Boffa Miskell

1 Selfs Road, Papatoetoe

Landscape Effects Assessment
Prepared for Myland Partners

1 July 2021

Document Quality Assurance

Bibliographic reference for citation: Boffa Miskell Limited 2021. *1 Selfs Road, Papatoetoe: Landscape Effects Assessment*. Report prepared by Boffa Miskell Limited for Myland Partners.		
Prepared by:	Julia Wick Associate Principal / Landscape Architect Boffa Miskell Limited	
Reviewed by:	Rachel de Lambert Partner / Landscape Architect Boffa Miskell Limited	
Status: [FINAL]	Revision / version: [1]	Issue date: 1 July 2021

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Template revision: 20180621 0000

File ref: BM200981_SelfsRoad_ONF_LEA_FINAL.docx

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Graphic Supplement (bound separately) to be read in conjunction with this assessment

1.0 Introduction

1.1 Scope of the report

Boffa Miskell Limited (BML) has been engaged by Myland Partners Ltd ('the applicant') to undertake a Landscape Effects Assessment (LEA) for a proposed subdivision and residential development on residential zoned land at 1 Selfs Road, Papatoetoe ('The Site'). Myland Partners are applying for resource consent via the Covid 19 Recovery (Fast track Consenting) Act 2020 for earthworks, subdivision, associated infrastructure and the construction of 115 single storey affordable dwellings to be sold on the market.

The assessment has considered the proposal in the context of the existing environment, the site's zoning and the nature and character of the land surrounding the Site as well as the relevant planning framework.

The Site is zoned Residential – Mixed Housing Suburban Zone[1] within the Auckland Unitary Plan ('AUP(OP)'). It is also located within an area identified as Natural Heritage: Outstanding Natural Features Overlay (ONF)[2]. A full planning assessment is provided in the Application AEE[3] prepared by Civix.

This LEA provides an assessment of landscape effects (both beneficial and adverse) of the proposed development on the immediate and surrounding environment and in the context of the ONF values of the site and wider landform feature. The potential effects are considered in respect of the siting, form, scale and massing of the proposal and its relationship with the landscape context.

A geological assessment has been undertaken by Tonkin & Taylor (Shane Moore, Principal Environmental Scientist). An archaeological assessment has also been commissioned from CFG Heritage (Matthew Campbell). The applicant has also commenced consultation with Mana Whenua being Te Ākitai Waiohua, Ngāti Tamaoho, Ngati Te Ata Waiohua, and Ngāti Whanaunga with this process ongoing.

This assessment addresses the landscape values associated with the ONF and the site's landscape characteristics in the context of its zoning for residential activities in the AUP(OP).

This LEA is set out under the following headings;

- Landscape Assessment Methodology;
- Existing Environment
- Statutory Planning Context;
- The Proposal;
- Visual Catchment and Viewing Audiences;
- Assessment of Effects; and
- Conclusion.

[1] AUP(OP) H4 Residential - Mixed Housing Suburban Zone

[2] AUP(OP) Natural Heritage: Outstanding Natural Features Overlay [rcp/dp] - ID 22, Crater Hill / Ngā Kapua Kohuora

[3] Refer CIVIX AEE

1.2 Project background

BML's involvement commenced in late 2020 at an early stage in the concept design of the project. We have worked alongside project architects (Collingridge and Smith Architects - CASA), Planners (Civix), Geologist (Shane Moore) and Urban Designer (Jason Evans) in developing and refining the application for the fast-track consent. We have advised the wider project team in respect of relevant matters in addition to undertaking this independently.

The project team has undertaken consultation with Te ākitai Waiohua, Ngāti Tamaoho, Ngati Te Ata Waiohua, and Ngāti Whanaunga as part of the application process. An onsite meeting and site walkover was held on 20 April 2021 with representatives of the four-iwi present, a second site visit was undertaken in conjunction with the archaeological site visit and further meetings are planned. The iwi have been invited to prepare Cultural Impact Assessments with appropriate remuneration. Once available this information will also inform the LEA.

It is acknowledged that the site forms part of a highly valued cultural landscape, Ngā Kapua Kohuora. However, this portion has been separated from the main landform by the Southwestern Motorway (SH20) alignment and is set within an urban residential context and zoned for residential landuse. Development of the site for residential purposes has the potential to set aside land for open space, and in doing so set development away from the visual catchment of the crater basin. The open space provided will enable public access to the highpoint along the crater rim and afford presently unavailable views of Ngā Kapua Kohuora landscape and further west to the Manukau Harbour.

2.0 Landscape Effects Assessment

2.1 Guidance

This assessment has been undertaken with reference to the Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines[4]. In summary, the effects ratings are based upon a seven-point scale which ranges from very low to very high a description of which is included in **Appendix 1**.

Prior to conducting the assessment, a desktop study was completed which included a review of the relevant information relating to the landscape and visual aspects of the proposal. This information included:

- Resource Management Act 1991 ("**RMA**")
- Auckland Unitary Plan (Operative in Part) ('**AUP(OP)'**);
- Drawings of the proposed development, prepared by CASA Architects ("**the architects**"), including the building layout, sections, elevations and 3-dimensional modelling; and
- Aerial photography and Google Earth (including historical imagery from Retro lens)

[4] 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', [final draft subject to final editing, graphic design, illustrations, approved by Tuia Pito Ora/NZILA 5 May 2021]'

- Evidence and decision in relation to ENV-2016-AKL-304-000199 which declined the request to extend the Rural Urban Boundary (RUB) and re-zone the rural land, comprising Ngā Kapua Kohuora to the southwest of the Southwestern Motorway for residential purposes.

In undertaking this assessment, the author has visited the Site and its surrounding area to understand the nature of existing development on the Site and its physical and visual relationship to the surrounding streets, residential properties and Papaptoetoe area, as well as the context, character, visual catchment and viewing audiences from the wider area. The site visit included observation of the site from within the rural area of the main crater of Crater Hill / Ngā Kapua Kohuora both in respect of the basin of the landform and its rim.

Existing private properties that have the potential to be affected by the proposal were visually surveyed from publicly and nearby accessible locations with reference also made to aerial imagery. Public locations surveyed included public roads and reserves in the area.

2.2 Visual simulations

A series of 'graphic renders' has been prepared by David Moore (DM Studio) to provide a greater understanding of the project and its extent of visibility within the visual catchment (refer to **Graphic Supplement**).

A range of viewpoint photographs have also been selected as they provide representative views from a variety of viewing audiences and are located at a range of viewing distances and locations. This is in addition to the architectural and landscape architectural material submitted with the application.

The graphic renders and viewpoint photographs have been prepared to assist with understanding the location of the proposed subdivision and housing development when viewed from the wider Crater Hill / Ngā Kapua Kohuora ONF.

It should be noted that any form of visualisation does not depict "real life views". Rather they are a useful tool which illustrates a view of a proposed activity from a viewpoint as depicted in a photograph – not as it would appear in reality with the human eye. Therefore, visual simulations are not solely relied on to determine the nature and level of visual effects but rather to assist in the assessment of visual effects.

3.0 Existing Environment

3.1 The Site

Figure 1: Site Context. Also refer to Figure 1 of the Graphic Supplement.

The site comprises some 3.6 hectares and is shown in Figure 1 (above).

The site is bounded by a short boundary with Portage Road to the north-west, a long boundary to Selfs Road to the north-east, a short boundary to the open space reserve to the south-east, an extension of Selfs Road, and a long and irregularly shaped boundary to Waka Kotahi / NZTA owned land forming part of the State Highway 20 (SH20) road corridor to the south-west. The site and adjoining Waka Kotahi land are currently grazed by the Self family who also own and farm the crater landform, Ngā Kapua Kohuora, the associated horticultural land and the quarry zoned land.

The site is located on the north-eastern flank of the tuff ring of Ngā Kapua Kohuora / Crater Hill. A steep slope is present beyond the south western boundary of the site, formed by a combination of cutting undertaken to create the SH20 and the original inner slope of the tuff ring / explosion crater. The topography of the site reaches a highpoint of around RL40 in the centre of the southern boundary. This generally slopes at a moderate gradient to the north-east towards Selfs Road, reaching a low point of approximately RL30.

The site is currently occupied by two residential dwellings and associated ancillary structures and rural sheds. The Self family homestead is located in the centre of the site. This house, and a more prominent rural shed / barn on the property, can be seen from various locations in the

wider area as illustrated in the photographs in the Graphic Supplement attachment. Stock pens are also located adjacent the central dwelling. There is a further single storey house on the property fronting onto Self Road at the intersection of Caringbah Drive.

Vegetation on site consists of predominately kikuyu that is currently grazed. In places hawthorn hedges form part of the rural frontage of the site to Selfs and Portage Road with post and wire fencing in other locations. Associated with the rural shed there are a couple of over-mature macrocarpa trees and a short rural Leyland Cypress shelterbelt is also located in this area but this is showing signs of the canker and is in the process of dying.

Around the two houses on the property there is a range of vegetation including a group of large and well-established, predominately native, trees including puriri, titoki, karaka and pohutukawa on the Selfs Road frontage of the Self Homestead. Vegetation around the second dwelling on the property has less stature and is more mixed exotic species. There is a further single Puriri tree close to Selfs Road to the east of the main group. With the exception of these trees there is no other vegetation of note on the site. No significant indigenous vegetation areas (SEA) or notable trees have been identified within the site / included in the AUP(OP).

The photographs below illustrate the Selfs Road frontage of the site, Plate 1 and a view looking more or less east from the upper central slopes of the site toward trees located on the frontage of Aorere College and the long distance view toward Totara Park and the Hunuas that is afforded by the site's elevation.

Plate 1 (Google street view) looking northwest along Selfs Road. The Self family homestead, rural shed and group of trees fronting Selfs Road are able to be observed.

Plate 2 Site photograph looking east from the upper central slopes of the site, the foreground trees are located on the frontage of Aorere College and the long-distance view above the well-treed suburban landscape is toward Totara Park and the Hunua Ranges.

3.2 Wider Context and Character

Figure 2: Site Context. Also refer to Figure 1 of the Graphic Supplement.

The 3.6ha site is located within the suburb of Papatoetoe, Auckland, it is currently grazed and managed in open rural pasture. Papatoetoe is one of the larger suburbs of the South Auckland area. It is located to the northwest of the Manukau City centre, and approximately 18 kilometres southeast of the Auckland central area.

The area surrounding the site on the northern side of SH20 is characterised by suburban residential development comprising predominantly standalone one and two storey houses. There is also a typical mix of open space – Aorere Park / Kohuora Park – and schools – Kedgley Intermediate / Aorere College and Aorere Kindergarten. To the west across SH20 on Tidal Road there is a small pocket of standalone housing and, north of the rural extent of Ngā Kapua Kohuora an area of industrial land comprising a range of large scale buildings some well-established and others recently or still under construction.

Aorere Secondary College and playing fields are located to the immediate north of the site on the opposite side of Selfs Road.

To the south of the site on the other side of SH20 and adjacent the intersection of SH20B / Puhinui Road with SH20 is the Manukau Memorial Gardens a large open space cemetery in present day use.

SH20, also known as the Southwestern Motorway, defines the western boundary to the site. An extensive area of land adjacent to the SH20 alignment has remained in the ownership of Waka Kotahi (NZTA). This land is managed under a grazing regime contiguous with the rural management of the site such that the two areas presently read as a single rural entity. This section of SH20 was formed in the 1980's (1997 extension to Puhinui Road) with the alignment cutting through the north-western edge of the Ngā Kapua Kohuora landform. The main portion of the crater therefore lies to the south-west of the motorway. The majority of the crater is in a rural landuse (zoned rural production) with an area of kiwifruit orchard, surrounded by

shelterbelts to the south and a wedge shaped area comprising a small quarry and trucking yard in the east adjacent to the SH20 corridor.

3.2.1 Ngā Kapua Kohuora (Crater Hill)

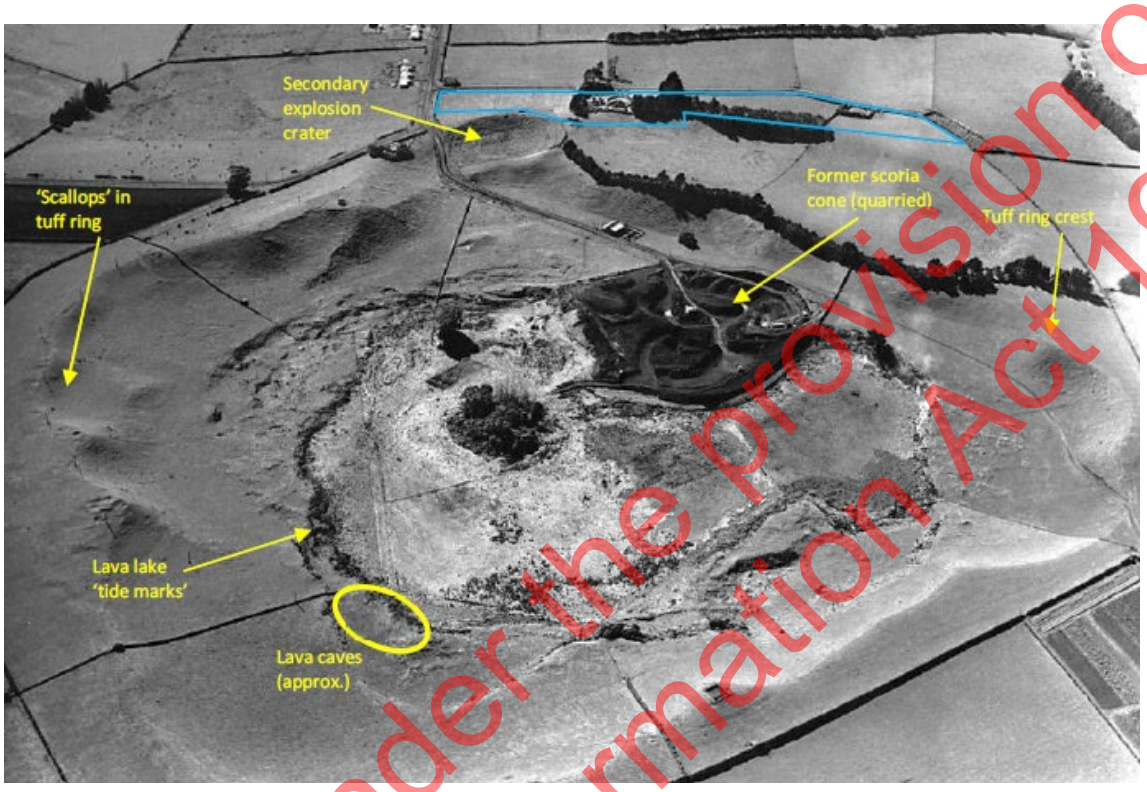

Figure 3: Ngā Kapua Kohuora (Crater Hill) in the late 1950s showing key features relative to the site, blue outline (source: whites Aviation) reproduced by Hayward 2019).

Ngā Kapua Kohuora (Crater Hill) comprises a tuff and scoria cone covering about 140 hectares. The volcano erupted about 350,000 years ago and is named for its circular crater[5]. Ngā Kapua Kohuora is bounded on three sides by the headwaters of the Waokauri Creek. The Waokauri Creek feeds into Pukaki Creek, a tidal inlet which leads into the Manukau Harbour. Links to wider landscapes are evident in the views between Ngā Kapua Kohuora / Crater Hill and the pa at Mangere Mountain and Mātukutureia McLaughlins Mountain. An ephemeral freshwater lake in the bottom of the crater is present in winter and almost dry in summer.

Historically the site was recorded as a pa, with extensive pits, terraces and garden features around the crater rim and on the inner and outer slopes. There is recorded archeological evidence of midden and burial caves[6]. The site historically has also been used for market gardening making use of the fertile volcanic soils.

The majority of Ngā Kapua Kohuora / Crater Hill is privately owned farmland, currently used for pastoral farming. In the mid-1980's the Southwestern Motorway (SH20) cut through the eastern side of the tuff ring. In places the motorway is in cut and in others it lies more or less level with the adjoining land to the north. The crater itself has been and is still presently being quarried. In the last decade or so, the large tuff ring quarry area has been filled with cleanfill, approximately restoring the original form of the tuff ring. It is noted that the 8.8ha Special

[5] Hayward, B (2019) Volcanoes of Auckland – A Field Guide.

[6] Refer archaeological assessment

Purpose Quarry zoned land, which sits between the main crater feature and SH20, is not included within the ONF (refer Figure 4 below).

Figure 4: AUP(OP) overlay. Also refer to Figure 5 of the Graphic Supplement.

4.0 Statutory Planning Context

4.1 The Resource Management Act 1991 (RMA)

Part 2 of the RMA sets out the purpose and principles of the Act. Section 5 states that the purpose of the RMA is to promote the sustainable management of natural and physical resources.

Section 6 sets out the matters of importance that must be recognised and provided for in achieving the purpose of the RMA. The protection of outstanding natural features and outstanding natural landscapes from inappropriate subdivision, use and development is identified as a matter of national importance in section 6(b). The site is subject in its entirety to an Outstanding Natural Feature (ONF) overlay.

Another matter of national importance is 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 as identified in section 6(a). The site is not located in the coastal environment, nor near a wetland, lake or river and therefore section 6(a) does not apply.

Section 7 identifies a range of matters that shall be given particular regard to in achieving the purpose of the RMA. Section 7(c) in relation to the maintenance and enhancement of amenity

values and 7 (f) the maintenance and enhancement of the quality of the environment is particularly relevant to this project. This is considered in this report in relation to potential effects on views and visual amenity.

Section 104 includes, among other matters to have regard to:

(a) any actual and potential effects on the environment

(b) any relevant provisions of–

…

(iii) a national policy statement:

(iv) a regional policy statement…

(vi) a plan or proposed plan…

Those relevant matters are discussed within the assessment below.

4.2 National Policy Statement

4.2.1 National Policy Statement – Urban Development Capacity 2020 ('NPS-UD')

On 20 August 2020, the NPS-UD took effect and required a number of changes to regional policy statements and district plans recognising that the Site is located within the Auckland Tier 1 urban environment. The NPS-UD has a number of objectives that relate to the functioning of urban environments and seeks to enable more people to live in and more businesses to be able to locate within the urban environment where: the area is near a centre zone; is an area is 'well-serviced' by public transport; and there is demand for housing and business activity (Objectives 1 and 3). Policy 3 provides further guidance to local authorities, directing that building heights and density of urban form are commensurate with levels of accessibility to public transport, commercial activities and community services. Whilst it will be a requirement to amend plans in line with the timeframes for implementation set out at Part 4 of the NPS-UD, it is recognised that there will be a range of changes necessitated under this policy instrument.

4.3 The Auckland Unitary Plan (Operative in Part) ('AUP(OP)')

4.3.1 Regional Policy Statement ('RPS')

The AUP(OP) is a combined plan that includes RPS, regional and district plan. The RPS identifies the issues of regional significance for Auckland and the policies and methods to achieve the management of natural and physical resources for this Region. The RPS identifies 'Urban growth and form' as a significant resource management issue detailing these matters at B2.1. The RPS seeks to provide for growth in way that enhances the quality of life for people and optimises the efficient use of the existing urban area. Principally the RPS seeks to enable higher residential intensification in and around centres, and close to public transport, social facilities and employment opportunities (B2.2.2(5)) whilst achieving a 'quality-built environment' outcomes as set out in B2.3.1 and the related policies.

4.3.2 D10 Outstanding Natural features and Outstanding Natural Landscapes Overlay

The site and wider Crater Hill area is identified in the AUP(OP) as being ONF and as such section D10 of the AUP(OP) is considered. The relevant objectives of the Outstanding Natural Features Overlay are summarised as:

- Outstanding Natural Features are protected from inappropriate use and development.
- Relationships of Mana Whenua with Outstanding Natural Features are recognised and provided for.

The relevant policies are summarised as:

- Avoid adverse effects of inappropriate use and development.
- Ensure that the upgrading of public access, recreation and infrastructure is consistent with the protection of the values of an outstanding natural feature.
- Protecting visual integrity through the presence or absence of structures, buildings or infrastructure, and the location, scale and design of any proposed development.
- Enable use and development that maintains or enhances the values or appreciation of an Outstanding Natural Feature.

Schedule 6 of the AUP(OP) provides further information on the values of the individual ONF's. Crater Hill (ONF 22) is described as *'Crater Hill is one of the two best remaining explosion craters and tuff rings in Manukau City. It is a complex volcanic centre including a large, embayed tuff ring 600m in diameter, enclosing a (quarried) scoria cone and small lava flow. Crater Hill has a unique example in the Auckland volcanic field of the cooled remnants of a lava lake that filled the crater and later withdrew down the vent. It is also the only remaining explosion crater in the Auckland field where the external slopes of the volcano outside the crater rim are nearly entirely intact and unmodified. Two lava caves are present'*. The full schedule is included at Appendix 2.

One of the challenges assessing the effects of this proposal on the ONF is that the AUP (OP) includes little specific detail as to the values for which the subject site is scheduled, other than being part of the wider Crater Hill volcanic centre

4.3.3 H4. Residential – Mixed Housing Suburban Zone

The site is also located within the Residential – Mixed Housing Suburban Zone (MH-S), covered by section H4. The MH-S zone is characterised by one or two storey, mainly standalone buildings, set back from site boundaries with landscaped gardens. The zone whilst enabling intensification seeks to generally achieve one to two storey attached and detached housing. H4.2 Objectives seek to ensure that character of the residential area and ensure that development provides for quality on-site amenity for residents, adjoining sites and the street (H4.2.(3)).

5.0 The Proposal

Figure 5: Site Plan. Refer Graphic Supplement figure 4 and BML Landscape Plan as part of RC set.

The proposal is to develop the site for a combination of affordable residential housing (115 standalone houses accessed via a series of short joint access lot (JOALs) and one vested public street and open space.

The proposal is set out in the Architectural drawing package prepared by CASA and the Landscape Concept Design by BML which accompany the resource consent application. Both of these drawing packages include a range of illustrative material to depict the siting of the proposal, including the demonstration of the proposed built form and landscape treatment for the development.

The development has been iteratively masterplanned by a multidisciplinary project team including architect, landscape architect, geomorphologist, civil engineer, transport planner and arborist, to fit with the landform and protect the key values of the ONF.

As a starting point in respect of undertaking any form of urban residential development on the site the landscape principle was established that all development associated with earthworks, roading and housing should be located so as to avoid any form of visual encroachment on the crater landform as experienced from within the crater. As such development should be set back from the rim of the crater such that the future rooflines of houses are set below the ridge when observed from the lower viewpoint of the crater.

In line with the principle above, the proposal is to develop that portion of the site, which is physically and visually located on the outer, north-east facing portion of the crater landform for residential housing, leaving the inner facing slopes and crater rim ridgeline in open space. The proposal includes provision of public access to the retained open space. In total 0.8369ha of the 3.6394ha site is proposed to be retained in open space including land along the crater rim

and around the retained native trees with the remainder of the land used for housing and associated access.

Figure 6: 3D Render of proposed development. View from Crater Park / Crater Rim looking south.

A high-level landscape concept integrating the open space within the site with that of the contiguous Waka Kotahi land has also been prepared refer Graphic Supplement Figure 6 and Landscape Resource Consent documentation. It will no longer be feasible to graze the Waka Kotahi land. The overall site development proposal is illustrated in Figures 4 & 6 of the Graphic Supplement and above.

Housing within the development steps up the natural slope of the landform and will be all single storey. The housing typologies are ones that have been used in other Myland residential development projects in Auckland adapted to the particular conditions and local residential market. Materials will consist of naturally finished weatherboard and brick cladding with an earth tone colour palette (refer Architectural drawing package). Fences will comprise visually permeable fencing on all street / JOAL frontages, with associated planting, and dark stained timber paling fences to rear and side boundaries for privacy.

The residential area is proposed to be accessed by a series of short jointly owned access lots (JOALs). Public pedestrian access to the open space reserve will be via the JOAL's as well as from both ends – Portage Road to the north-west and the open space reserve to the south-east with a pathway connecting through the open space to facilitate access. The open space within the development will be held in common ownership of the residents through a body corporate or similar legal structure with residents levied for the ongoing maintenance of these areas. A legal right of public access over the land will be established.

The group of mature, predominantly native trees on the Selfs Road frontage of the Self Homestead and the single mature Puriri tree to the east of this stand are proposed to be retained and protected with a generous adjacent area of open space. A small number of garden trees and other vegetation around the existing homestead and the secondary dwelling on the site will be removed to facilitate the residential development. The retained trees will form a key landscape feature of the Self Road frontage of the development and contribute to its landscape amenity.

Figure 7: 3D Render of proposed development. Retained trees to left of image.

A number of roading layout options were considered with the proposed series of six, short, predominantly no exit, JOALs and two looped connected JOAL's at the top. The JOALs provide access and to the crater rim / ridgeline open space. In part this layout was selected as it limits earthworks and retaining walls within the 'public' realm and relates the form of the development to the natural landform. At the top of the development the design has sought to limit retaining walls to 0.5m max with the landform battered back to tie in with the retained natural landform along the crater rim / ridge. The boundary between the publicly accessible open space along the crater rim / ridge and adjacent houses is proposed to be panted to maintain separation and privacy to the houses. Planting is proposed to comprise only native species.

The pattern of subdivision generally adopts a regular 21m by 8m rectangular lot size stepping up the landform with houses oriented broadly east / west, this places the sunny north facing living spaces either to the street front / JOAL or rear yard depending on which side of the street the house is located with houses designed relative to this solar orientation. The longest JOALS have eight houses stepping up the slope and ranging between five and eight. There is a 3m yard to the Selfs Road frontage and at the southern end of the site where the road kinks west the street fronting lots are larger, this configuration means that the lots fronting Selfs Road are larger with a greater extent of garden. The landscape concept plan includes trees along this frontage giving Selfs Road a well-treed character and amenity along with those trees retained on this frontage of the site.

A new public footpath will be formed along the frontage of the development on the western side of Selfs Road, where none currently exists, providing for pedestrians in the public road reserve.

The JOALs are proposed to include a footpath on one side with street trees (2.5 to 3m at planting) using upright forms of titoki and taraire. The vested public street has footpaths and street trees both sides.

Earthwork volumes across the site are estimated at 31,143m^3 of cut and 575m^3 of fill with the excess cut being removed from site. In general depth of cut is 1 -2m with occasional locations with cut up to 2.5m in depth to achieve buildings set down from the rim and appropriately graded roading.

Figure 8: Cross Section showing levels and buildings set back from tuff ring (refer architecture / BML plans)

6.0 Assessment of Effects

The following section assesses the proposal and its level of potential effects and appropriateness in this setting. The main landscape and visual issues to be discussed are:

a) Landscape and Character effects and Amenity values:
   i. Physical landscape effects (earthworks / vegetation removal)
   ii. Integration with the existing form and character; and
   iii. Siting and response to identified ONF values

b) Visual amenity effects of the proposal in relation to:
   i. Public viewpoints and locations; and
   ii. Localised private residences.

Landscape and visual impacts result from natural or induced change in the components, character or quality of landscape. Usually these are the result of landform or vegetation modification or the introduction of new structures, activities or facilities into the landscape. The process of change itself, that is the construction process and/or activities associated with the development, also carry with them their own visual impacts as distinct from those generated by a completed development.

The landscape and visual effects generated by any particular proposal can, therefore, be perceived as:

- Positive (beneficial), contributing to the visual character and quality of the environment.
- Negative (adverse), detracting from existing character and quality of environment; or
- Neutral (benign), with essentially no effect on existing character or quality of environment.

The degree to which landscape and visual effects are generated by a development depends on a number of factors, these include:

- The degree to which the proposal contrasts, or is consistent, with the qualities of the surrounding landscape.
- The proportion of the proposal that is visible, determined by the observer's position relative to the objects viewed.
- The distance and foreground context within which the proposal is viewed.

- The area or extent of visual catchment from which the proposal is visible.
- The number of viewers, their location and situation (static, or moving) in relation to the view.
- The backdrop and context within which the proposal is viewed.
- The predictable and likely known future character of the locality.
- The quality of the resultant landscape, its aesthetic values and contribution to the wider landscape character to the area.

Change in a landscape does not of itself, constitute an adverse landscape or visual effect.

In this study, the assessment of potential effects is based on a combination of the landscape's sensitivity and visibility together with the nature and scale of the development proposal.

6.1 Landscape Effects

Physical landscape effects

The vegetation on site is currently pastoral grass with some exotic and native species. No significant vegetation will be removed as part of the proposed works. Retention of the grove of predominantly native (although previously planted as part of the Self Homestead curtilage) trees as well as the single specimen Puriri as part of the Self Road frontage will maintain the connection of this native vegetation to the landform and enhance the amenity of the residential development of the site.

A proposed landscape plan has been prepared as part of the development proposal. This planting will consist of street tree planting (to the JOALs and vested street) as well as native vegetation 'mix' within the reserve area (total area of 0.4ha). Specimen trees are also proposed within the 3m yard to the lots fronting Selfs Road creating a unified, treed frontage to this long public frontage of the site. Specimen trees are also proposed within the rear of the lots to further assist in braking up the massing of the single storey housing as it steps up the slope and give further amenity / privacy to the rear yards.

Once established it is considered that this planting will provide a consistent and high amenity treatment to the development and provide for a high level of onsite amenity for the future residents. Overall, it is considered that through retaining the significant trees on site and proposed planting vegetation on the site will be enhanced generating a positive / beneficial effect.

Proposed earthworks across the site, to establish the street network and flat building platforms suitable for urban development, will result in some noticeable effects during construction, however, the development overall will retain the general landform of the site. The interfaces with the open space to the west of the site (and the tuff ring) have been carefully considered throughout the design process. With battering and only limited height retaining in these locations. Retaining walls will be required on side boundaries, to step the houses up the site, and to the rear of the lots. Where seen as part of the streetscape retaining walls will have associated planting to soften the effect of walls and tie the levels into an overall landscape concept. Maximum heights for retaining walls will not exceed 1.2m. During construction it is anticipated that there will be some temporary moderate-low adverse effects at the local scale associated with proposed earthworks. Once the development associated planting becomes established and integrates built form with the wider area any adverse effects will reduce to **very low**.

In respect of the zone provisions, the overall level of physical landscape effects will be **low**.

Integration with the existing form and character;

The conversion of the 3.6ha site from a predominantly rural, pastoral character, albeit accommodating two existing dwellings, to a residential, mixed housing suburban, form of development will lead to a complete change to the nature of the landscape. This change in character has been anticipated by the underlying zoning of the land as it relates to the Residential Mixed Housing Suburban Zone (MH-S) within the AUP(OP). The change in character will be broadly consistent with residential development that has occurred and is well-established in the surrounding area to the north.

Proposed houses have been designed to step up the landform following the natural topography with single storey rooflines set below the rim of the crater. Proposed planting within the open space area to the south-west, adjoining the SH20 corridor will provide further visual screening of future development from the motorway and Ngā Kapua Kohuora crater basin to the west across SH20.

Siting and response to identified ONF values

The Ngā Kapua Kohuora / Crater Hill volcano as a whole has significant geological value. The effects in respect of the site's geomorphological values, for which the ONF status is attributed, are addressed in the assessment of effects by Tonkin & Taylor.

In physical landscape terms, the eastern portion of the tuff cone landform, on which the subject site is located, has been severed from the wider Ngā Kapua Kohuora / Crater Hill volcanic crater by the construction of SH20 which literally and figuratively cuts through the landform.

The proposal has been carefully designed with the explicit purpose of protecting the core values of the Ngā Kapua Kohuora / Crater Hill explosion crater ONF whilst enabling suburban residential development of the part of the site in line with the site's MH-S zoning. Protection of the inner crater landform and the rim of the crater from development will maintain the integrity of the crater landform. Development has been set back from and below the crest of the tuff ring. Once houses are established, stepping up the landform, the overall form of the outer slope of the tuff ring will be maintained in a manner that is sympathetic to its original form.

Provision of public access to the land set aside from development as open space will enable the public to gain access to elevated land that enjoys a western outlook over the full Ngā Kapua Kohuora / Crater Hill ONF landform and further to the Manukau Harbour and Heads, Mangere Mountain and Mātukutureia McLaughlin's Mountain. This will reinforce links to wider landscape, and enable a previously unseen public outlook over the Ngā Kapua Kohuora / Crater Hill ONF. There is the further opportunity to work with mana whenua to interpret the geological and cultural landscape values of Ngā Kapua Kohuora / Crater Hill from this vantage point and to mark the site in a way that will bring appropriate recognition.

On balance taking into consideration the site's MH-S zone, ONF values, the particular spatial configuration of the proposed housing, the open space qualities of the development and the retention of mature native vegetation on the site the proposal is assessed to generate **moderate-low** adverse landscape effects.

It is further recognised that effects in respect of the cultural landscape will also be generated. These are a matter for mana whenua to determine and to be identified through the preparation of their respective CIA. It is however understood that in cultural landscape terms Ngā Kapua Kohuora is an entity the further desecration of which, as a result of urbanisation, will have

adverse consequences in terms of those cultural values. The proposal has sought to recognise these values maintaining the crater rim / ridgeline in open space, accessible to the iwi and wider public and enabling encompassing views of Ngā Kapua Kohuora from this natural highpoint.

6.2 Visual Effects

Visual effects are integral to landscape they result from changes to the landscape. Physical, associative, and perceptual dimensions are each experienced visually (as well as through other senses). Visual effects relate to the amenity values of a landscape including the "natural and physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes".

The following assessment refers to the Graphic Supplement viewpoint photographs to understand the existing site and its wider context in addition to the 3D model views prepared by CASA Architects and renders prepared by DM Studio.

During construction, the construction process will disrupt the landform and land-cover and result in temporary adverse effects visible from the surrounding area. Machinery and equipment will also be present on Site to undertake construction.

The relatively prominent location of the site relative to Selfs Road, SH20, Ngā Kapua Kohuora / Crater Hill and the site's ONF status has necessitated careful consideration of amenity values. Key design measures to reduce potential adverse effects in relation to visual dominance resulting from the proposal include;

- Development has been set back from the rim of Ngā Kapua Kohuora / Crater Hill and this area retained in publicly accessible open space.
- Proposed houses have been designed to step up the landform following the natural topography with single storey rooflines set below the rim of Ngā Kapua Kohuora / Crater Hill crater.
- Retaining has been carefully considered to limit the height of any retaining experienced within the public realm with slopes battered and / or retaining walls kept to minimum heights.
- Existing mature native vegetation comprising a mix of species in two locations each fronting onto Selfs Road have been retained. These, in combination with proposed specimen trees along the Selfs Road frontage and within the JOALs / public streetscape will give the development overall a well-treed amenity.
- A material palette that relates to the established residential environment, materials will consist of naturally finished weatherboard and brick cladding with an earth tone colour palette.

6.2.1 Visual Catchment and Viewing Audiences

To determine the visual catchment and viewing audiences of the proposal, a study of aerial photography including land use, landform and vegetation patterns was undertaken, in addition to a site visit to verify visibility and viewing audiences. Those private properties which are likely to be affected have been visually surveyed from publicly accessible locations where possible, with further reference to aerial imagery to understand the nature of these potential viewing audiences.

Within the context of this assessment the following are considered to be the key viewing audiences for this proposal:

Public:

- Road users in the adjacent urban context including Portage Road, Selfs Road, Caringbah Drive, Catkin Crescent and on the adjacent section of SH20. Views from these roads will be both open and direct as well as glimpsed between intervening built form and vegetation.

Private:

- Residents in the immediate surrounding area to the north and east / south-east as well as visitors and students at Aorere College. Intervening streetscape and private vegetation, as well as built form are likely to interrupt these views.
- Views from Ngā Kapua Kohuora (Crater Hill) (ONF) – Privately owned land.

6.2.2 Public views

Views from SH20

A key design principle in the development of the proposed site layout has been to avoid the visual presence of houses along the crater rim skyline as observed from SH20. In this respect the prominently located Self Homestead and rural barn will be removed from the land and proposed houses set further back from the SH20 corridor. This set back will also limit visibility from within Ngā Kapua Kohuora / Crater Hill to the west of SH20.

3D modelling was undertaken by CASA during the design process to test the extent of visibility of future housing with lots removed and houses set further back through an iterative design process to get to an agreed layout. A series of these 3D model views is set out below (refer Figure 9) these graphically illustrate proposed views of the development from SH20.

Viewing audiences from SH20 experience transient views of the site. By siting the buildings set down from the tuff rim any views of proposed housing when travelling on the motorway will be limited to small portions of roof tops in intermittent, fleeting views. For the public travelling in either direction on SH20 there will be minimal impact with the inner slopes of the ONF crater and its ridgeline retained intact and in open space. It is also noted that the majority of the foreground land in these views is in Waka Kotahi ownership and will remain unaltered as part of the proposal. The landcover within the open space within the site will be enhanced through indigenous species planting. This planting, once established, will also provide further screening and integration of the proposed development.

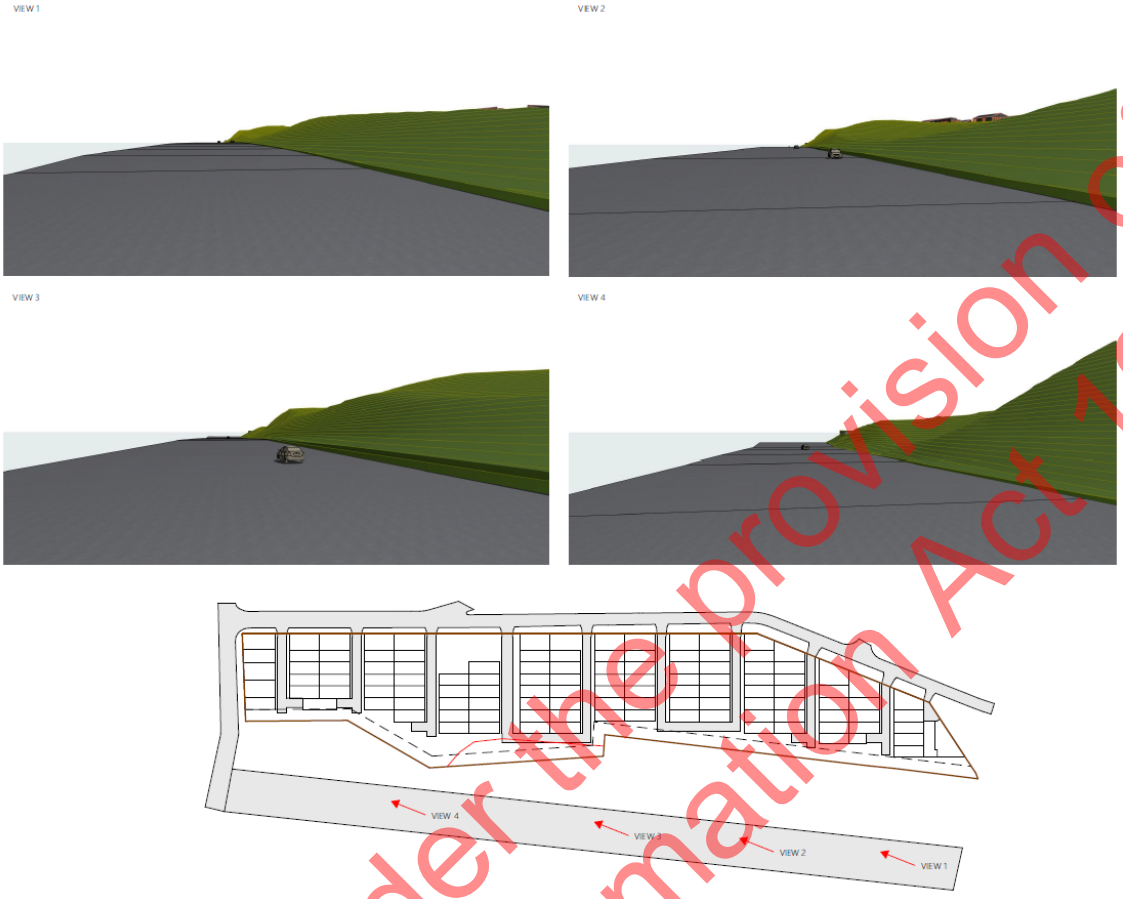

Figure 9: 3D montage series from SH20 when travelling north. Refer Sheet 1-01 in CASA architecture package.

For people travelling on this section of SH20 therefore, the proposed residential development will be set well back from the motorway corridor, substantially further back than that which occurs adjacent to the motorway north and south along the corridor. The apparent open space adjacent to the motorway (comprised of both Waka Kotahi owned land in the corridor and held as publicly accessible open space as part of the proposed development) will give emphasis to the remnant Ngā Kapua Kohuora / Crater Hill crater rim and explosion crater landform that the motorway cuts through. Opportunities to mark this landform with some form of cultural marker designed in association with mana whenua could give further recognition to the ONF and Ngā Kapua Kohuora cultural landscape within the context of this urban landscape.

Views from surrounding roads to the east

The adjacent road network is the predominate public vantage point for views of the site and proposed development. This includes people travelling along Selfs Road / Catkin Crescent adjacent to the long eastern boundary of the site and Portage Road as it approaches the SH20 crossing in the north. In both instances the land on the other side of the road corridor is urbanised with suburban residential housing and Aorere College comprising an established urban landscape experience.

Viewing audiences along these and other adjacent roads will have varying, transient views of the site, often interrupted by vegetation and neighbouring buildings. The nature of the views of the site from the surrounding network will change from one of an open rural pastoral landscape to a suburban residential landscape. This change is consistent with the site's residential Mixed Housing – Suburban zone and is in that context not unexpected.

The regularly spaced series of eight JOALs / single public street as well as specimen tree planting along the 3m yard to Selfs Road and in rear gardens will assist in breaking up the stepped from or relatively regular housing of similar single storey typology. In addition the large scaled native trees retained on the Selfs road frontage will remain a feature of the site / streetscape with a height and mass that will provide a counterbalance to the housing.

Overall is it considered that the public visual effects will be **low** averse and in keeping with the anticipated MH-S character envisaged under the provisions of the AUP(OP).

6.2.3 Private Views

Views from Ngā Kapua Kohuora Crater Hill ONF

The main portion of Ngā Kapua Kohuora (Crater Hill) is located to the southwest of the site. This land is under private ownership with no access to the public. From withing this rural property, views of the southwestern portion of the Selfs Road site comprising the inner slopes and crater rim / ridgeline, along with that portion of the crater landform in Waka Kotahi ownership can be observed. (refer Figure 10 - Figure 12 below). The majority of the site, comprising its outer east facing slopes does not form part of the visual catchment from the crater on the south-east side of SH20.

At present, from within the main portion of Ngā Kapua Kohuora the existing dwelling at 1 Selfs Road and farm shed are visible on the crater rim. By siting the proposed residential development on the outer slopes, and set down from the tuff ring / ridgeline any views of proposed housing will be limited and comprise only small portions of some roof forms. There are seventeen houses in total comprising the upper 'row' for houses well separated by the JOAL / street alignments. The limited bulk mass of these components of roof will be further broken up by proposed street trees and planting to the open space land adjacent.

Figure 10: Site Context Photograph 6: View from south western edge of Crater Hill tuff ring looking north east towards Site (Refer Graphic Supplement)

Figure 11: Site Context Photograph 11:View from north western edge of Crater Hill tuff ring looking east towards site (refer Graphic Supplement)

Figure 12: Site Context Photograph 13: View from northern edge of Crater Hill tuff ring looking east towards site (refer Graphic Supplement)

As a result it is considered that potential adverse visual effects in respect of views from within the Ngā Kapua Kohuora crater landform will be **low to very low**. It is further noted that this land is owned by the Self family who will provide their written approval to the development.

Views from private housing in the surrounding area.

The proposed development will be viewed from a limited number of adjacent dwellings located opposite the site on Portage and Selfs Roads / Catkin Crescent. Views will frequently be screened by intervening built form and vegetation. For those people in residential dwellings that experience views of the site as part of their current outlook the nature of their views will change from that of an open pasture / field and two residential dwellings to one that is fully urbanised with a relatively intensive form of single storey residential dwellings.

This change in character will, however, will be in keeping with the anticipated urban character under the MH-S zone of the AUP(OP) and similar to the nature of the established housing adjacent. The retention of established native trees on the Selfs Road frontage as well as the proposed specimen trees within the front yards facing Selfs and Portage Roads will, it is considered, enhance the visual amenity of the site. In addition the provision of a public footpath will regularise the streetscape giving better pedestrian amenity and an overall enhancement to the streetscape.

Overall, it is considered that visual effects in respect of views from private properties within the immediate context of the Site will be **low** adverse, particularly when taking into account the design response and purpose of MH-S zone.

6.2.4 Views Afforded by the Development

The proposal will provide public pedestrian access to the upper south-eastern portion of the Ngā Kapua Kohuora crater rim with a linear open space providing access between Portage Road and the existing reserve land / paper road at Catkin Crescent in the south. Access will also be provided up the vested public road with footpaths both sides.

From the open space vantage point (provided via legal public access easement over the privately managed open space) expansive views west over Ngā Kapua Kohuora, which are presently unavailable to the public, will be able to be enjoyed. The opportunity for people to gain views of Ngā Kapua Kohuora and beyond to the Manukau Harbour and wider landscape is considered to provide a beneficial amenity outcome of the proposal.

6.3 Assessment in relation to Statutory Provisions

A detailed assessment of effects of the proposal on the ONF and Scheduling criteria has been undertaken within the Geological Assessment Report by Tonkin & Taylor.

Overall, it is considered that the proposal maintains the landscape values identified in the AUP(OP) and the respective natural heritage overlays. By setting the development back from and below the tuff ring rim the proposed development is not considered to further alter the ability to recognise the ONF feature. In the context of the MH-S zone of the site, the proposal has been designed in a sensitive manner to avoid adverse effects on the ONF.

7.0 Conclusion

In conclusion the proposed development is considered to be appropriate in the context of the site's MH-S zoning and in respect of the landscape values of the Ngā Kapua Kohuora / Crater Hill ONF. In the context of the existing environment and the potential future environment the proposal is considered to provide for the protection of the important aspects of the ONF crater landform and significant vegetation associated with the site whilst also enabling use of a portion of the land in line with its MH-S zoning. The proposal will provide a strong vegetated framework that will assist in setting the built components of the development into the landscape and lead to a quality public realm.

Low – moderate adverse landscape effects and **low to very low** visual effects will be generated whilst beneficial effects in respect of public access and the availability of views to and over the Ngā Kapua Kohuora crater and wider Manukau Harbour landscape will be generated. The proposal will add 115 affordable houses in a location that has a well established suburban character and amenity and will also provide enhanced publicly accessible open space amenity to the neighbourhood.

Appendix 1: BML 7 Point Scale of Effects

09 June 2021

This table is used to guide an assessment of the level of effects associated with a proposal. It comprises an adapted seven-point scale derived from Te Tangi a te Manu

Effect Rating	Use and Definition
Very High:	Total loss of key elements / features / characteristics, i.e. amounts to a complete change of landscape character and in views.
High:	Major modification or loss of most key elements / features / characteristics, i.e. little of the pre-development landscape character remains and a major change in views. *Concise Oxford English Dictionary Definition* *High: adjective- Great in amount, value, size, or intensity.*
Moderate- High:	Modifications of several key elements / features / characteristics of the baseline, i.e. the pre-development landscape character remains evident but materially changed and prominent in views.
Moderate:	Partial loss of or modification to key elements / features / characteristics of the baseline, i.e. new elements may be prominent in views but not necessarily uncharacteristic within the receiving landscape. *Concise Oxford English Dictionary Definition* *Moderate: adjective- average in amount, intensity, quality or degree*
Moderate - Low:	Minor loss of or modification to one or more key elements / features / characteristics, i.e. new elements are not prominent within views or uncharacteristic within the receiving landscape.
Low:	Little material loss of or modification to key elements / features / characteristics. i.e. modification or change is not uncharacteristic or prominent in views and absorbed within the receiving landscape. *Concise Oxford English Dictionary Definition* *Low: adjective- **1.** Below average in amount, extent, or intensity.*
Very Low:	Negligible loss of or modification to key elements/ features/ characteristics of the baseline, i.e. approximating a 'no change' situation and a negligible change in views.

Table :Determining the overall level of landscape and visual effects

Appendix 2:

22	Crater Hill	Mangere	V F - Caves	Crater Hill is one of the two best remaining explosion craters and tuff rings in Manukau City. It is a complex volcanic centre including a large, embayed tuff ring 600m in diameter, enclosing a (quarried) scoria cone and small lava flow. Crater Hill has a unique example in the Auckland volcanic field of the cooled remnants of a lava lake that filled the crater and later withdrew down the vent. It is also the only remaining explosion crater in the Auckland field where the external slopes of the volcano outside the crater rim are nearly entirely intact and unmodified. Two lava caves are present. Selfs lava cave is about 48m long and circumferentially oriented within the volcanic crater. Underground Press lava cave is 40m long lava cave with a large main chamber, reputedly used as a base for clandestine, subversive publishing during World War II. The Crater Hill quarry exposures are a useful educational site with excellent exposures of lithic tuff, basaltic lapilli, crater rim collapse features and a thin layer of rhyolitic tephra from the central North Island.	a, b, c, d, e, g, i

About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

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Auckland	Hamilton	Tauranga	Wellington	Christchurch	Queenstown	Dunedin
+64 9 358 2526	+64 7 960 0006	+65 7 571 5511	+64 4 385 9315	+64 3 366 8891	+64 3 441 1670	+64 3 470 0460