

1. INTRODUCTION

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1.1 Purpose of this Document

The purpose of this document is to provide an assessment of the potential environmental effects that this proposal may have on the surrounding environment, in support of these applications for resource consents.

An Assessment of Effects on the environment is required to accompany any application for resource consent under the provisions of Section 88 of the Resource Management Act 1991 (RMA). This document has been prepared to accompany the resource consent applications sought in accordance with the Fourth Schedule of the RMA.

1.2 Project Vision

The vision for this project is to establish a state of the art cement manufacturing facility to meet the growing New Zealand demand for cement, while avoiding, remedying or mitigating unacceptable effects on the environment.

Holcim (New Zealand) Limited (Holcim) is seeking to establish a new cement manufacturing facility to meet the growing demand for cement. During the past five years the New Zealand cement market has grown over 30% to the current level of over 1.3 million tonnes per annum. Moreover, the New Zealand market is forecast to grow on average 1.2% per annum in the long term.

The project for which resource consents are sought provides for the extraction of all the main raw materials required to manufacture cement within a close geographical area, and has efficient transportation linkages through the roading and rail network.

Holcim is proposing to build and operate a modern cement manufacturing facility at Weston. This plant will incorporate the latest advances in cement process technology, including modern control and measurement technologies, to avoid unacceptable effects of the project on the environment.

1.3 Brief Description of this Proposal

Appendix 1 shows the locations of all the sites relevant to this Assessment of Effects on the Environment and the applications for resource consents.

The proposed project comprises the establishment and ongoing operation of a cement manufacturing complex centred primarily at a main manufacturing site on land owned by Holcim adjacent to the Weston-Ngapara Road. This site is situated some 3km northwest of the township of Weston and some 7km west of Oamaru.

Key raw materials for cement making are limestone (~80%), tuff (~10%), siltstone (~5%), and sand (~5%). Proposed in close proximity to the main manufacturing site are raw material quarries for limestone, siltstone and tuff¹. In addition, silica sand would

¹ Porous rock formed from volcanic ash fragments with a size of less than 2mm diameter and used in cement manufacture.

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be obtained from a pit near Windsor and lignite coal would be extracted from a pit near Ngapara.

Other materials would be utilised in the cement manufacture (e.g. used oil, gypsum), and these would be delivered to the cement manufacturing site by truck. The majority of the cement produced would be transported by rail to the Port of Timaru for shipment, while trucks would be used to distribute cement to local South Island markets.

The land at Weston on which the plant and limestone, siltstone and tuff quarries would be sited is zoned Rural General (Rural G) in the Waitaki District Plan with a special identification as a Cement Policy Area. This identification has been in place since the early 1980s and specifically provides for the manufacture of cement and associated quarrying of raw materials. The coal and sand pit areas at Ngapara and Windsor are zoned Rural G.

The manufacturing plant, quarries and pits would employ approximately 110-125 full-time employees. Other jobs would also be created outside the plant as a result of the project, such as those relating to contracting, supplies, and other support areas. During construction many more workers would be required, with an expected peak of around 485 personnel.

Reinstatement and use of a rail link from the plant site to the main trunk line is proposed and would be provided for under the Outline Plan of Works process, separate from these present resource consents.

1.3.1 Plant Site

Appendix 3 shows the plant site layout and features of the site facilities. The plant layout covers an area approximately 1,000m long by up to 360m wide.

The proposed cement manufacturing plant is a dry process plant where raw materials are processed and fed into a kiln. The tallest features of the plant would be the main stack, at around 104m high, and the preheater tower, at just over 80m. Various silos for the storage of cement and clinker would be approximately 40-50m tall, and the main mill components would range between 30-40m in height.

The cement plant would have a design capacity of 2400 tonnes of clinker per day. Clinker is a cinder-like material that is produced by subjecting the raw materials to intense heat in the kiln system. It is an intermediate product in the cement making process. Initial production is expected to be below this design capacity, but would progressively increase over time, as required, to meet anticipated growing market demand.

The cement plant would operate:

- 24 hours per day.
- Seven days per week.
- Two-shifts per day.

The plant would have one annual shut down period for maintenance of 2-3 weeks.

Operation of the cement plant is expected to have a maximum demand of up to 15 megawatts of electricity and approximately 500m³/day of water.

1.3.2 Weston Quarries

Appendix 2 shows the layout of the Weston quarries, the quarry accesses and associated facilities.

The limestone, siltstone and tuff are all found in Holcim owned land adjacent to the proposed plant. This land would be quarried to extract each of these materials by dozing, ripping and excavation. Blasting will not be necessary.

Once quarried, these materials would be transported to a crusher located within the main limestone quarry and from the crusher the material would then be transported to

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the cement plant by a downhill conveyor through a tunnel in the escarpment dividing the main materials quarry from the plant site.

The Weston quarries would normally operate 10-12 hours per day, for five and a half or six days per week.

1.3.3 Lignite Coal Pit (Ngapara) and Silica Sand Pit (Windsor)

Appendices 4 and 5 show details of the Ngapara and Windsor site layouts, site accesses and associated facilities.

The primary fuel source for the cement plant's kiln would be coal (quarried at Ngapara), supplemented by supplies of used oil (brought in by road tanker). The coal would also be quarried by dozing, ripping and excavation and no blasting would be necessary.

Silica sand would be extracted from an open pit at Windsor.

Both the sand and coal pits would be located within a short trucking distance of the plant site. The pits will normally operate 10-12 hours per day, for five and a half or six days per week.

1.4 Consents Sought

These applications seek all of the resource consents from the Otago Regional Council and Waitaki District Council which are necessary to enable the construction and operation of the cement manufacturing plant, and the development and operation of the associated quarries/pits for raw materials.

Air permits, water permits and discharge permits are sought from the Otago Regional Council. Resource consents are sought from the Waitaki District Council for land use in relation to each of the sites. Further details are contained in Section 9.

A land use consent is not required for the reinstatement of the rail line, which is authorised by an existing designation. The physical reinstatement of the line will be dealt with through an Outline Plan of Works process. Likewise, any resource consents for the establishment of a port facility at Timaru will be obtained at a later time.

1.5 Profile of Holcim

1.5.1 Holcim Limited

Holcim Limited is one of the world's leading suppliers of cement, aggregates (crushed stone, sand and gravel), concrete and construction-related services. From its origins in Switzerland, the Holcim Group has grown into a global player with strong market presence in over 70 countries on all continents. The Group now employs some 90,000 people.

In just over ninety years Holcim Limited has grown from humble beginnings in a Swiss village to become one of the world's leading cement companies. The history of Holcim Limited includes:

Holcim History Timeline

1912

Holcim Limited was founded in 1912 in the village of Holderbank, Canton Aargau. From an early stage it became clear that the domestic market in Switzerland could offer only limited opportunities for expansion.

1920

By the early 1920s the company began investing in cement businesses in other European countries. This trend was quickly followed by investments in Egypt, Lebanon and South Africa.

1945

In the years following 1945, and particularly in the fifties and sixties, a network of holdings began to develop in North and Latin America.

1970

In the 1970s, ventures in the emerging markets of the Asia-Pacific began.

1980

In the 1980s, Holcim Limited continued to expand into new markets, including Eastern Europe. A greater focus on aggregates and ready-mixed concrete production strengthened the company's position as a vertically integrated market leader.

1990

A strong focus on core business activities in cement, concrete and aggregates characterised Holcim Limited activities during the 1990s. Entry into new markets, particularly within Asia, expanded opportunities for the Group.

2001

The name of the Group was changed from "Holderbank" Financière Glaris Limited to Holcim Limited in May 2001. Today, the international presence of Holcim consists of a balanced mix of companies in industrialised and emerging markets.

1.5.2 Holcim (New Zealand) Limited

Holcim (New Zealand) Limited (Holcim) is a subsidiary of Holcim Limited. Holcim is a long-term participant in the New Zealand cement, concrete and aggregate industries and a long-term investor in the New Zealand lime sector.

The company's involvement in the New Zealand building and construction industry dates back to its Otago origins in **1888**. It was formerly named Milburn New Zealand Limited and operated a cement works at Pelichet Bay (Otago Harbour) and a lime works at Milburn, south of Dunedin. In **1929** a new cement plant was established at Burnside, on the outskirts of Dunedin and the Pelichet Bay plant was closed.

In **1958** the New Zealand Cement Company commenced operating a new cement plant at Westport to meet the growing demand for cement. In **1963** Milburn and the New Zealand Cement Company merged and formed New Zealand Cement Holdings Limited. Over the next 12 years two new production kilns were introduced at the Westport plant and these trebled capacity to meet the continued growth in demand for cement. In **1977** Holcim, the Swiss company (then known as Holderbank), bought 52% of the company. In **1988** the company celebrated 100 years of operations in New Zealand and changed its name to Milburn New Zealand Limited. The Burnside plant was closed in that same year.

Holcim moved to 100 percent ownership in **1999** and in September **2002** the name Holcim (New Zealand) Limited was adopted.

Holcim's only New Zealand cement manufacturing plant at Cape Foulwind, Westport, produces up to 500,000 tonnes of cement each year and employs 130 staff. It operates 24 hours a day, 365 days a year and distribution from Westport is by two bulk cement ships owned and operated by Holcim.

Nationwide, Holcim employs more than 530 people and supplies a wide range of products to New Zealand and the South Pacific Islands. The core activities are production, distribution and marketing of cement, concrete, aggregates, lime and their related products.