



Meeting the challenge

Wairarapa Aggregates Ltd

**Stormwater Discharge Permit for
Proposed Gravel Extraction and
Cleanfill Operation**

**Greater Wellington Regional Council
Resource Consent Application
and Assessment of Effects**

May 2008





Wairarapa Aggregates
Stormwater Discharge Permit for Proposed Gravel Extraction
Operation
Greater Wellington Regional Council
Resource Consent Application & Assessment of Effects

Quality Assurance Statement	
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Wairarapa Aggregates

Stormwater Discharge Permit for Proposed Gravel Extraction and Cleanfill Operation Greater Wellington Regional Council Resource Consent Applications and Assessment of Effects

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Part One – Application Form

The following resource consent is being applied for:

Discharge consents (sections 15 Resource Management Act 1991)

- To discharge stormwater from a gravel extraction and associated cleanfill operation, that will enter into a waterbody as its final receiving environment.



Form 9 of the Resource Management Act 1991

Application for Resource Consents under section 88 of the Resource Management Act 1991

To: Greater Wellington Regional Council
PO Box 41
34 Chapel Street
MASTERTON 5810

We: Wairarapa Aggregates
C/O MWH New Zealand Limited
Level 1, 123 Taranaki Street
PO Box 9624, Te Aro
Wellington, New Zealand

apply for the resource consents described below:

Discharge permit (section 15 Resource Management Act 1991)

- **To discharge stormwater/washwater from a gravel extraction and associated cleanfill operation, that will enter into a waterbody as its final receiving environment.**

1 The name and address of the owner and occupier of the land to which this application relates is:

Kiwi Lumber (Masterton) Ltd
Norman Avenue, Waingawa,
Masterton.

2 The location of the proposed activities is:

Please refer to the Location Map in Section 3 of this report.

3 A description of the activities to which this application relates is:

A discharge permit for stormwater/washwater from a gravel extraction and associated cleanfill operation, that will enter into a waterbody as its final receiving environment.

4 The following additional resource consents are required in relation to this proposal and have been applied for (at the same time from Carterton District Council):

- activities associated with mineral extraction in the Rural zone (Operative Carterton and Proposed Wairarapa Combined District Plans); and
- the construction and ongoing operation of a cleanfill operation on the same site.



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- 5 Attached in accordance with the Fourth Schedule of the Resource Management Act 1991, is an assessment of effects on the environment in the detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment in accordance with section 88 of, and the Fourth Schedule to, the Resource Management Act 1991.

Please refer to the information contained in Section 5 of the application.

- 6 Attached is information (if any), required to be included in the application by the district plan, regional plan, and the Resource Management Act 1991 (or any regulations made thereunder).

Please refer to the information contained in Part 2 of the application.

- 7. The duration sought for the consents, pursuant to section 123 of the Resource Management Act 1991 is 14 years, although it is noted that the works will take place over a maximum of 7 years once they have commenced.

.....
 Signature of applicant or person authorised

to sign on behalf of applicant

.....

Date



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Operation
Greater Wellington Regional Council
Resource Consent Application & Assessment of Effects

Addresses for service:

MWH New Zealand Limited
P O Box 9624
Te Aro
WELLINGTON

Attention: Callum Sayers

Environmental Planner

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Part Two – Supporting Information

1 Introduction

1.1 Purpose of this Document

Wairarapa Aggregates operates solely in the Wairarapa area and provides a regionally significant source of aggregates to the three Wairarapa districts. It is anticipated that there will be an ongoing demand for aggregate to be supplied within the area, and in order to satisfy that demand, Wairarapa Aggregates (the applicant) will need to continue to provide aggregate products from within the region.

This document provides the information necessary to accompany an application for a discharge permit to authorise activities associated with the establishment and ongoing operation of a land-based quarry and cleanfill operation. This document has been prepared in accordance with the requirements of the Resource Management Act 1991 (the RMA). It includes a description of the activities proposed at the site and the statutory framework within which the activities must be assessed, an assessment of the actual and potential effects of the activities on the environment, and an outline of the ways in which any adverse effects arising from the activities can be avoided, remedied or mitigated, as required by the 4th schedule of the RMA.

This document relates specifically to the parts of the project that relate to consents from Greater Wellington Regional Council (GWRC). However it should be noted that resource consent is required from Carterton District Council for activities associated with mineral extraction, and the construction and ongoing operation of a cleanfill operation on the same site. Resource consent from Carterton District Council is being applied for at the same time as this consent application.

1.2 Structure of this Document

This application has been structured to facilitate an understanding of:

- the proposed extraction of gravel for a depth of 0.5 metres above the water table, and the discharge of stormwater that will ultimately reach a waterbody.
- the actual and potential effects on the environment associated with the activities
- methods to avoid, remedy or mitigate those effects

Part One of this document contains the Resource Consent Application Form (Form 9) to GWRC for the discharge of stormwater onto land that will ultimately enter a waterbody.

Part Two of this document contains the supporting information for the application. This is an Assessment of Effects on the Environment (AEE). It contains the following sections:

- **Section 1** – the introduction, which sets the scene for the information to follow
- **Section 2** – a description of the proposed activities that this application is seeking consents for
- **Section 3** – a summary of the environmental setting within which the activities would occur
- **Section 4** – the relevant legislative and policy framework that must be considered for the application
- **Section 5** – the assessment of effects on the environment
- **Section 6** – covers the consultation that was undertaken in relation to the activities

Appendices have been provided where they are referred to directly in this document.

1.3 Consents Sought

The proposed works are located within the Wairarapa Region which is governed by the Wellington Regional Council. The proposal therefore must be assessed under the Wellington Regional Soil Plan and the Regional Freshwater Plan. One resource consent is sought from GWRC, as follows:

Discharge consent (section 15 Resource Management Act 1991)

- To discharge stormwater/washwater from a gravel extraction and associated cleanfill operation, that will enter into a waterbody as its final receiving environment.



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Pursuant to section 123 of the Resource Management Act 1991, a term of 14 years is sought for the consents, although it is noted that the works will take place over a maximum of 7 years once they have commenced.

2 Proposed Works

2.1 Introduction

This section of the application provides a background description of the physical works (extraction and cleanfill) that are proposed to be carried out over the duration of the operation, and the general principles relating to the extraction of the gravel material and the drainage of stormwater and washwater from the excavation site.

For clarity, it should be noted that the quarry extraction and associated cleanfill operation will also require land use consent from Carterton District Council for earthworks associated with the construction and ongoing operation of the proposed quarry. For completeness, all of the activities involved in the construction of the gravel extraction are described here, even though this document relates only to the consents sought from GWRC.

It is proposed that the applicant will extract gravel from the site to a depth where the quarry floor will be approximately 0.5 metres above the existing water table. It is anticipated that the mobile crushing plant will be located in the existing quarry floor that is located on site, from this location extraction of the site will commence. Gravel that is extracted will be transported into the mobile crusher and processed accordingly, with approximately 10% of product being washed.

The quarry will also provide a cleanfill operation. Cleanfill will be brought onto the site by contractors who are arriving to purchase and export gravel from the site. The cleanfill that is deposited on site will comply with Greater Wellington Regional Council Guidelines for Cleanfill. The cleanfill material will be used to rehabilitate the site once gravel extraction has been completed. It is proposed that the rehabilitation will occur at times when there is a suitable amount of cleanfill available. It is not known the exact finished ground level of the rehabilitated site, as any rehabilitation of the site is determined by the availability of cleanfill.

As part of the proposal, stormwater will be generated from the 11.6ha site. Stormwater will flow in a west to east direction, which will result in stormwater collecting sediment from across the open quarry site. Stormwater will leave the site and will ultimately enter into a Queen Elizabeth II National Trust (QE2) covenanted area as its final receiving environment. It is this aspect of stormwater that will require resource consent from Greater Wellington Regional Council. A quarry management Plan is contained in Appendix A which details the physical works that are proposed to be undertaken on the site.

Water that is required for the washing of the aggregate will be sourced from the Carterton District Council Water Supply pond that is located adjacent to the proposed quarry site. Carterton District Council has determined that there is currently a surplus of 22 litres per second in the water storage pond, which has the ability to be sourced out to other users. The applicant has entered into an agreement which allows 11 litres per second to be extracted over the crushing and washing cycle of the operation. This part of the operation is only undertaken over a period of approximately four months of the year, therefore not requiring a year round supply of water for washing of aggregate. Attached in Appendix B is the agreement to use the storage pond between the applicant and Carterton District Council.

3 Environmental Setting

3.1 Site Description

The proposed Kiwi Lumber Quarry site is located immediately to the north of the active Kiwi Lumber site at Waingawa, which is adjacent to State Highway 2. The site is located approximately 6 km WSW of Masterton, 1.6 km SW of the Waingawa River and 1.2 km N of State Highway 2. The NZ Grid Reference for the site is 2727665E, 6023465N. The site is located entirely within Carterton District. The location of the site is shown in Figure 3.1. The site is legally described as Lot 3 DP 383510 and contained within Certificate of Title 168187 (Appendix C).



Figure 3.1 – Site location

The site covers an area of approximately 11.6 Hectares. The proposed extraction area is approximately 700 metres long from SW to NE, with a maximum width of 290 metres from the entrance gate in the middle of the southeastern boundary to the northwestern boundary. The majority of the natural ground slopes gently from a level of 130m above sea level in the NE to 122m in the SW. The only significant natural topographic feature is a 3m high ridge that runs approximately East-West across the western end of the site, where a splay off the Masterton Fault has lowered the ground level in this area. It should be noted that the Masterton Fault that runs across this site is identified in the New Zealand Geopreservation Inventory with a C3 rating. A C3 rating

recognises the feature as a regionally important feature which is vulnerable to significant modifications by human actions. It is not anticipated that extraction into the fault feature itself, as this area contains material that is not economically viable to extract. To the South of this ridge the natural ground surface becomes very flat and develops into an oval shaped, heavily vegetated wetland, which is the Queen Elizabeth II National Trust (QE2) covenanted area.

The southwestern and northwestern boundaries of the site are marked by fences and are adjacent to similar flat pasture that covers the proposed extraction area. The northeastern boundary runs adjacent to a water race that brings water from the Tararua Hills in the NW, and there is also a radio mast along this boundary (owned and operated by Radio New Zealand), which is approximately 50m high. The stream is approximately 2.5m wide and 0.25m deep and flow is controlled further upstream. The area of the radio mast has been specifically excluded from the proposed extraction area. The southeastern boundary runs along old fill from the demolition of the freezing works for the first 150m, and then for 250m along natural ground formed by the excavation and access the ramp into the old excavation area. The most western 220m of the southeastern boundary runs adjacent to the QE2 wetland area, which is surrounded by a fence but also has a 5m wide ditch on the proposed extraction area side of the fence, as shown in Figure 4 below.

The proposed quarry site is located on land owned by Kiwi Lumber (Masterton) Limited (Kiwi Lumber). Wairarapa Aggregates has signed a Profit a Prendre agreement with Kiwi Lumber to extract and utilise the sand and gravel resources at the site for a period of seven years, with the ability to negotiate a further seven years. The area to be utilised is largely undisturbed pasture, although approximately 10% of the site is occupied by an existing disused quarry excavation. There is also a small area of apparently clean fill within this quarry excavation, which has a maximum depth of 4.0 metres. Three small topsoil mounds are located on the site from pre-stripping of the excavation.

Immediately along the southeastern boundary is the current Kiwi Lumber site. This area is predominantly used as a stocking area for timber, storage for waste wood, pallets etc. Prior to Kiwi Lumber acquiring the site it was the site of a meat freezing works. The buildings and structures associated with the meat freezing works have been demolished. Materials from the demolition works have been disposed of around the site, particularly along the eastern section of the southeastern boundary of the proposed extraction site.

3.2 Surface Water Resources

The site does not intercept any surface water courses. The extraction area will not affect the water race that runs along the eastern boundary of the site, nor the QE2 covenanted area along the southeastern boundary. There will be a 10m standoff to the crest of the excavation from both the water race and the ditch adjacent to the QE2 area, in accordance with the Carterton District Plan Rural Industrial Zone permitted activity rules.

The floor of the existing old quarry excavation is currently at or near the ground water level at the site and water discharges from the quarry into drains that exit the site immediately to the east of the entrance gate. The assumed ground water level is approximately at the 123.5 to 124m elevation. The water from the excavation and the surrounding land drains into both the QE2 area to the west and another wetland area to the east, which is within the Kiwi Lumber property. The water which currently leaves the site appears to be clean and shows no obvious high sediment load, though as soon as it leaves the proposed extraction area it mixes with water from the backfilled excavation that runs along the eastern part of the southeastern boundary.

Rain that falls on the flat pasture land across the site soaks into the soil and runs off into either the old excavation or directly towards the QE2 wetland in the southwest corner of the site.

3.3 Climate and Weather

The Wairarapa area is characterised by a climate which is generally warm and dry. During the summer months the region is characterised by a settled weather pattern of dry weather with warm temperatures being a frequent occurrence. During the winter months, Wairarapa predominately experiences a mild winter, although frosts are common. The region typically experiences long sunshine hours and is exposed to a northwesterly prevailing wind during the summer with a westerly wind prevailing during the winter months.

3.4 Land Use Patterns

The proposed site is zoned Rural Environment in the Carterton District Plan (the District Plan) and is currently undeveloped. Currently there is a small area of the site that has been subject to previous quarrying activities, however the remainder of the site is still in pastoral use, and is grazed by stock.

Located to the north of the proposal site is a small amount of rural residential lifestyle blocks, which are located approximately 100m from the proposed northern, most extent of the quarry site.

Located to the east is the remainder of the Kiwi Lumber site, which also has the historic (disused) freezing works located on it. There is still industrial type activity being carried out from the site, from the Kiwi Lumber operations. It should also be noted that there is a QE2 covenanted site that is located immediately adjacent to the proposed quarry site, which is located on the Kiwi Lumber owned land.

Land that is to the south and west of the proposed quarry site is all in open pastoral land use, which is currently grazed by stock.

3.5 Cultural Values

This application has been assessed against the relevant local authority planning documents, which do not identify this site as having any cultural value to local iwi, such as waahi tapu or other taonga.

The two iwi identified within the Wairarapa area are Kahungunu ki Wairarapa and Rangitane o Wairarapa. Both iwi have an interest in the area and as discussed in section 5 have been consulted with in regards to this application.

Representatives for both iwi did not raise any issues of concern with regard to the application.

4 Legislative and Policy Framework

This section provides a brief overview of the legislation and statutory plans that are relevant in providing guidance for the assessment of the application for resource consents for the extraction of gravel from a land based resource, and the operation of a cleanfill activity.

4.1 Resource Management Act 1991

The overriding purpose of the RMA is 'to promote the sustainable management of natural and physical resources'. Part 2 of the RMA, sections 5 to 8, outlines the broader principles that are to be considered for any resource use, development or protection. These principles are then elaborated in local authority planning documents.

Any activity can be authorised by a rule (either in a Regional Plan or District Plan), a resource consent, or through a designation.

The Resource Management Act (the Act) sets out the circumstances in which resource consents for activities are required. The following sections are important for the applications. Section 15 sets out restrictions on the discharges into water as follows:

15. Discharge of contaminants into environment

- (1) No person may discharge any –
- (a) Contaminant or water into water; or
 - (b) Contaminant onto or into land hand in circumstances which may result in the that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; or
 - (c) Contaminant from any industrial or trade premises into air; or
 - (d) Contaminant from any industrial or trade premises onto land into land –

Unless the discharge is expressly allowed by a rule in a regional plan and in any relevant proposed regional plan, a resource consent, or regulations.

Thus a discharge consent will be required for the discharge of stormwater.

Resource consent applications must be prepared in accordance with section 88 of the RMA. Applications must include a full description of the activity or activities, and an assessment of any actual or potential effects on the environment, as well as outlining the ways in which significant adverse effects can be 'avoided, remedied or mitigated'. Such assessments must be prepared in accordance with the Fourth Schedule of the RMA, which sets out the matters that should be included in the AEE and those that should be considered in its preparation.

When considering resource consent applications, the consent authority must have regard to the matters outlined in section 104(1) of the RMA. This section is subject to the overriding purpose of the RMA contained in Part 2, which also guides a consent authority in its consideration of an application.

In assessing a resource consent application a consent authority can, under the provisions of section 108 of the RMA, impose consent conditions, as considered necessary, to avoid, remedy or mitigate the adverse effects of the activity on the environment.

4.2 Relevant Planning Documents

4.2.1 Regional Policy Statement for the Wellington Region

The Regional Policy Statement for the Wellington Region (the RPS) provides an overview of the resource management issues for the region, and policies and methods to achieve integrated management of resources. Regional and District Plans cannot be inconsistent with the RPS.

The issues, objectives, policies and methods identified in the RPS are carried through to Regional Plans, where the information in the RPS is developed further and rules for resource utilisation are outlined.

Section 5

Objectives and policies in Section 5 of the RPS relate to the fresh water in the Wellington region, and consider the effects that activities have on the water resources within the region. Objectives and policies in Section 6 of the RPS relate to the soils and minerals in the Wellington Region.

While stormwater from the quarry and associated cleanfill operation will eventually reach the QE II area, the stormwater is anticipated to be sufficiently treated on site so as to ensure that any discharge will have no more than a minor effect on the body of water to which it is discharged. Once stormwater has been treated in the sediment retention pond, it will be discharged to land. The point of discharge is a 'boggy' grassed area, which will act as a filter for finer sediment before finally being discharged into an unnamed stream. The final receiving environment for the stormwater will ultimately be the QE2 covenanted area.

With regard to the soil resource, while there will be a significant amount of overall soil disturbance, the construction methodology adopted means that effects resulting from the exposure of areas of soil will be no more than minor. Appropriate erosion and sediment control measures are proposed to ensure that any potential effects can be avoided, remedied or mitigated throughout the project, and the topsoil will be reused as part of the rehabilitation of the proposed quarry site.

Section 6

Management of the soil and mineral resources of the region is seen as a significant resource management issue and Section 6 of the RPS sets out objectives and policies to address this issue. The following provisions are considered to be particularly relevant to this application:

'Objective 7

The Region's needs for rock material continue to be met and are not unnecessarily disadvantaged by restrictions on the availability of, or access to and operation of extraction sites.

Policy 2

To ensure that the adverse effects of commercial topsoil removal, mineral extraction and turf farming operations are avoided, remedied or mitigated, or do not exceed any relevant rules or standards set for soil, water, air, ecosystems or landscape in any regional or district plan.

Policy 3

To ensure that, where feasible, sites are rehabilitated in circumstances where, as a result of either natural processes or human activities, or some combination of both, soils are, or likely to be eroded, removed, disturbed or otherwise rendered unable to sustain their life supporting capacity or to meet the needs of the local or regional community.

Policy 10

To ensure, when planning for and making decisions on new use, development and subdivision of land, that consideration is given to the consequences for access to and the location of existing or proposed mineral extraction sites on nearby land.'

The mineral resource available from Kiwi Lumber site represents a regionally significant resource for infrastructural development within Wairarapa. The construction and ongoing operation of the proposed gravel extraction and associated cleanfill operation would be consistent with Objective 7. Measures to avoid, remedy or mitigate adverse effects are discussed in Sections 5 of this application.

4.2.2 Regional Soil Plan for the Wellington Region

The Regional Soil Plan for the Wellington Region (the RSP) became operative on 9 October 2000. The purpose of the RSP is to address vegetation disturbance activities, soil disturbance and Wellington's sustainable management of soil resources especially with regard to activities occurring on erosion prone land. The proposed quarry site and associated cleanfill is not identified as being located within an area of erosion prone land.

It is considered that there are no resource consents required to be sought and obtained under the Regional Soil Plan.

4.2.3 Regional Freshwater Plan for the Wellington Region

The Regional Freshwater Plan for the Wellington Region (the RFWP) became operative on 17 December 1999. The purpose of the RFWP is to provide a framework for the integrated and sustainable management of Wellington's water resources. Objectives and policies contained in Sections 4, 5 and 7 of the RFWP are relevant to the stormwater discharge from the site (including the proposed cleanfill operation).

It is anticipated that as a result of the establishment of the sediment control pond at the eastern side of the accessway to the existing quarry area, there will be the requirement to divert a manmade drainage channel. The diversion of this man made drain is considered a permitted activity, and is discussed under section 4.2.3.1.

Also there will be the discharge into a stream once the treated stormwater has exited the sediment retention pond, which will enter into the QE2 site as its final receiving environment. Treated stormwater will first be discharged to land which will act as a filter, before it makes it reaches the unnamed stream. This part of the application requires resource consent under the RFWP, and is discussed under section 4.2.3.2.

The relevant objectives and policies in the RFWP relate to maintaining the life-supporting capacity, natural character and amenity values of waterbodies, while allowing for their use and development provided that adverse effects are avoided, remedied or mitigated. As discussed in Section 5 of this application, the proposed sediment control measures will ensure that the life supporting capacity of the QE2 wetland will be maintained. Effects on natural character and amenity values have been assessed as part of the land use consent application submitted to Carterton District Council, and it has been concluded that the overall effects will be minor.

4.2.3.1 Diversion of an artificial watercourse or drain

As well as the objectives and policies contained in Section 6 of the RFWP, the following objectives and policies are considered to be relevant to the diversion of the artificial watercourse.

Objective

6.1.1 *People and the communities are able to take, use, dam, or divert surface water, and take and use groundwater, while ensuring that the flows in rivers, and water levels in lakes and wetlands, are sufficient to maintain the natural and amenity values of water bodies.*

Policy

6.2.14 *To provide for minor or temporary diversions of water in any river, lake or wetland, where they are associated with authorised works and/or the exercise of a resource consent*

The existing quarry area is currently drained of surface water via a manmade watercourse (confirmed by Greater Wellington Regional Council), which ultimately is discharged into the QE2 site to the east of the site. As part of the sediment control measures to be put in place, all stormwater from exposed areas will pass through the sediment control pond (as detailed in Appendix D). In order to achieve this, the man made watercourse must be diverted from its current course so as to channel stormwater into the sediment control pond.

It is considered that the diversion of the man made watercourse will result in a positive effect as all stormwater leaving the site from open work areas will be treated, which is currently not the case. The life supporting capacity of the final receiving environment, being the QE2 wetland, will be maintained, and potentially be enhanced. The proposed diversion of the man made watercourse will be a permitted activity in terms that it will comply with the requirements set out below.

Rule 9A Diversion of water from an artificial watercourse or drain

The diversion of water from an artificial watercourse or drain, including any associated disturbance of the drain bed or deposition on the drain bed during construction of the diversion; is a permitted activity, provided that it complies with the conditions specified below:

- (1) All material used to construct the diversion but which is not part of any diversion structure shall be removed from the artificial watercourse or drain and disposed of in an appropriate manner.
 - (2) All reasonable steps shall be taken to minimise the release of sediment to water during construction.
 - (3) There shall be no adverse effects on the availability of water supply for upstream or downstream water users other than for a temporary period during construction of no more than 24 hours.
 - (4) There shall be no flooding of land, including neighbouring land, on properties upstream or downstream of the diversion.
 - (5) The ability of the artificial watercourse or drain to convey flood flows shall not be reduced.
 - (6) There shall be no lowering of water levels in any river, lake, or wetland.
- 94 Water Quantity and the Taking, Use, Damming or Diversion of Fresh Water
- (7) Fish passage shall not be impeded other than for a temporary period during construction of no more than 24 hours.

is a **Permitted Activity.**'

No resource consent is thus required for the diversion of the man made watercourse or drain as part of the proposed gravel extraction and associated cleanfill operation.

4.2.3.2 Discharge of Stormwater

As well as the objectives and policies contained in Section 5 of the RFWP, the following objectives and policies are considered to be relevant to this application:

- 'Objective 5.1.1: The quality of fresh water meets the range of uses and values for which it is required while the life supporting capacity of water and aquatic ecosystems is safeguarded.*
- Objective 5.1.2: The quality of fresh water has the potential to meet the reasonably foreseeable needs of future generations.*
- Objective 5.1.3: The quality of water is, as far as practicable, consistent with the values of the tangata whenua.*
- Policy 5.2.6: Except for rivers and streams identified in Appendix 7, to manage the water quality of all surface water bodies in the Region for aquatic ecosystem purposes (subject to Policy 5.2.10).*
- Policy 5.2.8: To have regard to the relevant guidelines in Appendix 8 when deciding whether a discharge is able to satisfy Policies 5.2.1 to 5.2.7 (above) when considering applications for resource consents (subject to Policy 5.2.10).*
- Policy 5.2.11: To ensure that any zones allowed on a discharge permit for reasonable mixing of contaminants or water with the receiving water are determined by having regard to:*
- *the purpose for which the receiving water is being managed, and any effects of the discharge on that management purpose; and*

- any tangata whenua values that may be affected; and
- the volume of water or concentration of contaminants being discharged, and the area of receiving water that could potentially be affected; and
- the physical, hydraulic and hydrological characteristics of the receiving water.

Policy 5.2.14: To encourage the treatment of stormwater discharges to reduce the adverse effects of such discharges on the receiving water body.'

Policy 5.2.14 encourages the treatment of stormwater to reduce the adverse effects of the discharge on the body of water that will receive it. Treatment of stormwater is discussed in detail in Section 5 of this application. It is considered that the drainage mechanisms proposed, in conjunction with the Sediment Control Management Plan, will achieve the aim of Policy 5.2.14. In relation to the other policies relating to discharges it is considered that the proposal will be consistent with the relevant objectives and policies in that effects on the life-supporting capacity and the quality and amenity of the waterbodies can be avoided, remedied or mitigated.

Rule 2 of the RFWP permits the discharge of stormwater into surface water, as follows:

'Rule 2 Stormwater discharges

*The discharge of stormwater into surface water is a **Permitted Activity** provided that the discharge complies with the conditions specified below.*

Conditions

- (1) *The discharge does not contain drainage from a stockyard; and*
- (2) *The discharge does not originate from industrial or trade premises where hazardous substances are stored or used unless:*
 - (a) *hazardous substances cannot enter the stormwater system; or*
 - (b) *there is an interceptor system in place to collect hazardous contaminants or divert contaminated stormwater to a trade waste system; and*
- (3) *The person responsible for the discharge shall ensure that, after reasonable mixing, the stormwater discharge will not give rise to any of the following effects:*
 - (a) *the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials; or*
 - (b) *any conspicuous change in the colour or visual clarity; or*
 - (c) *any emission of objectionable odour; or*
 - (d) *the rendering of fresh water unsuitable for consumption by farm animals; or*
 - (e) *any significant adverse effects on aquatic life; and*
- (3a) *The discharge does not originate from an area of bulk earthworks greater than 0.3 ha;*
- (3b) *Concentrations of acid-soluble aluminium in the discharge shall be no more than 0.15g/m³;*
- (4) *The discharge does not cause erosion at the point of discharge; and*
- (5) *The discharge does not alter the natural course of the river or stream.*

Note: *Discharges that do not comply with this rule are discretionary activities in accordance with Rule 5, unless they are provided for by Rule 3.*

Note: *Bulk earthworks means the cut to fill, excavation, and blading required to regrade an area.'*

It is noted that the proposal for the discharge of stormwater from the gravel extraction and associated cleanfill operation will be unable to comply with Condition 3a of Rule 2 of the RFWP, as the discharge originates from an area of bulk earthworks greater than 0.3ha. As a result consent is required to be obtained from GWRC for this discharge, under Rule 5 of the RFWP, as follows:

Rule 5 All remaining discharges to fresh water

The discharge of any contaminant or water into fresh water:

- that is not provided for in Rules 1, 2, 3, and 4; and
- which cannot meet the requirements of Rules 1, 2, 3, and 4; and
- which is not a non-complying activity in Rule 6;

is a **Discretionary Activity**.

Pursuant to this Rule, the proposed activity therefore requires a resource consent, to be assessed as a **Discretionary Activity** in terms of the Resource Management Act 1991.

4.2.4 Regional Air Quality Management Plan for the Wellington Region

The Regional Air Quality Management Plan for the Wellington Region (the RAQMP) became operative on 8 May 2000 and was designed to help sustainable management of discharges to air. The RAQMP generally allows discharges to air, subject to controlling adverse effects on the environment. In relation to the establishment and operation of the gravel extraction and associated cleanfill operation, there is the potential for there to be discharge to air of contaminants such as dust. Rule 10 of the RAQMP permits the discharge of contaminants to air in connection with mineral extraction activities, as follows:

'Rule 10 Mineral extraction, and the sorting and storage of powdered or bulk products

The discharge of contaminants into air in connection with:

- (1) *sorting, storage and conveying (including loading and unloading) of fertiliser, grains, berries, coal, coke, wood chips, sawdust, wood shavings, timber and logs, bark, sand, soda ash, aggregates, live animals and other bulk products (whether in solid or liquid form, other than hydrocarbons which are covered by Rule 8); and/or*
- (2) *the extraction, quarrying and mining of minerals and the size reduction and screening of wood products and minerals;*

*is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** discharges of contaminants to air arising from processes involving:*

(b) the pneumatic conveying of bulk materials.

Conditions

Permitted Activities shall comply with the following conditions:

- (i) *For the area shown as the Operational Port Area, included within the Wellington City District Plan, any discharge shall not result in odour, dust, gas or vapour which is noxious, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, an adverse effect on the environment outside the Operational Port Area; and*
- (ii) *For all other areas, any discharge shall not result in dust, odour, gas or vapour, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.'*



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As stated in Rule 10 of the RAQMP, the discharge of contaminants to air in connection with mineral extraction activities is permitted providing that certain conditions are complied with. The deposition of cleanfill is closely associated with the quarrying and mineral extraction activities proposed to occur on the Kiwi Lumber site, and is therefore considered to fall within Rule 10. It is anticipated that the proposed gravel extraction and associated cleanfill operation will comply with these conditions, especially in relation to not discharging any contaminants to air such as dust, at or beyond the boundary of the property. This is discussed in more detail in the Assessment of Effects under Section 5.5. It is therefore considered that the proposal would not require resource consent under the Regional Air Quality Management Plan.

4.2.5 Summary

From the above assessment of the relevant Regional Plans, it is concluded that the activity complies with all permitted activity standards with the exception of the discharge to water requirements. The proposed activity therefore requires resource consent under the Regional Freshwater Plan which would be assessed as a **Discretionary Activity** in terms of the Resource Management Act 1991.

5 Assessment of Effects

5.1 Introduction

The proposed activities have the potential to have adverse effects on the environment in a number of ways. Outlined below is an assessment of those potential adverse effects and the measures proposed to avoid, remedy or mitigate them.

5.2 Effects on Water Quality

Effects on water quality may arise as a result of the discharge of stormwater from both the gravel extraction and cleanfill operation proposed to be carried out on site. Stormwater will be discharged from both the working area and from completed and yet to be worked on areas. Stormwater will be generated from two separate sources on site, one being stormwater runoff from precipitation and one being from the water that is required to wash the aggregate.

Stormwater runoff from the operational site will ultimately be discharged into one of two receiving environments, being the QE2 site located to the south east of the site, or into a Carterton District Council Pond located to the north of the QE2 site. It is essential that stormwater is satisfactorily treated prior to entering into the receiving environments, especially the QE2 covenanted wetland.

A sediment control pond is proposed to be established prior to any physical works, as shown in Appendix D. It is anticipated that the flow of stormwater leaving the site, will be captured by this sediment control pond. It is proposed to locate it in the path of the existing stormwater flow from the site. Once sediment laden stormwater has been treated by the sediment control pond, stormwater will be discharged to the land directly to the east of the sediment control pond. The overland flow of stormwater will take this stormwater through a vegetated area before entering into an unnamed stream. It is anticipated that the vegetated area between the discharge point and the stream, will act as a filter and will entrain finer sediment that is unable to be captured by the sedimentation pond. It is proposed that prior to any continuous period of washing occurs on site, a silt fence will be erected along the existing unnamed stream. This will be in place as a precautionary measure, when stormwater flows leaving the site are expected to be at the highest rate. Once the stormwater has entered this stream, it will ultimately end up in the QE2 wetland. It is considered that the proposed stormwater treatment measures will ensure that the potential adverse effects on the water quality of both the stream and the QE2 wetland will be appropriately avoided, remedied or mitigated and that any potential effects on the water quality will be no more than minor.

5.3 Effects on Aquatic Habitat

It is anticipated the majority of stormwater that is captured on the site will ultimately be discharged to water. The major potential adverse effect on aquatic life would come from sedimentation as a result of the discharge of stormwater. Sediment is a component of most natural aquatic systems and is transported as either suspended sediment or as bedload, mostly at times of high river flows and floods. Increases in suspended sediment reduce water clarity and increase turbidity, potentially affecting the aquatic life resident in a watercourse. From an aquatic ecology perspective, any activity resulting in an increase in silt levels in watercourses, particularly during low flow periods, is of concern because of these potentially adverse effects.

The proposed sediment control pond has been designed to Greater Wellington Regional Council Guidelines (Erosion and Sediment Control Guidelines for the Wellington Region). This will ensure that stormwater is satisfactorily treated before being discharged. As a further precaution, the discharge point is to land, which will allow for an area of vegetated land to filter out finer sediment that may not be contained by the sediment control pond. It is anticipated that once the stormwater enters into the unnamed stream, and ultimately the QE2 site, it will be satisfactorily treated. Therefore, it is considered that the potential effects on the aquatic habitat have been satisfactorily avoided, remedied or mitigated and the effects on the aquatic habitat will be no more than minor.

5.4 Soil Disturbance and Vegetation Removal

As with any quarry operation, there is a significant amount of soil disturbance. Prior to excavation for aggregate, topsoil will have to be stripped from the working area and stored on site. It should be noted that all topsoil that has been stripped back will remain on site as it will be utilised in rehabilitating parts of the site that have been subject to extraction. In accordance with the Profit a Pendre agreement between the applicant and the landowner, only up to 60% of the site will be open to excavation at any one time. This will ensure that there is less of a working area open which will result in less sediment being exposed. Soil will be stock piled in much the same fashion as the cleanfill that comes onto the site, and will be used to cap any rehabilitation that the cleanfill has been used in.

Rehabilitation is proposed to be carried out in a staged process, as enough cleanfill becomes available to rehabilitate a section of the site. It is proposed to carry out the rehabilitation in this piecemeal fashion, as it will ensure that there will be less of an 'open' working area at anyone time, and also will prevent the stockpiles becoming too high. This will help mitigate such effects as high sedimentation yield in stormwater runoff, and also the potential nuisance of dust becoming an issue.

Currently there is little vegetation located on site other than grass which is utilised for pastoral farming. Located along the western boundary are well established trees. It is proposed to retain these throughout the operation life of the quarry. During the quarry operation period the area not being worked on for quarrying purposes will remain in pastoral production. Retaining the existing vegetation as much as is practical will help mitigate a number of potential adverse effects associated with quarrying activities. Retention of pastoral grass will lessen the amount of exposed soil, which will decrease the amount of sediment laden stormwater runoff. Limiting the amount of sediment laden stormwater runoff will in turn require the sedimentation control pond to process as much sedimentation, which in turn will lessen the potential adverse effects of sedimentation on the final receiving environment.

5.5 Dust

Dust is an actual effect that is associated with any quarrying activity, and it is required to be managed to ensure that it does not become a nuisance to neighbouring properties. Wairarapa Aggregates have taken into consideration the nuisance of dust and have set in place measures to avoid, remedy or mitigate such effects.

As part of the operations of the quarry and cleanfill activity, at any one time only 60% of the site will be exposed so as to minimise as much as possible the ability of dust to become airborne. With regard to the cleanfill that is to be stored on site, this will be used to rehabilitate the extraction site. Rehabilitation will occur periodically as extraction is completed, and there is sufficient cleanfill to rehabilitate a section. Carrying out the rehabilitation in this manner will ensure that stockpiles of cleanfill will not become too large, increasing the potential for dust to become a nuisance.

The topography of the site and the nature of the extraction will provide a buffer between the work site and the neighbouring residential properties which will ensure that the potential adverse effects associated with dust is adequately avoided, remedied or mitigated. Currently there is an existing quarry site which has been excavated approximately midway through the site. This will be the starting point of any future extraction occurring on the site. The natural ground level where excavations will begin is below the surrounding ground level. This will act as a barrier between the operation site and the neighbouring residential properties. As mentioned earlier the prevailing wind direction is to the southwest, which will transport any dust that does become airborne away from the adjoining residential properties. This will result in any dust heading into open pastoral paddocks therefore is unlikely to impact on neighbouring properties.

Wairarapa Aggregates will monitor dust on the site, ensuring that it does not become a nuisance. In the circumstance that dust does become a nuisance then a water truck will be used to dampen down the open quarry site and cleanfill. It is considered that the potential effects caused by dust have been adequately avoided, remedied or mitigated. It is therefore considered that the effects of dust are considered to be no more than minor.

5.6 Positive Effects

The establishment of a land based quarry on the Kiwi Lumber site will have a number of actual positive effects on the environment, most notably with regard to traffic, and the consolidation of quarrying operations within the Wairarapa.

The Kiwi Lumber operation will effectively result in the decommissioning of the existing gravel extraction and processing site in Masterton (Buchanan Place). This will therefore remove the need for vehicles to access this site which is located on a sweeping right hand bend on State Highway 2 travelling into Masterton. Decreasing the amount of vehicles utilising Buchanan Place will improve road safety.

The utilisation of this site will also significantly decrease the use of the Carterton site (located adjacent to the Waiohine river), which will also decrease the number of vehicles on State Highway 2. The applicant also anticipates that 90% of the vehicles exiting the application site will be heading north, through Masterton, to serve the northern areas of the Wairarapa region.



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It is important that the Wairarapa area is able to supply aggregate to meet the districts' demands. The establishment of the proposed quarry at the Kiwi Lumber site will help ensure that over the next decade, the regions aggregate demands will be able to be met. The positive effect of being able to supply local and regional aggregate demands, will ensure that aggregate is not required to be transported into the region.

6 Consultation

6.1 Introduction

This section provides a broad description of the consultation undertaken by the applicant prior to lodging the application. The applicant has undertaken the following consultation to try to identify any issues that may arise as a result of the activity.

6.1.1 Landowner Consultation

Located to the north of the site are a number of residences that have been identified as potentially being affected by the proposal, they are listed below.

Peterson	65 Norfolk Rd
Hooper	61 Norfolk Rd
Lingham	55 Norfolk Rd
Root	49 Norfolk Rd
Dewis	45 Norfolk Rd
Mortinson	35 Norfolk Rd
Harvest	25 Norfolk Rd
JNL	Waingawa Rd
Waingawa Holdings	Waingawa Rd

All of the identified landowners above have been made familiar with the proposed quarry and cleanfill operation, and have been made aware of the actual and potential effects that may impact on them. Whilst written approvals have not been obtained as part of this application, the above landowners are understood to be accepting of the proposed quarry operation. No objections to the proposal were raised during consultation with the landowners. While concerns were expressed as to potential effects on local bores if the excavation was to take place below the water table, or if a substantial new take was involved, it has now been confirmed that there will be no water take required, nor gravel extraction below the water table.

Attempts to consult with the Queen Elizabeth Trust have been undertaken. Attempts to contact the local liaison person have not been successful. Several messages have been left requesting a meeting.

6.1.2 Tangata Whenua Consultation

The applicant undertook consultation with both the following contact persons in the Wairarapa, as supplied by the Greater Wellington Regional Council Iwi Liaison Officer (Kiri Parata).

- H Te Whaiti as the representative of Kahungunu Wairarapa
- D Rimi as the representative of Rangitane o Wairarapa.

No issues were raised as a result of the proposed quarry activity at the Kiwi Lumber site.

6.1.3 Other Consultation

Consultation was also undertaken with the following organisations:

Greater Wellington Regional Council	Masterton
Carterton District Council	Carterton
Transit New Zealand	Wellington
Department of Conservation	Wellington
Ontrack	Wellington
Radio New Zealand	Wellington

Pre application meetings were held with both the local authorities in the area. No specific issues were raised by Carterton District Council at that time. Greater Wellington Regional Council raised issues regarding the availability, and sourcing of water which is required for quarrying activities. The applicant has now taken the necessary steps to avoid, remedy and mitigate the issues raised by Greater Wellington Regional Council.

Transit New Zealand wishes to hold further discussions with the applicant once application for the proposed land-based quarry and associated cleanfill operation has been completed, and documents relating to its interest has been finalised (such as the traffic impact assessment).

The Department of Conservation and Ontrack preferred to make comment through the formal notification process (by Carterton District Council), where all of the information is available for them to consider.

Discussions were held with Radio New Zealand who own and operate the radio antenna located on the northern end of the site. The issue of underground cables located in the area were raised, which are located within a radius of approximately 60 metres from the antenna (radius is shown in Appendix G). The extraction plan has been amended accordingly to ensure that the proposed extraction will not have any adverse effect on the identified underground cabling. Radio New Zealand did not raise any other issues regarding the proposal.

6.1.4 Consultation Summary

The applicant carried out consultation with the above parties detailing the operations side of the application and the potential and actual effects. For the most there were no issues raised from the consultation, and where there was, the applicant has responded by either amending the application accordingly, or by addressing the points directly in this application.

Although the applicant has carried out the above consultation in good faith, it is accepted that Carterton District Council is likely to limited notify this application. In accordance with Carterton District Council correspondence from the Council's planning officer identifying who is likely to be notified of the application, the applicant has endeavoured to consult with all those identified.

7 Notification

Under Section 93 (1) of the Act an application for resource consent need not be notified if the Council is satisfied that the adverse effects of the activity on the environment will be minor.

The assessment of effects on the environment demonstrates that the adverse effects of the proposed activity on the environment are likely to be no more than minor. The Council should therefore consider the assessment of the resource consent application on a non-notified basis in accordance with Section 93 (1) of the Act. If non-notification of the application is not considered appropriate, then consideration to notifying the application on a limited notification basis should be considered.

Appropriate measures have been proposed and are anticipated to mitigate, avoid and remedy any potential or actual adverse effects that may be generated by the proposal. It is also considered that the activity will not have any adverse effect on the environment which is any more than minor.

The assessment of effects on the environment demonstrates that there is likely to be insignificant or nil effects on all other persons as a result of granting this resource consent application. The applicant would appreciate the opportunity to resolve any issues outside of the formal pre-hearing and hearing process, which may be raised by any of the parties that have been formerly notified by the Council.

8 Conclusion

An application for resource consent is submitted on behalf of the Applicant, Wairarapa Aggregates, to the Greater Wellington Regional Council for the discharge of stormwater to water from a quarry and associated cleanfill operation, on the Kiwi Lumber Site, located off Waingawa Road, Carterton. The application has been determined to be a Discretionary Activity in terms of both the Regional Freshwater Plan.

The assessment of the application against the provisions of the Resource Management Act and the Plans have concluded that:

1. The proposed activity is consistent with the purpose and principles of the Resource Management Act, 1991;
2. The proposed activity will have no adverse effects on the environment which are any more than minor; and,
3. The proposed activity is not inconsistent with the objectives, policies, rules, or other provisions of the relevant district plans and other relevant planning documents;

Based on this assessment, it is considered that consent can therefore be granted, subject to reasonable and necessary conditions, in accordance with the relevant provisions of the Resource Management Act.



Appendix A – Quarry Management Plan

Wairarapa Aggregates Ltd.

**Kiwi Lumber Proposed Quarry Site,
Masterton**

May 2008

Quality Assurance Statement									
MWH New Zealand Limited Level 1 123 Taranaki Street Te Aro P O Box 9624 Wellington 6141 New Zealand Phone : 64-4-381 6700 Fax : 64-4-381 6739	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Project Manager:</td> <td>Sylvia Allan</td> </tr> <tr> <td>Prepared by:</td> <td>Richard Oldcorn</td> </tr> <tr> <td>Reviewed by:</td> <td>Sylvia Allan / Callum Sayers <i>Syan</i></td> </tr> <tr> <td>Approved for issue by:</td> <td>Sylvia Allan... <i>Syan</i></td> </tr> </table>	Project Manager:	Sylvia Allan	Prepared by:	Richard Oldcorn	Reviewed by:	Sylvia Allan / Callum Sayers <i>Syan</i>	Approved for issue by:	Sylvia Allan... <i>Syan</i>
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Revision Schedule					
Rev No	Date	Description	Prepared By	Reviewed By	Approved By

Wairarapa Aggregates Ltd.

Kiwi Lumber Proposed Quarry Site, Masterton

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1 Introduction

1.1 General Background to the Quarry Management Plan.

MWH New Zealand Limited has developed this Quarry Management Plan (QMP) on behalf of Wairarapa Aggregates Limited for its proposed quarry at the Kiwi Lumber site in Waingawa, near Masterton. The QMP is intended to operate in conjunction with any resource consent conditions and to thus contribute to ensuring that potential environmental effects associated with quarrying at the site are appropriately managed and controlled. Wairarapa Aggregates will operate the Kiwi Lumber Quarry site in accordance with this management plan. The QMP will be reviewed every five years by Wairarapa Aggregates.

The QMP also covers the import of clean fill to the site as part of the remediation activities.

1.2 Objectives of the Quarry Management Plan.

The purpose of this QMP is to help achieve the following:

1. To ensure the efficient, effective and safe extraction of gravel and sand;
2. To ensure that the operation of the quarry is not a source of nuisance to adjoining landowners;
3. To manage and control any environmental effects resulting from the quarrying activities;
4. To ensure that the site is rehabilitated according to the agreed end-use objectives;
5. To ensure good communication between the quarry operator, the land owner and joint venture party, adjoining landowners, the Carterton District Council and the Greater Wellington Regional Council.

1.3 Site Details and Background to Proposed Quarry

1.3.1 Location.

The proposed Kiwi Lumber Quarry site is located immediately to the north of the active Kiwi Lumber site at Waingawa, which is adjacent to State Highway 2. It is approximately 6 km WSW of Masterton, 1.6 km SW of the Waingawa River and 1.2 km N of State Highway 2. The NZ Grid Reference for the site is 2727665E, 6023465N. The site is located entirely within Carterton District. The location of the site is shown in Figure 1.

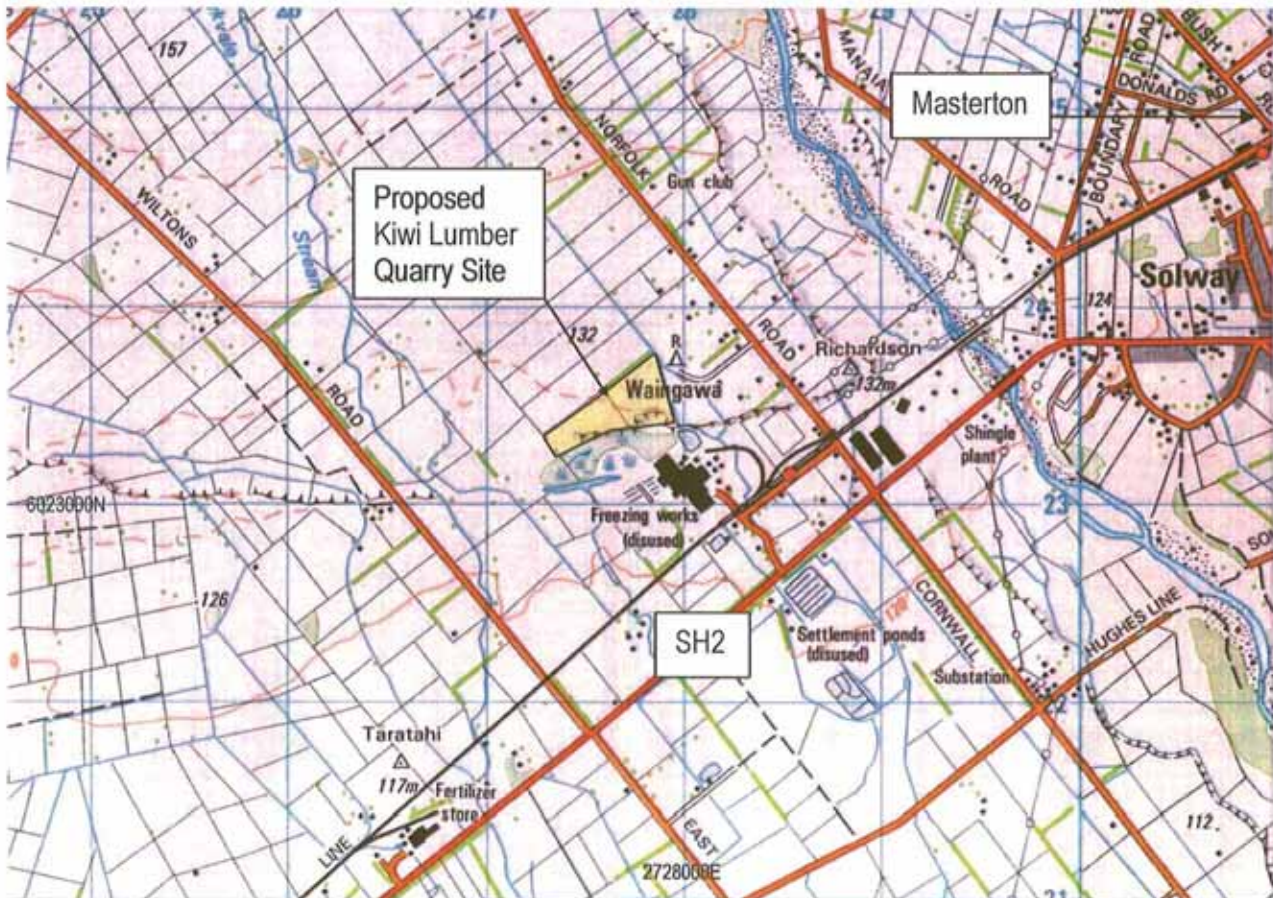


Figure 1. Location of Proposed Kiwi Lumber Quarry Site.

Note that the freezing works shown here has now been demolished.

Figure 2 shows an aerial photograph of the site.

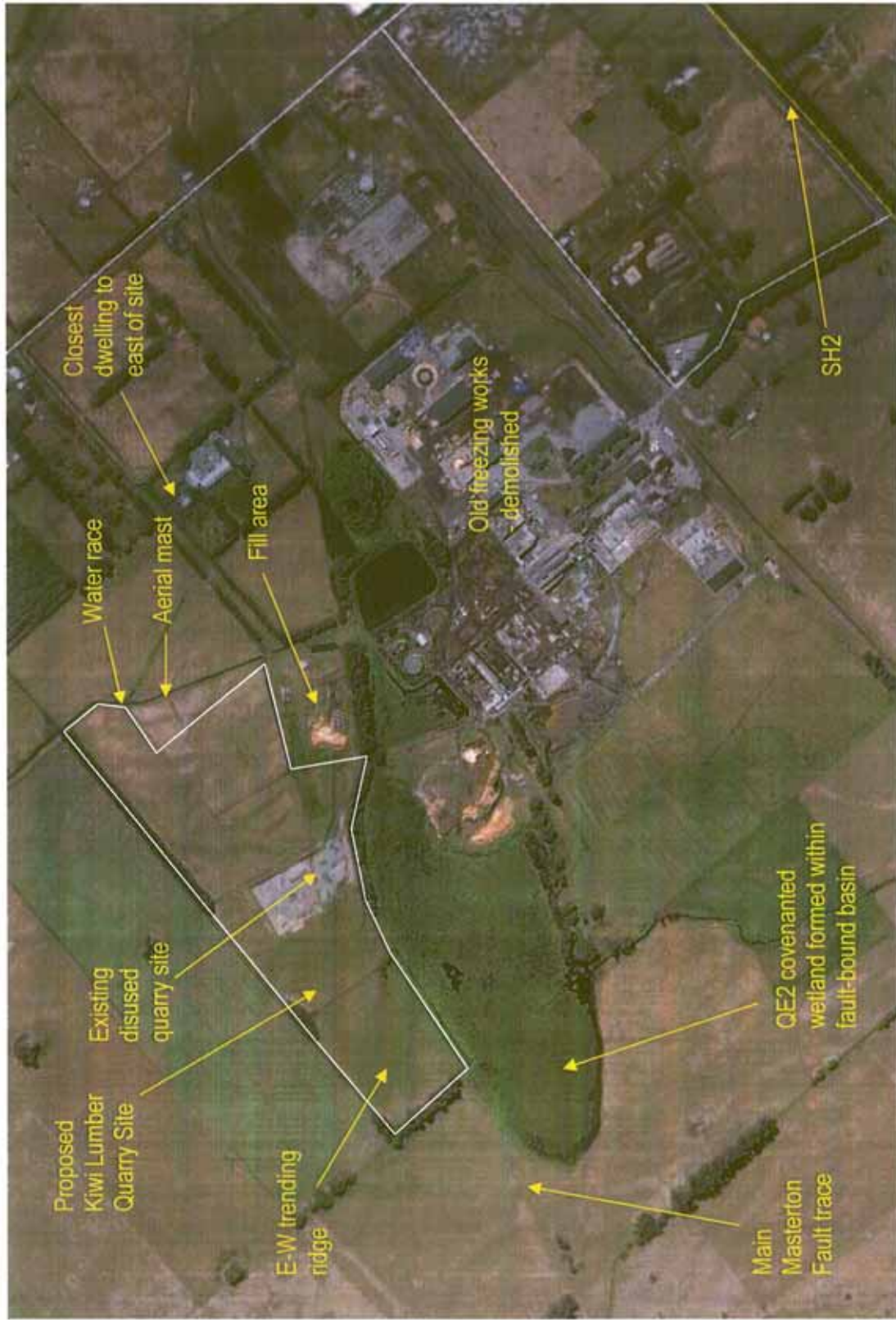


Figure 2. Aerial Photograph of Proposed Kiwi Lumber Quarry Site.

1.3.2 History and ownership

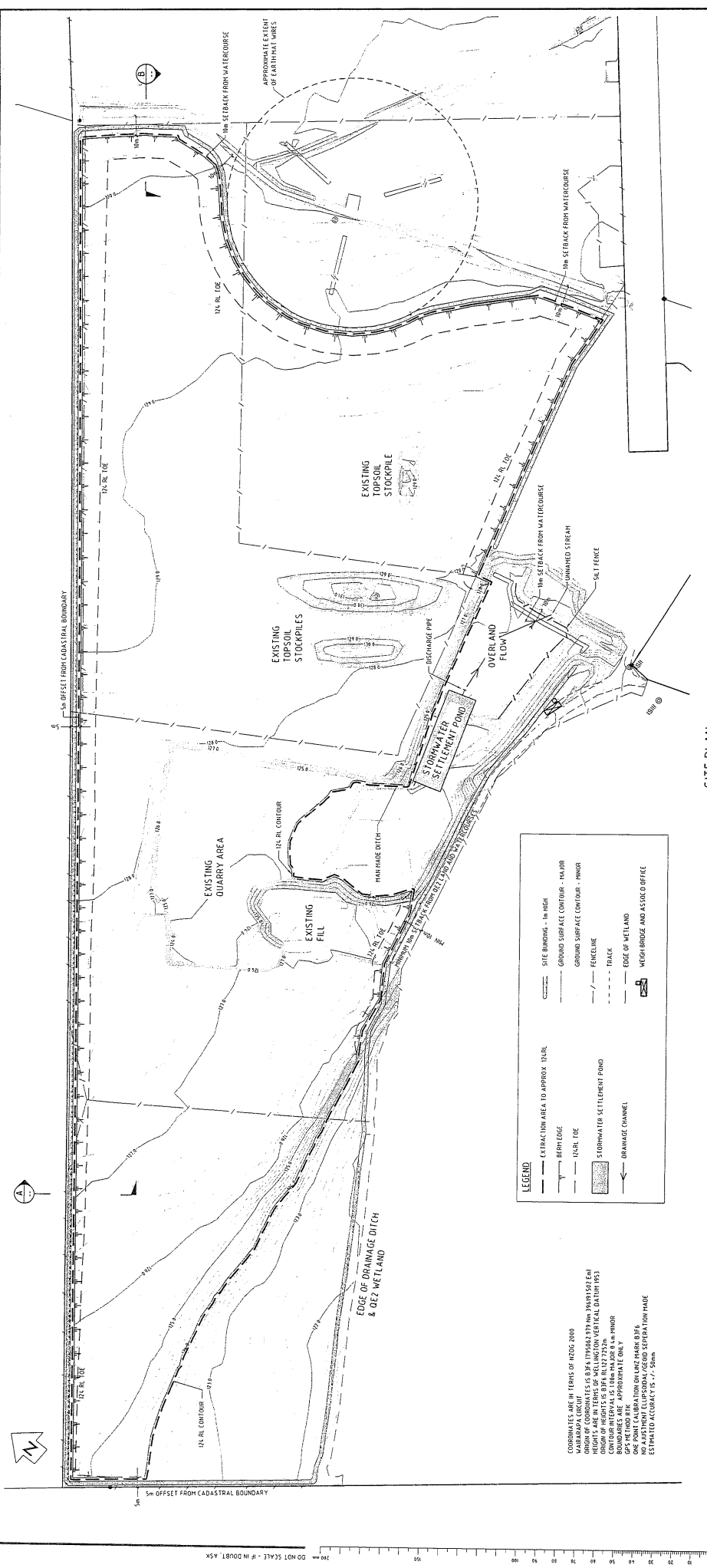
The proposed quarry site is located on land owned by Kiwi Lumber (Masterton) Limited (Kiwi Lumber). Wairarapa Aggregates has signed a Profit a Prendre with Kiwi Lumber to extract and utilise the sand and gravel resources at the site for a minimum period of 7 years. The area to be utilised is largely undisturbed pasture, though approximately 10% of the site is occupied by an existing disused quarry excavation. There is also a small area of clean fill within this quarry excavation, which has a maximum depth of 4 metres. Visual inspections of the fill indicate it is comprised of bricks, wood and gravel, and with no possible contaminants were identified therefore can be considered as 'clean'. Three small topsoil mounds are located on the site from pre-stripping of the excavation.

Immediately along the southeastern boundary is the active Kiwi Lumber site, which in this area mostly comprises a stocking area for timber and areas of fill or waste wood, pallets, etc. Prior to Kiwi Lumber obtaining this site it was the site of a meat freezing works (as shown on the NZGS map in Figure 1), which has now been demolished. Some materials from demolition of the works have been tipped around the site, in particular along the eastern section of the southeastern boundary of the proposed extraction site (see Figure 2). It is not known what is within this tip. The proposed extraction site is specifically located outside any previous areas of fill, apart from the clean fill located within the existing excavation.

1.3.3 Site Layout.

The current layout of the site is shown on the plan in Figure 3, based on a survey carried out in November 2007 by MWH. The site covers an area of approximately 11.6 Hectares. The proposed extraction area is approximately 700 metres long from SW to NE, with a maximum width of 290 metres from the entrance gate in the middle of the southeastern boundary to the northwestern boundary. The majority of the natural ground of the site slopes gently from a level of 130m above sea level in the NE to 122m in the SW. The only significant natural topographic feature is a 3m high ridge that runs approximately East-West across the western end of the site, where a splay off the Masterton Fault has lowered the ground level in this area (see Figure 2). It should be noted that the Masterton Fault that runs across this site is identified in the New Zealand Geopreservation Inventory with a C3 rating. A C3 rating recognises the feature as a regionally important feature which is vulnerable to significant modifications by human actions. It is not anticipated to extract into the feature itself, as located from it to the QE2 covenanted site is material that is not economically viable to extract. To the South of this ridge the natural ground surface becomes very flat and develops into an oval shaped, heavily vegetated wetland, which is a Queen Elizabeth II National Trust (QE2) covenanted area (Figure 2).

Figure 3. Site Plan showing Proposed Extraction Limits and Water Management Plan

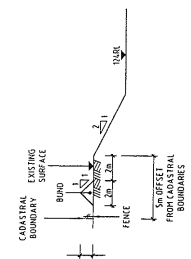


SITE PLAN
SCALE 1:1000

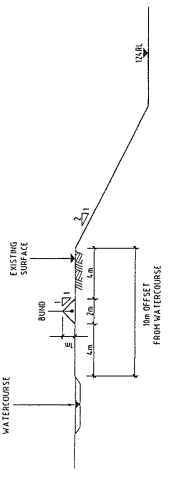
LEGEND

	EXTRACTION AREA TO APPROX. 10m RL
	SITE BUILDING - In High
	GROUND SURFACE CONTOUR - NA/R
	GROUND SURFACE CONTOUR - MINOR
	FENCE LINE
	TRACK
	EDGE OF WETLAND
	WEIGH BRIDGE AND ASSOC. OFFICE

COORDINATES ARE IN TERMS OF NZGD 2000
 ORIGIN OF COORDINATES IS 3154 175062.719 mN 380033.922 mE
 HEIGHTS ARE IN TERMS OF WELLINGTON VERTICAL DATUM (1953)
 CONTOUR INTERVAL IS 1.0m NA/R OR 0.5m MINOR
 BOUNDARIES ARE APPROXIMATE ONLY
 ONE POINT CALIBRATION ON LAZM MARK B.116
 AND ADJUSTMENT ELLIPSOIDAL/GEOID SEPARATION MADE
 ESTIMATED ACCURACY IS +/- 50mm



TYPICAL DETAIL A - EXCAVATION SLOPES ADJACENT TO CADASTRAL BOUNDARIES
SCALE 1: 200



TYPICAL DETAIL B - EXCAVATION SLOPES ADJACENT TO WATERCOURSES
SCALE 1: 200

<p>NOT FOR CONSTRUCTION</p> <p>WARARAPA AGGREGATES RW/LUMBER SITE</p>		<p>DATE: 19/05/2008</p> <p>SCALE: (A1) 1:1000 (A3) 1:2000</p> <p>PROJECT NO: Z14-4-9801</p> <p>REV: D</p>
<p>PROPOSED EXCAVATION LIMITS & WATER MANAGEMENT PLAN</p> <p>FIGURE 3</p>		<p>DATE: 19/05/2008</p> <p>SCALE: (A1) 1:1000 (A3) 1:2000</p> <p>PROJECT NO: Z14-4-9801</p> <p>REV: D</p>
<p>MWH</p>		<p>DATE: 11/07</p> <p>DESIGNED: R. GILCHRIST</p> <p>DRAWN: J. CHANLER</p> <p>APPROVED: [Signature]</p>
<p>EXCAVATION EXTENT LIMITED TO DARK TYPICAL DETAIL C ADDED REVISIONS</p>		<p>DATE: 07/08</p> <p>DESIGNED: J. CHANLER</p> <p>DRAWN: J. CHANLER</p> <p>APPROVED: [Signature]</p>

The southwestern and northwestern boundaries of the site are marked by fences and are adjacent to similar flat pasture that covers the proposed extraction area. The northeastern boundary runs adjacent to a water race that brings water from the Tararua Hills in the NW, and there is also a radio mast along this boundary, which is approximately 50m high. The radio mast is owned and operated by Radio New Zealand, and has a radius of a copper mat surrounding it to increase efficiency. The copper mat is unable to be modified or moved, therefore has been excluded from the extraction area. The stream is approximately 2.5m wide and 0.25m deep and flow is controlled further upstream. The area of the radio mast has been deliberately left out of the proposed extraction area. The southeastern boundary runs along old fill from the demolition of the freezing works for the first 150m, and then for 250m along natural ground formed by the excavation and access ramp into the old excavation area. The most western 220m of the southeastern boundary runs adjacent to the QE2 wetland area, which is surrounded by a fence but also has a 5m wide ditch on the proposed extraction area side of the fence, as shown in Figure 4 below.



Figure 4. Western Extent of proposed extraction area, looking West.

The old excavation is approximately 4m deep and occupies the central part of the site, as shown on the plan in Figure 3. An access gate to the excavation is located in approximately the middle of the southeastern boundary, and a 4 to 5m wide road runs west from the gate down to the quarry floor. The main excavation area has dimensions of approximately 100m by 150m and comprises a flat quarry floor formed in natural ground at approximately the 124m elevation, with two 4 to 5m high gravel stockpiles situated along the eastern face. There is also a small (60m x 70m x 4m) tip in the southwest corner of the excavation, which appears to constitute "clean" fill, comprising bricks, earth and general rubble. There is no indication that the tip contains any potential contaminants, though the surface has been grassed over. The excavation slopes have been cut at approximately 70 degrees and are stable. The excavation is shown in the photographs in Figures 5 and 6.



Figure 5. View of existing disused quarry excavation, looking North.



Figure 6. Eastern extension to old quarry excavation, partially backfilled with soil and inert fill. Looking south.

To the east of the main area of the excavation there is another section of the old quarry that has been partially backfilled with earth and topsoil over the floor of the excavation, as shown in Figure 6. This section of the quarry contains the main drainage ditch that exits the excavation to the South, adjacent to the entrance gate. The easternmost part of this old excavation has been completely backfilled. The fill is likely to be a mixture of concrete, bricks, general rubble and lumber waste amongst others. This tip is not included within the extraction area or the site boundary.

Three small topsoil bunds are located to the NW of the old excavation area, the largest being 90m long, 20m wide and 3m high. They are all currently stable and grassed over.

Immediately to the west of the entrance gate there is flattish ground on either side of the access road into the excavation, up to 20m wide, partially covered in some quarry waste and soil.

1.3.4 Geology

The geology of the site comprises Quaternary alluvium formed within old river terraces of the Waingawa River. The alluvium comprises predominantly gravel and cobbles with a matrix of coarse sand, with a small amount of fine and medium sand and minor silt (estimated at approximately 5%). There are occasional lenses of laminated sands with gravel. The gravels and cobbles are well compacted and poorly sorted, the clasts being generally subrounded to subangular and flattish, with some indistinct current bedding. Most cobbles are up to a maximum diameter of 0.25m, though there are rare larger boulders up to 0.4m in diameter. The photograph in Figure 7 shows the typical materials that will be quarried on site. The site is covered with up to 0.3m of topsoil and 0.5m of subsoil and low quality, weathered gravel and sand.

The existing excavation and a number of 6m deep exploration pits across the site have confirmed the presence of similar gravel and sand materials across the site, to a reasonable degree of certainty.

Based on the proposed extraction area outlined in Figure 3, the total potential resource for the site is approximately 275,000m³ of material, assuming a maximum extraction level of 124m, which is approximately the groundwater level. Allowing for approximately 5% fines, this would give a total resource of just over 261,000m³ of gravel and sand. The actual reserves available for extraction, processing and sale will depend on the accessibility of the resources within these extraction limits.

The only significant structural feature on the site is the small East-West trending ridge in the western portion of the site, which appears to be formed by an offset of a splay off the Masterton Fault (see Figures 2 and 3). The Masterton Fault is an active fault and the main offset can be traced for a number of kilometres from the railway bridge at Masterton to west of the proposed quarry site. The QE2 covenanted wetland area is directly formed as a result of the movement of this fault, with the land to the south of the ridge having subsided. The land to the south of this ridge is either at or below the 124m level and hence there will be no extraction in this area (see Figure 3).

It is possible that other small faults will be encountered during excavation of the mineral resource, which should be noted and surveyed, and if necessary inspected by a suitably qualified engineering geologist or geotechnical engineer. The location of these faults will have an impact on the location of structures for quarry after use.



Figure 7. Typical in-situ profile of gravel, cobbles and sand forming cut slope in old excavation.

1.3.5 Water resources.

The site does not intercept any surface water courses. The extraction area will not affect the water race that runs along the eastern boundary of the site, nor the QE2 covenanted area along the southeastern boundary. There will be a 10m standoff to the crest of the excavation from both the water race and the ditch adjacent to the QE2 area, in accordance with the Carterton District Plan Rural Industrial Zone permitted activity rules.

The floor of the existing old quarry excavation is currently at or near the ground water level at the site and water discharges from the quarry into drains that exit the site immediately to the east of the entrance gate. The assumed ground water level is approximately at the 123.5 to 124m elevation. The water from the excavation and the surrounding land drains into both the QE2 covenanted area to the west and another wetland area to the east, which is within the Kiwi Lumber property. The water which currently leaves the site appears to be clean and shows no obvious high sediment load, though as soon as it leaves the proposed extraction area it mixes with water from the backfilled excavation that runs along the eastern part of the southeastern boundary.

Rain that falls on the flat pasture land across the site soaks into the soil and runs off into either the old excavation or directly towards the QE2 wetland in the southwest corner of the site. There is likely to be very limited run-off from land surrounding the excavation to the north into the excavation, considering that the

topography is essentially flat and that there are no physical features, such as depressions or gullies that would tend to concentrate water towards the site.

1.3.6 Vegetation.

The entire site is covered with grass with some mature exotic trees along the southwestern, northwestern and southeastern boundaries of the site. These are not expected to be removed as a result of quarrying activities and will act as additional screening for visual impact and noise. There are three native trees at the eastern end of the East-West ridge in the western part of the site, probably kanuka/manuka, which are likely to require removal as part of quarrying activities. The eastern extension to the old excavation has been partially backfilled with topsoil and has formed a small wetland area in places (see Figure 6), with tussock grass and gorse becoming established along with pasture grass. The QE2 covenanted wetland and its specific vegetation will not be impacted by the quarry, with a standoff from the excavation to the wetland boundary and water run-off controls to prevent discharge of sediment into the wetland area (see Section 2.2.7).

All topsoil will be stored on site and seeded with grass for later restoration of the quarry.

1.3.7 Archaeology.

The site for the proposed extraction area is either pasture, an existing excavation or an area of backfill/tipping from previous quarrying operations or industrial activities. There are no obvious archaeological sites associated with the excavation footprint and the Carterton District Plan does not show any sites as being registered. Considering the existing land use it is unlikely that there would be any significant sites. Occasional artefacts that may be uncovered during removal of the topsoil will be recorded and notified to the appropriate authorities (local Iwi, the District Council – see section 3.7, below).

2 Quarry Operations and Development

2.1 Overview

The purpose of the quarry operation is to extract the gravels and sands below the ground surface for use as building, construction and roading aggregates. The process of transforming the in-situ gravels and sands into aggregate products comprises firstly stripping of the vegetation, soil and low quality subsoil mixed with gravel and sand, which overlie the mineral resource. The next step is to excavate the gravels and sands with the use of heavy machinery. The extracted mineral is then either stockpiled as "run of quarry" material and later processed, or transported directly to an on-site processing plant where it is screened and crushed to produce different aggregate products of different size ranges and grades. A small proportion of the crushed product (approximately 20%) will be washed to produce concrete aggregates. The following sections provide a more detailed description of these activities.

2.2 Brief description of activities

2.2.1 Vegetation removal and site preparation

This will include removal of any trees, bushes or turf on the site. It may not be possible to separate the turf from the topsoil, which will be stockpiled separately. As discussed in Section 1.2.6, there are only three trees that are likely to need removal, with the remaining trees around the perimeter being left in place. The remainder of the site is covered with grass and occasional gorse and broom bushes. A vegetation and landscape management plan (VLMP) for the site is not considered necessary, considering the small amount of vegetation requiring removal. There are no buildings that require removal.

2.2.2 Soil and Overburden Stripping and Stockpiling

Topsoil and subsoil stripping will be carried out using an excavator and truck to transport the materials to the stockpile area. The stripping will be similar to the existing excavation, as shown in Figure 8 below.

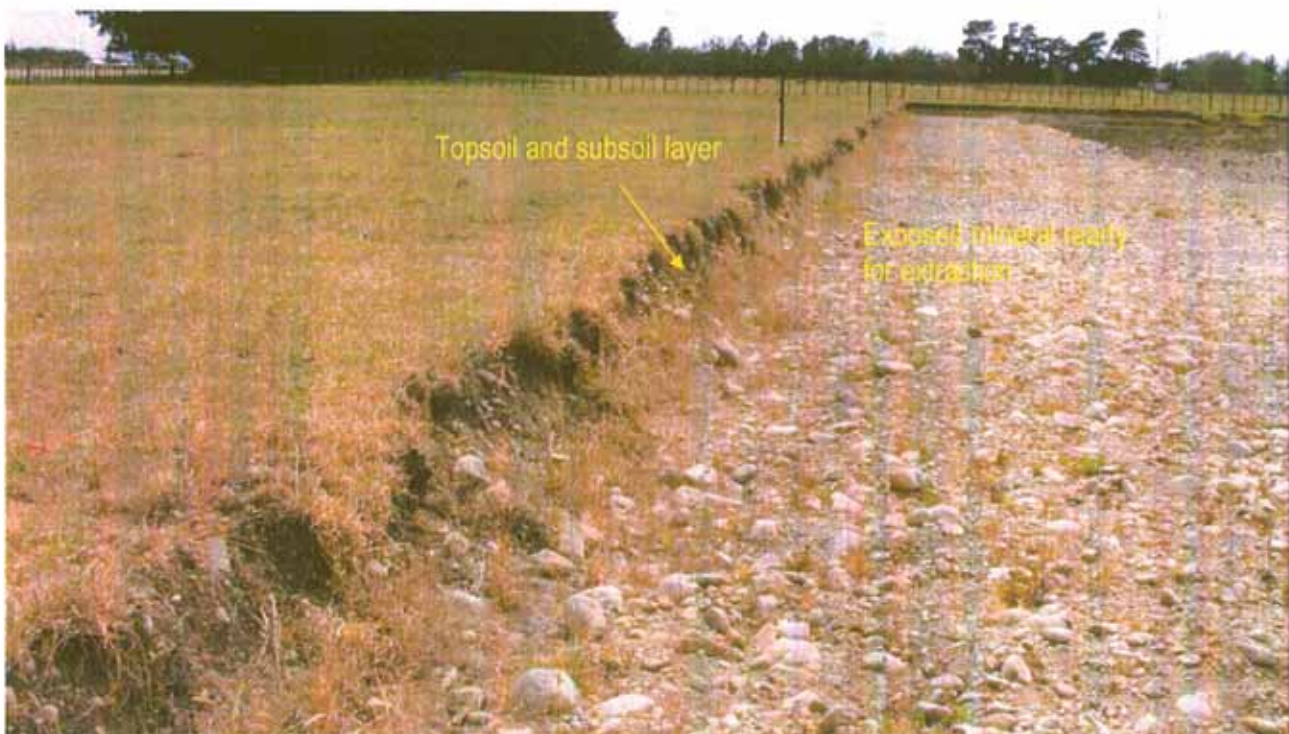


Figure 8. Pre-stripped northern section of existing excavation, looking northeast.

Since the overburden is only a maximum of 700mm thick, there will be no issues with respect to the stability of any cut slopes formed in this material. The stripped topsoil and materials will be stored in bunds similar to those already on the site. They will be grassed over to prevent dust issues and will be constructed no more than 7m high with slopes at a maximum angle of 1 vertical to 2 horizontal (approximately 27 degrees), to maintain long-term stability. The precise position of topsoil and subsoil bunds will be determined during detailed quarry planning and operation, but will most likely be distributed around the perimeter of the site close to where they are excavated. A three metre standoff will be established between the toe of the slope of any bund and the crest of the quarry excavation. The bunds will help mitigate any visual impact and will provide a buffer against noise

from the site. They will also be important in diverting clean run-off water around the site and limiting the amount of storm water run-off from outside the site boundary.

Based on an average thickness of 0.6m, the total volume of topsoil that will need to be removed during the life of the quarry is approximately 56,000m³. The volume of the existing topsoil bunds, which will need to be relocated at some time during the operation, is approximately 3600m³.

Topsoil and subsoil overburden will be removed on a periodic basis in advance of the main extraction activities, in order to minimise disturbance to the site and reduce the amount of topsoil storage required at any one time. Since the excavation will be progressively restored as it is being worked, the total amount of soil to be stored will be significantly less than the total volume for the whole site.

2.2.3 Sand and gravel extraction

Gravel and sand extraction will be carried out using a backhoe excavator operating from behind the crest of the slope. The digger will load out the gravel and sand onto the quarry floor, forming a pile of excavated material. This will then be picked up by a front-end loader and taken for stockpiling as run-of-quarry material, or directly to the processing plant, depending on the production requirements at the time.

No blasting is required to excavate this material.

The slopes will be excavated at a similar angle to those currently in existence on the site, at between 60 and 70 degrees (2V:1H) as shown in Figure 9 below. These slopes are currently stable at these angles. However, when working behind the crest of the slope, the tracks of the excavator must remain perpendicular and not parallel to it, to ensure that minor degradation of the face crest does not destabilise the excavator and to allow for rapid pullback in the case of instability.

Final, long-term excavated slopes will be cut at an angle of 1V:2H (approximately 27 degrees), unless buttressed by restoration fill, in which case they will be steepened, though at present this is not considered to be required.



Figure 9. Existing quarry excavation face, up to 4m high. Looking Northeast.

Maximum slope heights in the excavation will be up to 6m in the northeast corner of the site, reducing to effectively zero in the far western part of the site, but generally ranging between 4 and 5m in height.

2.2.4 Quarry development and extraction limits

The maximum extraction limits for the excavation are shown on the plan in Figure 3. The actual extraction limits will be governed by stability requirements, proximity to water courses, soil storage bunds, operational requirements and stand-offs to vegetation, but will not exceed those shown on the plan. The excavation extraction limit represents all the material available down to just above the water table at the 124m elevation and will be taken to the site boundary where no stand-offs are required.

The precise layout of the quarry faces over the proposed life of the quarry will depend on the actual production requirements and practical excavation constraints. However, the excavation will be developed initially by advancing the existing quarry faces to either the southwest, towards the western limits of the site, or to the northeast. Because of the East-West ridge formed by the fault, the excavation in the far western portion of the site will terminate effectively along the base of the ridge and the southern limit of the excavation will have no cut slope.

There is a requirement within the Profit a Prendre to "ensure that no more than 60% of the Land constitutes the open quarry or quarries area from time to time and to lay down the balance of the Land from time to time in good quality pasture throughout the term of this Profit a Prendre." This will then limit the overall quarry working area and allow the excavation to be progressively restored.

2.2.5 Mineral processing

Minerals will be processed by means of a mobile screening and crushing unit to produce the required aggregate products. Approximately 20% of the product will be washed to produce concrete aggregates. The existing quarry floor is sufficiently large enough to accommodate this mobile plant and provide good access for mobile equipment and stocking areas. Processing is likely to be on a periodic basis, once existing stockpiles are close to depletion, but may be permanent, depending on production requirements.

The mobile screening, crushing and washing plant will always be located on the floor of the excavation, which will limit visual impact, noise and dust effects. The location of the process plant may vary within the quarry floor from time to time, depending on the proximity of the excavation to the plant area.

The washing process for the concrete aggregates will produce some silt laden water which will require settling out before it is discharged from the site. This is further discussed in Section 2.2.7 below.

2.2.6 Storage and Distribution and Access

Gravel and sand will be stored on site on the floor of the excavation, close to the process plant area. There is currently sufficient flat space to establish a stocking area for the maximum amount of gravel required at any one time, which would be approximately 8,000 to 10,000m³, of which the majority would be roading base course aggregate (80%) and the remainder sealing chip and concrete aggregates. The maximum dimensions likely for any stockpiles on site would be between 7m and 8m in height, giving a diameter of approximately 22 to 23m, assuming an angle of repose of the processed materials of 35 degrees, which will produce stockpiles with volumes between 8000 and 10,000m³. Depending on the actual layout of the plant area, it is likely that the stocking area would consist of a number of smaller stockpiles, between 4 and 5m high, with diameters of between 10 and 15m and volumes of 1000 and 3000m³ respectively. There would be no operational requirement to cover the stockpiles or to place them in specific stocking bays.

Imported clean fill will also be stockpiled on site before being placed in the worked out excavation as backfill. As with the mineral products, these stockpiles would be limited to 7 or 8m in height, with diameters of 20 to 25m. Again, there will be adequate space within the floor of the excavation to accommodate clean fill stockpiles which will be present prior to backfilling activities.

Trucks will be loaded directly from the stockpiles into haul trucks, which will then exit the quarry via the main access ramp in the middle of the southeastern boundary of the site. The main quarry ramp is unlikely to change its position during the life of the quarry and the weighbridge will be located close to the gate, on a 10 to 12m wide area of natural ground above the quarry excavation (see plan in Figure 3). This area will need to be levelled and cleared of a minor amount of quarry waste, but will be suitable for temporary buildings such as the weighbridge, office and toilet, making sure that there is a standoff of at least 5m to the edge of the existing quarry excavation. A provisional location for the weighbridge and offices is shown on the site plan in Figure 3. The existing gate will be used for access to the site. From the site to the public road a dedicated road will be constructed across the Kiwi Lumber site.

2.2.7 Water Management.

Water management at the site is an integral part of the operation and is required to minimise any potential effects of the quarrying activities on watercourses and land outside the site boundary.

The site naturally drains to the south and southwest into the wetlands formed by the subsidence of ground to the south of the Masterton Fault. The existing excavation currently drains to the east via a cut ditch in the quarry floor (see Figure 5), where it meets another ditch emerging from the base of the filled part of the old excavation (see Figure 6). At this point another ditch takes run-off water south, away from the site, to a culvert under the access road immediately to the east of the site entrance gate. The drains are shown on the plan in Figure 3.

Because the site does not intersect any watercourses and because of the very shallow gradient of the natural ground surface, the amount of runoff is likely to be restricted to rainfall immediately within the quarry excavation and the immediate area surrounding the site. A minor amount of high-level ground water would also be expected to seep into the excavation from adjoining land during and after major rainfall events. As quarrying proceeds, surface water run-off will either enter the quarry excavation directly, or be directed to the low-lying area adjacent to the QE2 wetland in the southwestern corner of the site. Currently, in this area a 5m wide ditch in front of the existing boundary fence to the wetland serves to control water run-off from the site (see Figure 4). This ditch flows directly into the wetland area. As the excavation approaches the wetland area, a 10m standoff will prevent mixture of any sediment laden water within the excavation from mixing with the undisturbed water in the wetland and the boundary ditch. Grassed topsoil bunds placed around the perimeter will be sufficient to prevent any excess run-off water from outside the site entering the excavation.

The water race running along the northeastern boundary is at a level above the majority of the surface of the site and it is unlikely that any sediment laden water will enter the stream as a result of quarrying operations. A 10m standoff from the perimeter of the excavation to the edge of the water race will help mitigate disturbance of the boundary area and prevent leakage into the excavation, with the perimeter bund protecting against flooding of the workings. Flooding of the Waingawa River is not likely to affect the site, since it is at least 1.5km away from the river and raised approximately 6m above the normal river level.

Materials excavated from the extraction area will be immediately placed on the quarry floor, thereby containing within the excavation any sediment laden water that runs off these materials. At the western end of the site, where there is no retaining cut slope, it will be necessary to construct a bund to control run-off from the extracted mineral into the perimeter ditch.

Run-off water control within the quarry will be concerned with significant discharges of any sediment laden water from the quarry excavation into the wetlands to the south of the site, particularly the QE2 covenanted area, and especially during storm events. Quarry run-off water will be controlled by a sump excavated below the current quarry floor level of 124m, into the water table, which will be sized to manage the 5% AEP storm event. The location of the sump should ideally be fixed within the quarry, since it will need to be a permanent feature that may need to be used at very short notice. The best location for a sediment retention pond/sump is in the eastern extension of the existing quarry excavation, where there is presently a small area of wetland and some drains, as shown in Figure 6. Based on the Wellington Regional Council Erosion and Sediment Control Guidelines, the size of the retention pond needs to be approximately 2% of the total catchment of 11.6 Ha in order to efficiently settle out sediment. This gives a total area of approximately 2400m². The proposed site allows for an 80m long by 25 to 35m wide pond, running along the existing northern edge of the excavation, as shown on the site plan in Figure 3. This corresponds to a recommended length to width ratio of 3:1 for efficient settlement and mitigation of short circuiting. Whilst this pond/sump would be large enough to treat the run-off from the site, the proposed operation of the quarry will mean that only a total of 60% of the surface will be exposed at any one time. In this case a smaller pond will be adequate for the initial operation (1400m², with dimensions 70m x 20m), which could then be either extended or dug out as the quarry operation develops.

The only other major source of sediment will be from the washing of the run-of-quarry material as it is processed into saleable aggregate products. Again, settlement of fines will be within ponds/sumps dug into the floor of the quarry. It will be important to have separate sumps to the main run-off pond, since these will have higher volumes of sediment, but a controlled rate of discharge, and discharge into the ponds will be periodic, during operation of the plant. The main run-off pond will have lower quantities of sediment but is designed for higher rates of flow, to take account of the 5% AEP rainfall event. The location of these sumps will change depending on the location of the processing plant and whenever they fill up with sediment. The quantity of fines is not expected to be large and they will be incorporated into the backfill of the excavation as quarrying proceeds. Based on a maximum silt content of 5% and that only 20% of the mineral processed will be washed for concrete aggregates, a total of approximately 5,300m³ of material will need to be settled out during the life of the quarry. This would require a maximum pond area of approximately 60m x 30m with a depth of 3m, but in reality will comprise a number of smaller ponds which will be backfilled or dug out progressively as they silt up.

Water that is required to be used for the washing of the aggregate on site will be extracted from the Carterton District Council administered storage pond, which is fed from the west by the water race running along the northern extent of the proposal site. An agreement between the applicant and Carterton District Council has been reached, allowing the proposed quarry operation to extract 11 litres per second from the storage pond for its proposed extraction duration (see Appendix 1 – yet to be received). The agreement will allow for ample water supply to wash the extracted material, and will negate the requirement to construct a bore to take water from the aquifer.

There is sufficient space within the existing quarry excavation to excavate the initial settlement pond and storm water control sump prior to commencement of operations. The precise location of the initial ponds will be determined based on the production requirements at commencement of operations, but will be within the existing quarry excavation. Subsequent ponds will be located depending on the development of the quarry and the location of the process plant.

2.2.8 Rehabilitation and landscaping

The Profit a Prendre document between Wairarapa Aggregates and Kiwi Lumber states that: "At the termination of this Profit a Prendre to leave the Land in a tidy condition with the open quarry and quarries area level and in a condition which complies with all the provisions of all resource consents and local body requirements and which shall be left in a state no lower than 0.5 metres above the highest level that the winter water table reaches under the Land during the term of this Profit a Prendre. In addition, the Grantee shall lay down all of the Land (excluding the accessway) in good quality pasture and shall provide 5 building sites suitable for residential construction on land in the areas designated by the Grantor."

Backfilling of the site for restoration purposes will occur periodically during the operation. Backfill will comprise clean fill imported from off-site. Backfill will be stored in stockpiles on the quarry floor before being transported to the final location within the worked out excavation. The final level of the backfill will depend on the maximum winter water table level, which will be more accurately established by observation and measurements during the life of the quarry, but is currently assumed to be at between the 123.5 and 124m elevation. In order to ensure stability and to reduce the effects of bulking, the tipped materials will be compacted by earthmoving equipment. Where houses are planned, the developer will specify the compaction requirements for the building foundations (refer to Consent Application).

Topsoil and subsoil will be placed from the stockpiles over the fill and the excavated slopes of the excavation, and the land will be given over to pasture, except along the access route and where the house construction

platforms will have been designated. The final landform will be a shallow depression, with final slopes of 1V:2H around the perimeter, generally between 4 and 7m high, but open to the southwest, where the ridge means that there will be no excavation face.

No buildings should be located within 20m of the fault trace that forms the ridge and the precise location of the fault will need to be determined during development of the quarry.

3 Environmental Effects and Management Measures.

3.1 Noise

Noise levels will be governed by the guidelines within the Carterton District Plan, covering rural industrial areas. These are as follows. No activities, except temporary activities, may generate noise which exceeds the following limits measured at the boundary of any site zoned rural environment:

- 55 dB(A) L10 from 7am to 7pm daily
- 45 dB(A) L10 and 75dB(A)LMax from 7pm to 7am daily

These levels will be monitored periodically during the operation of the quarry, particularly at the start up of operations. All noise levels will be measured in accordance with NZS 6801: "Measurement of Sound - Methods of Measuring Noise: 1991", and assessed in accordance with NZS 6802:1991 " Assessment of Environmental Sound - Assessment of Noise in the Environment: 1991", or in accordance with any subsequent New Zealand Standards that concern the measurement and assessment of noise in the environment. The noise will be measured with a sound level meter complying with the International Standard IEC 651 (1979): Sound Level Meters, Type 1. The main sources of noise will be the process plant, the excavator, loader and haul trucks.

To comply with the District Plan standards and to ensure noise does not exceed acceptable levels a range of operational practices will be implemented, including the following:

- a. Managing the time and location of particularly noisy operations around the site.
- b. The mobile processing plant will be located on the floor of the existing quarry, which will reduce the noise level at the boundary of the quarry.
- c. Machinery will be regularly maintained to ensure that noise produced from machinery is kept to a practicable minimum.
- d. Bunds will be constructed where appropriate on quarry boundaries to reduce the effects of noise beyond the boundary of the quarry.

To ensure that the noise performance standards set in the District Plan are met, monitoring will be carried out on representative occasions using appropriate equipment, methods and personnel.

3.2 Traffic

Whilst the effects of traffic on public roads outside the quarry site are generally beyond the control of Wairarapa Aggregates and outside the scope of the QMP, practicable steps to reduce any effects of traffic directly related to the quarry operation will be taken, particularly related to noise and dust. These will include:

- a. Generally restricting quarry dispatch times to the following hours:
Monday to Friday 6:30am – 6:30pm
Saturday 6:30am – 4:00pm
- b. All Wairarapa Aggregates owned and operated vehicles will be regularly maintained and checked to ensure that appropriate noise and emission suppression devices are installed and operating effectively.
- c. Any customer whose vehicle is noted as having excessive emissions due to lack of maintenance will be requested to rectify the problem and warned that they may be refused products on their next visit if the problem persists.
- d. Loader drivers will be appropriately trained to help ensure that customers trucks are loaded securely. It is the responsibility of the individual truck drivers to make sure their load is secure before they drive on a public road.

3.3 Dust (Air quality)

Dust can be generated by many different activities that are carried out at the quarry site including: crushing, extraction, trucks and machinery. Wairarapa Aggregates will ensure that adequate measures are taken to control the emission of dust from all parts of the site. The objective of this section of the QMP is to avoid, remedy or mitigate adverse nuisance or amenity effects of dust from quarry operations beyond the boundaries of the quarry site. Of the potential discharges to air, particulate emissions of dust have the greatest potential for off-site effects. However, provided the operation site is well controlled and the activities well managed, particulate emissions can be kept at a level where any adverse health or nuisance effects, or damage to vegetation will not occur.

Measures to implement the air quality objectives will include the following:

- a. Locating the mobile processing plant within the excavation and away from the quarry boundaries.
- b. Maintaining large volumes of water on site, which will be available for dust suppression purposes.
- c. Ensuring that areas of exposed material with dust generating potential, such as ungrassed topsoil and subsoil bunds, are kept to a practicable minimum.
- d. Vegetating topsoil and subsoil bunds as soon as possible to limit dust generation potential.
- e. Using a water tanker to spray water on working areas during dry and windy weather conditions.
- f. Ensuring that potentially dusty activities are not carried out when weather conditions could give rise to offsite dust emissions.
- g. Regularly undertaking proper maintenance and tuning of the vehicles and equipment, which also assists in avoiding any off-site effects.
- h. Requiring the quarry manager or his or her nominee to record daily:
 - visual emission of dust;
 - sources of visual emission of dust;
 - measures initiated in response to visual emission of dust to prevent recurrence or mitigate effects;
 - water cart use (yes/no);
 - weather conditions (wind strength and direction, rainfall).

The operator will comply with the conditions of any discharge permit issued by the regional council, and any relevant associated land use consent conditions. This is likely to include regular monitoring, general operations to limit generation and discharge of dust (as outlined above) as well as implementing measures to reduce discharges if they are found to approach unacceptable levels.

3.4 Landscape and Visual

The effect of quarrying on the landscape will be minimal, since the site is located in a flattish area of ground, the excavation will be partially backfilled and the maximum depth of the excavation will be approximately 6m in the northeast corner (with the current ground level at 130m). The nearest dwellings are approximately 250m to the east, 350m to the northeast and 850m to the southwest, and the site is not visible from these locations.

3.5 Rehabilitation and End Use objectives

The provision in the Profit a Prendre to restore the land to good pasture is in keeping with the existing land use of the quarry site. The provision for five building sites suitable for construction will require some land to be left unrestored at the end of the quarry life, though the foundations will be on compacted cleanfill material.

It will be important to ensure that any cleanfill that is deposited on the site goes through some form of screening process to ensure that it meets the GWRC cleanfill guidelines. To achieve this the following actions are proposed:

- Ensure that any cleanfill brought to the site has been inspected/and signed off by the truck driver as being able to comply with the GWRC guidelines for cleanfill; and
- The site manager will visually inspect any cleanfill for any obvious signs of non-compliance with the GWRC guidelines.

Specific procedures will be in place on site to ensure that these activities are carried out appropriately.

3.6 Hazardous substances

This section of the management plan deals with issues relating to the release of hazardous substances from storage facilities or during their use, transport or disposal within the quarry site. The objective is to avoid, remedy or mitigate the potential for adverse effects on the environment of the storage, use, disposal and transportation of hazardous substances such as diesel and oils.

To meet this objective, the following measures will be implemented:

- a. Only the quantities of material necessary for the operation of the quarry will be stored on site.
- b. All transport, storage and operating conditions meet the requirements of licences under the Hazardous Substances and New Organisms legislation and the relevant standard for the transportation of hazardous substances NZS 5433.
- c. Fuel, lubricant and waste oil storage, dispensing and operating facilities are designed and operated in such a way that contamination of soil and water is avoided as far as practicable.
- d. Drums and smaller containers will be stored on bunded pads in a designated area.
- e. Vehicles in use on site will be well maintained and operated to ensure that no accidental spillage or loss of fuel or lubricants occurs.

3.7 Tangata Whenua

Whilst the quarry area is small, does not cut any water courses and does not appear to have any sites of archaeological interest, it is still important to operate the quarry in a manner which recognises and provides for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga. This is especially important since the wetland to the south of the site may have cultural significance. To achieve this the following will be implemented by Wairarapa Aggregates:

Tangata whenua will be identified and consultation will be undertaken to develop a procedure to deal with any discovery of koiwi and taonga. Procedures such as the following could be followed should evidence or indications of koiwi or taonga be discovered:

- Immediately koiwi or taonga have been discovered, activity around the area of the discovery will cease and an archaeologist brought in;
- The archaeologist will immediately arrange to secure the area to ensure that the suspected koiwi or taonga remain untouched;
- Tangata whenua and the Historic Places Trust will be advised that it is suspected that koiwi or taonga have been uncovered on the site;
- A representative of tangata whenua will be asked to contact relevant kaumatua who are to guide and advise Wairarapa Aggregates as to the course of action to be followed and to immediately advise the archaeologist of the identity of the kaumatua and such other details as may be appropriate in the circumstances;
- The archaeologist will arrange staff/Carterton District Council to meet and guide kaumatua, police, DOC or Historic Places Trust representatives to the site, and assist with any requests that they may make;
- If the kaumatua are satisfied that the koiwi or taonga are of Maori origin the kaumatua will implement appropriate procedures and will communicate this to Wairarapa Aggregates, NZ Police and other relevant parties;
- Wairarapa Aggregates will ensure that the kaumatua are given the opportunity to perform karakia and other religious or cultural ceremonies and activities considered appropriate in accordance with tikanga Maori (Maori custom and protocol).
- Wairarapa Aggregates will make available on the property other suitable, secure non working areas for the reburial of koiwi or taonga if tangata whenua so wish.

Definitions

Koiwi means human remains such as skeletal material.

Taonga refers to cultural artefacts such as implements, weapons or decorations traditionally and historically utilised by tangata whenua and includes parts and remains thereof.



Appendix A Water Take Agreement



Carterton District Council

13 May 2008

Callum Sayer

P O Box 9624

Te Aro

Wellington

Dear Callum,

Subject: Wairarapa Aggregates Ltd Water Take, Taratahi Water Race, Waingawa

I am writing to you in response to your request to take up to 11l/s of water from the Taratahi Water Race at Waingawa for approximately 350 hours per annum.

The actual water take to be spread over the year as your operations demand. The water will be used during the winning and processing of gravel from a land based extraction operation.

I can confirm that the Carterton District Council gives approval for this, subject to the following conditions;

- CDC may restrict or cease supply at any time, subject to verbal notification, if it experiences difficulties with the network such as a failure of the intake structure or if its consented take is restricted under the step down procedure in its resource consent as a result of low river flows,
- That your proposed water take shall not cause a noticeable reduction in the flow downstream of the extraction point,
- That the potentially contaminated water will be treated and returned to the network after use in accordance with a resource consent that will be obtained by your Company from Greater Wellington Regional Council,
- That this approval is for Three years and may be renewed thereafter upon request subject to water availability and conditions at that time,
- That this approval cannot be transferred to another party,
- That the water take can only be used for the intended purpose.

If you have any queries, please contact me.



Yours Faithfully,

A handwritten signature in blue ink, appearing to read 'G. Baker', written in a cursive style.

Garry Baker

Operations Manager.



Appendix B – Water Take Agreement with Carterton District Council



Carterton District Council

13 May 2008

Callum Sayer
P O Box 9624
Te Aro
Wellington

Dear Callum,

Subject: Wairarapa Aggregates Ltd Water Take, Taratahi Water Race, Waingawa

I am writing to you in response to your request to take up to 11l/s of water from the Taratahi Water Race at Waingawa for approximately 350 hours per annum.

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- CDC may restrict or cease supply at any time, subject to verbal notification, if it experiences difficulties with the network such as a failure of the intake structure or if its consented take is restricted under the step down procedure in its resource consent as a result of low river flows,
- That your proposed water take shall not cause a noticeable reduction in the flow downstream of the extraction point,
- That the potentially contaminated water will be treated and returned to the network after use in accordance with a resource consent that will be obtained by your Company from Greater Wellington Regional Council,
- That this approval is for Three years and may be renewed thereafter upon request subject to water availability and conditions at that time,
- That this approval cannot be transferred to another party,
- That the water take can only be used for the intended purpose.

If you have any queries, please contact me.



Yours Faithfully,

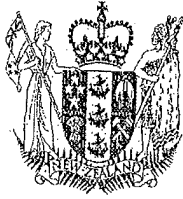
A handwritten signature in blue ink, appearing to read 'G. Baker', written in a cursive style.

Garry Baker

Operations Manager.



Appendix C – Certificate of Title



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952



Search Copy

R. W. Muir
Registrar-General
of Land

Identifier **333217**
Land Registration District **Wellington**
Date Issued 01 October 2007

Prior References

168187 WN44A/163

Estate Fee Simple
Area 46.8548 hectares more or less
Legal Description Lot 3 Deposited Plan 383510

Proprietors

Kiwi Lumber (Masterton) Limited

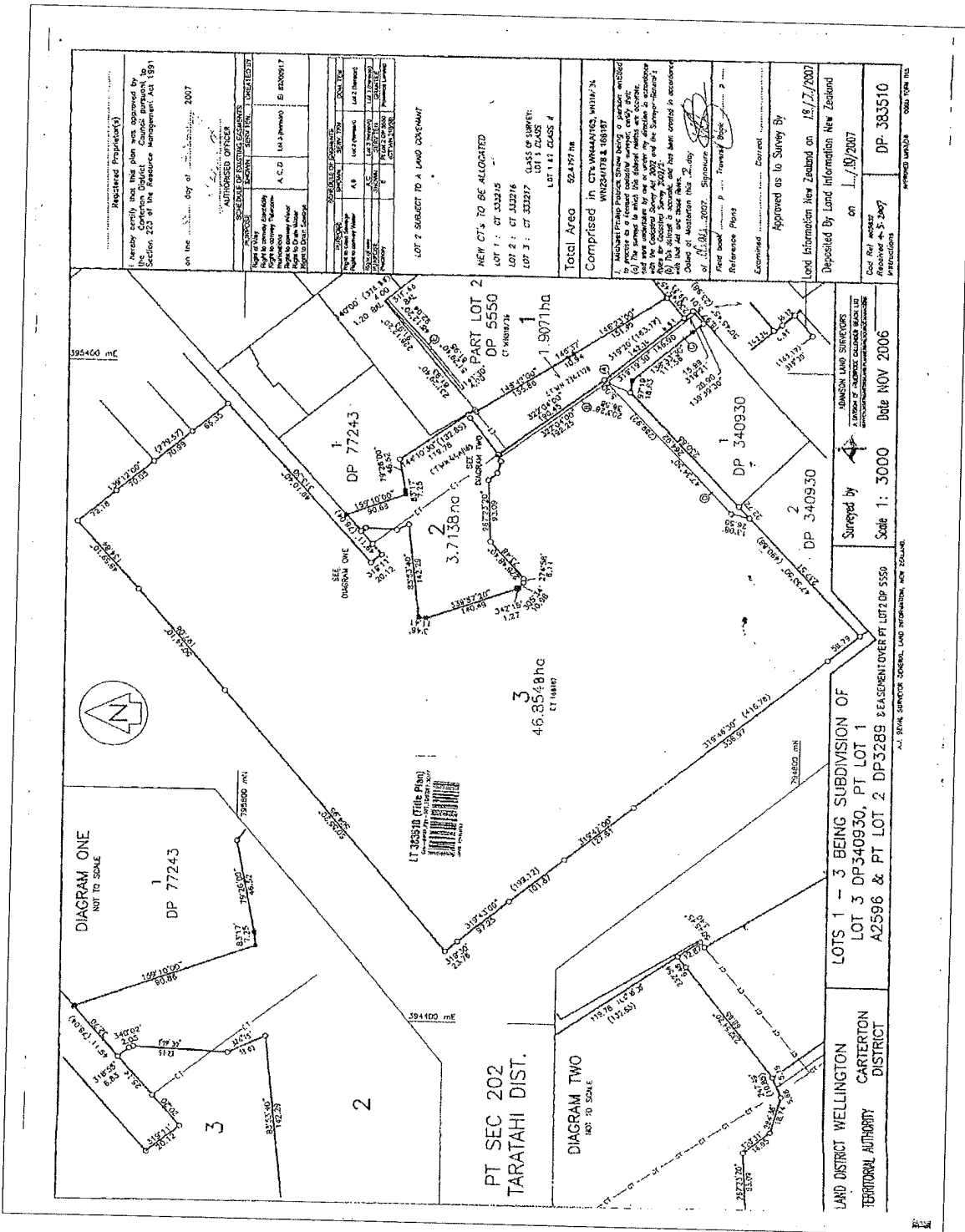
Interests

K42900 Compensation Certificate pursuant to Section 17 Public Works Amendment Act 1948 - 20.6.1958 at 1.30 pm
(affects part formerly CT 168187)
Appurtenant to part formerly CT 168187 are water drainage rights created by Transfer B438729.2 - 14.6.1995 at 2.48 pm
Appurtenant to part formerly CT 168187 are stormwater drainage rights created by Transfer B492190.2 - 11.12.1995 at
12.55 pm
B640792.1 Memorandum of Encumbrance to Affco New Zealand Limited - 4.12.1997 at 2.50 pm
5548734.1 Open Space Covenant pursuant to Section 22 Queen Elizabeth The Second National Trust Act 1977 - 9.4.2003
at 9:00 am. (Affects part formerly CT 168187)
Subject to a right of way, right to convey electricity, telecommunications and water, right to drain water and sewage over
part marked A, C, D DP 383510 created by Easement Instrument 6200091.7 - 2.11.2004 at 9:00 am
6301375.1 Mortgage to ANZ National Bank Limited - 4.2.2005 at 9:00 am (affects part formerly CT WN44A/163)
7559382.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.10.2007 at 9:00 am
Subject to a right to drain sewage & convey water over part marked A, B DP 383510 and a right of way over part marked A, C
DP 383510 created by Easement Instrument 7559382.5 - 1.10.2007 at 9:00 am

Transaction Id

Client Reference Z1449801 Nyssen

Search Copy Dated 29/02/08 10:29 am, Page 1 of 2
Register Only

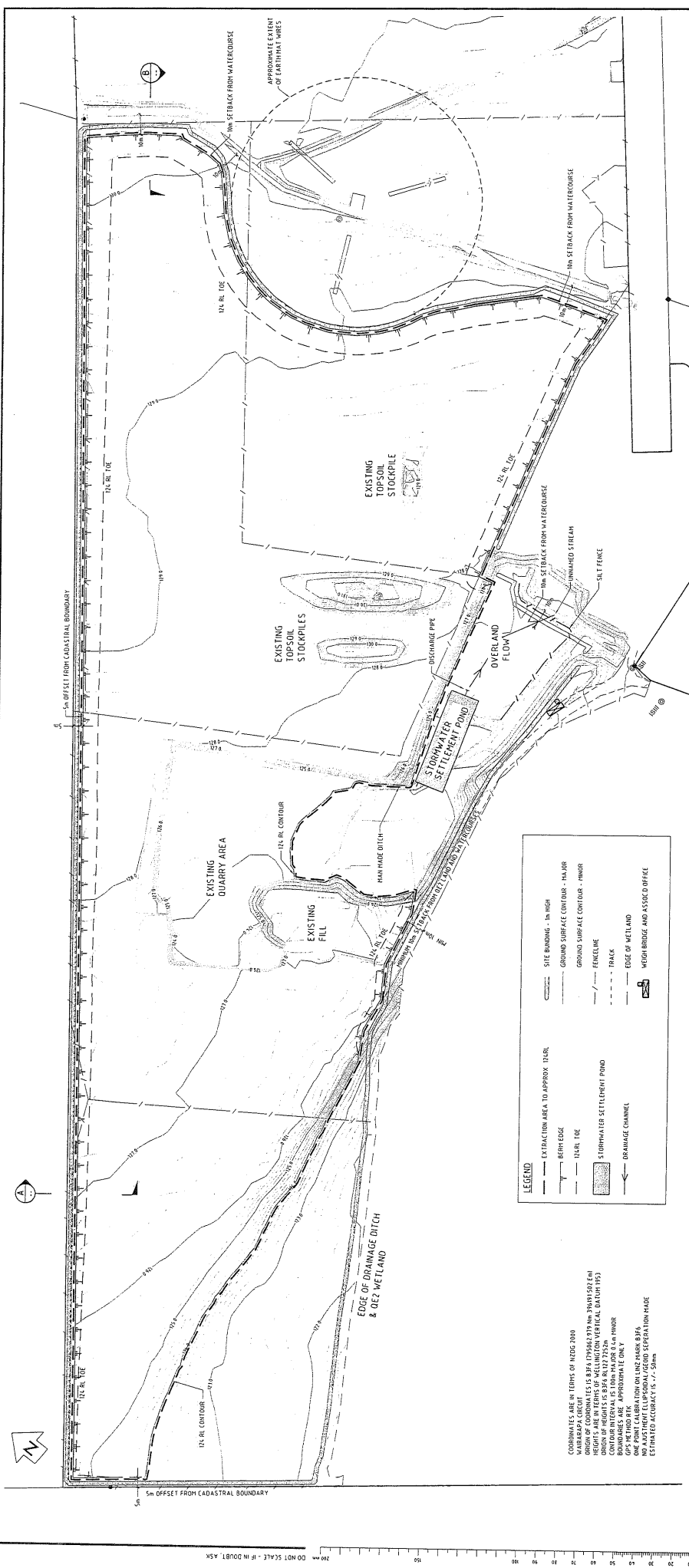


Registered Proprietor(s) (where applicable) who have been approved by the Registrar-General under the Land Transfer Act 1952, Section 223 of the Resource Management Act 1991 on the _____ day of _____ 2007 AUTHORIZED OFFICER	
Name of the Proprietor(s) Name of the Proprietor(s) as shown on the Title Deed Name of the Proprietor(s) as shown on the Title Deed Name of the Proprietor(s) as shown on the Title Deed	A.C.O. (s.4) (s.4) (s.4) (s.4) A.C.O. (s.4) (s.4) (s.4) (s.4) A.C.O. (s.4) (s.4) (s.4) (s.4)
Name of the Proprietor(s) Name of the Proprietor(s) as shown on the Title Deed Name of the Proprietor(s) as shown on the Title Deed	A.C.O. (s.4) (s.4) (s.4) (s.4) A.C.O. (s.4) (s.4) (s.4) (s.4) A.C.O. (s.4) (s.4) (s.4) (s.4)
LOT 2 SUBJECT TO A LAND CONSTRAINT NEW CT'S TO BE ALLOCATED LOT 1 : CT 333215 LOT 2 : CT 333216 LOT 3 : CT 333217 CLASS OF SURVEY: LOT 1 & 2 CLASS 4 LOT 3 CLASS 4	
Total Area 924.97 ha Comprised in CT's WN241783, WN1974, WN241784 & 188197	

Examined _____ Correct
 Approved as to Survey By _____
 Load Information New Zealand on 18/11/2007
 Deposited By Land Information New Zealand
 on 18/11/2007
 DP 383510
 Received 4.5.2007
 Instructions



Appendix D – Sediment and Erosion Control Plan

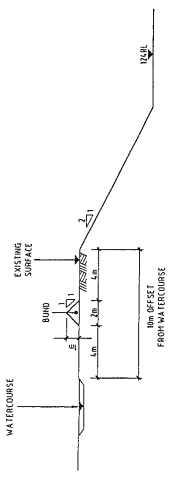
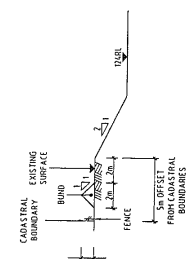


SITE PLAN
SCALE 1:1000

LEGEND

	SITE BOUNDING - IN HIGH
	GROUND SURFACE CONTOUR - HAIR
	GROUND SURFACE CONTOUR - MHO
	FENCE LINE
	TRACKS
	EDGE OF WETLAND
	WEIGHBRIDGE AND ASSOCIATED OFFICE
	EXTRACTION AREA TO APPROX. 10m
	BERM EDGE
	TRACK TOE
	STORMWATER SETTLEMENT POND
	DRAINAGE CHANNEL

COORDINATES ARE IN TERMS OF NZGD 2000
 ORIGIN OF COORDINATES IS B.P.P. (DP3642 270 NO. 30415) 502.04M
 HEIGHTS ARE IN TERMS OF WELLINGTON VERTICAL DATUM (1953)
 CONTOUR INTERVALS ARE 10m TO 10.00 & 5m THINER
 BOUNDARIES ARE APPROXIMATE ONLY
 ONE POINT CALIBRATION ON LINE MARK B.P.P.
 AND A JUSTIFIED TILTED/ALIGNED SEPARATION MADE
 ESTIMATED ACCURACY IS +/- 50mm



TYPICAL DETAIL A - EXCAVATION SLOPES ADJACENT TO CADASTRAL BOUNDARIES
SCALE 1: 200

TYPICAL DETAIL B - EXCAVATION SLOPES ADJACENT TO WATERFEATURES
SCALE 1: 200

WAIARAPA AGGREGATES KIWI LUMBER SITE		NOT FOR CONSTRUCTION	
PROPOSED EXCAVATION LIMITS & WATER MANAGEMENT PLAN FIGURE 3		FOR REVIEW	
DATE: 19/05/2008		DATE: 19/05/2008	
SCALE: (A1) 1:1000		SCALE: (A1) 1:1000	
DRAWING NO: 216.4.9801		PROJECT NO: GE01	
PROJECT: WAIARAPA AGGREGATES		PROJECT: WAIARAPA AGGREGATES	



Name	Date	Checked	Approved
R. O'CONNOR	01/08	DESIGNED	DESIGNED
J. CHAMBERLAIN	01/08	DRAWN	DRAWN
R. O'CONNOR	01/08	CHECKED	CHECKED
J. CHAMBERLAIN	01/08	APPROVED	APPROVED

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