clarence
VALLEY COUNCIL

20 January 2015

Reference: GD14/0024 CVC:1418955
Contact: Sarah Ducat
Your Reference: 1935-1048

Greensill Bros Pty Ltd
C/- Geolink
PO Box 1446
COFFS HARBOUR NSW 2454

NOTICE OF DETERMINATION OF APPLICATION
Pursuant to Section 81(1)(a) of the Environmental Planning and Assessment Act, 1979

Application No:	DA2014/0024
Applicant:	Greensill Bros Pty Ltd
Owner:	Unwin Gaine Cartmill
Property Address:	Boundary Creek Forest Road NYMBOIDA NSW 2460
Legal Description:	Lot 20 DP 46031, Part Lot 48 DP 752839, & Part Lot 50 DP 752839
Development Proposal:	Extractive industry hard rock quarry (Staged Development)

DEVELOPMENT CONSENT

Pursuant to Section 81(1)(a) of the Environmental Planning and Assessment Act, 1979, notice is hereby given that Council has considered your application for the subject Development. The subject determination is an **"operational"** consent which is effective from the date appearing on the bottom of each page of the formal notice.

The Development Application has been determined by:

Consenting to the development with conditions.

Determination of the application was made:

By the Joint Regional Planning Panel at their Meeting of 22 December 2014.

Determination Date:

22 December 2014

Approved Plans and Documentation
THE DEVELOPMENT SHALL COMPLY WITH THE PLANS LODGED WITH THE APPLICATION AND AS MAY BE AMENDED BY THE FOLLOWING CONDITIONS OF CONSENT AND/OR BY AMENDED PLANS AND DETAILS.

Locked Bag 23 GRAFTON NSW 2460
ABN 85 864 095 684 t 02 6643 0200 f 02 6642 7647 e council@clarence.nsw.gov.au w www.clarence.nsw.gov.au

DEFINITIONS

Applicant means Greensill Bros Pty Ltd or any party acting upon this consent.

NRDC means Northern Rivers Design and Construction Manual
The current engineering standards are:

a The Northern Rivers Local Government Development and Design Manual (AUS-SPEC)
b The Northern Rivers Local Government Construction Manual (AUS-SPEC)
c The Northern Rivers Local Government Handbook of Stormwater Drainage Design

The current version of NRDC can be obtained from the Clarence Valley Council webpage.

Civil Works includes -

a Earthworks
b Roadworks
c Drainage, including WSUD components
d Structures
e Parking areas
f Provision of Services

NATA means National Association of Testing Authorities

RMS means Roads and Maritime Services

WAD means Works Authorisation Deed

ADVICE TO APPLICANT

Council in determining the subject application requests you to take note of the following advice and where pertinent to convey the advice to future owners or tenants:

1. No building construction is to be commenced until a Construction Certificate has been issued.

2. Prior to work commencing on a development the applicant must give notice to Council of their intention to commence work. Such notice shall be in the form of a Notice of Commencement form and must be submitted to Council at least two (2) business days before work commences.

3. It is the developer's responsibility to make satisfactory arrangements with other property owners affected by the development, and to meet all costs associated with the development.

4. All building and construction work, which includes subdivision and civil works, which cost $25,000 or more require the payment of the long service levy prior

to a Construction Certificate being issued. The levy is required under the Building and Construction Industry Long Service Payments Act 1986. The total value of works must be included on the Construction Certificate Application form.

5. The applicant is to submit road, stormwater drainage and intersection design plans including unsealed gravel pavement designs for Boundary Creek Road and Boundary Creek Forest Road upgrade works, for assessment by Council. No construction works on public roads are permitted without the approval of Council under the NSW Roads Act 1993. All design and construction shall be in accordance with NSW Roads & Maritime Services (RMS) and Clarence Valley Council engineering standards and construction specifications (NRDC).

6. The name of the person/s responsible for the civil work design is to be submitted to Council for approval prior to approval of the Engineering Design Plans. Details of qualifications, accreditations and insurances must also be submitted. Three copies of the engineering plans are required in hardcopy and one electronic copy in PDF format saved at the original drawing size.

7. The Applicant is responsible for ensuring that all necessary inspections are undertaken during the course of the work to enable the relevant certifications to be submitted. The applicant shall ensure that their consultants set up a program of hold points or events for inspection and that the inspections are undertaken.

8. The Earthworks Management Plan must include;

An initial site inspection report. This report should include:

a Inspection and verification of an appropriate preparation of the foundation for placement of fill, including the provision of surface drainage arrangements and a geotechnical assessment of factors that can influence the site. This is to be provided by a competent Geotechnical Authority.
b Certification that the land created by the development will be suitable for its intended purpose (e.g. residential, commercial or industrial buildings) including any parts of the land that will be left in its natural state or modified by the development.
c Identify any problem areas on or adjacent to the development land (e.g. potential land slip areas, hanging swamps, very high water tables, salt affected land, highly eroded sites etc) and advise if engineering solutions, acceptable to Council, are available to enable structures to be built on the affected parts of the land.

Where relevant to the project, the following will also be required

a Details on the selection of fill type(s), the source/s of the fill, including suitability for the intended use, its appropriate handling, placement and compaction, and the area of the development to be filled including depth to be filled.
b Any conditions on the use of the material and a report from a registered NATA laboratory on the key geotechnical properties used in the

assessment of each fill type.

c Measures proposed to prevent adverse impact to adjoining properties and to local drainage. Provision is to be made for the mitigation of and free passage of surface stormwater away from affected sites. These measures are to be acceptable to Council.

The following information will be required for earth works undertaken:

a Details of geotechnical laboratory and in situ (principally dry density assessment) testing for each fill type and specified volume of placed fill including records of the date and time of all testing, the source of material tested in the laboratory, and the spatial distribution and reduced level of in situ tests. The latter must be correlated with results from the labcratory testing of similar material.

b Recorded dates of placement and survey data recording the aerial extent of fill and the reduced level prior to construction and at completion.

c Certification cf the completed earthworks (including cut, fill, earth retaining structures as far as the geotechnical aspects) that the work is suitable for the intended use.

d Certification that excavated materials have been reused or disposed of in accordance with the Protection cf the Environment Operations Act 1997and copies of receipts for disposal where relevant.

The Earthworks Management Plan must include details cf how the works will comply with the Protection of the Environment Operations Act 1997.

The Earthworks Management Plan must provide a ccncept for the full site including staged works.

The Earthworks Management Plan must be compatible with the works plans and Stormwater Management Plan.

9. Effective measures are to be taken to prevent any nuisance being caused by noise, vibration, smell, fumes, dust, smoke, waste water products and the like at all times.

10. It is the developer's responsibility tc make satisfactory arrangements with other property owners affected by the development, and to meet all costs associated with the development.

CONDITIONS OF CONSENT

1. The Development has been determined as a Staged Development under Section 83B of the Environmental Planning & Assessment Act 1979. This consent grants operational approval to extract material from Area 1 and a concept approval to extract material from Area 2.

Area 2 may not be cleared or quarried, without further development approval. A separate Development Application, and necessary supporting information (including geotechnical investigations), is to be submitted to Council to seek approval to quarry Area 2.

2. The development being completed in conformity with the Environmental Planning & Assessment Act, 1979, the Regulations thereunder, the Building Code of Australia (BCA) and being generally in accordance with the following documents and plans:

1. Amended Quarry Footprint Plan 12 November 2014 prepared by GeoLINK
2. Environmental Impact Statement 17 January 2014 prepared by GeoLINK
3. Traffic Impact Assessment (second issue) prepared by GeoLINK & Road Safety Audit June 2014 prepared by Roadnet
4. Addendum Eoological Assessment (second issue) 26 November 2014 prepared by GeoLINK

Or where modified by any conditions of consent.

3. Complianoe with the conditions and advice of the NSW Environment Protection Authority, as contained in their letter dated 1 April 2014, consisting of 10 pages, and as attached to this Notice of Determination.

4. Compliance with the conditions and advice of the NSW Office of Water, as contained in their letter dated 10 March 2014, consisting of 7 pages, and as attached to this Notioe of Determination.

5. Complianoe with the conditions and advice of the Fisheries NSW, as contained in their letter dated 14 February 2014, consisting of 2 pages, and as attached to this Notice of Determination.

6. Submission of a Plan of Management prepared by a suitably qualified and experienced person/s to Council for approval prior to the commencement of quarrying under this Notioe of Determination. The Plan of Management is to include, but is not limited to, the following details:

- Operating details including: numbers, type and location (if fixed plant) of plant and machinery; numbers of employees on-site and off site; stockpile and overburden storage areas; vehiole storage and refuelling areas; and fuel storage areas.
- A plan identifying the sedimentation/storage ponds at eaoh proposed stage of the quarrying operations. That is, as quarry expansions are proposed, any necessary relocation of sedimentation structures should be identified on the plan. The dimensions, capacity and anticipated levels of waste water within these structures should be included in this detail.
- A water quality monitoring program is to be implemented which assesses the quality of discharges from the sedimentation ponds as they occur. Details of measures for drainage or pumping from the ponds after storm events are to be provided, inoluding the time taken for ponds to empty.
- Any proposal for the re-use of wastewater from the dams is to be provided. Such water could be used for water of access roads and exposed areas to avoid dust nuisance.
- Noise and Vibration Management Plan (as required by conditions of this consent) inoluding noise mitigating and monitoring measures.
- Blast Management Plan (as required by ccnditions of this consent)

including a monitoring program of ground vibration and airblast overpressure for blasting activities. Details to be recorded include MIC, airblast and vibration level and distance at which monitoring of the blast are conducted.

- Details of dust mitigation measures and monitoring program.
- Full quarry rehabilitation details, including details of commencement and completion of each stage of rehabilitation propcsed.
- Details of the method of weighing extracted material. A schedule is to be included which allows for the annual update of the rates of extraction. This will ensure monitoring of the amount of material extracted and enable Council to calculate the contributions for Council road maintenance.
- A waste management plan, including measures to optimise the efficiency of rescurce recovery and the reuse or recycling of material.

7. The establishment, operation and management of the development is to comply with the approved Plan of Management at all times.

8. An annual update of the Plan of Management is to be submitted to Council by 31 July each year. This update is to include a plan by a registered surveyor and statement demonstrating compliance with this consent and the Plans of Management. Specifically, the statement is to include:

a. A site plan by a registered surveyor showing:

- The extraction area at the date of repcrt
- The areas intended for extraction in the next twelve (12) months
- Sediment ponds
- Stockpile sites
- Overburden storage sites
- Erosion controls in place at the time of the report

b. Written details addressing:

- State of compliance with each ccndition of consent and the Plan of Management at the time of the report.
- The stage of the quarry and quantity of material extracted in the immediately preceding twelve (12) months
- The stage of the quarry and quantity of material proposed to be extracted in the next twelve (12) months
- Results frcm all monitoring programs for the preceding twelve (12) months
- Sedimentation ponds constructed during the preceding twelve (12) months or proposed to be constructed in the next twelve (12) months
- A staged rehabilitation plan for the life of the quarry
- Records of any complaints received in the immediately preceding twelve (12) months

9. Development consent is given to extract the following maximum annual and total amcunts of material:

Area	Stage	Total BCM	Bank Cubic Meters Per Annum	Tonnes Per Annum
1	1A	40,000	8,000	20,000
1	1B	70,000	28,000	70,000
1	2	150,000	60,000	150,000
1	3	400,000	80,000	200,000
2	4	Between 800,000,– 1,300,000	80,000	200,000

Note: Area 2 is subject to further development consent prior to commencing quarrying of this area.

10. The area of the quarry shall not exceed 9.97 ha as shown in the Amended Quarry Footprint Plan prepared by GeoLINK dated 12 November 2014. All blasting, crushing, screening, stockpiling and loading is to be undertaken within this area.

11. The quarry/extraction area is to be defined on the grcund by the establishment of permanent survey marks located and shown on a plan by a registered surveyor and submitted to Council, prior to commencement of works.

12. All vehicles associated with the use of the premises, including employees' vehicles, are to be parked within the confines cf the site at all times.

13. A sign must be erected on the subject land in a prominent position visible from the entrance of the property during quarrying operations. The sign is to:
    - State that unauthorised entry to the quarry work area is prohibited; and
    - Show the name of the person in charge of the quarry operations and a contact number for that person.

14. Accurate records of quantities extracted are to be kept, maintained and available for inspection by authorised Council officers on request. The method of recording and the location where records are to be kept are to be outlined in the Plan of Management.

15. An additional assessment is to be undertaken to confirm, if possible, the location and impact of the development on any item of Aboriginal Cultural Heritage, including items listed as occurring within the site or within proximity of the site as registered in the Aboriginal Heritage Information Management System (AHIMS). This search is to include the quarry footprint area and areas subject to rcad upgrading works required by this consent.

    Management strategies for any Aboriginal objects/sites identified during this assessment shall be detailed, including measures to protect these items to avoid any impact or harm. If impact or harm cannot be avoided, an Aboriginal Heritage Impact Permit may be required from the Office of Environment and Heritage (OEH) for the works.

This assessment, in addition to any approval required from OEH, is to be submitted to Council prior to quarry operations or road works commencing.

16. Should any Aboriginal relics or artefacts be uncovered during works on the site, all work is to cease and the Director-General of the NSW Office of Environment and Heritage shall be contacted immediately and any directions or requirements of that Department complied with.

17. No advertising sign is to be erected, painted or displayed without approval from Council.

18. The quarry operator may not:
- Encroach upon the Crown Road adjoining Lot 46 DP752839;
- Remove any vegetation from the Crown Road;
- Stockpile any materials, equipment, or machinery on the Crown Road;
- Direct Stormwater discharges onto the Crown Road; or
- Use the Crown Road as an Asset Protection Zone.

ENGINEERING

Roadworks

19. Design plans and documentation for the following works are required to be assessed and approved by Council. The works shall then be constructed by the applicant and approved by Council prior to commencement of quarry operations:

a) The location of the existing Boundary Creek Road and Boundary Creek Forest Road formations, with respect to the public road reserve boundaries, is to be determined by survey. Any road works shall be undertaken within the surveyed road reserve or the road reserve boundaries are to be adjusted with the written agreement of the owners of any affected properties. Revised survey plans will be required to be approved and registered with NSW Land and Property Information.

b) The road section known as Boundary Creek Forest Road that provides access to the quarry site from the existing Council maintained Boundary Creek Road section, is to be constructed as a 6m wide unsealed gravel carriageway with 0.5m wide shoulders (minimum).

c) The quarry ingress / egress driveway off Boundary Creek Forest Road shall be designed as a basic left-turn treatment (BAL) into the property and basic right-turn treatment (BAR) out of the property in accordance with Austroads and NRDC.

d) If a gate is proposed for the quarry, it shall be set back so that the largest service vehicle can stand clear of Boundary Creek Forest Road.

e) All Unsealed gravel pavements are to be designed for the in-situ

subgrade conditions and design traffic.

f) Stormwater drainage culvert road crossings are to provide a minimum 1 in 5 year Average Reourrence Interval (ARI) immunity against flood and drainage flows.

g) The existing causeway at Copes Creek, on Boundary Creek Forest Road, is to be upgraded to a culvert orossing that provides a minimum 1 in 20 year Average Recurrence Interval (ARI) road immunity against flood and drainage flows. Water depth markers and road edge guide posts are to be provided. Copes Creek is a third order stream. Comments and approval for any construction works are required from the NSW Department of Primary Industries – Fishing and Aquaculture.

h) The section of Boundary Creek Road, extending from the 'Armidale Road – Boundary Creek Road' interseotion to 'Boundary Creek Road - Boundary Creek Forest Road' intersection, is to be constructed as a 7m wide carriageway with minimum 0.5m wide shoulders.

i) Armidale Road – Boundary Creek Road intersection is to be oonstruoted as an 'Austroads' basic right and left turn (BAL & BAR) complying intersection. The bitumen sealed gravel pavement is to be designed for the in-situ subgrade conditions and design traffio. Bitumen sealing shall oomprise emulsion or cutback primer plus 2 coat 14 / 7 mm seal. The design plans shall include details of linemarking, signage and road furniture and oonsider the 'RoadNet' Road Safety Audit Report (dated 13 June 2014) recommendations.

j) A report, addressing items 1 to 5 in Appendix A of the Road Safety Audit prepared by Roadnet (dated 13 June 2014), detailing how they are to be managed and / or implemented is to be submitted by the applioant for the approval of Roads & Maritime Services and Council.

k) Certification from the supervising professional engineer or registered land surveyor, that all works have been oonstructed in accordance with the Council approved plans and specifications are required.

l) All quarry trucks exiting the site shall do so via a weighbridge to be installed prior to commencement of quarrying aotivities, or all trucks are to be loaded by a machine with scales to enable aocurate records of loads.

20. The developer must bear any costs relating to alterations and extensions of existing roads, drainage and services for the purposes of the development.

21. The developer must design all oivil works, in aocordance with NRDC, and oonstruct these works in aocordance with the approved, dated and stamped engineering plans; and NSW Roads Act 1993 Approval issued by Council. This work must be done under the supervision of a suitably qualified and experienced engineer or land surveyor approved by Council.

22. The supervising engineer / surveyor must arrange for the hold point

inspection, and accompany Council or accredited Private Certifier on the inspection unless alternative arrangements are made. Where Council is the Certifying Authority for civil engineering works the applicant must give Council one (1) business day's notice to permit hold point inspections of the following components of the construction process:

a Roadworks
  i stripping with erosion controls in place
  ii subgrade
  Iii subbase (at discretion of Development Engineer)
  iv completion of pavement ready for sealing
  v final including stormwater
b Stormwater
  i Prior to backfilling of trenches
  ii In accordance with the submitted and Council approved stormwater drainage construction, inspection, testing, establishment and staging management plan for WSUD components

Plus any other part of the works specific to the development that the Development Engineer may request.

23. A Construction Management Plan must be submitted to and approved by Council prior to the issue of the NSW Roads Act 1993 Approval. The plan must document the proposed method of work within the construction site boundaries and road reserve with regard to the health and safety of the public and affect on the road reserve. If any part of the road reserve or public land is proposed for long term (exceeding 24 hours) inclusion in the construction site boundaries this area must be identified in the Construction Management Plan. The road reserve is classed as the property boundary to opposite property boundary and includes roadway, nature strip and footpath.

24. A Traffic Management Plan must be submitted with the Construction Management Plan for approval by Council prior to the issue of the NSW Roads Act 1993 Approval. The plan must show the proposals for reducing any impact of the construction site on the adjacent traffic network. This plan will include traffic management of short term activities such as delivery of materials; accessing, exiting and parking in and near the work site by oranes, concrete agitator trucks; tradesmen work vehicles and the like.

25. For any part of the site that comes under the jurisdiction of another Government department, a Controlled Activity approval (or similar approval) may be required. Any such approval must be obtained and provided to Council prior to issue of the NSW Roads Act 1993 Approval.

Traffic Management Plan and Truck Driver Code of Practice

26. Prior to commencement of quarry operations, the applicant shall submit a 'Traffic Management Plan and Truck Driver Code of Practice' for assessment and approval by Council. The plan and the code of practice shall document :

a) The road maintenance program
b) Surrounding environment, existing conditions and road safoty

c) Existing private property driveways and farm access points
d) Dust suppression methods including water supply management, monitoring, reporting, source, licencing, drought management
e) Noise suppression methods including monitoring and reporting
f) Road inspection activities to be implemented for the life of the quarry
g) Approved haulage routes highlighting specific locations for consideration such as school zones, school bus routes, residential areas or potential risk locations (including map).
h) Induction process for staff and sub contractors outlining clear expectations and consequences for any breach of the code
i) Instruction on all operational and safety requirements related to the quarry operations

27. The quarry is to operate in accordance with the approved Traffic Management Plan and Truck Driver Code of Practice.

Road Maintenance Agreement and Contribution

28. Prior to commencement of quarry operations, the applicant shall enter into a legally binding road maintenance agreement with Clarence Valley Council for all utilised sections of Boundary Creek Road, Boundary Creek Forest Road and the interface with the Armidale Road - Boundary Creek Road intersection that are utilised by the applicant. This agreement shall be for the life of the quarry.

29. Payment to Council of a road maintenance contribution per annum for the use of Council's roads by extractive industry trucks at a rate of $0.05 per tonne of material extracted. The maximum annual contribution rates for each stage are:

Stage	Maximum extraction rate	Maximum annual rate
Stage 1A	20,000 tonnes	$1,000
Stage 1B	70,000 tonnes	$3,500
Stage 2	150,000 tonnes	$7,500
Stage 3	200,000 tonnes	$10,000
Stage 4	200,000 tonnes	$10,000

NB
1. The contribution(s), as assessed, will hold for a period of 12 months from the date of this approval. Contributions not received by Council within 12 months of the date of this determination will be adjusted in accordance with the movement in the Consumer Price Index.
2. The contributions are to be paid to Council on an annual basis. The amount will be determined by the extraction amounts specified in the Plan of Management and revised annually by the operator.

Internal access and parking

30. Prior to commencement of quarry operations, internal quarry roads shall be construoted in accordance with the Private Native Forestry Code of Practioe for Northern NSW (DECC, 2008), consider all design servioe vehicles used in

The earthworks Management Plan is to be prepared in accordance with Council's guidelines. The guidelines are listed in the Advices section of this Notice.

39. Any fill earthworks to be undertaken on the site must be carried out in accordance with the placement and compaction of fill described in AS 3798, and NRDC.

Erosion & Sediment Control

40. Erosion and Sediment Control is to be implemented in accordance with the relevant parts of the applicable Council Development Control Plans and NRDC. Sediment and erosion control plans are required for all construction works. These are to be prepared in accordance with NRDC and the NSW Landcom 'Blue Book' guidelines and submitted for assessment and approval by Council, prior to the commencement of construction.

41. A detailed Erosion and Sediment Control Management Plan for any construction works must be submitted for assessment and approval by Council, prior to issue of a NSW Roads Act 1993 Approval. This shall be compatible with the Stormwater Management Plan and must include procedures for clean-up and restoration of public / private property and infrastructure, affected by any construction operations. All such remedial works are to be completed to the satisfaction of Council.

42. The applicant must ensure that vehicles or plant associated with the works do not adversely impact on the roadways to such an extent that cause them to become untrafficable for other road users particularly during wet weather. Any such damage is to be rectified by the contractor immediately.

43. During dry weather, standard dust suppressions methods are to be used as often as is necessary to ensure that adjoining properties are not adversely affected by undue dust.

44. All trucks carrying quarry or crusher products from the site shall ensure their loads are fully covered by a suitable material to prevent spillage or dust falling from the truck.

BUILDING

45. A Construction Certificate shall be obtained in respect of the office and amenities buildings prior to their installation/placement on site.

46. The buildings are not to be occupied or used until such time as an Occupation Certificate has been issued.

47. Prior to commencement of works, a sign must be erected in a prominent position on any work site on which work is being carried out:

a Stating that unauthorised entry to the work site is prohibited, and
b Showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside of

working hours, and

c Showing the name, address and telephone number of the principal certifying authority for the work, and

Any such sign is to be removed when the work has been completed.

48. The facility shall be provided with sanitary facilities and a water supply of appropriate quantity and quality to satisfy sanitary and drinking water requirements for staff. Details of how this is to be achieved are to be submitted to Council for consideration and approval prior to any works commencing on the site.

49. Access to the buildings for disabled persons shall be provided and constructed in accordance with the requirements of Part D3 of the Building Code of Australia and AS 1428.1-2009.

50. Accessible facilities for the use of the disabled shall be provided as specified in Clause F2.4 of the Building Code of Australia and shall be constructed to the requirements of AS 1426.1-2009.

51. Car parking spaces for people with disabilities are to be provided as required by Part D3.5 of Building Code of Australia.

52. In a building required to be accessible, braille and tactile signage complying with Specification D3.6 of the Building Code of Australia and incorporating the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1-2009 must identify each sanitary facility; space with a hearing augmentation system and door with a required 'exit' sign.

53. The Construction Certificate plans shall detail dimensional compliance with the requirements of AS 1428.1-2009 for access and facilities.

54. An On-Site Wastewater Management (OSM) Application is to be lodged with the Construction Certificate demonstrating how wastewater will be disposed and treated on-site. The system will need to be installed in accordance with the approval prior to issue of the Occupation Certificate for the buildings.

Note: The proposed pump-out system is not in accordance with Council's On-site Wastewater Management Strategy.

ECOLOGY

55. Removal of native vegetation approved under this application is to be undertaken in accordance with the recommendations of the Eoological Assessment and Addendum Ecological Assessment submitted with the Application. This includes staging vegetation removal, methods of vegetation removal and works to be undertaken by a qualified ecologist.

No native vegetation is to be removed from the site, with the exception of that identified for removal in the application.

56. A Biodiversity Offset is to be provided in aocordance with the Addendum Ecological Assessment November 2014 and Council's Adopted Biodiversity

Offset Policy.

A Biodiversity Offset Management Plan shall include details of the method of offsetting proposed and an ongoing Vegetation Management and Monitoring Plan. This Plan is to be submitted to Council for approval prior to commencing quarry operations.

The Biodiversity Offset, totalling 101.2 ha, is to be secured in perpetuity, in accordance with the approved Biodiversity Offset Management Plan, prior to commencing quarry operations. No vegetation removal on the site is to occur until the Biodiversity Offset has been secured.

57. The applicant is to develop a staged rehabilitation plan for the life of the quarry. Rehabilitation of each stage is to be undertaken prior to commencing extraction from the subsequent stage. The rehabilitation plan is to be included in the Plan of Management.

ENVIRONMENTAL HEALTH

Hours of Operation

58. Hours of operation, including but not limited to quarrying, processing or movement of heavy vehicles along Boundary Creek Forest Road and Boundary Creek Road, are restricted to times between 7:00am and 5:00pm Monday to Friday, and between 3:00am and 1:00pm on Saturday.

59. There is to be no quarrying, processing or transportation on Sundays or statutory public holidays except for emergency purposes; for example, but not limited to, sudden damage to public infrastructure or any damage posing an immediate risk to life or property.

The quarry operator is to inform Council on the first working day following the emergency that trucks were carrying quarry products outside the approved hours for emergency purposes.

Noise Limits

60. Noise from the premises must not exceed an $L_{Aeq\ (15\ min)}$ of 35 dBA at the nearest residential receiver who has not given written permission for an exceedance of this condition including under adverse meteorological conditions.

61. Noise from the premises is to be measured at the most affected residential receiver who has not given written permission for an exceedance to determine compliance with the conditions herein at least annually and at any time where Council requests it having reason to believe an exceedance has occurred based on complaints. The results are to be supplied to Council for review within 30 days of the request. Noise measurement must not take place under the following conditions:
    a. Wind speeds greater than 3 metres/second at 10 metres above ground level; or
    b. Temperature inversion conditions up to 3°C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or

o. Temperature inversion conditions greater than 3°C/100m.

62. A Noise and Vibration Management Plan is to be prepared by a qualified noise consultant in accordance with section 4 of the Noise, Vibration, Blasting and Air Quality Report dated 28 November 2013 by Wilkinson Murray Pty Ltd. The report is to determine how compliance with the limits set herein ($L_{Aeq(15\ mins)}$= 35 dB(A)) will be achieved by quarry operations. The report is to detail noise mitigation measures and monitoring programmes.

The report must be submitted to Council for approval and installation of mitigation works is required prior to oommencement of extraction activities. Quarry operations are to be undertaken in accordance with the Plan approved by Counoil.

Traffic Noise

63. Traffic noise shall not exceed an $L_{Aeq(1\ hour)}$ of 55 dBA (external) for any resident who has not given written permission for an exceedance located along Boundary Creek Forest Road and Boundary Creek Road (measured 1 metre from the façade and 1.5 metres above the floor of any residential receiver). Traffic noise shall not exceed an $L_{Aeq(15\ hour)}$ of 60 dBA (external) for any resident who has not given written permission for an exoeedance located along Armidale Road (measured 1 metre from the façade and 1.5 metres above the floor of any residential receiver).

64. Noise mitigation efforts and best practice noise management protocols must be implemented to reduce the noise generated by heavy vehicular traffic as is oonsidered reasonable and feasible.

65. Road traffic noise shall be evaluated within one year of commencement of quarry operations and ten yoars of commencement of quarry operations and shall compare the road traffic noise levels as if the projeot had not proceeded (the 'no build option'). This report must be provided to Council within 60 days of the completion of year one and year ten.

Blasting & Vibrations

66. Residential receivers shall be notified of forthcoming blasts at least 24 hours in advance unless otherwise indicated by the resident in writing.

67. Blasting shall not be oonducted outside of the hours of 9:00 am to 3:00 pm on Monday to Friday and shall not be conducted on weekends or public holidays. (Where compelling safety reasons exist, Council may permit a blast to occur outside the above mentioned hours. Prior written notification of any such blast must be made to Council.)

68. Blasting events are limited to once per day except for minor blasts such as required to clearing crushers and feed chutes.

69. Blasting amenity level criteria at any point within 1 metre of any affected residential boundary or other noise sensitive location must not exceed:
    a. A ground vibration peak particle velocity of:

i. 5mm/sec for more than 5% of the total number of blasts in an annual period;
ii. And 10mm/sec at any time;

b. An overpressure of:
i. 115dB (Lin Peak) for more than 5% of the total number of blasts in an annual period;
ii. And 120dB (Lin Peak) at any time.

70. A Blast Management Plan is to be prepared by a qualified noise consultant in accordance with section 5 of the Noise, Vibration, Blasting and Air Quality Report dated 28 November 2013 by Wilkinson Murray Pty Ltd. This inoludes details of monitoring each blast for ground vibration and air blast overpressure, MIC and an accurate distance at which monitoring of the blasts is conducted.

This Plan is to be submitted to and approved by Council prior to oommencing quarrying. Quarry operations are to be undertaken in aooordanoe with the Plan approved by Council.

71. This monitoring data recorded in accordance with the approved Blast Management Plan must be reviewed by a suitably qualified oonsultant after 12 months from the operation of the quarry. This review must use the data oollected from the blasts to refine the site law. This review must indioate if air blast and ground vibrations are within acceptable criteria as per the ANZEC Guidelines for the nearest receiver. It must also determine a maximum instantaneous oharge (MIC) to be used at the site and make any other recommendations to minimise blasting impacts.

A report of this review must be supplied to Council for assessment and approval within 60 days of the completion of one year of quarry operations. Quarry operations are to be undertaken in aocordance with the Report approved by Council.

Noise, Blasting & Vibration Compliance and Monitoring

72. Compliance noise monitoring shall be conducted by qualified persons within 30 days of commencement of the extraction to establish if oomplianoe has been achieved at all potentially affected residences. The report must be submitted to Council within 60 days of commencement of extraotion aotivities.

73. For the purposes of monitoring for compliance with the noise limit oonditions of the consent to operate, ncise emitted from the premises must be measured at 30 metres from the nearest residential receiver over a period of 15 minutes using the "FAST" response on the sound level meter. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the NSW Industrial Noise Policy.

74. The quarry operator must operate a telephcne complaints line during the approved hours of operation for the purpose of receiving complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant. The quarry operatcr must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a oomplaint. A legible

record of all complaints is to be made available to Council on request and included in the annual update of the Plan of Management. The record must include details of the following:

a. The date and time of the complaint;
b. The method by which the complaint was made;
c. Any personal details of the complainant which were provided by the complainant or, if not such details were provided, a note to that effect;
d. The nature of the complaint;
e. The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant;
f. And if no action was taken by the licensee, the reasons why no action was taken.

75. The applicant is advised that Council may carry out periodic inspections of the premises to ensure that the conditions of this consent are being complied with. In accordance with the provisions of Section 118G of the Environmental Planning and Assessment Act, if as a result of any such inspection Council requires work to be carried out on or in the premises then Council may charge a fee to recover the costs of that inspection. The appropriate fee will be as specified in Council's current adopted fees and charges.

ENVIRONMENT

76. Drainage berms are to be constructed so as to direct clean run-off around the quarry area. All run-off from disturbed areas, including access roads, is to be diverted into sedimentation dams. The design and location of these features is to be incorporated into the Plan of Management and revised as required.

77. If the quarry machinery is to be serviced/maintained on site, prior to commencing quarry activities, the following information/plans shall be provided detailing:

a. the measures to be implemented to prevent discharge of waste liquids/pollutants to the environment.

b. that the storage of hazardous materials, including fuels, oils and chemicals are contained in a roofed and bunded area with the bund to have a capacity of 110% of the largest container or other acceptable means of containment.

o. that the refuelling of machinery is conducted in a manner whereby any leaks or spills are captured and disoharge to the environment is prevented.

d. how wastewater will be managed if machinery is washed on site.

This information can be detailed in the Plan of Management for the quarry. The quarry is to operate in accordanoe with the plans/documents approved by Ccuncil.

REASONS

1. To ensure that the development complies with Council's Local Environmental Plan and any Development Control Plan that may be applicable to the proposed development.

2. To ensure that the surrounding environment is not detrimentally affected as a result of the development.

3. To comply with legislative requirements.

4. To ensure works are completed to an appropriate standard and documented.

RIGHT OF APPEAL AND VALIDITY OF CONSENT

Section 97 of the Act provides that you have a right of appeal to the Land and Environment Court against Council's decision in the matter, exercisable within 6 months after receipt of this notice.

Section 98 of the Act provides that any person who makes a submission in writing objecting to the proposal and who is dissatisfied with the decision may appeal to the Land and Environment Court, exercisable within 28 days of the date of this notice.

Consent becomes effective from the consent validation date. Section 95 of the Act provides for the period of validity of consent, and it is the applicant's responsibility to ensure that commencement of the development is carried out within the prescribed period. The consent period for this application will be five (5) years.

If you require any further information in regard to this notice of determination please contact Sarah Ducat of Council's Environment, Development and Regulated Services section on (02)6645 0202.

Yours faithfully

Sarah Ducat
Development Planner

Addendum to Environmental Impact Statement

Nymboida Quarry, Nymboida

PO Box 119
Lennox Head NSW 2478
T 02 6687 7666

PO Box 1446
Coffs Harbour NSW 2450
T 02 6651 7666

info@geolink.net.au

Prepared for: Greensill Bros Pty Ltd

UPR	*Description*	*Date Issued*	*Issued By*
1935-1063	First Issue	06/03/2015	Simon Waterworth
1935-1082	Second Issue	22/07/2015	Simon Waterworth

Table of Contents

Illustrations

Tables

Figures

Appendices

Statement of Validity

Submission of Addendum to Environmental Impact Assessment

Prepared under Part 4 of the *Environmental Planning and Assessment Act 1979 (EP&A Act 1979)*

Environmental Impact Assessment prepared by

Name	Simon Waterworth
Qualifications	Burp, MBA, CPP Director/Planner
Address	GeoLINK PO Box 1446 COFFS HARBOUR NSW 2450

In respect of

Applicant & Land Details

Applicant	Greensill Bros Pty Ltd Lillypool Road South Grafton NSW 2460
Subject Site	Nymboida Quarry

Land to be developed

Lot & DP	Part Lots 48 and 50 DP 752839 and Lot 20 DP46031 located on Boundary Creek Forest Road, Nymboida.
Project Summary	New Hard Rock Quarry extracting up to 200,000 tonnes of material per annum

Environmental Assessment

Environmental Impact Assessment pursuant to Part 4 of the EP&A Act 1979

Declaration

I certify that I have prepared the contents of the Environmental Assessment in accordance with the requirements of the *Environmental Planning and Assessment Act 1979* and Regulation and that, to the best of my knowledge, the information contained in this report is not false or misleading.

Signature	.....
Name	SIMON WATERWORTH
Date	22 July 2015

1. Introduction

1.1 Purpose

This addendum report to the original Environmental Impact Assessment (EIS) is to accompany an application to modify development consent DA2014/0024 under Section 96 of the Environmental Planning and Assessment Act 1979 (EP&A Act 1979).

The application seeks to make the following amendments to the development consent:

- Amend Conditions 1, 9 and 29 to alter the staging of extraction rates of the quarry;
- Amend Condition 19 to provide for an alternate type of crossing at Copes Creek on Boundary Creek Forest Road;
- Relocation of the access to the Quarry from Boundary Creek Forest Road and associated adjustments to the quarry layout.

Further details and assessment of the proposed amendments are outlined in this addendum report.

1.2 Proposed Modification

1.2.1 Staging of the Extraction Rates (Conditions 1, 9 and 29)

The development application for the quarry set out a staging regime for the extraction of the material for the life of the quarry. It proposed a smaller extraction rate for the initial few years of the quarry increasing to a larger extraction rate (maximum of 200,000 tonnes per annum) when the quarry was at full capacity. The development application and EIS also proposed an increasing extraction rate over three stages before reaching the maximum extraction rate of 200,000 tonnes. This staging of the extraction rates was encapsulated in the development consent as condition 9 as well as being referenced in condition 29.

The proponent wanted the initial lesser extraction rate of 20,000 tonnes if it could be undertaken without the need to upgrade the intersection of Boundary Creek Road and Armidale Road. This was unacceptable to Roads and Maritime and Council.

In addition to this, the proponent is of the opinion that to develop the quarry there may be a need to remove a significant amount of overburden in the first few years of the commencement of the quarry. This overburden would be potentially used as select fill on major projects such as the Pacific Highway upgrade. Although it is unlikely that the quarry would start operating at full capacity the proponent wants to make sure that it is not restricted to a lesser amount if he secures a contract that requires the quarry to operate at full capacity. Consequently the proponent seeks to modify Conditions 1, 9 and Condition 29 to remove reference to the initial stages and to allow for a maximum extraction rate of 200,000 tonnes per annum upon commencement of the quarry operations.

Area 1 will still be limited to approximately 1.65 million tonnes (as identified in the EIS). The actual development strategy and layout of the quarry development, as outlined in Section 2.5.2 of the EIS will also not change. However, material will potentially be extracted at a faster rate in the initial stages (1 and 2) than was originally outlined in the development application/EIS.

The annual extraction rate (200,000 tonnes per annum) and overall extraction amount (3.25 million tonnes) proposed for area 2 will remain unchanged and will be still subject to a separate development application. Further details of the impacts of the proposed staging is outlined in this addendum EIS.

1.2.2 Alternate Creek Crossing Design

Condition 19 (f) and (g) of the development consent requires:

(f) Stormwater drainage culvert road crossings are to provide a minimum 1 in 5 year Average Recurrence Interval (ARI) immunity against flood and drainage flows.

(g) *The existing causeway at Copes Creek, on Boundary Creek Forest Road, is to be upgraded to a culvert crossing that provides a minimum 1 in 20 year Average Recurrence Interval (ARI) road immunity against flood and drainage flows. Water depth markers and road edge guide posts are to be provided. Copes Creek is a third order stream. Comments and approval for any construction works are required from the NSW Department of Primary Industries – Fishing and Aquaculture.*

We have had discussions with Mr Patrick Dwyer, Regional Assessment Officer (North) Aquaculture & Aquatic Environment, Primary Industries NSW, regarding the use of a splash crossing instead of culvert system where Boundary Creek Forest Road crosses Copes Creek. Patrick has advised that "*Fish passage can be maintained when a splash crossing is installed or if appropriately sized culverts are installed. For a splash crossing it is necessary though than the top (driving) surface of the concrete is the same as the natural bed level of the creek. Consistent with Fisheries NSW policy and guidelines on waterway crossings if the proponent choses to install a splash crossing the height of the proposed invert will be closely assessed against the natural bed of the waterway to ensure that fish passage is provided."*

We have also discussed the use of splash crossings with Council officers who have advised that splash crossings may be considered as an alternative to culverts.

We believe that the splash crossing is a suitable alternative to installing a series of culverts at the crossing for the following reasons:

- There will be no obstruction to flow velocities;
- A splash crossing satisfies Fisheries NSW requirements for fish passage identified in the publication *Why DO Fish Need TO Cross the Road? Fish Passage Requirements for Waterway Crossings*; and
- It is a less expensive option and therefore more economically sustainable in the longer term.

We therefore propose that condition 19 (f) and (g) be reworded to allow for flexibility in the design/construction of drainage line crossings which would allow for a splash crossing or a culvert crossing. Recommended amendments to condition 19 (f) and (g) are provided below:

(f) Stormwater drainage culvert road crossings are to be designed to comply with Fisheries NSW requirements for fish passage identified in the publication *Why DO Fish Need TO Cross the Road? Fish Passage Requirements for Waterway Crossings*.

(g) The existing causeway at Copes Creek, on Boundary Creek Forest Road, is to be upgraded to either a culvert crossing that provides a minimum 1 in 20 year Average Recurrence Interval (ARI) road immunity against flood and drainage flows or a concrete splash crossing designed in accordance with Fisheries NSW requirements for fish passage identified in the publication *Why DO Fish Need TO Cross the Road? Fish Passage Requirements for Waterway Crossings*. Water depth markers and road edge guide posts are to be provided. Copes Creek is a third order stream.

Comments and approval for any construction works are required from the NSW Department of Primary Industries – Fishing and Aquaculture.

1.2.3 Relocation of Access to the Quarry and Adjustments to Internal Quarry Layout

The proposed modification seeks to amend DA2014/0024 to change the location of the quarry access from Boundary Creek Forest Road. The new access will better service the operations of the quarry and will is considered a better location in terms of road safety. Further details including plans of the new access location are provided in **Section 2**. The new access location has also necessitated minor adjustments to the quarry layout and also to proposed stages 1 – 3. These adjustments are discussed in **Section 2.5**.

1.3 Addendum EIS Structure

This report is to be read in conjunction with the original EIS report (GeoLINK 2014). Report sections are numbered to correspond with the original EIS to allow for easy cross reference. It is stated at the start of each section whether the text is additional information or environmental assessment, an amendment or supersedes the information in the original EIS. In the event of any inconsistency between this report and the original EIS for the Nymboida Quarry, this report shall prevail to the extent of the inconsistency.

2. Description of Proposal

2.2 Description of the Proposal

Amendment:

This addendum amends **Sections 2.5 and 2.6** of the original EIS which relate to the staging of the extraction rates of the quarry and also the Quarry Plan.

2.5 Quarry Plan

The proposed new access point has necessitated some minor adjustments to the quarry plan. These adjustments are shown in **Illustration 2.3** which has been updated as part of this Addendum EIS. The location and design of the new access is shown in **Appendix B1.** The overall quarry plan and footprint is shown in **Illustration 2.4**.

2.6 Staging

2.6.1 Summary of Staging

Table 2.2 in the original EIS provided a summary of the proposed staging for the quarry in regard to staging, Annual Extraction Rates and Truck Movements. The areas/location of each stage would remain the same as part of the proposed modification. However the maximum annual extraction rates will increase to a maximum of 200,000 tonnes per annum at the start of the project and continue right through to the end of the project.

Area 1 has three separate stages/ areas of extraction with a total extractive volume estimated to be 660,000 bcm (1.65 million tonnes). At an extraction rate of 200,000 tonnes per annum, the life of Area 1 will be approximately 10 years. **Table 2.2** below provides a summary of the proposed new staging for the quarry.

Table 2.2 Staging, Annual Extraction Rates and Truck Movements

Stage	*Estimated Year of extraction*	*Total BCM*	*Bank Cubic Metres Per Annum*	*Tonnes Per Annum*	*Average Daily Truck Loads*	*Maximum Daily Truck loads*
Area 1						
1	1-2	70,000	80,000	200,000	22 (44 Movements)	50 (100 movements)
2	1-3	150,000	80,000	200,000	22 (44 Movements)	50 (100 movements)
3	3-10	400,000	80,000	200,000	22 (44 Movements)	50 (100 movements)

Stage	Estimated Year of extraction	Total BCM	Bank Cubic Metres Per Annum	Tonnes Per Annum	Average Daily Truck Loads	Maximum Daily Truck loads
Area 2 (subject to further geotechnical investigation)						
4	10 – 25	Between 800,000 – 1,300,000	80,000	200,000	22 (44 Movements)	50 (100 movements)

2.6.2 Detail Description of Staging

The proposed quarry will be developed in the following stages:

Stage 1 – Commencement of development of Area 1

This stage will involve:

- expansion of the quarry as shown in **Illustration 2.3** of the original EIS;
- extension down to the 450 m AHD;
- development of ramp access from the west and east as indicated in **Illustration 2.3** of the original EIS;
- stripping part of the site of vegetation and disposal of waste materials;
- excavation, extraction and crushing of an estimated 200,000 tonnes of extractive material by mechanical and blasting methods;
- stockpiling of material;
- installation of erosion and sedimentation works as and when required in accordance with the approved erosion and sedimentation plan;
- installation of water quality control measures;
- crushing and processing of material on site via a mobile crusher;
- transportation of a maximum of 200,000 tonnes of quarry material from the site [average of 22 daily loads (44 movements) with a maximum of 50 loads/ 100 truck movements per day]; and
- rehabilitation works.

Stage 2 – Continued development of Area 1

This stage will involve:

- expansion of the quarry as shown in **Illustration 2.3** of the original EIS;
- extension of the quarry floor down to 435 m;
- excavation, extraction and crushing of an estimated 200,000 tonnes of extractive material by mechanical and blasting methods;
- stripping part of the site of vegetation and disposal of waste materials;
- excavation and extraction works by mechanical and blasting methods;
- stockpiling of material;
- installation of erosion and sedimentation works as and when required in accordance with the approved erosion and sedimentation plan;
- installation of water quality control measures;

- crushing and processing of material on site;
- transportation of a maximum of 200,000 tonnes of quarry material from the site [average of 22 daily loads (44 movements) with a maximum of 50 loads/ 100 truck movements per day]; and
- rehabilitation works.

Stage 3 Full Development of Area 1

This stage will involve:

- expansion of the quarry as shown in **Illustration 2.3** of the original EIS;
- extension of the quarry floor down to 435 m;
- excavation, extraction and crushing of an estimated 200,000 tonnes of extractive material by mechanical and blasting methods;
- stripping part of the site of vegetation and disposal of waste materials;
- excavation and extraction works by mechanical and blasting methods;
- stockpiling of material;
- installation of erosion and sedimentation works as and when required in accordance with the approved erosion and sedimentation plan;
- installation of water quality control measures;
- crushing and processing of material on site;
- transportation of a maximum of 200,000 tonnes of quarry material from the site [average of 22 daily loads (44 movements) with a maximum of 50 loads/ 100 truck movements per day]; and
- rehabilitation works.

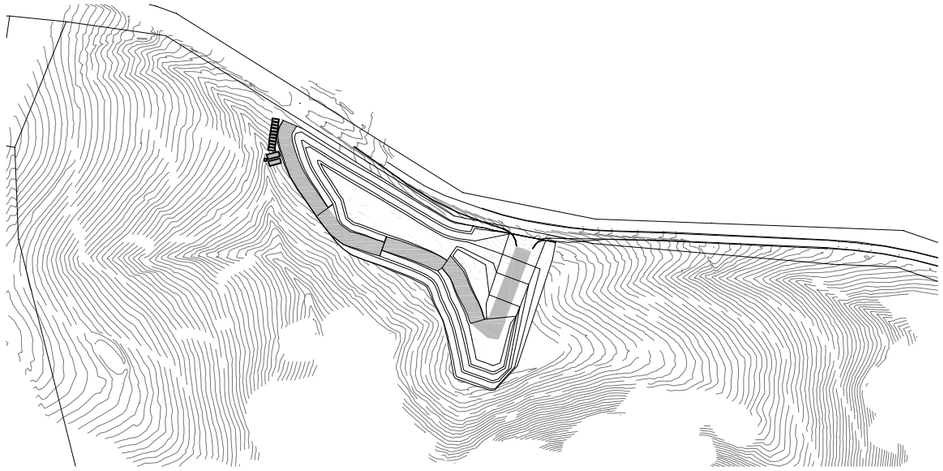
Stage 4: Development and Quarrying of Area 2

Area 2 has the potential to provide an additional 1.3 million bcm of extractive resources. At this stage the quarry plan for **Area 2** is subject to further geological investigation to determine full extent of the resource. The Staged Development Application for the quarry proposes that this component (Stage 4) of the quarry be subject to a separate development application pursuant to the provisions of clause 83B of the EP&A Act 1979. Details of the proposed stages are outlined in **Section 2.7** of the original EIS. This stage will involve:

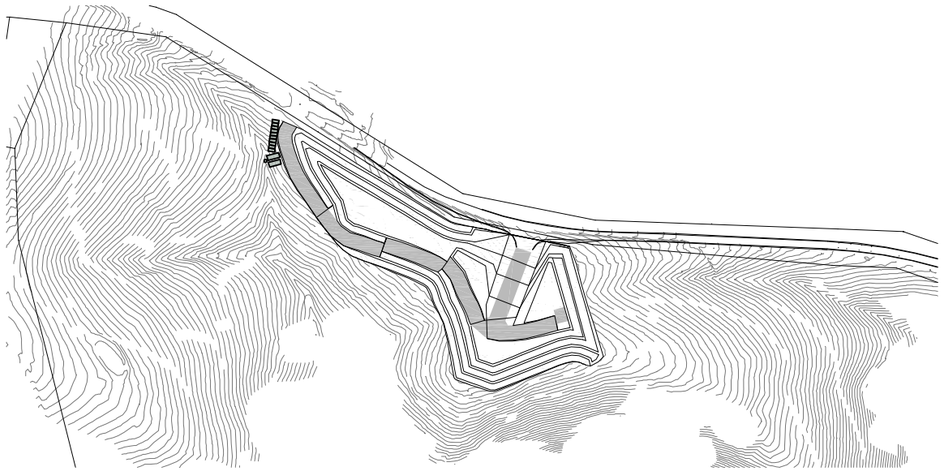
- stripping part of the site of vegetation and disposal of waste materials;
- development of the quarry as shown in **Illustration 2.3** of the original EIS;
- excavation, extraction and crushing of an estimated 200,000 tonnes of extractive material by mechanical and blasting methods;
- excavation and extraction works by mechanical and blasting methods;
- stockpiling of material;
- installation of erosion and sedimentation works as and when required in accordance with the approved erosion and sedimentation plan;
- crushing and processing of material on site;
- transportation of quarry material from the site [average of 22 daily loads (44 movements) with a maximum of 50 loads/ 100 truck movements per day]; and
- rehabilitation works.

Information shown is for illustrative purposes only

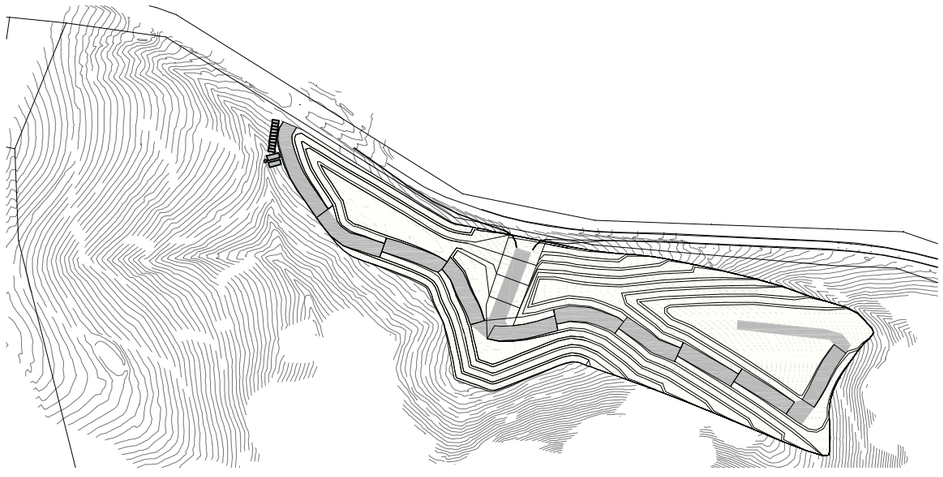
Drawn by: RE Checked by: GJM Reviewed by: SDW Date: 17/07/15
Source of base data: Gordon Atkinsons and Associates



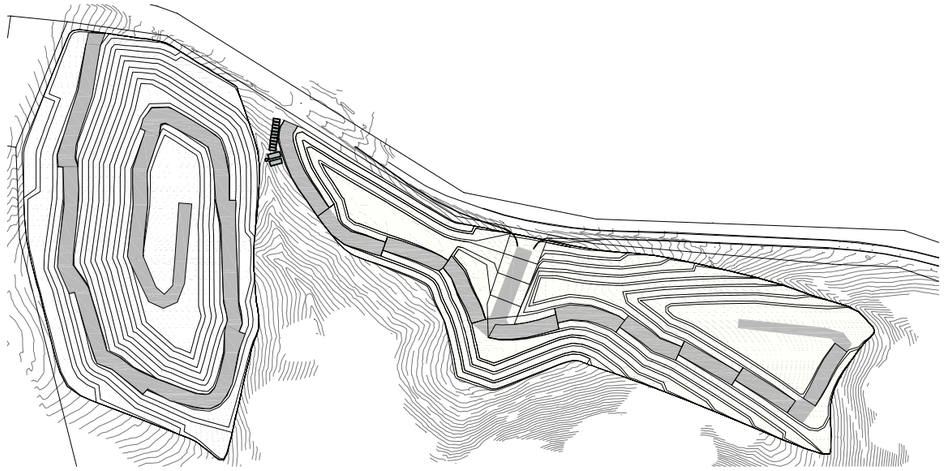
Stage 1



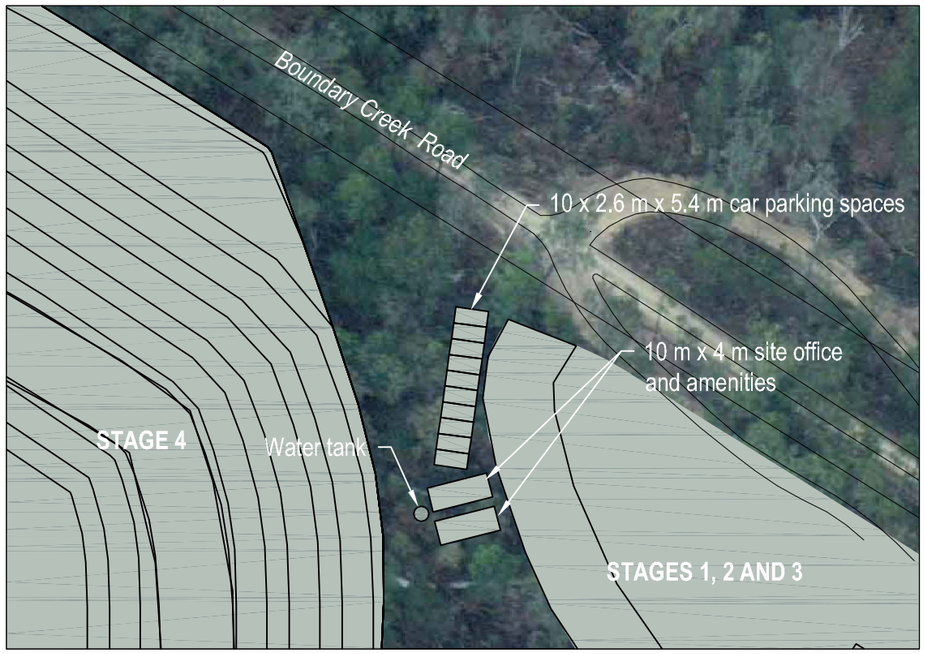
Stage 2



Stage 3



Stage 4



On-Site Facilities

North

0 100

GeoLINK environmental management and design

Environmental Impact Statement: Nymboida Quarry, Nymboida
1935-1079

Quarry Plan

Illustration 2.3

Information shown is for illustrative purposes only

Drawn by: RE Checked by: SJW Reviewed by: SJW Date: 17/07/15
Source of base data: Bothamley and O'Donohue

0 50

North

GeoLINK environmental management and design

Environmental Impact Statement: Nymboida Quarry, Nymboida
1935-1078

Quarry Footprint

Illustration 2.4

2.11 Transport

Amendment:

This addendum amends **Section 2.11** of the original EIS which relates to the traffic generation movements of the quarry.

2.11.2 Traffic Generation and Movements

For this project the potential traffic generation will be driven by the product demand, stockpile location and permissible business operating hours. The proposal is for:

- 4.9 million tonnes of material to be extracted over the life of the quarry;
- an estimated quarry life of 25 years;
- a maximum extraction of 80,000 bank cubic metres (bcm)/ 200,000 tonnes of material per annum;
- haulage to be undertaken by truck and trailer with a 27 - 32 (average 30) tonne payload;
- general haulage times to be between 7 am to 5 pm Monday to Friday and 8 am to 1 pm on Saturday; and
- a maximum of 302 haulage days available per annum (including Saturdays and excluding public holidays and Sundays).

The proposed staging scenario for the quarry in terms of material extracted per annum and daily truck movements is outlined in **Table 2.2**.

6. Soil and Water

6.3 Assessment and Design

Amendment and Additional Assessment:

This addendum amends **Section 6.3.3** and **6.3.4** of the original EIS which relate to the soil and water management strategy and water balance. The water balance has been recalculated based on the adjustments to the quarry layout as a result of the access relocation.

6.3.3 Soil and Water Management Strategy

The new proposed access to the quarry has necessitated some minor adjustments to the quarry plan and also to the soil and water management strategy. These adjustments are shown in amended **Illustration 6.1**. The proposed quarry would incorporate best practice soil and water management measures including appropriate scheduling of works, implementation of sediment controls and management of stockpiles.

In accordance with Section 6.2.1 of *Managing Urban Stormwater: Soils and Construction: Volume 2E Mines and quarries*, surface water runoff from the disturbed area of the quarry would be internally contained and directed to stormwater collection sumps located within the advancing active pit void. In this way, the sumps and the surrounding pit void would be utilised as sediment basins. Section 6.2.1 states that water balance modelling with a daily time-step over a reasonable period (e.g. 10 years) should be undertaken to estimate the likely average annual overflow frequency from the internal storage. The average annual overflow frequency should not exceed the relevant frequency listed in Table 6.3, which in this case is one spill per year.

The estimated annual soil loss has been calculated using the Revised Universal Soil Loss Equation (RUSLE). An estimate of 28 tonnes of soil loss per hectare per year, or approximately 22 m³ of soil per hectare per year has been calculated. With a maximum disturbed catchment of 2.7 ha for Area 1, the predicted soil loss is 59 m³ per year. For Area 2, with a maximum disturbed catchment of 5.3 ha, the predicted soil loss is 117 m³ per year. This rate of accumulation of sediment in the stormwater collection sumps can be readily managed by monitoring and, if necessary, periodic dewatering and desilting.

The estimated annual soil loss has been calculated using the Revised Universal Soil Loss Equation (RUSLE). An estimate of 28 tonnes of soil loss per hectare per year, or approximately 22 m³ of soil per hectare per year has been calculated. With a maximum disturbed catchment of 3.4 ha for Area 1, the predicted soil loss is 75 m³ per year. For Area 2, with a maximum disturbed catchment of 5.3 ha, the predicted soil loss is 117 m³ per year. This rate of accumulation of sediment in the stormwater collection sumps can be readily managed by monitoring and, if necessary, periodic dewatering and desilting.

6.3.4 Water Balance

A water balance model was established to:

1. confirm that the average annual overflow frequency from the quarry pit would not exceed one per year; and
2. estimate the proportion of water that would infiltrate/ evaporate/ discharge etc.

The water balance model is a Microsoft Excel spreadsheet that utilises historical daily rainfall data to compute stormwater runoff, evaporation from storages, reuse for dust suppression/ irrigation/ wheel wash, controlled discharges and uncontrolled overflows. The model uses 18 years of rainfall data from 1940 to 1957. This period was selected because it has a good match with the long term average annual rainfall and the data set was complete.

For the purposes of the site water balance, rainfall is the only input. Some of the rain that falls on the site evaporates, some infiltrates, and the remainder becomes stormwater runoff. Any surface runoff that comes in contact with un-vegetated areas of the site would be diverted into the proposed stormwater collection sumps. The sumps would facilitate settlement of suspended sediment prior to reuse or discharge of the collected water. There would be some evaporation of water from the stormwater collection sumps. Water collected in the sumps may be reused for any or all of the following:

- replenishment of water in the truck wheel wash;
- suppression of dust within the quarry, on stockpiles and alongside haul roads; and
- irrigation of vegetation within rehabilitated areas and stockpiles.

The stormwater collection sumps would be managed in the same manner as a sediment basin for Type D or F soils (as per Blue Book classifications). The objective would be to empty the sump within 5 days of runoff into the basin ceasing. If extraction of water for the reuse activities listed above is insufficient to empty the basin, the remaining water would be tested for compliance with the objectives listed in Table 6.2, treated if necessary, and then released from the site. If additional surface runoff enters the basin within the 5 day period, the 5 day period would recommence.

'Clean' runoff from undisturbed upslope areas and revegetated areas would be diverted around the quarry site by diversion banks. Therefore, runoff from these has not been included in the site water balance.

The following assumptions were adopted for the water balance model:

- quantity of water required for wheel wash: 10 kL/week
- average application rate for dust suppression: 5 mm/d
- average application rate for irrigation: 5 mm/d
- trigger for no dust suppression or irrigation: 5 mm of rainfall in previous 24hr period or 15 mm of rainfall in previous 3 days
- revegetation area being irrigated at any time: 2000 m²

The application rate for dust suppression and irrigation of revegetation areas is scaled by a monthly scaling factor that is based on the evaporation rate. The volumetric runoff coefficient varies based on the quantity of rainfall, as per Table F2 of *Managing Urban Stormwater: Soils and Construction: Volume 1*.

The water balance does not include potable water and effluent. These water streams, which constitute relatively small volumes, are discussed further below. As discussed in Section 6.2.3, the proposed quarry is predicted to intercept groundwater and there is the possibility of groundwater seepage into the quarry pit. However, any groundwater inflows are expected to be small and, as such, have also been excluded from the water balance.

Site water balances have been prepared for each of the key stages of the proposed quarry (refer to **Illustration 6.1**) and these are described in the following sections.

In each case, the quantity listed as the 'storage volume of sump and quarry pit' is the minimum storage volume required to ensure the average annual overflow frequency doesn't exceed the threshold. The storage volume would comprise the volume of the stormwater collection sump and a temporary ponding volume within the adjacent quarry pit. To avoid regular inundation of the adjacent quarry pit, a practical approach would be to ensure the stormwater collection sump had a volume equal to at least 40 % of the required storage volume (e.g. >800 kL for Stage 1). In reality, the available storage volume within the quarry pit would often far exceed the minimum volume required. A key objective of the water balance modelling was to determine the minimum storage volume that would need to be provided for each stage.

6.3.4.2 Stage 1

For Stage 1, the relevant inputs to the water balance model are as follows:

- area for dust suppression: 0.42 ha (area of haul roads);
- unvegetated area that generates surface runoff: 1.8 ha
- surface area of stormwater collection sump: 400 m²
- storage volume of sump and quarry pit: 2,000 kL

The site water balance for Stage 1 is presented in **Table 6.3** and a chart showing the frequency of uncontrolled overflows during the simulation period is presented in **Figure 6.1**. The average annual overflow frequency is one spill per year (rounded down from 1.4).

Table 6.3 Stage 1 Water Balance

Water Stream	***Volume (ML/yr.)***
Rainfall	19.2
Total Inflow	**19.2**
Infiltration & evaporation	9.0
Reuse (dust suppression / irrigation / wheel wash)	2.1
Evaporation from stormwater collection sump	0.3
Controlled discharge from sump	6.4
Uncontrolled overflow from sump / quarry pit	1.4
Total Outflow	**19.2**

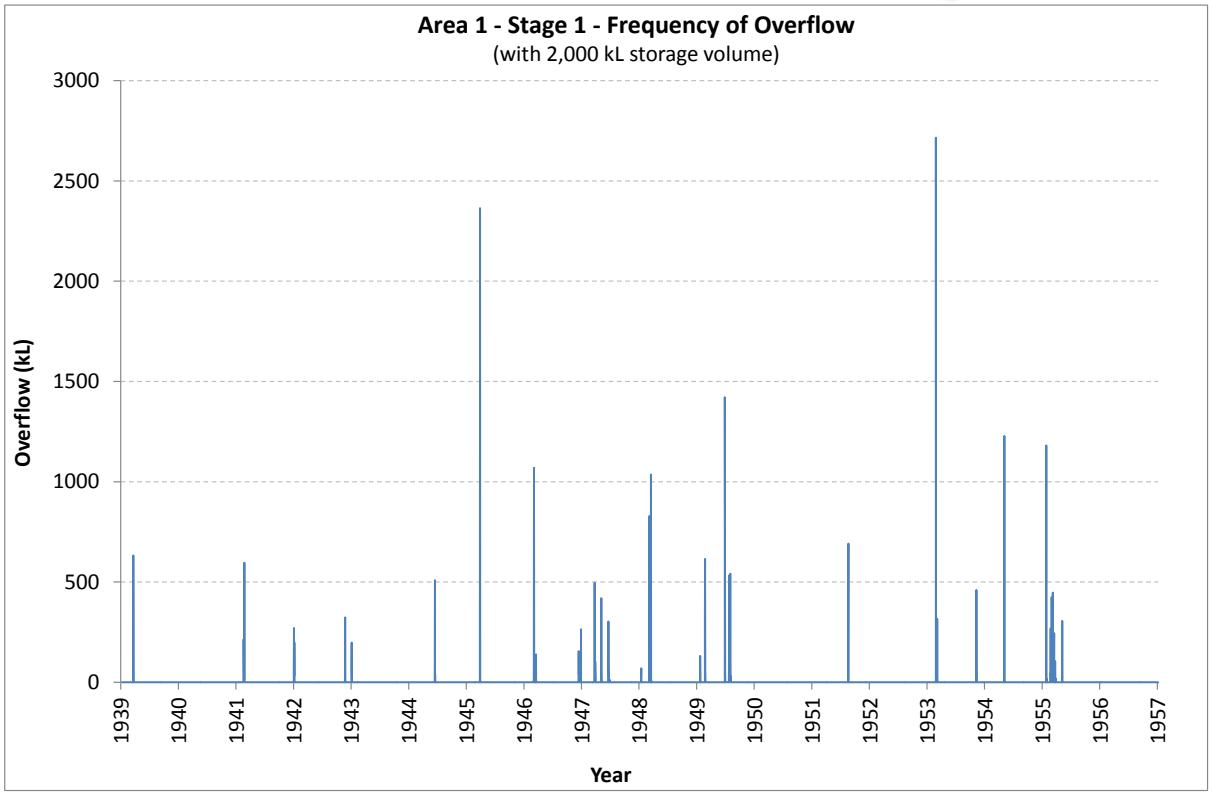


Figure 6.1 Stage 1 Overflow Frequency

6.3.4.3 Stage 2

For Stage 2, the relevant inputs to the water balance model are as follows:

- area for dust suppression and irrigation: 0.68 ha (area of haul roads + 2,000 m²);
- unvegetated area that generates surface runoff: 1.3ha
- surface area of stormwater collection sump: 300 m²
- storage volume of sump and quarry pit: 1,500 kL

The site water balance for Stage 2 is presented in **Table 6.4** and a chart showing the frequency of uncontrolled overflows during the simulation period is presented in **Figure 6.2**. The average annual overflow frequency is one spill per year (rounded down from 1.5).

Table 6.4 Stage 2 Water Balance

Water Stream	***Volume (ML/yr.)***
Rainfall	13.8
Total Inflow	**13.8**
Infiltration & evaporation	6.5
Reuse (dust suppression / irrigation / wheel wash)	2.6
Evaporation from stormwater collection sump	0.2
Controlled discharge from sump	3.7
Uncontrolled overflow from sump / quarry pit	0.8
Total Outflow	**13.8**

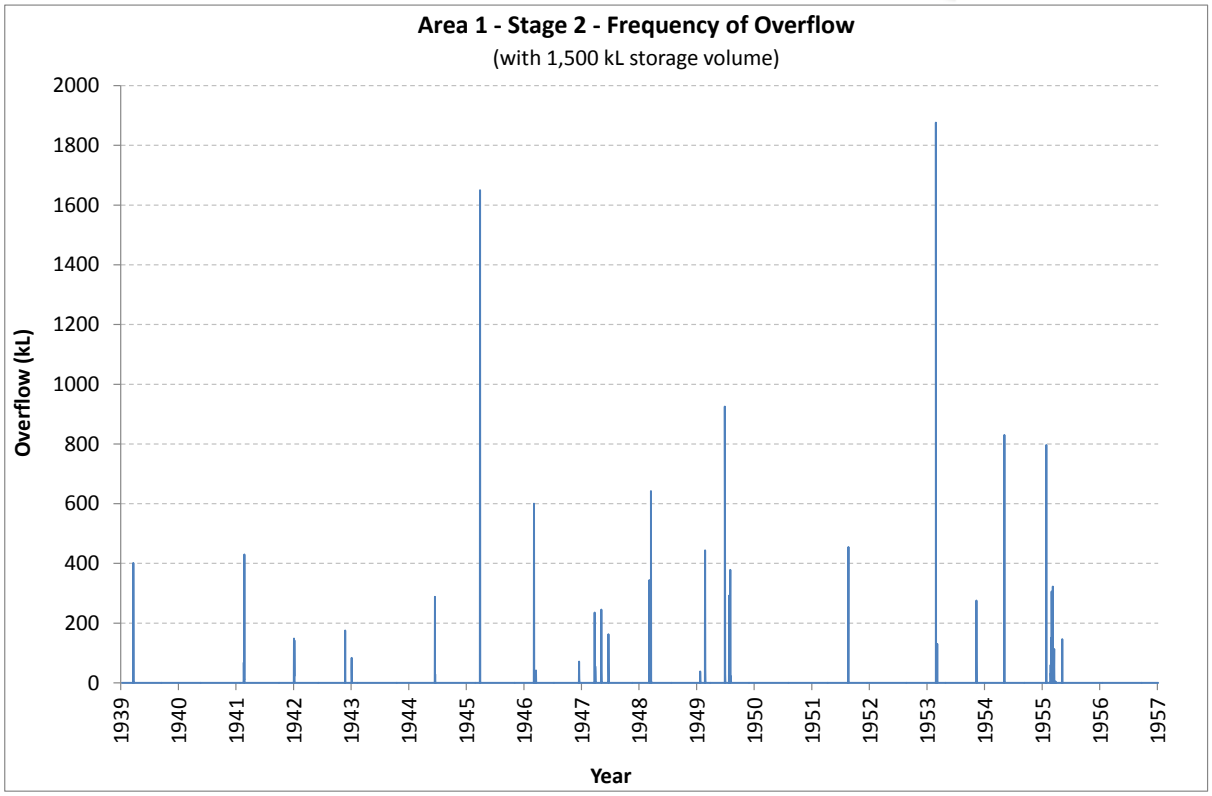


Figure 6.2 Stage 2 Overflow Frequency

6.3.4.4 Stage 3

For Stage 3, the relevant inputs to the water balance model are as follows:

- area for dust suppression and irrigation: 1.09 ha (area of haul roads + 2,000 m²);
- unvegetated area that generates surface runoff: 3.4 ha
- surface area of stormwater collection sump: 750 m²
- storage volume of sump and quarry pit: 3,750 kL

The site water balance for Stage 3 is presented in **Table 6.5** and a chart showing the frequency of uncontrolled overflows during the simulation period is presented in **Figure 6.3**. The average annual overflow frequency is one spill per year (rounded down from 1.4).

Table 6.5 Stage 3 Water Balance

Water Stream	***Volume (ML/yr.)***
Rainfall	35.8
Total Inflow	**35.8**
Infiltration & evaporation	16.7
Reuse (dust suppression / irrigation / wheel wash)	4.7
Evaporation from stormwater collection sump	0.6
Controlled discharge from sump	11.1
Uncontrolled overflow from sump / quarry pit	2.7
Total Outflow	**35.8**

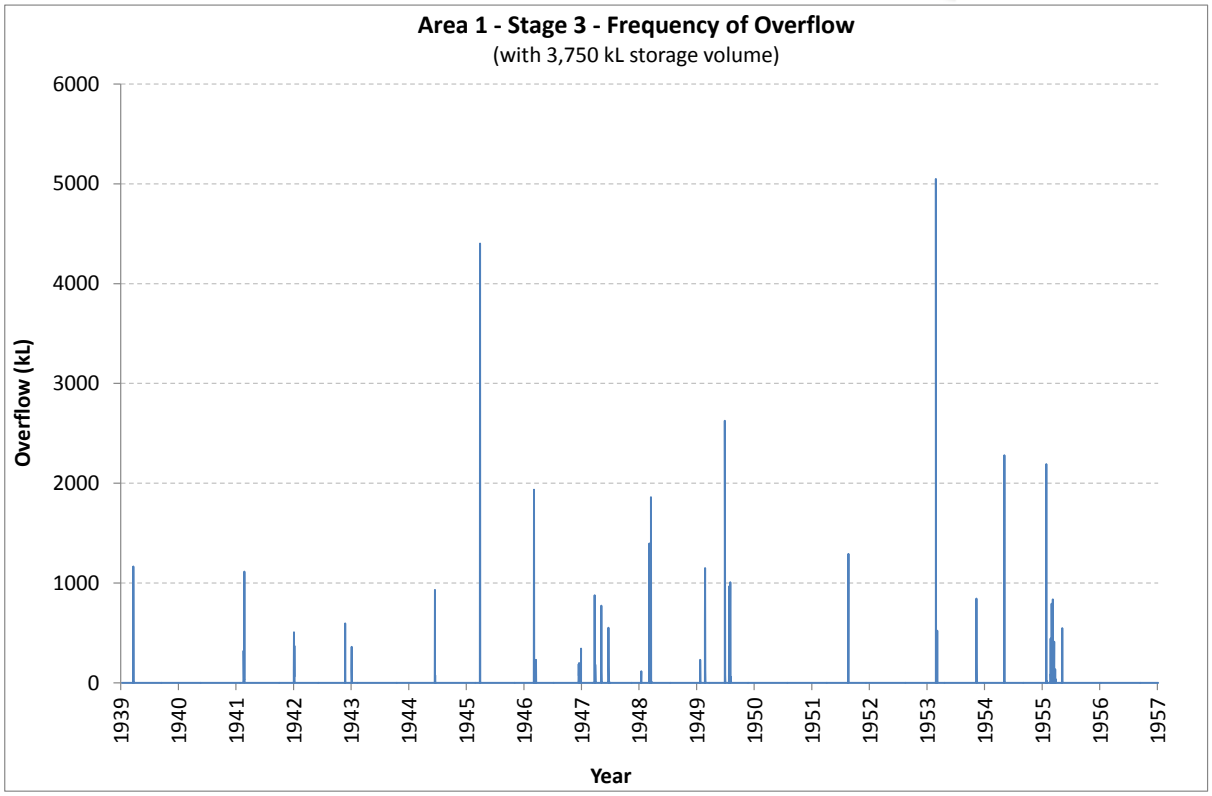
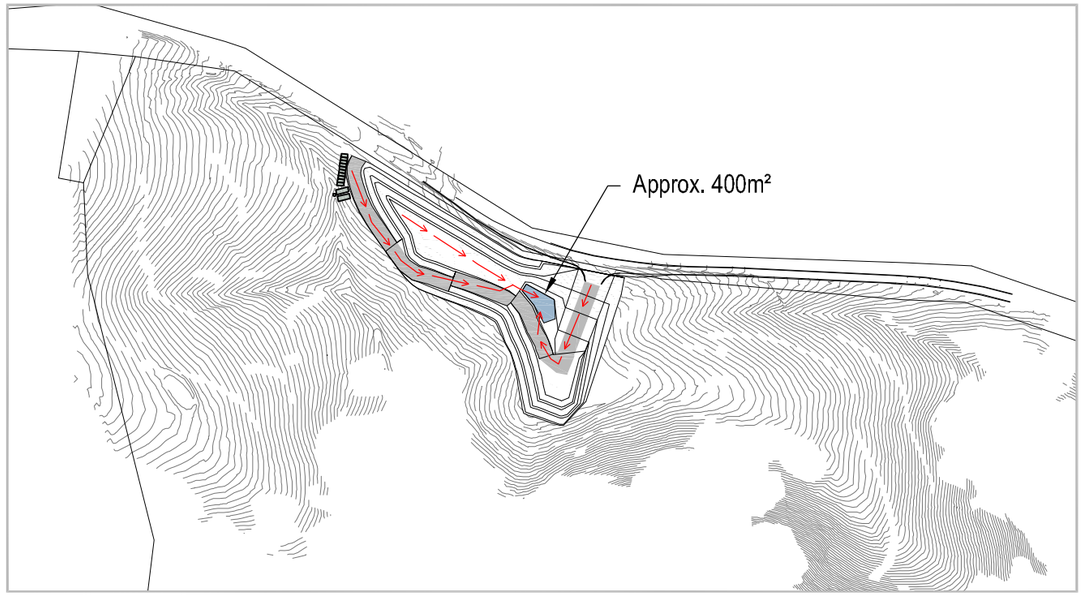


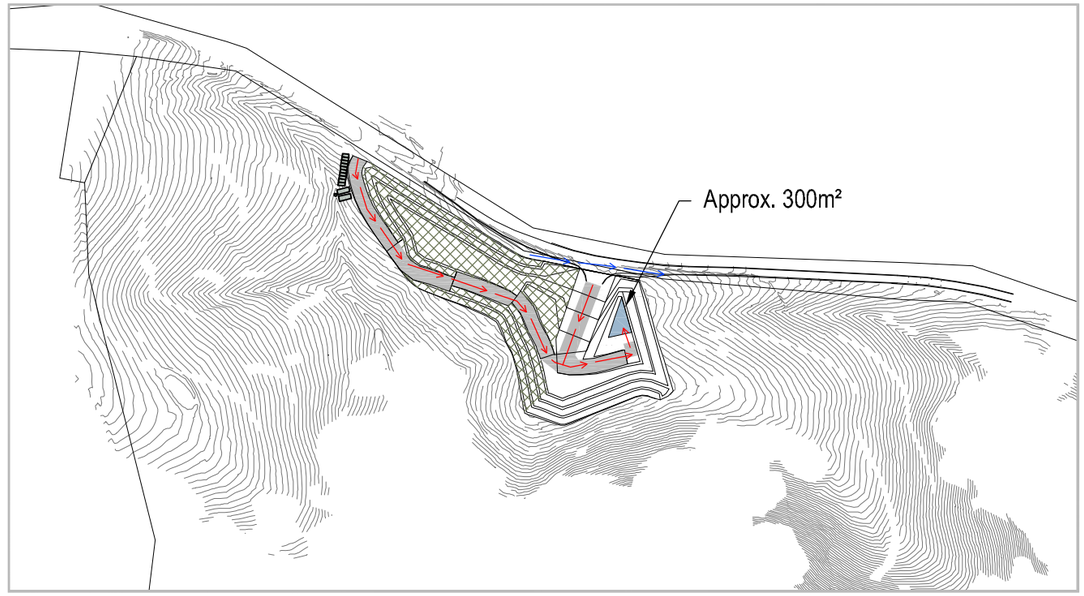
Figure 6.3 Stage 3 Overflow Frequency

Information shown is for illustrative purposes only

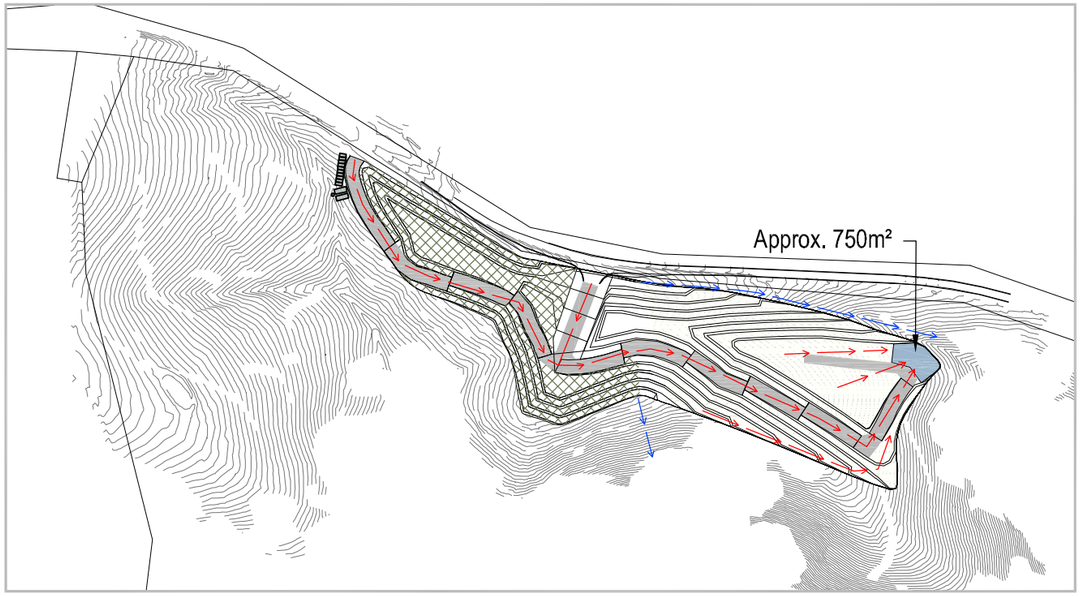
Drawn by: RE Checked by: GJM Reviewed by: SDW Date: 22/07/15
Source of base data: Gordon Atkinsons and Associates



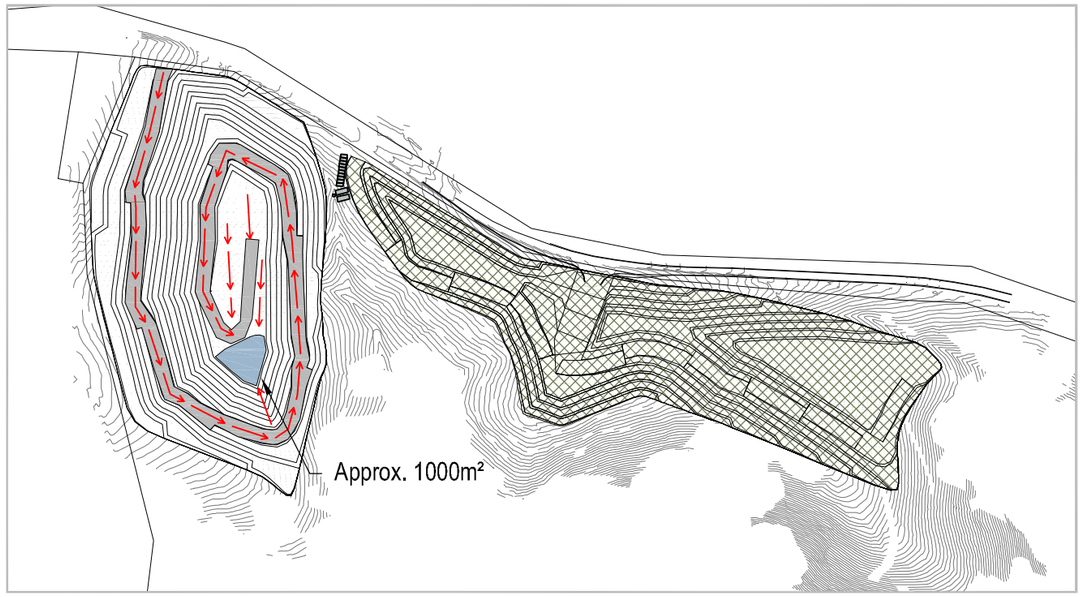
Stage 1



Stage 2



Stage 3



Stage 4

LEGEND

- Haul road
- Revegetation area
- Flow direction of 'dirty' water from quarry
- Flow direction of 'clean' water from revegetation areas
- Stormwater collection sump

0 100

North

GeoLINK environmental management and design

Environmental Impact Statement: Nymboida Quarry, Nymboida
1935-1080

Soil and Water Management Strategy

Illustration 6.1

7. Biodiversity

7.2 Fisheries Assessment

Amendment and Additional Assessment:

This addendum amends **Section 7.2.4** and **7.2.5** of the original EIS which relate to the type of crossing proposed at Copes Creek and the ecological impacts of that crossing.

7.2.4 Legislative Requirements

7.2.4.3 Sections 218-220 of FM Act – Obstructing Free Passage of Fish in Waterways

As described in **Section 7.2.1**, of the original EIS at the site Copes Creek flows intermittently depending on seasonal conditions. Consequently, fish passage is naturally obstructed during low flow events where Copes Creek is reduced to isolated pools. The existing waterway crossing consists of a gravel causeway which is an obstruction to fish passage during low flow periods.

The upgrade of this waterway crossing originally proposed the installation of a culvert, allowing for improved fish passage. Discussions have been held with Mr Patrick Dwyer, Regional Assessment Officer (North) Aquaculture & Aquatic Environment, Primary Industries NSW, regarding the use of a splash crossing instead of culvert system where Boundary Creek Forest Road crosses Copes Creek. Patrick has advised that "*Fish passage can be maintained when a splash crossing is installed or if appropriately sized culverts are installed. For a splash crossing it is necessary though than the top (driving) surface of the concrete is the same as the natural bed level of the creek. Consistent with Fisheries NSW policy and guidelines on waterway crossings if the proponent choses to install a splash crossing the height of the proposed invert will be closely assessed against the natural bed of the waterway to ensure that fish passage is provided.*"

We have also discussed the use of splash crossings with Council officers who have advised that splash crossings may be considered as an alternate to the installation of culverts.

It is considered that the splash crossing is a suitable alternative for the following reasons:

- There will be no obstruction to flow velocities;
- A splash crossing satisfies Fisheries NSW requirements for fish passage identified in the publication Why DO Fish Need TO Cross the Road? Fish Passage Requirements for Waterway Crossings; and
- It is a less expensive option and therefore more economically sustainable in the longer term.

Effective implementation of the safeguards detailed in **Section 7.2.5** would ensure that fish passage is not obstructed by the proposed works.

7.2.5 Recommended Safeguards

The following safeguards would be implemented to ensure that fish passage is not obstructed by the proposed works:

- This crossing at Copes Creek would be constructed in accordance with requirements on fish passage in the Fisheries document '*Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings*' (Fairfull and Witheridge 2003); and
- Works would also be timed to coincide with periods of low flow in Copes Creek.

7.3 Assessment of Ecological Impacts of New Access

An additional ecological assessment was carried out of vegetation within the Boundary of Creek Forest Road Reserve to determine ecological impacts of the proposed new access location. Ecologist, Mr Terry Tweedie assessed the site on Friday 10 July 2015. A plan showing the extent of the vegetation removal likely to be required within the road reserve was provided to Mr Tweedie to assist him in his assessment. This plan is attached as **Attachment B1**. It should be noted that all vegetation removal for the works required within the quarry site has already been approved under DA2014/0024 Nymboida Quarry. Mr Tweedie's assessment of ecological impacts is provided below:

'The section that was assessed for Threatened Species was located within the area shaded green as per your Relocated Quarry Entrance Design Map. The footprint was two metres from the top of the cut batters on the Southern or quarry side and North East side of Boundary Creek Road was two metres from the top of the fill.

The dominant tree species located here were, Spotted Gum (Corymbia maculata), Northern Grey Ironbark (Eucalyptus siderophloia), Broad Leaved White Mahogany (E. umbra), Large Fruited Grey Gum (E. punctata), and Forest Red Gum (E. tereticornis). The mid to lower strata were common species of wattles, Grass Trees, Forest Oak and Blady Grass along with various common species of herbs and vines consistent with Dry Open Eucalyptus forests.

No Threatened Species were located within the footprint of the area assessed.

There were a total of 108 trees located on the north east side of Boundary Creek Road to be cleared and 114 trees located in the footprint of the area to be cleared on the Southern side adjacent to the Quarry site clearing. Approximately 50% of the trees to be cleared are Spotted Gum. The trees vary in size from 5 cm DBH to approximately 50 cm DBH.

In view of the fact that there was no Threatened Species located there will be no significant impact on the ecology of the area to be cleared. All common species are quite dominant throughout the North Coast and therefore will also have no significant impact on the ecology of the forest.

All trees to be removed appear to be Regrowth trees. No Hollow bearing trees occur in the footprint."

9. Traffic and Transport

9.3 Traffic Generation

Amendment and Additional Assessment:

This addendum amends **Section 9.3** of the original EIS which relates to the traffic generation movements of the quarry and assesses the environmental impacts of the proposed amendment.

The proposed modification seeks to alter the staging of the quarry to extract material at this rate at the commencement of operations (refer **Section 2.6** of this addendum). The proposed staging scenario for the quarry in terms of material extracted per annum and daily truck movements is outlined in **Table 2.2.**

The original EIS and Traffic Impact Assessment (TIA) assessed the impacts on traffic at the maximum transportation of 200,000 tonnes of quarry material per annum with an average of 22 daily loads (44 movements) with a maximum of 50 loads (100 truck movements) per day. The approved infrastructure works in the development consent, including the upgrading of Boundary Creek Road and Boundary Creek Forest Road and the intersection of Armidale Road, were all based on the quarry operating at full capacity

The original Traffic Impact Assessment (TIA) for the quarry assessed traffic impacts from the development as if it was operating at full capacity. .

Based on their being no substantial changes to the traffic generating parameters as a result of the proposed amendment to the staging and taking into consideration the approved upgrades to the transport network, it is considered that the proposal will not adversely impact on the existing road network.

16. Quarry Closure and Rehabilitation

16.1 Rehabilitation

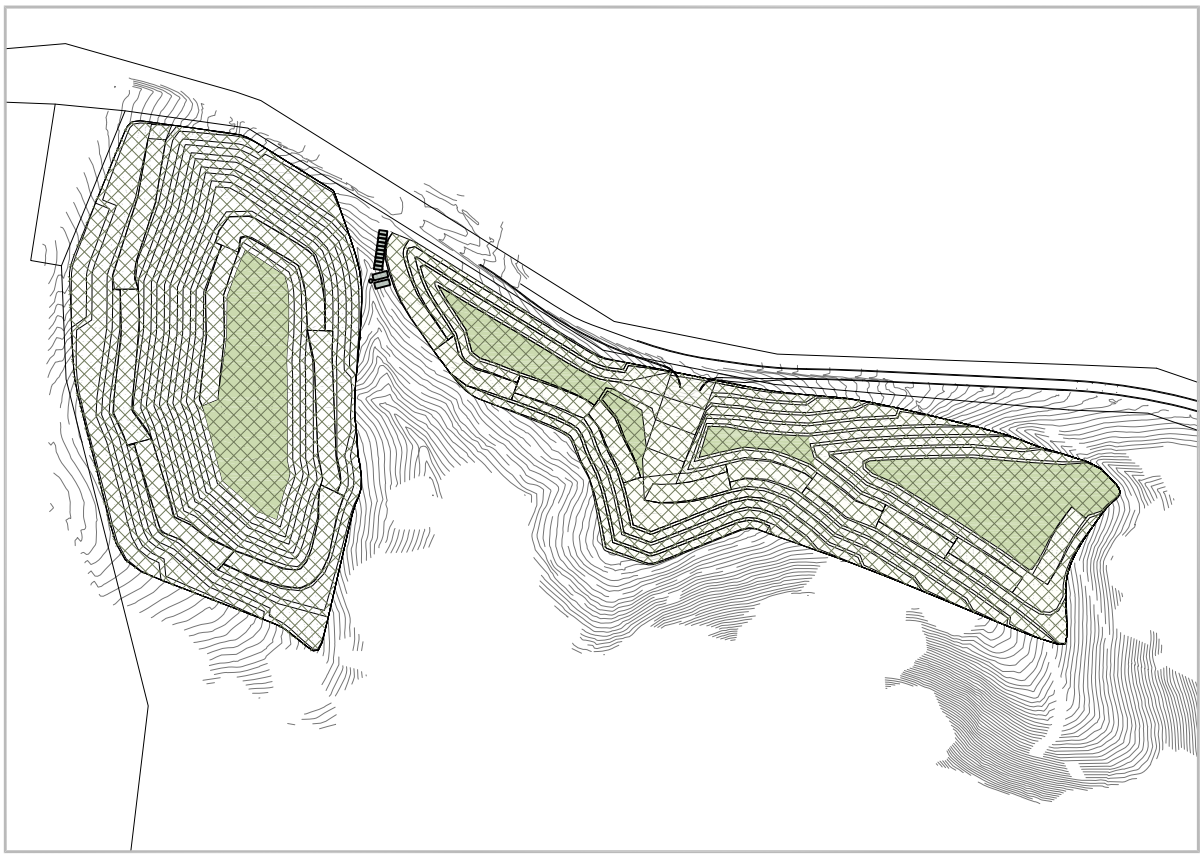
Amendment to Illustration 16.1:

The adjustments to the quarry access and plan (refer **Section 2.5**) have necessitated amendments to the rehabilitation plan. This amended rehabilitation plan is shown in **Illustration 16.1.**

Drawn by: RE Checked by: GJM Reviewed by: SDW Date: 17/07/15

Information shown is for illustrative purposes only

Source of base data: Coffs Harbour City Council



LEGEND

Contours at 1 metre intervals

Progressively topsoil and seed quarry floor

Berm and batter rehabilitation
(refer to **Illustration 16.2** for more details)

North

0 100

Rehabilitation Layout Plan

19. Conclusion

19.5 Justification and Conclusion

Additional Information:

The proposed modification to the development consent seeks to amend:

- the staging of extraction rates of the quarry which will enable the quarry to operate at full capacity at commencement of operations.
- the design of the Copes Creek crossing from a culvert to a splash crossing; and
- the location of the access to the quarry and make some associated adjustments to the quarry layout.

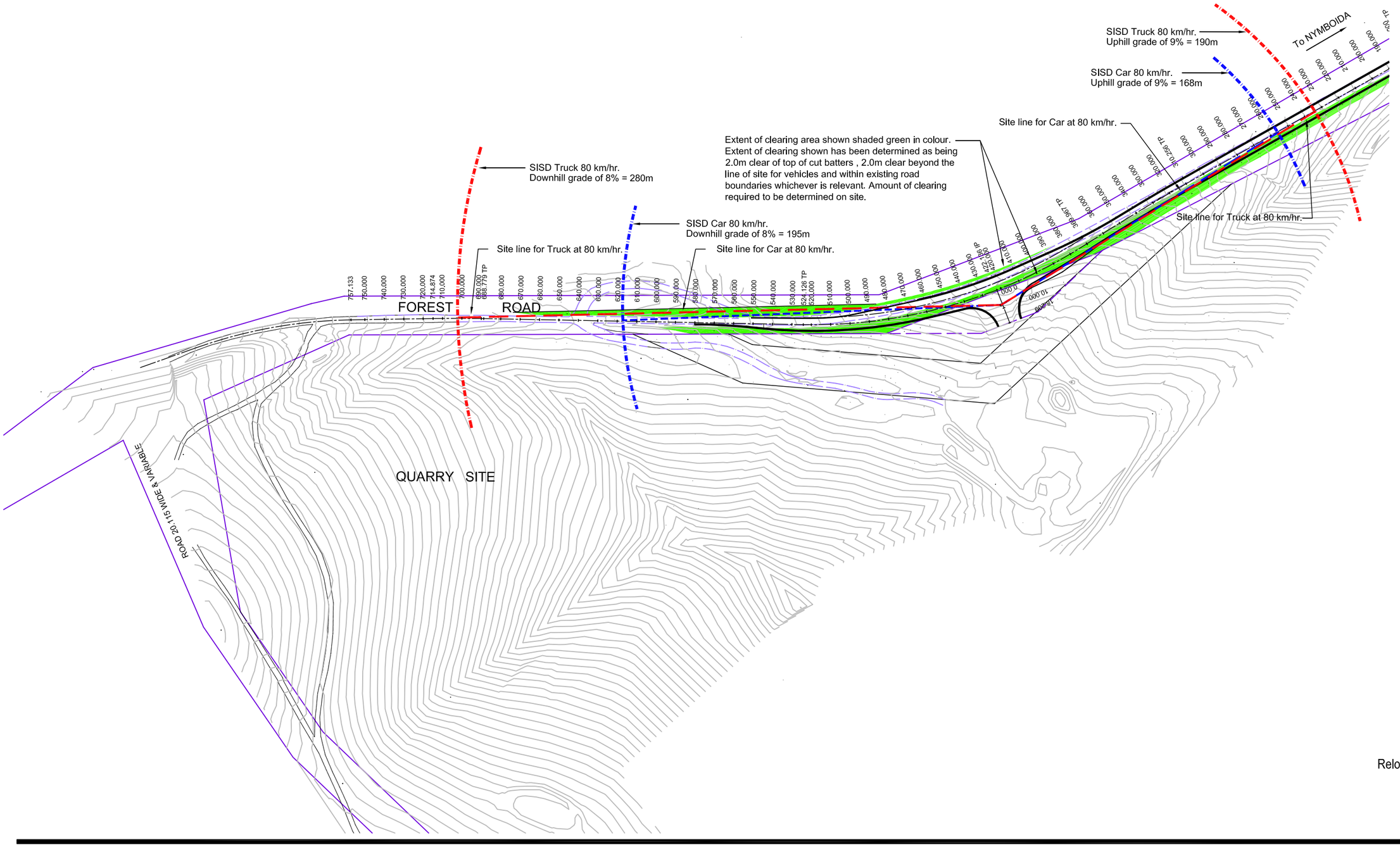
It is considered that proposed amendments to the staging of the extraction rates of the quarry will not generate any additional impacts than what were previously assessed as part of the original EIS and development application.

The new access has necessitated some minor adjustments to stages 1-3 of the quarry layout. The water balance has been recalculated to ensure the size of the detention ponds for each stage is adequate. The rehabilitation plan has also been amended to address the adjustments to the quarry layout. These amendments to the EIS demonstrate that the Proposal will not have any increased impacts and is therefore justifiable and deserves favourable consideration by the Joint Regional Planning Panel.

Copyright and Usage

Appendix B1

Location and Design of New Access



Rev.	Description	Date	Des.	App.	Chk.

Amendments

GeoLINK environmental management and design

Level 1, 64 Ballina Street
PO Box 119
LENNOX HEAD NSW 2478
T 02 6687 7666
F 02 6687 7782
info@geolink.net.au

23 Gordon Street
PO Box 1446
COFFS HARBOUR NSW 2450
T 02 6651 7666
F 02 6651 7733

www.geolink.net.au

quality solutions **sustainable** future

Project Title

Mt Zion Quarry

Client

Greensill Bros Pty Ltd

Designed	TRE	Drawn	TRE	Checked	
Approved		Date	July 2015		
XREFs				XREF No.	

Scale

metres 0 2 4 6 8 10

Drawing Title

Boundary Creek Forest Road
Relocated Quarry Entrance - Layout Plan

1935-1076

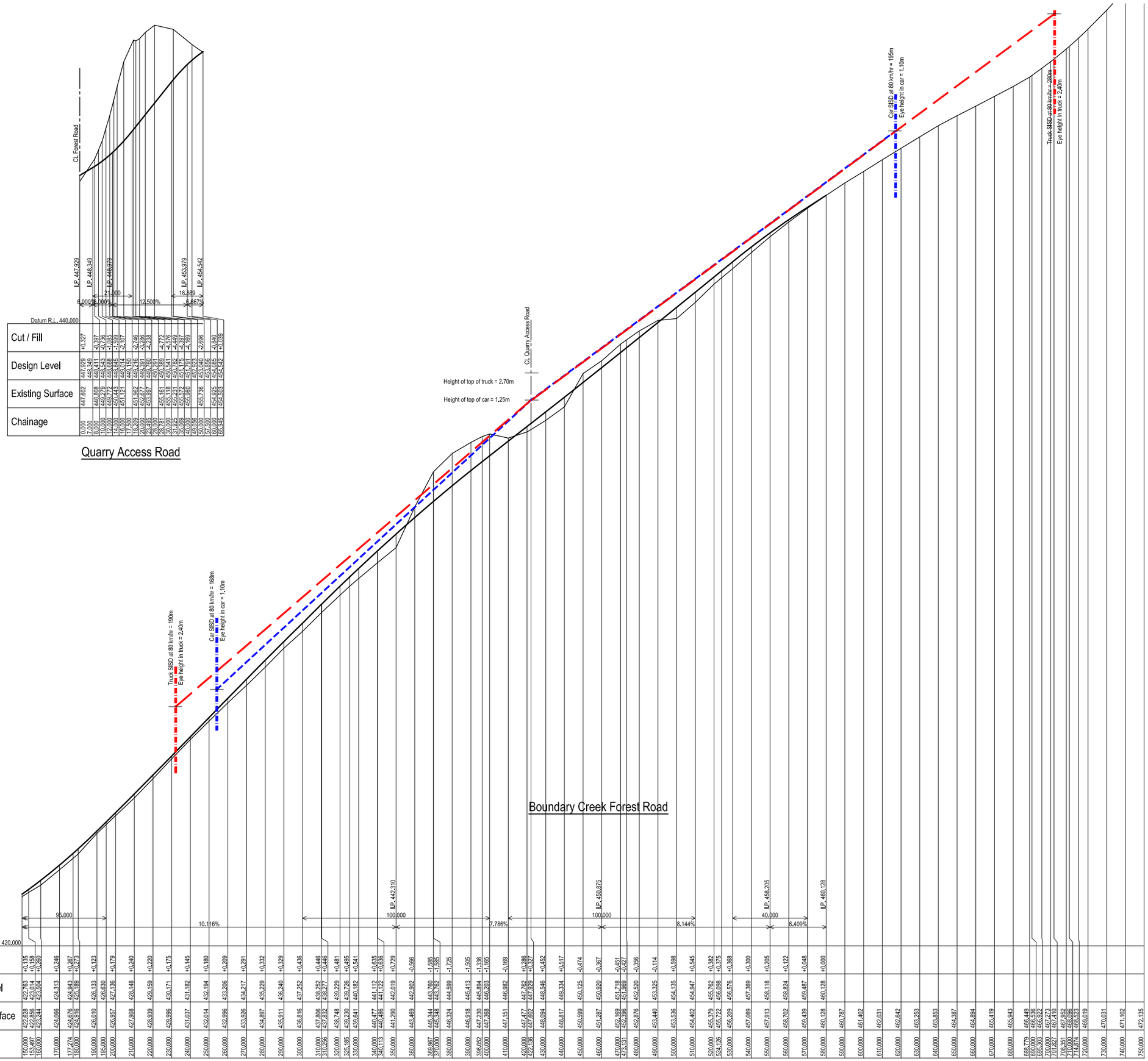
Drawing Number *Revision*

1935/03

Datum R.L. 440.000

Chainage	Existing Surface	Design Level	Cut / Fill
0.000	447.602	447.929	+0.327
7.000	448.868	448.349	-0.397
8.000	449.279	448.543	-0.736
10.000	449.772	448.688	-1.085
12.000	450.443	448.845	-1.598
14.000	451.121	449.014	-2.107
17.500		449.150	
18.209	451.962	449.216	+2.746
20.000	452.677	448.981	-3.696
24.000	453.397	449.159	-4.238
28.000		449.293	
28.761	455.161	450.389	+4.772
30.000	455.118	450.541	-4.576
31.965	455.472	450.792	-4.680
34.000	455.527	451.175	-4.352
40.000	455.960	451.791	-4.169
49.056		452.923	-2.696
50.000	455.726	453.040	
57.000		453.985	
60.000	454.325	454.085	-0.240
65.945	454.503	454.542	+0.039

Quarry Access Road



Datum R.L. 420.000

Chainage	Existing Surface	Design Level	Cut / Fill
150.000	422.828	422.763	+0.135
153.497	422.856	423.014	+0.158
160.000	423.244	423.504	+0.260
170.000	424.066	424.313	+0.246
177.274	424.676	424.943	+0.267
180.000	424.916	425.189	+0.273
190.000	426.010	426.133	+0.123
195.000	426.630		
200.000	426.957	427.136	+0.179
210.000	427.908	428.148	+0.240
220.000	428.939	429.159	+0.220
230.000	429.896	430.171	+0.175
240.000	431.037	431.182	+0.145
250.000	432.014	432.194	+0.180
260.000	432.996	433.206	+0.209
270.000	433.926	434.217	+0.291
280.000	434.897	435.229	+0.332
290.000	435.911	436.240	+0.329
300.000	436.816	437.252	+0.436
310.000	437.806	438.252	+0.446
310.256	437.832	438.277	+0.446
320.000	438.748	439.229	+0.481
325.185	439.230	439.726	+0.495
330.000	439.641	440.182	+0.541
340.000	440.477	441.112	+0.635
340.113	440.486	441.122	+0.636
350.000	441.290	442.019	+0.729
360.000	442.469	442.902	-0.566
369.967	445.344	443.760	-1.585
370.000	445.348	443.762	-1.585
380.000	446.324	444.599	-1.725
390.000	446.918	445.413	-1.505
396.052	447.230	445.894	-1.336
400.000	447.388	446.203	-1.185
410.000	447.151	446.982	-0.169
420.000	447.477	447.762	+0.286
422.136	447.602	447.929	+0.327
430.000	446.094	448.246	+0.452
440.000	446.817	449.334	+0.517
450.000	450.599	450.125	-0.474
460.000	451.287	450.920	-0.367
470.000	452.169	451.718	-0.451
475.131	452.396	451.969	-0.427
480.000	452.876	452.520	-0.356
490.000	453.440	453.325	-0.114
500.000	453.536	454.135	+0.598
510.000	454.402	454.947	+0.545
520.000	455.379	455.762	+0.382
524.126	455.722	456.098	+0.375
530.000	456.209	456.576	+0.368
540.000	457.069	457.369	+0.300
550.000	457.913	458.118	+0.205
560.000	458.702	458.824	+0.122
570.000	459.439	459.487	+0.048
580.000	460.128	460.128	+0.000
590.000	460.787		
600.000	461.492		
610.000	462.031		
620.000	462.642		
630.000	463.253		
640.000	463.853		
650.000	464.387		
660.000	464.894		
670.000	465.419		
680.000	465.943		
688.779	466.449		
690.000	466.536		
695.303	466.922		
700.000	467.273		
701.927	467.410		
708.351	467.882		
710.000	467.986		
714.874	468.523		
720.000	469.019		
730.000	470.031		
740.000	471.102		
750.000	472.135		

Rev.	Description	Date	Des.	App.	Chk.

Amendments

GeoLINK environmental management and design

Level 1, 64 Ballina Street
PO Box 119
LENNOX HEAD NSW 2478
T 02 6687 7666
F 02 6687 7782
info@geolink.net.au

23 Gordon Street
PO Box 1446
COFFS HARBOUR NSW 2450
T 02 6651 7666
F 02 6651 7733

www.geolink.net.au

quality solutions **sustainable** future

Project Title

Mt Zion Quarry

Client

Greensill Bros Pty Ltd

Designed	TRE	Drawn	TRE
Approved		Date	July 2015
XREFs			

Checked

XREF No.

Scale

Horiz - 'A'	metres	0	10	20	30	40	50
Vertical - 'B'		0	1.0	2.0	3.0	4.0	5.0

Drawing Title

Boundary Creek Forest Road and Quarry Access - Revised Intersection

1935-1075

Drawing Number 1935/04 *Revision*

NSW GOVERNMENT | Department of Primary Industries

Our Ref: FE14/62

The General Manager
Clarence Valley Council
Locked Bag 23
GRAFTON NSW 2460

24 March 2015

Attention: Ms Sarah Ducat

Dear Ms Ducat

Re: s96 Amendment MOD2015/0008 for DA 2014/0024
Extractive industry hard rock quarry, Lot 20 DP 46031 Boundary Creek Road Nymboida, Clarence Valley LGA

Thank you for your letter of 20 March 2015 requesting that Fisheries NSW, consider the Modification Application MOD2015/0008. The specific part of the modification proposal of interest to Fisheries NSW relates to the type of creek crossing at Copes Creek on the Boundary Creek Forest Road.

Fisheries NSW have no objection to the proposed modification. It is important though that the proponent and Council appreciate that Fisheries will require the design of either the culvert or the splash crossing provide for fish passage past the site. Minor modifications have been made to the previously issued General Terms of Approval to capture the two scenarios proposed by the proponent.

General Terms of Approval

- Sections 219-220 of the *Fisheries Management Act* 1994 require appropriate fish passage be provided when designing, modifying or constructing watercourse crossings (pipelines, floodgates, causeways or weirs) that are constructed or modified. Provision of fish passage needs to satisfy Fisheries NSW requirements for fish passage available in the document *Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings*, available on the internet at:
  http://www.fisheries.nsw.gov.au/__data/assets/pdf_file/5054/booklet-fish-passage.pdf

Division of Primary Industries, Fisheries NSW
1243 Bruxner HWY WOLLONGBAR NSW 2477
Tel: 02 6626 1397 Fax: 02 6626 1377 ABN 72 189 919 072 www.dpi.nsw.gov.au

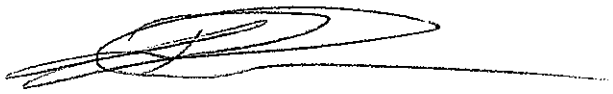
- Prior to the release of the Construction Certificate for DA2014/0024 the proponent shall liaise with Fisheries NSW in relation to the design and construction methodology for the culvert over Copes Creek. The final plans for the culvert or splash crossing design and the relevant Construction and Environmental Management Plan are to be signed by Fisheries NSW to demonstrate endorsement of the plans.

- A permit under s198-202 of the *Fisheries Management Act* 1994 for dredging and reclamation works or a Controlled Activity Approval under the *Water Management Act* 2000 be obtained prior to commencement of the works at the site.

- Environmental safeguards (silt curtains, booms etc.) are to be utilised during construction of the culvert to ensure there is no escape of turbid plumes into the aquatic environment. Erosion and sediment controls must be in place prior to commencing, during and after works, until the site has stabilised.

If you or the proponent wish to discuss these General Terms of Approval please contact Fisheries Conservation Manager (North), Patrick Dwyer on 02 6626 1397.

Yours sincerely



Patrick Dwyer
A/Regional Manager Fisheries Ecosystems (North)

Division of Primary Industries, Fisheries.NSW
1243 Bruxner HWY WOLLONGBAR NSW 2477
Tel: 02 6626 1397 Fax: 02 6626 1377 ABN 72 189 919 072 www.dpi.nsw.gov.au

NSW GOVERNMENT | Department of Primary Industries

Our Ref: FE14/62

The General Manager
Clarence Valley Council
Locked Bag 23
GRAFTON NSW 2460

28 July 2015

Attention: Ms Sarah Sozou

Dear Ms Sozou

Re: s96 Amendment MOD2015/0008 for DA 2014/0024
Extractive industry hard rock quarry, Lot 20 DP 46031 Boundary Creek Road Nymboida, Clarence Valley LGA

Thank you for your letter of 24 July 2015 requesting that DPI Fisheries, consider further changes to the Modification Application MOD2015/0008. Again, the specific part of the modification proposal of interest to DPI Fisheries relates to the type of creek crossing at Copes Creek on the Boundary Creek Forest Road.

DPI Fisheries have no objection to the proposed modification though require, as was outlined in the Department's correspondence of 24 March 2015, that the wording of the Department's GTAs be modified to ensure that it is clearly understood that either type of waterway crossing would need to be assessed by DPI Fisheries to ensure acceptable fish passage was achieved. Furthermore the works would need to be completed under the authority of either a dredging and reclamation permit under s201 of the *Fisheries Management Act* 1994 or a controlled activity approval under the *Water Management Act* 2000.

General Terms of Approval

- Sections 219-220 of the *Fisheries Management Act* 1994 require appropriate fish passage be provided when designing, modifying or constructing watercourse crossings (pipelines, floodgates, causeways or weirs) that are constructed or modified. Provision of fish passage needs to satisfy DPI Fisheries requirements for fish passage available in the document *Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings*, available on the internet at:
  http://www.fisheries.nsw.gov.au/__data/assets/pdf_file/5054/booklet-fish-passage.pdf

Division of Primary Industries, DPI Fisheries
1243 Bruxner HWY WOLLONGBAR NSW 2477
Tel: 02 6626 1397 Fax: 02 6626 1377 ABN 72 189 919 072 www.dpi.nsw.gov.au

- Prior to the release of the Construction Certificate for DA2014/0024 the proponent shall liaise with DPI Fisheries in relation to the design and construction methodology for the culvert over Copes Creek. The final plans for the culvert or splash crossing design and the relevant Construction and Environmental Management Plan are to be signed by DPI Fisheries to demonstrate endorsement of the plans.

- A permit under s198-202 of the *Fisheries Management Act* 1994 for dredging and reclamation works or a Controlled Activity Approval under the *Water Management Act* 2000 be obtained prior to commencement of the works at the site.

- Environmental safeguards (silt curtains, booms etc.) are to be utilised during construction of the culvert to ensure there is no escape of turbid plumes into the aquatic environment. Erosion and sediment controls must be in place prior to commencing, during and after works, until the site has stabilised.

If you or the proponent wish to discuss these General Terms of Approval please contact me on 02 6626 1397.

Yours sincerely

Patrick Dwyer
A/Regional Manager Fisheries Ecosystems (North)

Division of Primary Industries, DPI Fisheries
1243 Bruxner HWY WOLLONGBAR NSW 2477
Tel: 02 6626 1397 Fax: 02 6626 1377 ABN 72 189 919 072 www.dpi.nsw.gov.au

NSW GOVERNMENT | Department of Primary Industries Office of Water

Contact: Vanessa Sultmann
Phone: 02 6676 7382
Fax: 02 6676 7388
Email: vanessa.sultmann@dpi.nsw.gov.au

The General Manager
Clarence Valley Council
Locked Bag 23
Grafton NSW 2460

Our ref: 30 ERM2014/0099
File No: 9057686
Your Ref: DA2014/0024

Attention: Sarah Ducat

21 April 2015

Dear Sir/Madam

Re: Proposed modification to integrated development – DA2014/0024 under S96(1A) of the *Environmental Planning and Assessment Act 1979.*
Controlled activity described as: Extractive Industry - Hard Rock Quarry
Located at: Boundary Creek Road, Nymboida

I refer to Council's letter dated 20 March 2015 advising of the proposed modification or amendment to an integrated development proposal for the abovementioned property.

Based on a review of the information provided:

☒ the Office of Water confirms the existing **General Terms of Approval** (*for 'works' requiring a Controlled Activity Approval under the Water Management Act 2000*), **issued on 10 March 2014** remain valid for the amended proposal and no amendments to the General Terms of Approval are necessary.

Further information on Controlled Activity Approvals under the *Water Management Act 2000* can be obtained from the NSW Office of Water's website www.water.nsw.gov.au – Go to: Water-Licensing > Approvals > Controlled-activities.

The Office of Water should be notified if any further amendments result in more than minimal change to the proposed development or in additional works on waterfront land.

Please direct any questions regarding this correspondence to **Vanessa Sultmann, at vanessa.sultmann@dpi.nsw.gov.au**.

Yours sincerely

DOC # 1475746
DOC LOC. CR014/0024
G 01 MAY 2015 SOCat
MOD 2015/0008
CLARENCE VALLEY COUNCIL

Patrick Pahlow
Senior Water Regulation Officer
NSW Department of Primary Industries
Office of Water
Water Regulatory Operations, Water Regulation, North & North Coast

SCANNED

Department of Primary Industries
Water

Contact: Vanessa Sultmann
Phone: 02 6676 7382
Fax: 02 6676 7388
Email: vanessa.sultmann@dpi.nsw.gov.au

The General Manager
Clarence Valley Council
Locked Bag 23
Grafton NSW 2460

Our ref: 30 ERM2014/0099
File No: 9057686
Your Ref: DA2014/0024

Attention: Sarah Sozou

24 September 2015

Dear Sir/Madam

Re: Proposed modification to integrated development – DA2014/0024 under S96(1A) of the *Environmental Planning and Assessment Act 1979.*
Controlled activity described as: Extractive Industry - Hard Rock Quarry - Upgrade of Creek Crossing
Located at: Boundary Creek Road, Nymboida

I refer to Council's letter dated 24 July 2015 advising of the proposed modification or amendment to an integrated development proposal for the abovementioned property.

Based on a review of the information provided:

☐ DPI Water (formerly the NSW Office of Water) confirms the existing **General Terms of Approval** (*for 'works' requiring a Controlled Activity Approval under the Water Management Act 2000*), **issued on 10/03/2015** remain valid for the amended proposal and no amendments to the General Terms of Approval are necessary.

☐ DPI Water has amended its General Terms of Approval (*for work requiring a licence under Part 5 of the Water Act 1912*) and a copy of the amended GTA are attached.

Further information on Controlled Activity Approvals under the *Water Management Act 2000* can be obtained from DPI Water's website www.water.nsw.gov.au – Go to: Water-Licensing > Approvals > Controlled-activities.

DPI Water should be notified if any further amendments result in more than minimal change to the proposed development or in additional works on waterfront land.

Please direct any questions regarding this correspondence to **Vanessa Sultmann, at vanessa.sultmann@dpi.nsw.gov.au**.

Yours sincerely

Patrick Pahlow
Senior Water Regulation Officer
Water Regulatory Operations, Water Regulation, North & North Coast
NSW Department of Primary Industries - Water

General Terms of Approval

for work requiring a licence under Part 5 of the Water Act 1912

3D ERM2014/0099 **File No:** 9057686

Boundary Creek Road, Nymboida

DA2014/0024

Clarence Valley Counoil

Condition
1. Before commencing any works or using any existing works for the purpose of dewatering an approval under Part V of the Water Aot 1912 must be obtained from the Department. The application for the approval must contain sufficient information to show that the development is capable of meeting the objectives and outcomes specified in these conditions.
2. An approval will only be granted to the occupier of the lands where the works are located, unless otherwise allowed under the Water Act 1912.
3. When the Department granls an approval, it may require any existing approvals held by the applicant relating to the land subject to this consent to be surrendered or let lapse.
4. All works subject to an approval shall be constructed, maintained and operated so as to ensure public safety and prevent possible damage to any public or private property.
5. All works involving soil or vegetation disturbance shall be undertaken with adequate measures to prevent soil erosion and the entry of sediments into any river, lake, waterbody, wetland or groundwater system.
6. The destruction of trees or native vegetation shall be restricted to the minimum necessary to complete the works.
7. All vegetation clearing must be authorised under the Native Vegetation Conservation Act 1997, if applicable.
8. The approval to be granted may specify any preoautions oonsidered neoessary to prevent the pollution of surface water or groundwater by petroleum products or other hazardous materials used in the construction or operation of the wcrks.
9. A license fee calculated in accordance with lhe Water Act 1912 must be paid before a license can be granted.
10. The water extracted under the approval to be granted shall be used for the purpose of dewatering and for no other purpose. A proposed change in purpose will require a replacement license lo be issued.
11. Wcrks for construction of a bore must be oompleted within such period as speoified by the Department.
12. Within two months after the works are completed the Department must be provided with an accurate plan of the location of the works and notified of the rosults of any pumping tests, water analysis and other details as are specified in the approval.

Condition

13. The Department has the right to vary the volumetric allocation or the rate at which the allocation is taken in order to prevent the overuse of an aquifer.

14. The licensee must allow authorised officers of the Department, and it's authorised agents reasonable access to the licensed works with vehicles and equipment at any time for the purposes of:

    1 -inspecting the said work

    2 -taking samples of any water or material in the work and testing the samples.

15. The licensee shall within 2 weeks of being notified install to the satisfaction of the Department in respect of location, type and construction an appliance(s) to measure the quantity of water extracted from the works. The appliance(s) to consist of either a measuring weir or weirs with automatic recorder, or meter or meter(s) of measurement as may be approved by the Department. The appliance(s) shall be maintained in good working order and condition. A record of all water extracted from the works shall be kept and supplied to the Department upon request. The licensee when requested must supply a test certificate as to the accuracy of the appliance(s) furnished either by the manufaoturer or by some person duly qualified.

16. The authorised work shall not be used for the discharge of polluted water into a river or lake otherwise than in accordance with the conditions of a licence granted under the protection of the Environment Operations Act 1997. A copy of the licence to discharge is to be provided to the Department.

17. The maximum term of this licence shall be five (5) years.

~~18. The volume of groundwater extracted from the work authorised by this licence shall not exceed 5 megalitres/year for the term of the licence.~~

19. The authorised work shall not be used for the discharge of water unless the ph of the water is between 6.5 and 8.5, or the water has been treated to bring the ph to a level between 6.5 and 8.5 prior to discharge, or the water is discharged through the council's sewerage treatment system.

20. The work shall bo managed in accordance with the constraints set cut in a Dewatering Management Plan approved by the Department.

21. The retention or holding pond must be lined with an impermeable material (such as clay or geotextile) to prevent seepage, leakage or infiltration of treated water.

END OF CONDITIONS

NSW EPA

Our Reference: DOC15/138803
Contact: Scott Ensbey
Date: 29 April 2015

The General Manager
Clarence Valley Council
Locked Bag 23
GRAFTON NSW 2460

29 APR 2015

Attention: Sara Ducat

Dear Sara

Re: Nymboida Quarry: MOD2015/0008

I refer to your letter dated 20 March 2015 regarding the modification to DA2014/0024 for the proposed Nymboida Quarry on Boundary Creek Forest Road, Nymboida. The Environment Protection Authority (EPA) has reviewed the modification proposal and confirms that the proposal will not require the EPA to modify the General Terms of Approval issued on 28 April 2014.

Whilst the GTA do not require modification, the EPA provides the following comments on the revised proposal:

- I note that under the proposed modification, the commencing extraction rate may be up to 200,000 tonnes per annum. The original application proposed to commence at 20,000 tonnes per annum, then gradually increase up to 200,000 tonnes per annum. Operating at this revised extraction rate will require a licence with the EPA from the outset. The EPA notes the importance of complying with GTA Special Conditions 1 and 2 (Soil and Water Management Plan and Noise Mitigation Works) and providing evidence of this with the licence application submitted to the EPA prior to the commencement of operations.

- The EPA is concerned with the potential for water quality impacts (sediment, oil & grease) to be created by heavy vehicles utilising the proposed 'splash crossing' through Copes Creek. The EPA recommends that to minimise the potential for such impacts, that Councils original consent Condition 19 (f) and (g) be retained.

If you have any questions relating to this matter, please contact Scott Ensbey on 66402522.

Yours sincerely

Graeme Budd
Head, Environmental Management Unit – North Coast
Environment Protection Authority

PO Box 498, Grafton NSW 2460
L2, 49 Victoria Street Grafton, NSW 2460
Tel: (02) 6640 2500 Fax: (02) 6640 2539
ABN 43 692 285 758
www.epa.nsw.gov.au

Sarah Sozou

From: Scott Ensbey <Scott.Ensbey@epa.nsw.gov.au>
Sent: Tuesday, 8 September 2015 2:02 PM
To: Sarah Sozou
Subject: Nymboida Quarry Modification: MOD2015/0008
Attachments: 20150428 - EPA letter to Clarence Valley Council re Nymboida Quarry Modi....pdf

Hi Sara,

As discussed over the phone this afternoon, the EPA has reviewed the proposed modification (MOD2015/0008 - amended site access) and can confirm:

1. That this proposal will not change the EPA's existing GTA's for the proposal;
2. EPA's advice provided to Council on 29 April 2015 still stands (attached); and
3. The EPA has received a licence application for the quarry (submitted with a satisfactory Soil and Water Management Plan and Noise Management Plan). I am currently finalising this licence and will be speaking to the applicant in the next few days to confirm if they wish to proceed with finalising the licence (in light of only having current consent to extract 20,000T in the first year of operation). Based on my discussions with them today I imagine that they will wish to proceed with licence finalisation regardless, and in that case, EPA will be the ARA from the outset.

I will keep you posted re point 3.

Regards

Scott Ensbey
Operations Officer – North Coast
NSW Environment Protection Authority
Ph (02) 66402522 : F (02) 66402539 : scott.ensbey@epa.nsw.gov.au

Transport
Roads & Maritime
Services

File No: NTH14/00015
Your Ref: GD14/0024 CVC:1452483

The General Manager
Clarence Valley Council
Locked Bag 23
Grafton NSW 2460

Attn: Sarah Ducat

Dear Sir

Modification to Consent for DA2014/0024 / MOD2015/0008.
Extractive Industry Hard Rock Quarry Boundary Creek Road Nymboida.

I refer to your letter of 1 July 2014, regarding the quarry at Boundary Creek Road Nymboida.

Roles & Responsibilities

The key interests for Roads and Maritime are the safety and efficiency of the road network, traffic management, the integrity of infrastructure assets and the integration of land use and transport.

In accordance with *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* Clause 16(3), RMS is given the opportunity to review and provide comment on the subject development application.

Roads and Maritime Response

Roads and Maritime has no objection to the proposed increase in maximum extraction rates to 200,000 tonnes per annum upon commencement of the quarry, and the modification of the type of creek crossing at Copes Creek.

If you require further information please contact Mr Michael Baldwin on 6640 1362 or email Development.Northern@rms.nsw.gov.au.

Yours sincerely,

17 April 2015

Monica Sirol
Network & Safety Manager, Northern Region

Transport
Roads & Maritime
Services

File No: NTH14/00015
Your Ref: GD14/0024 CVC:1452483

The General Manager
Clarence Valley Council
Locked Bag 23
GRAFTON NSW 2460

Dear Sir

Modification to Consent for DA2014/0024
Extractive Industry Hard Rock Quarry, Boundary Creek Forest Road, Nymboida

I refer to your letter of 24 July 2015 regarding a modification to the consent for DA2014/0024 forwarded to Roads and Maritime Services for consideration.

Roles and Responsibilities

The key interests for Roads and Maritime are the safety and efficiency of the road network, traffic management, the integrity of infrastructure assets and the integration of land use and transport.

In accordance with *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* Roads and Maritime is given the opportunity to review and provide comment on the subject development application.

Roads and Maritime Response

Roads and Maritime has no objection to the proposal to amend the site access from Boundary Creek Forest Road, Nymboida.

If you require further information please contact Liz Smith Manager Land Use Assessment on 6640 1362 or email Development.Northern@rms.nsw.gov.au.

Yours sincerely

12 August 2015
for Monica Sirol
Network & Safety Manager, Northern Region