Conservators Road, Yaldhurst

Assessment of Landscape and Visual Effects

Prepared for SOL Quarries Ltd
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February 2019

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INTRODUCTION

SOL Quarries Limited are seeking consent to expand their existing gravel quarry operating at 81 – 83 Conservators Road, Yaldhurst. SOL Quarries has entered an agreement to purchase and amalgamate 28.33 ha of the two adjoining properties on the eastern boundary of the existing quarry. The adjoining land will be progressively excavated in three stages generally from east to west over a 20 year period including a lapse period of 8 years.

The proposal is to be assessed as a Discretionary Activity. The purpose of this report is to consider the potential landscape and visual effects and cumulative effects of a 28.33 ha extension to the existing gravel quarry on the surrounding rural environment and neighbouring properties. Refer Photograph 1 below.

Photograph 1. Proposed SOL Quarry extension.

A colour A3 graphic supplement accompanies this report and contains an aerial, site photographs, a viewpoint location map, and photo-panoramas from the surrounding receiving environment to illustrate the proposed development and the receiving environment on Sheets 1 – 15.

THE RECEIVING ENVIRONMENT

The site is located on the alluvial plains of Canterbury, northwest of Christchurch City. Refer Sheets 3 – 5. The site is zoned RuW. The adjoining land to the north is zoned Open Space Natural (ON). It comprises the McLeans Grassland Park, which extends for approximately 89 ha up to Conservators Road. This land is owned by the Christchurch City Council and is not accessible by the public. The open space McLeans Island recreational area (OMI) lies a further 1.5 km north of the site. The Waimakariri River bed is within 4.0 km north of the site and confined by flood protection stop-banks.

The Christchurch Airport is located within the Special Purpose Airport zone, approximately 2.3 km east of the site. The Rural Quarry zone lies 1.9 km to the east of the site.

The land south of SOL Quarry and the site is zoned RuW. Part of this zone includes 336 ha of land owned by ECAN identified as a Rural Amenity Landscape. The balance RuW land immediately adjoining the site to the south is owned by Harewood Gravels Ltd. The bulk of the RuW land is currently grazed.

Where the land has not been subject to modification by rural production activity aerials show subtle landform undulations across the plains formed by historical Waimakariri River braids. This is evident on the land within the ON Mcleans Grassland Park adjoining the northern boundary of the site and the ECAN land to the south. This land contains dry grassland, dryland plains native vegetation and a relatively undisturbed landform.

With the exception of the CCC and ECAN land, the balance of the RuW zoned land within the receiving environment is predominantly flat but has been highly modified by rural activities over the years. Subtle landforms are now barely discernible at ground level except with reference to aerial photographs. Bunds are a relatively common feature in the vicinity used to screen rural activities and as flood protection.

The balance RuW zoned land cover predominantly comprises grassland / pasture and exotic evergreen and deciduous trees providing shelter, amenity and / or plantations for timber production. A network of water races follows road boundaries and are a characteristic of the rural environment.

The rural land use is diverse, compartmentalised by cadastral boundaries identified by shelterbelts and obviously modified from its natural state. The presence of infrastructure introduces further built elements, including roads, power pylons, transmission lines and the airport into the landscape.

Approximately five quarries have been consented within one km of the site, including Fulton Hogan Limited, K B Contracting Limited, Isaac Construction, Frews Limited and SOL Quarries Limited.

The existing SOL Quarry site forms part of the receiving environment adjoining and immediately west of the application site and comprises 25.1590 ha of rural land. Access to the existing SOL Quarry is from Guys Road via a partly sealed metal road for heavy trucks and from Conservators Road via a narrow metal road for light vehicles. Vehicle movements per day are restricted for each accessway. The existing quarry site contains an office building, one large shed for maintenance and storage and a weigh bridge close to the eastern boundary. Vegetated bunds and several large trees (pine trees and a walnut tree) are clustered around the weigh bridge and maintenance shed. The SOL quarry is consented to operate for 15 years and expires on 22nd February 2031.

The application site is on the periphery of a small enclave of intensively developed rural holdings comprising approximately 12 dwellings and ancillary buildings along Conservators Road, and Savills Road to the east. Of these 12, the four neighbouring properties immediately adjoining the site are 21 Conservators Road (owned by Harewood Gravels Limited) and the parent properties at 93 and 133 Conservators Road (owned by the Higgs and Stocks) including the family flat at 119 Conservators Road which is part of the Stocks property. The owners have all given consent to the proposed quarry extension. The

remaining eight residential dwellings in proximity to the proposed development are located on the east side of Conservators Road (at 40, 70, 90, 100, 118 and 136 Conservators Road), and on the north side of Savills Road (at 15 and 25 Savills Road). Most of these properties are surrounded by established shelter and amenity trees and are all located more than 250 m from the site.

THE SITE DESCRIPTION

The site is bounded by the SOL Quarry access road and land owned by Harewood Gravels Ltd to the south, SOL Quarries to the west, McLeans Grassland Park to the north and the parent properties, including dwellings at 93, 119 and 133 Conservators Road to the east.

The application site is currently accessed from Conservators Road along its southern boundary and immediately adjoining the SOL Quarry access. The site will be subdivided from the adjoining parent properties noted above and amalgamated to result in an area of 28.3 ha. The parent properties will remain as rural residential and both have consented to the proposed quarry extension.

The eastern site boundary is approximately 555m in length and lies parallel to Conservators Road at a distance of over 250m from the road boundary. The 220kV National Grid traverses the property, and one Transpower pylon carrying the Islington 66kVA powerlines is located within the site. The majority of the site lies within the 50dBA noise contour.

The site's landform is generally flat and is under pastoral and cropping use including an area cultivated as Ready Lawn. An existing stockwater race runs east-west across the site to Conservators Road. A cluster of existing sheds are present and used for the existing Ready Lawn operation. Short sections of pine shelter belts orientated north-south are present along two internal paddock boundaries.

There are no known ecological areas of significance or noted areas of indigenous vegetation within the site. The site is not a recorded archaeological site and contains no items of historic significance or protected trees.

The site is partly visible from parts of Conservators Road, at a distance from the Savills Road and Guys Road intersection and from a short section of Guys Road.

Landscape and Amenity Values

The receiving environment generally conveys a rural character due to a sense of spaciousness, low built density with a dominance of vegetation. High landscape values are mostly associated with the broader landscape setting such as the open space plains particularly evident as dry grassland on the adjoining McLeans Grassland Park and undeveloped ECAN land to the south both identified as Rural Amenity Landscapes.

Landscape values particularly those relating to natural character values are reduced to moderate due to the extent of modification to the landform through quarrying, the presence of infrastructure, the removal of top soil by Ready Lawn and the modification to the indigenous landcover over the years by farming practises.

Cultural patterns are predominantly related to productive land uses and are generally large scale. Amenity is largely derived from the rural character – specifically the open expansive grassland on neighbouring ECAN land and the McLeans Grassland Park, pasture interspersed with shelter trees and where shelter belts are absent views to the distant mountains. However, as a consequence of the diverse land uses and land cover in the immediate vicinity of the application site, amenity varies between high and low.

THE PROPOSAL

The proposed quarry extension seeks to establish, operate and rehabilitate a 28.3 ha rural site over a maximum 20 year period. The excavation activity is proposed to be in three sequential key stages, from west to east as a continuation of the existing SOL quarry. A maximum of 9 hectares will be exposed at any one time. Rehabilitation will occur sequentially and simultaneously over one part of the site while the next stage is developed.

A 3m high vegetated bund with a base width of 15m and a 2:1 batter will be established along the north-eastern boundary of the site. Resource consent will be sought from ECAN and CCC to relocate the stock-water race, and an authority to relocate sought from SDC. The stockrace currently runs west-east across the site and is proposed to be relocated to the northern and eastern boundaries of the site on the outside of the bund. A 3 m buffer / access strip for maintenance will be provided along the water race (owned by SDC) to allow for maintenance. A fence will be on the quarry side of the 3 m strip. The bund will be on the quarry side of the fence along the north-eastern site boundary only.

It is understood that consultation has been undertaken with Transpower to confirm the conditions required to operate in proximity to the 66kVA powerlines.

In brief the application consists of the following parameters:

- Excavation to a depth of 10 metres or 1 m above the highest expected groundwater, with the groundwater depth at a minimum recorded level of 12 metres;
- Processing of aggregate will be on-site, with up to a maximum of two mobile plants operating;
- The crushing plant will be located within the quarry pit and will occur between 7 - 10 metres below ground level, for the purposes of crushing, screening and stockpiling of gravel;
- Stockpiles of overburden resulting from enabling works on site will not exceed 7m in height;
- Stockpiles of processed material will not exceed 7m in height;
- Dust suppression will include water dampening, seal maintained over the first 250 m heavy vehicle entrance and vegetation cover maintained on the bunds;
- Storage of diesel in a 10,000 litre tank on hardstand for refuelling;
- Hours of operation between 7:00 am and 6:00 pm Monday to Friday and 7am to 12pm on Saturdays. No quarrying will occur on Sundays or Public Holidays;
- Heavy vehicle movements of 300 vpd from a new access (Haul Road) at Guys Road to the south of the site;
- Light vehicle movements of up to 30 vpd from existing access off Conservators Road; and

- Rehabilitation by backfilling with clean-fill and coverage with a 3-400mm soil layer to a level of approximately 1m below existing ground level. The finished ground level will be recontoured and grassed.

Subject to consent the site will allow an increase in land area and duration of the existing quarry operation, but the scale and intensity of the quarry operations will not change.

STATUTORY REQUIREMENTS

According to the Christchurch District Plan (CDP) the proposed activity is listed as a Discretionary Activity and as such, the Council's assessment is unrestricted and all actual and potential effects of this proposal must be considered. Consent Authorities must also have particular regard to the provisions of Part 2 of the RMA. The most relevant of these relating to the proposed quarry are the matters set out in section 7 of the Act. These are addressed separately below in the section titled Landscape and Visual Assessment.

The Objectives and Policies applicable to the proposed activity are found under Chapter 17 Objective 17.2.1.1 and policies 17.2.2.1 – 5 including policies 17.2.2.10, 12 and 13 that relate specifically to quarrying activities. The key policies relevant to landscape are appended in full to this report in Appendix A.

LANDSCAPE AND VISUAL ASSESSMENT

The landscape matters relevant to the proposed quarry extension in the RMA, Part II, Section 7 are:
7 (c) The maintenance and enhancement of amenity values;
7 (f) Maintenance and enhancement of the quality of the environment.

The quality and amenity values of the receiving environment relate to the existing rural character and rural amenity (including pleasantness and aesthetic coherence of an area or view) and the effects on these arising from the proposed development.

Effects on Rural Character

The landscape character of any area is derived from the combination of natural and man-made elements such as vegetation, landforms, water bodies, buildings, roads, etc. What distinguishes one landscape from another is the way elements are combined.

The landscape character and amenity of the existing local environment informs the extent and appropriateness of effects arising from the proposal. This is acknowledged by the CDP[2], which recognises that rural character and amenity values vary across the district resulting from the natural and physical resources present, including the location and extent of established and permitted activities in the zone, such as quarrying. As such the CDP anticipates that discretion will be exercised to grant consent for quarrying activity in the rural zone if effects of the activity are being managed to a level appropriate for the zone and for the specific context of the rural environment.

[2] *Policy 17.2.2.3 (3).*

The RuW zone is typical of a rural landscape overlaid by human-induced patterns related to productive land uses. The immediate rural context is described as an alluvial plain, predominantly dry grassland, modified pasture, shelter belts, wood lots and a number of established quarries. The human activity is predominantly large scale, with few structures and a sense of spaciousness, except for the small enclave of low-density rural residential to the north.

Quarrying activity is defined in the CDP as a Rural Productive activity. The proposed quarry will be consistent with the nature, scale and intensity of the adjoining SOL Quarry activity existing in the vicinity. The quarrying activity will occur in stages allowing the majority of the site to be perceived as open space during the life of the quarry. The progressive rehabilitation of each stage will return areas of the site to grazing pasture and therefore consistent with a rural character.

Effects on Visual Amenity

Amenity values are defined under the Act as:

> *Those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes.*

Whether a landscape has visual appeal or not is often derived from a person's response to the character of a landscape and therefore visual amenity and landscape character are inextricably linked.

Although individuals will have different perceptions of landscapes, the DP offers direction as to what the commonly held values in relation to rural character, and amenity values in the rural area are. In this instance amenity sought for the RuW zone is largely derived from the rural character of the surrounding environment in the vicinity of the application site and is related to a predominance of open space and vegetation. Further guidance is given by Policy 17.2.2.3 which sets out the amenity anticipated for the zone.

Although amenity values encompass a broad range of issues, this assessment concentrates on the visual aspect of amenity as a measure of the visual quality of a landscape experienced by people living in, working in or travelling through it. It is invariably associated with the pleasantness, memorability and aesthetic coherence of an area or a view. However, it is important to note that visual amenity is not always static and the effects of change on amenity can be quite subjective.

In addressing the matter of amenity values, this assessment is confined to those of a visual nature from the closest public roads and in proximity to rural dwellings in the locality. Public views of the proposed quarry will be restricted to Conservators Road and Guys Road. Representative viewpoints have been chosen from these places to assess the proposed quarry because these viewpoints afford the closest public views and are those most likely to affect local residents. Refer Sheet 6.

The following assessment is an expert opinion, and the criteria applied to the assessment of effects, and the terminology to define the degree of visual impact used are attached in Appendix B to this report. The consequent effects on visual amenity are assessed below according to a defined Scale of Magnitude of Effects. Refer Appendix B.

The significance of the visual effects will be influenced by the visibility, the scale, nature and duration of the proposed development, the context of the existing landscape, the visual sensitivity of the viewer and the size of the viewing audience.

It is important to note that visual effects are likely to be experienced differently depending on whether the viewer is a local resident or a visitor to the area. Changes to familiar views will be immediately obvious to local residents, whereas they will be less noticeable to passers-by.

The key influencing factors controlling local views and the extent of visibility of the proposed quarry is the nature of the activity, which is essentially below natural ground level and to a lesser extent the proposed bund, proposed shelterbelt, existing shelterbelts and exotic amenity trees within the receiving environment in relation to the potential viewpoints from public roads and neighbouring properties.

The following assessment is undertaken with consideration of the visual sensitivity of viewers, the amenity conveyed by the existing environment, the amenity anticipated by the RuW zoning and the consented development in the vicinity of the site.

Viewpoint 1 Conservators Road looking southwest at a distance of 381 m to the closest corner of the site.

This viewpoint illustrates the open space values associated with the dry grassland plains and the human modification including the transmission lines and pylons and the residential enclave identified by the dense planting of amenity trees. The existing SOL quarry pit operates behind the existing bunding and trees and cannot be seen from this viewpoint. The mature pine trees currently obscure the SOL quarry weighbridge and maintenance shed. The trees and bunding will be removed as part of Stage 1 enabling works. The proposed quarry will be located behind the proposed bunding at a minimum distance of 381 m. The proposed quarry will not be visible from this viewpoint and therefore there will be **no** visual effects.

Viewpoints 2 and 4 Conservators Road looking southwest towards the site.

Viewpoints 2 and 4 illustrate the rural residential amenity currently existing along Conservators Road derived from low density dwellings and established amenity planting along the road boundary. The proposed quarry is located behind the rural residential properties at 93, 119 and 133 Conservators Road setback approximately 250 m from the road reserve. The rural residential activity fronting Conservators Road will remain and will obscure the proposed quarry. Therefore, there will be **no** visual effects.

Viewpoint 3 Conservators Road looking southwest towards the site at a distance of 250 m.

This viewpoint was chosen because it looks across a paddock adjoining the road between the Higgs and Stock properties at 93, 119 and 133 Conservators Road. Views are mostly obscured by the gorse and mixed exotic hedge along the property – road boundary. Where

gaps in the vegetation permit views comprise the foreground paddock and existing sheds set back 225 m and 330 m from Conservators Road. The nearest shed will remain as part of the Higgs property. The cluster of sheds that are part of the Ready Lawn business are located on the application site and will be removed at Stage 3 of the proposed quarry operations. The removal of these built structures will increase the openness consistent with a rural character.

It is unlikely that the proposed quarry activity will be seen from Conservators Road beyond the existing foreground. However, to ensure other effects are mitigated, bunding is proposed along the north-eastern site boundary adjoining the Higgs property and a shelterbelt will be planted along the boundary in common. Effects on visual amenity will be **negligible** from this viewpoint.

Viewpoint 5 Conservators Road looking southwest towards the site at a distance of 250 m.

Viewpoint 5 offers the clearest view to the site from a public road looking west across an open paddock to the proposed site boundary at a distance of 250 m. The views from the road are largely unobstructed with boundaries identified by post and wire fences. The large pine trees currently bounding the existing SOL Quarry mark the western boundary of the site in the background. Bunding is visible close to the trees. The existing weigh station and large equipment shed are screened from view. Views to the adjoining properties to the north and south are obscured by shelterbelts and amenity planting.

Despite the open nature of the view, the proposed quarry will not be seen except during the initial enabling works where removal of topsoil and the formation of stockpiles and / or bunding are being undertaken. As noted, bunding will be put in place along the site boundary and shelterbelt planting along the boundary in common will ensure visual effects are **negligible**. The existing rural outlook will be maintained by the setback from Conservators Road and ongoing pastoral activity in the foreground.

Viewpoints 6 and 7 Conservators Road looking northwest towards the site at the entrance and at a distance of 450 m.

Viewpoint 6 shows the existing Conservators Road access to SOL Quarry for light vehicles. This will continue to be utilised as the light vehicle entrance and the consented vehicle numbers per day will remain in place. Essentially there will be no change to the entrance so there will be **no** visual effects on amenity from this viewpoint.

Viewpoint 7 looks obliquely towards the site at the right angle bend on Conservators Road. The view comprises gorse hedges along the road boundary, open pasture, shelterbelts, power pylons and transmission lines, post and wire fences, an equipment shed partly surrounded by shelterbelts, large mature shelter and amenity trees surrounding the Higgs property.

The proposed quarry will lie beyond the existing hedge and shelterbelts so at this angle the quarry will be mostly obscured, except for potential views of the distant northern corner bund approximately 7 – 800 m away. Effects on visual amenity will be **negligible**.

Viewpoints 8 and 9 Guys Road looking southwest towards the site at a distance of 950 m.

These views comprise the open grassland identified as a Rural Amenity Landscape, a forestry block to the southwest and large established amenity / shelter trees surrounding an existing dwelling and ancillary sheds on the adjoining Harewood Gravels property to the east. The SOL quarry truck access is identified by the truck movements, rather than views of the road per se. Power pylons and transmission lines are obvious across the plains.

The shelter trees surrounding the maintenance shed and weigh station on the SOL quarry site are noticeable in the background. The existing bunding is indistinguishable as a change in landform because the grass cover merges into the surrounding grass landcover. However, the removal of the trees and bund between the SOL Quarry and the proposed site will result in distant views of the weigh station and maintenance shed. Despite this, these structures will not appear out of place in their context. The proposed quarry pit activity will be below ground and at this distance will not be visible. The number of truck movements will continue as consented for the existing SOL Quarry so effects on visual amenity will be **negligible.**

CHRISTCHURCH DISTRICT PLAN PROVISIONS ASSESSMENT

The Objectives and Policies relevant to the quarrying activity and landscape matters seek to ensure that activities, such as quarries that utilise the rural resource, avoid, remedy or mitigate adverse effects on rural character and that amenity values and that visual screening maintains local rural amenity and character.

Of particular relevance is Policy 17.2.2.3, which requires recognition that rural productive activities, including quarries, can produce traffic, noise and dust and that these effects can be expected to occur as part of rural working character. These elements of a rural working character are well established in the vicinity by several existing or consented quarries.

Policy 17.1.1.3 also outlines that the elements contributing to a rural character and rural amenity are mainly concerned with lack of buildings, dominated by openness and vegetation.

The proposed quarry extension will be consistent with this policy and those policies that seek that effects on rural character and amenity are to be addressed because it will not introduce additional buildings, will generally maintain a level of openness commensurate with a rural character with the removal of some built structures, will provide appropriate visual screening and will be setback over 250 m from neighbouring rural residential properties.

In essence, the visual assessment above demonstrates that the experience of Conservators Road will not appreciably change with the introduction of the proposed quarry activity. An open pastoral outlook interspersed with rural residential dwellings surrounded by amenity planting will be maintained along the road corridor.

With regard to Policy 17.2.2.13, once the site is rehabilitated and returned to pasture the site will not look greatly different to other properties in the vicinity and it will enable subsequent use of the land for another permitted activity, such as grazing. This is an appropriate end use for a site in the rural zone.

As a discretionary activity, the following assessment matters found at 17.11.2.8 – 16 provide further guidance in considering the specific landscape and amenity effects arising from the proposed quarry activity.

17.11.2 Matters of discretion for activity specific standards

17.11.2.1 Scale of activity

1. The extent to which the scale of the operation and building/s is compatible with, and maintain, rural character and amenity values of the surrounding area, including any relevant built form and noise standards.

a. The extent to which the scale of the proposed activity will remain accessory to the predominant activity on the site and remain connected to or dependent upon the rural environment.
b. Whether the proposed hours of operation are compatible with the local rural environment.
c. The extent to which the site layout and building design will mitigate effects including noise, lighting and traffic.
d. The need for the additional employment as an integral and necessary part of activities being undertaken on the site and its assistance in providing alternative home-based employment and income generating opportunities.
e. The extent to which the scale of the activity will cause demands for the uneconomic or premature upgrading or extension of public services, including roading, which are not in the interests of Christchurch District or the locality.
f. Whether the activity will protect, restore or enhance any natural feature, indigenous vegetation or landscapes and the need for any legal instruments or management plans to protect such values.
g. The extent to which monitoring would assist with management of potential adverse environmental (including amenity) effects, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.

Although the land area and duration of the activity will be increased, the nature, scale and intensity of the proposed activity will essentially be a continuation of the existing SOL quarry. The SOL quarry will extend from its existing boundary for a distance of 550 m in a northeast direction. The consent conditions applying to SOL will remain in place and extend for the proposed 3 stages on the application site over a period of 20 years.

Although the quarry pit location will change, the existing weigh bridge, maintenance shed and offices will remain in situ and continue to operate for the proposed quarry extension.

17.11.2.8 Maximum internal batter slope

a. Whether a steeper gradient would compromise:

i. the stability of any adjoining land or roads, taking account of potential slope erosion or collapse;
ii. the ability to achieve quarry site rehabilitation; and/or
iii. the potential of the land to be redeveloped for other activities compatible with a rural zone.

b. The extent of any visual impacts of a steeper gradient.

The internal batter slope of the working face will be vertical and will comply with best practise guides for quarrying and the relevant operational guides for earthworks. There will be a minimum 20 m setback from any adjoining boundary for stability. The Quarry

Management Plan sets out the conditions and constraints relating to excavation and backfilling including variations to batter slopes during winter and summer and depending on the material being quarried, soil structure and saturation levels. All quarry works will be audited by Work Safe. The angle of repose will be a temporary effect but even so the visual effects of the batter slopes will not be seen from viewpoints outside the site.

17.11.2.9 Location of crushing and screening plant

a. The extent of any adverse visual impacts resulting from the location of crushing plant with specific regard to:

i. the appearance and size of the plant; and
ii. the period of time in which the plant is proposed to be located closer to the zone boundary, or above ground level.

b. Whether the location of crushing plant would give rise potential noise disturbance.

c. The degree to which any proposed mitigation measures would reduce the visual or noise impacts of the plant to be used.

The crushing and screening plant will operate within the quarry pit at a depth of 7 – 10 m below ground. The plant will migrate in stages across the site's existing paddocks and bunding will surround the quarry pit to mitigate any potential effects.

17.11.2.10 Stockpile height and setbacks

a. The extent of any visual effects resulting from the location and height of stockpiles with particular regard to:

i. the visibility of the stockpile from residential units, roads or other public vantage points such as walking tracks and parks;
ii. the quality and effectiveness of any existing or proposed screening (e.g. planting or mounding) on the zone or site boundary;
iii. the collective extent and appearance of all on-site stockpiling; and
iv. the proposed duration of stockpiling in the proposed location(s).

Stockpiles at 7 m high of processed material will be located within the quarry pit at between 8 – 10 m deep and consequently these stockpiles will not be visible. Overburden stock piles will be located within the site at existing ground level and vegetated. Those currently on the SOL site are difficult to distinguish and appear to merge into the surrounding landform. All stockpiles will be at least 250 m away from the nearest road and set behind bunding, a pastoral foreground, and shelterbelt planting. Consequently, any additional stockpile will be similarly difficult to see from the nearest road, public location or dwelling.

17.11.2.11 Minimum excavation setbacks

a. Whether a reduced setback would ensure:

i. sufficient landscaping and distance to mitigate any adverse effects on amenity values; and
ii. the stability of any adjoining land or roads, taking account of potential slope erosion or collapse.

The excavation setback is greater than 250 m and complies with the CDP standard setback for quarrying activities.

17.11.2.12 Visual screening and maintenance

a. The extent to which the site is screened by planting or other satisfactory means to mitigate the adverse visual impacts of lower areas of the quarry, or any aggregates

processing activity, concrete batching or asphalt manufacturing, as viewed from public roads.

b. Whether alternative methods of screening, or a lack thereof, is sufficient to maintain rural amenity and character having particular regard to:

i. the type, scale and appearance of vegetation proposed for screening;
ii. the visibility of the quarry, buildings, plant and machinery from properties in the adjoining rural zone or from external roads; and
iii. the likely visual impacts of reduced screening or mounding, and its implications for increasing actual or perceived noise from quarrying activity, aggregates processing activity, concrete batching or asphalt manufacturing activities.

c. Whether any rural land use has been established on the site since restoration, making screen planting or mounding unnecessary.

d. Whether any proposed planting (type and location) would pose a risk to highway safety from shading during winter months.

Conclusions drawn from the visual assessment above indicate there will be no – negligible visual effects arising from the proposed quarry activity. In addition to the 250 m set back, the site will be well screened by the proposed 3.0 m high bunding along the north and east site boundary and the proposed shelterbelt along the western boundary of the adjoining Higgs property. Shelterbelt planting is common in the rural locality and consequently will not appear out of place.

17.11.2.13 Hours of operation

a. The extent of any amenity impacts (including cumulative with other activities) on residents in adjoining zones which may result from:

i. the intensity, frequency and duration of operating hours; and
ii. the likely additional or prolonged adverse effects associated with quarrying activity, aggregates processing activity, concrete batching or asphalt manufacturing activities, including lighting, noise and traffic generation that are incompatible with surrounding activities.

b. The duration of any extended hours, or of hours of operation associated with aggregates processing activity, concrete batching or asphalt manufacturing, including whether any hours of operation are temporary.

c. Any positive effects associated with the hours of operation including in relation to earthquake recovery and avoidance of adverse effects (such as efficiency of the transport network).

d. The extent to which monitoring would assist with management of potential amenity impacts, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.

There will be no changes to the hours of operation, however the proposed quarry will extend the quarry operation in the area. The proposed quarry will be co-located and appear as a minor extension to the existing SOL quarry so cumulative effects will not occur.

17.11.2.14 Depth of excavation

a. Whether excavating to a greater depth would affect the ability to effectively rehabilitate the quarry site for a range of permitted land uses and within reasonable timeframes including consideration as the suitability and availability of fill and topsoil material and the ability to achieve an appropriate final landform.

The quarry depth will be a maximum of 10 m taking into account groundwater levels. The 20 year staged timeframe will allow in fill of suitable material and subsequent top-soiling to achieve an acceptable final landform and grazing pasture.

17.11.2.15 Activities associated with quarrying activity

a. The degree of association with a quarrying activity on site.
b. Whether the activity is of a scale, function, intensity or character typical of those in rural areas.
c. The extent and duration of any additional or more intensive adverse environmental (including amenity) effects resulting from the activity.
d. The extent of any benefits such as infrastructure efficiencies which result from close or co-location with a principal quarrying activity and support for earthquake recovery.
e. The extent to which monitoring would assist with management of potential adverse environmental (including amenity) effects, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.

The only activity undertaken on site will be the quarrying of natural materials. The proposed quarry will continue at the same scale and intensity as the existing SOL quarry. The benefits derived from co-location with the existing SOL quarry will include the retention of existing access points, weigh bridge, maintenance shed and office in-situ that will continue to be utilised by the proposed quarry so changes to the receiving environment arising from the quarry extension will be negligible.

17.11.2.16 Rehabilitation and end use

a. The extent to which the property will be rehabilitated in accordance with a quarry site rehabilitation plan, prepared by a suitably qualified or adequately experienced person, having regard to the requirements of Rule 17.8.3.14.
b. The extent to which the quarry site rehabilitation plan will:

i. enable the land to be returned to a state suitable for use by other permitted activities having regard to the nature of fill material and degree of compaction.
ii. require the rehabilitation of those parts of the property which are not required for processing to be completed within 5 years of the activity commencing.
iii. require the rehabilitation of those parts of the property used for processing to be completed within a reasonable timeframe, being no more than 3 years after the processing ceases.
iv. result in an improved environmental outcome for the quarry and processing site and the surrounding community, including measures to mitigate any consequential environmental (including amenity) effects of the rehabilitation.

c. The extent to which the rehabilitation timescale would prolong any adverse effects on surrounding land uses including as a result of traffic, noise and dust.
d. The extent and duration of any adverse visual impacts of exposed worked out areas of the quarry as seen from rural properties, roads or other public vantage points, including any mitigation.

A Rehabilitation Plan forms part of the Quarry Management Plan (QMP) and the QMP is submitted to both councils for certification prior to commencement of any works. The Rehabilitation Plan will be in accordance with the Quarry Rehabilitation Guidelines and where possible will consider a more aspirational approach with regard to introducing a variation to final batters and landform. The rehabilitation will return the site to grazing

pasture. Rehabilitation of each progressive stage will occur in sequence and will be constrained by the maximum 9ha limit of exposed material at any one time. Rehabilitation will occur simultaneously over one part of the site while the next stage is developed and this will result in an integrated rehabilitation occurring over the existing Sol Quarry site and the proposed extension. The final rehabilitation will include the removal of bunds around the perimeter and the bund material redistributed over the site to form the final ground level.

The visual assessment indicates that there will be negligible visual impacts arising from views of exposed quarry faces or material.

CONCLUSION

Landscape and visual amenity of the receiving environment is mainly contributed by the factors external to the site including the surrounding large scale plains landform that is highly legible as an alluvial plain and typical of a rural Canterbury landscape .

The site is within the RuW zone where pastoral farming and woodlots are the dominant land use. The bulk of the site has been extensively modified by pasture and the Ready Lawn operation.

The proposed quarry will be consistent with CDP objectives and policies relevant to landscape matters for the following reasons:

- It will not introduce additional buildings and by removing some built structures will generally maintain a level of openness commensurate with a rural character visible from adjoining public roads and properties.
- The quarrying activity will be visually screened along its boundaries by a 3 m high bund and shelterbelt planting.
- The quarrying activity will be set back over 250 m from public roads and rural residential properties in the vicinity resulting in a rural amenity maintained by a pastoral frontage and rural residential properties on the east side of Conservators Road.
- Access to the quarry will utilise the existing SOL Quarry roads and adhere to the vehicle movement limits per day.
- The proposed quarry will not increase the nature and scale of the existing SOL Quarry.
- That an integrated rehabilitation between the SOL Quarry and the proposed extension will occur and a rural pastoral character will continue to dominate once extraction is completed, the site is rehabilitated and returned to pasture.

Overall, the proposed quarry will avoid cumulative adverse visual effect additional to the existing consented activity in the area. Given the above, it is considered that the proposed quarry will maintain the rural character and visual amenity of its immediate and wider surroundings in general and will meet the relevant landscape provisions of the CDP.

APPENDIX A

17.2 Objectives and Policies
17.2.1 Objectives
17.2.1.1 Objective - The rural environment
Subdivision, use and development of rural land that:
supports, maintains and, where appropriate, enhances the function, character and amenity values of the rural environment and, in particular, the potential contribution of rural productive activities to the economy and wellbeing of the Christchurch District;
avoids significant, and remedies or mitigates other reverse sensitivity effects on rural productive activities and natural hazard mitigation works;
maintains a contrast to the urban environment; and
maintains and enhances the distinctive character and amenity values of Banks Peninsula and the Port Hills, including indigenous biodiversity, Ngāi Tahu cultural values, open space, natural features and landscapes, and coastal environment values.
17.2.2 Policies
17.2.2.1 Policy - Range of activities on rural land
Provide for the economic development potential of rural land by enabling a range of activities that:
have a direct relationship with, or are dependent on, the rural resource, rural productive activity or sea-based aquaculture;
have a functional, technical or operational necessity for a rural location; or
recognise the historic and contemporary relationship of Ngai Tahu with land and water resources; and
represent an efficient use of natural resources.
17.2.2.2 Policy - Effects of activities utilising the rural resource
Ensure that activities utilising the rural resource avoid significant adverse effects on areas of important natural resources and avoid, remedy or mitigate other adverse effects on rural character and amenity values.

17.2.2.3 Policy - Contributing elements to rural character and amenity values
Recognise that rural character and amenity values vary across the Christchurch District resulting from the combination of natural and physical resources present, including the location and extent of established and permitted activities.
Recognise that the elements that characterise an area as rural, from which desired amenity is derived, include the predominance of:
a landscape dominated by openness and vegetation;
significant visual separation between residential buildings on neighbouring properties;
where appropriate, buildings integrated into a predominantly natural setting; and
natural character elements of waterways, water bodies, indigenous vegetation and natural landforms, including the coastal environment where relevant.
Recognise that rural productive activities in rural areas can produce noise, odour, dust and traffic consistent with a rural working environment, including farming, plantation forestry and quarrying activities, that may be noticeable to residents and visitors in rural areas.
17.2.2.4 Policy - Function of rural areas
Ensure the nature, scale and intensity of subdivision, use and development recognise the different natural and physical resources, character and amenity values, conservation values and Ngāi Tahu values of rural land in the Christchurch District, including:

the rural productive activities, recreation activities, rural tourism activities and conservation activities on Banks Peninsula and their integrated management with maintaining and enhancing landscape, coastal and indigenous biodiversity values;
the rural productive activities and recreation activities in the rural flat land area surrounding the main Christchurch urban area;
the flood management and groundwater recharge functions adjoining the Waimakariri River;
the open character and natural appearance of the rural Port Hills which maintain distinct urban/rural boundaries
the re-use of the site of the former Templeton Hospital;
the historic and contemporary cultural landscapes, sites of Ngāi Tahu cultural significance and the use of land and water resources for mahinga kai; and
the conservation activities undertaken within the Peacock Springs Conservation Area.

17.2.2.5 Policy - Establishment of industrial and commercial activities

Avoid the establishment of industrial and commercial activities that are not dependent on or directly related to the rural resource unless they:
have a strategic or operational need to locate on rural land; or
provide significant benefits through utilisation of existing physical infrastructure; and
avoid significant, and remedy or mitigate other, reverse sensitivity effects on rural productive activities;
will not result in a proliferation of associated activities that are not reliant on the rural resource; and
will not have significant adverse effects on rural character and amenity values of the local environment or will not cause adverse effects that cannot be avoided, remedied or mitigated.

17.2.2.10 Policy - Separation of incompatible activities

Ensure the design and location of new habitable buildings achieve adequate separation distances or adopt other on-site mitigation methods, including acoustic insulation, to mitigate potential reverse sensitivity effects with lawfully established rural productive activities;
Ensure adequate separation distances between new plantation forestry, intensive farming and quarrying activity and incompatible activities are maintained.
Protect strategic infrastructure by avoiding adverse effects, including reverse sensitivity effects, from incompatible activities on rural land by:
avoiding noise sensitive activities and managing the density of residential units within the 50dB Ldn Air Noise Contour and the 50dB Ldn Engine Testing Contour to take into account the impacts of the operation of Christchurch International Airport;
avoiding buildings, structures, new quarrying activity, and sensitive activities on rural land that may compromise the National Grid within an identified buffer corridor; and
avoiding vegetation that may result in shading of and buildings in close proximity to the strategic transport network.
avoiding new quarrying activity that would have adverse effects on established Radio New Zealand infrastructure

17.2.2.11 Policy - Catchment management approach for rural land

17.2.2.12 Policy - Location and management of quarrying activity and aggregates-processing activity

Enable access to, and processing of, locally sourced aggregate resources to provide for the recovery, development, ongoing maintenance and growth needs of the district by:
providing for the continuation of quarrying activity in the Rural Quarry Zone; and
providing for new quarrying activity in rural zones other than the Rural Quarry Zone only where the activity:

avoids areas of outstanding or significant landscape, ecological, cultural or historic heritage value;
avoids or mitigates effects on activities sensitive to quarrying activities, including residential activities and education activities;
internalises adverse environmental effects as far as practicable using industry best practice and management plans, including monitoring and self-reporting;
manages noise, vibration, access and lighting to maintain local rural amenity values;
avoids or mitigates any effects on surface water bodies and their margins; and
ensures the siting and scale of buildings and visual screening maintains local rural amenity values and character.
providing for new quarrying activity in the Rural Quarry Templeton Zone only if all of the following are satisfied prior to 31 December 2021:
the recreation reserve status applying to the zone is uplifted and placed upon the land within the Open Space Community Parks Zone (Templeton); and
any resource consent(s) to clear or fell indigenous vegetation, as required to undertake the quarrying activity within the zone, is/are granted; and
the quarrying activity occurs in conjunction with development of an international standard golf course in the Open Space Community Parks Zone (Templeton).
providing for aggregates-processing activity in the Rural Quarry Zone where the activity:
makes efficient use of established, large-scale processing infrastructure and facilities; and
does not result in additional or more intensive adverse effects (beyond those associated with quarrying activity) for residents in adjoining zones, including from lighting, noise and traffic generation.
17.2.2.13 Policy - Quarry site rehabilitation
Ensure sites of quarrying activities, and sites of aggregates-processing activities, are rehabilitated to enable subsequent use of the land for another permitted or consented activity; and
Require proposals for new quarrying activities, aggregates-processing activities and changes of use on existing quarry sites to demonstrate through a quarry site rehabilitation plan the objectives, methodology and timescales for achieving site rehabilitation and appropriate end use; and
Ensure the final rehabilitated landform is appropriate having particular regard to:
the intended end use;
the location, gradient and depth of excavation;
the availability of clean fill material, including top soil, and consequent timeframes for rehabilitation;
the surrounding landform and drainage pattern;
the ability to establish complete vegetation cover;
the outcomes of any consultation undertaken with mana whenua; and
any adverse effects associated with rehabilitation.

APPENDIX B

Definition of Magnitude / Degrees of effects on visual amenity

None	No part of the development, or work or activity associated with it, is discernible
Negligible	Only a very small part of the proposal is discernible and / or they are at such a distance that they are scarcely appreciated. Consequently, they have very little effect on the scene.
Low / Slight	The proposals constitute only a minor component of the wider view, which might be missed by the casual observer or receptor. Awareness of the proposals would not have a marked effect on the overall quality of the scene.
Moderate	The proposals may form a visible and recognisable new element within the overall scene and may be readily noticed by the observer.
Substantial	The proposals form a significant and immediately apparent part of the scene that affects and changes its overall character
Severe	The proposals become the dominant feature of the scene to which other elements become subordinate and they significantly affect and change its character.

Note that impacts need not necessarily be detrimental. For example, a proposed prominent group of trees might have a 'substantial' impact but the effect on the landscape and views would be beneficial.

The criteria applied to the assessment of visual impact includes:

Distance / proximity of viewers – the greater the distance, the less detail is seen. Elevation – where a viewpoint is lower than the proposed development it is more likely to be viewed against the sky increasing its impact.
Size – The greater the proportion of the view is occupied by the development or activity, the greater the impact. Colour and form can also increase of diminish impact by drawing the eye or providing camouflage
Context – the degree to which the development is in character with the context, whether urban or rural
Weather conditions – the clarity of the air and the angle and direction of the sun at different times of year affect visibility. Haze may be frequently present especially in views towards the coast.
Activity – where movement and light reflection changing with movement, draws the eye and increases impact
Change- the degree of change in the view.

Guidelines for Landscape and Visual Impact Assessment, 2nd Edition, 2002 The Landscape Institute and the Institute of Environmental Management and Assessment, Spon Press.