

RESOURCE MANAGEMENT ACT

WAITAKI DISTRICT PLAN

**APPLICATION FOR RESOURCE CONSENT
HOLCIM**

**LANDSCAPE & VISUAL AMENITY
ASSESSMENT**

**AUDIT BY
GRAHAM DENSEM
Landscape Architect**

29 JULY 2007

1. PRELIMINARY

- 1.1 I have been appointed by the Waitaki District Council to peer review a landscape assessment report prepared by Boffa Miskell Ltd in support of an application by Holcim (New Zealand) Ltd. The application seeks resource consents to establish a cement manufacturing plant and associated quarries and pits at Weston, Windsor and Ngapara. This peer review in particular assesses the landscape and visual amenity effects of the proposal.
- 1.2 This assessment is based on the following documents:
- *'Landscape and Visual Amenity Assessment'* dated 14th February 2007, Appendix 8 of Assessment of Environmental Effects accompanying Holcim application (A4-sized document, hereafter referred to as the *'Landscape Assessment'*);
 - *'Graphic Supplement'* to the Landscape Assessment, dated 14th February 2007 (A3-sized document);
 - *'Additional Photo Montages'*, dated 16th May 2007 (received on CD).
- 1.3 I have visited the localities of all proposed sites, made observations and viewed them from surrounding public roads. I also am familiar with the localities through having carried out the Waitaki Landscape Study on behalf of the Council in 2003-4.
- 1.4 I am a qualified landscape architect in practice under my own name. I have over 30 years experience in landscape architecture and am an Associate member of the NZ Institute of Landscape Architects.

2. DESCRIPTION

- 2.1 The full project description is covered comprehensively elsewhere and need not be detailed again. However the elements of interest to a landscape assessment are, in summary:
- the quarrying of limestone and siltstone from the east side of the Whitstone escarpment at Weston, and tuff from a nearby quarry northwest of that escarpment;
 - construction and operation of a cement manufacturing plant at the foot of, (i.e. west of), the Whitstone escarpment;
 - the establishment of a pit and quarrying of silica sand at Windsor;
 - the establishment of an opencast mine and quarrying of coal at Ngapara;
 - the roadside and other effects of transport operations between these sites and the plant.

Some of these features will be large in scale.

3. DISTRICT PLAN

- 3.1 The Waitaki District Plan as partially operative (July 2004) includes the rural surrounds of the Weston site in the Rural General Zone, but provides for a specific Cement Policy Area on the sites of the Limestone/tuff quarries and proposed plant (Planning Maps 22, 26).

- 3.2 Planning Maps 17 and 22 cover the areas of Ngapara and Windsor, where the coal and Sand pits are proposed. These areas also are shown as Rural General Zone. No specific items or areas of landscape interest are shown in the vicinity of the coal or sand pits on Planning Maps 17 and 22, other than an area of high class soils close to the Ngapara site.

Waitaki Landscape Study

- 3.3 In 2004 I prepared a visual and landscape character study of Waitaki District. Its purpose was to advise the Council as to the nature and extent of any areas of outstanding and significant landscapes or features in Waitaki District. See *Waitaki Landscape Study – a visual assessment of Waitaki District*, Graham Densem for Waitaki District Council, May 2004. The study did not examine ecological or ‘science-based’ landscape components.
- 3.4 This study identified the Whitstone escarpment and Parkside Quarry as features or areas of significance to Waitaki District. It likewise identified several other limestone peaks in the Ngapara-Oamaru-Maheno area. The study recorded these areas and features as being of both natural value, as distinctive aesthetic features, and cultural value, in forming part of the Oamaru identity (See Map 10 and s.6.14 (p.58) of the study).
- 3.5 The conclusions regarding values thus were based partly on the natural and aesthetic values of the escarpment, and partly on its cultural values, including those of the Parkside Quarry. The cultural value arises from the ‘limestone identity’ of the Weston area, derived from the national renown of Oamaru stone as a building material and the frequent local usage of limestone, for instance in buildings, fences and gateposts.

Landscape Variation

- 3.6 Currently the Waitaki District Council is hearing submissions on District Plan Variation 2 and Plan Change 2, otherwise known as the ‘the Landscape Variation’. The variation proposes changes to the policies, rules and boundaries for the already-existing Rural Scenic Zone. It also introduces four new landscape categories into the District Plan: Outstanding Landscapes, Outstanding Natural Features, Significant Natural Features and Significant Coastal Landscapes.
- 3.7 The outstanding landscapes and features and the significant coastal features are those warranting provisions under s.6 of the Resource Management Act, ‘matters of national importance’. Provisions for the Rural Scenic Zone Significant Natural Features fall under s.7 of the Act, as ‘amenity landscapes.’
- 3.8 Variation 2 includes the Whitstone Escarpment, and the Teaneraki Cliffs immediately to the north, as areas of Significant Natural Feature (refer map 5 of the Variation). The sites of the proposed cement plant and tuff quarry do not fall within the area of the Significant Natural Features, but are immediately adjacent to them. It therefore should be a matter of assessment whether the plant or tuff quarry will affect the aesthetic values of the Escarpment, even if not themselves within the protection area.
- 3.9 Approximately 20% of the proposed limestone quarry at its northern end, plus the haul road and conveyor structure, is within the area of the Significant Natural Feature. (estimated from Map *‘Significant Natural Feature and 30 Year Mine Extent*,

Weston, Boffa Miskell, Map C05144c, 3 July 2007). These activities therefore need to be assessed according to the values of the Significant Feature.

- 3.10 Variation 2 establishes the mechanisms for protecting landscape values of Significant areas in the in the District Plan. As they stand, the rules aim to manage change so it is not detrimental to the values, rather than protecting the features from change completely. Policy 6 as proposed in the variation, is *'To ensure that those characteristics leading to the identification of an outstanding or significant natural feature, are protected.'* It thus is the characteristics specifically that are protected, not the feature in total, leaving scope for modification within the significant area where appropriate.
- 3.11 At the time of writing, Variation 2 is in its public hearings stage. Those for the Weston - Ngapara area being expected during the second half of 2007. It is noted that Holcim are submitters to Variation 2, seeking deletion of the Significant Natural Feature, and alterations to the rules. At the time of writing therefore, the landscape policies and boundaries of the two Significant Natural Features, being publicly-advertised proposals, have immediate effect but would not be fully operative elements of the Plan until decisions and appeals are heard on the Variation.
- 3.12 Variation 2 as notified proposes no changes to the Rural General status of land around the proposed Windsor and Ngapara pits, over that of the Partially Operative District Plan. No Significant Natural Features are proposed within the visual catchments of these sites. There are such features in the wider vicinity, at Island Cliffs and Tokarahi, but these are beyond the influence zone of the proposed activities.

4. ASSESSMENT PROCESS

- 4.1 The applicants' *'Landscape and Visual Amenity Assessment'* (*Landscape Assessment*), prepared by Boffa Miskell Ltd, presents a comprehensive assessment of the existing landscape, establishing a baseline of existing values by which the proposed effects can be measured (s.4, Landscape and Visual Analysis). It then presents an assessment of effects in s.5.
- 4.2 The process is comprehensive and orderly but technical in nature and requiring some application to digest in its compartmentalised form. The assessments of impact are generally fair, although I disagree with some (marked **x** below) and note that in others (?), the text does not clearly indicate a degree of impact. The assessments pp. 14-30 are summarised as follows:

(i) Weston Cement Plant:

| | | |
|----------------------------|----------------------|-------------------|
| Landscape Direct Effects | <i>Moderate</i> | x |
| Landscape Indirect Effects | <i>Moderate-High</i> | |
| Visual Direct Effects | close: | <i>High</i> |
| | mid: | <i>Low</i> |
| | long: | <i>Some</i> |
| | remote: | <i>Negligible</i> |
| Visual Indirect Effects | | ? |

(ii) Weston Limestone/Siltstone Quarry:

Landscape Direct Effects *Moderate-High*
 Landscape Indirect Effects *Moderate-High*
 Visual Direct Effects Close: *Med*
 Mid: *?*
 Long: *Low*
 Remote: *none*
 Visual Indirect Effects *(minimal?)*

(iii) Tuff Quarry:

Landscape Direct Effects *Moderate-High*
 Landscape Indirect Effects *Moderate-High*
 Visual Direct Effects close: *?*
 mid: *limited*
 long: *limited*
 remote: *none*
 Visual Indirect Effects *?*

(iv) Windsor Sand Pit:

Landscape Direct effects *Low-Moderate*
 Landscape Indirect Effects *Low*
 Visual Direct Effects Close: *medium-low*
 Medium-Remote: *none*
 Visual Indirect Effects *?*

(v) Ngapara Coal Pit:

Landscape Direct Effects *Low-Moderate x*
 Landscape Indirect Effects *Low*
 Visual Direct Effects Close: *medium (once rehabilitated) x*
 Mid: *?*
 Visual Indirect Effects *?*

- 4.3 Landscape Direct Effects are defined in the *Landscape Assessment* as immediate effects upon landform, land use, land cover and features within the vicinity of the development activities (s.5.2, p.14).
- 4.4 The Assessments are supported by a comprehensive series of Landscape Viewpoints and Montages, some accompanying the application (dated 14th February 2007) and others prepared as further information requested by the Council (dated 16th May 2007). These views allow informed review by others, including lay people, and are an important supplement to the technical assessments above.
- 4.5 It is acknowledged that Boffa Miskell have gone to considerable efforts to clarify the expected impacts of the proposed plant. My impression is that the photographs and photo montages are ‘state of the art’ for New Zealand in terms of accuracy, reliability and presentation.
- 4.6 From my correlation of the written assessments of s.4, the photographs and montages, and my own site observations, I have formed views that concur with much of the above assessment, but differ in the sectors marked with a ‘x’ in 4.2 above.

4.7 Regarding the Cement Plant impacts:

(i) *Landscape Assessment* s.5.2.1 (pp. 14-15):

My impression is that the 'landscape direct effects' of the Weston plant will be 'high', under the criteria set out in 5.1 (p.14), not 'moderate' as stated in the application. My conclusion is that the change brought about by the plant will be more than 'discernable' (the criteria for 'Moderate'), and will in my opinion be 'significant and immediately apparent' (the criteria for 'High').

This refers to effects of the plant on landscape character, through changing the site from agricultural to industrial character. In landscape terms I regard this as a significant change in a rural landscape although they are in theory reversible in the event that the plant may close and be removed in the 30+ year timeframe.

These 'landscape direct effects' should be distinguished from the 'visual direct effects' of the plant under the applicant's classification. The visual effects of the plant are acknowledged by the Landscape Assessment to be 'high' for close viewpoints.

(ii) *Landscape Assessment* s.5.3.1, (pp.22-24)

The application states the Visual Direct Effects of the proposed cement plant to be 'Low' from mid-range viewpoints (2 – 5 km distances). This is based on an observation that views of the plant from low levels will generally be screened by the undulating topography and intervening vegetation.

It is accepted that views within this 2-5km arc are generally restricted, as stated by the applicant. However my impression is that in specific locations where this is not so, the impacts are 'medium-high' and not 'low'. The impacts from Viewpoints 3 (Round Hill) and 4 (Sunnybrae), which are 5 and 6 kms from the site respectively, and therefore at the outer limit of the 'mid-range' in question, indicate the potential for impacts to be more than minor, where visible.

While acknowledging various differences of elevation, distance and viewing circumstance between Viewpoints 3 and 4 and the 'mid range viewpoints' in question, my impression is that it would undervalue the impacts of the plant to regard them simply as 'Low'.

4.8 Regarding the Ngapara Coal Pit impacts:

(i) *Landscape Assessment* s.5.2.4 (pp. 17-18)

This assess the 'Landscape Direct Impacts' of the coal pit to be 'Low – Moderate', based mainly on the intention to comprehensively re-engineer and reinstate the proposed pit. It is fully accepted that the land in question is capable of absorbing the proposed change, and that the proposed reinstatement plans are appropriate and thorough.

However, my concern is that the first 7 years of pit life, that is, the first half of its estimated working life, will consist of 'ELF' formation, that is, stockpiling of overburden as permanent 'Engineered Land Forms' outside the worked pit. My impression is that the impacts may not be 'Low' during this extended period, and the disturbance to landforms and natural character may be significant within the near vicinity for the first 7 years.

The impacts are not such that the pits should not proceed, but are drawn to Council attention to ensure the best possible mitigation is required in early phases of the mine life.

(ii) *Landscape Assessment* 5.3.4 (pp.27-28)

This assesses the Direct Visual Effects of the Ngapara pit as 'Medium' 'through progressive rehabilitation of modified landforms'. Viewpoint 18, Ngapara-Georgetown Road, represents these impacts, including 18b and c, being montages for years 7 and 15.

My opinion is that the visual effects will be major at various times during the operation. There will be periods when parts of the 'ELF's are under construction and un-grassed, and therefore more visually-obvious from the Ngapara-Georgetown Road that 18b and c suggest. The proposed finished and reinstated solution is supported, but the Council will need to ensure best-possible mitigation is required at all phases of construction operations.

- 4.9 It is noted that the *Landscape Assessment* does not venture an assessment in the cases noted with a '?' in 4.2 above. However ultimately this does not negate the assessments that are included, nor materially alter the overall conclusions noted above.

5. EFFECTS: WESTON CEMENT PLANT

VISUAL EFFECTS (WESTON PLANT)

- 5.1 By any standards, this plant will be a large structure in the rural setting. See for example the Weston-Ngapara Road (south) and (north) *Additional Montages*, prepared Boffa Miskell. In height, the cooling tower and chimney will overtop the Whitstone Escarpment crest in many views from the west. In extent, the plant plus its surroundings will occupy a large area of currently rural land.
- 5.2 *The Landscape Assessment* acknowledges it would be impossible to fully mitigate the visual impacts of structures of this height and size (s.5.4m p.30). Some trees do attain heights of 30 metres, but not in any timeframe useful for the present purposes. In any case, my opinion is that it should not be necessary to fully screen land uses from view where they are bona fide rural uses, but rather to offset the effects to the extent they fit into their setting.
- 5.3 The aim for mitigation of the proposed plant should be, in my opinion, to offset the visual effects of its gigantism and industrial character as far as possible, thereby absorbing it into the rural setting. In my opinion this can be achieved by comprehensive tree planting, although this will take time to become fully effective. It can also be assisted by attention to the colours and tones of the plant buildings.

Planting Mitigation

- 5.4 The A3 *Graphic Supplement* to the application presents a 'Proposed Plant Masterplan' on Page 36. This shows areas of Amenity and Shelter Tree plantings, Evergreen Trees, massed shrubs and groundcovers and wetland retention plantings encircling the proposed plant site. These are aimed particularly at partially-screening visual effects of the structures and operations from the west, north west,

and south west. Little planting is proposed on the escarpment side of the plant, which is not seen in public view.

- 5.5 The proposed mitigations, and various modifications discussed below, are critical to the acceptability of the proposed plant. It therefore is **Recommended** that the Council require as a condition of consent, that the mitigations proposed in the *Landscape Assessment* and *Graphic Supplement*, and any modifications adopted in other recommendations, should be carried out by the applicant.
- 5.6 The visual effects of the proposed plantings are illustrated on various montages of the plant, for instance, those from the Whitstone-Five Forks Road and Weston-Ngapara Road (pp. 5-6 and 9-12 of the *Additional Montages*, dated 16th May 2007).
- 5.7 The *Landscape Assessment* acknowledges that the proposed planting will screen only the lower parts of the proposed plant, and that upper portions of the very tall buildings will remain visible above the trees. However my opinion is that these plantings, while desirable, will not by themselves sufficiently mitigate visual effects of the plant.
- 5.8 My opinion is that to combat the gigantism of the plant other strategic plantings also will be required at locations closer to significant viewpoints where visual impacts are high. My opinion is that these significant locations are:
- (1) From the Weston-Ngapara Road as it passes the site;
 - (2) From houses on Kia Ora Road;
 - (3) From locations northwest of the site, eg Whitstone – Five Forks Road.

Additional mitigation for each of these areas will now be discussed.

Weston-Ngapara Road

- 5.9 Two *Additional Montages* (pp. 9-12) show the view from this main road would be transformed by addition of the cement plant. What is currently an open view to the escarpment over rural farmlands would become closed in by very large structures and tree plantings, and transformed in character from farmland to industrial. For instance, compare pages 9&11 with 10&12.
- 5.10 The *Landscape Assessment* in s.5.4, pp 30-31 refers to extensive screen planting and bunding within the site, as visual screening for the lower parts of the proposed buildings. The *Graphic Supplement* in p.36 shows the conceptual layout for this. The Assessment states however that it will be impossible to screen the tallest vertical structures from the south west, west and north west.
- 5.11 While accepting this analysis, my opinion is that some additional measures could improve the range of mitigation
- 5.12 The key additional mitigation possible in my opinion is to lessen the visibility of the higher structures by undertaking plantings near to key view points, in addition to the plantings within the site proposed by the applicant.
- 5.13 It is agreed it will not be possible to fully screen it out views of the plant. However my opinion is that in the case of ‘montage south’ (pp11-12) the planting of several woodlots of large farm trees away from the plant site and near the highway viewpoints, would downplay the open views to the plant. If the plant is seen from the highway through foreground trees, and if its whole bulk is not seen at one time,

then my expectation is that its visual impacts would be appropriately mitigated from the Weston-Ngapara Road. Of course any trees would take time to grow.

- 5.14 My **Recommendation** therefore is that five woodlots each about 400-500 m² in area be required in the ‘fenced paddock’ south of the plant on the Proposed Plant Masterplan (*Graphic Supplement*, p.36). One woodlot would be in each in the following locations:
- 1) near the road boundary at the ‘montage south’ photo point;
 - 2) near the road boundary about halfway between the above woodlot and the plant perimeter;
 - 3) near the road boundary and the plant perimeter;
 - 4) two further woodlots intermediate to the above but set back from the road boundary by about 50 – 100 metres.
- 5.15 The purpose of these woodlots is to partially-screen views from the road to the plant, and to lessen the focal-point effect of the plant. By placing trees close to the viewpoints, their height will be large relative to the very tall plant structures. The woodlot trees should be of species that in time will grow into substantial trees, at least 10-15 metres high, and should be of mixed species, not a monoculture. At least 1/3 should be evergreen and 1/3 deciduous.
- 5.16 Additionally, if the profile of plantings within the plant site, as seen in ‘montage south’ from Weston-Ngapara Road, could be ‘roughed up’ with taller and shorter trees and a differing variety of species, rather than the even-height ‘hedge effect’ shown, that also would de-emphasise the height of the tower a little. My **Recommendation** is that the Council require this also as a consent condition
- 5.17 In ‘montage north’ the already-proposed trees will be more effective than from the south in partly screening the plant from the road. This is because the road viewpoint is lower and closer to the plant than from the south. However my **Recommendation** is that this mitigation also should be diversified by establishing woodlots near the roadside on this north side of the plant. My opinion is that three tree groups would suffice from this side.

Kia Ora Road

- 5.18 The Landscape Assessment, in s.5.3.1 (p.23), assesses as ‘high’ the visual impacts of the plant on about 8 or 10 houses in Kia Ora Road. I agree with this. The houses have elevated locations with views in an arc from mountains and the valley in the northwest to the Whitstone Escarpment in the northeast (Viewpoint 02, p.20 in *Graphic Supplement*).
- 5.19 My observation is that the view from most houses extends further to the left than shown in Viewpoint 02, also taking in the distant mountains across the valley. Thus the escarpment, while prominent, is not the only focus or major component of this panorama.
- 5.20 It is agreed that the proposed plant would have a significant and negative effect on the outlook of most of these houses, similar to that in Montage 2, Figure 18B. In some cases, existing trees will screen this impact, but in several cases there would be significant denaturalising of the current views of the escarpment.
- 5.21 In my opinion it would be possible to satisfactorily mitigate the impact on each house by judicious plantings of screen trees in one or more of 3 areas;

- (i) Firstly, those trees proposed around the plant itself. These are not capable of sufficient screening in themselves, but would be a first level of mitigation;
- (ii) Secondly would be to increase tree and garden tree plantings close to or within the garden of each house. These should not be of a size or location to shade the house, or be of sufficient density as completely cuts off existing open views. Rather, they should achieve a degree of visual filtering where it might not already exist;
- (iii) Thirdly, the mitigation would be most effective if additional mid-distance planting could be established on farmlands between the houses and the plant. There already is an amount of such planting for farm shelter, and an increase in that amount, along with (i) and (ii) above, would in my opinion, effectively mask views of the plant while maintaining open rural outlook from each house. The mid-distance land is likely to be owned by a third party, and for such an approach to succeed, the cooperation of that owner would be essential.

5.22 Because most houses in Kia Ora Road have views across the rural valley to mountains in the northwest, a lessening of views in the direction of the proposed plant would not entail undue isolation of houses from their views, in my opinion. My expectation is that an open rural aspect from each house would still remain.

5.23 My **Recommendation** is that where possible a landscape plan be developed between the applicant and each affected house owner in Kia Ora Road, whereby the applicant agrees to plan and plant trees within the house properties, where agreed between the parties. Further, it should require the applicant to seek agreement with the intervening farm owner for increased shelter planting on his land, if possible.

North west

5.24 To the north west of the plant site, the visual effects of the plant at distances of less than 2 kilometres will be similar to those noted for the Kia Ora and Weston – Ngapara Roads. This refers for example to the Whitstone – Five Forks Road, as represented by Viewpoint 1 in the *Graphic Supplement* (Figure 07, p.8).

5.25 *The Landscape Assessment* also includes this area in the ‘Immediate Range’ of viewing sites, where it assesses the visual impact of the plant as ‘high’. This includes sites from 2 – 5 kilometres where the plant is not screened by topography or trees. I agree with this assessment.

5.26 My **Recommendation** is that where specific viewpoints may occur, particularly houses, the applicant should be required to undertake similar 3-fold mitigation planting as for Kia Ora Road. This should include woodlot planting to maintain views

Plant Colour and Reflectivity

5.27 The Boffa Miskell photo montages show the proposed plant in an undifferentiated light grey colour, although it is believed subsequent work may have been carried out on alternative colourations that might reduce visual impacts.

5.28 Control of colour and reflectivity would assist in minimising visual impacts of the plant buildings. With selected colours they would be less bright against the landscape backdrop and form less colour contrast.

- 5.29 My **Recommendation** is firstly that the Council require the external surfaces of all buildings and structures to have a reflectivity of no more than 37%. Secondly that the building walls and roofs be coloured in earth tones specific to their setting. That is, colours such as buffs and greens and greys should be used and not primary colours such as red, yellow and blue, even where their reflectivity may be below 37%.
- 5.30 Furthermore my **Recommendation** is that the Council require that the towers and buildings be painted in differing colours and tones, to lessen the apparent visual bulk of the plant that would arise from all buildings being in a single colour or tone.

EFFECTS ON LANDSCAPE CHARACTER (WESTON PLANT)

- 5.31 The 'Landscape Assessment Matrices', pp.43-44 of the *Landscape Assessment*, state the indirect effects of the Weston plant on Landscape Character to be 'benign' in impact (i.e. neither positive nor negative), 'high' in magnitude and sensitivity, 'temporary' in nature, but 'high' in significance (p.44).
- 5.32 My opinion is that the impacts of the plant on landscape character will be negative in most people's minds, rather than benign or neutral. This is because the open rural scene forming the foreground of the Whitstone escarpment will be significantly changed in character.
- 5.33 My opinion also is that the nature of the change will effectively be 'permanent' from the perspective of the viewing public and neighbours, not 'temporary' as stated in the assessment. Granted that the plant life is stated as about 50 years and that in the event of closure and removal, the landscape character would return somewhat to its existing form, with the addition of some trees and earthworks. In that sense a reversible change is proposed.
- 5.34 However from the everyday perspective of those experiencing the loss of existing landscape character, my opinion is that the change will seem permanent. 50 years is more than half a lifetime and probably more than a working lifespan, for instance for a neighbouring farmer. My conclusion is that in duration the effects will be long term for most neighbours and members of the public.
- 5.35 However the *Landscape Assessment* (p.44) does acknowledge the effects of the Weston plant on landscape character to be 'high' in 'significance'. To be fair, this probably is the crucial assessment, in my opinion. I agree that the changes in landscape character will be significant.
- 5.36 For the above reasons I disagree with the *Landscape Assessment* in 5.2.8 that the significance of the change in landscape character resulting from the Weston plant is 'Moderate-High'. In my opinion it is 'high'.

Proximity to Significant Natural Feature

- 5.37 While itself within the Rural General Zone, the proposed Weston plant is in close proximity to the Significant Natural Feature of the Whitstone Escarpment, as proposed under the Landscape Variation, and will have effects on the escarpment.
- 5.38 The existence of the Significant Natural Feature and aspects of the policies leading to it are challenged by the applicants in a submission to the Variation. This is yet to be heard by the Council and it thus is acknowledged that the significant status may

or may not continue to exist in the future. The following discussion thus assumes the Significant Natural Feature to exist. However even if it did not, the landscape values of the escarpment would still need accounting for.

- 5.39 It also assumes that the plant, while not itself within the Significant area, has some obligation to maintain landscape values on the neighbouring Significant land. The question therefore arises as to how far should any Significant obligations extend onto land not itself designated Significant?
- 5.40 The relevant assessment matters for a Significant Natural Feature, as amended by Variation 2 and Plan Change 2, are:

‘xxv For activities located in the following areas of the Rural Zone shown on the Planning Maps:

- *Outstanding or Significant Natural Features ...*
 - a) *The extent to which the activity will cause:*
 - i) *the loss of key views or viewpoints;*
 - ii) *the loss of accessibility to key views or viewpoints;*
 - iii) *any obscuring of landforms or natural features;*
 - iv) *the loss of the natural landscape pattern, including the loss of underlying landform pattern;*
 - v) *the loss or obscuring of present vegetation patterns;*
 - vi) *the loss of openness and spaciousness of the landscape, and the apparent naturalness of the landscape.*
 - b) *The extent to which the activity is in accordance with the in this Plan and in particular those policies listed under Chapter 16, Issue 7, Landscape Objective 16.8.2.*
 - c) *The extent to which the activity is in accordance with the Landscape Guidelines in Appendix D to this District Plan.’*

- 5.41 Landscape Objective 16.8.2 of the District Plan, as amended by Variation 2 is

‘Subdivision, use and development are managed so that:

- *The values identified for the outstanding or significant natural features, outstanding landscapes and coastal landscapes are protected from inappropriate use and development;*
- *.....’*

- 5.42 The Objective under Issue 4 of the Plan, concerning rural amenity generally, states:

‘16.5.1 Objective 4 – Rural Amenity

A level of rural amenity that is consistent with the range of activities anticipated in the rural areas, but which does not create unacceptably unpleasant living or working conditions for the District’s residents and visitors, nor a significant deterioration in the quality of the rural environment.’

- 5.43 My conclusion is that the were the proposed cement plant to be sited within the Significant Natural Feature, it would contravene several of the above assessment matters, particularly a i), a iii) and a vi). Also some elements of the Landscape Guidelines in Appendix D of the District Plan, namely:

- Avoid skylines, ridgetops, promontories, important views and other prominent positions, particularly as viewed from public places;

- The scale and form of buildings should be complementary to the surrounding landscape;

It thus would be detrimental to the landscape character of the SNF

- 5.44 However the proposed plant is not within the designated Significant area and while some of its effects may extend to the SNF, its most underlying obligation in my opinion is to the rules of the Rural General Zone, and Landscape Objective 16.5.1, '*A level of rural amenity ...*'.
- 5.45 The plant also is within the Cement Policy Area established under the District Plan. The Plan clearly anticipated the establishment of such facilities in this part of the Rural General Zone and the plant is therefore taken to be within the ambit of rural activities envisaged by the Plan.
- 5.46 My conclusion is that the changes resulting from the plant are in keeping with the Plan intentions for the Rural General area in which they occur, so long as its effects are mitigated. My conclusion in paragraphs 5.1 – 5.29 above also was that the visual effects of the plant are capable of mitigation. I therefore believe the proposed plant is acceptable with the conditions recommended in 5.13 – 5.29 above.
- 5.47 My conclusion further is that the proposed plant would comply with the assessment matters for a Significant Natural Feature in that it would 'protect' the natural character of the Significant Natural Feature (the escarpment) by not physically changing it, but maintaining its natural values for the future. The effects of the plant on the escarpment are aesthetic and indirect, not physical and direct. Thus they do protect and maintain the essential natural features.
- 5.48 My opinion stated earlier was that the plant's effect on the landscape character of the escarpment would be significant. This is a matter of its aesthetic effects, as seen by the public. My conclusion, in light of the Plan's anticipation of activities such as proposed within the Cement Policy Area, is that so long as significant effects on the escarpment can be mitigated, the residual aesthetic effects of the plant on the escarpment would be acceptable. My conclusion is that they would be acceptable with the recommended conditions.
- 5.49 It is emphasised that mitigation involves screening by various tree areas, and these will take several years, 7 at least, to begin being effective for their purpose. Thus the earliest possible start to planting is **Recommended**, as well as an understanding that there will be some down time before mitigation becomes effective.

6. EFFECTS: WESTON LIMESTONE/SILTSTONE QUARRIES

- 6.1 The proposals for operating and reinstating the Weston quarries manage their visual and landscape effects effectively in my opinion, considering their size and potential impacts. In particular, a major achievement is the retaining of the Whitstone Escarpment main face in an unaltered state except for the proposed quarry-to-plant conveyance tunnel, while quarrying large amounts of material from behind. Under this proposal, there would be almost no impacts on the visible face of the Significant Natural Feature.
- 6.2 The pit would be virtually invisible from most directions, and Boffa Miskell's assessments of medium and low visual impacts are generally accepted. There is

some outside visibility from a northerly direction, as seen in the montages in Figures 19 and 20 of the *Graphic Attachment*. There also will be a visible Engineered Land Form (ELF), for storage of overburden. However I am satisfied that in most respects the visibility will not be widespread or significant, and where it is, is capable of mitigation.

- 6.3 The main undesirable visual impact will be a sizeable temporary 'ELF' formed to the east of the limestone quarry in its opening up phase. This has the potential to appear as an unnatural 'wart' on the smooth natural landforms, if its finished gradients are too steep. My understanding is that this ELF would be a 20 – 30 year legacy of the cement operation, eventually to be backfilled and used in rehabilitating the pit in its later stages. My understanding is that it will be visible from the Airedale Road area to the east.
- 6.4 My **Recommendation** is that, given the long duration of this 'temporary' feature, the Council should require significant naturalisation of its form as a condition of consent for this project.
- 6.5 The major unavoidable outcome of the planned limestone quarry will be the 'Landscape Direct Effect' of removing the landform behind the Whitstone escarpment. The escarpment will become like a façade, unchanged in frontal view but lacking the backing mass of its natural formation. For this reason I regard the Landscape Direct Effect of this quarry as 'High', not the 'Moderately High' as assessed by Boffa Miskell. The quarrying is however ultimately an allowable change under the Plan, which provides for such an activity in the Rural General area.
- 6.6 The main issues of this application as regards the Weston Pit therefore will be firstly, to ensure the characteristics of the Significant Natural Area are not compromised, and secondly, if this is achieved, to ensure the visual impacts of the pit as a whole are mitigated.

Significant Natural Area

- 6.7 From the Boffa Miskell map referred to in paragraph 3.9 above, it is seen that a proportion of the mining in the north of the pit will occur within the Significant Natural Area proposed in Variation 2. This comprises an estimated 20% of the pit area and is the most visible part of the proposed pit (the northern end), although still not widely visible to the outside public. For instance, see Viewpoint 10 and montages 20 B, C, and D, pp. 26-29 of the *Graphic Supplement*.
- 6.8 The applicants' montages and restoration proposals indicate that the mining will have only minor impacts on the front faces of most of the escarpment, and that there will be little visual impacts from mining at the rear. In this respect I am satisfied that the pit proposals will maintain the integrity of most of the Significant Natural Area, in that it will not alter.
- 6.9 There will however be visible alteration to the northern end of the escarpment, as illustrated in Montages 19 and 20. This will consist of removal of the escarpment end through quarrying and establishment of the haul road behind it. The change is best illustrated in Montage 19. My opinion is that this is a minor change to the escarpment as a whole, involving a small proportion of the whole face and occurring at one end, relatively (but not totally) out of sight.
- 6.10 My conclusion is that given the small proportion and peripheral location of the change within the total Significant Natural Area, the values of the Area as a whole

would be maintained, and the change would be minor. The Boffa Miskell photo montages illustrate comprehensive reinstatement and restoration of the landforms of this area, although not to their original form, and this should be a condition for the alteration within the area of the Significant Natural Feature.

- 6.11 My conclusion therefore is that associated removal of lime from the remainder of the SNF area at the northern end is insignificant in light of the other changes occurring, and so long as comprehensive reinstatement of the finished surfaces also occurs here.
- 6.12 Overall I am satisfied the aesthetic values of the escarpment will be maintained under the proposed quarrying regime and there would be no reason for mining not to go ahead on those rear portions within the Significant Natural Area, or within the wider pit proposed.

Integrity of Escarpment Face

- 6.13 A landscape concern arising from the 'façade' effect of the Whitstone Escarpment is its lessened robustness to survive unforeseen events, for instance structural collapse during an earthquake. Superficially, the chance of this occurring would seem to be increased by removal of its rearward mass. Were a section of the escarpment to fail in the future, the landscape impacts of a gap in the escarpment would be significant, like a tooth missing from someone's smile.
- 6.14 While such a collapse could also occur under the existing state, its visual consequences would be less because additional limestone mass would remain behind any new gut, thereby lessening its visual impacts.
- 6.15 Commenting on the tolerances for preventing such a collapse is a geotechnical issue not a landscape one, but the point is made that from a landscape perspective, removal of the backing material will lessen the tolerance of the Whitstone escarpment to withstand major events, and thus possible unforeseen landscape impacts from quarrying.

Reinstatement

- 6.16 Proposals for reinstatement of the quarry faces are presented in s.5.4 of the *Landscape Assessment*, and the Landscape Masterplan on p.37 of the *Graphic Supplement*. These refer to:
- Treatment of the upper face of the quarry back wall with planting and seeding immediately following excavation of the face, and possible chemically-induced weathering treatments;
 - Rehabilitation of the north east nose of the escarpment at the earliest, to minimise adverse visual effects, by careful contouring of overburden sourced from the main pit, to marry in with the existing escarpment profile;
 - Other quarry slopes seeded as soon as possible, within the restrictions imposed by quarry operations;
 - Eventual grading and replanting of the pit floor in pasture grass, noting that the staging of operations in this quarry will prevent progressive restoration, but that this sunken area will not be visible from public viewpoints.

- 6.17 My conclusion is that these proposals are acceptable, with the first two bullet points being critical. I thus **Recommend** that the above proposals be incorporated as conditions of consent.

7. EFFECTS WESTON TUFF QUARRY

- 7.1 The tuff quarry to the north of the escarpment affects an area at the base of, and immediately adjacent to, the Significant Natural Feature boundary proposed in Variation 2 of the District Plan.
- 7.2 This operation will be on relatively flat land between the Whitstone and Teaneraki scarps, and some distance away from public roads. The applicants' montage series in Figure 19 of the *Graphic Supplement* illustrates the situation.
- 7.3 The assessment of 'Limited' visual effects of the tuff quarry is accepted, noting that the assessment of 'Moderate-High' Landscape Direct Effects relate to the permanent change of landform. My opinion is that the changed landform will be an acceptable part of the future landscape and that with the reinstatement proposed in s.5.4, (p.31), the landscape effects of the tuff quarry will be acceptable, both during its lifetime and on closure. Also that the mitigation outlined in s.5.4 (p.31) is acceptable.
- 7.4 My **Recommendation** is that the proposal for the tuff quarry and its restoration be accepted.

8. EFFECTS: WINDSOR SAND PIT

- 8.1 Direct landscape effects of this operation are assessed in s.5.2.3 (p.17) of the *Landscape Assessment* as low to moderate. This is due to the operation lying in a small enclosed agricultural valley, and the opportunity to progressively reinstate the landform after an initial opening up period. Its access also requires little additional work, being along the former rail bed.
- 8.2 Visual impacts are assessed in 5.3.3, pp 26 – 27. These includes views from passing motorists on Windsor and Victoria Hill Roads, which are stated to be medium-low, and for residents as medium-high impacts. The assessment states *'the temporary visual exposure of residents to quarrying activities will be completely mitigated in the long term, with the appropriate restoration of land form, land cover and land use.'* Thus a short-medium term impact on nearby farmsteads is noted.
- 8.3 My understanding is that the applicants have reached an owner agreement with the nearby resident most affected, Windsor Blue Limited. If so, I would foresee no other significant landscape impacts, and would **Recommend** that the reinstatement stated in 5.2.3 and 5.3.3, and shown Proposed Rehabilitation Masterplan on p.38 of the *Graphic Supplement*, be included as a condition of any Council consent.

9. EFFECTS: NGAPARA COAL PIT

- 9.1 The proposal is to mine coal from undulating land on a hillside abover Ngapara township. The activity will be out of sight of the town and much of the valley, but

directly visible from the Ngapara – Georgetown Road. In stripping overburden from the coal measures, significant ‘Engineered Land Forms’ (ELF) will be created for the first 7 years before the pit reaches a steady state where overburden can be laid directly onto mined-out land in reinstatement. The life of the pit is stated as 15 years.

- 9.2 The applicants’ assess the landscape direct effects – that is, effects on landscape character – as low to moderate (s. 5.2.4, pp 17-18). The assessment states *‘There will be substantial change to the existing agricultural landscape, ... but good potential to absorb the change and rehabilitate the worked area back to agricultural production consistent with the surrounding landscape.’*
- 9.3 This analysis is accepted and I agree the undulating landscape can absorb the proposed modification without loss of value once reinstated.
- 9.4 The visual assessment (5.3.4, pp 27-28) assesses the visibility of the pit and ELF during the lifetime of the works as ‘moderate’ for motorists on from the Ngapara-Georgetown Road. The latter is illustrated in the montages in Figure 22 of the *Graphic Attachment*
- 9.5 The changes in Figure 22 are locally major, but in the context of their setting and visibility, are accepted as moderate. The final state illustrated is accepted. However the Council will need to impose consent conditions to ensure all possible progressive reinstatement of the operations, to minimise the extent of bare land visible at any time.
- 9.6 It is accepted that the works will not be visible from Ngapara township but noted that no mention is made of impacts, visual or otherwise, on houses immediately down slope from the pit and ELF, particularly one southeast of the Ngapara Consent Application Area. It is noted that Owner agreements have been reached with neighbours to the north east (Meadowbrook Farm Ltd) and south west (Cooper and Hardwick) but none to the south east.
- 9.7 It is **Recommended** that the proposals for working and reinstating the coal pit and Engineered Land Forms be accepted, but that the Council add consent conditions requiring progressive reinstatement and if necessary interim grassing of works areas, in order to minimise the extent of visual impacts at any given time.

10. SUBMITTERS CONCERNS:

ROAD CHARACTER

- 10.1 A submission by Ngapara Holdings Trust, W-2237, as an example, refers to a *‘dramatic increase in the number of heavy trucks using the Weston-Ngapara Road’ and to adverse impacts on this ‘narrow country lane’.*
- 10.2 It is agreed the added trucks may have some effect on the local ‘roadscape’ and roadside landscape, but in my opinion is important to establish a true balance of the likely effects on road character.
- 10.3 The Ngapara-Five Forks-Weston road system is an upgrading of the 19th Century local network, to meet modern demands. My impression is that main roads such as the Weston-Ngapara Road, while small in scale, are far from being ‘country lane’ in character. They carry through-traffic to Duntroon, Livingston and Danseys Pass,

some of which travels at considerable speed. They serve an ‘A-to-B’ district-wide purpose beyond that of small lanes. They also carry local farm, stock and supply trucks. With current irrigation developments in the upper valley, an increase in tanker traffic can be expected.

- 10.4 My understanding is that the Holcim proposal will add on average 62 trucks per day on the Weston-Ngapara Road, with a peak of 108 trucks. This includes return trips by empty trucks. Loads would be carried 6 days a week, between 7am and 10pm Monday – Friday and 7am to 7pm Saturdays. My understanding is that this would equate to an increase of between 4 (average) and 7 (maximum) truck movements per hour on the road, beyond what exists now. This includes both full trucks and returning empty ones, serving both the Ngapara coal and Windsor sand pits. (This information from Traffic Design Group, *Traffic Appendix* to the AEE, p 6)
- 10.5 My impression is that while this added traffic may have some effects on the road character, for instance through increased turning movements, widths of vehicles and churning up of verges, it will not be a major change from the present. I thus am of the opinion that, with the exception discussed in paragraph 10.6 below, general roadside improvements for landscape reasons are not called for, (noting that improvements for traffic purposes will be considered and agreed by others).
- 10.6 The ‘World War I Oaks’ are a distinctive feature of Waitaki District, including the Weston-Ngapara-Five Forks area. It is possible that an increased passage of large trucks, including but not limited to Holcim-related trucks, could damage or alter the canopies of these trees. I **Recommend** that a survey of these trees be carried out along the Weston-Ngapara Road, to identify any possibly at risk from the truck movements. If such trees are found, my opinion is that professional pruning or relocating should be arranged between the applicants and the Council, before the commencement of truck movements. It should be a high priority to maintain these trees in healthy condition.

HERITAGE CHARACTER

- 10.7 Reference has been made to the Holcim proposals ‘*irreversibly impacting*’ on the heritage potential of the network of historic homesteads, natural sites and activities in the Waiareka Valley. For instance, submission W-2193, Burnside Homestead., who state ‘...*the proposed Holcim cement works radically affects, impacts and changes the nature of the historic character of the entire valley, its endowments, amenities and lifestyle.*’
- 10.8 Considering the heritage character of the valley as a landscape concern, my impression is that rural industry and mining have been integral to the Weston-to-Ngapara area for nearly 150 years, has co-existed with the other values referred to, and on closure has faded into the landscape. For instance the former railway line, which traversed the proposed cement plant site. Two substantial and long standing limestone operations currently exist adjacent to the proposed Holcim site. I would see further rural as a continuation of this landscape pattern, so long as any specific effects are mitigated. I thus do not see the Holcim proposal as a radical change to the past or current development pattern of the valley.
- 10.9 Nor do I think it will change the historic character of the whole valley. Its effects are strongest within a 2 km radius of the plant and close to the quarries. My expectation is that the significant effects will be screened, and that the majority of the valley will remain little changed in character.

10.10 In cases where impacts may affect specific heritage sites, such as the long views from a historic house towards the Whitstone escarpment, my expectation is that the hearings process will lead to agreements on mitigation specifically for that site, for instance by planting close to the affected site, as proposed in 5.18-5.22 above.

11. PROPOSED CONDITIONS

11.1 Recommendations, consolidated from above, are (original paragraph noted):

1. (5.5)

That the Council require as a condition of consent that all mitigations proposed in the Landscape Assessment and Graphic Supplement, plus any additional mitigations required below, should be carried out by the applicant at the earliest opportunity during project formation and operation, or on closure, as appropriate.

2. (5.14-15)

That the Council require as a consent condition, the planting of five woodlots, each of about 4-500m² in area, in the 'fenced paddock' shown south of the plant on the 'Proposed Plant Masterplan' (Graphic Supplement, p.36). One woodlot would be in each of the following locations:

- On the road boundary near the 'montage south' photo point;
- On the road boundary near the 'car park';
- On the road boundary, midway between the above;
- Two further woodlots intermediate to the above, but set back from the road boundary by about 70 metres.

The trees should be of species that will in time become substantial trees, and should be at least 1/3 evergreen and 1/3 deciduous.

3. (5.17)

That the Council require as a consent condition, three woodlots north of the 'stormwater retention ponds', as in 1 above;

4. (5.16)

That as a condition of consent, the Council require screen plantings around the plant, shown on the Proposed Plant Masterplan, to be of diversified species, to attain as varied a profile as possible.

5. (5.23)

That the Council require as a condition of consent, that where possible a landscape plan be developed between the applicant and each affected house owner on Kia Ora Road, whereby the applicant agrees to plan and plant trees agreed by the owner within the house property, for the purpose of mitigating visual effects of the plant. This should apply to houses within 2 kilometres of the application site boundary, or further if accepted by the applicant.

6. (5.23)

That the Council require the applicant, as a condition of consent, to seek agreement with the landowner for increased shelter planting on his land, where it will mitigate views of the proposed plant from houses in Kia Ora Road.

7. (5.26)

That the Council require as a condition of consent, that where necessary to the west and north west of the proposed plant site, a landscape plan be developed between the applicant and any affected houseowner, whereby the applicant agrees to plan and plant trees agreed by the owner within the house property, for the purpose of mitigating visual effects of the plant. This should apply to houses within 2 kilometres of the application site boundary, or further if accepted by the applicant.

8. (5.29)

That the Council require as a condition of consent that all external surfaces, walls, roofs and fixtures of all buildings, towers, pylons and structures associated with the plant, quarries or pits, have a reflectivity value of no more than 37%.

9. (5.30)

That the Council require as a condition of consent that all buildings, towers and structures associated with the plant, quarries or pits, be coloured in earth tones specific to their setting (eg buffs, greens and greys), and that the various buildings and structures of the plant site each be painted in differing colours and tones, to break up the visual bulk of the plant..

10. (6.4)

That the Council require as a condition of consent, that the 'ELF' of overburden near the Weston limestone quarry be shaped in natural contours and re-grassed progressively at the earliest opportunity, where ever it may be visible from beyond the application site.

11. (6.16-16.7)

That the Council accept the reinstatement proposals for the Weston limestone quarry, set out in Boffa Miskell Landscape Assessment s.5.4 and Graphic Supplement p.37, and require them to be carried out as a condition of consent. It is noted that the following elements of the reinstatement are critical to acceptable mitigation of the quarry:

- treatment of upper faces of the quarry back wall with planting and seeding immediately following excavation of the face, and possible chemically-induced weathering treatments;
- rehabilitation of the north east nose of the escarpment at the earliest opportunity and progressively where possible, by careful contouring of overburden from the main pit, to marry in with the existing escarpment profile;
- other quarry slopes to be seeded as soon as possible , within the restrictions of quarry operation;

- eventual regarding and re-grassing of the pit floor, noting that operations will prevent this occurring progressively, but that the pit floor is not visible from public viewpoints.

12. (7.4)

That the proposals set out in Boffa Miskell *Landscape Assessment* s.5.4 (p.31) and *Graphic Supplement* plan 'Proposed Rehabilitation Master Plan, Weston Quarries' (p.37) for the Weston tuff quarry mitigation and restoration be accepted and be required to be carried out as a condition of consent.

13. (8.3)

That the proposals set out in Boffa Miskell *Landscape Assessment* s.5.2.3 and 5.3.3 and *Graphic Supplement* 'Proposed Rehabilitation Masterplan' (p.38), for working and progressive reinstatement of the Windsor Sand Pit be accepted and required to be carried out as a condition of consent.

14. (9.7)

That the proposals for working and progressive and final reinstatement of the Ngapara Coal Pit and 'ELF', as set out in Boffa Miskell *Landscape Assessment* s.5.5 (p.34) and *Graphic Supplement* p.39, be accepted and their implementation be required as a condition of consent.

15. (10.6)

That the Council survey the World War I memorial oak trees along the proposed haul routes between Ngapara, Windsor and the Weston site, to identify any at possible risk from large trucks, and if necessary carry out professional pruning or relocating before the commencement of truck operations.

Graham Densem
ANZILA
Landscape Architect

28 July 2007