Before the Hearing Commissioners
Appointed by Canterbury Regional Council and Selwyn District Council

Under	The Resource Management Act 1991
In the matter of	an application by Southern Screenworks Limited for land use consents and discharge permits associated with the extension of, and changes to, existing quarry operations at 50 Bealey Road, Kirwee

Statement of evidence of Victor Mthamo

31 March 2025

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Qualifications and experience

1 My full name is Victor Mthamo.

2 I am a Principal Consultant for the environmental science, engineering and project management consultancy Reeftide Environmental and Projects Limited (Reeftide). I have been in this role for almost 13 years. Prior to this I was a Senior Associate with the surveying, environmental science and engineering, and resource management consulting firm CPG New Zealand Limited (now rebranded to Calibre Consulting Limited), where I was also the South Island Environmental Sciences Manager. I have worked in the area of environmental science and engineering for over 30 years.

3 I have the following qualifications:

(a) Bachelor of Agricultural Engineering (Honours) with a major in Soil Science and Water Resources (University of Zimbabwe);

(b) Master of Engineering Science in Water Resources (University of Melbourne in Victoria, Australia);

(c) Master of Business Administration (University of Zimbabwe);

(d) I hold an Advanced Certificate in Overseer Nutrient Management modelling qualification;

(e) I am a member of Engineering New Zealand (MEngNZ) and am a Chartered Professional Engineer (CPEng) and an International Professional Engineer (IntPE);

(f) I am a past National Technical Committee Member of:

(i) Water New Zealand; and

(ii) (ii) New Zealand Land Treatment Collective (NZLTC).

4 My specific experience relevant to this evidence includes:

(a) Providing quarry soils and rehabilitation expert evidence for the RM4 and RM5 extensions of the Road Metals Yaldhurst Quarry on West Coast Road (SH73) Yaldhurst in 2018 and 2024 respectively, I also peer reviewed the Quarry Site Rehabilitation Plan (QSRP) for the RM5 proposal. My evidence at these hearings covered the effect on soils and groundwater resulting from the changes to site levels post rehabilitation. I assessed the effectiveness of adopting a 300 mm topsoil layer and whether or not this was sufficient for

plant growth and providing contaminant attenuation, treatment and removal to protect the underlying groundwater.

(b) Acting as a soils and rehabilitation expert witness for the Fulton Hogan's Roydon Quarry near Templeton in 2019 and 2020. Fulton Hogan's proposal was for the establishment of a quarry, extraction and processing of aggregate, cleanfilling and site rehabilitation. I provided an assessment of soil versatility and the effect of the requested changes to the land use on the land's productivity potential.

(c) Acting as an expert witness at Fulton Hogan Miners Road Quarry extension in 2020 and 2021. I provided an assessment of the soils, their versatility and productivity potential with and without mitigation post quarrying.

(d) Peer reviewing the draft Quarry Site Rehabilitation Plan (QSRP) prepared for Road Metals Company Limited's (Road Metals) for their proposed Rolleston Quarry Extension in 2025 at Wards Road, Burnham, recently lodged with Selwyn District Council (SDC).

(e) Peer reviewing in 2023-2024 of the Quarry Rehabilitation Plan for Fulton Hogan's Wards Road Quarry at 658 Wards Road, Burnham.

(f) Stormwater planning, catchment hydraulic and hydrological modelling and design.

(g) Presenting evidence at a regional council hearing on catchment wide modelling that I carried out to assess the effects of flooding in the lower reaches of the Waitaki catchment in South Canterbury.

(h) Regular engagement by Christchurch City Council (CCC) as a Three Waters Planning Engineer. In this role as a stormwater planning engineer, I review stormwater designs and modelling by various engineers from consulting firms and I peer review their reports (concepts, calculations and detailed designs) and provide them with the required guidance for solutions that are acceptable to the CCC. As a result, I am conversant with various hydrological modelling tools, flooding assessments and flood mitigation.

(i) Designing and implementing numerous on-farm irrigation schemes, soil investigations and land use assessments. Examples of projects include Hunter Downs Irrigation Scheme, North Bank Hydro Project, Mararoa-Waiau Rivers Irrigation Feasibility Study and the North Canterbury Lower Waiau Irrigation Feasibility Assessment.

(j) Assessing large subdivisions in relation to stormwater management, earthworks and the associated actual and potential impacts on soils,

groundwater and surface waterways and how to effectively use erosion and management control plans to mitigate the potential impacts that may occur during the construction works.

(k) Assessing effects on soils and groundwater associated with onsite and community wastewater discharge systems such as the Wainui Community wastewater discharge consent.

(l) Assessing actual and potential effects on groundwater and surface water associated with groundwater and surface water takes.

(m) More recently, I have been involved with a number of Plan Changes across the Selwyn District and Waimakariri District. My role was to provide assessments and expert evidence of the proposed plan changes on the land productivity capacity. These plan changes include:

(i) Plan Change 66 (PC66) in Rolleston.

(ii) Plan Change 67 (PC67) in West Melton.

(iii) Plan Change 68 (PC68) in Prebbleton.

(iv) Plan Change 69 (PC69) in Lincoln.

(v) Plan Change 71 (PC71) in Rolleston.

(vi) Plan Change 74 (PC74) in Rolleston.

(vii) Plan Change 75 (PC75) in Rolleston.

(viii) Plan Change 79 (PC79) in Prebbleton.

(ix) Plan Change 80 (PC80) in Rolleston.

(x) Plan Change 81 (PC81) in Rolleston.

(xi) Plan Change 82 (PC82) in Rolleston.

(xii) Plan Change 31 (PC31) in Ohoka, Waimakariri.

5 My role in relation to Southern Screenworks Limited (**Southern Screenworks**) application to extend the existing cleanfill at 50 Bealey Road, Kirwee (**Application** and **Site**) has been to provide advice in relation to site rehabilitation and comment briefly on the groundwater environment. I have prepared a Draft Quarry Site Rehabilitation Plan (QSRP) in support of the application which is attached to my evidence as **Attachment 1**.

6 In preparing this statement of evidence I have considered the following documents:

(a) the AEE accompanying the Application;

(b) submissions relevant to my area of expertise;

(c) the evidence of Mr Alan King, Ms Sarah Bonnington, and Mr Kevin Bligh.

(d) planning provisions relevant to my area of expertise;

(e) the section 42A reports;

7 I have visited the Application Site to assist with my understanding of the current operation and how assess Southern Screenworks' current rehabilitation procedures work. I discuss this in more detail in Paragraphs 39-41.

Code of Conduct for Expert Witnesses

8 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of evidence

9 I have prepared evidence in relation to:

(a) my role in the preparation of the Draft Quarry Site Rehabilitation Plan (QSRP) and recommendations with regards to best practices in the rehabilitation of the site post-quarrying.

(b) the existing Aylesbury Quarry rehabilitation methodology and provide comment on its likely [?] success or otherwise.

(c) the groundwater environment at the site.

(d) any other matters I consider necessary/relevant within my area of expertise.

(e) concerns expressed by submitters.

(f) respond to any matters raised in the Environment Canterbury (ECan) and Selwyn District Council (SDC) staff report (issued under s42A of the RMA); and

(g) proposed conditions of consent.

Executive summary

10 Rehabilitation will occur in accordance with a Quarry Site Rehabilitation Plan (QSRP), which I have drafted and attached to this evidence in draft. The QSRP establishes high level principles for rehabilitation which will ensure effective rehabilitation of the site and allow for sustainable use of the land post-quarrying to suit a variety of land uses.

11 Rehabilitation will occur progressively over the site once areas of extraction (in stages) have been completed. The final rehabilitated ground level will be no deeper than 10 m below ground level.

12 Topsoil and subsoil materials removed during preparation of a quarry stage, and imported cleanfill if required, will be used in the site rehabilitation by providing a final topsoil layer for the final stages of quarrying.

13 The site is classed LUC 4 and is therefore not considered to be highly productive. It is my opinion that the pre-quarrying productive potential can be matched post construction.

14 I have also visited the site and witnessed the current rehabilitation activities and the results. While much of the rehabilitated area is relatively new and the grass is not yet fully established, it is my opinion that the rehabilitation is robust and is based on best practice such as the provision of a free draining surface. I am confident that Southern Screenworks has the capability to achieve equal or better outcomes on the extended area as the previous stages of the quarry.

15 Groundwater has been measured at site wells by to range from 46 and 63 m below ground level. The Land and Water Regional Plan (LWRP) anticipates that extraction will typically maintain a separation distance of more than 1 m between the base of any quarry excavation and the highest groundwater level (HRGWL) inferred for a site. Southern Screenworks propose an extraction depth of 10 m which means there is likely to be at least 30 m to highest recorded groundwater level.

16 As Southern Screenworks proposes to only use on site material and clean imported topsoil (if necessary) for site rehabilitation, at a level many metres above the groundwater table, I consider the potential for any adverse effects on the groundwater environment to arise to be low.

17 It is my conclusion that the proposed rehabilitation will be effective, have little to no adverse environmental effects and will allow for sustainable use of the land post quarrying to suit a variety of land uses. I support the proposed conditions with the amendments set out in Mr Bligh's evidence.

Proposed quarry extension

18 Details of the proposal are provided in the AEE and in the evidence of Mr Kevin Bligh and Ms Sarah Bonnington. Below I provide a summary of the proposed extension.

(a) Southern Screenworks is seeking consents to extend their existing quarrying operations into approximately 66 ha of additional land adjoining the site.

(b) The proposed expansion will involve extraction of aggregate material so that the quarry floor maintains at least one metre (1 m) separation depth to the highest groundwater level (HRGWL), and rehabilitation of the expansion site with overburden and topsoil, subsoil and clean reject aggregate material. In reality, given the depth to groundwater the minimum separation depth will be at least 30 m as I discuss in Paragraph 20(a) below.

(c) The area actively quarried in both the existing quarry and expansion area will not exceed 6 ha at any given time.

(d) Quarrying will occur progressively such that a completed area will be rehabilitated as a new area is being opened.

Description of site features relevant to the QSRP

19 The AEE notes the following with regards to groundwater:

(a) The site is identified as being over a semi-confined/unconfined aquifer within the Selwyn-Waimakariri Combined Surface & Groundwater Allocation Zone by Canterbury Maps but sits outside the Christchurch Groundwater Protection Zone.

20 Sephira was engaged by Southern Screenworks to undertake groundwater monitoring and assessments. They produced two reports[1,2] which are also referenced in the AEE. The reports concluded that:

(a) As Southern Screenworks propose an extraction depth of 10 m it means there is likely to be at least 30 m to highest recorded groundwater level (Sephira Environmental, 2021[1]).

(b) Within the surrounding vicinity, this zone has thin soils over interbedded strata of highly permeable sandy gravel and lower permeability clayey, silty, sandy gravels. Groundwater occasionally perches on the discontinuous

[1] Sephira 2021. Baseline Hydrogeologic Assessment Screenworks Quarry and Managed Fill, 50 Bealey Road, Aylesbury. Completed by Sephira Environmental for Southern Screenworks Limited, December 2021.

lower permeability zones while migrating downward to fully saturated groundwater conditions. Groundwater depths ranged from 46 and 63 m below ground level (Sephira Environmental 2024[2]).

21 I note that the Land and Water Regional Plan (LWRP) anticipates that extraction will typically maintain a separation distance of more than 1 m between the base of any quarry excavation and the highest groundwater level (HRGWL) inferred for a site. Therefore, based on Sephira's reports, the 1 m between the base of the quarry and the HRGWL will be able to be maintained with some considerable margin.

22 As Southern Screenworks proposes to only use on site material and clean imported topsoil (if necessary) for site rehabilitation, at a level many metres above the groundwater table, I consider the potential for any adverse effects on the groundwater environment to arise to be low. This is the same finding as that of the ECan s42A officer's report which I discuss further later.

23 In relation to soils and land:

(a) Canterbury Maps GIS[3] shows that the soils within the area are mainly (90%) Lismore Silty Loam. These are shallow (20-45 cm), well drained with moderate over rapid permeability. The remaining 10% of the soils are Templeton Silty Loams. These are deep (45-100 cm) and also well drained.

(b) The Land Use Capability (LUC) described by Lynn et al. (2009)[4] is a general purpose, qualitative evaluation system which has been widely applied in New Zealand for planning land use, especially for management and conservation.

(i) LUC classification system defines eight LUC classes "according to its long-term capability to sustain one or more productive uses based on physical limitations and site-specific management needs"[6]. Classes 1–4 are classified as arable land, while LUC Classes 5–8 are non-arable. Versatile soils are defined as Class 1, 2, or 3 soils as delineated by the New Zealand Land Resource Inventory (New Zealand Soil Bureau amended 1986).

[2] Sephira 2024. Further Groundwater Assessment Screenworks Quarry and Managed Fill, 50 Bealey Road, Aylesbury. Completed by Sephira Environmental for Southern Screenworks Limited, February 2024.

[3] https://mapviewer.canterburymaps.govt.nz/

[4] *Lynn IH, Manderson AK, Page MJ, Harmsworth GR, Eyles GO, Douglas GB, Mackay AD, Newsome PJF 2009. Land Use Capability survey handbook: a New Zealand handbook for the classification of land, 3rd ed. Hamilton, AgResearch; Lincoln, Landcare Research; Lower Hutt, GNS Science. 163 p.*

(ii) The LUC Classes of the soils within the site are mapped on Canterbury Maps[5], and the Landcare Research portal[6]. The soils within the site are classified LUC Class 4.

(iii) The National Policy Statement for Highly Productive Land (NPS-HPL) seeks to protect Highly Productive Land (HPL) for use in land-based primary production. The NPS-HPL considers land to be HPL if (i) it is zoned general rural or rural production; and (ii) LUC 1, 2 and 3 land.

(iv) Therefore, the site is not comprised of HPL.

24 I have also interrogated the Canterbury Maps GIS and I note that consent CRC221348 also applies to the quarry extension site holds. This permits the discharge of contaminants to land. The consent states that "*The discharge shall be only diluted pig effluent originating from an intensive piggery operation located at Bealey Road*". My thoughts regarding this consented activity are:

(a) It can still be undertaken post quarrying as none of the conditions preclude its use. For example, there are no restrictions on the separation depth between the effluent discharge point and the HRGWL. The separation distance required by the LWRP (Paragraph 21 above) will be achieved.

(b) Condition 5 stipulates the nitrogen loading rates and the frequency of application. These loading rates are determined by (i) the concentration of the effluent and (ii) the area over which the effluent is applied. They are not determined by the depth below ground level at which the effluent is applied. Therefore, as the area of application post quarrying will be the same as pre-quarrying I expect the environment effects to be no different pre and post quarrying. Furthermore, the area consented for discharge under Condition 2 of the consent is over 836 ha. This means that during the quarrying period the effluent can be discharged in areas that are not being quarried or in rehabilitated areas.

Proposed site rehabilitation

25 Rehabilitation will occur progressively over the site once areas of extraction (in stages) have been completed.

26 The rehabilitation objectives for the site are as follows:

[5] https://mapviewer.canterburymaps.govt.nz
[6] https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main

(a) Progressive rehabilitation of the site throughout the stages of extraction. The area actively quarried in both the existing quarry and expansion area will not exceed 6 ha at any given time.

(b) Ensure any areas where work has been completed are left in a safe and stable condition.

(c) Stabilisation of quarry faces and grassing of completed and restored extraction areas to create a free draining and stable landform and mitigate erosion and subsidence risks.

(d) Ensure vegetation establishment and growth.

(e) Monitoring and controlling plant and animal pests during and immediately post rehabilitation works.

(f) Provide an outline of areas which are proposed to be retained for future operational purposes and reduce the footprint of open area as far as practicable.

(g) Ensure that extracted sites are rehabilitated in a way which enables subsequent use of the land for appropriate permitted or consented activity.

(h) Mitigate any potential adverse environmental effects during rehabilitation.

27 The final rehabilitated ground level will depend on the depth of quarrying that occurs but will be no deeper than 10 m below ground level (which is the maximum depth of excavation sought under these applications).

28 At all times extraction will maintain well in excess of 1 m to the HRGWL and 50 m from any surface waterbody, meaning that excavation will comply with Rule 5.175 of the LWRP.

29 Topsoil and subsoil materials removed during preparation of a quarry stage will be used in the site rehabilitation by providing a final topsoil layer for the final stages of quarrying. Additional clean topsoil may be bought to the site from time to time, to assist in site rehabilitation, if required.

30 While Southern Screenworks are not proposing to import cleanfill, any clean topsoil material imported will be tested in accordance with requirements that would apply to cleanfill under the WasteMINZ Technical Guidelines for Disposal to Land September 2023 (TGDL).

Quarry Site Rehabilitation Plan

31 I was engaged by Southern Screenworks to prepare the QSRP, which is attached as **Attachment 1**. The following are the high-level principles I proposed in the plan:

(a) Development of a free draining landform.

(b) Spread stored subsoil/overburden (if available) and topsoil and replant with suitable grass species as soon as practicable.

(c) Re-grassing after spreading stored topsoil and subsoil.

(d) Ensure any areas where work has been completed are left in a safe and stable condition.

(e) Establish stable grassed areas to a slope of no more than 1v:3h to reduce erosion.

(f) Monitoring and controlling animal pests and weeds to:

(i) Create an environment suitable for grass establishment and growth to achieve the minimum cover required.

(ii) Ensure that the rehabilitated areas are functioning appropriately post-closure pursuant to the QSRP. This will be for a period of 12 months or until 80% of the groundcover is established.

(g) Re-fence the site as appropriate to manage activities occurring on it.

(h) Monitor and maintain rehabilitated areas to ensure they are functioning appropriately post-closure.

(i) Removal of all mobile machinery from the site on completion of the quarrying.

32 Oversight of quarry rehabilitation will be provided by a suitably qualified soil scientist or rehabilitation consultant, in accordance with the requirements of the QSRP.

33 The QSRP is a living document, and I expect modifications to be able to be made subject to Council certification. However, any changes shall always ensure that the plan still complies with any relevant conditions of consent.

34 Mr Bligh has proposed a number of conditions addressing the preparation, content, submission and certification processes for the QSRP.

35 I have reviewed these conditions and consider them appropriate and consistent with good practice I have seen in respect of other resource consent applications for quarrying in Canterbury.

Post-quarrying land use

36 I have noted in Paragraph 18 above that the site is on land classified LUC Class 4. This is not highly productive land and land use options or productive potential is limited by the shallow soils and inherently low soil fertility.

37 The land is zoned General Rural under the Partially Operative Selwyn District Plan – Appeals Version (POSDP). Permitted activities, which are anticipated in these zones, include the following:

(a) Rural selling place/commercial activity.

(b) Rural production (including a range of farming and production activities).

(c) Residential activity.

(d) Minor residential unit.

(e) Rural Industry.

(f) Rural home business.

(g) Intensive primary production.

(h) Plantation Forestry.

38 The list above is not exhaustive. However, it demonstrates that there are options for use of the site post quarrying. It is my opinion that the pre-quarrying productive potential can be matched post construction. This is because:

(a) there are no additional constraints to the site's productive use that would arise as a result of the aggregate extraction activity.

(b) as I discussed in Paragraph 20(a), there will still be at least 30 m of soil matrix between the finished quarry floor and the highest groundwater level. Therefore, any farming activities on the rehabilitated quarry surface will have no effect on the groundwater.

(c) the site would be suitable for grazing which means various forms of animal husbandry can occur on the site.

Current site management - observation, results and recommendations

39 I undertook a site visit to observe the site rehabilitation within the existing quarried areas.

40 During this site visit I witnessed:

(a) Newly established grass over the rehabilitated surface. The area over which the grass was growing was well-stabilised. **Attachment 2** includes photos I took during the site visit.

(b) Good management practices - for example there were few wheel tracks on the newly rehabilitated areas, the grassed surface appeared to have friable soils and there was no evidence of runoff from the site, which to me indicates good drainage.

41 I understand from my discussion with Ms Bonnington that the grass is irrigated using roof stormwater which is stored in tanks next to the workshop and office building.

42 It is also my opinion that grass establishment during rehabilitation can be achieved with minimal or no irrigation subject to grass seed being sown during the times of the year rain occurs frequently and temperatures are warm - for example, in autumn or spring. This will ensure quick seed germination, grass growth and establishment. I have seen this approach used successfully at other quarries.

43 I am, therefore, convinced that Southern Screenworks undertake rehabilitation work using best practices. They have gained considerable experience and expertise in rehabilitation that the requirements proposed in the QSRP and the desired outcomes are achievable.

Matters raised by submitters

44 I have reviewed the various submissions and below are my comments in regard to the ones relevant to my area of expertise:

45 **Te Taumutu Rūnanga** states in their submission that "*Planting with indigenous species is encouraged as part of the rehabilitation of the site as a measure to moderate the effects of quarrying activity on mana whenua values. Indigenous species should be appropriate to the local environment, and where possible from locally sourced seed supplies"*.

46 The draft QSRP has been designed to reflect that where practicable, Southern Screenworks will consider the use indigenous vegetation during rehabilitation where that is appropriate.

Matters raised by ECan/SDC staff report

47 I have reviewed the discussion around the potential for effects on groundwater to arise from the proposed quarry extension in the ECan s42A report and agree with the findings of that report. I also support the imposition of the conditions suggested by the CRC officer.

Proposed consent conditions

48 I have reviewed the conditions relevant to the rehabilitation. I can confirm my support of the amendments to the conditions discussed in Mr Bligh's evidence.

Conclusion

49 I have prepared the draft QSRP, and it is my opinion that this will achieve the objectives of the rehabilitation. This is because the QSRP has clear objectives and they are focused towards good outcomes from the rehabilitation process and the site use post rehabilitation.

50 Having been to site and seen their operation I am also confident that Southern Screenworks will undertake rehabilitation using best practices outlined in the QSRP.

51 It is my conclusion that the proposed rehabilitation will be effective and will allow for sustainable use of the land post quarrying to suit a variety of land uses.

52 I consider any potential for adverse impacts to arise on groundwater to be minimal.

VICTOR MTHAMO

31 March 2025

ATTACHMENT 1 - Draft QSRP

Screenworks Aylesbury
50 Bealey Road, Kirwee

Draft Quarry Site Rehabilitation Plan

Submitted to:

Selwyn District Council
Canterbury Regional Council

March 2025

Document Control

AUTHORISATION FOR ISSUE		
Prepared By:	Victor Mthamo **Position:** Rehabilitation Consultant	Date: 13/3/2025
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Approved By:	Sarah Bonnington **Position:** Environmental & Compliance Manager	Date: XX/03/2025
Certified By: Selwyn District Council	[INSERT]	

REVISION TABLE		
Date reviewed:	**Revision made:**	**By Who:**

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1. Introduction

1.1 Background

Southern Screenworks Limited (Screenworks) operates a quarry at 50 Bealey Road, Aylesbury (Aylesbury Quarry). Screenworks is a locally owned business that has been operating for 30 years.

The Aylesbury quarry and cleanfill operation was established in 2011. The quarry produces selected aggregate products for the local Canterbury market.

With the amount of consented extractable resource within the existing quarry reducing, Screenworks is seeking to expand the extent of its extraction operation into adjoining land of approximately 66 ha of additional land adjoining the site.

This Draft Quarry Site Rehabilitation Plan (QSRP) has been prepared to support the resource consent applications to Selwyn District Council (SDC) and Canterbury Regional Council (CRC) for the proposed quarry extension site.

This document has been prepared having regard to:

- The Partially Operative Selwyn District Plan (POSDP), Policy GRUZ-P9, Rule GRUZ-R21 - Mineral Extraction in particular GRUZ-R21.2. b (matters for discretion). A summary of the rule is provided in Table 1.
- The Canterbury Land and Water Regional Plan (LWRP) requirement for a rehabilitation plan under Rule 5.177[1].
- Other Screenworks formal and informal site management plans.
- The 'Quarry Code of Practice', developed by Greater Christchurch Aggregate Producers in 2019.
- The 'Quarry Site Rehabilitation Guide' developed by CCC in 2018.
- The resource consents, including conditions on future and the existing consents.
- The list of existing consents is provided in Error! Reference source not found. and this will be updated once additional consents are granted.

Table 1 – POSDP Rule GRUZ-21 Mineral Extraction – Matters for Discretion

Rule	Matters for Discretion
GRUZ-21 - Mineral Extraction	*2. The exercise of discretion in relation to GRUZ-R21.1 is restricted to the following matters:* *b. The preparation and implementation of a site rehabilitation plan. This shall include, but is not limited to:* *i. the end use of the site, which should be suitable for an alternative use that maintains or enhances the amenity of the surrounding area and methods used to achieve this;* *ii. measures to mitigate potential instability of land and susceptibility to subsidence and erosion;* *iii. duration and staging of rehabilitation to minimise the period of any adverse amenity affects, such as dust nuisance; and* *iv. The methods used to rehabilitate the site and any effects that may arise from the method and end use.*

1.2 Rehabilitation Objectives

The overall objectives of the Aylesbury Quarry rehabilitation are as follows:

[1] It is noted resource consent is not required under this Rule however the direction provided by matter for control 3 under this rule is considered to provide some direction: *The content and adequacy of the site rehabilitation plan to address any adverse effects after the deposition of material is completed.*

- Compliance with relevant consent conditions.
- Progressive rehabilitation of the site as each new stage begins.
- Re-spreading and contouring of overburden and stored (stockpile or bund) or imported topsoil materials within the base of the quarry floor.
- Stabilising quarry faces and vegetating completed extraction areas to create a free draining and stable landform suitable for pastoral farming.
- Ensure any areas where works have been completed are left in a safe condition.
- Ensure short- and long-term stability of the reinstated landform.
- Ensure vegetation establishment and growth.
- Retention of trees around the periphery of the rehabilitated quarry.
- Establish rehabilitation monitoring requirements:
    - Monitoring establishment of vegetation and controlling plant and animal pests during and immediately post rehabilitation works.
- Ensure that extracted sites are rehabilitated in a way that potential future land uses are not compromised.
- Mitigate any potential adverse environmental effects during and after rehabilitation (e.g. groundwater, dust etc).
- Establish general management requirements for the rehabilitation of the quarry pit and overburden areas.
- Detail the requirement for reporting incidents to the relevant stakeholders.

1.3 QSRP Status

This QSRP is a draft and is also a live document.

The document will be subject to regular reviews and updates. This will allow changes and improvements to the rehabilitation strategy to be incorporated as new knowledge becomes available.

The frequency of review typically depend on the resource consent conditions and the progress of quarry development. It is, however, envisaged that review and updates are essential when significant changes to the methods and processes outlined in the preceding sections occur.

The QSRP will require certification by SDC and changes to the QSRP will require recertification by SDC.

2. Description of the Site

2.1 Introduction

The site is located approximately 30 km west of Christchurch City centre and 5 km east of Kirwee.

The existing site contains the existing Aylesbury Quarry and the land into which the quarry is to expand. The existing Aylesbury Quarry is comprised of Lot 1 DP 354364 and Res 1038 and is a recognised quarry operation under GRUZ-SCHED1 of the POSDP, encompassing approximately 11.5 ha.

The proposed expanded site includes these land parcels, and Lot 2 DP 596079 and Res 4005 and covers an additional approximately 66 ha.

The land is zoned General Rural under the POSDP. The existing quarry and the proposed expansion areas are shown on Figure 1.

2.2 Existing Site

The existing Aylesbury Quarry comprises a quarry with associated cleanfilling operation, haul roads, processing plants and stockpiling, a large workshop and site office, an area for storage of quarry plant and machinery and other ancillary facilities such as water tanks, storage containers, truck wash, and a range of environmental mitigation measures such as existing perimeter site bunding and planting around the edge of the consented quarry, sealed parking, and internal roads.

It is expected that quarrying within the existing site will be completed in the coming decade, at which time quarry operations will move into the expansion areas, should consent be obtained.

2.3 Extension Site

The expansion area comprises approximately 66 ha occupied by land currently used for pastoral grazing. The site is located within the Plains Flood Management Overlay and the Liquefaction Damage Unlikely Overlay and is also within the State Highway and Railway Network Noise Control overlays according to the POSDP planning maps.

A more detailed description of the expanded quarry area and the activities that will be undertaken is provided in Section 3.

2.4 Site Access and Parking

Access to the main quarry site is from an existing formed accessway located at 50 Bealey Road. Bealey Road adjoins Aylesbury Road and West Coast Road (SH73) to the east of the site. All these roads are considered arterial roads under the POSDP.

The existing quarry provides sufficient carparking around the building edge to accommodate the day-to-day parking demands while there are also ample metalled areas to accommodate additional carparking demands as needed. The parking and circulation aisles are of sufficient dimensions to enable all vehicles to enter and exit the quarry in a forward manner.

The quarry site is locked when not in operation and the existing fencing around the properties which are to be extracted as part of the expansion will be retained. If there are any gaps or damage to this fencing, this will be fixed prior to quarrying commencing on the site.

2.5 Surrounding Land Uses

The surrounding area is rural in nature and is generally surrounded by farming activities with a low density of dwellings. The South Island Main Trunk Railway Line and West Coast Road (SH73) run generally parallel to the north of the site, while Bealey Road from which the site is accessed runs along the site's southern boundary.

2.6 Groundwater and Surface Water

2.6.1 Groundwater

The site is identified as being over a semi-confined/unconfined aquifer within the Selwyn-Waimakariri Combined Surface & Groundwater Allocation Zone by Canterbury Maps but sits outside the Christchurch Groundwater Protection Zone.

Groundwater investigations undertaken as part of the resource consent application concluded that:

- Groundwater occasionally perches on the discontinuous lower permeability zones while migrating downward to fully saturated groundwater conditions.
- Depth to groundwater ranges from 46 and 63 m below ground level (mbgl)

The LWRP anticipates that aggregate extraction will typically maintain a separation distance of more than 1 m between the base of any quarry excavation and the highest groundwater level (HRGWL) inferred for a site. The HRGWL in the vicinity of the site has been estimated to be 40 mbgl having regard to relevant groundwater data available for the site and nearby.

2.6.2 Surface Water

The closest natural water body to the site is the Waimakariri River, located approximately 7 km north of the site.

The site is within the Kowai/Waimakariri Water Race surface water catchment. The nearest downgradient surface water bodies are the headwaters of spring-fed rivers over 15 km southeast of the site.

A SDC water race runs along West Coast Road although no extraction will occur within 50 m of this water race.

2.7 Approvals

The suite of consents associated with the existing quarry are listed in Error! Reference source not found..

Consents and all necessary approvals are being sought for the expanded quarry area. Consents or conditions relevant to this quarry site rehabilitation plan will be appended when consents are granted and the QSRP updated to reflect any changes arising from the relevant conditions.

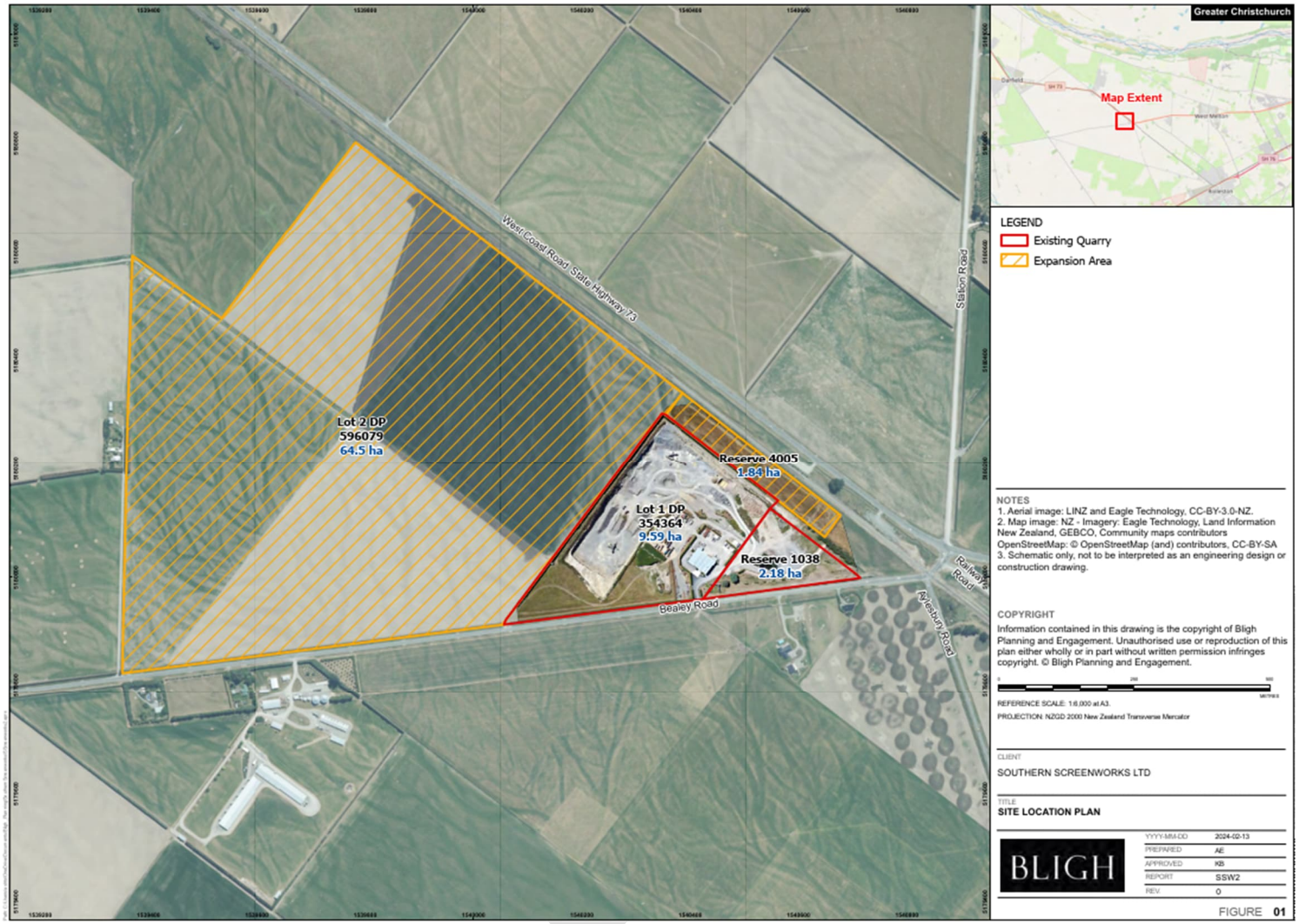

Figure 1: Existing Quarry and Proposed Expansion

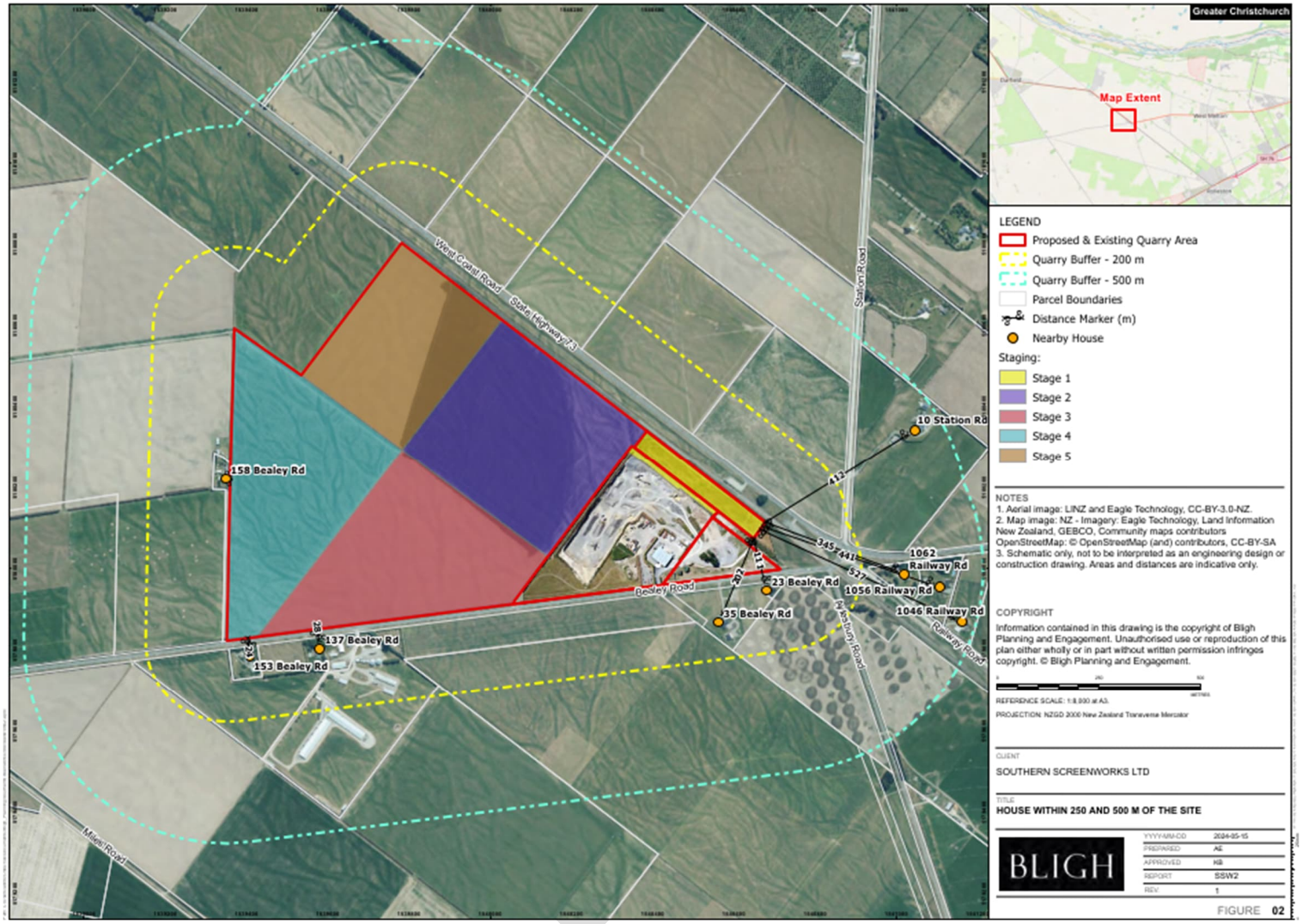

Figure 2: Details of the Proposed Extension and the Staging

3. Description of the Expanded Quarry Area

3.1 Introduction

Screenworks proposes to quarry the entire 66 ha area identified, except for various setbacks from boundaries, water races and nearby dwellings, as applicable.

Extraction activities are proposed to be undertaken in stages with an active working quarry area across both the expansion area and the existing quarry of no more than 6 ha. For the purposes of this open area, the active working quarry area shall comprise the following:

- Working extraction faces and adjacent operational areas.
- Active areas of rehabilitation.
- Stockpiling and load out areas.
- Areas where aggregate processing takes place.
- Unsealed quarry haul roads.

It shall not include the following:

- Any sealed, bunded or planted areas.
- The sealed site access road to the quarry.
- Areas where rehabilitation has been completed.
- Any site buildings.

3.2 Site Preparation and Staging

Prior to quarrying commencing, topsoil and subsoil overburden material will be removed from a 1-2 ha area which is to be quarried over the immediate term (12 months). It is anticipated that quarry areas will be developed in stages generally working in accordance with the Indicative Staging Plan shown in Figure 3.

Topsoil removal will be undertaken at ground level using an excavator and either dump trucks or road trucks (and trailers), in combination with a loader. Extraction of the aggregate resource itself will occur by working from the existing pit floor areas so quarrying can commence at the level of the existing quarry floor. Once quarrying in one stage of the site is nearing completion, the next stage of topsoil removal will take place. This process is then repeated as the site develops.

Within the expansion area rehabilitation will essentially involve the spreading of overburden, clean reject aggregate, and stored topsoil and subsoil materials within the base of the quarry floor. It is not proposed to cleanfill the expansion area with any filling to be focused on the existing quarry site, although clean topsoil may be imported to the site to assist with rehabilitation if required.

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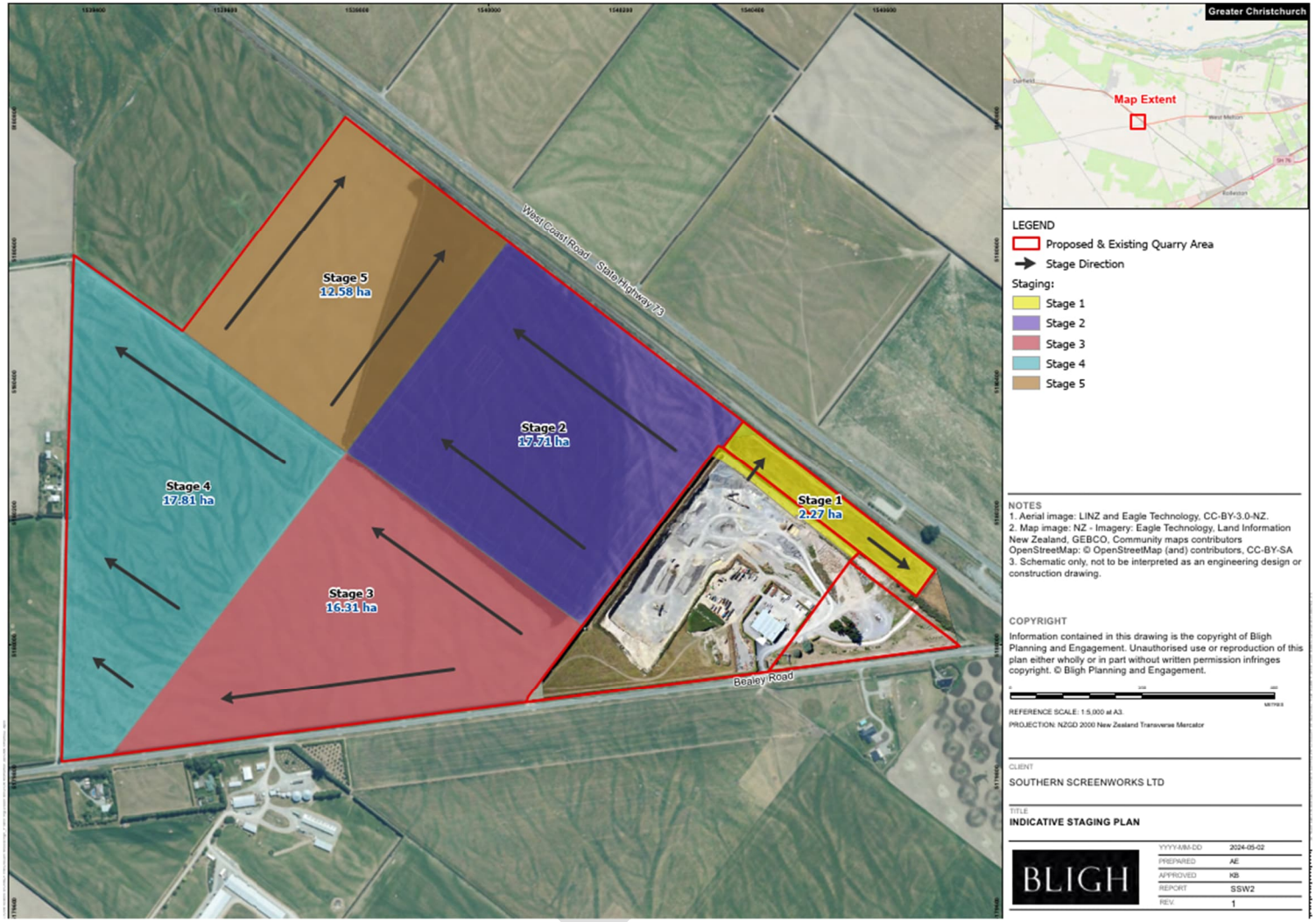

Figure 3: Staging Plan

3.3 Bunding, Setbacks and Landscaping

Bunds and landscaping are already established to varying degrees around the perimeter of the existing quarry site and evergreen plantings already exist along the length of the Bealey Road boundary except for a minor section near the corner of the expansion site.

The bunds at the western and northern edge of the existing quarry will be removed as necessary to enable extraction into the expansion area. Plantings currently established along these boundaries will also be removed to enable quarrying to move into the expansion areas.

A 50 m extraction setback to any nearby water races will be maintained unless these are stopped in the future.

It has been determined that a temporary bund around parts of the perimeter of Res 4005 should be established until such time as proposed planting is well established.

All planting (not already undertaken) shall be implemented within the first full planting season following grant of consent. The landscape mitigation plans are included in Figure 4 and Figure 5.

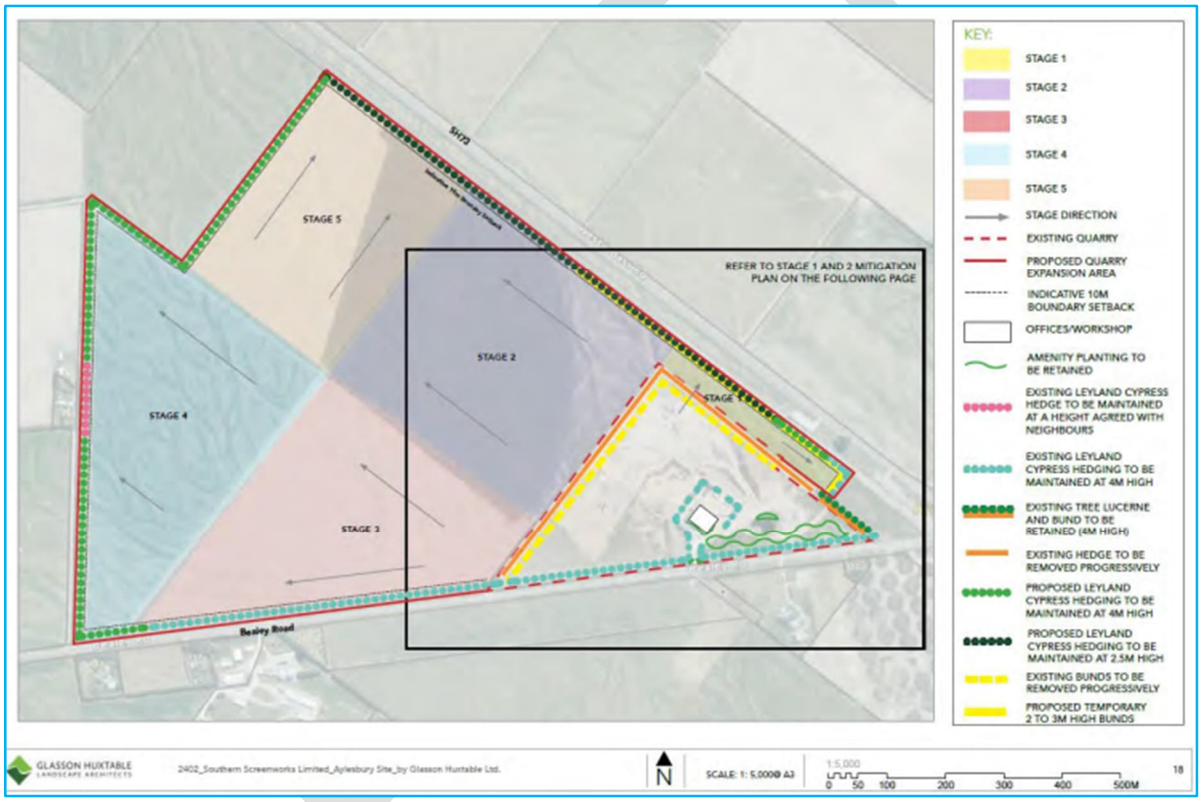

Figure 4: Landscape Mitigation Plan

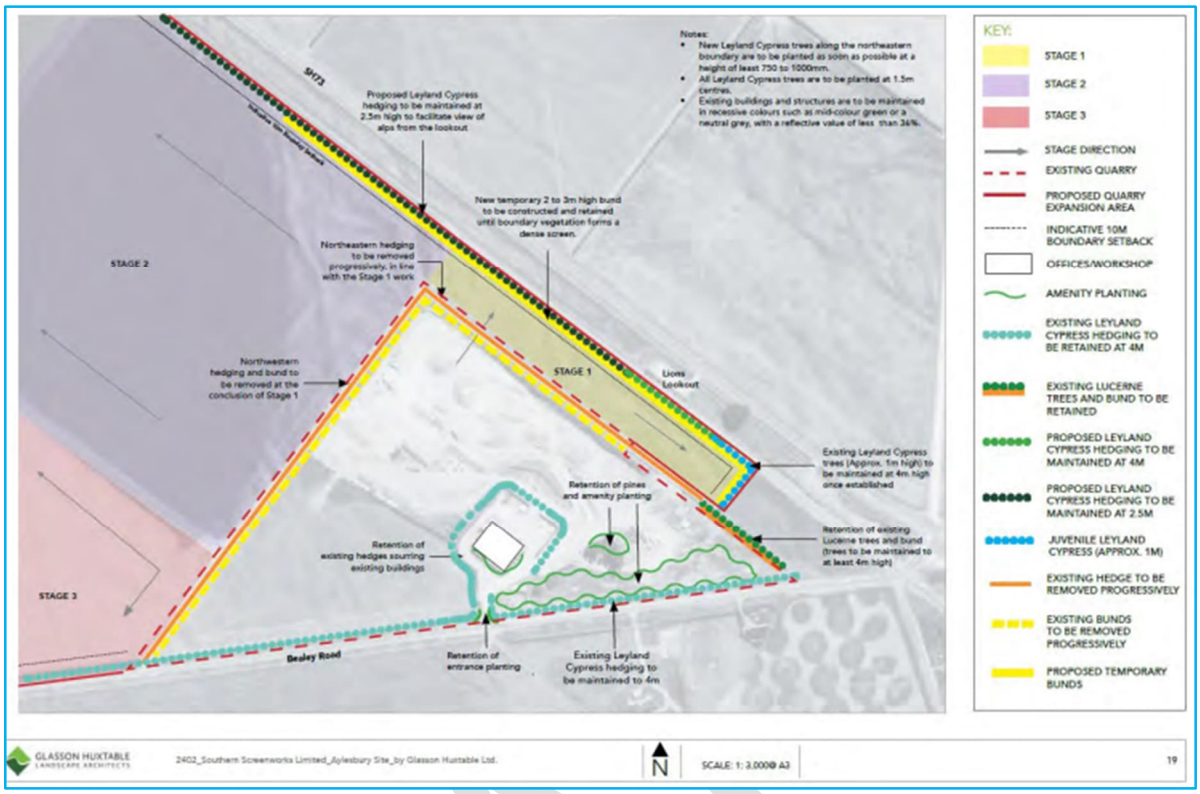

Figure 5: Landscape Mitigation Plan – Insert Showing Stages 1 and 2

3.4 Extraction, Processing and Transportation

Extraction of the aggregate resource will involve a continuation of the processes that have been used over the previous decade to develop the Aylesbury Quarry.

Following site preparation within a stage, extraction of aggregate is undertaken using standard quarrying machinery typically involving a loader which loads dump trucks or road truck (and trailer) units, although other machinery may be used from time to time to enable the efficient extraction of the aggregate resource. Extraction of the aggregate resource itself will occur by working from the existing quarry areas so quarrying can commence at the level of the existing quarry floor, minimising noise and dust effects.

Aggregate extracted at the quarry face will be transported to the existing mobile processing plant at the Aylesbury Quarry, where it will be processed and stockpiled, awaiting load out.

Screenworks may undertake processing of materials from the expansion within the existing quarry site and in time move processing into the expansion area. This involves crushing, screening, conveyance, and stockpiling of processed materials. Processed products will be removed from the processing plant area on an as required basis and stockpiled awaiting sale/distribution to customers.

Handlin volumes will be no greater than 100 tonnes per hour.

The processed aggregate products will be stockpiled by grade within the quarry floor area to enable ease of access for loading of road truck and trailer units prior to dispatch.

It is noted that some material may be sold without being processed (known as ‘pit run’), although this typically involves relatively small volumes.

Once loaded onto road trucks (and trailers), material will leave the site via the existing site access onto Bealey Road.

Within the expansion area, it is proposed that:

- No processing within stages 3 or 4
- No aggregate extraction will occur within 150 m of the notional boundary of the principal residential unit at 23 Bealey Road and 200 m of the notional boundary of the principal residential unit at 137 and 153 Bealey Road as they exist at the time of granting this consent, unless written approval has been obtained from the owners and occupiers of the respective dwelling
- No aggregate extraction shall occur within 300 m of the dwellings at 137 Bealey Road and 153 Bealey Road on Saturday.

4. Quarry Rehabilitation Works

4.1 Introduction

The objectives of the rehabilitation of the quarry have been outlined in Section 1.2. The rehabilitation works will be undertaken pursuant to those objectives.

4.2 Rehabilitation Procedure

Rehabilitation will be based on the following principles:

- Develop a free draining landform.
- Re-spreading and contouring of overburden and stored (stockpile or bund) or imported topsoil materials within the base of the quarry floor.
- Grassing of completed and restored extraction areas.
- Ensure any areas where works have been completed are left in a safe and stable condition.
- Establish stable grassed areas to a slope of no more than 1v:3h to reduce erosion.
- Control weeds.
- Monitoring and controlling animal pests and weeds to:
  - Create an environment suitable for grass establishment and growth to achieve the minimum cover required.
  - Ensure that the rehabilitated areas are functioning appropriately post-closure pursuant to the QSRP. This will be for a period of 12 months or until 80% of the groundcover is established.
- Fence or secure the site as necessary making it suitable for its ongoing use.

Rehabilitation will occur progressively over the site once areas of extraction (in stages) have been completed. However, some rehabilitation works can only take place once all quarrying operations have ceased. This is discussed in more detail in Section 4.8.

Oversight of quarry rehabilitation will be provided by a suitably qualified soil scientist or rehabilitation consultant, in accordance with the requirements of this QSRP.

4.3 Rehabilitation Materials

Rehabilitation materials for the expansion area are proposed to come from material which has been removed during quarrying including stored topsoil and subsoils and clean reject aggregate. During the quarry's operational life, these materials will either be covered or grassed to prevent wind-blown erosion losses, either as stockpiles or in site bunding.

While Screenworks are not proposing to import cleanfill to the expanded area, cleanfilling will continue to occur as part of the consented rehabilitation of the existing Aylesbury Quarry.

4.4 Proposed Final Landform

Rehabilitation will primarily involve re-spreading and contouring of overburden and stored or imported topsoil, as well as subsoils and clean reject aggregate material within the base of the quarry floor, stabilisation of quarry faces and grassing of completed and restored extraction areas to create a free draining and stable landform. The batter slope on completion of rehabilitation will be no steeper than 1 vertical (v):3 horizontal (h).

The final rehabilitated ground level is yet to be determined but will ultimately depend on the applicant's plans for future use of the site. Owing to the depth to groundwater in the vicinity of the expansion area, it is expected that the finished floor level will be well above the HRGWL as discussed in Section 2.6.1.

4.5 Land Use Post Quarrying

The final rehabilitated ground level throughout the majority of the site is yet to be determined but will ultimately depend on Screenworks' plans for the site.

As the rehabilitation will involve replacement of the topsoil, regardless of the final landform and finished site levels the site is expected to resemble the pre-quarrying state with regards to its potential land uses. Therefore, no additional physical productive use limitations are expected as a result of the aggregate extraction and the resulting rehabilitated site state.

The underlying zone for the site is General Rural Zone. Under the POSDP[2] the General Rural Zone "*has large areas of highly productive land* (Land Use Class 1-3) *which are important for primary production purposes*". There are also large areas of land that are not highly productive land (Land Use Class >4). The expanded quarry site has a Land Use Class of 4 which means it is not highly productive land.

The POSDP has provisions that enable both primary and non-primary productive land uses to occur either as permitted or controlled activities. Examples of the activities that are possible as listed in the POSDP for the General Rural Zone are listed in Table 2 below.

Some of these activities can be carried out at the site. The success of the land based productive activities may be limited by the Land Class 4 constraints as the land is of limited productive potential. The LUC Class 4 limitations exist pre and post quarrying. The quarrying and proposed rehabilitation does not, in itself, exacerbate the nature of these constraints or the productive capacity of the land.

Table 2 – POSDP General Rural Activity List Rules and Activities

POSDP General Rural Rule List	Description of Activity
GRUZ-R1	Residential Activity
GRUZ-R2	Structures
GRUZ-R3	Residential Unit
GRUZ-R6	Minor Residential Unit
GRUZ-R6A	Seasonal Worker Accommodation
GRUZ-R7	Relocated Residential Unit
GRUZ-R8	Rural Industry
GRUZ-R9	Rural Selling Place/Commercial Activity
GRUZ-R10	Rural Home Business
GRUZ-R13	Research Activity
GRUZ-R14	Conference Facility
GRUZ-R15	Visitor Accommodation
GRUZ-R15A	Rural Tourism Activity
GRUZ-R16	Rural Production
GRUZ-R17	Free Range Poultry Farming
GRUZ-R18	Intensive Primary Production
GRUZ-R22	Amenity Planting
GRUZ-R23	Woodlot
GRUZ-R24	Plantation Forestry
GRUZ-R25	Shelterbelt
GRUZ-R26	Conservation Activity
GRUZ-R27	Aircraft and Helicopter Movements Ancillary to Rural Production

[2] https://eplan.selwyn.govt.nz/review/

POSDP General Rural Rule List	Description of Activity
GRUZ-R28	Airfield and Helicopter Landing Areas
GRUZ-R29	Training of Horses
GRUZ-R30	Keeping of Animals
GRUZ-R31	Camping Grounds
GRUZ-R32	Public Amenity

As quarrying will occur in relatively small stages of no more than 6 ha at any one time, with the balance of the site continuing to be farmed throughout the quarrying operation, there will be very little interruption to farming activities as a result of quarrying, with the active working quarry area at any one time making up less than 2% of the site.

4.6 Managing Discharges Post Quarrying

The final land use option(s) selected post quarrying will determine whether or not there is a need to manage discharges to the site. For example, some farming activities or residential use activities may be associated with the discharge of animal effluent or human effluent to land, discharge of stormwater to land could also be involved.

Such discharges will not preclude the use of the site for any of the possible future uses. This is mainly because any associated discharges are likely to have less than minor effects on the receiving environment as the depth to groundwater is >30 m (Section 2.6.1). Furthermore, under the LWRP the following discharges are permitted by Rules 5.8 and 5.12, respectively:

- The discharge of wastewater from a new, modified or upgraded on-site wastewater treatment system onto or into land in circumstances where a contaminant may enter water; and,
- The discharge of greywater onto or into land in circumstances where a contaminant may enter water provided that where the discharge is located over an unconfined or semi-confined aquifer and the highest groundwater level is less than 2 m from the ground surface, there shall be at least 600 mm of soil or sand between the point of discharge and the highest recorded groundwater table.

For the expanded area, groundwater will be >30 below the bottom of the quarry pit (Section 2.6.1) and there are no surface waterways nearby (Section 2.6.2). Therefore, the conditions above will be able to be met.

In summary, permitted activities could be established without further regional consents for discharges. It is noted however that any discharges would have to comply with plan rules (including on nutrients and the need for Farm Environmental Plans) or otherwise seek consents.

4.7 Surface Drainage Post Quarrying

Given the nature of the underlying soils and gravels, surface water will naturally drain without the need for additional surface drainage and subsoil drains.

The following measures are part of the rehabilitation activities, and they will ensure natural drainage systems on the site:

- Materials will be deposited in a manner that encourages free draining of stormwater runoff into the permeable ground.
- When rehabilitating extraction areas to achieve the final rehabilitated ground level, topsoil will be placed on top of the free draining gravels.
- Topsoil will not be compacted when being placed on the quarry floor. It will be loosely placed and spread by appropriate machinery e.g. grading. In the event that compaction of the topsoil can be ripped to loosen it and encourage drainage.

4.8 Rehabilitation Timeframes

Timeframes for rehabilitation of the site will be driven largely by the rate of extraction and will occur progressively over the site once areas of extraction have been completed.

It is anticipated that rehabilitation of each worked out stage will be completed within 12 months of the stage being complete.

Screenworks expects that the entire site would be rehabilitated within 12 months after the final extraction of all resource has occurred and the cessation of filling. The exception to this would be if further consents were obtained to allow the site to operate as an aggregates processing facility on an ongoing basis.

5. Environmental Management & Additional Mitigation

5.1 Regulatory Compliance

It is the responsibility of Screenworks to ensure compliance with all relevant consents, regulations and acts that apply to the site and activities occurring on site.

Specific roles and responsibilities are covered in Section **Error! Reference source not found.**.

5.2 Environmental Management & Additional Mitigation

5.2.1 Introduction

The rehabilitation principles and methodologies outlined in the QSRP (Section **Error! Reference source not found.**) will ensure that the rehabilitation objectives (Section 1.2) are achieved. In addition to these Screenworks will implement a number of other environmental management and mitigation measures to ensure best practice in the rehabilitation of the site.

5.2.2 Dust Management

- To limit dust emissions from the site operations the following mitigation measures are proposed:
- Undertaking extraction in sub-stages of no more than 2 ha and keeping active working quarry area to no more than 6 ha at any time;
- Limiting areas requiring dust suppression to a maximum of 2 ha.
- Retaining the established shelterbelts along the boundary of Bealey Road and extending plantings in accordance with the Mitigation Plans attached to the evidence of Ms Naomi Crawford;
- Not extracting within 150 m of the notional boundary of the principal residential unit at 23 Bealey Road and 200 m of the notional boundary of the principal residential units at 137 and 153 Bealey Road unless written approval has been obtained from the owners and occupiers of the respective residential unit.
- Not processing within Stages in Stages 3 and 4 of the site expansion ;
- Minimising drop heights when depositing any material as part of the site preparation, loading of haul trucks, excavation, or rehabilitation;
- Carrying out aggregate processing on the floor of the pit;
- Stockpiling on the floor of the pit;
- Covering and/or dampening of loads with high dust emission potential;;
- Avoiding extraction, crushing and screening within 100m of the northern site boundary when wind speeds from the south and southwest (155 to 255oN) are equal to, or exceed, 7.5 m/s as a 1 hour average during dry weather conditions;
- No aggregate processing shall occur within 50 m of an external site boundary.
- Limiting vehicle speeds on site to not more than 15 kilometres per hour;

- Use of water spray suppression or dust suppressants on haul roads as needed to reduce dust generation;
- Grassing bunds as soon as practicable to stabilise the bund material and reduce opportunity for wind erosion;
- Rehabilitation of completed sections of the quarry as soon as practicable to minimise the potential for dust; and,
- Maintaining all possible dust controls in line with the Dust Management and Monitoring Plan (DMMP).

5.2.3 Slope Stability

One of the objectives of the rehabilitation is to maintain slope stability for health and safety purposes and to also ensure the stability of adjoining land and its susceptibility to subsidence and erosion. The measures undertaken to achieve and maintain slope stability include:

- Recontouring the quarry faces to achieve a slope of no more than 1v:3h.
- Development of a free draining landform following completion of backfilling.
- Re-grassing the sites to stabilise them as soon as possible and to reduce erosion.
- Monitoring and maintaining rehabilitated areas to ensure they are functioning appropriately post-closure for a period of 12 months and/or until 80 % groundcover is established.

5.2.4 Noise

Screenworks shall ensure that trucks and other vehicles entering and exiting the site do not generate noise to the extent that they create a nuisance for any neighbouring landowners.

The haul roads and site entrance shall be inspected on a weekly basis and directly after rain to ensure that there are no potholes, which could increase the levels of traffic noise. The potholes shall be repaired immediately.

The mobile processing and crushing plant will be positioned on the floor of the quarry pit. All equipment and machinery will be serviced and maintained regularly to ensure no excessive noise and vehicle speeds will be limited to no more than 15 km/hr on site.

The site operating hours are 7.00 am to 6.00 pm, Monday to Friday and 7.00 am to 1.00 pm on Saturdays. No work will occur on Sundays or public holidays. No aggregate processing shall occur on Saturdays, Sundays or statutory holidays.

Two machinery transporter movements may occur between the hours of 7.00 am to 6.00 pm, Monday to Friday.

5.2.5 Monitoring

Monitoring during and post rehabilitation will include all or some of the following:

- Stability of the final landforms.
- Vegetation growth and health.
- Monitoring of meteorological conditions and dust.

The stability of the final landforms will be monitored until they are fully stabilised. If any potentially unstable areas are identified remedial action will be taken as soon as practicable.

The grass/vegetation growth will be monitored to ensure a good healthy crop with good ground cover. Where the growth is poor the areas will be resown and managed to ensure good growth and cover.

Daily inspections will be undertaken to monitor dust emission sources and visible dust going beyond the site boundary and adequacy of dust suppression. Meteorological and PM10 monitoring will also be

undertaken to inform when additional dust control measures (Tier 1 measures) must be considered and when certain activities must cease (Tier 2 measures).

No groundwater monitoring is required given the depth to groundwater.

6. Accountabilities

6.1 Site Management

6.1.1 Owner and Operator

The site is owned and operated by Southern Screenworks Limited. The overall management of the site rehabilitation is the responsibility of the Environmental & Compliance Manager:

Environmental & Compliance Manager
Southern Screenworks Limited
50 Bealey Road, Aylesbury Road,
Christchurch 7671
Attention: Sarah Bonnington
E: sarah@southernscreenworks.co.nz
C: 027 642 0665

6.1.2 Roles and Responsibilities

Table 3 outlines the roles and responsibilities of various personnel with reference to the QSRP.

Table 3 – Accountabilities for the QSRP

Role	Accountability for this Rehabilitation Plan
Site/Quarry Manager	▪ Ensure compliance with the plan. ▪ Undertake training in relevant Management Plans and procedures as required. ▪ Ensure adequate resources are available for the effective implementation of this plan. ▪ Allow for forward planning as necessary. ▪ Schedule rehabilitation activities as per this plan. Coordinate the implementation of rehabilitation management controls and strategies in accordance with this Plan.
Environmental & Compliance Manager	▪ Ensuring compliance with all conditions of resource consents pertaining to the site. ▪ Ensuring that staff understand how to comply with consent conditions, where relevant to their job descriptions. ▪ Communicating resource consent requirements to staff, contractors and all other relevant parties. ▪ Consult with regulatory authorities as required. ▪ Undertake monitoring as required. ▪ Undertake maintenance as required. ▪ Provide measures for continual improvement this QSRP. ▪ Overseeing compliant implementation of all site management plans. ▪ Ensure employees are trained and competent to implement this plan. ▪ Reporting.
Staff and Contractors	▪ Comply with all requirements in this Plan. ▪ Report all potential environmental incidents to the Environmental & Compliance Manager and/or the Quarry Manager immediately. ▪ Advise the Environmental & Compliance Manager of any potential improvements to the quality of the rehabilitation.

7. Review and Implementation

As noted in Section 1.3, this QSRP is a live document. The QSRP will be amended if any of the following arise:

- There are changes to rehabilitation objectives and completion criteria.
- There are changes to the rehabilitation method.
- There are changes to the rehabilitation principles or control measures (Section **Error! Reference source not found.**).

Any changes made to the QSRP will be submitted to Selwyn District Council for certification

Appendix A –Existing Resource Consents

Consent reference	Authorised activities	Grant and expiry dates (if applicable)
SDC consents		
SDC115008	Land use consent from Selwyn District Council to operate a quarry and cleanfill within the Rural (Outer Plains) zone.	Unlimited
SDC125013	Variation of conditions pursuant to Section 127 of the Resource Management Act 1991 in respect to land use consent 115008 granted on 22 August 2011 by delegated authority.	Unlimited
SDC145157	To deposit cleanfill material onto a Council owned gravel reserve for infill and rehabilitation purposes	Unlimited – note that this consent is completed.
CRC Consents		
CRC111384	Consent from Environment Canterbury to extract up to 30,000 cubic metres of gravel per year, the deposition of material and the rehabilitation of the site	15 July 2046.
CRC111434	Consent from Environment Canterbury to discharge contaminants to air from gravel extraction and clean filling activities.	15 July 2046
CRC164057	Consent from Environment Canterbury to discharge stormwater to land from concrete pad/wash bay area and refuelling area.	3 June 2050
CRC164143	Consent from Environment Canterbury to discharge contaminants to land from truck wash water.	3 June 2050
CRC171920	Consent from Environment Canterbury to discharge contaminants to air from a mobile crushing and screening plant. While this consent is not specific to the Aylesbury site, it applies throughout the Canterbury Region and can be used to authorise crushing and screening up to 100 m of houses and 20 m of the property boundary within the expansion site without written approval from the neighbouring property owner.	23 September 2026

ATTACHMENT 2 – PHOTOS OF THE EXISTING REHABILITATED AREAS

Attachment 1.1. – Newly Grassed Areas an Stabilised Surfaces

Attachment 1.2. – Newly Grassed Areas