

STATUTORY CONSIDERATIONS

1. Part 2 of the Act

Part 2 of the Act, the purpose and principles, is set out in sections 5 to 8 of the Act. Section 5(1) states that the purpose of the Act is to “*to promote the sustainable management of natural and physical resources*. Section 5(2) defines sustainable management as “*managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic and cultural well being and for their health and safety*” while:

- (a) “*sustaining the potential of natural and physical resources, (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.*”

The applicant’s proposed activities will entail the extraction, and use of the natural resources of lignite coal, silica sand, limestone, siltstone and tuff within the Waiareka Valley, for their benefit, to produce Portland Cement for the New Zealand market.

Provided the activity is undertaken in accordance with the application, and draft consent conditions, the proposed activity should not compromise the potential of surrounding natural and physical resources to meet the reasonably foreseeable needs of future generations. It will not compromise the current use of resources (including the land air and water) surrounding the proposal sites whilst in operation, or the foreseeable future use of the rehabilitated land on which the proposed activities would be undertaken, once the mineral resources have been abstracted.

The proposed activity has also been shown to not compromise the life-supporting capacity of air, water, soil or ecosystems. The applicant is proposing to undertake the proposed activities utilising environmental management practices, which are designed to ensure that this life-capacity is maintained. Conditions of consent will also ensure that any unexpected effects are quickly identified, and mitigated.

Council’s technical advisors have provided assurance that the applicant’s proposed methods of avoiding, remedying, or mitigating adverse effects of the activities on air, water, soil and natural hazards are best practice, and do provide the environment with the best possible protection. Where it has been identified that the discharge of minewater from the Ngapara Coal Mine site could be treated more extensively, thus providing a heightened level of protection to the downstream aquatic environment, this has been recommended and required as a condition of consent. The relative economic, social, cultural and aesthetic effects of the proposed activities are the subject of applications to the Waitaki District Council and will not be considered in this report.

The application is considered to be consistent with section 5 of the Act

Section 6 of the Act requires that certain matters of national importance be recognised and provided for. Of relevance to this application are:

- *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development*

The applicant's proposed activities will not detract from the natural character of Waiareka Creek, or its margins. Waiareka Creek lies within a catchment highly modified by agriculture. The Creek itself has been significantly impacted by the modified nature of its catchment, and possesses notably degraded water quality, and richness of ecosystems, relative to its pre-development state. As such, relative to its current natural character, the development of a cement plant and associated raw material sources, is not considered inappropriate, or a matter of national importance.

- *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;*

As discussed in Parts A-D of this report the quality and quantity of water in Waiareka Creek will not be compromised. As such, the relationship that Maori and their culture and traditions have with Waiareka Creek will not be compromised by the proposed activity. The applicant has also displayed that their discharge of contaminants to air will not adversely effect the Maori rock art located in close proximity to the plant.

In assessing this application, Section 7 of the Act requires particular regard be had to various matters. In the context of the present application the following matters are relevant:

- (a) *kaitiakitanga;*
- (aa) *the ethic of stewardship;*
- (b) *the efficient use and development of natural and physical resources;*
- (d) *intrinsic values of ecosystems;*
- (e) *recognition and protection of the heritage values of sites, buildings, places or areas;*
- (f) *the maintenance and enhancement of the quality of the environment; and*
- (i) *the effects of climate change*

The proposed application and recommended consent conditions give regard to kaitiakitanga and the ethic of stewardship. They recognise, and have provided for the guardianship over the surface water, soil, and air resources of the region by tangata whenua.

The proposed extraction and use of the limestone, tuff, siltstone and silica sand resources is consistent with section 7(b). The proposed activity will make use of these abundant resources. If the applicant is not permitted to undertake their proposed activity, these resources would be underused and not developed.

The use of the low grade lignite coal to power the cement kiln is also an efficient use of the resource. Due to its high sulphur content, this coal is not suitable for general use in a normal boiler. However, due to the design of the applicant's proposed cement kiln, the sulphur in the coal is almost entirely contained within the clinker, and as such, has little bearing on the SO₂ concentration in the plants emissions. The SO₂ content in the plants emissions largely originates in the raw mix. As such, the proposed activity is making use of a mineral resource which would otherwise, be underutilised.

The ecosystems currently supported by Waiareka Creek are not of high quality, and their intrinsic value is not significant. This is largely due to the effect agriculture has had on severely degrading the quality of water within the creek and its margins. Council, in association with surrounding landowners are working towards improving these ecosystems, and the applicant's proposed activity will not compromise this work. With respect to terrestrial ecosystems, the effect of the discharges to air has been shown to be no more than minor.

The applicant has displayed that the discharges to air from the proposed activity will not result in acid rain, or other dry deposition, that would compromise the abundance of historic limestone architecture in the region.

The applicant proposes to undertake the proposed activity utilising environmental practices that should ensure the surrounding water, air and soil resources are maintained as far as is practical, in their current state. Where there may be degradation, such as the surrounding air resource, the applicant is employing best practice mitigation technology to minimise impact, and these effects have been kept to an acceptable level which should have no more than minor effect on the surrounding environment.

The main foreseeable mechanisms by which climate change may effect the proposed project are through: an increase of extreme rainfall events reducing the design standard of the stormwater facilities on site, and through an increase in extreme drought events, and general reduction in rainfall predicted for eastern New Zealand placing additional stress on what are already stretched water resources. The applicant has stated that given the conservative designs of the proposed water management systems, climate change should not appreciably increase the level of risk.

The report writer is not aware of any reasons why the proposed activity would contravene the principles of the treaty of Waitangi. The applicant has commissioned a cultural impact assessment from Kai Tahu, and local iwi have been actively involved in the resource consent process through its public notification.

2. Section 104(1) of the Act

The remaining matters of Section 104(1) to be considered when assessing an application for a resource consent are as follows:

- (a) any actual and potential effects on the environment of allowing the activity; and*
- (b) any relevant provisions of*

- (i) *a national policy statement;*
- (ii) *a New Zealand coastal policy statement;*
- (iii) *a regional policy statement or proposed regional policy statement;*
- (iv) *a plan or proposed plan; and*
- (c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.*

These matters are discussed in the following sections.

2.1 Actual and Potential Effects on the Environment

The actual and potential environmental effects of the proposed activity on surrounding air, water, and soil resources, and on natural hazards, were considered in Parts A to D of this report. It was concluded that provided that a proposed activity is undertaken as outlined in the application, and in accordance with the recommended conditions of consent, any ongoing adverse environmental effects should be avoided, remedied or mitigated.

2.2 Regional Policy Statement

The Regional Policy Statement for Otago (RPS) provides an overview of the resource management issues for the Otago Region, and ways of achieving integrated management of its natural and physical resources. The most relevant objectives and policies to this application are contained in Chapter 4 (Manawhenua Perspective), Chapter 5 (Land), Chapter 6 (Water), Chapter 7 (Air), Chapter 9 (Built Environment), Chapter 11 (Natural Hazards), Chapter 12 (Energy) and Chapter 13 (Wastes and Hazardous Substances).

Chapter 4 includes objectives relating to cultural values and places of significance, and the need to recognise and provide for these values and places. In particular, objectives 4.4.2 (recognising and providing for waahi taoka (treasured resources)), 4.4.3 (recognising the principle of wairua and mauri in managing Otago's water bodies) and, 4.4.4 (places where food is produced or procured) are relevant to this application. Recommended conditions of consent will ensure that the proposed works are undertaken in a manner consistent with these objectives.

The objectives and policies in Chapter 5 seek to achieve the sustainable development of Otago's land resource. The objectives and policies of particular relevance to this application seek to:

- safeguard the primary productive capacity and life supporting capacity of Otago's land resource, and avoid, remedy or mitigate adverse effects of activities on the regions soils (Objective 5.4.1, Policy 5.5.2, Policy 5.5.3);
- avoid, remedy or mitigate the degradation of Otago's natural and physical resources resulting from activities utilising the land resource (Objective 5.4.2, Policy 5.5.5);
- promote the sustainable management of Otago's mineral resources (Objective 5.4.5, Policy 5.5.8); and
- recognise and provide for the relationship Kai Tahu have with Otago's land resource (Policy 5.5.1).

The proposed activity will not compromise the primary productive capacity of surrounding farmland and its soils. It should have no impact on the status of surrounding certified organic agriculture. It is noted portions of the applicants proposed activity are to be undertaken on land recognised as possessing high quality soils. However, the applicant proposes to undertake their development in such a manner that upon its closure, the land can be rehabilitated back into its current state.

The proposed activity will not degrade the natural and physical resources surrounding the proposed activities, and will allow the regions mineral resources of limestone, siltstone, tuff, silica sand and lignite to be utilised.

The relationship Kai Tahu have with Otago's land resource has been accounted for, and they have been actively involved in the consent process.

The objectives and policies in Chapter 6 seek to safeguard, maintain and enhance the values of Otago's water resources. The objectives and policies of particular relevance to this application seek to:

- allocate, and promote the use of, Otago's water resource in a sustainable manner (Objective 6.4.1; Policy 6.5.3);
- safeguard the life-supporting capacity of Otago's water resources (Objective 6.4.2, Objective 6.4.3, Policy 6.5.5);
- maintain and enhance the ecological, intrinsic, amenity and cultural values of Otago's water resources (Objective 6.4.4);
- avoid, remedy or mitigate degradation of the water resource resulting from the use, development or protection of the beds and banks of water bodies (Objective 6.4.5, Policy 6.5.7),
- mitigate the threat of flooding and riverbank erosion, resulting from the use, development or protection of water bodies (Objective 6.4.6),
- maintain and enhance public access (Objective 6.4.7 and Policy 6.5.10),

The allocation and use of surrounding water resources was discussed in Parts A to D of this report, and will be further discussed from a statutory perspective below, with reference to the specific policies and rules of the Regional Plan: Water for Otago, which has been structured to give effect to this general policy

The effects of the proposed works on the life supporting capacity of the two watercourses was discussed in Parts A to D of this report, as have their effects on the surrounding ecological, intrinsic, amenity and cultural values. As suggested by objective 6.4.3 and 6.4.4 due weight has been afforded to protecting these values in the applicants design of the proposed works, and in recommended conditions of consent.

The proposed activity will not compromise public access to Waiareka Creek or any of its tributaries.

Chapter 7 contains objectives and policies that seek to promote the sustainable management of Otago's air resource.

Objective 7.4.1 of the RPS is to maintain and enhance Otago's existing air quality, including visual appearance and odour. The relevant policies of the RPS that are applicable to this application seek to:

- provide for the relationship Kai Tahu have with Otago's air resource (Policy 7.5.1);
- avoid, remedy or mitigate any discharges which have adverse effects on the air resource (Policy 7.5.2);
- promote and encourage activities and methods that avoid, remedy or mitigate the production and discharge of greenhouse gases and ozone depleting substances (Policy 7.5.4);

As discussed Kai Tahu have been actively involved in the process, and due provision has been made for their relationship with Otago's air resource. The applicant proposes to utilise best practice technology to remedy and mitigate all discharges from the multiple quarry sites, and the proposed cement plant, which could potentially have adverse effects on the air resource.

As discussed in the Overview to this report, the mitigation of climate change through the control of activities that produce greenhouse gases is not considered to be relevant for this particular consent application, and it will be left to the central government level to manage this aspect of the proposed activity.

Chapter 11 seeks to avoid or mitigate the effects of natural hazards. The objectives and policies of particular relevance to this application, seek to avoid or mitigate the adverse effects of activities on natural hazards to acceptable levels (Objective 11.4.2, Policy 11.5.2)

The applicants proposed sediment ponds are most relevant to this policy. The dams introduce a hazard that does not currently exist, but are a necessary part of the applicant's overall development. As discussed, provided the applicant construct and maintain the dams in accordance with recommended conditions of consent, then the level of risk they pose is considered acceptable.

Chapter 12 seeks to promote the sustainable and efficient management of Otago's energy resources, including its production and use. The objectives and policies of particular relevance to this application seek to:

- avoid remedy or mitigate the effects on Otago's communities and environment resulting from the production and use of energy (Objective 12.4.1);
- sustainability and efficiently produce and use energy (Objective 12.4.2, Policy 12.5.3).

The applicant proposes to generate a majority of the large energy requirement associated with the manufacture of cement by burning low grade lignite coal. It is considered that this is the most practical measure of producing the required energy. It is also using a resource which is abundant in the Otago Region, and would otherwise be under utilised. The cement kiln system in which the applicant proposes to utilise the coal to generate energy is of best practice design, and will avoid and mitigate as far as practicable the effects on the surrounding environment and community.

2.3 Regional Plan: Water for Otago (RPWater)

Relevant objectives and policies of the RPW found in Chapter 5 (Natural and Human Use Values Of Lakes and Rivers), Chapter 6 (Water Quantity), Chapter 7 (Water Quality), Chapter 8 (The Beds and Margins of Lakes and Rivers) and Chapter 9 (Groundwater) are relevant to this application.

Chapter 5 seeks to protect the natural and human use values supported by Otago's lakes and rivers, and their margins. The objectives and policies of particular relevance to this application seek to:

- identify, avoid effects on, and preferably maintain and enhance identified natural and human use values (objective 5.3.1, policy 5.4.1, policy 5.4.2, policy 5.4.3);
- recognise, maintain and enhance spiritual and cultural beliefs, values and uses of significance to Kai Tahu (objective 5.3.2, policy 5.4.4);
- protect the natural character of Otago's rivers, from inappropriate subdivision (Objective 5.3.3 Policy 5.4.8);
- maintain or enhance, the amenity values and recreational opportunities associated with, and public access to, Otago's lakes and rivers (objective 5.3.4, objective 5.3.5, policy 5.4.6, policy 5.4.7, policy 5.4.9);
- provide for the sustainable use of Otago's water bodies (objective 5.3.5); and
- avoid the exacerbation of any natural hazard, or creation of any new natural hazard (objective 5.3.8).

As discussed in Parts A to D of this report the proposed activity if operated in accordance with proposed consent conditions, will have no more than minor effect on the quality or quantity of water in Waiareka Creek or any of its tributaries. As such, natural and human use values, and values and uses of significance to Kai Tahu will not be compromised.

The protection of Waiareka Creek's natural character from inappropriate development was discussed above with reference to section 6 of the Act.

Due to its severely compromised water quality, and significantly agriculturally modified catchment, Waiareka Creek and its tributaries do not hold valued amenity, or recreational value. It is noted that Council and surrounding landowners are working to improve the water quality. The proposed activity will not compromise these efforts. The proposed activities will not compromise the current use of the creek, or restrict public access.

Chapter 6 seeks to, in combination with the relevant rules, ensure that water is managed in a sustainable manner.

Policy 6.4.7 States the need to maintain a residual flow at the point of take will be considered with respect to any take of water, in order to provide for the aquatic ecosystem and natural character of the source water body.

A residual flow has been considered for all four sites. As discussed in Part D no residual flow is recommended for any of the four sites.

- Policy 6.4.9 Provides for supplementary allocation for the taking of water, in blocks of allocation where that is appropriate:
- (a) Such that up to 50% of flow at the catchment main stem, minus the assessed actual take, is available for allocation subject to a minimum flow set to ensure that no less than 50% of the natural flow remains instream; or
 - (b) **On an alternative basis provided:**
 - (i) **The take has no measurable effect on the flow at any Schedule 2 monitoring site, or any site established in terms of Policy 6.4.4, at flows at or below any minimum flow applying to primary allocation; and**
 - (ii) **Any adverse effect on any aquatic ecosystem value or natural character of the source water body is no more than minor; and**
 - (iii) **There is no adverse effect on any lawful existing take of water.**
 - (c) The first supplementary allocations and associated minimum flows for the Kakanui River are set in Schedule 2B.

As discussed in Part D of this report, the applications to take surface water at each of the four sites have supplementary allocation status. Each take meets the conditions of policy 6.4.9 (b) above, and should be granted subject to no minimum flow.

Chapter 7 addresses water quality. The following policies within Chapter 7 of the RPW are of relevance to the point source discharges of the proposed activity.

- Policy 7.7.1 seeks to promote the discharges of contaminants to land in preference to water, where appropriate. Policy 7.7.2 states that when considering the discharge of any contaminant to land, to have regard to:
 - (a) the ability of the land to assimilate the contaminant;
 - (b) any potential for soil contamination;
 - (c) any potential for land instability.

The applicant has chosen to utilise sedimentation basins to dispose of stormwater at the Main Plant Site and the Windsor Sand Pit. The applicant has not undertaken final design of these infiltration basins, however, they have noted that the porous nature of the underlying soils should be conducive. If there are impervious layers found, the applicant has stated then design solutions will be devised to manage to problem.

- Policy 7.7.3 states that when considering applications for resource consents to discharge contaminants to water, to have regard to the opportunities to enhance the existing water quality of the receiving water body at any location for which the existing water quality can be considered degraded in terms of its capacity to support its natural and human use

values. Policy 7.6.2 seeks to enhance the water quality of the Lower Waiareka Creek specifically (below Elderslie Road, Round Hill), so that the Macroinvertebrate Community Index score is increased.

The quality of the discharge to Waiareka Creek from the Ngapara Coal Mine will be treated to a very high level utilising a water treatment plant, and should be of better quality than the receiving waters. The discharges at the Weston Quarry Site will also be treated, and should be of better quality with respect to nutrients and dissolved oxygen content, than the receiving waters. The damming of overland flow at both the Weston Quarry Site and the Ngapara Coal Mine during periods of heavy rainfall, for treatment, will also act to buffer flood flows in the catchment, and when finally discharged they will provide increased runoff during periods of low flow.

- Policy 7.7.5 states that when considering applications for resource consents, to have regard to the cumulative effects of discharges of contaminants and the assimilative capacity of the water body.

In assessing the effects of the proposed discharges in Parts A to D of this report, regard was given to the assimilative capacity of the receiving water. The cumulative effects of all discharges from all sites that could potentially effect water quality were given regard, and considered to be no more than minor.

- Policy 7.7.7 states that when considering any resource consent to discharge a contaminant to water, to have regard to any relevant standards and guidelines in imposing conditions on the discharge consent.

As discussed in Parts A to D of this report there is some contention over the standards and guidelines which are most relevant to this application, and should be used as the basis for conditions on the discharge consents. It was concluded that the most stringent guidelines being the ANZECC 95% trigger values for the protection of aquatic ecosystems should be utilised, and these form the basis to consent conditions.

The following policies of the RPW are relevant to other discharges from the proposed activity.

- Policy 7.8.2 promotes the avoidance, remediation or mitigation of the adverse effects that cause increased runoff of nutrients and sediments.

The applicant utilises best practice treatment technologies at each site, to mitigate the runoff of sediments. The contribution of nutrients from the applicants proposed sites should be relatively low in comparison to the surrounding farmland, and should not contribute to the raised levels of nutrients in Waiareka Creek.

- Policy 7.8.3 promotes the use of contingency plans for the prevention, containment and recovery of the accidental spill of any hazardous substance which may adversely affect water quality.

Conditions of consent include provision for the development of environmental management plans for each site. These environmental management plans will require the applicant to develop accidental spill protocol, and emergency procedures to instigate, so as to mitigate any adverse effects on water quality.

- Policy 7.8.6 requires the holder of any consent for a dam constructed for the storage of contaminants to completely remedy any adverse effect of the failure or overtopping of the dam structure, either during or after its construction.

It is a recommended condition of consent that the applicant provides for the complete remediation of any loss or damage caused by the uncontrolled release of contaminants from the dams. Such a release could occur should the dam constructed to store the contaminants fail, or be overtopped, either during or after its construction.

Chapter 8 of the RPW seeks to manage activities on the beds and margins of lakes and rivers.

- Policy 8.6.1 states that when managing the disturbance of the bed or margin of any watercourse, regard should be had for adverse effects on the spawning habitats of fauna, bed or bank stability, water quality and adverse effects as a result of degraded water clarity
- Policy 8.7.1 promotes the creation, retention and enhancement of appropriate riparian vegetation where it will maintain or enhance amenity values, avoid, remedy or mitigate adverse effects arising from flooding or erosion, be unlikely to restrict public access, have significant adverse effect on any heritage value, or place significant operational constraints on existing network utilities.

The applicant has proposed to undertake all works in and around the margins of waterways in accordance with best practice techniques documented within Auckland Regional Council's TP90. Conditions of consent will also ensure that the proposed activity will have no more than minor effect on the watercourse, including both its water quality and riparian margins.

Chapter 9 of the RPW seeks to manage the groundwater within Otago in a sustainable manner.

- Policy 9.4.1 states that in managing any activity involving the taking of groundwater or the discharge of contaminants, to ensure that the suitability of aquifers to support the recognised uses of groundwater identified in Schedule 3 is maintained.
- Policy 9.4.2 states that in managing the taking of water from any groundwater aquifer, to give priority to avoiding, in preference to remedying or mitigating:
 - (a) The total take from all bores exceeding the annual renewable yield of the aquifer;
 - (b) Depletion of any surface water resource;
 - (c) Contamination of groundwater or surface water;
 - (d) Aquifer compression; or
 - (e) Irreversible or long term degradation of soils arising from use of the water for irrigation.

- Policy 9.4.3 requires that in managing the effects of any take of groundwater on surface water resources, regard is given to:
 - (a) the connection between the water bodies;
 - (b) the transmissivity within the aquifer.

With reference to this application, Schedule 3 notes that it is important to retain the ability of the groundwater to meet the present needs of irrigators in the region, due to their reliance upon the water.

In terms of policy 9.4.2, the proposed taking of groundwater should not give rise to any of the effects listed in (c), (d) or (e) above. However, (a) and (b) are of relevance. As discussed earlier Council believes that the Volcanics Aquifers immediately to the south-east of the applicants proposed point of take are suffering from over abstraction, and the total take from all bores is exceeding the annual renewable yield of the aquifer. Groundwater levels in this region are consistently decreasing. It is also known that in this region groundwater and surface water resources are intrinsically linked due to the transmissivity of the aquifer.

However, it is not known whether the same situation is present in the immediate vicinity of the applicant's proposed take. An extensive review of groundwater in the region will be undertaken by Council's Resource Science Unit beginning in mid 2007. Taking all this into account, it is recommended that the term of consent attached to the applicant's consent to take and use groundwater at the main plant site be restricted to 10 years, and that consent conditions require that the applicant undertake comprehensive monitoring of the effect of their take on appropriate monitoring bores. This, in combination with Council's study should provide for a greater understanding of the groundwater resource in the immediate vicinity, and greater surrounds. It is appropriate that when the applicant reapplies for their consent it should be reviewed whether the underlying groundwater resource if managed as it is today, will be able to provide for the needs of the regions irrigators (as recognised in Schedule 3 of the RPW) in the long term. If a new consent is granted, appropriate consent conditions shall be attached accordingly.

The applicant has calculated that the proposed take of 6 l/s from a bore field at the main plant site will reduce the base flow of Waiareka Creek by 1.9 l/s. As discussed earlier, this figure is considered to be extremely conservative by Council's Resource Science Unit, and they believe the depletion will be lower than that estimated. Council's Resource Science Unit stated this effect on the Creek will not be measurable, and should have no more than minor effect.

- Policy 9.4.7 states that in managing the taking of groundwater, regard should be had to avoiding adverse effects on existing groundwater takes, unless the approval of affected persons has been obtained.

As discussed in Parts A to D of this report, it is not expected that the proposed take will adversely effect any existing takes. Policy 9.4.7 advocates the use of Schedule 5 of the water plan to ascertain whether a bore is adversely affected. Applying the formulae provided in

Schedule 5 the applicant estimated that drawdown not deemed to be causing adverse effect was 0.03m. The applicant estimated this to occur 1300 metres from the proposed bore field. Within this radius the only consented water take is from a bore owned by Parkside Quarries, however, they have provided their written approval under s94 of the Act. Council's Resource Science Unit made a more conservative calculation for the radius of interference (up to 2 kilometres), however, no consented water takes were identified in this area.

- Policy 9.4.8 states that the quantity of water granted, under a resource consent for the taking of water, should be no more than that required for the intended use of that water having regard to the local conditions.

With respect to the groundwater take at the Main Plant Site, efficiency of use was given regard to in Part D of this report. It was concluded that the quantities of water required by the applicant for potable supply, and for truck washing were inefficient, and alternative quantities are recommended.

- Policy 9.4.18 and Policy 9.4.19 engage with groundwater contamination, and recognise that areas within groundwater protection zones A and B respectively, require additional protection from leachate.

Whilst none of the applicant's proposed sites are within a recognised groundwater protection zone, they have been recognised by both Council's Resource Science Unit and the applicant, as potential recharge areas for in the case of the Weston Quarries the Waiareka Volcanics Aquifer, and in the case of the Windsor Sand Pit and Ngapara Coal Pit the Papakaio Aquifer. Both of these aquifers are valuable for irrigation. The applicant has designed their management of overburden material and stormwater on site to minimise leachate to groundwater. It is also a recommended condition of consent at each site that appropriate groundwater monitoring is undertaken.

- Policy 9.4.22 states that in granting resource consents to take water from any aquifer, or in any review of the conditions of a resource consent to take water from any aquifer, to require the volume and rate of take to be measured in a manner satisfactory to the Council unless it is impractical or unnecessary to do so, and where appropriate to require groundwater quality to be monitored.

It is a recommended condition of consent that the applicant measure and record their volume and rate of take from the proposed borefield at the Main Plant Site. It is also a recommended condition of consent that the applicant make note of quantities of groundwater leaching into the quarry areas at Weston, however, due to the non point source nature of the leaching, and that some of the water will infiltrate back into the ground on the quarry floor, it is not practical to accurately measure its quantity.

Overall, subject to the recommended conditions of consent, it is considered that the application is consistent with the relevant objectives and policies of the RPWater.

2.4 The Regional Plan: Air for Otago

The Regional Plan: Air for Otago (RPA) provides an integrated approach to air management issues, the aim of which is to reduce the adverse effects associated with activities that affect air quality.

- Policy 8.1.1 states that regard should be had to the Otago Goal Levels identified in Schedule 1.1 in managing the region's ambient air resource.

Otago's Goal Levels were given regard in Part D of this report with reference to the proposed discharge of contaminants to air from the Main Plant Site.

- Policy 8.2.3 requires that in the consideration of any application to discharge contaminants into air, Council will have:
 - (a) Particular regard to avoiding adverse effects including cumulative effects on:
 - (i) Values of significance to Kai Tahu;
 - (ii) The health and functioning of ecosystems, plants and animals;
 - (iii) Cultural, heritage and amenity values; and
 - (iv) Human health; and
 - (b) Regard to any existing discharge from the site, into air, and its effects.

Regard has been given to these matters in Parts A to D of this report.

- Policy 8.2.4 states that the duration of any permit issued to discharge contaminants into air will be determined having regard to:
 - (a) The mass and nature of the discharge;
 - (b) The nature and sensitivity of the receiving environment; and
 - (c) Any existing discharge from the site, into air, and its effects.

Taking into account the minor nature of effects, and the best practice technology to be installed by the applicant, a term of 35 years is considered appropriate. It is also consistent with other existing consents in the Otago Region, where the applicant has chosen to install best practice technology and should have no adverse effect. A standard review clause is included that allows Council to review the conditions of consent, should any unforeseen effects occur.

- Policy 8.2.5 requires, as appropriate, that provision be made for the review of the conditions of any resource consent to discharge contaminants into air.

A standard review clause is a recommended condition of all discharge to air consents.

- Policy 10.1.1 states that the Council will encourage:
 - (a) People undertaking land use activities to adopt management practices to avoid, remedy or mitigate any adverse effects of dust beyond the boundary of the property; and
 - (b) City and district councils to use land use planning mechanisms and other land management techniques to manage land use activities which have the potential in dust beyond the boundary of the property.

The applicant proposes to employ best practice management approaches to minimise fugitive dust from all of their sites. It is a recommended condition of consent that the applicant undertake these initiatives.

Overall, subject to the recommended conditions of consent, it is considered that the application is consistent with the relevant objectives and policies of the RPA.

2.5 Regional Plan: Waste for Otago

The overburden at the Ngapara Lignite Coal Pit is a hazardous waste, as the definition of hazardous waste in the RPWaste includes any substance that has the capacity to oxidise (sulphide minerals) or be toxic or ecotoxic (dissolved metals).

The RPWaste recognises that hazardous waste can have an adverse effect on the environment and on the customary relationship Manawhenua have with their resources. Accordingly, the avoidance, remediation and mitigation of those adverse effects are objectives of the plan. The following objectives are relevant to this proposal:

3.3.1 To ensure that the quality of Otago's natural and physical resources is not degraded by wastes.

3.3.2 To protect the mauri of Otago's natural and physical resources and restore the mauri of waste affected resources

3.3.3 To ensure waste management practices are compatible with Kai Tahu values.

6.3.1 To avoid, remedy and mitigate the risk to the environment and human health from hazardous substances and hazardous wastes.

6.3.2 To avoid, remedy and mitigate the harmful effects of hazardous substances and hazardous wastes on traditional water, land and mahika kai values of importance to Kai Tahu.

The proposed activity meets these objectives.

Relevant policies from the RPWaste that relate to hazardous wastes include:

6.4.1 To promote the safe transportation, and the use, treatment, storage and disposal of hazardous substances and hazardous wastes in such a manner that avoids adverse environmental effects.

6.4.8 To promote the treatment of hazardous wastes prior to disposal.

In addition method 6.5.18 is relevant (and also reflected as a requirement for hazardous waste facilities under Rule 6.6.1).

6.5.18 Require as part of a resource consent application for facilities disposing of hazardous wastes, the preparation of hazardous waste facility management plans to address issues relating to the control of emissions and their effects.

The applicant states that the design and operation of their ELF and in-pit permanent storage of PAF overburden, presents no hazard to the environment. There are measures recommended to prevent any adverse effects occurring by preventing the potential for material in the proposed ELFs and pit to turn acid and leach metals off site. Stormwater runoff from the proposed pit and ELFs would be caught and treated before discharge. The proposed ELFs are expected to be geotechnically stable.

It must be ensured that the proposed ELF and in-pit storage does not give rise to any potential downstream adverse effects due to waste rock disposal, so discharges must be monitored.

Overall, subject to the recommended conditions of consent, it is considered that the application is consistent with the relevant objectives and policies of the RPWaste.

2.6 Kai Tahu ki Otago Natural Resource Management Plan

Kai Tahu ki Otago Natural Resource Management Plan 2005 outlines general policies for activities within Otago.

Of particular relevance to the applications to discharge contaminants to air are the following policies:

- To require monitoring of all discharges to be undertaken
- To encourage management plans for all discharge activities
- To require all discharge systems to be well maintained and regularly serviced
- To require cultural assessments for any discharges to air.

The proposed activity undertaken in accordance with recommended conditions of consent is consistent with these policies.

Of particular relevance to the applications to take ground and surface water are the following policies:

- To require that resource consents applications seek only the amount of water actually required for the purpose specified in the application;
- To require that all water takes are metered and reported on, and information be made available upon request to Kai Tahu ki Otago; and
- To oppose the granting of water take consents for 35 years.

The proposed activity undertaken in accordance with recommended conditions of consent is consistent with these policies

Of particular relevance to the applications to discharge contaminants to land are the following policies:

- To require land disposal for human effluent and contamination.
- To require monitoring of all discharges be undertaken on a regular basis and all information, including an independent analysis of monitoring results, be made available to Kai Tahu ki Otago.
- To require all discharge systems be well maintained and regularly serviced. Copies of all service and maintenance records should be available to Kai Tahu ki Otago upon request.
- To require visible signage informing people of the discharge area. Such signs are to be written in Maori as well as English.
- To require groundwater monitoring for all discharges to land.

As effluent from the proposed treatment and disposal system is to be discharged to land, at a low application rate, the proposed activity is not considered inconsistent with the above management policies.

A condition is included on the draft consent attached to this report, to provide KTKO with an opportunity to inspect the site, should any koiwi, waahi taoka, waahi tapu or other artefact materials be discovered during the construction of the treatment and disposal system.

Of particular relevance to the applications to discharge contaminants to water are the following policies:

- To encourage Kai Tahu ki Otago input into the development of monitoring programmes.
- To require monitoring of all discharges be undertaken on a regular basis and all information including an independent analysis of monitoring results, be made available to Kāi Tahu ki Otago.
- To encourage Management Plans for all discharge activities that detail the procedure for containing spills and including plans for extraordinary events.
- To require all discharge systems be well maintained and regularly serviced. Copies of all service and maintenance records should be available to Kāi Tahu ki Otago upon request.
- To require visible signage informing people of the discharge area, such signs are to be written in Māori as well as English.

While no signage at the point of discharge, is recommended, it is considered that the proposed activity, if undertaken in accordance with recommended consent conditions, is considered to be generally consistent with the above policies.

Of particular relevance to the applications to instream works are the following policies:

- To require that work be undertaken when water levels are naturally low or dry.
- To require that works are not undertaken during spawning season of certain fish species and fish passage is provided for at all times.
- To require that any visual impacts at the site of the activity are minimal.

- To require that all practical measures are undertaken to minimise sediment or other contaminant discharge and that wet concrete does not enter active flow channels.
- To require that machinery only enters the dry bed of the waterway to the extent necessary to undertake the work, and that it is kept clean and well-maintained, with refuelling occurring away from the waterway. Machinery operating in flowing water is to be discouraged.
- To require that buffer zones are established and agreed upon with the Papatipu Runaka between the flowing water and the site of any river or instream work.

The proposed activity undertaken in accordance with recommended conditions of consent is consistent with these policies

2.7 Section 104E of the Act

If an application is for a discharge permit to do something that would otherwise contravene section 15 or section 15B, the Consent Authority must, in addition to the matters in section 104(1), not have regard to the effects of such a discharge on climate change, except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases. As discussed in the Overview to this report, this is not considered appropriate in this case, and no regard has been given to the effects of the proposed activity on climate change.

2.8 Section 105 of the Act

Under Section 105(1) of the Act, in respect to an application for a discharge permit the Consent Authority must have regard to:

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) the applicant's reasons for the proposed choice; and*
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.*

For each application to discharge contaminants to the environment assessed in Parts A to D of this report, the provisions of section 105 (a), (b) and (c) were considered and given due regard. The application, and draft consent conditions are considered to be consistent with section 105 of the Act.

2.9 Section 107 of the Act

Under Section 107(1) of the Act a discharge permit shall not be granted if after reasonable mixing the contaminant or water discharged is likely to rise to all or any of the following effects in the receiving waters:

- (a) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials:*
- (b) Any conspicuous change in the colour or visual clarity:*
- (c) Any emission of objectionable odour:*
- (d) The rendering of freshwater unsuitable for consumption by farm animals:*
- (e) Any significant adverse effects on aquatic life.*

However, a consent authority can grant a discharge permit that may allow any of the effects listed above, if it is satisfied :

- (a) That exceptional circumstances justify the granting of the permit; or*
- (b) The discharge is of temporary nature; or*
- (c) That the discharge is associated with necessary maintenance work - and that it is consistent with the Act to do so.*

Provided the applicant undertake the proposed activity as described in the application, and in accordance with recommended conditions of consent, then none of the effects listed in (a) to (e) above should occur in the receiving waters.

The application, undertaken in accordance with recommended conditions of consent is thus considered consistent with section 1.5(1) of the Act.