist in stabilising the exposed surface.	Within 3 months of construction.
	11.9	Operate a wheel-wash facility within the Project Site to minimise the tracking of mud onto Peats Ridge Road which in turn could generate dust.	Ongoing.
	11.10	Commence progressive rehabilitation on available areas as soon as available.	As soon as areas available for rehabilitation.
	11.11	Temporarily cease operation in the event of protracted dry periods, high winds and significant dust generation and dispersal towards the surrounding residences.	Ongoing.
	11.12	Update the existing Air Quality Monitoring Program to demonstrate compliance with the nominated goals. - Deposited dust at selected residences and strategic locations surrounding the Project Site. - PM_{10} at the potentially most affected sensitive receiver.	Within 6 months of Project Approval.
Personnel do not suffer adverse health impact as a consequence of exposure to particulate matter.	11.13	Provide enclosed cabs on all mobile equipment used for ripping and loading of friable sandstone.	Ongoing.
	11.14	Undertake annual monitoring of personal exposure to particulate matter and silica.	Annual.
12. Soils			
Maintenance of soil value for rehabilitation and minimisation of soil loss though erosion.	12.1	Place stripped soil directly onto an area prepared and awaiting rehabilitation (when practicable).	Whenever possible.
	12.2	Limit topsoil and subsoil stockpiles to 2m and 3m in height respectively.	Ongoing.
	12.3	Seed any stockpiles retained for over three months with a non-persistent cover crop.	Within 3 months of stockpile construction.
	12.4	Avoid handling the soils when wet to protect any structure that may have developed.	Ongoing.
	12.5	Avoid driving on the topsoil and subsoil stockpiles, as well as the respread soil, to maximise soil aggregation and prevent compaction, particularly when the stockpiles are moist.	Ongoing.
	12.6	Divert surface water flow away from soil stockpile areas.	Prior to commencement of stockpiling.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
12. Soils (Cont'd)			
Maintenance of soil value for rehabilitation and minimisation of soil loss though erosion.	12.7	Install silt-stop fencing or similar immediately down-slope of stockpiles, until stable vegetation cover is established,	Immediately following stockpile construction.
13. Visibility			
Reduce the impact of the Project on the visual amenity of private and public vantage points.	13.1	Minimise the extent of land disturbance / clearing in advance of extraction.	Complete.
	13.2	Commence progressive rehabilitation of the Project Site.	As soon as areas available for rehabilitation.
	13.3	Maintain a high standard of housekeeping to achieve a visually attractive site.	Ongoing.
	13.4	Maintain the vegetated acoustic bund wall and colorbond fence around the Stage 3 extraction area.	Ongoing.
	13.5	Retain the existing vegetation along the eastern boundary of the Project Site.	Ongoing.
	13.6	Retain at least 80m of the existing vegetation along the southern boundary of the Project Site to restrict views onto the Project Site from the Australia Wildlife Walkabout Park to the south.	Ongoing.
	13.7	Clad new buildings with dark, non reflective material, eg. dark green colour-bond cladding or similar.	Ongoing.
14. Bushfire Hazard			
Minimise potential for initiation of fire.	14.1	Undertake refuelling within designated fuel bays or within cleared area of the Project Site.	Ongoing.
	14.2	Turn vehicles off during refuelling.	Ongoing.
	14.3	Enforce no smoking policy in designated areas of the Project Site.	Ongoing.
	14.4	Maintain fire extinguishers within all site vehicles.	Ongoing.
Manage potential and actual bushfire occurrences in accordance with local bushfire control plans.	14.5	Regularly liaise with Gosford City Council and DECCW (NPWS) personnel in relation to bushfire hazard posed Popran National Park.	Ongoing.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
15. Socio-Economic			
Adverse impacts on members of the local community are minimised.	15.1	Ensure all of the commitments 1.1 to 14.5 are adhered to.	Ongoing.
	15.2	Continue and expand if necessary the Calga Sand Quarry Community Consultative Committee (CCC) and ensure that the community is appropriately represented on the CCC.	Following receipt of Project Approval.
	15.3	Implement a complaint management procedure or protocol to ensure that any complaint received is dealt with decisively and appropriately.	In place.
16. Documentation			
A systematic set of documents are in place to guide the planning and implementation of all environmental management strategies.	16.1.	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.
	16.2.	Incorporate relevant environmental data / information in Annual Environmental Reports.	Annually.
	16.3.	Prepare or update the following environmental plans for the Project. - Air Quality Monitoring Program. - Noise Monitoring Program. - Cultural Heritage Management Plan. - Site Water Management Plan. - Groundwater Contingency Plan. - Surface Water Contingency Plan. - Groundwater Monitoring Program. - Rehabilitation and Landscape Management Plan.	Variously.
17. Environmental Monitoring			
Groundwater			
Regular monitoring of groundwater throughout the life of the project and effective communication of results to land owners within 1km of the Project Site.	17.1.	Monitor standing water levels in the piezometers on and surrounding the Project Site (CQ1 to CQ13 and MW7 to MW10, MW13 & MW16) and the private bores on surrounding properties (CP1 to CP11).	Monthly.
	17.2.	Monitor water chemistry parameters in the piezometers on and surrounding the Project Site (CQ1 to CQ13 and CQ1 to CQ13 and MW7 to MW10, MW13 & MW16) and the private bores on surrounding properties (CP1 to CP11).	Six monthly.

Table 6.1 (Cont'd)
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Desired Outcome	Action		Timing
17. Environmental Monitoring (Cont'd)			
Groundwater (Cont'd)			
Regular monitoring of groundwater throughout the life of the project and effective communication of results to land owners within 1km of the Project Site.	17.3.	Update the Site Water Management Plan currently implemented for the approved Calga Sand Quarry to include all the monitoring locations identified in Commitment 17.1.	Following Project Approval.
	17.4.	Provide the results of monitoring on Rocla's website (http://quarry.rocla.com.au/).	Ongoing.
	17.5.	Provide the results of monitoring to respective bore owners (if requested) together with a comparison of groundwater levels and those predicted in GeoTerra (2009).	As requested.
	17.6.	Update the Calga Sand Quarry Groundwater Monitoring Program.	As required by Project Approval.
Surface Water			
Monitor and record environmental impacts on the local environment	17.7.	Monitor surface water at the locations identified on **Figure 5.7** and others to be determined through consultation with the DECCW.	Quarterly.
	17.8.	Prepare and implement a surface water monitoring program, in consultation with the DECCW (NOW) and DoP.	As required by Project Approval.
Noise			
Monitor and record environmental impacts on the local environment	17.9.	Complete attended monitoring at Residences CN-1 to CN-4 and CN-6 to CN-9.	Quarterly or as modified in consultation with DECCW.
	17.10.	Complete unattended monitoring at Residences CN-1 to CN-4 and CN-6 to CN-9.	Annually or as modified in consultation with DECCW.
	17.11.	Update the Calga Sand Quarry Noise Monitoring Program.	As required by Project Approval.
Air Quality			
Monitor and record environmental impacts on the local environment	17.12.	Monitor wind speed and direction at the Project Site weather station.	Continuous.
	17.13.	Continue to monitor deposited dust at gauges CD-1, CD-2b and CD-3 to CD-6.	Monthly.
	17.14.	Update the Calga Sand Quarry Noise Air Quality Monitoring Program.	As required by Project Approval.

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