Roydon Quarry

Cleanfill Management Plan

Roydon Quarry

220 Jones Road

Templeton

Revision	Description	Prepared By	Checked By	Reviewed By	Approved by
1	Draft for comment	SE	RS	CLG	SE
	Peer Review	SE	N/A		
2	For Council Certification	SE	RS	SE	SE
3	Certified 15/3/2022	SE	RS	KKW	CRC

Initials	Name	Company
SE	Stuart Edwards	Fulton Hogan
CLG	Community Liaison Group	
RS	Richard Smith	Fulton Hogan
KWW	Kimberley Kovacs-Wilks	Ecan (CRC)
CRC	Canterbury Regional Council	

Next review due – Nov 2022 (following quarry operations start

Table of Contents

1 INTRODUCTION

1.1 Background

Fulton Hogan Limited (Fulton Hogan) is a leading infrastructure, construction, roadworks andaggregate supplier in New Zealand. Fulton Hogan currently has three fixed aggregate quarries located in the greater Christchurch area and began its operations in the Canterbury region over 50 years ago. The Roydon Quarry site, located in Templeton, is proposed to be another long-term operation.

This Cleanfill Management Plan has been prepared in accordance Condition 15 CRC192408and is consistent with the Ministry for the Environment's 2002 document "A guide to the management of Cleanfills" (2002 MfE Guide).

The plan objective is to set out practices that Fulton Hogan will apply when cleanfilling operations are undertaken at its "Royden Quarry" site at 220 Jones Road, Templeton, Christchurch (the site). The use of this land for cleanfilling is authorised by resource consent CRC 192408/9 from Canterbury Regional Council (CRC) and resource consent **RC185627** from Selwyn District Council (SDC) (granted on **3/11/2021)**

The current business planning is that clean-filling will not commence until approximately2026, as the extraction process must first be undertaken to make available the first cleanfilling area

1.2 Cleanfill Management Plan Status

This management plan is a draft document prepared for certification by both the CanterburyRegional Council and the Selwyn District Council.

1.3 Environmental Policy

Fulton Hogan seeks ongoing improvement in its environmental performance through an ISO 14001, certified environmental management system. Fulton Hogan's Environmental Policy is included as Appendix 1.

1.4 Purpose of the Cleanfill Management Plan (CMP)

The purpose of this CMP is to identify risks mitigation and controls associated with the deposition of cleanfill on excavated land at 220 Jones Road Templeton: Roydon Quarry.

The CMP also outlines procedures to be undertaken when the cleanfill deposition is not compliant with CRC192408/9.

2 SITE CONTEXT AND OVERVIEW

2.1 Site Location

The site is located within a block of land bound by Curraghs Road, Dawsons Road, Maddisons Road, and Jones Road, and comprises an area of approximately 170 hectares, as shown on Figure 1.

The site is located on the edge of the Selwyn District, with the opposite side of Dawsons Road being the western border of Christchurch City.

The street addresses of the site are 107 Dawsons Road and 220 Jones Road Templeton.

2.2 Surrounding Site Character

The surrounding area is rural in nature, although a number of indications of the Christchurchurban area are evident, including the site being within the noise contours associated with theChristchurch International Airport and the construction of the Christchurch Southern Motorway extension. Templeton township lies approximately 700 m east of the site's respective boundary.

Rural activities within the immediate vicinity include farming (both intensive and pastoral), horse training facilities and some forestry. These rural land uses often have a dwelling associated with them, including to the north and west along Maddisons and Curraghs Road.

On Maddisons Road there is a Samadhi Buddhist Vihara facility and the Weedons NZCMA (Caravan Park) is located some 270 m west of the site at 286 Jones Road.

The neighbouring land to the east, adjacent to Dawsons Road is owned by Christchurch City Council and is in pasture. Fulton Hogan understands that the Council's longer-term plans for this land may include playing fields, urban growth, greenspace and 60 ha proposed for a future cemetery. South of the site is a thin strip of berm between Jones Road and the railway line. To the south of the railway line, between Main South Road, is an industrial yard (Farm Chief, 10 Curraghs Road), a dwelling located at 1090 Main South Road and a small production woodlot

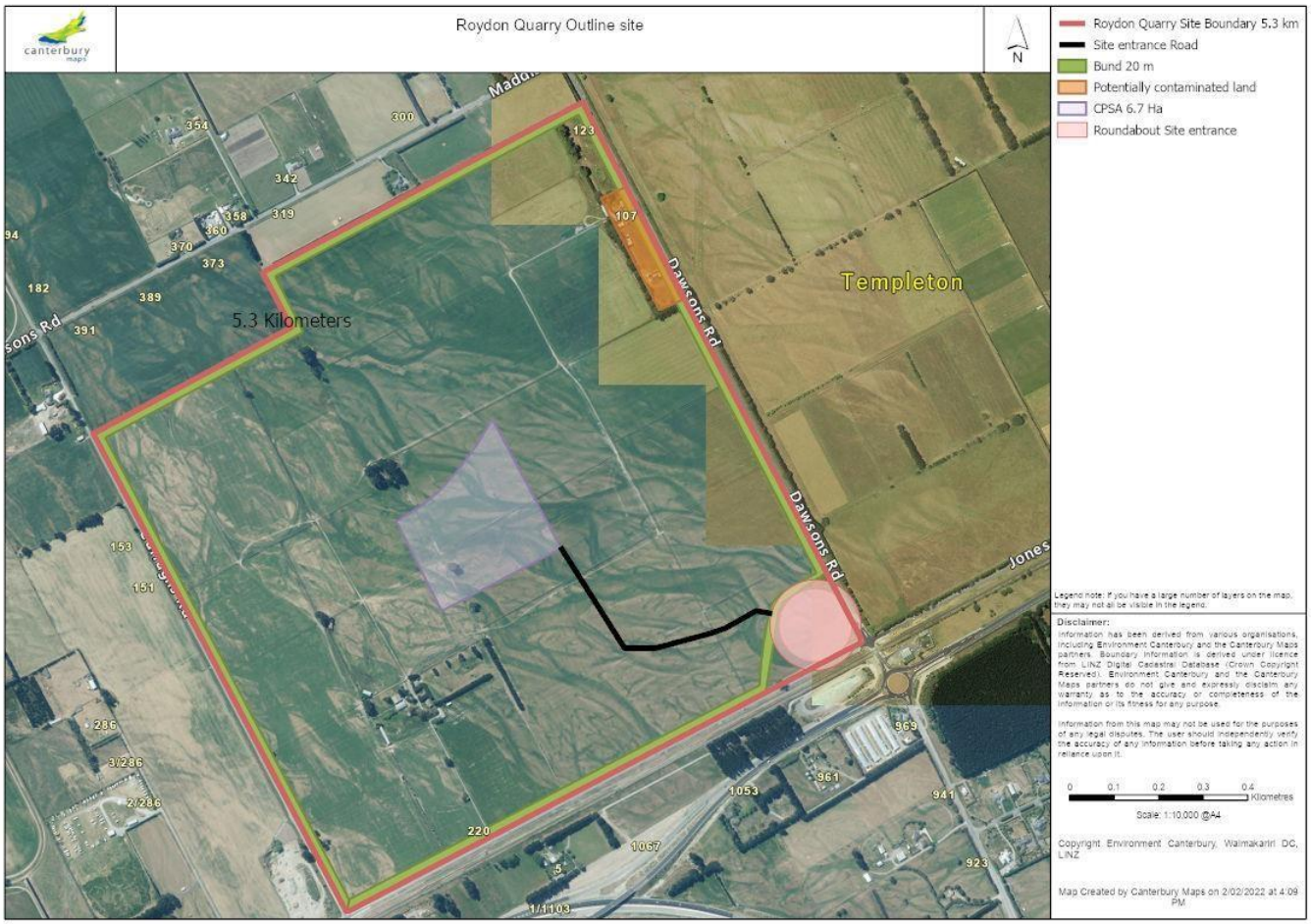

Figure 1: Roydon Quarry - Site Location

3 SITE MANANGEMENT

3.1 Owner and operator

When operational (late 2022) the overall management of site will be the responsibility of theRoyden Quarry Manager or by delegated authority. Responsibilities include:

- Managing daily quarry operations – extraction and manufacturing of aggregates to supply orders.
- Ensuring compliance with the conditions of all resource consents pertaining to the site.
- Communicating resource consent requirements to staff, contractors and all other relevant parties.
- Records are kept of cleanfilling operations and regular inspections of material depositedat the site:

3.2 The Quarry Manager's contact details are:

For the quarry development phase (2022):

- Richard Smith - Project ManagerFulton Hogan Limited
- P O Box 16-064, Hornby Christchurch 8441
- Phone: 02102387152
- Email: Richard.smith@fultonhogan.com

Prior to the quarry becoming operational, a quarry manager will be assigned to the site, withdetails to be advised at that time.

It is not envisaged that any cleanfill will be accepted on site until stage 1 of the operational phase of the quarry operation approximately 3 years from the completion of the quarry development phase.

3.3 Right of Access

The delivery and acceptance of all material to be deposited will be subject to the inspectionof the material by the cleanfill operator and under staff supervision. Outside of operating hours the site will be gated: no cleanfill will be deposited outside normal quarry operating hours..

3.4 Cleanfill Operating Hours

- Monday to Saturday 6:00am to 6:00pm
- Monday to Saturday for up to 150 days per annum- 6:00pm to 8:00pm;
- Monday to Saturday for up to 30 nights per annum-8:00pm to 10:00pm;
- Sundays for up to 15 days per annum 7:00am to 6:00pm.
- The quarry is closed on public holidays

3.5 Staff Requirements

Staff are responsible for ensuring that the site is operated in accordance with all relevantconsents, regulations and acts that apply to the works and the works site.

3.6 Training

Staff are provided with specific training to be able to identify acceptable and unacceptablecleanfill materials and will ensure that the site is operated to meet all resource consent conditions.

Weigh Bridge Operators and Quarry Managers receive specific training relating to the acceptance criteria and the documentation required before cleanfill is accepted for deposition.

As part of the cleanfill supply agreements that all contractors are required to sign each year the Fulton Hogan Cleanfill acceptance criteria are an integral part of this agreement along with the consequences of not abiding by this agreement.

3.7 Health and Safety

Health and Safety procedures on the site will be in accordance with Fulton Hogan's LivingSafely Manual and Relevant Health and Safety Legislation.

3.8 Regulatory Compliance

It is the responsibility of Fulton Hogan to ensure compliance at all times with all relevant consents, regulations and acts that apply to the works and the works site. This responsibility applies equally to Fulton Hogan's employees and other sub-contractors usingthe site, and also extends across health, safety, quality and environmental elements of all activities undertaken within the site.

The relevant consent with respect to the deposition and management of cleanfill at RoydonQuarry are:

- CRC192408/9-Landuse Consent
- CRC192413-Discharge permit

This plan, CMP, should be read in conjunction with the Dust Management Plan and theQuarry Remediation Plan: these plans are part of the overall Quarry Management Plan.

4 DESIGN AND OPERATION

4.1 Site Preparation

The bulk of the site will be excavated to a depth of approximately 9 to 10 m below original ground level, with the exception of boundary setbacks containing bunds around the site's boundaries. Site preparation for the proposed quarrying activitieswill take into account cleanfilling requirements such as haul roads to the tipping area head and bunding.

Cleanfill, which complies with the 2002 MfE Guide and Canterbury Land and Water Regional Plan definition, will be brought to the site from suitable locations and will be placed on floor and pushed up to finish height by a loader. Fill will then be

track-rolled to achieve greater compaction.

Visual inspections of the quality of the fill material coming to the site will assist in ensuring that the material is consistent with any resource consent requirements, and any unacceptable loads will be turned away from the site. This will take placeby inspecting all material both prior to tipping and once it is placed at the fill tippingarea. Should any unacceptable loads reach the tipping area and be unloaded, it will be removed from the site for transportation to an appropriate facility

4.2 Signage

Warning notices that can be read from a distance of five metres shall be erectedand maintained at the entrance to the cleanfill site. This notice shall state:

- The name of the site.
- The name of the quarry operator.
- The name and number for a 24-hour emergency contact.
- That groundwater in this area is vulnerable to contamination and is a sourceof drinking water.
- That only approved cleanfill material is accepted at the site.

4.3 Screening

Established and grassed bunding will exist around the quarry site boundary and willbe retained until the completion of cleanfilling on the site. The bunding will be constructed prior to quarrying and cleanfilling activities occurring on the site.

Planting will be established on the outer side of the bunds.

4.4 Fencing and Security

The site will be fully fenced, and signage will be erected stating that unauthorised access is prohibited. The Quarry will be locked outside of operating hours preventing access to the site and security cameras will be installed on site to monitor the site for any unauthorised access. On site buildings and offices will bealarmed and monitored to prevent unauthorised access.

4.5 Traffic Management

A dedicated heavy vehicle access to the site from Jones Road is proposed as apart of the application. Fulton Hogan intends to develop a new dedicated heavyvehicle access to the site from Jones Road.

5 Final Landform and Cover Requirements

Cleanfill will be unloaded at the fill 'tipping area' prior to being spread across the cleanfill area by a loader. In wetter months, a bulldozer or tracked loader may bealso be used. Fill will then be track-rolled to achieve greater compaction.

Cleanfill may form a important component in enabling the creation of 3:1 batterslopes, leaving premium topsoil for final rehabilitation surfaces.

Extraction and cleanfilling and subsequent rehabilitation will operate one stage apart toenable rehabilitation to follow progressively and not hinder operational requirements.

Following completion of filling in an area, rehabilitation will take place. Rehabilitation primarily involves the spreading and contouring of fill materials stored onsite material, stabilisation of quarry faces, and grassing of completedareas to create a free draining and stable landform.

The site will be rehabilitated in accordance with the site rehabilitation management plan to a predominantly flat landform. The final levels depend on commercial cleanfilling availability of suitable fill. This means that a variation of ground levels in some parts of the site could resemble a slight terracing effect, with higher areas adjacent. At this stage Fulton Hogan's intention is to leave battered slopes with a gradient of 1 (vertical) to 3 (horizontal).

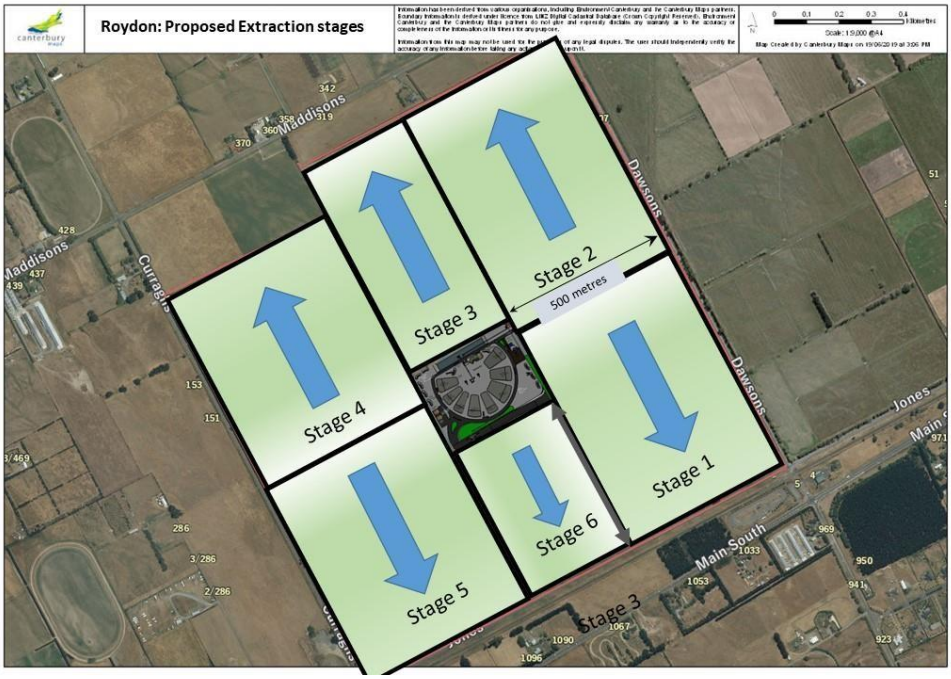

Figure 2: Roydon Quarry proposed extraction staging plan

6 Proposed Staging

Cleanfill material may form a component of site rehabilitation: cleanfill areas will be aligned with the staging outlined in the Quarry Rehabilitation Plan.

It intended that an area of approximately 200 x 400 metres will be stripped prior to excavation over the winter period. As this area is excavated, the excavated land will be progressively rehabilitated by the deposition of cleanfill.

6.1 Timetable for revegetation

In the spring and autumn periods the cleanfilled area will be covered with approximately 300mm of local top-soils and sown with grass or other suitable vegetation. The sown area will be irrigated as required to establish viable vegetative growth over the summer period.

Approximately two Ha may require irrigation over the Summer period.

6.2 WASTE ACCEPTANCE

6.3 Acceptable Cleanfill

Cleanfill material deposited shall only include material defined as being Acceptable Cleanfill Material as set out in Canterbury Land and Water Regional Plan and Section 4.2 the of the 2002 MfE Guide, including:

- Uncontaminated
- soil, rock, gravel,
- sand, silt and clay.
- Glass.
- Bricks.
- Concrete.
- Ceramics.
- Cured asphalt.
- Tiles.
- Road sub-base.
- Untreated wood comprising less than one percent of any load by volume.
- Vegetative material comprising less than three percent of any load byvolume.
- Metals such as reinforcing rods that cannot be reasonably separated from materials listed above.
- Additionally, cured asphalt may be used as cleanfill material but must only be placed in the land at least one metre above the highest groundwater level recoded at the site.

6.4 Unacceptable Cleanfill Material

Unacceptable cleanfill material includes, but is not limited to:

- Abrasive blasting sand/agents.
- Dredging spoil.
- Radioactive waste.
- Asbestos.
- Electrical insulation.
- Separated metals.
- Wet asphalt.
- Hazardous materials.
- Wet or dry lead-based paint.
- Cables.
- Household waste.
- Wet paint.
- Carpet.
- Medical waste.
- Tar.
- Containers plastics.
- Tyres.
- Contaminated soils.
- Electrical insulation.
- Laminated wood.
- uncured concrete.
- Wet cement.
- Gypsum board (i.e. GIB board)
- Road materials containing coal tar.
- Road sweepings and catch pit sediments.
- MDF
- .

Any other liquid containing waste or slurries (such as hydro- excavated soils) are specifically excluded as cleanfill.

All material not listed in Acceptable Cleanfill Material must be excluded from the site. Any material not specified in either acceptable or unacceptable materials must demonstrate that it is not leachable, degradable, putrescible, combustible, hazardous, liquid or unsafe if excavated to be accepted for deposit.

Any unacceptable material detected at the site will be removed and disposed of at an appropriate facility. In the event that unacceptable material is identified, an investigation of source and appropriate response will occur through the OFI systemto avoid any repeat of the non-compliance.

6.5 Testing Requirements

Any cleanfill material or soil deposited at the site shall not be sourced from any siteon the Listed Land Use Register, or where a Hazardous Activities and Industries List activity (as defined by the Ministry for the Environment) has been occurring before the date the cleanfill material is received, unless the cleanfill or soil has been analysed for the appropriate contaminants and/or has been shown to be not contaminated (e.g by a SQEP PSI), as defined in the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 as at or below background concentrations.

6.6 Waste Acceptance Controls

Only material that meets the MFE 2002 cleanfill definitions will be accepted for deposition on-site. Documentation and conformation, from all cleanfill suppliers, that the cleanfill material being deposited on site will be required before material is presented for deposition. These details will be recorded electronically and made available to a Environment Canterbury on request,

All companies that deposit cleanfill must also enter into a binding contract that ensure the above documentation is supplied with every delivery on-site and thecontractor is liable for all costs associated with the removal of any material thatdoes not meet the Fulton Hogan cleanfill acceptance criteria.

6.7 Method of Inspection

The following procedures will be followed when material arrives at the quarry site:

- All imported fill will be received to a pre-determined receiving area where afteran initial check on the vehicle it will be unloaded/tipped from the vehicle/truck/trailer that brings it for the purpose of inspection.
- Imported fill will be inspected for moisture content. Imported fill that is visibly wet, has the appearance of mud, or that does not readily break apart due to the presence of moisture will be laid aside and not inspected until dry.
- Soils displaying evidence of contamination will either be set aside for chemical testing or rejected. If the material is unsuitable the carrier will be turned away and an alternative licensed land-fill site will be suggested. Details of this will be recorded.

- No person may tip any load in an area that does not correspond to the area specifically directed by the Cleanfill Operator. If tipping occurs at a location other than that indicated, records of this will be kept at the Dispatch office andcorrective action taken.

6.8 Suspect Material Indicated at Tip Area

If prohibited substances are suspected or confirmed at the tip-head the area shallbe marked and the area closed off. Tipping will not take place within 15 metres ofthe quarantined area. Once prohibited substances are removed and the quarantined area is cleared tipping may resume in that area

The material will be reloaded onto the truck and an authorised landfill site will be recommended. The driver/customer will be issued with a copy of a rejection notice which will double as a written warning.

A copy will be kept on file. If it is a first offence permission to tip may be restored when the Quarry Manager is satisfied that future material is not from the suspect source. If it is a repeat offence the Quarry Manager may permanently withdraw the right to tip.

Rejected cleanfill material deposited at Roydon will be removed within 7 workingdays of deposition.

6.9 *Documenting* and Record Keeping

A declaration record of all material accepted on site shall be kept, which shall include the following information:

- The name of the company delivering the material.

- The date of deposition.
- The physical address of the land the material was sourced from.
- A description of the material.
- The weight or volume of the material deposited;

Records of the declarations shall be kept, as well as records of inspections carriedout on the material. Any material that does not meet acceptance criteria shall be removed as soon as is practicable, with records kept of such incidents.

Details of any material rejected for acceptance on site for deposition including the following details:

- The name of the company delivering the material.
- The date of presentation
- The physical address of the land the material was sourced from.
- A description of the material.
- The weight or volume of the material :
- Reason s for rejection.

A summary report of volumes accepted and rejected over the reporting period will be made available to the CLG before each CLG meeting. Details of loads accepted or rejected are recorded electronically and are available, on request by Ecan or SDC compliance officers.;

7 ENVIRONMENTAL CONTROLS AND MONITORING

7.1 Remediation of Contaminated land.

Soil contamination has been identified around farm buildings located on Dawsons Road. A preliminary and detailed site investigation reports were prepared by Golder Associates and submitted with the consent applications for the Roydon Quarry consenting hearing.

The handling, and where appropriate reuse, of potentially contaminated materialwill be undertaken in accordance with a Remedial Action Plan prepared by and supervised by a Suitably Qualified and Experienced Practitioner.

A site validation report will be prepared following remediation and submitted toSelwyn District Council.

An Unexpected discovery protocol will be prepared and implemented before quarry activities are undertaken in the vicinity of the contaminated land.

7.2 Spills

All practical measures shall be undertaken to prevent spills of fuel or any other hazardous substances within the site. Spill kits will be available on site.

In the event of a spill, the spill shall be cleaned up as soon as possible in accordance with the Roydon Quarry Spill Management Plan and the Fulton HoganSpill Response Guideline. The area affected shall be inspected and cleaned, and measures taken to prevent a recurrence. Spill kits are to be restocked following deployment. An OFI shall be generated to record the nature of the spill, cause, response, and remedial action required/taken.

Details of a spill greater than four (4) litres shall be communicated to the Canterbury Regional Council within 24 hours, and the following informationprovided:

- The date, time, location and estimated volume of the spill.
- The cause of the spill.
- The type of hazardous substance(s) spilled.
- Clean up procedures undertaken.
- Details of the steps taken to control and remediate the effects of the spill on the receiving environment.

- An assessment of any potential effects of the spill.
- Measures to be undertaken to prevent a recurrence.

7.3 Dust

The procedures and controls detailed in the Dust Management Plan for the Roydon Quarry will be applied to minimise dust discharges from the cleanfilling operation.

7.4 Noise

The procedures and controls detailed in the Noise Management Plan for the Roydon Quarry will be applied to noise nuisance from the cleanfilling operation.

7.5 Sediment and Erosion Control

Erosion and sediment control mitigation shall be in place, as required, to prevent erosion of open pit faces and/or the transportation of sediment off site. No water courses run through the site and being a relatively uniform excavation, all run offwill be contained within the cleanfill site.

7.6 General Site Appearance and Management

he site shall be kept in a tidy condition at all times. Any litter on site will be appropriately disposed of at an approved disposal site.

Site management shall include attention to weed control, with a particular focus being on cleanfilled and rehabilitated areas and around boundaries. Cleanfill stockpiles will be inspected and pushed over the working face on a regular basis.At least annually, a site inspection shall be carried out which will direct works required to maintain the overall amenity of the site.

8 COMPLAINTS RESPONSE

All complaints will be received and the process managed by the Fulton Hogan Communications Officer. This provides neutrality to the situation, and allows escalation outside of the operational team should the need arise. The QuarryManager will lead all responses to the complainant.

Fulton Hogan operates an incident management system (CAMs – Case and Action Management Systems) to allow recording and tracking of issues, any investigations and/or /actions, and the final closure when dealt with appropriately. CAMS acts as the complaints register, and details of all complaint entries shall be made available to the Canterbury Regional Council and/or the Selwyn District Council on request.

As well as the standard details (date, time, location and nature) recorded in CAMS,for complaints it will be ensured that the following details are recorded

- Complainant details - name, phone number and address, unless thecomplainant refuses to supply these details
- Information about the incident as described by the complaint including allphotos and/or videos the complainant may have;
- Who received the complaint and how it was received;
- Weather conditions at the time of the complaint;
- Identification of the possible cause of the complaint following the investigation;
- Details of the corrective action taken at the time to resolve the incident;
- Details of the preventative actions to be taken to ensure the likelihood of such events occurring in the future are minimised.

An investigation of the complaint may require the site manager or delegated staff member to make visual observations about activities occurring on site. This may include going to the location where the complainant observed the impact. Where changes to practices or procedures are identified as appropriate through the complaints procedure, amendment of this Cleanfill Management Plan may be required.

Roydon Quarry

Cleanfill Management Plan

9.0 DOCUMENT REVIEW

In order to provide a general update on cleanfill-related activities, Fulton Hogan proposes to report on an annual basis. This includes covering circumstances arising during the gradual development at the site, which may alter the timing andstaging of cleanfill works. The quarry's consents include a condition about reviewing the need for updating site management plans, including the cleanfill management plan. In some years it may not be necessary to alter the contents ofthe plan if there are no unexpected occurrences, however in other years Fulton Hogan may wish to adjust their strategy.

As a minimum for the cleanfill management plan, Fulton Hogan proposes to conduct a more thorough revision on a five-yearly basis. Should any of the following circumstances occur, this will trigger an unscheduled update (out ofannual review timeframe):

- When there is a fundamental shift in operational activities (e.g. unscheduledmove to a new area).
- Following significant environmental incidents (e.g. flooding on the site, causing damage to assets).

In a scheduled review of the cleanfill management plan, it is proposed that the following matters be considered. This is in terms of suitability of existing contentand whether new information is required:

- Outlining cleanfilling activities undertaken during the reporting period.
- Areas of the site to be quarried (extraction) over the next 12 months.
- Plans for cleanfilling, earthworks and overburden stripping and disposal, overthe next 12 months.
- Areas of vegetation removed and areas planted during the reporting period.

Appendix 1: Environmental Policy