# Hastings District Council

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## OPEN
## DOCUMENT 2

# COMMISSIONER HEARING MEETING

Meeting Date: **Monday, 23 July 2018**

Time: **9.00am**

Venue: **Council Chamber**
**Ground Floor**
**Civic Administration Building**
**Lyndon Road East**
**Hastings**

# Notification report for resource consent RMA20170355
## Under sections 95A and 95B of the Resource Management Act 1991

| | | |
|---|---|---|
| Application Received: 19 September 2017 | | PID: 59668 & 56999 RMA20170355 |
| Applicant: | ***A & J Maurenbrecher and D & A Evans*** | |
| Address of Site: | 52 and 80 Raymond Road, Haumoana | |
| Legal Description | Lot 1 DP 22124 (CFR HBP4/839) – 6.0000 hectares<br>Lot 5 Deeds Plan 800 (CFR HB80/1) – 4.6412 hectares | |
| Zoning: | Plains Production Zone – Proposed District Plan (As Amended by Decisions September 2015) | |
| Proposal: | Subdivision to create 12 undersized lots in the Plains Production Zone | |
| District Plan Provisions | Rule **SLD25** of the Proposed District Plan (Eplan) | |
| Assessment of Status: | Non Complying Activity | |
| Report Prepared By: | Michelle Hart | |

## 1.0 THE PROPOSAL

The proposal is best summarised by the applicants description of the Proposal in Section 3 of the Application.

Essentially the proposal is to create twelve lots from the two existing land titles owned by the applicants. Six titles will be created from 80 Raymond Road as shown in **Table 1** below;

| | Site Size | Access |
|---|---|---|
| Lot 1 – will contain the existing primary dwelling | 4800m² | Raymond Road |
| Lot 2 – will contain the existing secondary dwelling | 3500m² | Raymond Road |
| Lot 3 – will contain the existing visitor accommodation block | 7000m² | Raymond Road |
| Lot 4 | 3000m² | Right of Way |
| Lot 5 | 6500m² | Right of Way |
| Lot 6 | 2.3 hectares | Right of Way |

**Table 1 – Proposed sites created from Lot 1 DP 22124 – 80 Raymond Road**

RMA20170355





Six titles will be created from 52 Raymond Road as shown in **Table 2** below;

| | Site Size | Access |
|---|---|---|
| Lot 7 | 3000m² | Raymond Road frontage |
| Lot 8 | 3000m² | Raymond Road frontage |
| Lot 9 | 1.2 hectares | Accessed via right of way |
| Lot 10 | 1.3 hectares | Accessed via right of way |
| Lot 11 | 1.3 hectares | Accessed via right of way |
| Lot 12 –, will contain existing dwelling and shed/shop buildings | 1. 6 hectares | Accessed via right of way |

**Table 2 – Proposed sites created from Lot 5 Deeds Plan 800 – 52 Raymond Road**

The scheme plan is shown below in **Figure 1**:

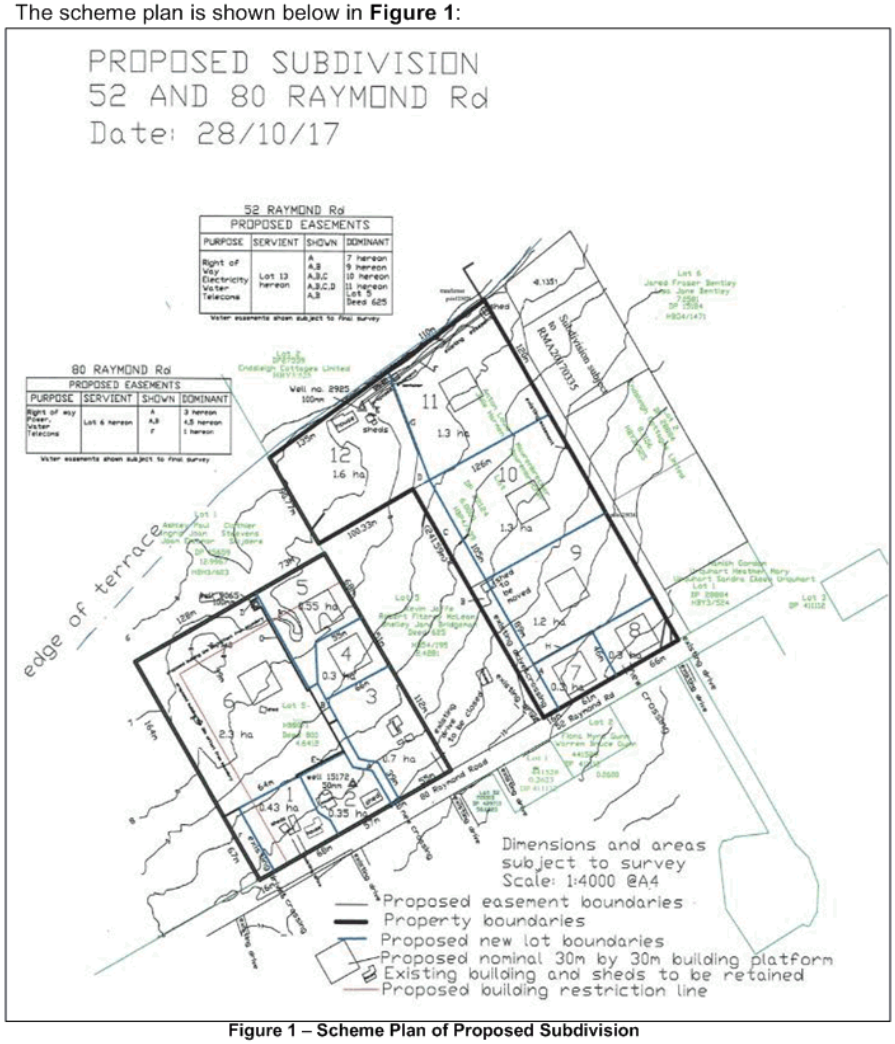


**Figure 1 – Scheme Plan of Proposed Subdivision**

Servicing

The applicants propose to service the subdivision via onsite means as is currently the case for the existing developments.

Currently, potable water is from an existing bore. Future dwellings will be serviced via tank water and possibly private supply from the existing bores on 52 and 80 Raymond Road in the short term.

Waste water is disposed of through septic tanks as there is no Council reticulated service in this area. The application states that disposal fields for any new development will be located within the respective site boundaries all in compliance with HB Regional Council requirements.

Stormwater is currently directed to the water tanks in the first instance with overflow going to ground. The application states that all new dwellings will be connected to water tanks which will provide stormwater attenuation for any impermeable area.

Earthworks

Earthworks associated with the proposed subdivision will be limited to forming and constructing access/rights of way and building platforms. The required 30m by 30m building platforms can be provided on all proposed sites and given the flat topography, minimal earthworks will be required.

Supporting Documents

The applicant has provided three separate reports in support of the proposed development. These are as follows:

- Soils Assessment undertaken by Fruition Horticulture
- Detailed Site Investigation by EAM Environmental Consultants covering NES matters
- Traffic Assessment by Manawatu Traffic & Transportation Ltd

Section 92 Request and Responses

Under Section 92 of the Resource Management Act (RMA) 1991, the Hastings District Council requires the following further information to fully assess your proposed activity, its effect on the environment and the ways in which any adverse effects on the environment might be mitigated.

1. *The application states that sites have limited productive growing capabilities due to the soil types. This is based on an agricultural report provided by Fruition Consultants which concludes "the poor drainage, limited aeration, moderate to slow permeability, high soil structure and water logging vulnerability of the Ruataniwha if soils in the area under consideration significantly limits their suitability for horticulture". In addition, the application concludes that "history suggests that this block has already been lost to a profitable productive use". This appears contrary to the various horticultural practices occurring on adjoining sites and contrary to comments in the assessment about historic and existing horticultural landuses being undertaken. In addition, historical imagery of this site and that in the immediate vicinity, indicate the subject site and those surrounding sites have and continue to be been used for orcharding, vineyards and other horticultural practices.*

   *Please provide expert comment on different horticultural, agricultural, viticultural, berries, market garden etc alternative uses of this land and whether the site is suitable for these or any other type of crop.*

   *Please provide comment on amalgamation possibilities with surrounding properties to create larger land holding and potentially more economic units.*

*Note:*
*Given the significance of this issue in relation to the application site, Council may seek a peer review of the Fruition Consultants report. A decision on this will be made when your response to the section 92 request has been received.*

**Response**

The statement made, *In addition, historical imagery of this site and that in the immediate vicinity, indicate the subject site and those surrounding sites have and continue to be been used for orcharding, vineyards and other horticultural practices,* is challenged by the applicant as not being correct. A review of the application has revealed that they are correct in challenging this statement which was added in error.

The applicant through their agent has responded to the comments made on the validity of the Soil Assessment by having this reviewed by Martin Taylor (Dip Hort.) who confirms that he has reviewed the Fruition report and concurs with Mr Hughes, the author of the report, in respect of the land use capability of the subject site.

The response also notes the historical use of the site using aerial imagery as not being in production prior to 2004 for number 52 Raymond Road whereas the imagery for 80 Raymond Road shows productive (horticultural) use up until 2004.

The applicant through their agent has also included a report prepared by Deloitte (2016) for the wine industry, confirming that smaller growers are less likely to turn a profit for their sites.

In addressing the possibilities for amalgamation of titles or offering a combined application with adjacent neighbours, the applicant has stated *none of the current adjoining owners of either site have expressed any interest in acquiring the surplus land on either site for productive purposes.*

2. *The proposal states that on-site waste water disposal, and on site stormwater disposal is proposed. It also states that there are no known reasons why the ground conditions would restrict development on any part of the site. This appears to be contrary to the statement on page 19 of the application which states "In terms of cumulative effects, the proposal will involve the removal of approximately 7 additional hectares of* ***poorly draining Class 3e soils*** *from production"; and the advice provided in the soil report by Fruition submitted with the application which refers to the land being comprised of a shallow subsurface,* ***relatively impermeable pan which causes perching of water and creates poor drainage.*** *It is my understanding that waste water systems operate effectively and optimally in free draining soils rather than on the soils identified in the report as being present on these sites.*

*I am therefore requesting that a report from a suitably qualified and recognised waste water system designer and installer is provided to address the permeability of the soil over each site and demonstrate how each of the sites can be effectively serviced on-site to meet HBRC requirements for on-site disposal. The report should include information on soil percolation and information showing how the drip lines can be separated from winter water tables and consider added loading form onsite stormwater disposal.*

*This information is required to show that the proposed on-site disposal of wastewater and stormwater can be achieved within the sites proposed.*

**Response**

Information was provided supporting the suitability of the land for onsite waste water disposal. This information draws on local experience from a local plumber namely, Rod Clarke of Rod Clarke Plumbing Ltd confirming that existing onsite systems have been operating without there being any problems with the effluent fields. Percolation tests undertaken on the neighbouring site have confirmed that the sites are capable of on-

site disposal despite the limitation of the soil for drainage. These existing systems have all been established under HBRC requirements.

3. *The application submitted includes an assessment against objectives and policies contained within the Proposed District Plan. Please also provide an assessment against the following relevant objectives and policies:*

- ***Objective PSM01*** *– The land based productive potential and open nature of the Plains environment is retained.*
- ***Policy PPP11 and PPP12***

  *While these have been listed in the report, there is no accompanying assessment of effects against these two policies.*
- ***Objective SLD01 –*** *To enable subdivision of land that is consistent with each of the Objectives and Policies for the various SMA, Zones, Precincts, or District Wide Activities in the District.*
- ***Policy SLDP7 -*** *Recognise the role of the Hastings District Councils Subdivision and Infrastructure Development in Hastings; Best Practice Design Guide and Engineering Code of Practice design standards as a means of compliance for the servicing of sites.*
- ***Policy SLDP11 –*** *Ensure that roads provided within the subdivision sites are suitable for the activities likely to establish on them and are compatible with the design and construction standards of roads in the District Transport Network which the site is required to be connected to.*
- ***Policy SLDP15*** *– Ensure that subdivision or developments do not result in adverse effects on the environment by requiring upon subdivision or development a means of connection to a water supply and services for the disposal of wastewater and stormwater.*

*It is considered that the above objectives and policies should have been assessed as part of the application. Of particular relevance is Objective PSM01 which is an overarching objective for the Plains Strategic Management Area. In order for Council to fully assess the proposed subdivision against the objectives and policies of the Proposed District Plan a full and complete assessment against all relevant objectives and policies is deemed necessary. Notwithstanding this however Policy SLDP1 states that the standards for minimum and maximum site sizes be established for each SMA/Zone in the district. The proposed subdivision is unable to meet the minimum site sizes for the Plains Production Zone and therefore are not consistent with this policy of the Plan. Overall, it appears the basis of consistency with the objectives and policies of the district plan is based on the assumption that the soil qualities are low and therefore the land is unable to be used productively or for profitable purposes.*

*Please provide detailed justification as to how the proposal is consistent with these objectives and policies of the Proposed Hastings District Plan.*

**Response**

An amended AEE was submitted addressing these issues.

4. *Council has received an application for a subdivision on an adjoining site located within the same zone.*

*I am requesting that details of whether the applicant has considered a coordinated approach with the adjacent site with thought being given to a structure plan incorporating these sites.*

**Response**

The applicants through their agent have advised that they while being on good terms with the owners of 42 Raymond Road they wished to pursue their own development separately. They felt that a structure plan process for a relatively small yield of unserviced lifestyle blocks is considered unnecessary and onerous. Further they consider that a structure plan without the 56 Raymond Road (property in between subject sites) would be unfair to that property owner.

5. *The application states in Section 6.1 on page 20 that direction for the assessment of environmental effects has been taken from HPUDS. Based on the 2016 HPUDS review conclusions, it appears Raymond Road has been identified as a location that could be suitable for coastal growth choices however this does not include these specific properties and has not been formally accepted. HPUDS also states that the Haumoana option would be subject to further assessment through the proposed Masterplan process which will only commence after the completion of the Clifton – Tangoio Hazards Strategy.*

*Please clarify;*

a) *How it is considered the subject site has been included in the HPUDS as a suitable area for growth.*

b) *How has the masterplan process referred to in HPUDS been taken into consideration in your proposal?*

c) *How pre-empting the outcome of the masterplan process is going to result in a more efficient and effective use of these sites for development.*

**Response**

The response centres round the applicants submissions on the Proposed District Plan and the HPUDS Review which was amended as a result of the submission process to refer to 20 hectares on the corner of Parkhill and East Roads that could be suitable for residential growth. Excerpts from HPUDS, including submission of the applicants was submitted with the section 92 response.

**It should be noted however that HPUDS also stated that this would be subject to further assessment through the proposed Masterplan process to commence after the completion of the Clifton-Tangoio Hazards Strategy.**

The response also stated that the future Masterplan process has repeatedly been used as reasons not to advance amended planning provisions for the sites along the applicants' side of Raymond Road. The section 88 process is considered a more appropriate to reflect the existing environment and statutory context rather than wait for a document that may be some time away from completion.

In terms of pre-empting the outcome of the Masterplan process the applicant infers that the proposal put forward with its regular section configurations and large width rights of way does provide a level of future proofing for later subsequent development.

6. *I note that the copyright is still affixed to your application. In order for the Hastings District Council to be able to utilise any of the matters raised in order to complete their assessment, I respectfully request that this be either removed or modified to include authorisation for HDC to access parts of the report as deemed necessary for assessing the application.*

**Response**

Resolved. Application amended accordingly.

7. *The scheme plan attached to the application shows potential building platforms as shaded rectangular areas. While the application states that a 30m x 30m platform can be achieved on each lot, it would be useful illustrate this on the scheme plan for correctness and to confirm compliance with Proposed District Plan Standard 30.1.7A. I am therefore requesting an amended scheme plan be submitted showing this information.*

**Response**

Resolved and an amended scheme plan submitted. See **Figure 1** above.

8. *Please provide and amended application that addresses the matters raised above and the reduced number of lots now being proposed.*

**Response**

Resolved and an amended AEE was submitted.

*Note:*
*The traffic assessment undertaken by Manawatu Traffic & Transportation Ltd and submitted with the application has been referred to the Councils Transportation Safety Engineer. Council may seek a peer review of that report.*

## 2.0 BACKGROUND INFORMATION

### 2.1 Applicants' History

The applicants have displayed a desire to subdivide the subject sites for some time. They made submissions on the Proposed District Plan to have this area rezoned but was subsequently declined. The applicants appealed the Councils decision but withdrew this on the basis that the HPUDS Review provided a better platform in terms of the long term direction for urban expansion for the Heretaunga Plains. A submission on that process was subsequently made.

While the Panel did see merit in the submissions (refer to page 6 and 7 of the AEE submitted with the application) the final wording in HPUDS does not fully reflect this recommendation.

The statement in HPUDS 2017 for Haumoana is as follows (refer bold text):

***Haumoana***

*Haumoana is a popular coastal settlement located approximately 9km east of Hastings. The settlement is low lying and parts of it have been subject to flooding coastal inundation, and coastal erosion. Infrastructure limitations and topographical considerations generally make the settlement unsuitable for further growth. There is however a small area of land located off the southern side of East Road and contiguous to the existing Coastal Residential Zone and close to the Suburban Commercial Zone off Clifton Road, that is free of flooding and coastal hazard constraints and suitable for residential growth.* ***There is also an area of approximately 20ha on the corner of Raymond Road/Parkhill Road opposite the Haumoana School on 'Ruataniwha f' soils (also described as 'Waipukurau 30' soils), free of flooding and coastal hazard restraints that could be suitable for coastal growth choices. This would be subject to further assessment through the proposed Masterplan process to commence after the completion of the Clifton – Tangoio Hazards Strategy. This assessment would include matters such as:***

***a) The productive versatility of this area and the Ruataniwha f soil type;***
***b) Reverse sensitivity with nearby horticultural/viticultural and poultry farm activities; and***
***c) Appropriateness in terms of contributing to the Haumoana / Te Awanga development options as part of the HPUDS preferred settlement pattern.***

2.2 **Existing Consents**

52 Raymond Road

N/A

80 Raymond Road

**RMA20090089 –** Establish and operate visitor accommodation exceeding the permitted activity threshold standards of the District Plan by 35m$^2$.

For further information regarding this consent please refer to the Resource Consent Number in Councils Records Management System.

2.3 **Interested Parties**

Council has received some correspondence from landowners in the immediate environment surrounding the proposed subdivision, namely 65 and 14 Raymond Road. This correspondence has raised concerns about the effects of the application. These concerns range from, effects being more than minor, loss of versatile land to the application being pre-emptive of Councils long term strategy for the coastal environment.

The concerns of landowners have been considered as part of the assessment of this application.

**3.3 SITE AND SURROUNDING ENVIRONMENT**

3.1 The Site

The sites are legally described as Lot 1 DP 22124 (CFR HBP4/839) of 6 hectares and Lot 5 Deeds Plan 800 (CFR HB80/1) of 4.6412 hectares.

The sites are zoned Plains Production Zone and are physically located on Raymond Road, Haumoana between Parkhill Road and Tuki Tuki Road. The sites are located on the northern side of Raymond Road. The sites location and zoning is shown below in **Figure 2, 3 and 4a & 4b** below. **Figure 5** provides details of the sites in respect of natural hazards.

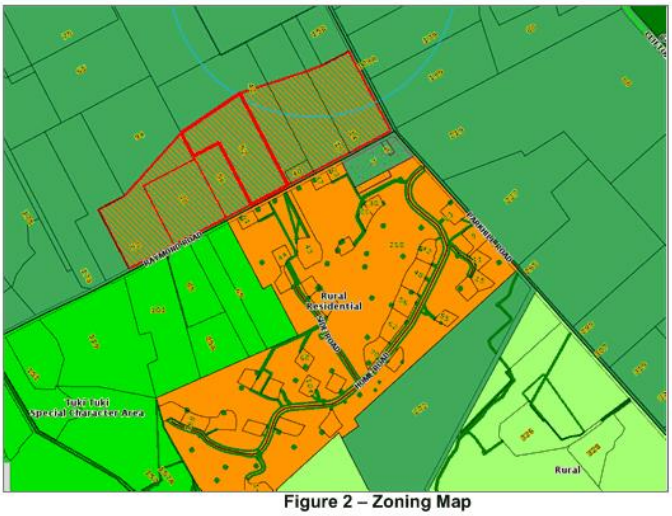


Figure 2 – Zoning Map


Figure 3 – Aerial view (HDC GIS 2017)


Figure 4a – Google Earth View (Taken from the Farm Park angle)


Figure 4b – Google Earth Views – Taken west to east view

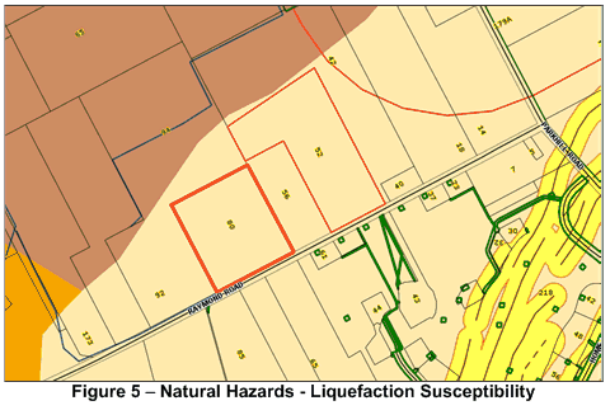


**Figure 5 – Natural Hazards - Liquefaction Susceptibility**

The sites are fully described on page 7 and 8 of the application. Briefly, 52 Raymond Road contains a dwelling and various accessory buildings associated with land based production activities (berries and apples) and includes a small retail shop. The northern boundary is defined by a natural terrace which places this site some 2 - 3m above the adjacent property to the north.

Number 80 Raymond Road contains a dwelling, visitor accommodation and secondary residential building, all having been legally established. The remainder of the site is used for grazing for alpacas and horses. A few fruit trees have been retained.

Neither site is subject to natural hazards and are within the low liquefaction vulnerability (yellow) zone (GNS Report, December 2017).

3.2 Site Photographs

***80 Raymond Road***

Road frontage of 80 Raymond Road – Google Street View

***52 Raymond Road***

**Taken at top of terrace looking down in adjacent property**

**Existing Crops**

**Road Frontage**

**Streetscape – Taken from Haumoana School looking west down Raymond Road**

3.3 Surrounding zoning and uses:

While located within the Plains Production Zone the wider Raymond Road area is also located adjacent to the Rural Residential Zone (Parkhill Estate Farm Park) and Tuki Tuki Special Character Zone ( refer figure 2 above) both of which are on the opposite side of Raymond Road to the subject sites. Haumoana School and Kindergarten is located on the corner of Parkhill Road and Raymond Road to the east of the subject sites and again, on the opposite side of Parkhill Road from the subject sites.

## 4.0 ACTIVITY STATUS AND REASONS FOR CONSENT

4.1 National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) requires consideration at time of change in landuse, subdivision or earthworks on a piece of land upon which an activity on the Hazardous Activities and Industrial List (HAIL) has/is or is more likely than not been undertaken. This application is for a subdivision and therefore this applies.

The applicant has provided a Detailed Site Investigation (DSI) (HDC Ref: 56999#0056) from a Suitably Qualified Experienced Professional (SQEP) for both sites.

52 Raymond Road
The DSI identified that the site is compliant with the NES and does not present a risk to human health. Accordingly the NESCS is not triggered and does not apply to 52 Raymond Road.

80 Raymond Road
The DSI identified that three composite samples recorded lead, arsenic and DDT concentrations above their respective NES SCS for the land use scenario of Rural Residential with 25% produce and because of this it is likely that remediation will be required in some areas to attain full compliance with the NES. A Site Remedial Action Plan is attached to the DSI undertaken by EAM Environmental Consultants.

Regulation 5 (7) (b) of the NES applies were a person wants to do an activity on land where an activity or industry described in the HAIL has been undertaken on it.

**Clause 8 (4)** (Subdividing or changing use)

*(4) Subdividing land or changing the use of the piece of land is a permitted activity while the following requirements are met:*
*(a) a preliminary site investigation of the land or piece of land must exist:*
*(b) the report on the preliminary site investigation must state that it is highly unlikely that there will be a risk to human health if the activity is done to the piece of land:*
*(c) the report must be accompanied by a relevant site plan to which the report is referenced:*
*(d) the consent authority must have the report and the plan.*

*Consequence if requirement not met*

*(5) If a requirement described in any of subclauses (1) to (3) is not met, the activity is a controlled activity under regulation 9 while it meets the requirements in regulation 9(1).*

*(6) If a requirement described in subclause (4) is not met, the activity is a controlled activity under regulation 9 while it meets the requirements in regulation 9(3).*

The application does not include a preliminary site investigation therefore regulation 9(3) is considered.

**Clause 9(3)** Controlled Activities (subdivision)

*9(3) If a requirement described in regulation 8(4) is not met, the activity is a controlled activity while the following requirements are met:*

*(a) a detailed site investigation of the piece of land must exist:*
*(b) the report on the detailed site investigation must state that the soil contamination does not exceed the applicable standard in regulation 7:*
*(c) the consent authority must have the report:*
*(d) conditions arising from the application of subclause (4), if there are any, must be complied with.*

*9(4) The matter over which control is reserved is the adequacy of the detailed site investigation, including—*
*(a) site sampling:*
*(b) laboratory analysis:*
*(c) risk assessment.*

The application provides a DSI undertaken by a SQEP covering the matters required including regulation 9(4). The DSI identified some areas of elevated arsenic, DDT and lead that was above NESCS standards for the land use scenario of Rural Residential (25% produce).

Accordingly regulation 9(3) (b) cannot be met and the application must be considered under Regulation 10 Restricted Discretionary activities.

***10 Restricted discretionary activities***

*(1) This regulation applies to an activity described in any of regulation 5(2) to (6) on a piece of land described in regulation 5(7) or (8) that is not a permitted activity or a controlled activity.*

*(2) The activity is a restricted discretionary activity while the following requirements are met:*

- *(a) a detailed site investigation of the piece of land must exist:*
- *(b) the report on the detailed site investigation must state that the soil contamination exceeds the applicable standard in regulation 7:*
- *(c) the consent authority must have the report:*
- *(d) conditions arising from the application of subclause (3), if there are any, must be complied with.*

*(3) The matters over which discretion is restricted are as follows:*

- *(a) the adequacy of the detailed site investigation, including—*
  - *(i) site sampling:*
  - *(ii) laboratory analysis:*
  - *(iii) risk assessment:*
- *(b) the suitability of the piece of land for the proposed activity, given the amount and kind of soil contamination:*
- *(c) the approach to the remediation or ongoing management of the piece of land, including—*
  - *(i) the remediation or management methods to address the risk posed by the contaminants to human health:*
  - *(ii) the timing of the remediation:*
  - *(iii) the standard of the remediation on completion:*
  - *(iv) the mitigation methods to address the risk posed by the contaminants to human health:*
  - *(v) the mitigation measures for the piece of land, including the frequency and location of monitoring of specified contaminants:*
- *(d) the adequacy of the site management plan or the site validation report or both, as applicable:*
- *(e) the transport, disposal, and tracking of soil and other materials taken away in the course of the activity:*
- *(f) the requirement for and conditions of a financial bond:*
- *(g) the timing and nature of the review of the conditions in the resource consent:*
- *(h) the duration of the resource consent.*

*Consequence if requirement not met*

*(4) If a requirement described in this regulation is not met, the activity is a discretionary activity under regulation 11.*

As stated above, the application includes the necessary DSI which states that the soil contamination exceeds the applicable standard at some test sites. The DSI makes recommendations and therefore is in compliance with regulation 10 (2) (d) and shall be assessed as a **Restricted Discretionary Activity**.

4.2 Operative Plan Status

Pursuant to Section 86F of the Resource Management Act 1991 a rule in a proposed plan must be treated as operative (and any previous rule as inoperative) if the time for making submissions or lodging appeals on the rule has expired and in relation to the rule:

*(a) no submissions in opposition have been made or appeals have been lodged; or*
*(b) all submissions in opposition and appeals have been determined; or*
*(c) all submissions in opposition have been withdrawn and all appeals withdrawn or dismissed.*

The Proposed Hastings District Plan (PDP) as amended by decisions on submissions was notified on 12th September 2015 and the PDP provisions took legal effect on this date. The appeals period closed on 23rd October. An appeal was received in relation to the zoning of the site being Plains Production Zone (withdrawn) but not the subdivision rules.

There are no outstanding Appeals that would affect these properties. Therefore it is considered that the provisions of the Proposed District Plan, as they relate to this application are beyond the point of challenge and the Operative District Plan can be treated as inoperative in accordance with Section 86F of the Resource Management Act 1991. As such, no further assessment against the Operative District Plan is considered necessary.

4.3 Proposed Hastings District Plan

4.3.1 **Subdivision**

Under Rule **SLD1** of the Proposed District Plan, all subdivisions are controlled activities subject to meeting the relevant zone Site Standards and Terms in section 30.1.6 and all relevant General Site Performance Standards and Terms specified in section 30.1.7.

Table 30.1.6A specifies the minimum site sizes and dimensions within the various zones. The minimum lot size for sites in the Plains Production Zone is 12 hectares.

The proposed subdivision will result in the following Lot sizes:

| Lot Number | Land Area | Buildings on Site |
|---|---|---|
| Lot 1 | 0.43 ha | Existing house and accessory buildings |
| Lot 2 | 0.35 ha | Existing house and shed |
| Lot 3 | 0.7 ha | Existing house and accessory buildings |
| Lot 4 | 0.3 ha | Vacant |
| Lot 5 | 0.55 ha | Vacant |
| Lot 6 | 2.3 ha | Shed |
| Lot 7 | 0.3 ha | Vacant |
| Lot 8 | 0.3 ha | Vacant |
| Lot 9 | 1.2 ha | Shed (to be removed) |
| Lot 10 | 1.3 ha | Vacant |
| Lot 11 | 1.3 ha | Vacant |
| Lot 12 | 1.6 ha | Existing house and accessory buildings |

| | RULE TABLE 30.1.5 -SUBDIVISION AND LAND USE | |
|---|---|---|
| **RULE** | **ACTIVITY** | **ACTIVITY STATUS** |
| **SLD25** | ***Non-Complying Subdivision***<br>*Any subdivision (unless specifically provided for under Rules SLD1 through to and including SLD24 above) which is unable to comply with one or more of the relevant Subdivision Site Standards and Terms in section 30.1.6, including any unzoned land.* | *NC* |

4.3.2 The proposal therefore does not meet the subdivision standards for the Plains Production Zone and accordingly is a **Non-Complying Activity** pursuant to Rule **SLD25** as noted in the table above.

## 5.0 ADEQUACY OF THE APPLICATION/REQUIREMENT FOR OTHER CONSENTS

Under the provisions of section 88 of the Resource Management Act 1991 (RMA), an application for a resource consent must be made in the prescribed form and manner and include an assessment of environmental effects in such detail as corresponds with the scale and significance of the effects that the activity will have on the environment. Where these requirements are not met, the Council may, under section 88(3), decide that the application is incomplete and return the application, with written reasons, to the applicant.

The application has been assessed and it has been determined that the application is complete and following requests for further information, the application (subject to the outcome of the Peer Review of the Fruition Horticulture soil assessment), contains sufficient information to allow an assessment of effects.

Section 91 of the RMA allows the council to decide not to proceed with the notification of an application if it considers on reasonable grounds that other resource consents under this Act will also be required for the proposal and it is appropriate that such consent be applied for before proceeding further. Consents for discharge of wastewater, water takes (should any of the new households utilise the existing bores on 52 and 80 Raymond Road) and discharge of stormwater will be required from the HB Regional Council. The application includes advice from COPAS, Plumbing and Electrical, an Accredited HBRC Designer and Wastewater Installer, that as a minimum, Secondary Treatment is required for wastewater disposal on the Raymond Road sites in order to meet Rule 37 of the Regional Council Resource Management Plan. Indications are that on site wastewater disposal can be achieved and therefore there is no need to put this consent on hold pending these Regional Council consents.

## 6.0 RESOURCE MANAGEMENT ACT 1991 NOTIFICATION PROVISIONS

6.1 Note as the application was lodged prior to 18th October 2017 the previous version of Sections 95A to 95F will be used to assess the application.

6.2 Sections 95A to 95F of the Resource Management Act 1991 (RMA) set out the requirements for notification of a resource consent application.

In accordance with Section 95A, an application for any type of activity must be publicly notified if:

- *the activity will have or is likely to have adverse effects on the environment that are more than minor; or*
- *the applicant requests it; or*
- *a rule or national environmental standard requires public notification.*

In addition, the council may choose to publicly notify the application if:

- *regardless of any other matters, there are special circumstances (s95A(4))*
- *a notification decision has not been made and a further information request is not responded to before the deadline concerned or the applicant refuses to provide the information requested (s95C)*

## 7.0 NOTIFICATION ASSESSMENT

Under Section 95A(1) of the RMA, the consent authority must decide whether to notify a consent application. The notification assessment is in two parts:

1) First, an assessment of whether the application should be **publicly notified**; and
2) Secondly, if the conclusion is that the application need not be publicly notified, an assessment of whether the application should be subject to **limited notification.**

### 7.1 Public Notification Assessment

#### 7.1.1 Section 95A(2)(b) – Public notification if the applicant requests

Under section 95A(2)(b) the Council must publicly notify an application where an applicant so requests.

The applicant has not requested that the application be publicly notified.

#### 7.1.2 Section 95A(2)(c) - Public Notification if required by a rule or NES

Under section 95A(2)(c) the Council must publicly notify an application where that notification is required by a rule or NES.

There is no rule or NES that requires public notification of the application.

#### 7.1.3 Section 95C: Public notification due to refusal or failure after section 92 request.

Under section 95C(1) the Council must publicly notify an application if it has requested further information under section 92(1) or notified the applicant that it wishes to commission a report under section 92(2)(b), but the applicant either refuses the request or fails to respond within the relevant time period.

The applicant has responded to all further information requests, and has provided the information requested. The applicant has also agreed to the commissioning of a peer review of the soils assessment undertaken by Fruition Horticulture submitted with the application.

#### 7.1.4 Subsection 95A(2)(a) and Section 95D – Consent authority decides if adverse effects likely to be more than minor.

Under section 95A(2)(a) the Council must publicly notify an application if it decides (under section 95D) that the activity will have (or is likely to have) adverse effects on the environment that are more than minor.

Section 95D lists a number of matters that Council must, or may, disregard when deciding whether an activity will have or is likely to have adverse effects on the environment that are more than minor, as follows. Council:

*(a) must disregard any effects on persons who own or occupy—*
*i) the land in, on, or over which the activity will occur; or*
*ii) any land adjacent to that land; and*
*(b) may disregard an adverse effect of the activity if a rule or national environmental standard permits an activity with that effect; and*

*(c) in the case of a … restricted discretionary activity, must disregard an adverse effect of the activity that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and*
*(d) must disregard trade competition and the effects of trade competition; and*
*(e) must disregard any effect on a person who has given written approval to the relevant application.*

Section 95D(a)(ii) requires that in assessing whether the effects of the proposed activity will be more than minor (for the purpose of public notification) the consent authority must disregard any effects on persons who own or occupy 'adjacent land'. The term 'adjacent' applies to properties in very close proximity to the proposed site, but is not necessarily confined to properties that are immediately abutting or adjoining. These properties are indicated by coloured shading on the map below (subject sites are labelled and coloured red) – **Figure 6**:

The effects on those persons are to be assessed under Section 95E, for the purpose of limited notification.


**Figure 6 – Adjacent Properties**

7.1.5 Disregarding trade competition effects, effects on adjacent parties or parties who have provided written approval, and effects that could arise from permitted activities, will the activity have or be likely to have adverse effects on the environment that are more than minor?

7.1.6 The applicant has submitted the following written approvals with the application where the effects must be disregarded. **Figure 7** below identifies the location of these properties.

| Legal Description | Address | Owners | Council PID |
|---|---|---|---|
| Lot 6 DP 15184 | 18 Raymond Road | Lisa Jane and Jared Fraser Bentley | 57058 |
| LOT 2 DP 28884 LOT 2 DP 27559 | 42 Raymond Road | Endsleigh Cottages (Denis Hardy) | 57057 |
| Lot 2 DP 28790 | 85A Raymond Road | Shammi Datt and Stephen Seque | 95972 |
| Lot 1 DP 28790 | 85 Raymond Road | Michael John de Groot and Charlotte Marie Freeman | 93540 |
| Lot 1 DP 15659 | 92 & 94 Raymond Road | PJ & CA Snijders (Sabel Trustees) | 56998 |
| Lot 1 DP 28884 | 38 Raymond Road* | Rutaua Terence Kereru & Heather Mary Urquhart ( PEM Family Trust) | 96672 |
| Lot 4 DP 411112 | 23 Raymond Road | G& J Welch | 101308 |
| Lot 1 DP 411112 | 61 Raymond Road | JP & CA Williams | 101305 |
| * Not all persons listed against the PID have signed the respective affected person form. | | | |

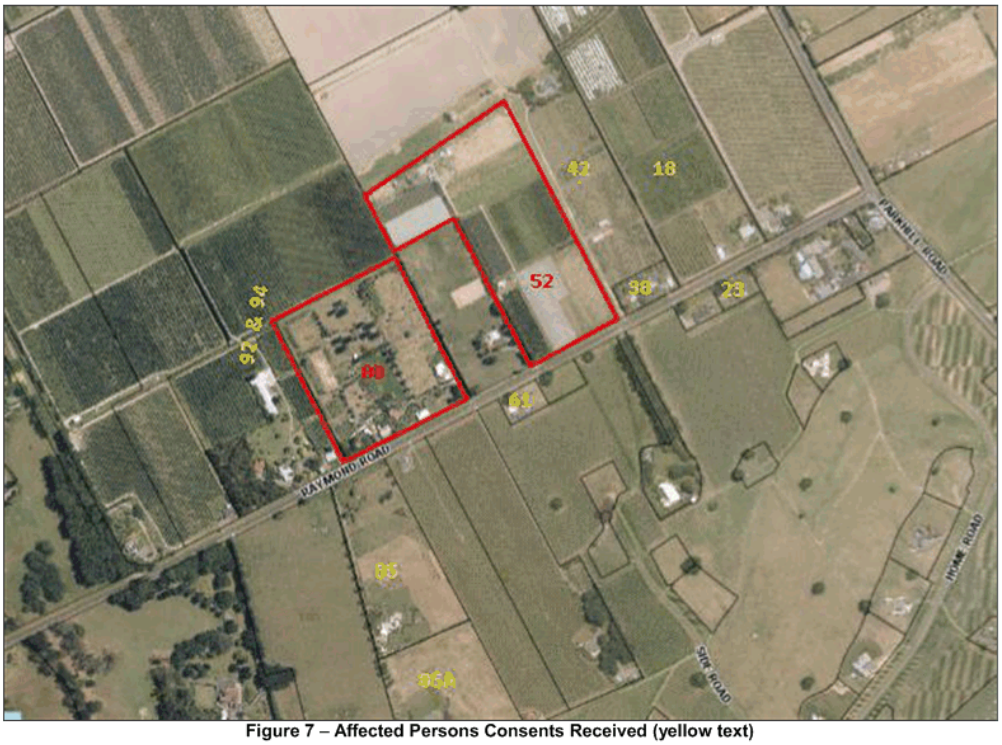


**Figure 7 – Affected Persons Consents Received (yellow text)**

## 8.0 ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

The following section of this report discusses the Councils understanding of the adverse effects on the environment (excluding adjacent properties identified in **Figure 5** above) of the application, taking into account the matters set out in Schedule 4 of the RMA.

An assessment of environmental effects is provided in Section 6 of the submitted application. The comments in the assessment of environmental effects highlight the proposed mitigating factors relating to the rules the proposal does not meet focusing mainly on the 'limited productive potential' of the soils. The assessment concludes that *the effects of the proposal are considered to be minor, or able to be mitigated to the point where they are less than minor on the basis that they;*

- *Have been specifically identified in the HPUDS review as being potentially suitable for low density development*
- *Are free of natural hazards*
- *Are physically separated from adjoining productive uses by a natural terrace area*
- *Have sub-optimal soils which have been demonstrated to have very limited productive potential*
- *Are located within 500 metres of a community focal point*
- *Are located immediately opposite an existing low density settlement*
- *Are located within easy commuting distance of all major centres within the Hawke's Bay*
- *Have been assessed terms of traffic effects, which have been confirmed as being minor*
- *Will provide for additional choice for development in this area, and directs development away from truly versatile soils*

The following adverse effects have been identified as being likely to arise from the proposal:

- Servicing
- Landscape/ Amenity and Visual Effects
- Access & Traffic Generation
- Rural Soil Resource/Fragmentation of Plains Land Resource
- Construction
- Cumulative
- Effects on Archaeological/Cultural Sites

8.1 Servicing

8.1.1 *Water Supply*

The applicant proposes that future dwellings on the currently vacant lots will be serviced via tank water supply and possibly private supply from existing bores on 52 and 80 Raymond Road in the short term. The Council Engineer has recommended that the applicant consult with Hawkes Bay District Health Board in respect of communal use of bore water. The application states that the applicants have consulted with the Ministry of Health and are aware of the requirements for public supplies.

The application also states that *a water supply may be available to service the sites within two years under a proposed extension to the Haumoana Reticulation system*. The Council Engineer has advised that it is unlikely that the existing services will be extended to this area in the short term and that it is not currently being considered ahead of other Council services renewal projects. The applicants therefore cannot rely on a Council reticulated water supply to be available as part of this application.

8.1.2 *Stormwater*

Rule 30.107D of the Proposed Plan requires that where there is no public reticulation, the subdivider will demonstrate how an alternative and satisfactory method of disposal for each site can be provided. The application states that *stormwater will be connected to tanks which will provide stormwater attenuation for any impermeable site area*. Discharge to land will be required to meet Hawkes Bay Regional Council rules.

8.1.3 *Wastewater*

The applicant proposes that each of the proposed residential allotments will be served by individual onsite wastewater treatment and disposal systems.

The rules of the Hawke's Bay Regional Council (HBRC) Regional Resource Management Plan (RRMP) apply to the discharge of water to ground. Rule 37 of the RRMP allows for onsite wastewater treatment and disposal as a permitted activity subject to a number of conditions.

The Councils Development Engineer has viewed the application and has stated that the application is relatively straight forward, however wastewater will be required to be disposed of in accordance with Hawkes Bay Regional Council requirements. Furthermore, the information provided as with the application and section 92 request indicates that onsite wastewater disposal is achievable. It is not considered that there are any adverse effects on the environment as a result of wastewater disposal.

8.2 Visual Effects

The applicants considered 'Landscape Effects' under section 6.5 – Other Matters, in their assessment of effects. I agree that the flat topography of the subject sites means that his area is not visually prominent for distant audiences. It is also agreed that the existing shelter planting along the frontage of 80 Raymond Road will reduce the visual impact of any future development. These trees however cannot be fully relied upon in the future unless there is a legal instrument put in place to secure the retention of these trees. There are no shelter trees along the frontage of 52 Raymond Road and therefore any development on proposed Lot 7 and 8 will be visible within the direct Raymond Road environment.

The level of development proposed is over and above that allowed as a permitted activity under the Proposed District Plan which prescribes a 12 hectare minimum lot size. The application by virtue of it being a subdivision, proposes a notable change to the character of the sites with the number of lots proposed and where each new lot will have permitted development rights for a principal dwelling, supplementary residential building and visitor accommodation. This greater intensity of development will clearly alter the visual character and amenity of this locality.

Although the buildings can potentially be integrated into the existing environment in terms of visual and landscape, the level of development as presented is higher than that which could be reasonably expected to establish on these sites. This does have the potential to give rise to effects in terms of rural character and amenity, and it is whether these effects are more than minor in the context of the wider environment (whilst disregarding those effects on those properties adjoining and adjacent) that needs to be assessed.

To conclude, with regard to landscape character and visual amenity effects on the wider environment, it is considered that while the character of the sites will be affected, visual effects on the wider environment would be no more than minor given the site and location characteristics, the distance from which the site would be viewed as part of the overall landscape and the imposition of appropriate conditions (if consent is granted) to mitigate the visual effects of the proposed subdivision and resulting development over the duration of the consent. On this basis the proposal does not have the potential to create adverse effects that are likely to be more than minor in terms of landscape and visual amenity on the wider environment and in a wider context.

8.3 Rural Character and Amenity

The application site is set within a 'mixed' environment. While the subject sites are zoned Plains Production the zoning on the opposite side of Raymond Road is a mix of Rural Residential, Tuki Tuki Special Character and Plains Production that provides for a range of productive and lifestyle choices of living. The immediately adjacent sites to the east, west and north are zoned Plains production and are primarily used for land based primary production.

In terms of rural character and amenity the area is modified to the south by virtue of the surrounding lifestyle lots and farm park lots being of varying size although the house sites are dispersed over the balance area reducing a clustered effect. The northern side of Raymond Road on the other hand is used intensively for land based primary production and this proposal (in effect a lifestyle subdivision) will not be consistent with this existing environment. See **Figure 8** below:

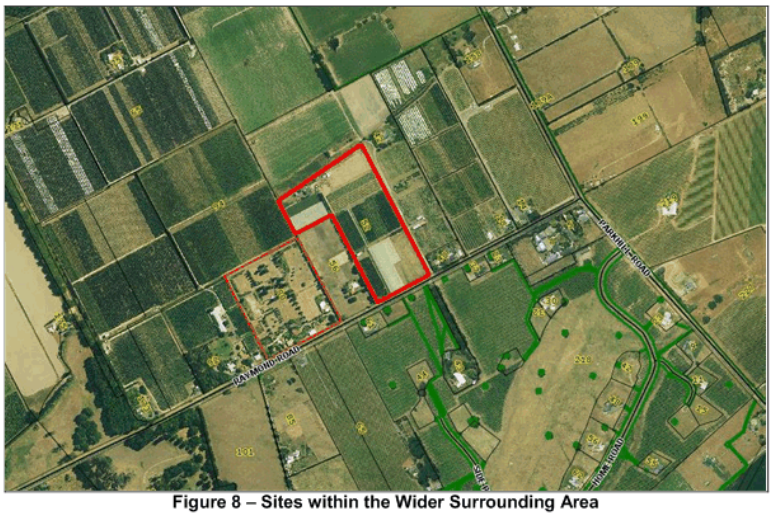


**Figure 8 – Sites within the Wider Surrounding Area**

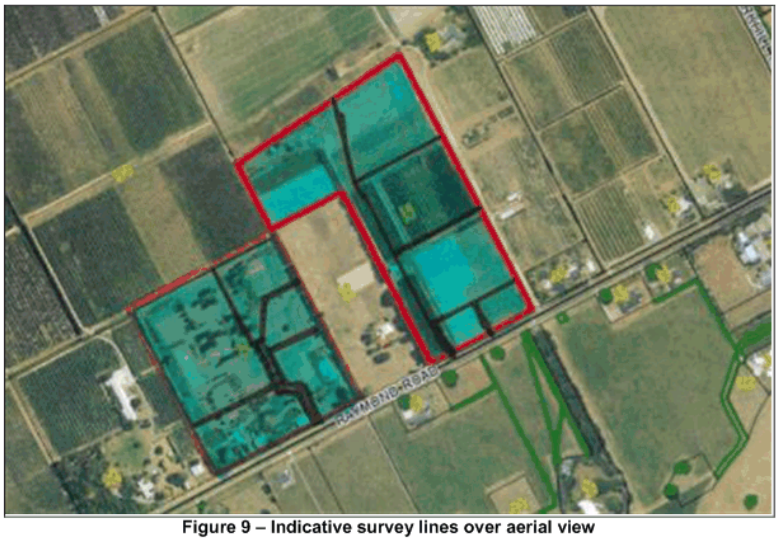


**Figure 9 – Indicative survey lines over aerial view**

It is considered however the existing character of the area resulting from the subdivision will not be adversely impacted given that, apart from proposed Lots 7 and 8, there will be no noticeable change in the surrounding environment when viewed from Raymond Road (see **Figure 9** above). It is considered therefore that such adverse character effects will be minor in the wider environment.

The resulting development on these sites will seem similar to development on the opposite side of Raymond Road, whereby retaining the rural character that exists within the surrounding environment. With the retention of the existing shelter belt and tree planting along the frontage of 80 Raymond Road, this is considered sufficient to retain the rural character. To ensure that these remain a condition of consent (if approved) could be that a covenant be entered into to retain/maintain these trees (except where vehicle access is required). In respect of the 52 Raymond Road frontage, however appropriate landscaping is considered necessary to mitigate any visual effects of two additional dwellings along this part of Raymond Road. This will also have the effect of screening the remainder of this property and the subsequent development on the remaining sites.

It is therefore considered that subject to appropriate conditions (if consent is approved) the effects on the wider environment will be no more than minor.

8.4 Access and Traffic Generation

The sites have legal frontage to Raymond Road which is categorised as a 'Local Road' where the speed limit is 100km/h. This subdivision will result in 10 additional titles (12 in total) with 3 additional vehicle crossing being required to service both subdivisions as described below:

*80 Raymond Road - 6 sites (5 additional)*

A new access/ ROW and vehicle crossing is proposed for Lots 3, 4, 5 and 6 (Lot 6 has an existing crossing also). Lot 1 will utilise an existing access. Lot 2 will require a new access.

*52 Raymond Road – 6 sites (5 additional)*

Lot 7, 9, 10, 11 and 12 will gain access off an existing drive and vehicle crossing. Lot 8 on the other hand will require a new crossing.

The application is supported by a traffic assessment undertaken by Manawatu Traffic & Transportation Ltd. The assessment provides a detailed analysis of the existing environment,

potential traffic generation expected from the additional lots, intersection issues with Parkhill and Tuki Tuki Roads, and proximity to Haumoana School. The traffic assessment also includes an assessment against the relevant Objectives and Policies of the Proposed Plan.

The assessment concludes with the following applicable statements;

- *… the amount of traffic generated by the proposed development is likely to be modest and would have little effect on the efficient operation of the road network*
- *…vehicle crossings to the sites have sight lines that are essentially clear and exceed minimum requirements*
- *The form of the vehicle crossings is expected to be in accordance with Council standards and / or requirements*
- *Attention should be given to providing turning facilities at the end of right of ways…*
- *The proposal has a high degree of compliance with the Plan's rules and /or Council's development standards*
- *…the proposed subdivision is expected to not have any significant adverse effects on the safe and efficient operation of the road network…*
- *…the proposal aligns reasonably with the transportation related objectives and policies of the Plan.*

It should be noted that the traffic assessment was based on the original concept of 17 lots. This current proposal is for 5 less lots and therefore any adverse environmental effects will be to a lesser degree.

Given the above, it is considered that subject to the imposition of conditions, the proposed development can be safely and efficiently integrated into the District's Roading Network without resulting in effects that would be more than minor.

Plains Production Soil Resource / Fragmentation of Plains Production Land

The subject sites combined comprise 10.64 hectares of Plains Production zoned land. The Maurenbrechers' propose to continue with berry growing on proposed Lot 12 which if consented will contain 1.6 hectares. The remaining 9 hectares of land will fall to lifestyle residential development if consent to this proposal is granted.

The Plains environment is described in the Proposed District Plan as being central to the economic and social wellbeing of Hastings and the wider community and is a much valued growing and cropping area of the district containing nationally significant versatile land.

Versatile land is described in the Proposed Plan as;

> *in relation to the Heretaunga Plains sub-region means contiguous flat to undulating terrain within the Heretaunga Plains Sub-region that acts collectively to support regional (and nationally) significant primary production and associated secondary services on the Heretaunga Plains, based around:*
>
> *(a) An exceptionally high proportion of versatile **Class 1-3 soils** (comprising almost 90%); or*
> *(b) Class 7 soils that are internationally recognised as having a very high value for viticultural production (comprising almost 7%);*
> *(c) Its proximity to a cluster of national and international processing industries and associated qualified labour force; and*
> *(d) Its proximity to the Port of Napier and other strategic transport networks providing efficient transport of produce.*

The Plains Strategic Management Area sets out the overarching principals/philosophy for the development of land in the Plains Production and Plains Settlement Zones.

The overarching objective for the Plains Strategic Management Area is that *the land based productive potential and open nature of the Plains environment is retained.* This falls from one

of the outcomes for the Plains environment, namely; PAO1 -*The area of land available for land based primary production purposes is not reduced by ad hoc and unplanned development*.

The Proposed Plan also refers that '*the community has also signalled that the protection of this land is of paramount importance and its value to the region is recognised in the Regional Policy Statement. Through the process of drafting the* ***Heretaunga Plains Urban Development Strategy****, there was significant support for preventing further urban encroachment onto the versatile land of the Heretaunga Plains. The District Plan will therefore continue with its policy of protecting the land from subdivision and development that is not for the purposes of food production. There is no reason to reduce the minimum subdivision size of lots in the areas where versatile land is identified. It is intended that future generations of Hastings ratepayers will have similar levels of productive rural land available to them as we currently have. This will be achieved by both maintaining the minimum lot size for subdivisions and also restricting the amount of building on versatile land to that which is absolutely necessary to support our primary industry.*

The main outcome for the Plains environment is to maintain versatile land on the Plains by *ensuring that growth needs are strategically planned and ad hoc erosion of the land resource does not result.*

In response to this direction in the Proposed Plan, the application included a detailed assessment of the soil types present on these two sites as a means of justifying the subdivision for lifestyle purposes. The application is supported by a soils assessment prepared by Fruition Horticulture and Land Use Capability report prepared by Mr Maurenbrecher. A further report was also submitted (as a result of a section 92 request) prepared for the HB Regional Council by Page Bloomer Associates Ltd, dated 14 June 2011, to assist that council in understanding the issues associated with defining 'versatile soils' or 'productive land' for the purposes of avoiding inappropriate use/subdivision/development as part of development of the Regional Policy Statement and HPUDS.

The Fruition report states that there is significant limitations of the soils due there being a shallow subsurface and relatively impermeable plan which causes perching of water and creates poor drainage which significantly limits its suitability for horticulture. The report summary goes on to state that *resulting low productivity and episodic plant mortality prevents viable and reliable income to be generated from most crops grown on this land*. The report also states that *mitigation treatments … do not fully ameliorate soil conditions to allow economically acceptable levels of plant growth and productivity and that the significant constrains of this area and consequent low versatility combine to give it a low sustainable productive capacity*.

The Fruition Horticulture report was peer reviewed by John Wilton of AgFirst Consultants HB Ltd so that an independent view could be considered as part of the assessment of effects. The AgFirst review states the Fruition report gives an accurate report on soil class 30, Waipukurau which is the dominant soil type but does not go into depth about the rear part of 52 Raymond Road which contains class 71 Mangateretere a '*slightly easier soil to manage'*. AgFirst agree with the conclusion of the Fruition report that soils involved are marginal for high performance of most intensive horticultural crops but suggest that with attention to appropriate soil drainage, crop performance could be substantially improved. AgFirst made comments on the subdivision in respect of 52 and 80 Raymond Road in respect of viable and productive use, limitation to productive nature/versatility of the land, impact on the district/regional soil resource if the subdivision were to go ahead and the amount of soil type 30 Waipukurau and 71 Mangateretere is present in the Plains Productive Zone.

AgFirst estimate that 90% of the total 30 Waipukurau soil type is located inland from the coastal strip adjacent to the hills between Haumoana and Te Awanga and is soil suited to viticulture, a dominant land use over these soils. AgFirst comment that '*grapes are very forgiving when it comes to soil quality and observation of the surrounding vineyards suggests they are performing well'*. This would suggest that these site could be suited to viticulture and berry crops rather than pip fruit and other orchard crops which are more suited to the 71 Mangateretere soil type present. It is noted that the application states that the existing berry crops on proposed Lot 12 are to be retained.

The AgFirst review comments that the aspect of these sites with the gentle slope towards the north and good air drainage make these sites suitable for specialist production of "niche" crops and crops under cover that are not reliant on deep soils and not frost hardy enough for production on most of the Heretaunga Plains. Significantly, the report states, *the soils are marginal, the area is small relative to the total Heretaunga Plains zone and at present the properties are relatively unproductive so could be considered lifestyle blocks*.

Taking into consideration the soil reports submitted with the application and the details contained within the AgFirst peer review the effects of the proposed subdivision removing approximately 10 hectares of land based on the '*low sustainable productive capacity*' (Fruition Report) and '*marginal for high performance of most intensive horticultural crops*' (AgFirst Report) comments on these particular sites, any effects of the loss of these soils on the overall life-supporting capacity of soils on the wider environment are considered to be no more than minor.

8.5 Construction / Earthworks Effects

Earthworks, while mainly limited to constructing the rights of way/access and building platforms, there is the potential to cause adverse effects such as the emission of noise and dust, visual effects, erosion and sedimentation during the construction period. Noise effects may also result from the construction of houses once the subdivision is complete. These effects will be temporary although could be spread out over a long period of time as each site is developed. It is considered that these effects can be mitigated through good management and the use of best practice techniques and through the imposition of conditions.

Construction effects will also be mitigated to a certain extent by requiring that building platforms and accesses be constructed prior to approval pursuant to Section 224 of the RMA, rather than allowing building platforms and accesses to be constructed by the future owners. This will ensure that the periods of earthworks and associated noise, dust and visual effects, and erosion and sedimentation of any watercourses are limited in terms of frequency and duration.

8.6 Reverse Sensitivity Effects

Reverse sensitivity can be a major constraint for legitimate production activities, particularly within the Plains Production Zone where land based rural production is afforded the highest permitted activity status with the right to farm philosophy being paramount. In response to this, the Proposed District Plan prescribes a 15m yard requirement for residential activities establishing in the Plains Production Zone. The outcome for this yard rule is to separate residential buildings from adjoining sites to ensure that potential conflicts between adjoining land uses are avoided. This also allows legitimate production activities to occur without the fear of complaints from residential activities. This issue is supported in the peer review by AgFirst. The other outcome relates to maintaining the open character and amenity of the Plains Production Zone and this has been discussed above.

All sites are capable of meeting the 15m yard setback. The applicant has however offered a no complaint covenant (including noise from frost fans) be registered on the titles of the lots created by the subdivision along with a building line restriction on proposed Lots 1,5 and 6 (refer to scheme plan).

The application states that the applicant (Maurenbrechers) *ability to make productive use of their site at present is made more difficult by reverse sensitivity effects from adjoining land uses. They find that the road reserve in front of the site coupled with the flat contour of the land does not sufficiently allow for a sufficiently wide buffer area to prevent spray drifting onto sites on the opposite side of the road*. Raymond Road has a legal width of 20m and this together with a minimum 7.5m setback from the road boundary provides greater protection from reverse sensitivity than the baseline of 15m set in the Proposed Plan as being the appropriate distance to avoid reverse sensitivity issues. I therefore consider this argument to be somewhat flawed. However, given that the activity can comply with the 15m yard setback prescribed in the

Proposed Plan, the reverse sensitivity effects in respect of the subdivision will be less than minor.

8.7 Cumulative Effects

The Act defines a cumulative effect as an effect that arises over time or in combination with other effects.

In this regard, it is important to assess the proposal in light of the increased density that will be created as a result of this proposed subdivision and consider the potential to generate an adverse cumulative effect. The increased traffic effects have been discussed with the outcome being that any adverse effects of increased traffic in this area of Raymond Road will be no more than minor.

The subdivision will cumulatively add buildings within the immediate environment and within a zone that does not provide for this level of lifestyle development.

While in isolation, each may have minor or less than minor effect, it is considered that the granting of consent to this proposal would result in an incremental development of the existing sites, by virtue of the proposal being a subdivision, that would result in at least a minor adverse cumulative effect on the environment including on some adjoining neighbours. In this instance, having regard to what is proposed, it is considered that any such cumulative effect on the wider environment will be minor, but there may be additional effects on the immediate neighbours rather than the wider environment.

8.8 Effects on Archaeological/Cultural Sites

There are no recorded archaeological or cultural sites over these properties. In addition, no significant heritage or archaeological sites are recorded in the Proposed District Plan.

8.9 Conclusion of Adverse Environmental Effects

In summary, the above assessment concludes that the proposal will have no more than minor adverse effects on the wider environment (excluding adjacent parties).

8.10 Special Circumstances Warranting Notification

Despite the above, the council may publicly notify an application if:

- special circumstances exist (Section 95A(4)); or
- it decides that there are other reasons that warrant notification (Section 95A(1)).

8.11 Special Circumstances

Under Section 95A(4), the Council may choose to notify an application if it considers that special circumstances exist, even if the effects will be no more than minor or a rule or national environmental standards preclude notification.

"Special Circumstances" have been defined by the Court of Appeal as those that are unusual or exceptional, but they may be less than extraordinary or unique (Peninsula Watchdog Group (Inc) v Minister of Energy [1996] 2 NZLR 529). With regards to what may constitute an unusual or exceptional circumstance, Salmon J commented in Bayley v Manukau City Council [1998] NZRMA 396 that if the district plan specifically envisages what is proposed, it cannot be described as being out of the ordinary and giving rise to special circumstances.

While the Proposed District Plan does not envisage this intensity of 'lifestyle' development condensed into one small area in the Plains Production Zone, lifestyle lots are provided for between 2500m$^2$ and 5000m$^2$. In this instance the balance land must be amalgamated with an adjoining property to meet the relevant rule in the Proposed Plan. This proposal however does not fit within this criteria.

In Murray v Whakatane District Council [1997] NZRMA 433, Elias J stated that circumstances which are "special" will be those which make notification desirable, notwithstanding the general provisions excluding the need for notification. In determining what may amount to "special circumstances" it is necessary to consider the matters relevant to the merits of the application as a whole, not merely those considerations stipulated in the tests for notification and service.

In Urban Auckland and Ors v Auckland Council [2015] NZHC 1382 the High Court found that special circumstances existed where relevant information may have been obtained from the public should it have been notified.

The areas subject to this proposal and the associated issues surrounding the history of the applicants wishing to have this area rezoned to a rural residential zoning have been fully canvassed in the public arena. Firstly as part of the District Plan Review and then as part of the 2016 Review of HPUDS. In both cases this area of land was rejected from being rezoned as it would be premature and pre-emptive of broader planning process, which included a planned review of HPUDS and a 'Master Plan' for the Cape Coast. It is noted that This 'Master Plan' is currently on hold pending the outcome of the Clifton-Tangoio Coastal Strategy which involves direct input from the Hawkes Bay local authorities. Approval of this current proposal ahead of these processes, while considered to be pre-emptive, does not alone warrant public notification of the application given the scale of the subdivision (if approved) in terms of the wider study area.

Given the above it is considered that the proposal does not therefore present any Special Circumstances sufficient to warrant public notification. The site presents no particular features or characteristics that would elevate levels of public significance sufficient to warrant public notification.

## 9.0 RECOMMENDATION ON PUBLIC NOTIFICATION

**It is recommended that pursuant to Section 95A (1) of the Resource Management Act 1991 the application need not be publicly notified as it has been determined that:**

**i) Under Section 95D of the Act the adverse effects of the activity will be no more than minor.**

**ii) Public notification has not been requested by the applicant;**

**iii) There are no rules or national environmental standards that require public notification of the application;**

**iv) No special circumstances exist in relation to the application that would warrant public notification.**

**Recommended by:** **Michelle Hart**
**SENIOR ENVIRONMENTAL PLANNER (CONSENTS)**

**Approved by:**

**Murray Arnold**
**ENVIRONMENTAL CONSENTS MANAGER**
**PLANNING & REGULATORY SERVICES**

**23rd January 2018**

RMA20170355





## 10.0 LIMITED NOTIFICATION (RMA PROVISIONS)

**Section 95B - Limited Notification of Consent Application**

If Council does not publicly notify an application for a resource consent for an activity, it must decide (under Sections 95E and 95F) if there are any affected persons or affected order holders in relation to the activity. Council must give limited notification of the application to:

- *Any affected person unless a rule or national environmental standard precludes limited notification of the application.*
- *Any affected order holder even if a rule or national environmental standard precludes public or limited notification of the application*

**Section 95E - Consent authority decides if person is affected person**

(1) A consent authority must decide that a person is an affected person, in relation to an activity, if the activity's adverse effects on the person **are minor or more than minor** (but are not less than minor).

(2) The consent authority, in making its decision,—

*(a) may disregard an adverse effect of the activity on the person if a rule or national environmental standard permits an activity with that effect; and*

*(b) in the case of a controlled or restricted discretionary activity, must disregard an adverse effect of the activity on the person that does not relate to a matter for which a rule or national environmental standard reserves control or restricts discretion; and*

*(c) must have regard to every relevant statutory acknowledgement made in accordance with an Act specified in Schedule 11.*

(3) Despite anything else in this section, the consent authority must decide that a person is not an affected person if—

*(a) the person has given written approval to the activity and has not withdrawn the approval in a written notice received by the authority before the authority has decided whether there are any affected persons; or*

*(b) it is unreasonable in the circumstances to seek the person's written approval.*

## 11.0 ASSESSMENT (Section 95B)

11.1 Section 95 of the Resource Management Amendment Act now sets out the parameters for forming an opinion on who may be adversely affected by a proposed activity. The test for affected persons is now less stringent insofar as a consent authority must decide that a person is an affected person, in relation to an activity, if the activity's adverse effects on the person **are minor or more than minor** (but are not less than minor) rather than de minimus.

11.2 I have considered the effects of the proposed development and I have undertaken a number of visits to the site and have used these occasions to consider the effects of the proposal. The applicant has submitted the following written approvals with the application. Not all owners registered against PID96672 at 38 Raymond Road have signed an affected person form or stated they have authority to sign on behalf of the other owners or Trust. These are S E Urquhart and H G Urquhart who must therefore be considered potentially affected persons.

| Legal Description | Address | Owners | Council PID |
|---|---|---|---|
| Lot 6 DP 15184 | 18 Raymond Road | Lisa Jane and Jared Fraser Bentley | 57058 |
| LOT 2 DP 28884 LOT 2 DP 27559 | 42 Raymond Road | Endsleigh Cottages (Denis Hardy) | 57057 |
| Lot 2 DP 28790 | 85A Raymond Road | Shammi Datt and Stephen Seque | 95972 |
| Lot 1 DP 28790 | 85 Raymond Road | Michael John de Groot and Charlotte Marie Freeman | 93540 |
| Lot 1 DP 15659 | 92 & 94 Raymond Road | PJ & CA Snijders (Sabel Trustees) | 56998 |
| Lot 1 DP 28884 | 38 Raymond Road* | Rutaua Terence Kereru & Heather Mary Urquhart ( PEM Family Trust) | 96672 |
| Lot 4 DP 411112 | 23 Raymond Road | G& J Welch | 101308 |
| Lot 1 DP 411112 | 61 Raymond Road | JP & CA Williams | 101305 |
| * Not all persons listed against the PID have signed the respective affected person form or stated they have authority to sign on behalf of the other owners or Trust. | | | |

In considering whether any person may be affected, I consider that the following locations require particular assessment. These are:

- Those properties are immediately adjoining and adjacent to the subject site.
- Those properties in the immediate vicinity with views to the subject site (wider environment)

11.3 A map showing the Affected Persons Consents obtained is shown below. Yellow stars indicate written approvals have been provided. Pink stars indicate adjacent sites. The applicants' sites are outlined in Red and labelled with the street number.

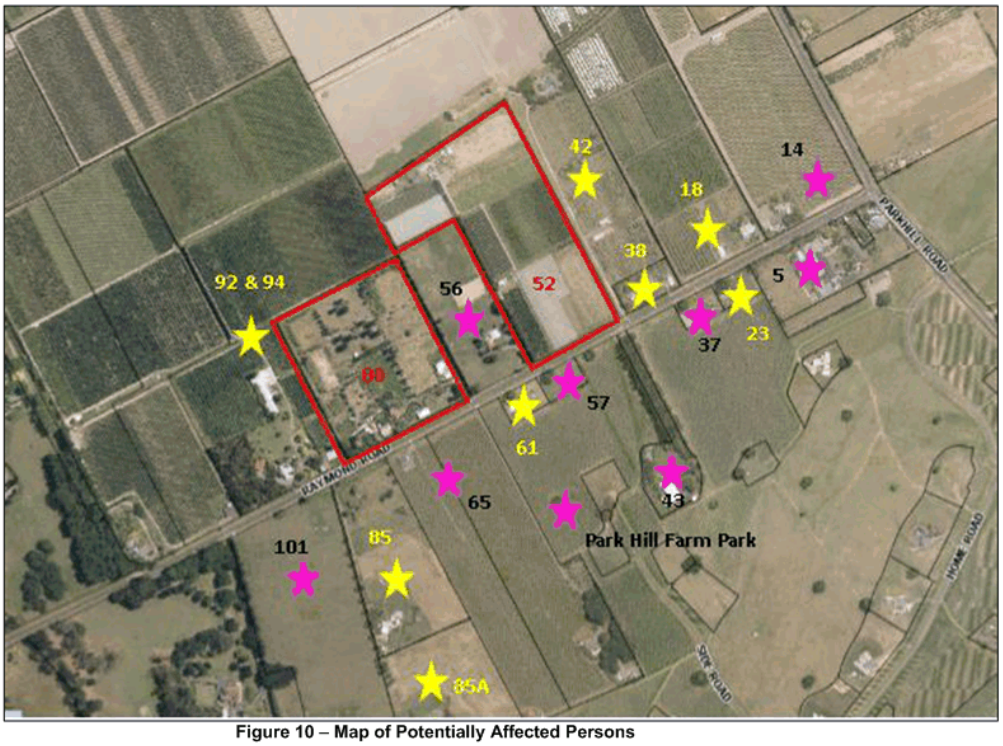


**Figure 10 – Map of Potentially Affected Persons**

11.4 Assessment of Affected Persons

The following assessment considers adverse effects on persons, including not only those who own or occupy the subject site, or those on the land adjacent to the subject site, but any person may be adversely affected. The statutory threshold applied under Section 95E(1) is adverse effects on a person that are minor or greater.

11.4.1 ***Sites physically adjoining the Subject Sites***

**Affected Consents Received**

- 92 & 94 Raymond Road – Lot 1 DP 15659

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

- 42 Raymond Road - LOT 2 DP 28884 LOT 2 DP 27559

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

**Affected Persons Consents Not Obtained**

- 56 Raymond Road - Lot 5 DDP 625

  This property is physically located between 80 and 52 Raymond Road which are the subject sites. On this property is a dwelling and associated accessory buildings. No land based production is evident at the property and therefore is considered to be in effect a lifestyle property. Currently surrounded by two properties, but visually protected from them by shelterbelt plantings on the east and west boundaries , if approved this proposal will increase the density in the immediate vicinity of 56 Raymond Road by creating 5 additional house sites in proximity to the house on this property, two on 80 Raymond Road and three on 52 Raymond Road. The proposed access on 52 Raymond Road will provide access to four additional sites (if approved) creating greater vehicle movements than is currently being experienced. The owners of 56 Raymond Road are therefore considered to be the most affected by this proposal given its location between the two sites subject of this application and the increased traffic movements and density as a result of subsequent additional development.

  While an email received by one of the owners of 56 Raymond Road indicates that they '*have no current plan to oppose the application*' it does say that they did not envisage a having sections around their property. This email cannot be deemed to be an affected persons consent however as it is not on the prescribed form, the plan has not been signed and it is conditional upon the creation of a right of way in their favour.

  It is therefore considered these neighbours will observe a resultant loss of amenity through the increased density and traffic activity such that **a more than minor adverse amenity effect will be experienced**.

- 38 Raymond Road – Lot 1 DP 28884

  Not all owners registered against PID96672 at 38 Raymond Road have signed an affected person form or stated they have authority to sign on behalf of the other owners or Trust. These other persons must therefore be considered and affected person.

Number 38 Raymond Road Frontage - Property to the left/west is 52 Raymond Road

11.4.2 ***Sites on Raymond Road (not adjoining but in the vicinity)***

**Affected Consents Received**

- 18 Raymond Road - Lot 6 DP 15184

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

- 23 Raymond Road - Lot 4 DP 411112

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

- 61 Raymond Road - Lot 1 DP 411112

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

- 85 Raymond Road - Lot 1 DP 28790

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

- 85A Raymond Road - Lot 2 DP 28790

  Written Approval has been provided. Effects can be disregarded pursuant to Section 95E(3)(a)of the RMA.

**Affected Persons Consents Not Obtained**

- 5 Raymond Road – (Haumoana School) SEC 1 SO 392730 PT LOT 1 DP 3814

  Haumoana School is located on the corner of Raymond and Parkhill Roads and approximately 200 metres from the corner of 52 Raymond Road at the closest point. The traffic assessment presented with the application considered safety near the school. The report states that the *road facilities are reasonable well set out to accommodate the school traffic and include;*
  - *A 50kph courtesy zone surrounding the intersection and school reinforced with timber gateways/thresholds*
  - *A defined school zone with red coloured road surfacing 'school;' and triangle school zone markings*
  - *Controlled parking including designated parking spaces and no stopping lines*

- *Shared footpath and cycle facilities.*

The report also states that *the majority of the traffic at peak times will be associated with the school and that the amount of through traffic is likely to be modest. The amount of additional traffic generated by the proposed development will be minimal at peak school times. Furthermore there is no reason to believe that traffic associated with the development will present more of a risk than any other driver's travelling through the site. They are potentially more likely to be more respectful and considerate given their proximity to the school and being part of the community*.

For these reasons I consider that the school will not be adversely affected by the proposed subdivision (if approved).

- 14 Raymond Road - LOT 7 DP 15184

A letter of concern from the owners of 14 Raymond Road was received by Council following the subdivision application having been submitted for consideration. Number 14 is opposite Haumoana School and located on the corner of Raymond Road and Parkhill Road. The concerns raised centred on at the applicants argument that the land is not productive land and state that their property at 14 Raymond Road successfully grows grapes. I note that the AgFirst Report stated '*observation of the surrounding vineyards suggest they are performing well*'. They are also concerned about approval to this subdivision could open the doors to further properties on the northern side of Raymond Road to lodge similar applications. They are seeking that Council stand by its original ruling on this subdivision as made on 2 July 2015 where the applicant sought a rezoning of this area and were subsequently declined.

The owners of 14 Raymond Road have taken the time to express their concerns on the proposed subdivision and while I consider the issues valid, number 14 is located approximately 250 metres from the 52 Raymond Road property and approximately 490 metres from 80 Raymond Road and for this reason I do not consider them to be adversely affected by the subdivision (if approved).

**14 Raymond Road on right of photo – Haumoana School on left Subdivision site 250m down Raymond Road**

- 37 Raymond Road - LOT 3 DP 411112

The property at 37 Raymond Road was established as part of the Parkhill Farm Park development and comprises 0.2512 hectares. On the site is a dwelling and a protected tree in in the front of the site. I consider that any adverse effects of the subdivision on 37 would be limited to amenity, landscape character and traffic. While not directly overlooking 52 Raymond Road the owners will have an oblique view of any subsequent development on the two proposed front sites (proposed Lot 7 and 8) as there is currently no screening on the eastern or southern (front) boundaries of this subject site. Having visited the area however, it appears that the outlook of this dwelling is more directly to the north and south. It is considered however that the character and amenity effects on 37 will **at least be minor.**

**View from 37 Raymond Road across to Lots 7 and 8 (behind street sign)**

It is considered however that number 37 will not be affected by any proposed access onto Raymond Road from the proposed subdivision as this will be approximately 120 metres from the access point for number 37. Furthermore the traffic report concluded that the traffic effects would be no more than minor and this is supported by the Council engineer. It is therefore considered that traffic effects associated with the proposed subdivision on 37 Raymond Road will be **no more than minor.**

- 43 Raymond Road - Lot 1 DP 364852

  The property at 43 Raymond Road comprises 1.0200 hectares. On the site is a dwelling and accessory buildings. The dwelling is accessed from a long access drive and is set back approximately 220 metres from Raymond Road. I consider that any adverse effects of the subdivision on 43 would therefore be limited to traffic and access as the proposed vehicle crossing for proposed Lot 8 will be located approximately 33 metres from the access to number 43. The traffic report submitted with the application concluded that the traffic effects would be no more than minor and this is supported by the Council engineer. It is therefore considered that traffic effects associated with the proposed subdivision on 37 Raymond Road will be **less than minor**.

- 57 Raymond Road - LOT 2 DP 411112

  The property at 57 Raymond Road was established as part of the Parkhill Farm Park development and comprises 0.2600 hectares. The site is currently vacant but is located directly opposite 52 Raymond Road. I consider that any adverse effects of the subdivision on 57 would be limited to amenity, landscape character and traffic and as with the property at 56 Raymond Road, I consider the owners of 57 Raymond Road to be particularly affected by this proposal given its location directly opposite proposed Lots 7 and 8 and the existing vehicle access to 52 Raymond Road and the increased density of built form which will ensue if the subdivision were to be approved. Accordingly there may be **minor or more than minor effects** on this site.

View across to proposed Lot 7 and 8 from 57 Raymond Road

- 65 Raymond Road - Lot 1 & 2 DP 389240

The property at 65 Raymond Road is within the Tuki Tuki Special Character Area and comprised two separate CFR's. One site (3.0009 hectares) contains a dwelling and supplementary residential building and the other (4.4626 hectares) contains a dwelling and supplementary residential building. Both parcels are operated as one unit being planted in grapes. The site is located directly opposite 80 Raymond Road. I consider that any adverse effects of the subdivision on 65 Raymond Road would be limited to amenity, landscape character and traffic. The proposed subdivision of number 80 Raymond Road does not involve significant changes to street scape but will however require a new access onto Raymond Road and this will be located opposite 65 Raymond Road and will require part of the shelter belt to be removed to facilitate this new access.

The shelter belt is very high and dense and apart from a new gap being created no additional vehicle access points are proposed (the exiting vehicle access on the eastern boundary is proposed to be removed). Visually, while the trees/shelterbelt remain, there will be a minor visual change. Should these ever be removed in the future however, the visual effects of the development will be more marked. Although a large portion of the development will not be visible from this site while the shelterbelt remains, the level of development proposed will alter the rural character of the immediate area and may have visual effects that are more than minor on those properties in the immediate vicinity if the development could be viewed as a result of the removal of the shelterbelt. Increased vehicle activity is likely, given the increase in density and resulting vehicle movements as a result of the subdivision being approved. **Accordingly there may be minor or more than minor effects on this site.**

Current view from 65 Raymond Road

- 101 Raymond Road

The property at 101 Raymond Road is within the Tuki Tuki Special Character Area. It is currently grazed and is vacant of residential buildings.

**Taken from Raymond Road**

**Arrow indicates the closest point on 80 Raymond Road viewed at the front boundary of 101**

The property at 101 Raymond Road is located closer to 80 Raymond Road than 52 Raymond Road which is some 340 metres further along Raymond Road. The subdivision of number 80 (if approved) does not propose vacant lots along the front of the site as there are already three residences with frontage on to Raymond Road. It is not likely that any proposed development at 80 Raymond Road could be viewed from the site due the nature of the existing environment and topography of the area. It is considered that 101 Raymond Road is more affected by existing developments at 85 and 85A Raymond Road where each property contains a dwelling and associated accessory buildings. The effect of the proposed subdivision on 101 Raymond Road are considered to be **less than minor**.

- Park Hill Farm Park – Home Road

The Park Hill Farm Park is located within the Rural Residential Zone. The development of the farm park was approved by virtue of a resource consent in 2008. The balance area of the Farmpark (58.6823 hectares) falls opposite mainly 52 Raymond Road. The owners of the small lots forming part of the Farmpark development have either provided written consent or are considered affected parties in terms of this assessment. Lot 52 on the Farmpark is the balance lot and subject to RMA20140085 is not permitted to be further subdivided. The Farmpark is therefore at its optimum density. Given this and there being no other building sites in the vicinity of 80 and 52 Raymond Road, I consider that the Farmpark development will not be adversely affected by the proposed subdivision (if approved).

***Any other Persons***

Given the above, it is considered that any adverse effects would however be limited to those sites immediately adjoining and adjacent to the subject sites. These sites have direct views to the site and any subsequent development.

Other properties in the wider environment are not considered to be adversely affected by the proposal and are not likely to be affected in terms of amenity in a way that can be considered to be minor or more than minor.

11.5 Summary of Limited Notification Assessment

On the basis of the above analysis it has been determined that there are Affected Persons in terms of section 95E of the Resource Management Act 1991.

## 12.0 LIMITED NOTIFICATION DECISION

**For the above reasons and in accordance with Section 95B(2) of the Resource Management Act 1991, it is recommended that the consent authority give limited notification of the application to the following persons:**

| Street Number | Legal Description | Registered Owners |
|---|---|---|
| 65 Raymond Road | Lot 1 & 2 DP 389240 | Alison Margaret McDonald, Mark Lynedoch Graham, John Anthony McAra |
| 56 Raymond Road | Lot 5 DDP 625 | Shelly Jane Bridgeman, Kevin Jaffe & Robert McLean |
| 37 Raymond Road | LOT 3 DP 411112 | Kim Rebecca Alebardi, Michael James Alebardi & Emma Elizabeth Dawson |
| 57 Raymond Road | Lot 2 DP411112 | BvonD Trust Limited, Fiona Myra Gunn & Warren Bruce Gunn |

**In accordance with Section 95B(2) of the Resource Management Act 1991 it is recommended that the consent authority give limited notification of the application in the event the written approvals of the above affected persons cannot be obtained.**

**Recommended by:** **Michelle Hart**
**SENIOR ENVIRONMENTAL PLANNER (CONSENTS)**

**Approved by:**

**Murray Arnold**
**ENVIRONMENTAL CONSENTS MANAGER**
**PLANNING & REGULATORY SERVICES**

**23rd January 2018**

Project No.: 5358

Revision: C
November 2017

# SUBDIVISION CONSENT APPLICATION

**52 and 80 Raymond Road**
**HAUMOANA**

## MAURENBRECHER AND EVANS SUBDIVISION

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| REVISION | | INFORMATION: |
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| **Rev No.** | **Date** | **Revision Details** |
| A | 18/9/17 | Submitted to HDC |
| B | 13/10/17 | Updated to reflect 12 lot scheme plan |
| C | 14/11/17 | Updated to reflect s92 response |
| | | |
| | | |
| *File location:* | | |

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**Disclaimer:**

This report is prepared for A and J Maurenbrecher and D and A Evans, our clients. While all reasonable endeavour has been made to ensure the accuracy of investigations and information contained in this report, Proarch Consultants Limited expressly disclaims any and all liabilities contingent or otherwise that may arise from the use of this information.

## 1 CONTENTS

**APPLICATION FOR RESOURCE CONSENT**

**SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991**

**To: the Hastings District Council**

1. **A and J Maurenbrecher and D and A Evans** apply for the following resource consent:

   ***Subdivision Consent to create twelve lots from two existing titles***

   The proposal is more fully described in the attached AEE and plans which form part of this application.

2. The name of the owners and occupiers of the land to which the application relates are:

   A and J Maurenbrecher, D and H Evans

3. The location of the proposed activity is as follows:

| | |
|---|---|
| **Address:** | **52 and 80 Raymond Road, Haumoana** |
| **Legal Description:** | **Lot 2 DP (HBP4/839) and Lot 50 Deeds Plan 800 (HB80/1)** |
| **Area:** | **6 and 4.6412 hectares respectively** |

4. No other resource consents are considered to be required.

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

6. No other information is required to be included in this application by the District Plan, the Resource Management Act 1991, or any regulations made under that Act.

   The required deposit of $1000 (incl GST) for processing the application is enclosed.

**Proarch Consultants Limited**
On behalf of **A and J Maurenbrecher, D and A Evans**

**Address for Service:**

c/ - Proarch Consultants Ltd
PO Box 1105
**PALMERSTON NORTH 4400**
Attention Lisa Poynton

DDI: (06) 356 9549
Email: lisa@proarch.co.nz

**Address for Billing:**

c/- 52 Raymond Road
RD 10
Hastings 4180

## 1. INTRODUCTION

### 1.1. BACKGROUND AND PURPOSE OF THIS REPORT

The purpose of this report is to provide the Council with the information required in order to obtain resource consent for the proposed subdivision.

Our clients made submissions on the Proposed Hastings District Plan, requesting that the subject sites be rezoned to Rural Residential, to better reflect the characteristics of the site, and in keeping with the zoning on the opposite side of Raymond Road.

The Hearings Panel declined to rezone the site, and an appeal was lodged on the decision.

As an alternative to participating in the appeal process to the Hastings District Plan, it was suggested to our clients that it may be more productive for them to participate in the HPUDS review. The appeal was subsequently withdrawn and our clients and the adjoining neighbour, Endsleigh Cottages Limited, made submissions to HPUDS requesting consideration of the site as a future or reserve area for further development.

Those submissions were considered, and the following recommendation was made by the review panel:

> *"An amendment to this description of Haumoana could be considered if the submissions are considered to have merit. An addition to this could be worded in the following manner to reflect the situation: "There is also an area of approximately 20ha on the corner of Raymond Road/Parkhill Road opposite the Haumoana School on Ruataniwha f soils (also described as Waipukurau 30 soils), free of flooding and coastal hazard restraints that could be suitable for coastal growth choices. This would be subject to further assessment through the proposed Masterplan process to commence after the completion of the Clifton – Tangoio Hazards Strategy.*
>
> *This assessment would include matters such as:*
>
> - *The productive versatility of this area and the Ruataniwha f soil type, and*
> - *Reverse sensitivity with nearby horticultural/viticultural and poultry farm activities.*
> - *Appropriateness in terms of contributing to the Haumoana / Te Awanga development options as part of the HPUDS preferred settlement pattern"*
>
> *Such an approach could provide a reasonable signal to the community and submitters of how this area could be incorporated into a coastal choices context if tested further. There is room to provide this type of acknowledgement of the Raymond Road area within HPUDS, providing a potential housing choice but without committing to a set outcome. Based on the submissions received this area has a number of merits around its soils, topography, position in relation to the adjacent Rural Residential Zone and the settlements of Haumoana and Te Awanga, and could represent sustainable land use management if considered further as an option for low density housing in the future. This approach would enable the landowners at their own cost and risk, to work through the RMA process options available to them. This could be through a Non-Complying Resource Consent for instance (under the current Plains*

*Production Zone) for the 3 properties involved, assessed on its own merits, scrutinised in a much finer and more detailed resource consent approach."*

Given that all three of the Hawke's Bay Councils have approved the review to HPUDS with the amendment described above[1], the Councils have agreed that there is merit in further exploring the suitability of the sites for low density housing.

This application arises out of this recommendation. We note that the Clifton-Tangoio Coastal Strategy was programmed to be completed in 2016, but has yet to be finalised. The Haumoana-Te Awanga Master Plan, despite having been identified for development a number of years, has yet to be programmed for commencement.

## 2. SITE DESCRIPTION

### 2.1. APPLICATION SITE

The application site comprises two certificates of title, separated by another block. Both sites are elevated above the sites to the north by a terrace of between approximately 3.5 and 1.5 metres in elevation. 52 Raymond Road has a drop of 7m over 400m, 80 Raymond road has a drop of 2m over 230m.

52 Raymond Road is legally described as Lot 1 DP 22124 (CFR HBP4/839) and comprises 6 hectares. It contains a dwelling, various shed buildings, part of one containing a shop for retail sale from the site of fresh and frozen berry fruit grown on the site. Approximately 1 hectare of the site is planted in berries and 1.5 hectares is planted in apples. There is a current HBRC water permit for the site, WP040397Ta which is due to be renewed in 2025.

At the rear of the property is a steep terrace bank, which has a vertical drop of some 3-3.5 metres to the site below, meaning that the site is elevated above the apple trees growing on the adjoining site to the north, being 42 Raymond Road.


[1] Napier City Council, Document 344792, 19 April 2017
Hastings District Council, Doucment 17/531, 22 June 2017,
Hawke's Bay Regional Council RC99/17, 28 June 2017

**Figure 1 – Aerial Photograph 52 Raymond Road**

80 Raymond Road is legally described as Lot 50 Deeds Plan 800 (HB80/1) and comprises 4.6412 hectares. It is located on the northern side of Raymond Road and contains a primary dwelling, a secondary dwelling and a visitor accommodation unit. The secondary dwelling has been established on the site since 2000 and visitor accommodation unit was established in 2009. Both of these activities are subject to resource consents from the Hastings District Council (RMA 20000257 and RMA 20090089 respectively). There are two bores on the site which operate under HBRC water permit, WP050187T. There are also a number of shed buildings located on the site. The buildings are all located along the Raymond Road frontage, the remainder of the site is in paddocks, currently used for grazing alpacas. This site is also elevated above the properties to the north due to the terrace feature. The vertical separation is approximately 1.5 metres to the rear of this site.


**Figure 2 – 80 Raymond Road, aerial photograph.**

Surrounding properties to the north are used for production activities – a mixture of apples and viticulture. On the opposite side of the road is the Parkhill Estate Farm park subdivision and rural residential sites. Production land to the south of the site is generally used for viticulture.

Haumoana School and Kindergarten are located on the corner of Parkhill and Raymond Roads, approximately 400 metres from the site. The sites are located within a 2.5km drive/walk to the Haumoana shops, various wineries, a golf course and petting zoo.

The sites are located within the Plains Production zone of the Proposed Hastings District Plan Surrounding sites are a mixture of Plains Production zone to the north, east and west of the sites, and Rural Residential (Parkhill Estate) and Tukituki Special Character Zone to the south.

Source: Proposed Hastings District Plan Zoning Map

## 3. PROPOSAL DESCRIPTION

### 3.1. OVERVIEW

The proposal is to create seventeen sites from the two existing titles. The subdivision may involve some staging, which will be determined at a later date.

### 3.2. PROPOSED SUBDIVISION

The proposal to create a total of twelve sites from the two current titles. six sites are proposed to be created from 80 Raymond Road (Lot 50 Deeds 800) as follows

| | Site Size | Access |
|---|---|---|
| Lot 1 – will contain the existing primary dwelling | 4800m² | Raymond Road |
| Lot 2 – will contain the existing secondary dwelling | 3500m² | Raymond Road |
| Lot 3 – will contain the existing visitor accommodation block | 7000m² | Raymond Road |
| Lot 4 | 3000m² | Right of Way |
| Lot 5 | 6500m² | Right of Way |
| Lot 6 | 2.3 hectares | Right of Way |

Six sites are proposed to be created from 52 Raymond Road (Lot 1 DP 22124) as follows:

| | Site Size | Access |
|---|---|---|
| Lot 7 | 3000m² | Raymond Road frontage |
| Lot 8 | 3000m² | Raymond Road frontage |
| Lot 9 | 1.2 hectares | Accessed via right of way |
| Lot 10 | 1.3 hectares | Accessed via right of way |
| Lot 11 | 1.3 hectares | Accessed via right of way |
| Lot 12 –, will contain existing dwelling and shed/shop buildings | 1. 6 hectares | Accessed via right of way |

**Refer Appendix B for the scheme plan of the proposed development,**

### 3.3. SERVICES

The site is not currently serviced via reticulation. The existing dwellings and the visitor accommodation unit are serviced via bore water for potable water and septic tank for foul water. The disposal field for each of the existing tanks will be located within the respective site boundaries for Lots 1,2, 3 and 12.

Stormwater from the roof area of buildings is directed to the water tanks in the first instance and any overflow goes to ground. It is expected that any future dwellings on the vacant lots will be able to be serviced in a similar manner.

## 4. ACTIVITY STATUS

### 4.1. ZONING AND DISTRICT PLAN NOTATIONS

The application site is zoned Plains Production Zone under the Proposed Hastings District Plan. All appeals relating to the Plains Zone have been resolved, and as such the provisions of the Proposed District Plan will take precedence over the Operative District Plan in relation to this assessment.

### 4.2. ACTIVITY STATUS

As the proposal does not meet the requirements for subdivision under Table 30.1.6B due to the creation of additional sites and no amalgamation of titles occurring, the proposal defaults to a **Non-Complying Activity** under Rule SDL25.

## 5. HASTINGS DISTRICT PLAN ASSESSMENT

The following is an assessment of the proposal in terms of the standards for subdivision in the Plains Zone and the General Subdivision Standards.:

*30.1.7A BUILDING PLATFORMS Each lot in the Rural, Plains Production, Nature Preservation, Te Mata and Tuki Tuki Special Character, and Rural Residential SMA/Zones, which is capable of containing a residential dwelling, shall identify at least one stable building platform of 30 metres by 30 metres which is capable of (but is not limited to) containing a dwelling, a vehicle manoeuvring area and any accessory buildings, in compliance with the Performance Standards and Performance Criteria for the Zone where it is located (Including dwelling setbacks as applicable to that Zone). No part of a building platform shall be located within the National Grid Corridor. Where National Grid Corridor traverses the site, the proposed vehicular accessway to the building platform shall also be identified on the subdivision plan.*

All proposed sites are capable of containing a complying 30m x 30m stable building platform, free of any known natural hazard and outside of the National Grid Corridor.

*30.1.7B WATER SUPPLY Sites for any activity that will require water shall be connected to public reticulated water supply, where such a supply is available.*

*Where the new site will not be connected to a public reticulated water supply, or where an additional level of service is required that exceeds the level of service provided by the reticulated system, the subdivider shall demonstrate how an alternative and satisfactory water supply can be provided to each site.*

Future dwellings on the currently vacant lots will be serviced via tank water and possibly private supply from the existing bores on 52 and 80 Raymond Road in the short term. Our clients have consulted with the Ministry of Health and are aware of the requirements for public water supplies.

Council's Water Supply Engineer Dylan Stujit has indicated that reticulated water supply may be available to service the site within two years under a proposed extension to the Haumoana Reticulation scheme. Our clients would seek to connect to the reticulated water network if it became available, subject to cost and feasibility.

*30.1.7C WASTEWATER DISPOSAL Sites for any activity that will create wastewater shall be connected to a public reticulated wastewater disposal system, where one is available. Where the new site will not be connected to a public reticulated sewerage system, or where an additional level of service is required that exceeds the level of service provided by the reticulated systems, the subdivider shall demonstrate how an alternative and satisfactory method of wastewater disposal can be provided for each site. Note: It is important to note that performance standard 30.1.7C does not replace Regional rules which control the collection, treatment and disposal of wastewater to land or water. These rules must be complied with prior to the activity proceeding.*

No reticulated services are available to the site. The existing dwellings are serviced by septic tanks. The disposal fields will all be located within the respective site boundaries.

All sites meet the minimum site size requirements for on-site effluent disposal under the Hawke's Bay Regional Resource Management Plan.

*30.1.7D STORMWATER DISPOSAL Sites for any activity that will create stormwater shall be connected to a public stormwater disposal system, where one is available, except where an additional level of service is required that exceeds the level of service available from public reticulated stormwater systems, this shall be provided by the subdivider. Where the new site will not be connected to a pubic reticulated stormwater disposal system, the subdivider shall demonstrate how an alternative and satisfactory method of disposal for each site can be provided. Note: Stormwater attenuation standards apply to land use in each of the Residential and Commercial SMA/Zones. Note: It is important to note that performance standard 30.1.7D does not replace regional rules which control collection, treatment and disposal of stormwater to land or water. These rules must be complied with prior to the activity proceeding.*

All new dwellings will be connected to water tanks, which will provide stormwater attenuation for any impermeable site area.

30.1.7E PROPERTY ACCESS 1. Activities shall comply with the provisions of Section 26.1 Transport and Parking, except for eco-residential lifestyle sites in the Nature Preservation Zone: Cape Kidnappers Building and Infrastructure Development Nodes shown on Appendix 23: Figure 1 where appropriate Transport and Parking requirements will be assessed and defined through Site Performance Standard 30.1.7S and the specific assessment criteria process set out in Rule 30.1.8.2(18).

Accesses have been rationalised to ensure that any lots fronting Raymond Road will have their own separate crossings, and any rear lots will be serviced via shared rights of way. Rights of way will all serve between three and four households, so will have a minimum width of 6 metres in accordance with standard 26.1.6.1-1 Rural – Residential and Home Occupation standard. The sites are flat, so the grade requirements can be met. All vehicle crossings will have the required sightlines.

*30.1.8.1 GENERAL ASSESSMENT CRITERIA*

*1. Structure Plans Council will have regard to any approved Structure Plan for an Urban Development Area (as identified in Appendices 11, 12, 13, 14 and 15), the Irongate Industrial Area (as identified in Appendix 16), or the Omahu North Industrial Area (as identified in Appendix 17) and any other approved Structure Plan (including Appendices 18, 19, 21, 22, and 23) in regard to the placement of roads, infrastructural elements, reserves and other identified amenity elements. Subdividers and/or developers will be expected to address how the outcomes proposed in any Structure Plan will be achieved by their proposals. If a road, infrastructural elements, reserves and other identified elements have already been provided by another approved subdivision or development and vested in Council, then the need to provide these will not be necessary.*

The site is not located in an area that is subject to an approved Structure Plan.

*2. Subdivision Design*

*There are six key elements to the design of subdivisions that the Council focuses its assessment around. These are described below. Guidance on the application of these design*

*elements can be found in the document Subdivision and Infrastructure Development in Hastings: Best Practice Design Guide (Best Practice Design Guide). http://www.hastingsdc.govt.nz/files/all/documents/infrastructure/engineering-cop/bestpractice-design-guide.pdf Council will have regard to whether subdivision applications can successfully implement each of the six key elements, listed (a) to (f) as follows (and improve upon the minimum structure plan requirements for urban development areas where practical):*

*(a) Connectivity The creation of direct connections between roads and pathways increases the number of routes and transport mode choices available. This is an important component of creating a walkable neighbourhood. By creating a dense network of interconnecting roads, travel distances and times to shops, bus stops, schools, employment and other amenities can be reduced. Poor connections (i.e. the predominance of dead end cul-de-sacs) result in greater travel costs and higher vehicle emissions. See Section D1 (Connectivity) of the abovementioned Best Practice Design Guide.*

No new roads will be created as part of the subdivision. The subdivision will have access onto Raymond Road and will be integrated into the existing roading system through either direct road access or via right of way.

*(b) Street, Block and Site Orientation The layout and design of streets, the size of blocks and orientation of sites within a subdivision will influence the quality and attractiveness of the development and its surrounding area (and thus the value and demand of the development). Primarily the layout of subdivisions should integrate and retain the existing topography and landscape features of a site. Residential streets should follow a north-south axis as much as natural features allow so that sites can be orientated east-west to maximise the amount of sunlight a dwelling will receive. Typically, 80-100m grid block spacing creates an easily walkable neighbourhood, providing a choice of routes for pedestrians, cyclists and vehicles. Refer Section D2 (Street and Block Orientation) of the Best Practice Design Guide.*

The sites will all have of sufficient size to allow any future dwelling to maximise solar gain by orienting internal and external living spaces to the north, east or west. The sites will be integrated into the existing site development, and will take advantage of existing mature landscaping in the case of 80 Raymond Road. The existing shelter plantings on 52 Raymond Road will be removed in order to improve views from properties on the opposite side of Raymond Road, and will be replaced with amenity planting areas on each of the proposed lots, which will comprise a mixture of specimen trees, shrubs and low planting.

*(c) Variation in lot size and shape allows for greater range of house types which meets the needs of a wider proportion of the community and provides interesting and attractive urban landscapes. It also means development appeal to a wider range of potential purchasers. The number of right of ways, access lots and vehicle crossings can have an impact on the character of the streetscape and safety of pedestrians and cyclists. Rear sites with no street frontage can create issues in terms of privacy as the public front or entrance to a site abuts the rear private area of neighbouring sites and therefore reduces privacy. Sites that front or overlook the street improve visibility of the pedestrian*

*environment and the overall safety and amenity of the streetscape. Refer Section D3 (Lot Design) of the Best Practice Design Guide.*

The subdivision will include smaller sites suitable for containing a dwelling and large yard, along with larger sites which may be suitable for small scale production or livestock rearing. Smaller sites will be created along the site frontages of Raymond Road, to minimise the number of rear sites.

(d) *Public Open Space Design*
*The placement and integration of public open spaces within a subdivision are one of the most important elements to the long term success of a development. Public open spaces in prominent locations can provide a high level of amenity and character that add significant value to the development and a focal point for the neighbourhood in general. Refer Section D4 (Open Space Design) of the Best Practice Design Guide.*

As a lifestyle subdivision, the proposal does not specifically provide for public open space.

(e) *Stormwater Management Low impact design solutions for stormwater management can reduce construction costs, long term maintenance costs and future development pressure on existing stormwater infrastructure. Low impact design promotes at source treatment of stormwater runoff and involves infiltration of stormwater via swales, rain gardens and tree pits, the use of porous or pervious surfaces and in some cases the provision of rain tanks. Low impact stormwater design can add value and a point of difference to developments and enhance local amenity and ecology. When combined with appropriate street design and landscaping and/or the development of public open space areas, it can achieve multiple outcomes for the benefit of the subdivider, the community and the environment. Refer Section D5 (Stormwater Management) of the Best Practice Design Guide. At building stage most development will have to calculate the amount of runoff resulting from the activity, which may require on-site attenuation. Implementing low impact stormwater design through subdivision can assist in more easily meeting stormwater requirements at building stage.*

It is anticipated that all dwellings will have a water tank installed to provide an alternative water source and stormwater attenuation.

(f) *Road/Street Design Street design is about much more than just providing good roads for vehicles – it is also about creating quality places, liveable neighbourhoods and sustainable communities. Considering the range of functions a street provides, the time spent on planning and design maximises the potential to create great streets that function well and contribute to quality of life. Great street design can also add significant value to developments and plays an important role in establishing and maintaining a subdivision's identity and character. Refer Section E (Road Design) of the Best Practice Design Guide.*

No new roads are proposed as a result of the subdivision, however the rights of way within the subdivision may be provided with sufficient width to become future roads should Council deem this appropriate.

*3. Property Access*

*Council will have regard to the following:*

*(i) The design and construction of roads, with reference to the Council's District Transport Hierarchy (see Section 2.5 of the District Plan on Transportation and the Road Hierarchy Maps in the District Planning Maps and the guidelines (c) Site or Lot Design*

*(ii) The provision, location and design of access for vehicles, pedestrians and cyclists.*

*(iii) The design of the subdivision to accommodate the provision of roads identified as being required in the Council's District Transport network strategies.*

*(iv) The vesting of roads in the Hastings District Council.*

*(v) The requirements of New Zealand Transport Agency (NZTA) and Part IV of the Government Roading Powers Act 1989 with regard to vehicle entrances onto State Highways.*

*(vi) How the proposed subdivision may be related to the resubdivision or development of adjoining land and the ability for optimum development for all the land concerned to be realised.*

The proposed subdivision will continue to utilise existing crossings as far as possible, seeks to rationalise the number of crossings onto Raymond Road through the use of shared rights of way which will be formed to the standard required under the District Plan. The subdivision has been subject to a traffic assessment by Manawatu Traffic and Transportation Limited which is included at Appendix E and forms part of this application. That report confirmed that the original seventeen lot subdivision would not give rise to any significant effects in terms of roading, this proposal incorporates less sites so would have even less effects.

*4. Water Supply, Wastewater Disposal, Stormwater Disposal Council will have regard to the following:*

*(i) The location of reticulation facilities to allow suitable servicing of the sites and reasonable access for the maintenance of the facilities.*

*(ii) The need for a local purpose reserve to be set aside and vested in Council as a site for any public water supply, sanitary sewage disposal or stormwater disposal* facility required to be provided.

*(iii) When the site is not proposed to be connected to a public water supply, the ability for the site to effectively and efficiently meet fire-fighting requirements and the ability to show how the site will be serviced by a water supply for which consent has been obtained (as a Permitted or Controlled Activity) from the Hawkes Bay Regional Council.*

Rule 54 of the Regional Resource Management Plan allows for water takes of up to 20m$^3$ per day as a permitted activity. Water supply for the additional dwellings, including fire fighting water supply is expected to be able to be supplied from the two existing bores within the bounds of this requirement, and supplemented by tank supply where required..

*(iv) When the site is not proposed to be connected to a public wastewater system or public stormwater solution, how the site will be serviced by an on-site wastewater*

*treatment system or stormwater treatment and disposal system that will cause no environmental contamination on or beyond the site.*

All sites will meet the 2500m$^2$ minimum site size for primary treatment only under Rule 38 of the RRMP. Wastewater disposal can be provided in compliance with the requirements of this rule via underground trenches or raised beds as appropriate.

*(v) The use of low impact design solutions to collect and dispose of stormwater on site.*

It is expected that water tanks will be installed for all new houses. These will be used for stormwater detention, which may be used for either domestic supply or garden use as required.

*5. Natural Hazards*

*The Council will have regard to the following assessment matters: (i) Whether the land, or any potential structure on that land, will be subject to material damage by erosion, falling debris, subsidence, slippage or inundation from any source.*

*(ii) Whether there are any methods/measures available to overcome or reduce the risk of any hazard(s), and whether these methods/measures may have any significant adverse effects on the environment.*

The sites are not known to be subject to any flooding hazard. The sites are over 1km from the coast and are outside the Coastal Hazard Zones, as shown below.

Source: Hawke's Bay Regional Coastal Plan Map 117

The sites are free of the Distant Source Tsunami Inundation Area and only small parts of 52 Raymond Road are shown as being subject to the Near Source Tsunami Inundation areas. Given that 52 Raymond Road is located entirely on the upper terrace area and is on the more elevated part of the terrace – some 3-3.5 metres above the land immediately to the north that is potentially subject to inundation. The notation may arise out of the accuracy of the map plotting rather than any actual likely inundation threat. Regardless, the notation only affects a very small part of proposed Lot 11. Any future dwelling would be located clear of the inundation area due to the minimum yard setback requirements.


Source: www.hbhazards.intramaps.co.nz

The sites are not known to contain any active faultlines.


Source: www.hbhazards.intramaps.co.nz

The sites have been assessed as having a low likelihood of liquefaction


Source: www.hbhazards.intramaps.co.nz

There is no known flooding risk for the sites and the sites are not locate in an area where there are known issues with slipping or subsidence.

The sites are considered to be at a low risk of all known natural hazards, and as such subdivision of the sites should not be precluded on this basis. On this basis the requirements of Section 106 of the Resource Management Act in relation to natural hazards are satisfied.

*6. Building Platforms Council will have regard to the following:*

*(i) The local ground conditions and suitability of the site for a building, and whether development on the site should be restricted to parts of the site.*

*(ii) Where a parcel of land may be subject to inundation, whether there is a need to establish minimum floor heights for buildings in order to mitigate potential damage to them.*

*(iii) The protection of any listed waahi tapu or heritage item.*

*(iv) The potential for reverse sensitivity issues where building platforms are proposed to be located within close proximity to existing or Consented Network Utility or Renewable Electricity Generation Activities.*

There are no known reasons why the ground conditions would restrict development on any part of the site. There are no known waahi tapu or heritage items on the site, nor are there any network utility or renewable energy generation activities in the vicinity which would affect development on the site. There are no known reasons why development in any part of the site should be restricted.

*7. Esplanade Areas (Reserves and Strips)*

*8. Access Strips*

As the sites are not located along a waterway or any public land so no esplanade reserves or strips or access strips are required.

*9. General Council will have regard to the following: (i) The necessity for control over other aspects of works associated with the subdivision, including commencement, completion, bonding, damage liability, insurance, maintenance requirements and certification of compliance.*

*(ii) Requirements for the provision of fencing adjoining public land, including pedestrian access-ways, service lanes and roads.*

Fencing of public land will not be required as a result of the subdivision.

*(iii) The creation of easements in favour of the Council for public services.*

No such easement will be required.

*(iv) The design standards and guidelines in the Hastings District Council's Subdivision and Infrastructure Development in Hastings: Best Practice Design Guide.*

*(v) The landscaping of property access on the site, road reserves and drainage reserves (e.g. tree planting).*

*(vi) The design, location, extent and construction of any earthworks associated with the subdivision and development of the land. Where earthworks are proposed, assessment of the application with the relevant Earthworks, Mineral, Aggregate and Hydrocarbon Extraction assessment criteria in Section 27.1 will be required.*

The only earthworks required will be those to form building platforms and rights of way/access.

*(vii) Any potential cumulative effects that may occur as a result of the subdivision.*

In terms of cumulative effects, the proposal will involve the removal of approximately 7 additional hectares of poorly draining Class 3e soils from production – taking into account the existing buildings and curtileges. Given that only 1.5 hectares of the 10.6 hectare total site area is currently in production due to the difficult growing conditions on the site, this is a minor effect.

The sites as they stand are unlikely to be attractive to larger operators for productive use. The proliferation and placement of existing residential buildings means that even amalgamated sites on the upper terrace would be a difficult proposition for productive purposes, given that cropping land will require separation from existing dwellings. .

*(viii) Potential constraints to the development of the site such as the National Grid Corridor or stormwater drains, and the ability for any resulting adverse effects to be avoided, remedied or mitigated.*

*(ix) The potential effects from a proposed subdivision or development of land on the safe and efficient operation of network utilities.*

The proposed subdivision will not have an adverse effect on the operation of any existing network utilities or services. The site is not known to be subject to any particular setbacks

*(x) The provision of electricity to the site boundary for any Urban Zone (Residential, Industrial or Commercial Zones), to be confirmed by the Electricity Network Utility/ Unison Networks Limited as a condition of consent.*

*(xi) Consideration to the potential effects on the principles of the Treaty of Waitangi or any sites or taonga of significance to Maori*

The site is not known to contain any waahi tapu or archaeological sites. The proposal will not have any adverse effects on any waterways. Our clients would be amenable to an accidental discovery clause being applied as a consent noticed condition in relation to the additional sites to be created.

*30.1.8.2*

*11. Plains Lifestyle Sites*

*(a) Maximum area exceeded Council will have regard to whether one or more of the following factors apply in deciding whether the use of an area of land greater than 5000m2 for a lifestyle site is appropriate:*

*(i) Enabling the minimum yard requirements for Plains Lifestyle Lots to be met.*

*(ii) Position of topographical features such as rivers, drains, hills, terraces or roads forming physical boundaries for the lifestyle site.*

*(iii) Site configuration, where due to the shape of the site before subdivision the excess land incorporated with the lifestyle site could not be effectively utilised as part of the amalgamated balance.*

*(iv) Provision for the continued utilisation of existing accessory buildings, gardens and other facilities such as effluent fields, water supply points or accessways relating to the house.*

In relation to Lot 12, criterion (iv) is certainly relevant. The existing berry plantation will be included with the house site. This size of operation will be able to provide some retirement income for the Maurenbrechers, and will allow for the continuation of their existing activities.

Lots 9,10 and 11 have been designed to accommodate similar small scale growing operations and to take in the remainder of the Class II soils on the site.

Lots 3, 5 and 6 have been devised to reflect the current site configuration and paddock layout. Lots 5 and 6 have been increased in size from the original proposal to allow sufficient setbacks from the orchard on the adjoining site to ensure that there are minimal effects in relation to reverse sensitivity from spray drift.

*(v) Soil quality, where the soil of the land incorporated with the lifestyle site is not identified as Class I or II (as defined in the New Zealand Land Resource Inventory Worksheets) and is of a lesser quality than the soil of the amalgamated balance.*

The limited productive potential of the Waipukurau soils (Class IIIe) which are found over the majority of the site are well documented and discussed further in Section 6 below.

*(vi) Provision for buffer areas (greater than the minimum yard requirements) to mitigate reverse sensitivity effects where specific site characteristics and the nature of adjoining land uses are likely to generate the potential for complaints about adjoining land based primary production activities.*

All of the oversized sites are located in the northern part of the site, where larger sites will allow for additional setbacks from the adjoining productive land, as an additional means to mitigate against any future potential for reverse sensitivity effects.

## 6. ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

### 6.1. DIRECTION FROM HPUDS REVIEW

The Direction in the HPUDS review wording was to consider the suitability of the site for more intensive development in terms of:

- *The productive versatility of this area and the Ruataniwha f soil type, and*
- *Reverse sensitivity with nearby horticultural/viticultural and poultry farm activities.*
- *Appropriateness in terms of contributing to the Haumoana / Te Awanga development options as part of the HPUDS preferred settlement pattern"*

These will form the basis of the assessment of effects and will be considered in turn below:

### 6.2. REVERSE SENSITIVITY

***Existing Intensive Production Sites***

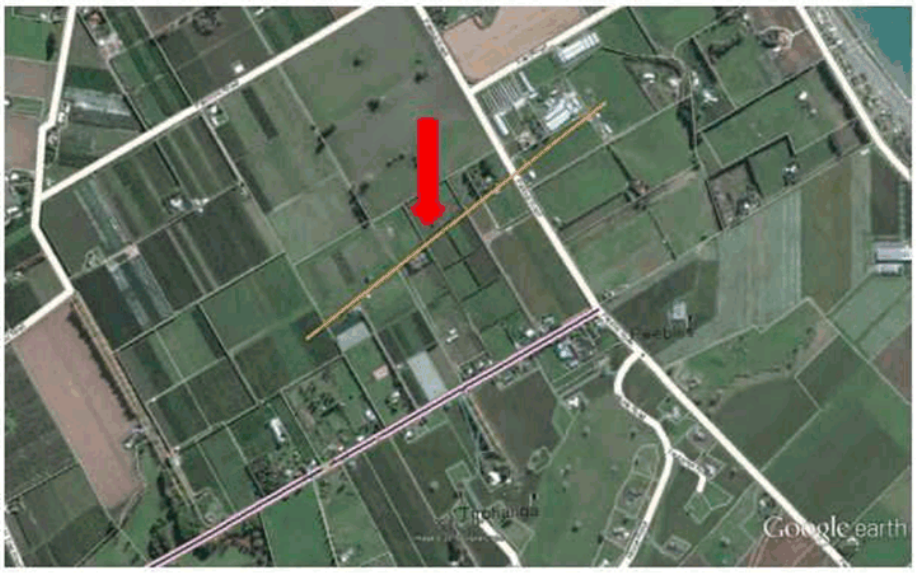
There are two existing poultry farms on the corner of East and Parkhill Roads, as shown in the aerial photograph below.

The District Plan restricts new residential development within 400 metres of known intensive production sites, including poultry farms via rule PP26. The sites are located over 400 metres from the closest point of the poultry farm properties, as illustrated below. Our clients do not report any bothersome odours or other effects related to the poultry farm operations, nor have they logged any such complaints with the Council. Given that the sites are outside of the required setback distance, and any future dwellings will be required to meet the 15 metre minimum setback under performance standard 6.2.5B(1)(b). The likelihood of reverse sensitivity effects in relation to those sites is low.


Source: Hastings District Council Intramaps

***Productive Uses on Adjoining Sites***

In relation to productive activities on adjoining sites, the right to farm is recognised. The sites are separated vertically from the productive land to the north of the site by a terrace with approximately 1.5-3.5 m vertical separation from the adjoining sites. This separation naturally restricts the amount of spray drift that is experienced at the properties, and geological feature that is unique to the sites on the northern part of Raymond Road as shown in the diagram below:




Source: Endsleigh Cottages submission 16 to the HPUDS review

Our clients wish to be proactive in terms of opening up a dialogue between local producers and residents, and propose to establish a working group who will meet regularly (monthly meetings are suggested to start with) to discuss and attempt to resolve any issues between local growers and residents. This approach is intended to lessen the number of complaints to Council by opening the channels of communication and understanding between the parties. The working group will also allow for parties to agree to solutions to any issues.

Performance Standard 30.1.7N (b) of the Proposed District Plan which requires a no complaints covenant to be registered on the titles to issue for the Parkhill Farm Park subdivision as follows :

> *"Any sites created by subdivision within the Raymond & Parkhill Road Rural Residential Zone are required to have a restrictive covenant registered against the certificate of title(s) acknowledging the operation of agriculture, horticulture and viticulture on land in the vicinity and requiring the owner and subsequent owners, not to bring any proceedings for damages, negligence, nuisance, trespass or interference arising from the reasonable and responsible use of lands in the vicinity for such operations, so long as those operations are carried out in accordance with relevant District Plan provisions, or those of any replacement Plan."*

As a further means of ensuring that the right of productive sites within the vicinity is preserved, the same covenant can be applied in this situation, and our clients would be amenable to a condition of consent to require the same. Given that frost fans operate within the vicinity, an additional clause should be added to specifically preserve the right to use frost fans.

The Maurenbrechers note that their ability to make productive use of their sites at present is made more difficult by reverse sensitivity effects from adjoining land uses. They find that the road reserve in front of the site coupled with the flat contour of the land does not sufficiently

allow for a sufficiently wide buffer area to prevent spray drifting onto sites on the opposite side of the road. Spraying in the part of the site along the Raymond Road frontage would have to be timed around school pick up and drop off times due to the increase in foot traffic that has come with more families moving into the area.

The proposal will limit the current reverse sensitivity experienced at 52 Raymond Road and will be able to mitigate the potential for reverse sensitivity effects in relation to surrounding sites.

### 6.3. LIMITATIONS OF RUATANIWHA F (WAIPUKURAU 30) SOILS

The soil type on the majority of both of the subject sites is Ruataniwha f (Waipukurau 30) soil, which is classified as Class 3e soil with limited drainage. The map below shows the soil classification for the sites:


Source: Hawkes Bay Regional Council Intramaps

A report has been commissioned from Fruition to describe the limitations of the soils that cover the majority of the sites. This has previously been supplied to Council but is attached again to this application as part of **Appendix C**

The report summary sets out the significant limitations of the soil and states:

> *"The area under consideration is classified as a Waipukurau (HBRC soil maps) or Ruataniwha f (landcare) soil type.*
>
> *This terraced area of higher elevation has a shallow subsurface and relatively impermeable pan which causes perching of water and creates poor drainage. This poor drainage, limited aeration, moderate to slow permeability, high soil structure and waterlogging vulnerability significantly limits its suitability for horticulture.*
>
> *Resulting low productivity and episodic plant mortality prevents viable and reliable income to be generated from most crops grown on this land. Mitigation treatments such as deep ripping of the pan and installation of tile drainage at standard spacings do not generally fully ameliorate soil conditions to allow economically acceptable levels of plant growth and productivity. The significant constraints of this area and consequent low versatility combine to give it a low sustainable productive capacity.*
>
> *As a result, the area under consideration appears to be outside the criteria normally considered horticulturally suitable as defined by Land Use Capability Classes (MPI)."*

Our clients have had a long association with the land, having owned the sites for 24 years in the case of the Maurenbrechers and 18 years in the case of the Evans. The constraints of the soils are well known to them and their adjoining neighbours who are on the same soil types. Advice has been sought from horticultural experts at various times during their ownership of the site in order to maximise profitability and yield of various crop, to little avail.

In the 24 years that the Maurenbrechers have owned the site, they have grown kiwifruit, apples, boysenberries and raspberries on the site. Kiwifruit were not suitable crops due to their intolerance to waterlogging, and the apple trees do not produce high enough yields to be attractive to buyers. This combined with the deregulation of the apple market has meant that they are uneconomic. The change in market conditions and the unreliable growing conditions has meant that currently only the raspberries provide a hobby income, from 1.3 hectares on the site, due to being able to command a premium price for fresh berries at the gate. Larger berry growing operations on the site are not economic due to the cost and unreliability of the soil treatment required ('ripping' the pan to create mole drains). Even when expensive soil treatments have been undertaken, these are not generally permanent as the nature of the soil is such that over time it may revert to its original condition, and new drains are required to be ripped at great expense. Larger crop areas produce more fruit than the fresh, 'at the gate market' requires so a larger market that will buy in bulk when fruit comes into season must be secured. Larger yields require a regular market to prevent waste. Local entities that buy berries in larger quantities will only pay jam grade prices for premium fruit, making it uneconomic to crop larger areas of the site.

Aerial photographs included in the Detailed Site Assessment for the site show that prior to the Maurenbrechers owning the site, the property was in pasture only back until the earliest photographs. This indicates that the limitations of the soil may have been apparent for some time.

This shows that ability for the soils to be able to support some crops, however limited, does not necessarily translate into it being economically sustainable or viable. This reality was well summed up in Chris Keenan's submission to the Horizons One Plan on behalf of Horticulture New Zealand:

> *"An underlying premise is that the soil resource contributes to the wellbeing of the region. While that may, in essence, be correct, the statement fails to recognise that there needs to be a production system to enable wellbeing to be created. The growers and their operations are that production system, without which the soil resource would not be able to be utilised to create benefits for the district. That production system requires many components, not just suitable soil. A sole focus on soil means that all landowners with so-called 'versatile soils' are locked into a type of production system that may be neither possible, reasonable or economic"*
>
> *Source: Chris Keenan – 2009 submission on behalf of Horitculture New Zealand to the Horizons One Plan"*

80 Raymond Road is not currently used for any sort of horticultural production. The site contained an apple and apricot orchard at the rear of the site 2003 has been put into horse paddocks in recent years.

The Waipukurau Soils are shown as 3e2 on the map below, and are only found in the immediate vicinity of the site, with two smaller seams to the south, between the site and Clifton.

We note that the majority of the remainder of the seam of Waipukurau soils in the vicinity are not zoned Plains Production. The East Road subdivision area and Parkhill Estate are located over the same soils.

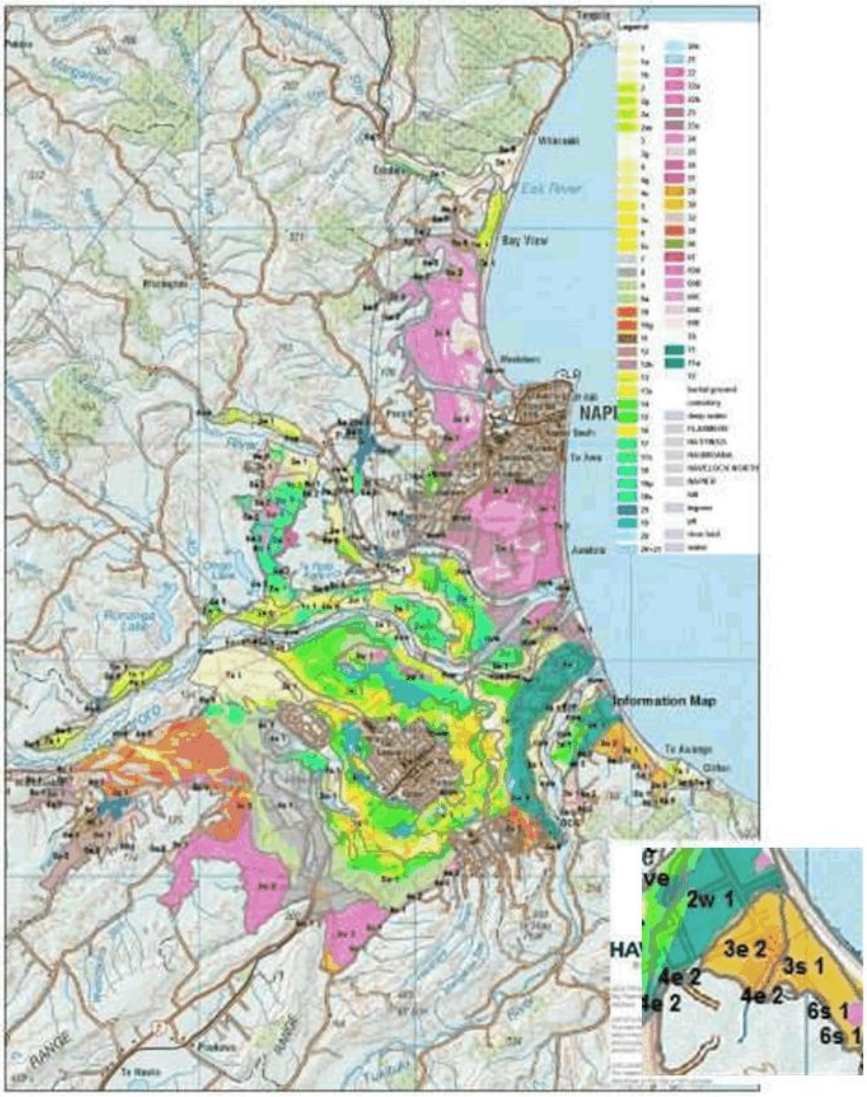
The limitations of the soil typology on the site have been noted before in various Council documents. The decision on the Parkill Rezoning included the following statement:

> "1. Although the site is capable of being productive, it does not necessarily follow that it requires the protection accorded to the generally elite soils of the Plains Zone."[2]

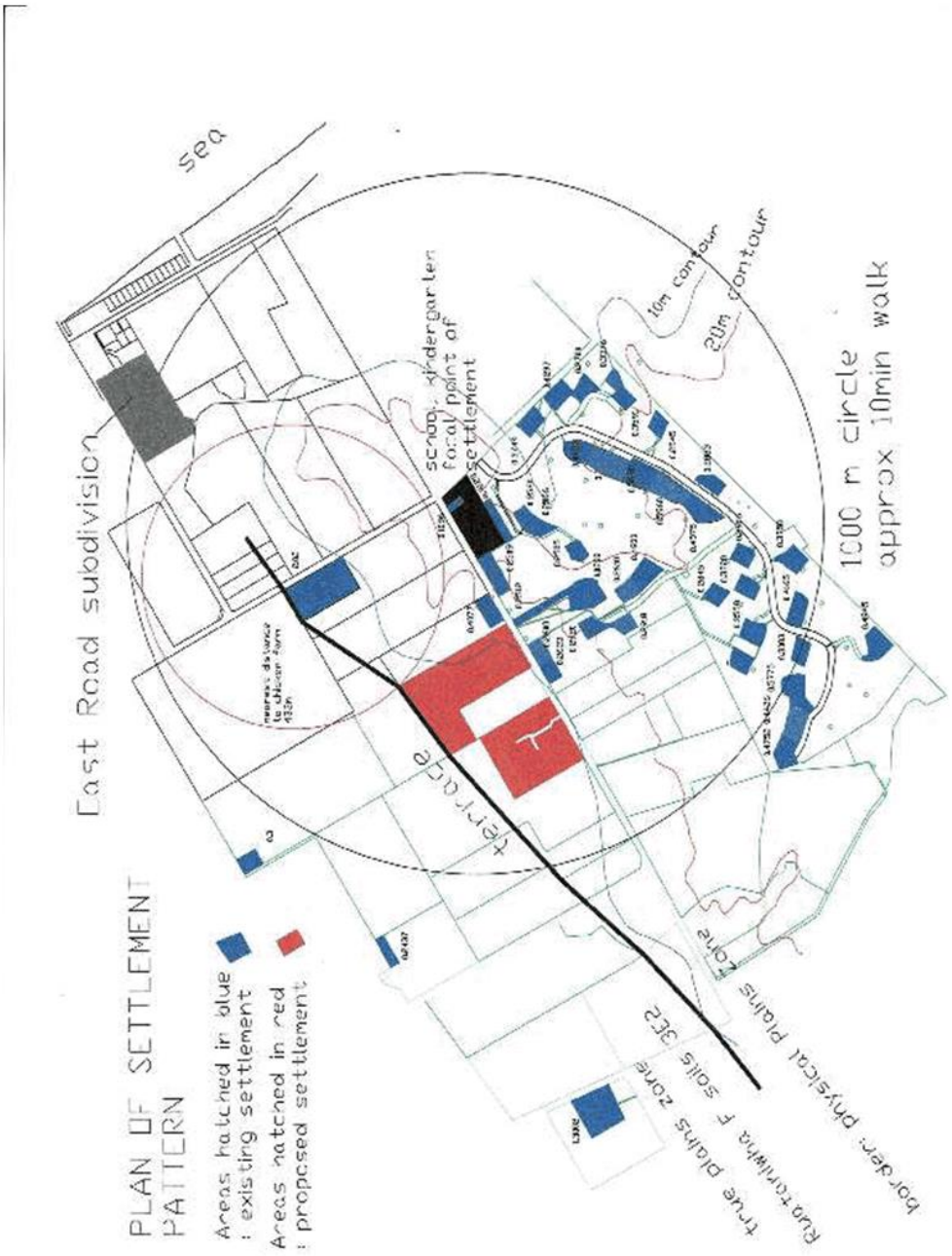
This further illustrates that the current zoning of the site is out of step with the actual productive capability of the site.

We are advised that during the hearing on the Proposed Hastings District Plan that the sites were noted as being unlikely to be attractive for grape growing due to their small sizes individually, and the proliferation of existing buildings making amalgamation into suitable sites unlikely. Current market conditions and land values are only adding to this, as increasing land values affect potential returns. Two of the smaller sites within the vicinity have sold for approximately double their Rateable Value within the past year.

[2] Hastings District Council RMA 20050586 – Final Decision of Hearings Committee Decision 4, Reason 1, Page 2 (on property File 99397 document 147)




Source: Page Bloomer Associates, 2011 "Versatile Soils – Productive Land: A report for Hawke's Bay Regional Council, 14 June 2011 (Reproduced at full size in **Appendix C**)




PLAN OF SETTLEMENT PATTERN

### 6.4 Suitability of the Site in Terms of Future Growth for Haumoana/Te Awanga

The subject land is in very close proximity to the Parkhill development, Haumoana School and, kindergarten and public amenities. As the preceding diagram indicates, the proposed subdivision will support development with the School and Kindergarten as the focal point of the settlement. The site is adjacent to the Parkhill Estate subdivision, which includes 36 rural-residential sites. All sites within that subdivision have now been sold, and the majority have been developed for rural residential dwellings. The East Road development area, which is the residential extension to Haumoana is located within 1.8km of the site. Additional, small scale lifestyle development in this area will dove-tail with the pattern of development as already established in this area.

It is a highly desirable location. This area of land is located away from the main areas of Te-Awanga and Haumoana where a structure plan is more appropriate to a more intensive coastal residential development pattern. In this instance the subject land can be developed from the existing roading network and serviced by onsite infrastructure, however in the event that infrastructure becomes available to the sites, connection to the systems may be considered.

The HPUDS document includes the following criteria for assessing future growth areas proposed through subdivision, which will be used to guide the assessment of this site in terms of its suitability for greenfield lifestyle subdivision"

> *3.2.1 Process for Introducing Additional Greenfield Growth Areas*
>
> *A landholder might choose to promote a residential development through a subdivision consent or land use consent application on land not identified in HPUDS, rather than via a plan change. In such circumstances, consent authorities are required to have particular regard to the same criteria to which a rezoning assessment would consider. Those criteria are outlined below. All greenfield growth areas, other than those areas already deemed appropriate in Section 2.2.2 of this Strategy, will be assessed against the criteria listed below:*

a) Must form an extension contiguous with existing urban areas and settlements.

The site is directly opposite the Parkhill subdivision, a rural residential settlement and will consolidate the pattern of development that has the school and kindergarten as a focal point.

b) Land is identified as having low versatility, and/or productive capacity has been compromised by:

i. Size and shape of land parcels that mitigates against productive use;

ii. Surrounding land uses and reverse sensitivity;

iii. Lack of water and/or poor drainage

The limitations of Ruataniwha f/Waipukurau soils and the constrained productive capacity of the site is set out above, including the poor drainage characteristics. The properties are not of a size that allows for economically viable productive use, the nature of the current land tenure and dispersal of residential dwellings on surrounding sites and increasing property values decrease the likelihood of any amalgamated site being attractive for productive use. The

topographic features of the site provide a logical boundary for development and in concert with building setbacks and no complaints covenants can be used to mitigate reverse sensitivity.

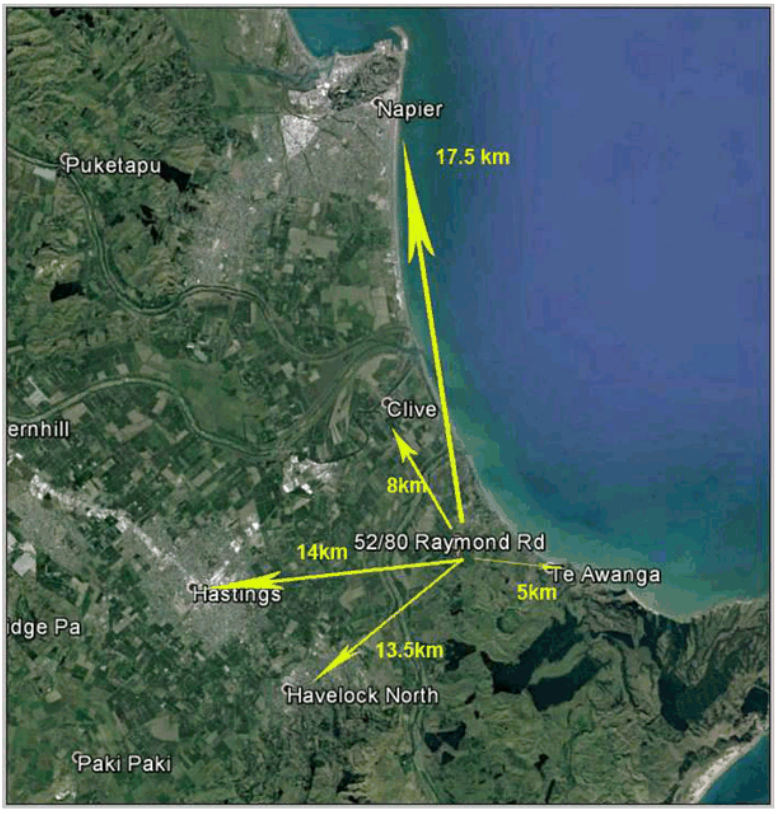
c) Clear natural boundaries exist, or logical greenbelts could be created to establish a defined urban edge.

The terrace area and the seam of Waipukurau soils provides a clear natural boundary for the development.

d) Supports compact urban form.

The sites are located within 2.5km of Haumoana Shops and the beach. The roads are generally flat so this is a walkable distance. It is 1.8km to the East Road subdivision and 5km to Te Awanga township. The school and kindergarten are within walking distance of the site, as are numerous amenities.

Travel distances from the site are 8km to Clive, 17.5km to Napier City Centre, 13.5km to Havelock North, 14km to Hastings, meaning that the site is located within 15 minutes drive of all main centres in the Hawke's Bay area, as indicated on the map below. The sites are therefore well located to provide lifestyle living opportunities for workers in any of those centres.




Location of the site in relation to surrounding settlements

Sites to be created are not residential sized sections, so they will not detract from the amenity of the area or take away from the existing Haumoana settlement or the East Road extension area – the proposal will complement the extension by providing additional low density living centred around the school and kindergarten, but will provide for a different market. The proposal also provides for a different market to the Parkhill subdivision which is pitched at the high end of the lifestyle market.

e) Can be serviced at reasonable cost.

Sites are able to be serviced via onsite methods in the short term, and may be able to connect to the reticulated water network if it becomes available – the current Parkhill water reticulation main is located opposite 52 Raymond Road and would only require a minor extension in order to service the subdivision.

f) Can be integrated with existing development.

The proposal site is directly opposite Parkhill Estate, and the site sizes proposed complement the lifestyle sites already created in the farm park, which start at 2600m$^2$.

g) Can be integrated with the provision of strategic and other infrastructure (particularly strategic transport networks in order to limit network congestion, reduce dependency on private motor vehicles and promote the use of active transport modes).

Proposal will make use of the existing roading network in Raymond Road. Traffic report to this end has been commissioned and no significant effects on the roading network will result from this proposal.

The extension of footpaths up East Road to service the East Road extension subdivision will bring the footpath network closer to the site.

h) An appropriate separation distance from electricity transmission infrastructure should be maintained in order to ensure the continued safe and efficient operation and development of the electricity transmission network.

There are no electricity lines within the vicinity of the site.

i) Promotes, and does not compromise, social infrastructure including community, education, sport and recreation facilities and public open space.

The sites are located within 500m of the school and kindergarten. The proposed subdivision will promote these facilities by providing sections for families to build on, within easy walking distance. The proposal also complements other facilities which are located within a short distance of the site, including the golf course and the Haumoana Domain.

j) Avoids or mitigates the following locational constraints:

i. projected sea level rise as a result of climatic changes;

ii. active coastal erosion and inundation;

iii. stormwater infrastructure that is unable to mitigate identified flooding risk;

iv. flood control and drainage schemes that are at or over capacity;

v. active earthquake faults;

vi. high liquefaction potential;

vii. nearby sensitive waterbodies that are susceptible to potential contamination from on-site wastewater systems or stormwater discharges;

viii. no current wastewater reticulation and the land is poor draining;

ix. identified water short areas with the potential to affect the provision of an adequate water supply.

Options for water supply have been canvassed earlier in this report . Options are available to service the sites for water.

In respect to the subject land it can be demonstrated in this instance that a clear natural boundary exists, to form a defined development edge, the land is identified as having low versatility, and/or productive capacity and it can be serviced at a reasonable cost. The sites are clear of natural hazards and will integrate into the current pattern of development.

### 6.5 OTHER MATTERS

The proposed subdivision will reflect the pattern of settlement that has occurred within the vicinity of the site. The area is characterised by small lots interspersed among larger productive sites.

In the case of 80 Raymond Road, there are already two dwellings located on the site, and one building that is currently used for visitor accommodation but will not require any modification to be able to be used as a residential dwelling.

Landscape Effects

The site is reasonably flat, and despite being raised above the adjoining sites, it is not visually prominent, nor is it located with any landscape or special character overlay. Views from Raymond Road into 80 Raymond Road will be maintained by the retention of the shelter plantings at the front of the site.

The sites are not particularly prominent from Parkhill Road and views into the site from the road will be limited. In terms of 52 Raymond Road, only one additional vacant site at the rear of the site will be created (Lot 11). Subsequent development of that site will have a minor visual effect.

The open nature of the Plains zone will be maintained by the proposal, due to the layout and nature of the subdivision. Only certain sites will be visible from certain vantage points, especially to those sites within the immediate vicinity.

Subsequent Development

The nature of the proposed subdivision is for lifestyle development.

The proposed subdivision has been designed to complement any future proposal on 42 Raymond Road. A common right of way between 52 and 42 Raymond may be incorporated into the scheme plan which could allow for a future road if further intensification of the sites are deemed to be appropriate in the longer term.

Market Demand

There are currently few options for lifestyle development within the Clive, Haumoana, Te Awanga and Mangateretere areas.

Current Trademe listings show the only available site within the Haumoana area is for one single bare land site available in Parkhill development – Lot 31 of 3000m² (being resold) at an asking price of $895,000[3].

Future Projected Demand for Lifestyle properties within the HPUDS area up to 2045 was canvassed in the Cheal[4] report and Telfer Young[5] reports as part of Stages 1 and 2 of the HPUDS review, although this was done in both cases as a high level assessment, rather than a settlement by settlement basis. The Cheal report divided the HPUDS area into travel distances from the three main settlements (Hastings, Havelock North and Napier).

The Map at Appendix 4 of that report shows that in the Haumoana/Te Awanga areas, that under the refined demand scenario (which takes such limiting factors such as District Plan overlays, topography, access, stability and servicing limitations into account, there are were only 14 potential lots able to be created in the Tukituki Special Character and Te Awanga Lifestyle areas, 5 yet to be created and 9 total vacant lots as at June 2016. This means that of the anticipated demand for 850 lifestyle lots expected under the original HPUDS 2010 projections, only 28 would be in the Tukituki Valley/Te Awanga Areas, despite the Tukituki Valley area being identified as one of the high demand areas and ideally placed for lifestyle development due to it being located within 15 minutes of all of the three main centres[6].

That report in itself did not take into account where demand for lifestyle properties was likely to occur in terms of existing settlement areas, rather it was done in terms of a zone by zone and on a whole region basis.

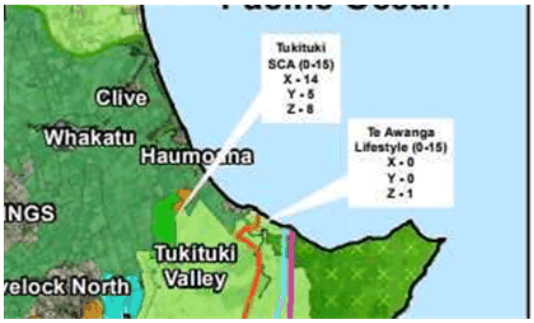

[3] www.trademe.co.nz/property/ search for Lifestyle bare land and lifestyle residential for Haumoana, Te Awanga and Mangateretere produced only this single listing on 10 July 2017.

[4] Cheal Consultants Limited, 17 June 2016, HPUDS Implemetation Working Group, Review of Rural Residential Lifestyle Sites

[5] Telfer Young, February 2016, Heretaunga Plains Urban Development Study Market Demand Report for Hastings District Council, Napier City Council and Hawke's Bay Regional Council.

[6] The additional sites that could be created within the Plains Production Zone (381 /204 under the various demand scenarios) are noted also, but the lack of spatial analysis within the zone does not allow for the number of potential sites within the Plains zone in the Tukituki Valley area to be determined.

Source: Cheal Consultants 17 June 2016 – HUDS Implementation Working Group, Review of Rural Residential Lifestyle Sites, extract from Appendix 3 Map (X = Potential Yield from Developlent Scenarios, Y = Lots able to be created under existing resource consents Z= vacant lots)




Source: Cheal Consultants 17 June 2016 – HUDS Implementation Working Group, Review of Rural Residential Lifestyle Sites, extract from Appendix 4 Map (X = Potential Yield from Developlent Scenarios, Y = Lots able to be created under existing resource consents Z= vacant lots)

Likewise, the Telfer Young report noted that lifestyle supply and demand is difficult to predict. The report included figures which indicated that lifestyle property sales had been double the expected demand for the past five years,

> *"Lifestyle supply is difficult to quantify but appears to fall short. The best estimate of the shortfall is over 300 sites over the study period based on total demand of 850 lots, however is almost in balance if demand is at the low end of the projections.*
>
> *Lifestyle demand is also difficult to quantify with available data somewhat conflicting.*
>
> *Lifestyle demand is now for smaller sites with some separation/privacy but close to urban facilities."*
>
> Source: Telfer Young, executive summary.

The proposal will provide thirteen vacant lifestyle properties within a fifteen minute drive of all main centres. The sites proposed to be created under this proposal will be of a size and in a location that is attractive to the market. The creation of thirteen vacant sites will provide additional choice in the market. The Cheal report indicates that few properties will be created in this location, despite it being within a high demand and easily commutable area. The creation of the additional sites is unlikely to create an oversupply of sites in this location, or of lifestyle sites in general within the Heretaunga Plains area.

**Positive Effects**

The definition of "effect" in the RMA includes positive effects of a proposal. The purpose of the RMA is to enable "people and their communities to provide for their social, economic and cultural well being and for their health and safety.

Benefits of the proposal should be balanced against any potential adverse effects associated with the activity.

The proposal will provide thirteen additional developable sections on sites that have been demonstrated in this report as being suitable for such development in terms of the constraints of the site as a productive unit, the lack of known natural hazards and due to its proximity to other low density development and the surrounding townships and cities. This will provide a

greater market choice, and the construction of dwellings on the site will allow people to provide for their wellbeing and health and safety.

## 7 OBJECTIVES AND POLICIES

The following is an assessment of the proposal in terms of the Objectives and Policies of the Proposed Hastings District Plan, which are beyond the point of appeal.

The Objectives and Policies relating to traffic and transport matters have been assessed as part of the Traffic Impact Assessment included at Appendix E and will not be repeated here.

| Objective | Policies | Comment |
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| Objective PSMP01<br><br>The land based productive potential and open nature of the Plains environment | POLICY PSMP1<br><br>Require that the subdivision of land within the Plains Strategic Management Area shall be for the purpose of a land based productive use.<br><br>Explanation The proximity of the Plains area to the major urban centres of the region place considerable pressure for urban related land uses (including ad hoc commercial and industrial uses). The fragmentation of the Plains land resource is to be avoided as the small size of holdings is often used to justify the use of a property for non-land based purposes. For these reasons the Plan has clear Rules which accept subdivision as a Controlled activity but only for circumstances associated with the use of the land for horticultural/agricultural purposes | The proposal is not for land based productive use, so does not accord with this policy. However, the limited productive potential of the soils on the site are noted as not being reflective of the versatile soils that the Plains Strategic Management Area seeks to protect. |
| | POLICY PSMP2<br><br>Require that activities and buildings in the Plains environment be linked to land based production and are of a scale that is compatible with that environment.<br><br>Explanation There are a number of buildings on the Heretaunga Plains that have been constructed on the basis that they service some permitted land use, | Future dwellings on some of the larger sites proposed may be linked to a productive use on that site. The site of future dwellings will be in keeping with those already existing on the subject site and adjoining sites, so will be compatible with the environment. |

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| | that together with their curtilages and service areas, have large footprints and therefore utilise large areas of versatile soils. Others have found their way into the Zone by means of community facility provisions. The Council has become increasingly aware of the importance of the versatile Plains soils and the part that they play in the regional economy. As a result the Council has adopted a sustainability approach to this resource which is clearly enunciated in the vision for the District. The approach is to ensure that only the buildings that are directly associated with the productive nature of the Zone should be permitted and those that meet this criteria need to be restricted to a scale that will not have adverse effects on the area of versatile soils available for production on the block. If the development reaches this level it should be looking to relocate to a suitably zoned site. The use of land within the Plains Production Zone for activities other than land based production (commercial or industrial) also undermines the Zones where these activities are specifically provided for. | |
| | POLICY PSMP3<br><br>Require that activities and buildings in the Plains environment do not compromise the open nature and amenity arising from land based production.<br><br>Explanation There are a number of characteristics which contribute to the character and amenity of the Plains environment. There is an appreciation by the community of these characteristics and what sets the Plains apart from other areas of the District. These include the open nature of the environment, the producing orchards, vineyards and cropping, the small number of large buildings, and the views through to the hills that form the backdrop to the Plains. There are times where buildings are required on the Plains Zone but they should not be of a scale that makes them stand out in their environment. Achieving sustainable land based production will maintain the much valued | Future buildings will be required to be set back from site boundaries, which will retain some of the open nature of the site. Future buildings on 80 Raymond Road will not generally be visible from the road, due to the retention of the existing shelter plantings. Future buildings on 52 Raymond will have amenity plantings and the scale of development when viewed from Raymond Road will reflect that of surrounding properties. |

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| | characteristics of the Plains. Large out-of-zone commercial and industrial activities in the Plains environment are not considered to add or contribute to the open nature of this Zone.<br><br>POLICY PPP10 Require that any new development or activity is consistent with the open and low scale nature that comprises the rural character and amenity of the Plains Production Zone.<br>Explanation The Plains Production Zone is topographically flat but does have a distinctive rural character. This relates to the openness of the environment and to the low scale of any development within the Zone. Generally the property sizes within the Plains area are of a size that supports production. These features help to accentuate the flat and open topography of the Plains. | |
| | POLICY PSMP5<br><br>Establish clear and distinct urban boundaries to prevent incremental creep of urban activities into the Plains Production Zone.<br><br>Explanation The Heretaunga Plains Urban Development Strategy (HPUDS) identified that future urban development must be cognisant of the value of the Plains versatile resource to the District and that it was important to identify distinct urban boundaries. HPUDS has recommended where growth is appropriate and where it is not. The Regional Policy Statement has implemented these recommendations.<br><br>POLICY PPP6 Establish defined urban limits to prevent ad hoc urban development into the Plains Production Zone.<br>Explanation The Heretaunga Plains Urban Development Strategy (2010) has identified the importance of the Plains versatile soils to the community. It has recommended that clear urban boundaries be established to prevent the creep of activities onto the versatile soils. The Regional Policy Statement requires through policy, that District Plans shall identify urban limits within which urban activities can occur sufficient to cater for | The site is identified in the HPUDS review as being potentially suitable for low density residential development. The site has limited value in terms of soil versatility, and is a logical site for such development, given the preceding assessment of effects. |

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| | anticipated population and household growth to 2045 | |
| OBJECTIVE PPO1<br>To ensure that the versatile land across the Plains Production Zone is not fragmented or compromised by building and development. | POLICY PPP1 Encourage the amalgamation of existing Plains Production Zone lots into larger land parcels.<br>Explanation There are a large number of small lots within the Plains Production Zone and the Council will continue to actively encourage the amalgamation of these lots as and when the opportunity arises through Resource Consent and subdivision applications. This will result in larger property sizes that will provide greater potential flexibility for future soil based activities.<br><br>POLICY PPP3<br><br>Limit the number and scale of buildings impacting on the versatile soils of the District.<br><br>Explanation There have been a number of instances where buildings have impacted on the versatile land of the Plains Production Zone as a result of their scale. Some of these buildings are still associated with food production such as those used for intensive rural production activities. These are subject to resource consent with assessment of the effects on the soil resource. While it is beneficial to allow for industrial or commercial activities that add value to the produce coming off the land it is important that these activities are not allowed to reach such a scale as to impact on the versatile soils that the activity originally relied on at its inception. While the policy does not apply to buildings accessory to land based primary production these buildings can become an issue if their use becomes redundant. While there is value in providing for the re-use of these buildings, the situation should not be allowed where farm buildings are constructed and then their uses change within a relatively short time period.<br><br>POLICY PPP5<br><br>Restrict the ability to create lifestyle sites within the Plains Production Zone to those from an existing non-complying site where the balance of the site is amalgamated with one or more adjoining sites to form a complying site. | The site does not contain truly versatile soils, and the constraints of those soils have already been set out in this report and the supporting information. 80 Raymond Road has been out of productive use for over 14 years and 52 Raymond Road only has approximately one third of the site area in productive use after a long history of not being used for horticulture at all. The proposal does not involve the amalgamation of any sites, however it is more sustainable to direct development onto sites such as this, rather than onto actual versatile soils. |

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| | Explanation One of the major issues affecting versatile land is the pressure that comes to bear as a result of people wanting to establish lifestyle developments close to the main urban centres. The Council is seeking to keep firm control over the creation of such sites to ensure that the versatile soils are not fragmented to such a degree that they cannot be used for production purposes. Past experience has shown that once these small areas of land are created it is unlikely that they will ever be used for production purposes in the future. This policy is consistent with the Regional Policy Statement which states that the versatile land of the Heretaunga Plains is highly desirable for urban and rural lifestyle development but most importantly it underpins the economy of the region. This conflict and pressure from urban development makes it a regionally significant issue. The policy of providing for a lifestyle site to be created where the balance is amalgamated to create a new complying site (that is, complying with the 12ha minimum site size) is one which has been carried over from the previous District Plan. It is a policy that has been successful in achieving its aims of increasing the number of complying sites.<br><br>POLICY PPP9 Require that any subdivision within the Plains Production Zone does not result in reducing the potential for versatile land to be used in a productive and sustainable manner. Explanation The subdivision of land within the Plains Production Zone is an important activity to control as it involves a finite resource. The Council aims to prevent the cumulative effects of numerous small scale subdivisions on the overall area of the versatile land resource. The aim is that the subdivision of land should not result in activities that will negatively impact on the sustainability of the versatile land. | |
| OBJECTIVE PPO3<br><br>Relates to PPAO6 To retain the rural character and amenity values of the Plains Production Zone. | | The level of density has clustering of houses on the upper terrace. Site sizes consistent with surrounding sites. Productive land to the rear of the sites will provide rural amenity. |
| | POLICY PPP11 Require that any new activity locating within the | In relation to these policies the expected activities on the |

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| | Plains Production Zone shall have a level of adverse effects on existing lawfully established land uses that are no more than minor.<br>Explanation The District Plan introduces a range of Standards to protect adjoining properties from the effects of activities carried out on any site. The standards reflect the present agricultural nature of the Zone, and the management standards accepted in the Zone. In many cases these have been established over a long period of time and have evolved through a number of District Plan review processes.<br><br>POLICY PPP12<br>Noise levels for activities should not be inconsistent with the character and amenity of the Plains Production Zone.<br><br>Explanation Activities associated with rural production can generate significant amounts of noise. While there is a recognised 'right to farm' philosophy built into the Plan in Policy PPP12, there is a need to have limits that maintain the character of the area and protect the health of residents. Performance Standards for noise have been drafted and set at a level which recognises the need for activities to operate in a way that does not unduly restrict normal practices associated with activities in the Plains Production Zone in order to protect their continued economic operation while maintaining appropriate amenity standards for residents in the Zone. | sites will be lifestyle rural uses, which would be expected to comply with the District Plan noise standards and would be unlikely to have a more than minor effect on lawfully established land uses on adjoining sites. The number of additional sites proposed that would have a boundary with current production land is three. Lot 6 in particular has been increased in size to provide generous setbacks to minimise reverse sensitivity effects. |
| OBJECTIVE PPO4 Relates to PPAO2 To enable the operation of activities relying on the productivity of the soil without limitation as a result of reverse sensitivities. | POLICY PPP13 Require that any activity locating within the Plains Production Zone will need to accept existing amenity levels and the accepted management practices for land based primary production activities.<br>Explanation The Council has long adopted the 'right to farm' principle in the rural areas of the District. This has arisen from the occupation of some of the smaller land holdings for lifestyle purposes. The 'right to farm' principle makes it clear to those property owners new to the rural environment that there are farming management practices that by their nature and timing might be considered nuisances in the urban context but are entirely appropriate for the efficient and effective functioning of land based primary production activities. | As noted in Section 6 above, in tandem with the physical separation of the site from the adjoining productive land, a number of measures are proposed which will ensure that reverse sensitivity effects are able to be mitigated, and the right of surrounding properties to undertake production uses will be maintained.<br>. |

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| | POLICY SLDP16 To ensure that the potential effects of reverse sensitivity are considered when assessing the subdivision of existing sites. Explanation Inappropriately designed or located subdivision has potential to create reverse sensitivity effects, particularly when residential and lifestyle development encroach on ongoing rural production, horticultural or industrial activities and existing public works, network utility and renewable electricity generation sites. Such effects can severely impact existing activities to continue their day to day operations. Recognising and preventing reverse sensitivity effects when planning for land use will provide for the continued efficient, affordable, secure and reliable operation and capacity of existing adjoining land uses. | |
| OBJECTIVE SLDO2 To ensure that sites created by subdivision are physically suitable for a range of land use activities allowed by the relevant Section Rules of the District Plan. | POLICY SLDP1 Relates to Objective SLDO2 That standards for minimum and maximum site sizes be established for each SMA/Zone in the District. | The current sites are constrained in terms of the land uses that can establish due to the soil types. The proposal will allow for additional dwellings and some small scale production. Whist the proposal does not meet the subdivision standards, the sites proposed generally in accordance with the site size for lifestyle sites. |
| OBJECTIVE SLDO3 Avoid subdivision in localities where there is a significant risk from natural hazards. | POLICY SLDP4 Relates to Objective SLDO3 Ensure that land being subdivided, including any potential structure on that land, is not subject to material damage by the effects of natural hazards. Explanation Some areas within the Hastings District are unsuitable for development, or require specific measures to be undertaken to avoid the effects of natural hazards, these can include flooding, inundation, erosion, subsidence or slippage and earthquake faults (see Section 15.1 of the District Plan on Natural Hazards). Section 106 of the Resource Management Act requires that Council may refuse consent to any subdivision | The site is not subject to any significant risk of natural hazard, in accordance with this Objective and related Policies. |

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| | in these areas, or any adjacent or nearby areas that maybe affected by the activities that could take place once the subdivision has been approved, unless adequate measures are available to overcome or reduce the risk of the hazard.<br>POLICY SLDP5 Ensure that any measures used to manage the risks of natural hazards do not have significant adverse effects on the environment.<br>Explanation In using measures to avoid, remedy or mitigate the risks of natural hazards, it is also necessary to consider the effects of the mitigation measures themselves, which can also have significant adverse environmental effects. An example of this is the filling of land which may interfere with the functioning of natural flood plains and ponding areas. | |
| OBJECTIVE SLDO4 To ensure that land which is subdivided is, or can be, appropriately serviced to provide for the likely or anticipated use of the land, and that the health and safety of people and communities, and the maintenance or enhancement of amenity values and the avoidance of reverse sensitivity effects. | POLICY SLDP8 Ensure provision of onsite services for water supply, wastewater disposal and stormwater disposal for sites outside of the reticulated urban areas unless the provision of reticulated services is identified as an appropriate work to mitigate adverse effects on the environment.<br>Explanation The subdivision of land, particularly for rural residential and lifestyle residential purposes, could lead to environmental effects which create demand for the Council to provide sites with reticulated services for water supply, wastewater disposal and stormwater disposal. However, unless the provision of such services are proposed and identified as works in the Council's Long Term Plan or Annual Plan, and are necessary to protect the environment, the Council will not provide them to the sites in these areas. Subdividers will be required to ensure that independent provision can be made for an on-site water supply, and for the disposal of wastewater and stormwater on the site.<br><br>POLICY SLDP9 Ensure that where sites are not connected to a public water supply, wastewater disposal or stormwater disposal system, suitable provision can be made on each site for an alternative water supply or method of wastewater | The proposed subdivision can be serviced via onsite methods. Connection to reticulated water may be available in the future should Council extend services but is not required at this stage.<br><br>Safe and efficient vehicle access to all sites from existing roads can be provided. |

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| | disposal or stormwater disposal, which can protect the health and safety of residents and can avoid any significant adverse effects on the environment. Explanation Where a method, other than connection to a public reticulated system will be used to provide new sites with a water supply, or a means of disposing of wastewater or stormwater from sites, subdividers will be required to demonstrate how the method can achieve the protection of the health and safety of residents and avoid any significant adverse effects on the environment.<br><br>POLICY SLDP10 Require the provision of safe and practicable access for pedestrians and vehicular traffic from a public road to each site.<br>Explanation High vehicular ownership and use requires the consideration of vehicular access to newly created sites. Pedestrian access is also just as important to physically access new sites. This may require the upgrading of existing roads or the provision of new roads within the subdivision site to connect the subdivision to the District roading network. Vehicular and pedestrian access to sites must be practicable, safe and convenient for users, and should avoid adverse effects on the environment.<br><br>Policy SLDP15 – Ensure that subdivision or development do not result in adverse effects by requiring upon subdivision or development a means of connection to a water supply and services for the disposal of wastewater and stormwater. | |
| OBJECTIVE SLD01<br><br>To enable subdivision of land that is consistent with each of the Objectives and Policies for the various SMA, Zones, Precincts or District Wide Activities in the District. | | The preceeding assessment confirms that the proposal is in general accordance with the majority of the relevant objectives and policies. |
| | Policy SLDP7 – Recognise the role of the Hastings District Council Subdivision | The Section 92 request by Hastings District Council on 19 October 2017 required |

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| | and Infrastructure Development in Hastings; Best Practice Design Guide and Engineering Code of Practice design standards as a means of compliance for the servicing of sites.<br><br>Policy SLDP11 – Ensure that roads provided within the subdivision sites are suitable for the activities likely to establish on them and are compatible with the design and construction standards of roads in the District Transport Network which the site is required to be connected to. | assessment of these policies, despite the application not referring to the sites having reticulated services or any new roads being proposed As such, these policies are not considered relevant to this proposal as the sites are no proposed to be serviced via reticulation and no new roads are proposed. |

## 8 STATUATORY FRAMEWORK

### 8.1 PART 2 OF THE RMA

Part 2 of the RMA sets out the purpose and principles of the Act, being *"to promote the sustainable management of natural and physical resources"*

Whether the purpose of the RMA is being achieved involves an overall broad judgement which is informed by reference to the matters set out in sections 6, 7 and 8 of the Act.

Section 6 sets out matters of national importance, being the natural character of the coastal environment, protection of outstanding natural features, protection of areas of significant indigenous vegetation and habitats of indigenous fauna, maintenance and enhancement of public access along coastal marine areas, lakes and rivers, historic heritage and the relationship of Maori and their culture and traditions.

The only relevant matters from Section 6 are:

(a) 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

(h) the management of significant risks from natural hazards.

The site is located over 1 kilometre from the Coast, in an area that already has a level of development and modification. Allowing further subdivision in this area will not adversely affect the natural character of the coastal environment. The site is not known to be subject to any significant risk from any natural hazard.

Section 7 requires particular regard to be had to 'other matters.' Of relevance to this application are:

*(b) The efficient use and development of natural and physical resources;*

*(c) The maintenance and enhancement of amenity values; and*

*(f) Maintenance and enhancement of the quality of the environment;*

Given the limitations of the soils on the site, and the nature of the development within the area, the proposal is considered to be in keeping with these Section 7 matters.

Section 8 requires the principles of the Treaty of Waitangi to be taken into account. There are also no known cultural values that need to be taken into account in respect of this proposal.

The proposal represents an efficient use of the difficult soils and conditions on the site, and will maintain the amenity of the area, given the proliferation of lifestyle sites around the site.

The assessment set out in this report has shown that the potential for adverse effects on the environment associated with the proposed activity will be minor, or able to be mitigated to the point where they are minor and relate primarily to consideration of the impact of the proposal on the amenity of adjoining neighbours. For the reasons outlined earlier in this report, it is considered that the proposal is consistent with the requirements of Part 2 of the RMA.

### 8.2 SECTION 104 RMA

Section 104 of the RMA provides the statutory requirements for the assessment of the application and sets out those matters that the Council must have regard to when considering the application. Subject to Part 2 of the RMA, it is considered that the relevant matters for the assessment of this application include:

*Any actual or potential effects on the environment of allowing the activity;*

*The relevant objectives, policies, rules and other provisions of the District Plan; and*

*Any other matter that the Council considers relevant and reasonably necessary to determine the application.*

Section 104 (2) allows the Council when forming an opinion in relation to any actual or potential effects on the environment of allowing the activity to disregard an adverse effects of the activity on the environment if the District Plan permits an activity with those effects.

Under Section 104D the Council may grant or refuse an application if it can be demonstrated that the effects of the proposal are minor (including being able to be mitigated to the point where they are minor), and/or the proposal accords with the objectives and policies of the District Plan. If it grants the application, may impose appropriate conditions in accordance with section 108 of the RMA and the matters that Council has restricted its discretion over.

In this case, the proposal is considered to have minor effects, or effects which can be mitigated to the point where they are minor so the first of the Section 104D gateway tests can be met. Council can consider granting the application on this basis.

The proposal does not accord with some of the objectives and policies of the District Plan, so the second limb of the Section 104D tests is not met. However, only one of the two tests is required to be met for Council to be able to considere granting the application on this basis.

### 8.3 SECTION 106 RMA

The proposal provides for all sites to have a building platform free of any known natural hazards. All sites will have safe legal access to the roading network. As such, the proposal meets all requirements of Section 106.

## 9 SECTION 104 ASSESSMENT

The effects of the proposal have been considered above, as have the provisions of the District Plan. The following assessment is in terms of the other matters that Council may consider as part of the assessment of the proposal.

### 9.1 REGIONAL POLICY STATEMENT

The following is an assessment of the proposal in terms of the Regional Policy Statement.

OBJ UD4 PLANNED PROVISION FOR URBAN DEVELOPMENT (HERETAUNGA PLAINS SUB-REGION) Enable urban development in the Heretaunga Plains sub-region, in an integrated, planned and staged manner which:

a) allows for the adequate and timely supply of land and associated infrastructure; and

b) avoids inappropriate lifestyle development, ad hoc residential development and other inappropriate urban activities in rural parts of the Heretaunga Plains sub-region.

*Principal reasons and explanation: Successful long term growth management is dependent on integrating long term land use, the infrastructure necessary to support this growth and the ability to fund and supply the infrastructure in a timely and equitable manner. In order to protect the productivity of rural land in the Heretaunga Plains, all inappropriate urban development should be avoided.*

**Comment:** As noted in this report, the sites have limited productive potential and the current Plains zoning of the site does not reflect this. Whilst the proposal could be considered to be ad-hoc, for the reasons set out in this application it is not an inappropriate use of the site.

POL UD3 RURAL RESIDENTIAL AND LIFESTYLE DEVELOPMENT (HERETAUNGA PLAINS SUB-REGION) In the Heretaunga Plains sub-region, district plans shall include policies and methods discouraging or avoiding ad hoc residential development and further rezoning for rural residential purposes or lifestyle development outside existing rural residential zones.

*Principal reasons and explanation Similar to urban development, rural residential or lifestyle development can also act to remove valuable land from agricultural production and can also impact on the productivity of other land (i.e. rural or industrial), in particular through reverse sensitivity. These forms of development should not be confused with residential development (eg: farm houses) that is ancillary to primary production activities or to boundary adjustments that may effectively create a lifestyle site by reducing the land area surrounding a dwelling to create a larger more productive balance title. Provision for rural residential and lifestyle development should be carefully managed to minimise fragmentation of the versatile land of the Heretaunga Plains. There is currently an excess supply of rural residential zoned areas within the Heretaunga Plains sub-region, considered sufficient to cater for projected demand*

*for rural residential lots in the sub-region through to 2045, and further rezoning for this purpose is considered unnecessary for the foreseeable future.*

**Comment:** This proposal is for a subdivision, not for a rezoning of the site. The proposal will not remove versatile productive land from the Heretaunga Plains resource, as the land has been demonstrated to have very limited versatility.

POL UD4 –

Policy UD4 has been used as assessment criteria for the suitability of the site in Section 6.1 above so will not be reproduced here. The proposal is consistent with the criteria set out in the policy.

POL UD4.3 APPROPRIATE RESIDENTIAL GREENFIELD GROWTH AREAS (HERETAUNGA PLAINS SUB-REGION)

Within the Heretaunga Plains sub-region, areas where future residential greenfield growth for the 2015-2045 period has been identified as appropriate and providing choice in location, subject to further assessment referred to in POL UD10.1, POL UD10.3, POL UD10.4 and POL UD12, are: …

f) Haumoana (south of East Road) / Te Awanga…

All indicative areas are shown in Schedule XIVa.

**Comment:** Whilst the site is not located within the identified growth area shown on the HPUDS (and revised HPUDS) maps, it is located south of East Road, and between the Haumoana and Te Awanga villages. It has been identified in the HPUDS review as having the potential to be suitable for low density development and is in a location that will contribute positively to the existing settlements of Haumoana and Te Awanga.

The Regional Policy Statement is informed by the HPUDS review and has not been updated to reflect the agreed reviewed wording that was agreed upon in June 2017. Whilst the proposal may constitute ad-hoc development, it is in an area that has been identified for further investigation and in accordance with the factors set out in Policy UD4.

### 9.2 NEW ZEALAND COASTAL POLICY STATEMENT

The Coastal Policy Statement seeks to avoid inappropriate subdivision within the Coastal areas. Given that the site is located some distance from the coast, and within an area that has already been subject to some development, the proposal accords with the Coastal Policy Statement.

### 9.3 NATIONAL POLICY STATEMENT ON URBAN DEVELOPMENT CAPACITY

This National Policy Statement came into effect in December 2016. The National Policy Statement requires Council to provide for an oversupply of land for urban development, this proposal will provide additional supply for low density residential development.

### 9.4 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011

Given the site has been used for various orchard activities at various times, Detailed Site Investigations (DSI) have been carried out by EAM Limited in relation to the two properties to assess the suitability of the sites for subdivision. These are included as **Appendix D** and form part of the application.

The DSI for 52 Raymond Road confirmed that all sites sampled are within the current Ministry for the Environment Guidelines, and no further action is required in relation to the subdivision.

The DSI for 80 Raymond Road confirmed that there is one area on the site that had a reading for DDT, lead and arsenic over and above the current MfE guidelines. This has been confirmed as being in two spots, one of which is located around an outdoor tap. The area is wholly contained within Lot 1, which contains the existing Primary dwelling. A Remediation Action Plan has been devised for the site (also included as part of **Appendix D**) and this confirms that the site can be remediated by removing the affected soil to an approved handling facility under a Site Management Plan.

### 9.5 Regional Plans

The proposal is likely to be a permitted activity in terms of the Regional Resource Management Plan as noted previously in this report. The sites are not located within any of the Coastal Hazard Zones in the Regional Coastal Environment Plan, so the provisions of that plan do not apply to this application.

### 9.6 Precedent Effects

The precedent effects of the proposal must also be taken into account. In this case, in order for a precedent to be set, any future applications for a non-complying subdivision would be required to demonstrate the same unique factors that apply in terms of this proposal, being:

- Having been specifically identified in the HPUDS review as being potentially suitable for low density development
- Being free from natural hazards
- Being physically separated from adjoining productive uses by a natural terrace area
- Having sub-optimal soils which have been demonstrated to have very limited productive potential.
- Being located within 500 metres of a community focal point
- Being located immediately opposite an existing low density settlement
- Being located within easy commuting distance of Hastings, Havelock North, Napier and Clive.

The site is considered to have enough factors to set it apart from other Plains Zone sites so as not to set a precedent.

## 10 CONSULTATION/NOTIFICATION

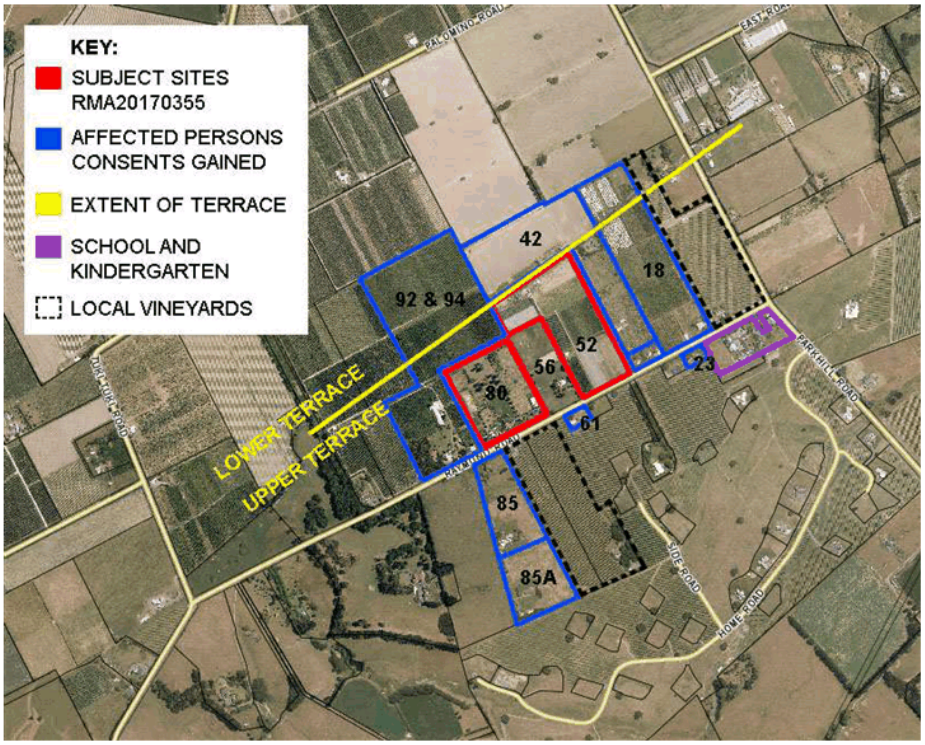
Under the provisions of the amended RMA there is now no presumption in favour of notification (section 95A). The requirement for the Council to be satisfied that the effects will

be minor before proceeding on a non-notified basis has been removed. Instead, public notification is only required if the Council considers that the activity will have or is likely to have adverse effects on the environment that are more than minor.

The following parties have been consulted and have provided their affected persons consents:

1. PEM Family Trust, Raymond Road (next to 42)
2. Bentley Family Trust, 18 Raymond Road
3. Shammi Datt and Stephen Seque, 81A Raymond
4. Peter Snijders, for Sabel Trustees, 92 and 94 Raymond Road
5. C Williams, 61 Raymond Road
6. Michael De Groot and Charlotte Freeman, 85 Raymond Road
7. G and G Welch, 23 Raymond Road
8. Denis McHardy (Endsleigh Cottages) 42 Raymond Road

The location of these sites in relation to the subject sites is indicated below:




If Council considers that other parties are affected by this proposal, we request that the application be notified on a limited basis only to those parties. .

## 11 CONCLUSION

The proposal is to create twelve sites in total from the properties known as 52 Raymond Road and 80 Raymond Road. 52 Raymond Road contains an existing dwelling, 80 Raymond Road contains an existing dwelling, a secondary dwelling and a visitor accommodation unit. The secondary dwelling and visitor accommodation unit will become primary dwellings on their respective sites upon subdivision. The proposal has the status of a non-complying activity in terms of the Proposed Hastings District Plan, as additional titles are proposed. Some of the proposed titles are in excess of the maximum site size for lifestyle sites within the Plains Production Zone. The HPUDS review 2016 specifically included clauses which indicated that the site was potentially suitable for low density residential development. This application is the result of that review.

The effects of the proposal are considered to be minor, or able to be mitigated to the point where they are less than minor on the basis that they:

- Have been specifically identified in the HPUDS review as being potentially suitable for low density development
- Are free from natural hazards
- Are physically separated from adjoining productive uses by a natural terrace area
- Have sub-optimal soils which have been demonstrated to have very limited productive potential.
- Are located within 500 metres of a community focal point
- Are located immediately opposite an existing low density settlement
- Are located within easy commuting distance of all major centres within the Hawke's Bay
- Have been assessed in terms of traffic effects, which have been confirmed as being minor.
- Will provide for additional choice for development in this area, and directs development away from truly versatile soils.

The proposal accords with or does not offend the majority of the Objectives and Policies of the District Plan. However, the proposal is contrary to the Objectives and Policies which do not allow for additional Plains Zone sites to be created.

As such, one of the Section 104D gateway tests has been met and Council can consider granting the application.

Affected persons consents have been gained from a number of adjoining neighbours. If Council considers that additional parties are affected, we request that the proposal be notified on a limited notification basis to those parties only.

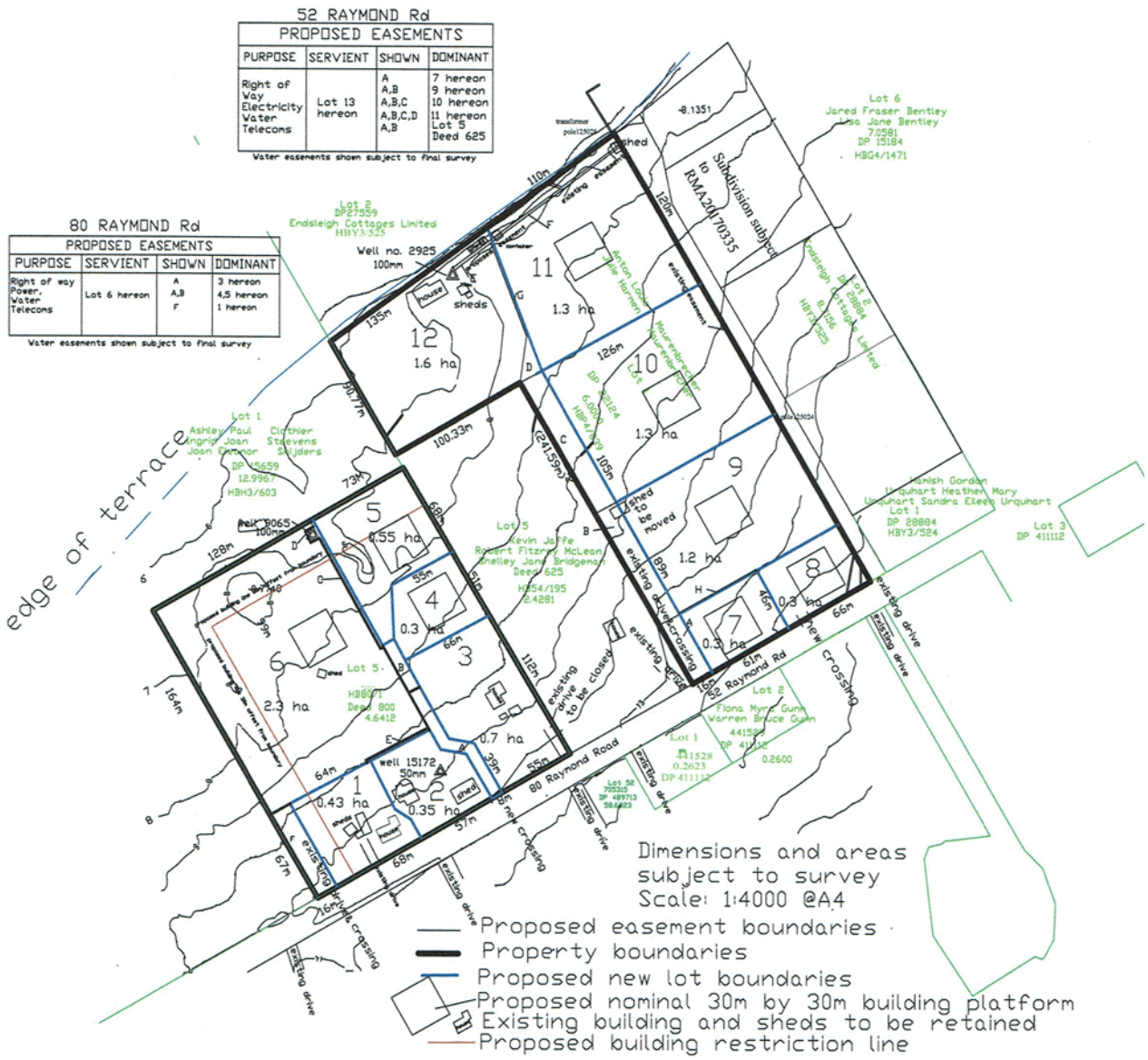
## APPENDIX B

### PROPOSED SCHEME PLAN



Item 2
Attachment D

# PROPOSED SUBDIVISION
# 52 AND 80 RAYMOND Rd
# Date: 28/10/17



Technical Report

# Appraisal of Land Suitability, Raymond Rd, Haumoana

*January 2014*


Prepared by:

Jack Hughes

Fruition Horticulture
PO Box 966
Hastings

For:

**The Raymond Road Zoning Change Group**

FRUITION Horticulture
*Qualified independent advice*

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## APPENDIX C

### SOILS INFORMATION

Fruition Report (Hughes)

Martin Taylor Report

Maurenbrecher Report

Soils of The Heretaunga Plains Extract

HBRC Soils Reports

Page Bloomer Report

**Summary**

An appraisal of the soil classification and land use suitability of an area of land identified by the Raymond Road Zoning Change Group was carried out.

The area under consideration is classified as a Waipukurau (HBRC soil maps) or Ruataniwha*f (*Landcare*)* soil type. This terraced area of higher elevation has a shallow subsurface and relatively impermeable pan which causes perching of water and creates poor drainage.

This poor drainage, limited aeration, moderate to slow permeability, high soil structure and waterlogging vulnerability significantly limits its suitability for horticulture.

Resulting low productivity and episodic plant mortality prevents viable and reliable income to be generated from most crops grown on this land. Mitigation treatments such as deep ripping of the pan and installation of tile drainage at standard spacings do not generally fully ameliorate soil conditions to allow economically acceptable levels of plant growth and productivity.

The significant constraints of this area and consequent low versatility combine to give it a low sustainable productive capacity.

As a result, the area under consideration appears to be outside the criteria normally considered horticulturally suitable as defined by Land Use Capability Classes (MPI).

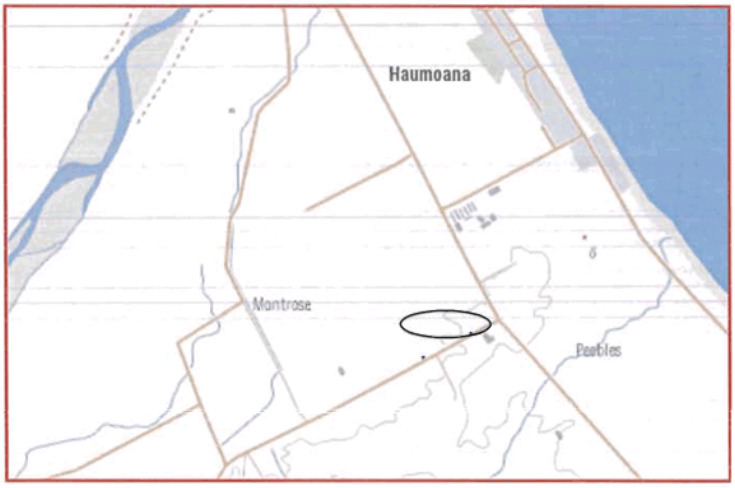
***Qualifications and Experience***

*My name is Jack Hughes. I am a horticultural consultant and director of Fruition Horticulture HB Ltd. I provide advice, technical and research services to the fruit industry. Previous to that I spent 3 years as a horticultural consultant with Agriculture New Zealand Ltd specialising in orchard management for both organic and conventional orchards. Prior to that I worked at DSIR (which became HortResearch) for 12 years. I started as manager of the Hawke's Bay Research Orchard and went on to manage HotrResearch's national network of research orchards and participate in applied industry research. I have a B.Hort.Sci (1981) from Lincoln University and a certificate in Sustainable Nutrient Management in NZ Agriculture (2013) Massey University.*

**The Brief**

I have been asked by the Raymond Road Zoning Change Group (RRCG) to conduct an appraisal of the soil classification and land use suitability of the area circled below (Figure 1.)

**Figure 1. Location map of the general area under consideration**

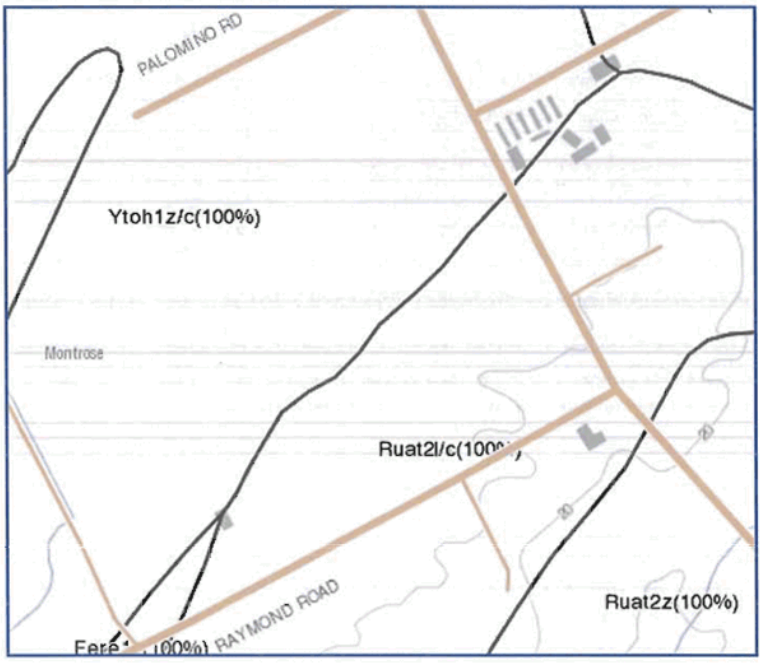



**Background**

RRCG have identified a parcel of land within their properties that is described by the LandCare Research Soil S-map database as 'Rua2l/c' (Ruataniwha*f*). This parcel of land is referred to as 'the area under consideration' in this report and is mapped in more detail in Appendix 1.

The remaining areas of their properties are classified as 'Ytoh1z/c' (Mangateretere ) (Figure 2).

**Figure 2. Excerpt from LandCare Research Soil S-map Database showing soil classifications of the area under consideration.**




This appraisal considers the soil characteristics of these areas and the implications for land use.

**Soil Classification**

The Hawkes Bay Regional Council (HBRC) Soil Maps of the Heretaunga Plains have been integrated with Landcare's database. Each organisation has different names for these soil types so both classifications are shown below to avoid confusion (Table 1).

**Table 1 Landcare and HBRC soil classifications for areas under consideration**

| | Landcare | HBRC |
|---|---|---|
| Area under consideration | Ruataniwha*f (Rua2l/c)* | Waipukurau 30 |
| Remaining area outside | Mangateretere (Ytoh1z/c) | Mangateretere 71 |

The HBRC maps, Plan No. 2683 Sheet 5 of 5 (2001), provide a succinct summary of the limitations of the area under consideration (Waipukurau). This terraced area of higher elevation has a shallow subsurface, relatively impermeable pan which causes perching of water and creates poor drainage.

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*Soil Map class* *#30*
*Soil name:* *Waipukurau*
>30cm ash on sandy loam (loess) on pan at 40-50cm; on terraces
Natural drainage Poor, water perched on pan

The remaining, lower elevation area of the RRCG properties are comprised of Mangateretere soils. While they have imperfect drainage because of their clay subsoils which are derived from mudstone, the limitations are not as pronounced as those caused by the Waipukurau pan.

*Soil Map class* *#71*
*Soil name:* *Mangateretere*
30-60 cm silt loam on clay from mudstone
Natural drainage Imperfect, water table 30-60 cm

**Landcare Soil Database.**

LandCare Research Soil S-map Database website (smap@landcareresearch.co.nz) provides addition information for these soil classification families (Appendix 1).

The relevant soil physical properties of the two adjacent soil types from Landcare's database are abbreviated and compared (Table 2).

Table 2 Summary of soil physical properties of area under consideration and adjacent area

| | **Ruataniwhaf** *(area under consideration)* | **Mangateretere** |
|---|---|---|
| **Key physical properties** | | |
| Depth class (diggability) | Moderately deep (46-55cm) | Deep (>1m) |
| Rooting barrier | Pan | = |
| Drainage class | Poorly drained | = |
| Aeration in root zone | Very limited | = |
| Permeability profile | Moderate over slow | = |
| **Soil structure integrity** | | |
| Structural vulnerability | Very high (0.78) | Not given |
| **Water management** | | |
| Water logging vulnerability | Not given | High |

The major difference described in Landcare's classification between the soil physical properties of the two soil types is depth class (diggability).

The shallowness of the pan in the area under consideration gives rise to the other characteristics of these soils ie poor drainage, limited aeration, moderate to slow permeability, high soil structure and water logging vulnerability.

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**Implications for horticulture**

The poor drainage, limited aeration, moderate to slow permeability, high soil structure and water logging vulnerability of the Ruataniwhaf soils in the area under consideration significantly limits their suitability for horticulture.

Effects on major fruit crops arising directly from the Ruataniwhaf soils characteristics include:

- Stunted growth of pipfruit, stonefruit, berryfruit and avocadoes as a result of poor root growth particularly in late winter-spring when soils are waterlogged and bordering on anaerobic.
- Prevalent incidence of soil borne diseases such as phytophthera in apples and avocadoes and bacterial blast in stonefruit. Both diseases are exacerbated when trees are under stress from waterlogged conditions.

The resulting combination of low productivity and episodic plant mortality prevents viable and reliable income to be generated from these crops grown in the area under consideration.

Experience in the area over decades has shown that mitigation treatments do not fully overcome the limitations of the site. Deep ripping of the pan can provides temporary benefit but the pan tends to subsequently reform. Equally, installation of tile drainage at standard spacings does not fully ameliorate soil conditions to allow required levels of plant growth and productivity.

It is accepted that wine grapes may tolerate these conditions but the economic viabilibility of sub scale grape plantings (<5ha) is limited.

**Heretaunga Plains Urban Development Strategy**

The Heretaunga Plains Urban Development Strategy (hpuds.co.nz) provides policy and guidance for land use. The significant constraints of the area under consideration and consequent low versatility combine to give it low sustainable productive capacity

**Implications for Land Use Capability Classes**

The Ministry of Primary Industries (MPI) also provides guidance with its Land Use Capability Classes classification (Appendix 2)

By this criteria, the site under consideration appears to have moderate limitations (wetness or continued waterlogging after drainage) and to be outside the criteria normally considered horticulturally suitable.

As a result, the area under consideration appears to warrant zoning review.

*Fruition has prepared this report with customary and due care but no warranty or liability for its contents are accepted*

**Appendix 3 Land use Capability Classes (abbreviated): source MPI**

There are 8 classes (4 arable, 4 non-arable) arranged in order of increasing degree of limitation or hazard to use and decreasing versatility.

1. **Very good multiple use land.** Deep easily worked soils, well drained, usually well supplied with nutrients. Climate is favourable for a wide range of cultivated crops/pasture/forestry.
2. **Good land with slight limitations**. Limitations occur singly or combined and include soils of only moderate depth, unfavourable structure and difficulty in working, wetness (existing permanently as a slight limitation after drainage), slight to moderate salinity and susceptibility to erosion
3. **Moderate limitations**. Shallow soils, low fertility not easily corrected, low moisture holding capacity, wetness or continued waterlogging after drainage, moderate salinity, moderate climatic limitations, moderate to high susceptibility to erosion.
4. **Severe limitations** to arable use restricting choice of crops grown. Intensive conservation practices and/or very careful management needed. Strongly rolling slopes, very shallow soils, low fertility very difficult to correct, excessive wetness with continuing hazard of waterlogging after drainage, high salinity, severe climatic limitations.
5.

Non arable classes 5-8
Starts with stable hill country and ends with predominately very steep mountain land above 4000 feet.

7

Item 2

*Fruition has prepared this report with customary and due care but no warranty or liability for its contents are accepted*

Attachment E

ASPECTS OF HORTICULTURAL SUITABILITY OF SOILS IN THE RAYMOND ROAD AREA

Name: Martin Taylor

Qualifications: See attached CV

I have read the Fruition Report (2014) in Appendix B of the application, and concur with its analysis.

As the horticultural consultant for most of the orchards in this area, I have had significant experience with the variation of the soil type. There is a very solid pan at between 400 and 700mm depth. Drainage is imperfect, which has serious implications on tree and plant health during very wet or dry weather conditions. The orchards on this soil have had some 30 years' experience with management techniques which to date have not resulted in profitable operations. Production is limited due to root restriction. The waterborne diseases Pythium sp and Phytophthora sp have been isolated from roots in the berry fruit in areas where plants have died in the past.

In particular, I have advised the Maurenbrechers at 52 Raymond road for the last 18 years or so. During this time, every opportunity has been addressed to plant a variety of crops to suit the soil type. This includes Kiwifruit, Boysenberries, Raspberries, Blackberries, Apples and a brief experiment with Blueberries and Mini Pumpkins.

During this process, I have also had the opportunity to assess the viability and sustainability of this orchard in particular and would concur that profitability is subject to ongoing financial risk due to the pan and land use limitations inherent to the land as set out in the Fruition Report (2014). These limitations are self-evident on the ground.

I would be available on a limited basis for an on-site consultation to answer any questions.

Signed:

Martin Taylor

Date: 13/11/2017

# Land Use Capability: The Growers Experience

52 and 80 Raymond Road, Haumoana
A & J Maurenbrecher and D & A Evans



29 October 2017

APPENDIX C:

# Table of Contents





# Table of Figures:

**Introduction:**

Mr Maurenbrecher is qualified to comment on the Land Use Capability (LUC) of these sites on the basis of twenty-five years experience as a grower, six years as a director of the Hawkes Bay Berryfruit Cooperative and two years as director of the New Zealand Boysenberry Council. Mr. Maurenbrecher would also like to record that, as a Licensed Surveyor of some thirty-eight years' experience, both in New Zealand and overseas, he is qualified to comment on historical changes in land use as reflected in subdivision patterns. Mr. Maurenbrecher's credentials are documented in Appendix One of this report.

**History of the Land Use:**

*Figure 1: 1969 Aerial photograph identifies 80 Raymond Road (rectangular shaped site) and 52 Raymond Road as an L-Shaped site plan.*

Hughes (2014) emphasises that land use limitations apply to these sites through the following statement;

> *"Experience in the area over decades has shown that mitigation treatments do not fully overcome the limitations of the site. Deep ripping of the pan can provide(s) temporary benefit, but the pan tends to subsequently reform. Equally, installation of tile drainage at standard spacing's does not fully ameliorate soil conditions to allow required levels of plains growth and productivity."*

This statement is consistent with my experience as a grower. The aerial mapping of the properties over successive generations shows the retirement of grazing since 1969 (Figure 2) to smaller block

lifestyle and cropping at present day (Figure 3). Also, refer to refer to Appendix D, EAM (2017), report for 52 Raymond Road, section 4.3 Historical Aerial Photographs pages 4 to 7, and Appendix D, EAM (2017) report for 80 Raymond Road, section 4.2 Historical Aerial Photographs, (pages 3-5)

*Figure 2: Settlement Pattern 1969 (Civic Treasures & Archives, 1969)*


*Figure 3: Settlement Pattern 2017*

By 2017, 80 Raymond Road has an area of 4.64 ha. It is now completely retired from commercial farming and cropping practices. The owners have attempted some sustainable commercial growing, including a mixed citrus block, without success. They have over the years moved into 'lifestyle' activities, including equestrian, and blocks of native and exotic plantings, in effect subdividing in all respects except legal title. Please refer to the area circled in "blue" in Figure 4 below, and Appendix D, EAM (2017) report for 80 Raymond Road, section 4.2 Historical Aerial Photographs, pages 3 to 5.

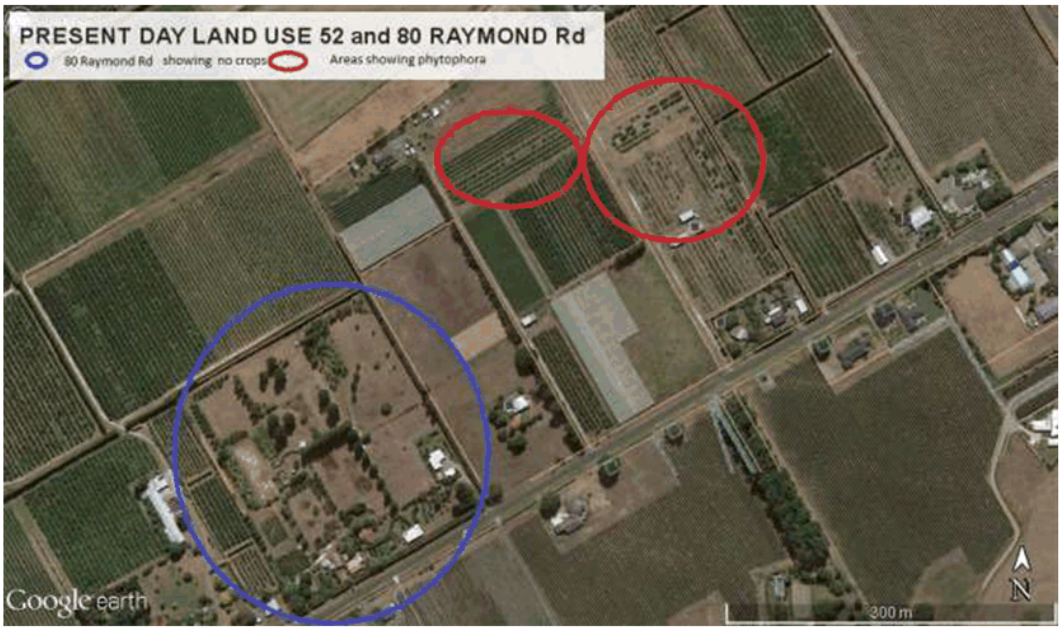


*Figure 4: Google Earth Image of Raymond Road, Hastings 2017*

The property at 52 Raymond Road has an area of 6 ha and has been transitioning to lifestyle blocks as the last twenty-seven years of various plantings have shown limited viable options. All the properties on the pan show significant problems with root-rot. This is borne out by the Fruition report (Hughes, 2014) and corroborated by Martin Taylor's report (Taylor, 2017) and can also be seen on the aerial photo in Fig. 4.

The land has been successfully assessed to be suitable for small-scale, intensive crops such as raspberries. This requires expensive netting and expert control of irrigation and drainage. This is not viable for large-scale horticulture, and there is no economy of scale to be had. Local market berries pay approximately 400% more than commodity markets (such as Heinz Watties). At present, berries are grown on an area of less than 1ha, and this produces sufficient for the local market and a supply of frozen product to ***local*** supermarkets for a year. This has been the reasoning behind the larger lots of 1.2 ha as keeping options open for similar ventures in conjunction with housing. Over the last 25 years, a variety of crops have been established and have failed to attain commercial viability. This includes: apples, kiwifruit, pumpkins, blueberries, and boysenberries, refer Taylor, (2017) which is consistent with Hughes, (2014). As mentioned above, there is also evidence that

grapes and asparagus have been tried at 52 Raymond Road in the past.

Cropping accounts for only 37%[1] of the land use for this site. The remaining 63% of the land is not utilised with no viable, sustainable return available from the land due to the extent of trees dying from Phytophthora. The areas subject to Phytophthora are circled in "red" on 52 Raymond Road and on the neighbouring property at Figure 4 above and are demonstrated on the ground in the photos below taken on the property in 2017 at Figure 5. These photographs show that some of the trees and berries are dying from root-rot despite the land sloping away to the North, and providing surface draining. The land surface is not necessarily reflected in the pan surface which undulates, causing perching and consequent root-rot which is more readily understood from the aerial photographs, refer to Appendix D, EAM (2017), report for 52 Raymond Road, section 4.3 Historical Aerial Photographs pages 4 to 7.

*Figure 5: Evidence of root- rot at 52 Raymond Road, 2017*

Phytophthora is a soil-born pathogen which causes weakness and slow collapse of crops and trees. It is extremely difficult to kill. It can infect trees, woody plants, and vegetables. Ripping of the pan

[1] The figure of 37% has been rounded up.

can ameliorate the causes of Phytophthora, as can careful control of irrigation. However, winter inundation and undulation of the pan are difficult to control. Phytophthora only requires four hours standing in water to germinate. It can be readily transferred to healthy plants through the soil.

**Comment on horticultural (Berries and Apples):**

Over 30 years of various plantings have shown limited viable options. 80 Raymond Road has reverted to lifestyle usage. All the properties on the pan show significant problems with root-rot. This is borne out by the Hughes report (Hughes, 2014) and corroborated by Martin Taylor's report (Taylor, 2017). Martin Taylor report is applicable to 52 and 80 Raymond Road as both are contained within the elevated terrace above the alluvial plains and have the same Ruataniwha 1f soils. The Hughes Report (2014) states; *"This terraced area of higher elevation has a shallow subsurface and relatively impermeable pan which causes perching of water and creates poor drainage."* [2]



**Comment on sustainability**

Over a 24-year period, growing apples has not been sustainable. This is due to the soil limitations, lack of economy of scale, climate change (hail storms, droughts, inundation), a lack of finance options to even out cashflow and a lack of succession interest. The latter is evidenced by the lack of interest in leasing our properties from the larger growers, such as Mr Apple, T&G and J Bostock. The lack of economic return from historical crops also restricts reinvestments by growers in machinery as demonstrated in the photos below, Figure 6.

[2] Fruition Report (2014), page 2, Summary.

*Figure 6: Machinery at 52 Raymond Road 2017*

**Comment on agricultural:**

Up until 1969 the land at 52 Raymond Road and 80 Raymond Road was predominantly farmland for grazing with minor areas of cropping demonstrable in the wider area, refer to Figure 1 above and Figure 2 below.

Below, copies of the original subdivision done in 1976 (refer to figure 7, DP15184) from farmland into smaller blocks. This was presumably done because agriculture was considered less productive than, for example, kiwifruit production which was in ascendance at the time. Grapes and Asparagus were also planted at the time but removed within a short period. Furthermore, in 1990 there was a further subdivision (refer to figure 8 DP22124) in recognition of the fact that the underlying title (Lot 5 DP15184) consisted of two distinct soil types. At the time, the resultant Lot 1 on DP22124 was sold to us as a Kiwifruit, Berry and Apple orchard. The soil was found not to be suitable for kiwifruit and the vines were removed, the berries continued to grow but the volume of fruit was unviable and the Apple orchard experienced tree deaths from “wet feet”.

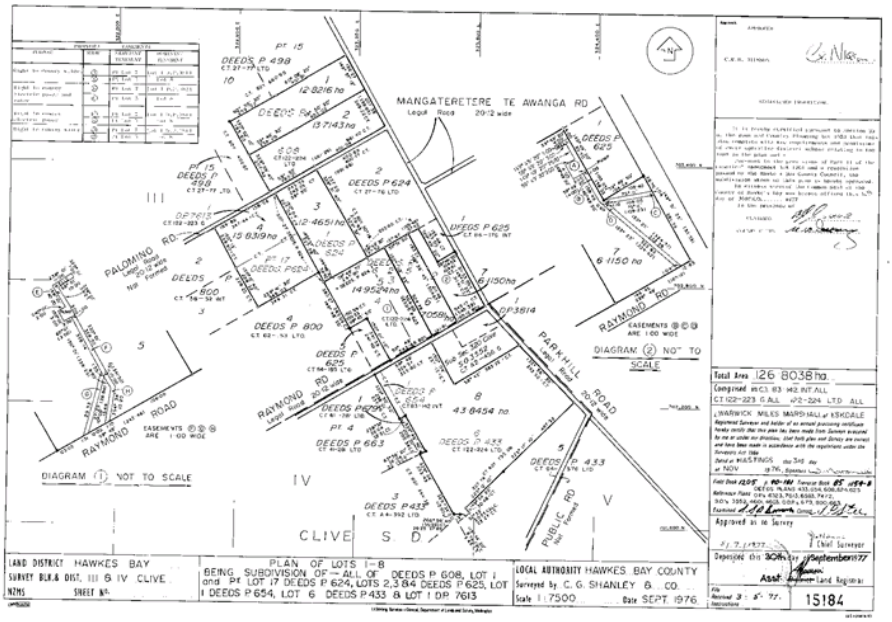


Figure 7: DP15184 (QuickMap Custom Software Ltd, 1976)

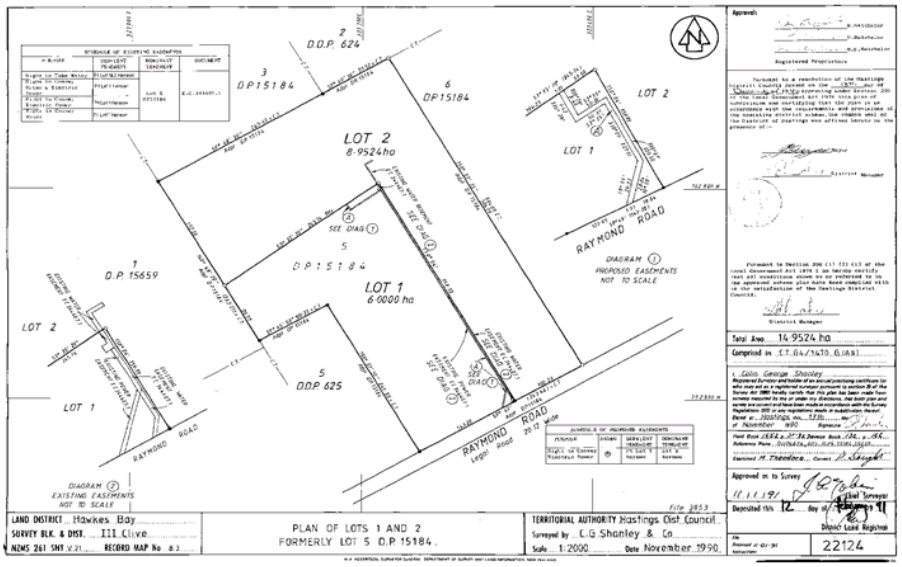


Figure 8: DP22124 (Quickmap Custom Software Ltd, 1990)

**Comment on viticulture**

There are two small vineyards in the area refer to figure 9. The land is assessed as potentially suitable for crops such as grapes, Hughes (2014)[3] *"grapes may tolerate these conditions,"* however, Deloitte Report (2016)[4] demonstrates high risk and potential loss for small-scale producers, and state; *"Compared with the other categories, participants in this category typically have lower selling and administration costs but higher depreciation and interest costs as a proportion of revenue."* At only 6ha of land, these sites are at the lowest band of the $0-$1.5M category reported which demonstrates; *"… a net loss before tax of 9% of revenue".*


*Figure 9: Local Vineyards*

[3] Fruition Report (2014), page 7.
[4] Deloitte Report (2016) page 6

**CONCLUSIONS:**

Over the years, as a grower I have been able to effect sustainable land use change with the added clarity of observing settlement patterns in Hawkes Bay generally and at Raymond Road in particular. I have sought ongoing professional advice on crop type decisions and orchard management for over twenty-five years. I have improved water supplies, planted, removed, replanted, grafted and exercised all options available to improve viability. Evidence of the pan can be physically shown and should not need further expert review. It is my opinion that this land is best utilised for options other than commercial growing option.

It is time to take note of what the land is telling us if we want to obtain different results.

The land has been successfully assessed to be suitable for small-scale, intensive crops such as raspberries. This has been the reasoning behind the larger lots of 1.2 ha as keeping options open for similar ventures in conjunction with housing.

It could be said that the area should be described as ***Versatile Land*** rather than ***Versatile Soils*** as this recognises that housing can be part of versatile use, as evidenced by the development of Park Hill Estate.

The expert reports of Bloomer (2011), Hughes (2014), EAM (2017), Taylor (2017) confirm my view that production on the land, while still feasible, is severely compromised due to the pan, existing roading and subdivision.

Amalgamation as an option would be a retrograde step and counter to the direction the settlement pattern is taking. Purchase offers from neighbours have not been forthcoming in line with values reflected by recent sales. These sales have been valued at lifestyle prices and could be seen as an accurate reflection of suitable land use.

It is my informed view that amalgamation is unlikely to occur for the reasons set out in this and other reports.

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# APPENDIX ONE;

## CV of Anton Maurenbrecher

| | |
|---|---|
| Name: | Anton Louis Maurenbrecher |
| Date of Birth: | 11/6/1950 |
| Country of birth: | Indonesia |
| Nationality: | New Zealander (Naturalized, originally Dutch) |
| Tertiary Qualifications: | Diploma in Land Surveying, University of Otago 1977.<br>Certificate of Competency from Survey Board of New Zealand 1978.<br>Admitted as a member of The New Zealand Institute of Surveyors 1978.<br>Licensed to Undertake Cadastral Surveys from 2009 to present day.<br>License to Practice Surveyors Board of Sabah 1985 |
| Other Qualifications: | Scuba qualification from NZUA 1977.<br><br>Padi Scuba diving qualified. |
| Languages spoken: | English, Dutch, basic French, Market Malay. |
| Interests: | Diving, Skiing and Yachting. |
| Work History: | 1977-1979 Lands and Survey Auckland New Zealand<br><br>1979-1980 Manager TCB (Sabah) based in Kota KInabalu, East Malaysia.<br><br>!980-1985 Sole proprietor TCB (Sabah).<br><br>1985-1987 Sabbatical (Sailing a small yacht from Sabah to Greece)<br><br>1987-1988 Senior Surveyor, Iffland Associates London.<br><br>1988- 2003 Worked for the Seismic exploration industry in various countries: New Zealand, Turkey, Indonesia, India, Bangladesh and Pakistan.<br><br>From 1997 to 1999 I also designed and built a Rammed Earth house on the orchard.<br><br>2003-2017 Contract surveyor Dagg and Thorn, Napier, New Zealand.<br><br>Since 1993 I have also owned and managed a 6ha Apple and Berry orchard in partnership with my wife. |
| Directorships: | Hawkes Bay Berryfruit Cooperative.<br><br>New Zealand Boysenberry Council<br><br>As a director of the Coop, I was involved in establishing gross margins for the Boysenberry crop and negotiating with Heinz Watties and Mt Erin Pacific. The |

directorship of the NZ Boysenberry Council was only of value to the extent that it gave an insight into the profitability of local versus export product.

During 1997 to 1999 I designed and built our house, and this has developed eco-friendly, sustainable design and building skills. I am particularly interested in developing these further and have become interested in project management for owner/builders.

My work as sole proprietor of a survey practice and management of the orchard has developed budgeting, cash flow and cost analysis skills. I am competent in the use of spreadsheets.

**PROJECTS WORKED ON OVER THE YEARS**

**Sabah: (TCB as director and later as sole proprietor)**

Large-scale cadastral surveys for plantations (up to 23000 acres)

Photo-control for river surveys, including cross sections of some 100km of one of the largest rivers in Borneo.

Transmission line surveys.

Topographic surveys.

**London: (Iffland associates as senior surveyor)**

External and internal building surveys including a large hospital and a curved façade in St Martin's Place.

Pile set-out for buildings in the Docklands Development.

Liaison between contractors and architect.

**New Zealand :(BTW as field surveyor)**

Seismic surveys in Taranaki.

**Turkey, Indonesia, India, Pakistan, Bangladesh, Burma, Saudi Arabia. (Compagnie General Geophysique, as senior surveyor)**

Setting out of seismic lines, seismic line assessment and supervision of up to 5 survey teams and organisation of supplies, helicopter support and liaison with all other aspects of a seismic exploration crew.

**New Zealand: (Dagg and Thorn)**

The last fourteen years or so have been spent in part-time work with survey firms in Hawke's Bay. During this time I relicensed while working on a range of surveys:

Parklands Estate, survey control and pegging of some 500 lots.

Te Awa settlement project.

Rural surveys, often involving limited titles and scarce survey control.

Numerous urban surveys of 2 to 5 lots.

Numerous topographic surveys using SDR as CAD program.

# EXTRACT – SOILS OF THE HERETAUNGA PLAINS – A GUIDE TO THEIR MANAGEMENT

## 30 - Waipukurau

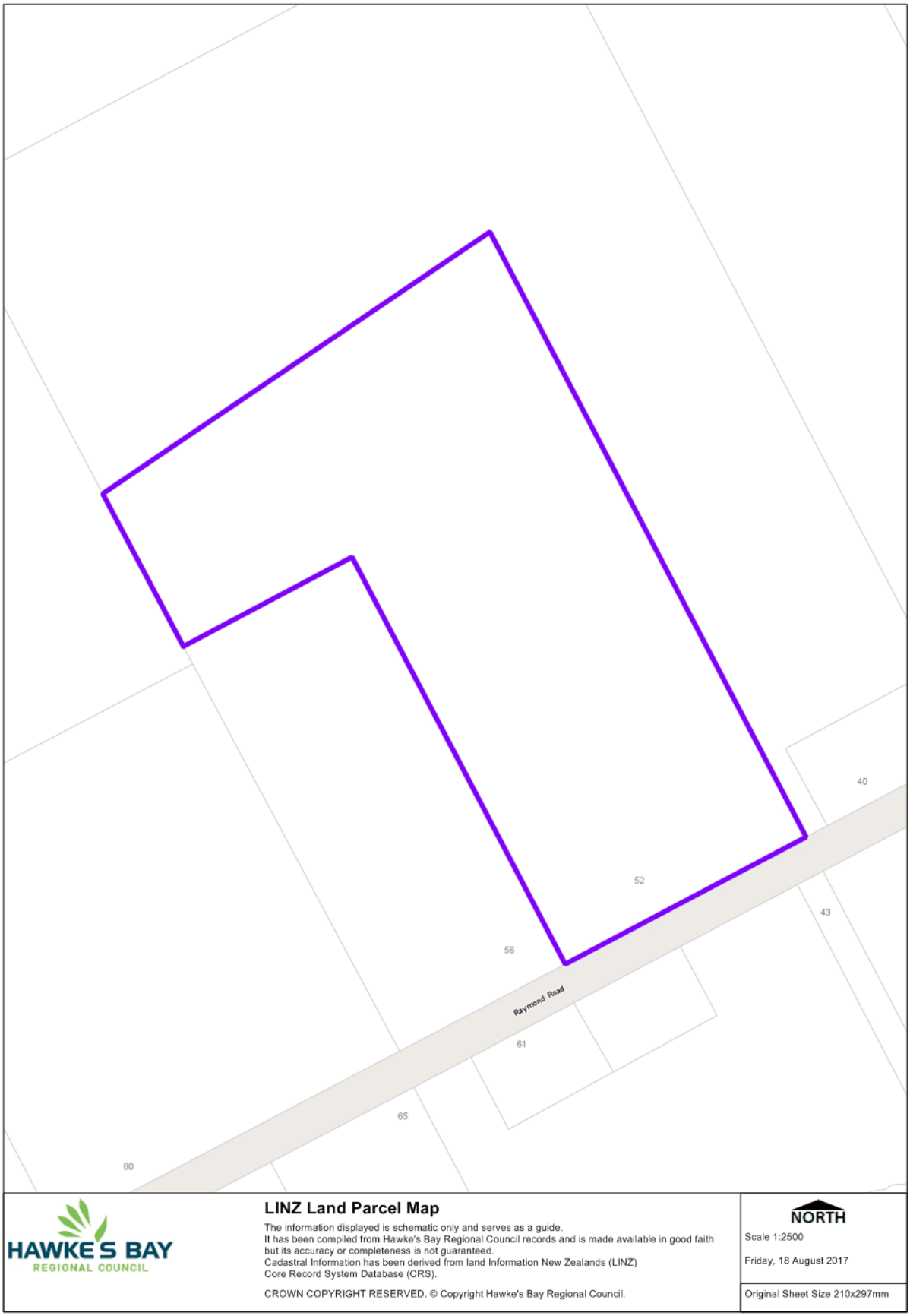
### Soil Properties

| | |
|---|---|
| Parent material | Alluvium from volcanic ash with some greywacke |
| Characteristic site and soil features | Flat or gently sloping high terrace with shallow alluvium from ash and greywacke over clay from weathered fine ash over loess with cemented pan |
| Associated soils not shown within map unit at map scale but separated out in more detailed maps. - Sample Location | 28, 32<br>A |
| Natural drainage and depth to perched gley | Poor<br><30cm |
| Potential rooting depth, texture, and limiting layer | >30cm ashy sandy loam on gleyed ashy sandy loam on clay over cemented pan at 40-50cm |
| Available water capacity | 30-50mm |
| Infiltration rate | Rapid |
| Permeability rate | Very slow |
| Susceptibility of topsoil to pugging and compaction | Moderate |
| Susceptibility to wind erosion when dry | Very high |
| Unfavourable soil characteristics | Topsoil susceptible to wind erosion<br>rapid infiltration<br>low AWC<br>20-30cm to perched gley on very slowly permeable cemented pan at 40-50cm |

### Soil Management

| | | |
|---|---|---|
| Artificial drainage | 30 | Mole drains above pan |
| Cultivate when moist to avoid:-<br>wind erosion | 30 | |
| **Irrigation:-**<br>recommended method | 30 | sprinkler to prevent waterlogging |
| Dripper spacing for continuous wetted Strip | 30 | 30cm if 4 l/hr drippers used |
| Amount and frequency | | little (15-25mm), often to prevent waterlogging |

# HBRC SOILS MAPS




HAWKE'S BAY REGIONAL COUNCIL

**LINZ Land Parcel Map**

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HAWKE'S BAY REGIONAL COUNCIL

**Aerial Photo Map**

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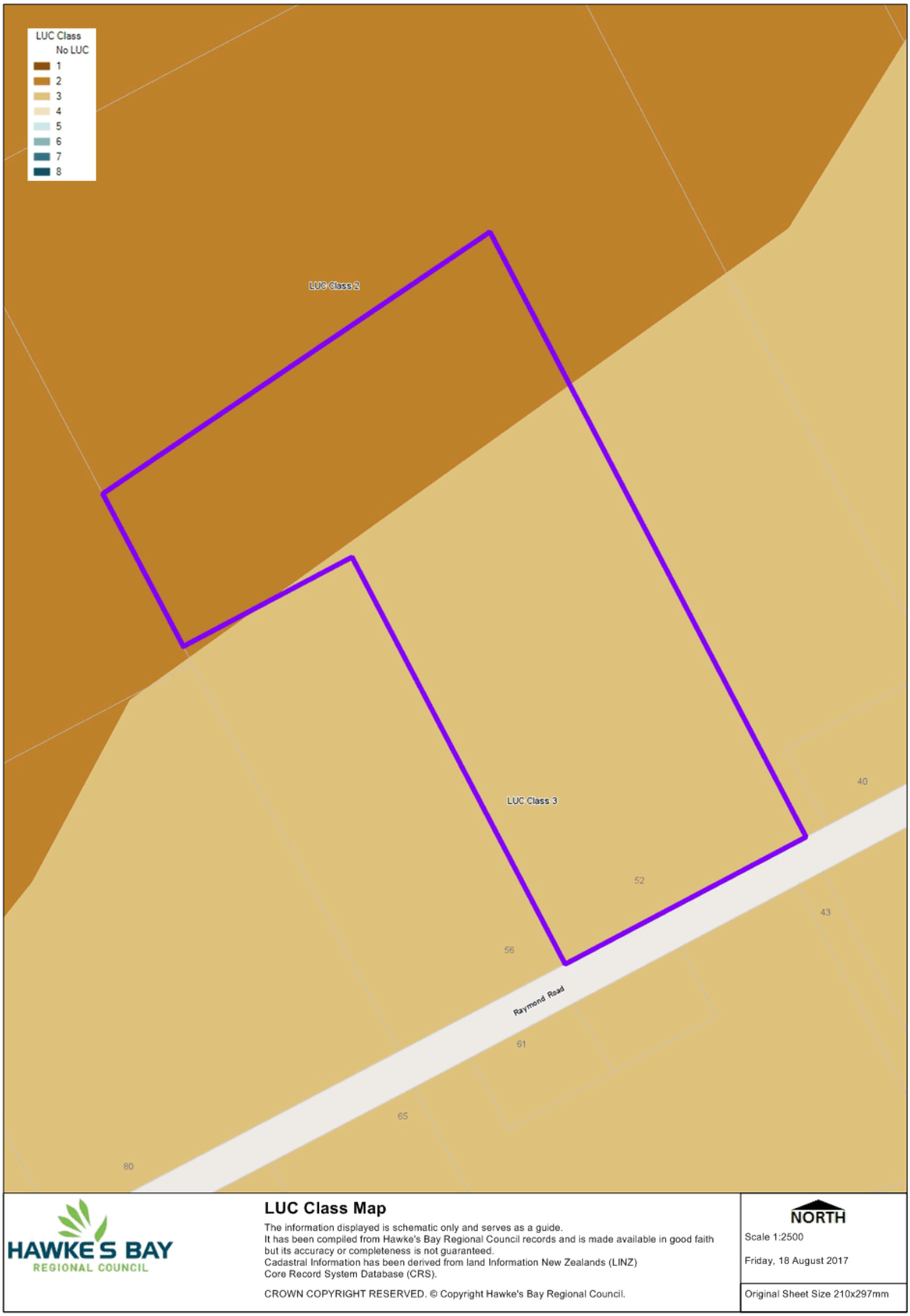


HAWKE'S BAY REGIONAL COUNCIL

**LUC Class Map**

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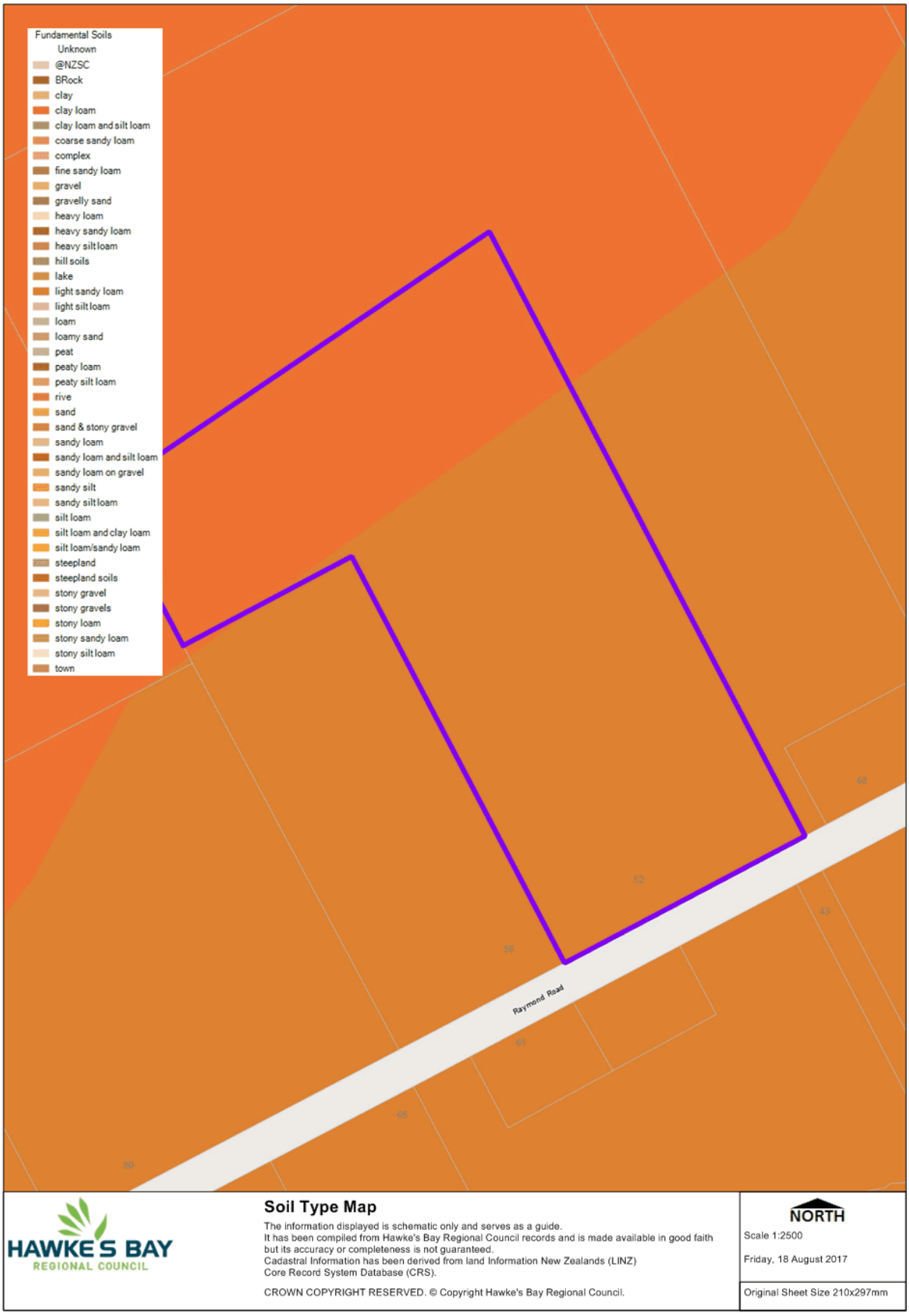


HAWKE'S BAY REGIONAL COUNCIL

**Soil Type Map**

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## Land Management Data

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## LINZ Parcel Information

Sourced from LINZ LDS.

| Parcel ID | Appellation | Affected Surveys | Parcel Intent | land District | Survey Area | Calculated Area |
|---|---|---|---|---|---|---|
| 4224240 | Lot 1 DP 22124 | DP 22124, DP 311447 | DCDB | Hawkes Bay | 60000 | 60126 |

## LINZ Titles Information

Sourced from LINZ LDS.

| Title No | Status | Type | Land District | Issue Date | Guarantee Status | Description | Owners |
|---|---|---|---|---|---|---|---|
| HBP4/839 | LIVE | Freehold | Hawkes Bay | 1993-06-16T 12:00:00Z | Guarantee | Fee Simple, 1/1, Lot 1 Deposited Plan 22124, 60,000 m2 | 2 |

## Valuation Information

Sourced from HBRC.

| Valuation Number | Legal Description | Location | Land Value | Capital Value | Improvement Value | Valuation Date |
|---|---|---|---|---|---|---|
| 0965048508 | LOT 1 DP 22124 BLK III CLIVE SD | 52 RAYMOND RD, HASTINGS DISTRICT | 495000 | 850000 | 355000 | 1/08/2013 12:00:00 a.m. |

## LUC Class

Sourced from HBRC.

| LUC 1 | LUC 2 | LUC 3 | LUC 4 | LUC 5 | LUC 6 | LUC 7 | LUC 8 |
|---|---|---|---|---|---|---|---|
| 0 ha | 2.28429 ha | 3.72826 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

## Soil Types

Sourced from HBRC.

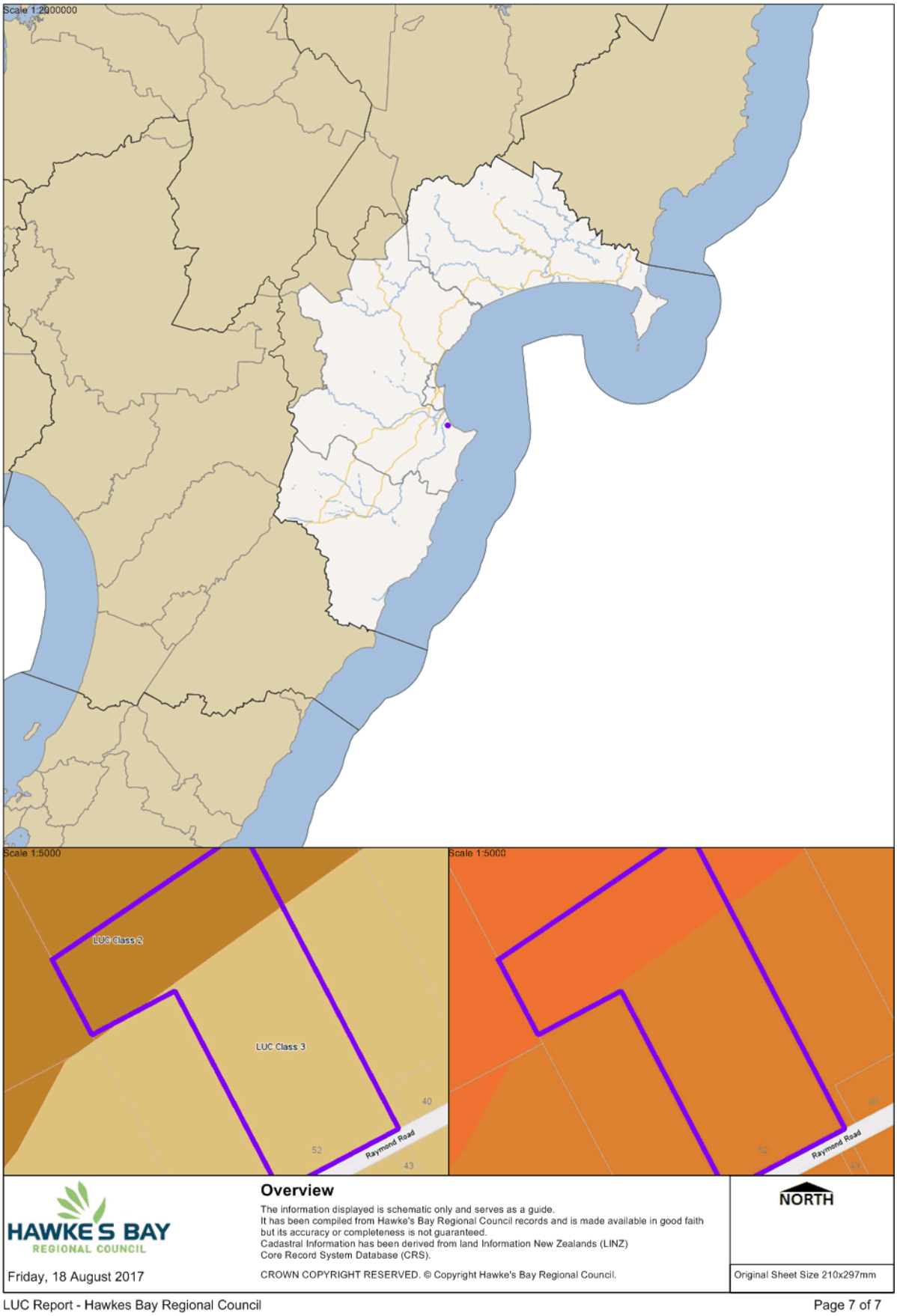
| @NZSC | BRock | clay | clay loam | clay loam and silt loam | coarse sandy loam | complex | fine sandy loam | gravel | gravelly sand |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 2.28429 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| heavy loam | heavy sandy loam | heavy silt loam | hill soils | lake | light sandy loam | light silt loam | loam | loamy sand | peat |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 3.72826 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| peaty | peaty silt | rive | sand | sand & | sandy | sandy | sandy | sandy silt | sandy silt |
|---|---|---|---|---|---|---|---|---|---|

| peaty loam | peaty silt loam | rive | sand | sand & stony gravel | sandy loam | sandy loam and silt loam | sandy loam on gravel | sandy silt | sandy silt loam |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| silt loam | silt loam and clay loam | silt loam/sandy loam | steepland | steepland soils | stony gravel | stony gravels | stony loam | stony sandy loam | stony silt loam |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

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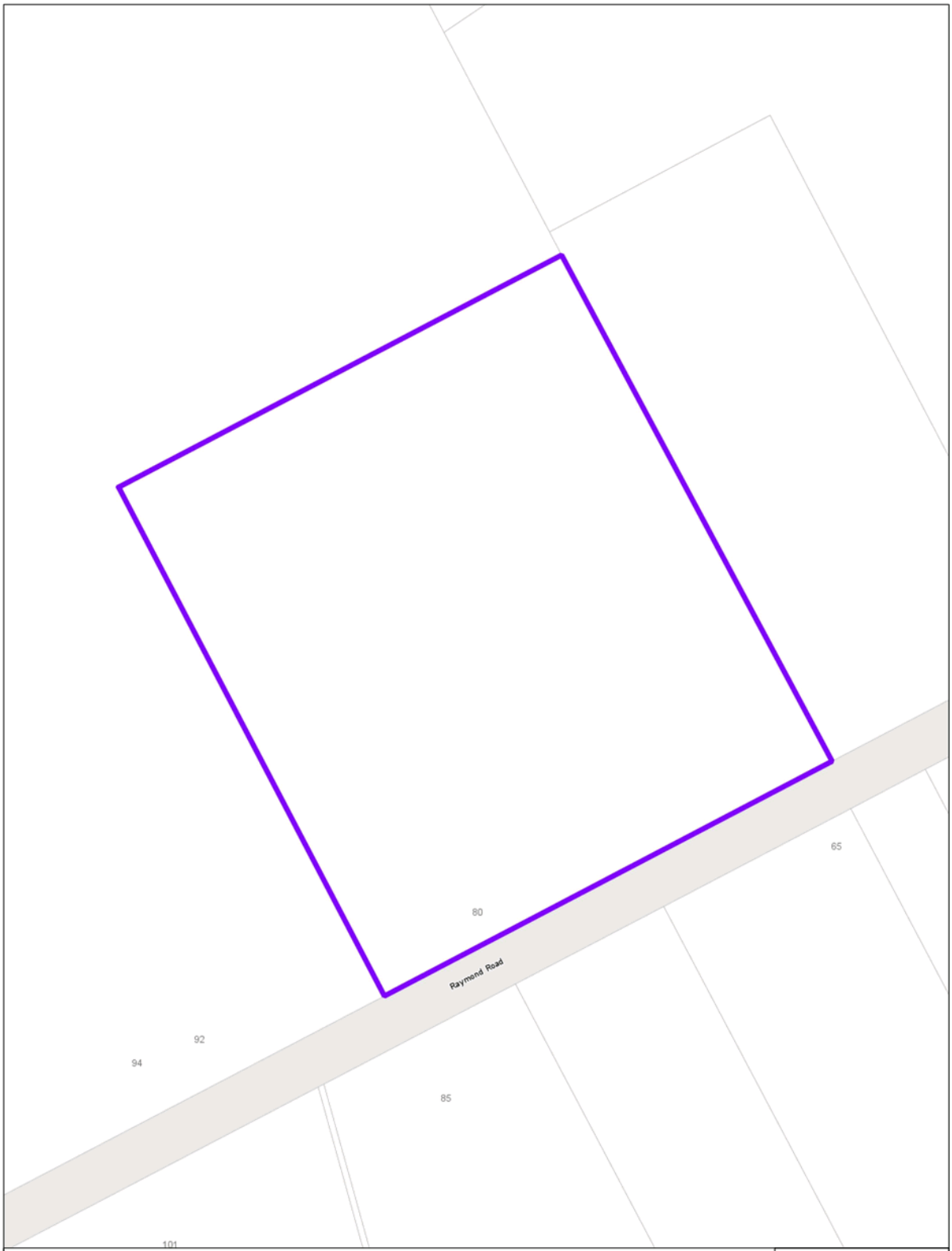


HAWKE'S BAY REGIONAL COUNCIL

**LINZ Land Parcel Map**

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HAWKE'S BAY REGIONAL COUNCIL

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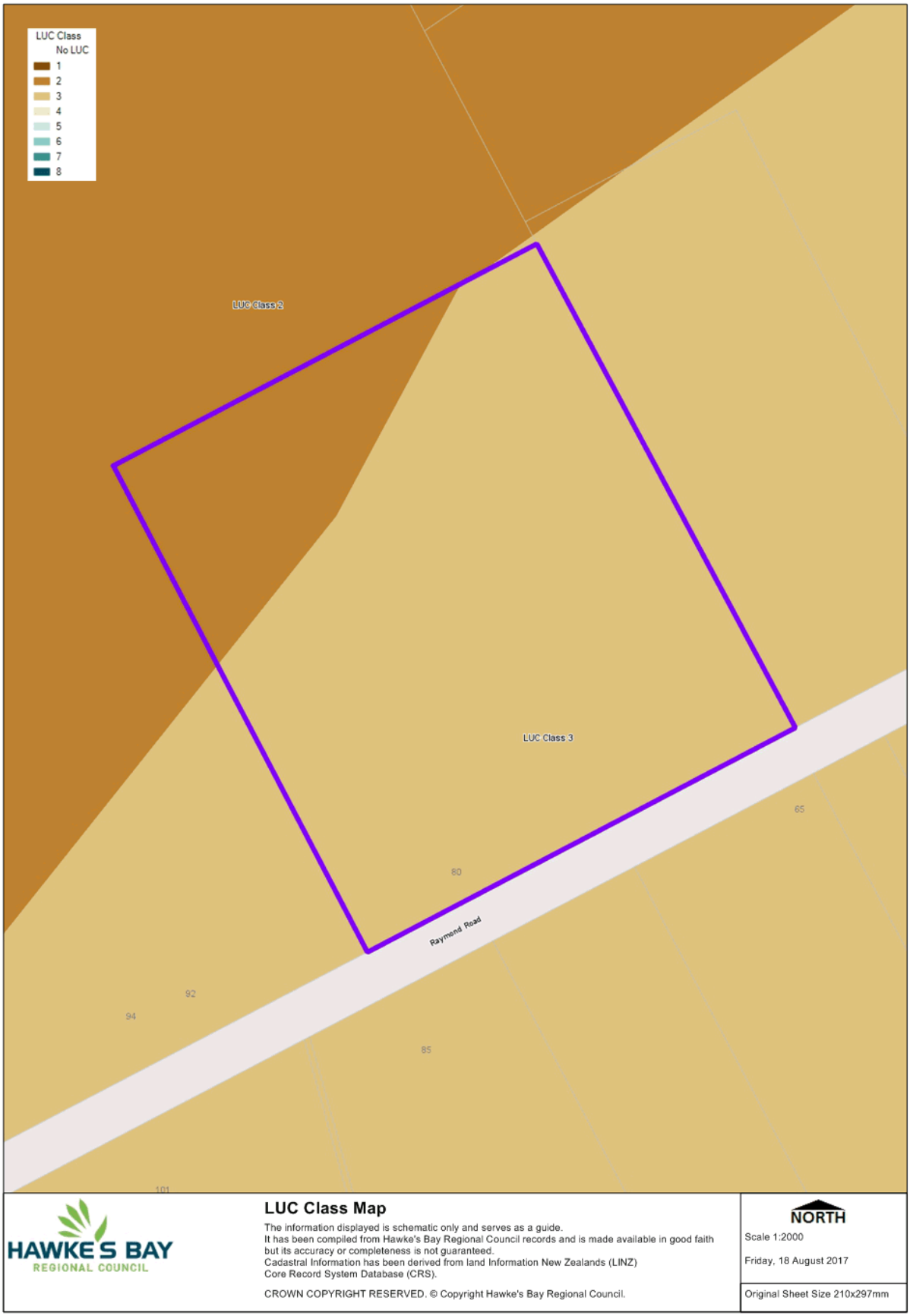


HAWKE'S BAY REGIONAL COUNCIL

**LUC Class Map**

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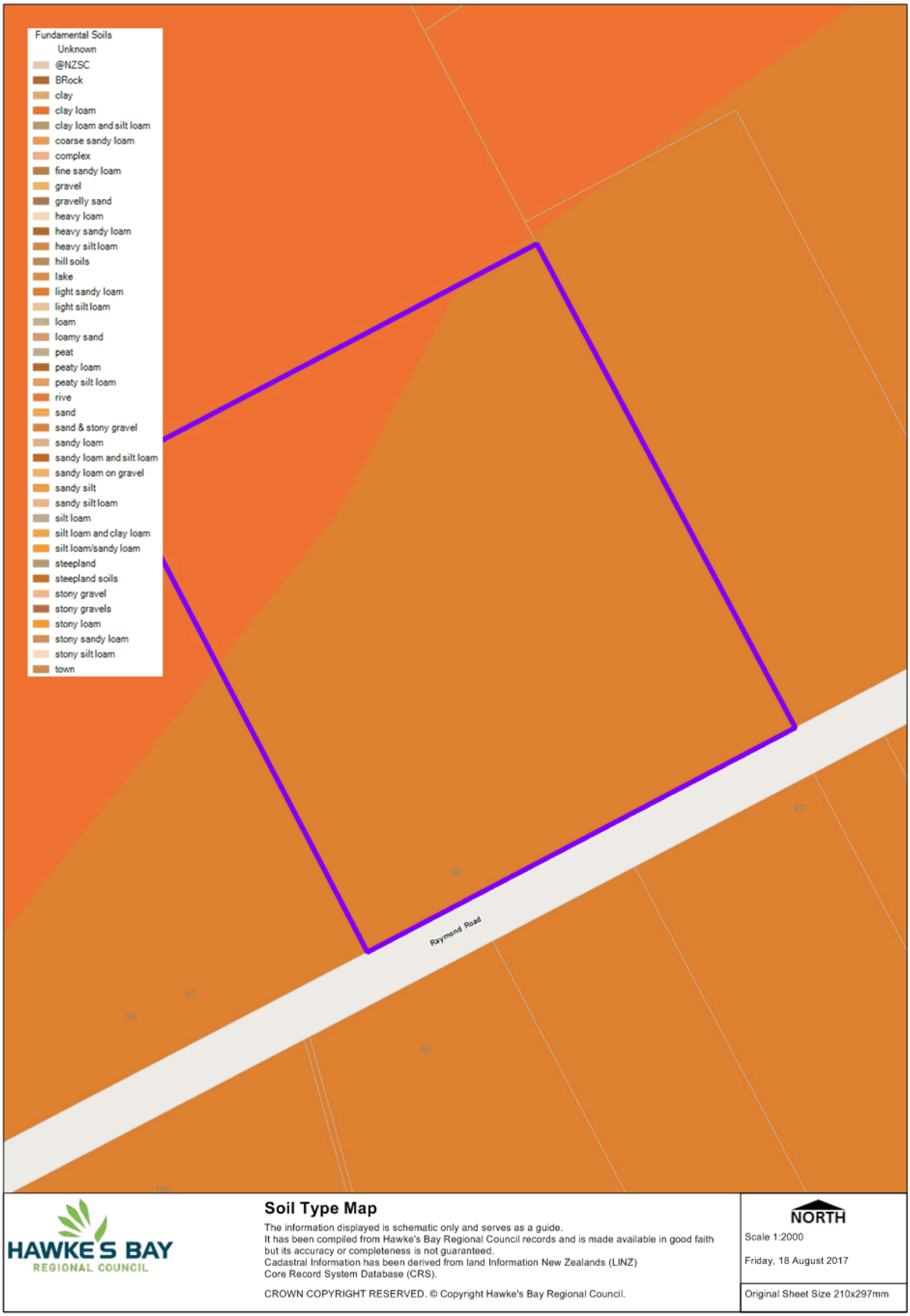


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HAWKE'S BAY REGIONAL COUNCIL

## Land Management Data

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Friday, 18 August 2017

## LINZ Parcel Information

Sourced from LINZ LDS.

| Parcel ID | Appellation | Affected Surveys | Parcel Intent | land District | Survey Area | Calculated Area |
|---|---|---|---|---|---|---|
| 4189239 | Lot 5 DEEDS 800 | DEED 800 | DCDB | Hawkes Bay | 46412 | 46748 |

## LINZ Titles Information

Sourced from LINZ LDS.

| Title No | Status | Type | Land District | Issue Date | Guarantee Status | Description | Owners |
|---|---|---|---|---|---|---|---|
| HB80/1 | LIVE | Freehold | Hawkes Bay | 1933-08-06T 12:30:00Z | Guarantee | Fee Simple, 1/1, Lot 5 Deeds Plan 800, 46,412 m2 | 2 |

## Valuation Information

Sourced from HBRC.

| Valuation Number | Legal Description | Location | Land Value | Capital Value | Improvement Value | Valuation Date |
|---|---|---|---|---|---|---|
| 0965044800 | LOT 5 DDP 800 BLK III CLIVE SD | 80 RAYMOND RD, HASTINGS DISTRICT | 425000 | 1010000 | 585000 | 1/08/2013 12:00:00 a.m. |

## LUC Class

Sourced from HBRC.

| LUC 1 | LUC 2 | LUC 3 | LUC 4 | LUC 5 | LUC 6 | LUC 7 | LUC 8 |
|---|---|---|---|---|---|---|---|
| 0 ha | 0.863608 ha | 3.81122 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

## Soil Types

Sourced from HBRC.

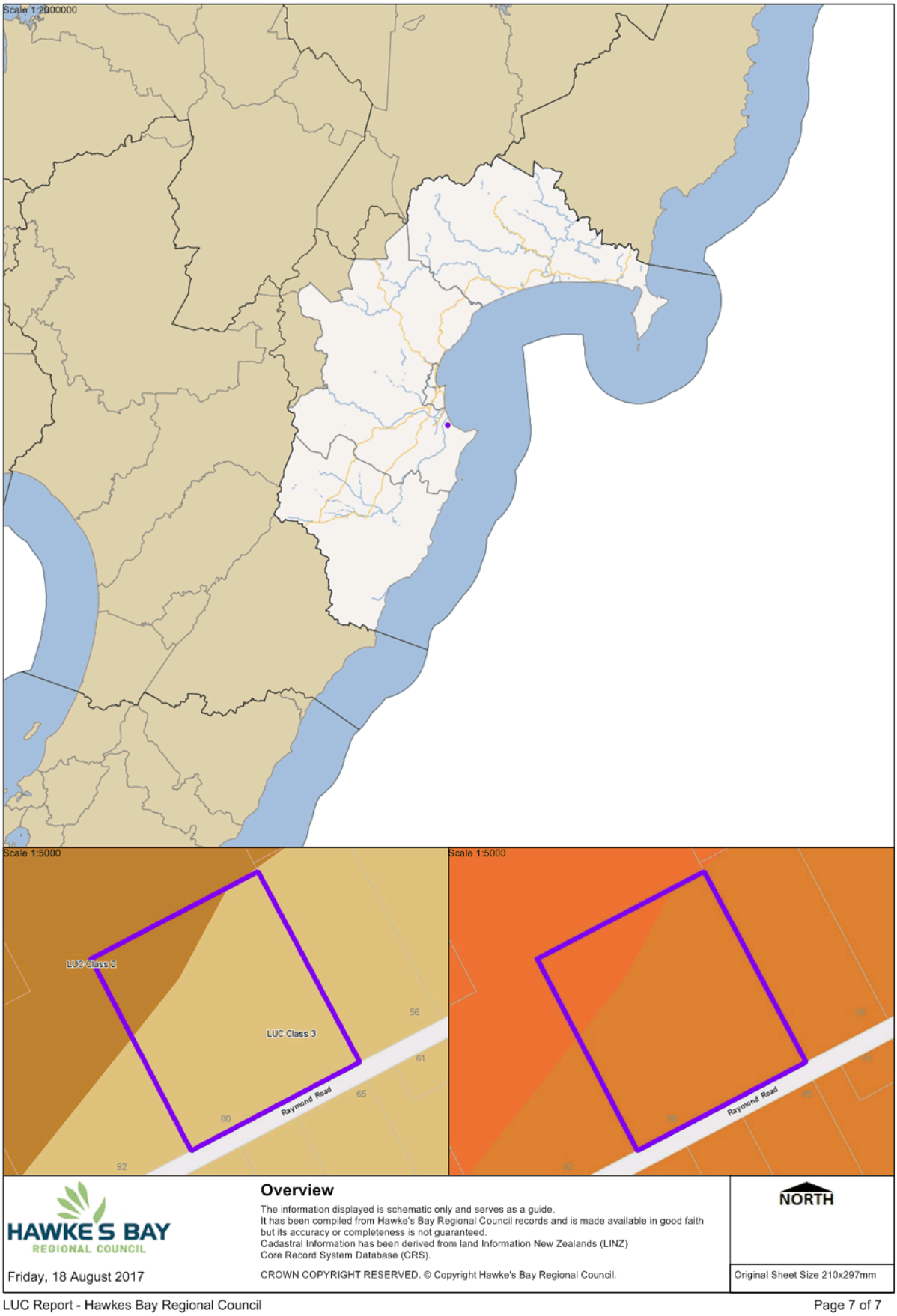
| @NZSC | BRock | clay | clay loam | clay loam and silt loam | coarse sandy loam | complex | fine sandy loam | gravel | gravelly sand |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0.863608 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| heavy loam | heavy sandy loam | heavy silt loam | hill soils | lake | light sandy loam | light silt loam | loam | loamy sand | peat |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 3.81122 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| peaty | peaty silt | rive | sand | sand & | sandy | sandy | sandy | sandy silt | sandy silt |
|---|---|---|---|---|---|---|---|---|---|

| peaty loam | peaty silt loam | rive | sand | sand & stony gravel | sandy loam | sandy loam and silt loam | sandy loam on gravel | sandy silt | sandy silt loam |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |

| silt loam | silt loam and clay loam | silt loam/sandy loam | steepland | steepland soils | stony gravel | stony gravels | stony loam | stony sandy loam | stony silt loam |
|---|---|---|---|---|---|---|---|---|---|
| 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha | 0 ha |




LUC Report - Hawkes Bay Regional Council Page 7 of 7

Item 2

Attachment E

PAGEBLOOMER

# Versatile Soils - Productive Land

*Report for Hawke's Bay Regional Council*

*14 June 2011*

*Dan Bloomer*

*Page Bloomer Associates Ltd*

*An opinion to assist the council in understanding the issues associated with defining 'versatile soils' or 'productive land' for the purposes of avoiding inappropriate use/subdivision/development.*

Versatile Soils - Productive Land

## Table of Contents

Versatile Soils - Productive Land

# Versatile Soils - Productive Land

*Report for Hawke's Bay Regional Council*

## 1. Brief:

To assist the council in understanding the issues associated with defining 'versatile soils' or 'productive land' for the purposes of avoiding inappropriate use/subdivision/development.

Specifically:

To provide opinion on:

1. the distinction between 'soil' and 'productive land'
2. the properties which describe a soil resource; and of those properties, those that would determine a soil to be high value and/or versatile
3. various terms used to describe soil that justifies protection, including high class, high value, elite, versatile, fertile. The Hastings District Plan refers to the life supporting capacity of the soil. What is the 'industry best practice term' that should be used to describe such soils.
4. a description of the symptoms of soil degradation that can arise from land use practices and the remediation measures that could be used to return the soil to its natural capacity. Is there a point where the soils could not be reinstated?
5. the elements of tension that need to be considered when considering how such high value soils / productive land should be protected. For example the productive capacity of two soils might be the same but one requires minimal external inputs and the other requires considerable inputs such as water, fertiliser or drainage.
6. approaches appropriate to protect high value soil / land, and specifically comment on the use of the Land Use Capability Maps as a planning tool
7. which soil maps are the most appropriate to use for planning purposes? If detail is lacking, how could the gaps in information be filled.

## 2. Summary

The Heretaunga Plains has an unusual proportion of its land being of very high value for primary production. Almost 90% of land outside urban areas fits within Land Use Capability Classes 1 - 3. A further area of almost 7% is in Class 7, but identified as very high value for viticultural production.

However, land on the Heretaunga Plains is in short supply for primary production and the secondary services that dominate Hawke's Bay's economy. The diversity and intensity of horticultural and viticultural production on the Heretaunga Plains creates high demand for land. Virtually every soil type boasts examples of intensive primary production.

The Heretaunga Plains Urban Development Strategy recognises the significance of the land based economy and encourages its further development. It recognises the productive values of its soil and water resources and provides for their sustainable use. It specifically seeks to protect the region's soil resource by minimising urban sprawl.

Highly versatile soil requires less mitigation to be productive than does less versatile soil. However, soil is but one factor of the production system and thus of productive land. Productive land integrates soil and many other physical and social factors.

A number of Court rulings relate to attempts to limit urban growth for the purpose of safeguarding productive land. The outcomes have been variable, but the protection of soil was not found sufficient justification to refuse sub-division. A narrow focus on protecting soil is unlikely to safeguard productive land from urban expansion.

Regardless of soil qualities, land may not be of high versatility given its setting. An extremely good (highly versatile) soil might not be viable for farming because of site or off-site factors. A relatively poor (low versatility) soil might exhibit high value because of proximity to other resources and services. Land with less versatile soil can be very productive if resources are available to address limiting factors.

The Resource Management Act refers to safeguarding the life-supporting capacity of soil, and provides some function to manage land for the purpose of soil conservation, but soil conservation in the RMA means avoiding, remedying, or mitigating soil erosion and maintaining the physical, chemical, and biological qualities of soil.

The act of subdivision does not affect the soil's productive capacity so much as it affects patterns of ownership. Sub-division may, by adversely affecting any of the factors of production, affect land's productive capacity. Sub-division for urban development removes land from agricultural production, and also impacts on the productivity of other land, in particular through reverse sensitivity.

The intent of the Heretaunga Plains Urban Development Strategy is to control inappropriate use, subdivision or development. That is important for the region's prosperity, but should be addressed directly.

Any strategy must include consideration of a wide range of factors of production. Singular focus, indirect measures have been successfully challenged in courts and may create unintended or perverse outcomes.

# 3. Background

## 3.1 Heretaunga Plains Urban Development Strategy

The Heretaunga Plains Urban Development Strategy (HPUDS) recognises the value of the area's soil and water resources in the following guiding principles:

Quality Living Environments with high levels of amenity and thriving communities

- Avoiding sensitive natural environments, (streams, wetlands, lakes, and rivers) and significant landscapes, and versatile soils for productive purposes.
- Maintain, enhance and create important ecological areas for the protection and enhancement of indigenous biodiversity.

A growing and Resilient Economy which promotes opportunities to live work and play

- Recognise opportunities to utilise the versatile soil resource of the Heretaunga Plains for production while minimising the loss of versatile soils from productive purposes to urban development
- Recognition of the significance of the land based economy and encourage its further development

Productive values of its soil and water resources are recognised and provided for and used sustainably

- Recognise versatile soils for productive purposes through minimising the need for urban development on such soils and providing for rural lifestyle development in other locations
- Ensure that the allocation and use of the water resources is efficient and sustainable
- Protect the Heretaunga Plains aquifer systems
- Protect and enhance the water quality of streams, rivers, lakes and wetlands.

The strategy seeks to protect the region's soil resource by minimising urban sprawl through compact urban design and taking a number of criteria into account in identifying areas for future growth. Those criteria included identifying areas where:

- Soils are of lesser versatility or,
- Productive capacity is compromised by:
    - Size and shape of land parcels that mitigates against productive use
    - Surrounding land uses and reverse sensitivity
    - Lack of water/poor drainage
- Clear natural boundaries exist or
- Logical urban edge greenbelts could be created.
- Greenbelts could provide opportunities for walking and cycling connections
- Sites can be serviced at reasonable cost and integrated with existing development.

As a result, a number of "Greenfield areas" have been identified around Hastings and Havelock North and in surrounding communities.

This strategy is to be incorporated into the Regional Policy Statement. This will require those areas for future urban growth to be identified, and policy direction for the use, subdivision and development of land outside those areas.

A number of submissions were received on the matter of the protection of the Heretaunga Plains' valuable soil and water resources. The key themes are summarised as follows;

- Ensuring that fertile soils in the plains are adequately protected by focusing development on the hills and within the extents of existing rural communities
- Recognising and protecting the productive capacity of the plains and recognising fertile soils as the basis of the Heretaunga Plains economy
- Recognising the importance of other land based industries to the Heretaunga Plains and the importance of protecting the soil resource for future generations
- Possibility of a 'food production zone' to protect the production versatility of soils and associated activities

One of the areas to be clarified through the Regional Policy Statement process is how to describe the soil / land resource that should be protected. The strategy does suggest the versatile soils worthy of protection as perhaps those being at the upper end of the soil values. However it also refers to the protection of productive land for food production.

This report informs that discussion, with particular emphasis on the key questions outlined in the Brief.

## 3.2 Soils in New Zealand's economy

The report of the Parliamentary Commissioner for the Environment, "Growing for Good: Intensive farming, sustainability and New Zealand's environment", states that New Zealand is in the business of *"...exporting our foods, fibres, wines, films and delivering great visitor experiences. New Zealanders are highly dependent on our natural capital - our waters, soils and biodiversity - for sustaining these wealth generating capabilities."* The report considered *"... soils: the central engine room."* [1]

Seventeen per cent of New Zealand's gross domestic product depends on the top 15 centimetres of our soil (Sustainable Land Use Research Initiative, no date). Soils do underpin food and fibre production in New Zealand and protect our environment by:

- acting as buffers and filters to reduce nutrient loss
- limiting the need for irrigation
- breaking down pollutants
- regulating greenhouse gas emissions
- acting as a fundamental part of the water cycle

Thus the role of soils is greater than just "being productive" in terms of primary food and fibre outputs. They also provide eco-system services, notably in the Heretaunga Plains of buffering crop water and nutrient needs, filtering water, capturing and breaking down pollutants, providing amenity services of landscape and recreation and so on.

Soils do have a critical role in supporting urban living. Their prime role is providing platform services (a place to build roads and houses etc.) but they also provide amenity, recreation and home food production services.

## 3.3 National guidance

Urban growth can be achieved (in terms of addressing population increases or the changing household needs of an urban area) by extending onto 'greenfields' land or through increasing the density within an existing urban area.

Because urban growth commonly occurs on the rural periphery of urban areas, it is a subject that is frequently interrelated with other typically non-urban topics such as the value of productive land and landscape values.

### 3.3.1 Resource Management Act

The Resource Management Act refers to soils in Part 2, Section 5, paragraph 2:

> *(2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being, and for their health and safety while:*
>
> *a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems*

Soil is not listed in Section 6 RMA which lists matters of national importance.

There are requirements relating to regionally significant issues:

- Section 62(1) states: A regional policy statement must state the significant resource management issues for the region.
- Section 30(1)(b) makes it clear that any provision mandated for protection of land is where regional significance has been identified.
- Section 30(1)(b) The preparation of objectives and policies in relation to any actual or potential effects of the use, development or protection of land which are of regional significance.
- Section 30(1)(c) empowers regional councils to control land use activities for the purpose of soil conservation [Note: soil conservation in the RMA means avoiding, remedying, or mitigating soil erosion and maintaining the physical, chemical, and biological qualities of soil].

# 4. Distinction between soil and land, versatility and productivity

The terms "soil" and "land" are commonly mis-used interchangeably. There are accepted definitions for each of these words. In short, soil is one element of land.

Both soil and land are described as "versatile" and/or "productive", and agreed definitions of these words are needed. Other descriptors include, high class, high value, elite, and fertile. The Hastings District Plan (and the RMA) refers to "life supporting capacity of soil".

To define our best soils for food production, Palmer[2] offers two main concepts: *Versatility* and *Land Use Capability*.

## 4.1 Soil

Soil is a natural medium for the growth of plants, consisting of layers formed in a place over time through the combined effect of physical, chemical, biological, and human processes on soil parent material.

There are many formal definitions, some of which are included in the Glossary.

The Heretaunga Plains Urban Development Strategy (Section 5.22. Land and Soils) states;

> *"Repeated flooding means that soil is a renewable resource, but it takes a long time to get it back once it's lost."*

This is incorrect on the Heretaunga Plains. Firstly, the soil is not "got back"; once gone, it is gone, generally ending up as sea sediment. Secondly, it is not replaced.

Each Heretaunga Plains soil is the result of a unique set of conditions that is unlikely to be repeated.

- Extensive engineering works (stop banks and other flood control systems) direct parent-material-containing flood-waters direct to the ocean, and prevent river sediments from encroaching on the settled plains. The supply of alluvium, from greywacke and other sources, has been removed.
- Loess soils are derived from ice-age river sediments re-deposited by winds 15,000 years ago.
- The ash soils derive from volcanic explosions 1,200 years ago, mostly re-deposited as alluvium by river flooding that has now been prevented.

### 4.1.1 Soil classification

A soil classification can be used to trace the formation, or evolution, of soils through time. Under the New Zealand Soil Classification there are 73 major soil groups that can be aggregated into 15 different soil orders.

Soil orders are the highest and most generalised level of the classification. The soil groups can be divided into 272 subgroups with a further subdivision into soil forms. The top three levels of the classification (orders, groups, and subgroups) were described by Hewitt (1993)[3] and the fourth level (soil forms) by Clayden and Webb (1994).[4]

### 4.1.2 Productive soil

Definitions of productive include ability to produce and producing abundantly (see Glossary). Specific to soil, the Soil Science Society of America defines soil productivity, as *"the output of a specified plant or group of plants under a defined set of management practices."*

It should be noted, in the context of this report, that the act of property subdivision does not affect a soil's productive capacity, so much as it affects patterns of ownership. Subdivision or urban expansion, per se, does not lead to a "loss" of soil or soil productivity, even though it may make farming unfeasible.

### 4.1.3 Versatile soils

Versatile is defined by the Concise Oxford Dictionary as *"Turning easily or readily from one subject or occupation to another, capable of dealing with many subjects . . ."*

Hewitt[3] states that New Zealand's best soils are variously called "versatile" or "high-class". They supply the nutrients required for optimum plant growth, and are good for growing food.

> *"a versatile soil capable of many uses needs to be deep, fine-textured, moist, free-draining, loamy, and have an organic-rich topsoil. These properties best enable plant roots to take up nutrients, water and oxygen, and get enough support for rapid growth. Fertility is highest in soils young enough not to have been leached and old enough to have built up organic matter. They are also derived from parent rocks that are well supplied with essential nutrients."*

Versatile soils are rare in New Zealand, (accounting for only about 5.5% of New Zealand) and of high value for food production and where practicable should be reserved for horticulture and agriculture and protected from urban development.[3, 13]

## 4.2 Land

Land encompasses a wide range of attributes, of which soil is one. Generally it includes landform, soils, and ecosystems including native and exotic plant and animal communities and urban settlements. Definitions are presented in the Glossary.

### 4.2.1 Land Use Capability

The New Zealand Land Use Capability (LUC) Classification is defined as,

> *"a systematic arrangement of different kinds of land according to those properties that determine its capacity for long term sustained production. Capability is used in the sense of suitability for productive use after taking into account the physical limitations of the land."* [5]

There are eight classes with limitations to use increasing and versatility of use decreasing from Class1 to Class 8 (Appendix 1).

LUC Classes 1 to 4 are suitable for arable and vegetable cropping, horticulture (Including vineyards and berry fields), pastoral grazing, tree crop or production forestry use.

LUC Subclasses identify main kinds of physical limitations or hazards to use.

### 4.2.2 Productive land

Assessments of land and soil value often focus on presence or absence of limitations. The best land is that with no or few limitations.

Current legal consideration of productive land references the opinion of Environment Court Judge Treadwell [6]. A comprehensive list of factors that require consideration was given by Judge Treadwell in *Canterbury Regional Council v Selwyn District Council [W142/96]*, and guides much argument and decision in this area (Appendix 2).

Treadwell's range of factors to be considered is much broader than Land Use Capability. It lists a wide range of bio-physical, social and economic factors to be taken into account in recommending or otherwise a particular site for a particular crop.

Productive land, and even more specifically highly productive land, will be fertile and capable of producing abundant yields of plants and other primary products. But more than this, the other factors that together make an agricultural production system viable will also be present.

### 4.2.3 Versatile land

Chapman defines *"versatile soil/land"* as the ability of land to support production and management of a wide range of crops. It is mainly assessed in terms of soil and land physical characteristics, which have few limitations, such as poor drainage or slope instability. The assessments assume that soil nutrients are not a limiting factor. [13]

This definition mixes soil and land, and as already noted the two terms are not interchangeable. For land to be productive in an agricultural sense, it needs productive soil, but also all the other factors of successful production including such things as proximity to services and transport. The Treadwell list is relevant and is considered further in Section 8.3.

Extending the wider definition of *productive land* along the lines of Treadwell, versatile land will have a range of soil, climate, water resources, transport and industrial services, labour, and other resources, and absence of conflicts, that make it suitable for the production of a wide range of agricultural and horticultural products.

## 5. Properties that describe soil and land resources

Soil and land resources are described with some purpose in mind. Geologic surveys may focus on underlying rock types, perhaps for resource inventory and identification of potential mining sites.

Soil surveys are almost exclusively undertaken as resource inventory for identification of agricultural potential. The properties used to discriminate different soils will have agricultural relevance.

It is generally accepted that the specific properties of a soil, and the ecosystems services it can provide, are a function of climate, organisms, relief, parent material and time, and the influence of human activity.[7, 8]

Soil properties relevant to plant growth and protection are presented by Hewitt.[9]

In general, soil provides plants with water, air, nutrients and stability that are necessary for growth. The ability of a soil to provide these services may be evaluated by key soil attributes (see Table 1).

**Table 1: Soil attributes and their relevance to plants.** from Hewitt (2004)[3]

| Key soil attribute | Relevance to plants |
|---|---|
| Wetness | Water supply, exclusion of air and, consequently, exclusion of oxygen |
| Root barrier | Controls the depth of soil available for roots to extract water and nutrients, and to anchor the plant |
| Stoniness | Stones and rocks dilute the volume of soil within the root depth that is available for water storage and nutrients |
| Porosity | Promotes stability by allowing deep rooting. Drains excess water, and circulates air to roots |
| Natural nutrient status | Controls nutrient supply and reserves |
| Drought proneness | An interaction between climate and soil attributes |

In reporting the properties of Heretaunga Plains soils, Griffiths[10] includes further attributes including resistance to degradation or loss from factors such as compaction and erosion.

## 6. Symptoms of degradation

The capacity to nurture and sustain plant and animal productivity is a key function of high quality soils. Indicators of soil quality reflect the key properties and processes that support this function and can be used to assess the fitness of soils for production.[11]

In addition to extrinsic factors (climate, access to other resources such as water, services, transport), productivity is influenced both by the intrinsic characteristics of a soil (i.e. inherent soil quality) and those properties or processes that are affected by its use and management (i.e. dynamic soil quality).

Sustainable production depends on selection of land uses that are suited to the capability of the soil (and wider environment) and on maintaining soil conditions that minimise the risk of productivity decline.

Degraded soils exhibit a range of changed properties that reduce capacity to nurture and sustain plant and animal productivity. In an agricultural context, quality parameters for soils are described by Shepherd[12] in the Visual Soil Assessment guidelines.

Key indicators include:

- structural condition
- wind erosion potential
- compaction
- porosity
- soil organic matter
- worm numbers
- evidence from relative crop growth

These indicators integrate a number of bio-physical factors, including:

- aggregate stability
- aggregate size distribution
- bulk density
- oxygen diffusion rate
- water infiltration, permeability and holding capacity
- root penetration ability
- ion exchange capacity
- microbial activity
- micro- and macro-flora and fauna activity

In the Visual Soil Assessment system, soil indicators are supported by plant indicators that link soil condition to plant performance, farm production and management practices.

### 6.1.1 Degradation from land use practices

Agricultural soil degradation is commonly associated with intensification of land use and impact on physical properties (structure, aggregate stability and porosity). Associated with physical degradation will be changes in chemical (nutrient and pH) and biological (organic matter, micro-fauna activity). Potential productivity and resilience are reduced.

On the Heretaunga Plains, the most intensive uses include arable and vegetable cropping. Degradation follows repeated cultivation, trafficking especially under wet soil conditions, and removal of organic matter as crop and by-products and as a result of increased oxidation following cultivation.

As stated in HPUDS (s 5.22.1),

> *"Continuous cultivation and compaction from machinery means many paddocks have not maintained their original structure or natural fertility. Careful management is essential for the land to sustain high levels of production."*

Agricultural and arable soils of the Heretaunga Plains do show signs of reducing quality and in a few cases, relative productivity. They are however, still highly productive.

The rate of degradation is exacerbated by increased demand for horticultural and arable production, the intense competition for existing land resources and the high economic value of peri-urban and rural land.

To remain economically viable, farming has reduced or removed "restorative phases" in crop rotations. Grass pasture phases no longer have sufficient time to rebuild natural capital. Further loss of land to urban development can only make this situation worse.

Subdivision or indeed urban expansion does not, per se, lead to a loss of soil or soil quality or productivity. As Keenan notes, the act of subdivision does not affect the soil's productive capacity, so much as it affects patterns of ownership[16]. Subsequent activities, such as clearing soil for roading and building foundations, may lead to a loss of some soil.

Subdivision or urban expansion may lead to a reduction of agricultural land productivity as noted in Section 1 and Appendix 2.

### 6.1.2 Remediation measures

Remediation of agricultural soils involves restoration of the properties that enable normal function. A traditional crop rotation system achieved this through changing species and incorporating pasture phases. Short term degradation was remediated though biological activity and "resting" from cultivation.

A long term cropped, or otherwise degraded soil can also be effectively remediated. Immediate action will usually involve mechanical shattering of mid and upper soil layers to remove compaction and restore ability for water and air to permeate.

Establishment of vegetative cover, especially pasture grasses begins to increase soil organic matter, rebuild and strengthen soil aggregates and enhance macro- and micro-porosity. Several years of

pasture phase and avoidance of further stress is normally sufficient to restore most to the potential of soils on the Heretaunga Plains.

### 6.1.3 Tipping point for reinstatement

There is little evidence of soils that have "passed a tipping point" as a result of agricultural use. Even those in the most degraded states can be remediated, mainly by removing imposed compaction, establishing pasture and allowing the natural processes to rebuild the soil condition.

Factors that may render a soil "un-remediable" include removal of topsoil or addition of toxins or other pollutants. These factors may make soils unsuitable for urban use as well, unless extensive artificial site remediation was undertaken. In some cases, weed infestations have made soil difficult to farm successfully. This may not limit urban use.

When land is used for roading and construction, such as for urban sub-division, soil is generally destroyed. However, the portions of land not subjected to such intense modification, residential lots and public reserves, retain much of their natural productive capacity.

# 7. Terminology to describe soils that justify protection

## 7.1 Soils worthy of protection for their productive capacity for future generations

Soil types that cover some 89% of Heretaunga Plains already support a range of intensive primary production activities. A further 7% support a world recognised viticulture and wine industry.

### 7.1.1 Versatility and Land Use Capability

Chapman [13] is one of a number of people that link versatile soils to the New Zealand Land Resource Inventory. He states,

> *"versatile soils are classified as Land Use Capability 1, 2 or 3e, on the New Zealand Land Inventory Worksheets (as amended in the 1986 Second Edition), provided that land classified as Class IIIe is further described as containing well drained and moderately well drained soil, in accordance with the Soil Description Handbook (Milne et al [14])."*

Many Councils use the LUC classification to define soils worthy of protection for their potential life supporting capacity and protection for future generations. They define these soils variously as either being high quality, elite, prime agricultural or versatile. One description of these soils is the term versatile soils, as defined by Chapman above.[13]

A singular focus on soil alone is unlikely to provide legal protection for their productive capacity (see Section 8.3), and is not sufficient to determine their productive capacity in an economic sense.

### 7.1.2 Highly versatile Heretaunga Plains soils

Versatile soils (Class 1, 2 and 3e) are of high value for food production and where practicable should be protected from urban development. This definition covers about 55% of soil area on the Heretaunga Plains, but does not include many important soil resources in the Heretaunga Plains.

### 7.1.3 Less versatile Heretaunga Plains soils of high value

Substantial areas of financially successful intensive cropping takes place on Class 3w and 3s soils to the west and south of Hastings (Turamoe, Ngatarawa, Poporangi and Pakipaki soils), and around Napier (Meeanee, Te Awa and Ahuriri soils). These soils, which are outside the versatile soil definition above, account for a further 34% of Plains land.

These soils have lower versatility because of limitations such as wetness, potential droughtiness or restricting layers within the soil. So they require a higher level of management, and higher inputs of drainage and irrigation, to achieve yields of higher versatility soils.

But because of their combination of land productivity factors, they have high value and are deserving of protection. They are known to produce well when suitable drainage and/or soil conservation practices are in place. They have ready access to irrigation, and they are close to labour, further processing facilities and farm services.

The Heretaunga Plains also include of very low versatility soils with high economic viticulture value. These are most notably the "Gimblett Gravels" (Class 7) which have achieved terroir status. This incongruity is noted in the 2009 Land Use Capability handbook (Lynn et al)[5]. These Class 7s soils account for 7% of Plains soils.

### 7.1.4 Less versatile soils of lower value

The question for the Heretaunga Plains is, *"Which soils, if any, are not worthy of protection for their productive capacity for future generations?*" The answer is not clear.

The diversity and intensity of horticultural and viticultural production on the Heretaunga Plains creates high demand for land. Virtually every soil type boasts examples of intensive primary production.

The profitability of different enterprises and sectors changes according to climatic and market factors. All exhibit a cyclic nature, usually shorter than a decade. Having eggs in many baskets supports stability.

Those soil types on land that is at higher risk through wetness and flooding (e.g. Pakipaki) are also less suitable for urban development. Less versatile land around Napier (Ahuriri etc) is in identified liquefaction zones.

## 8. Protection of High Value Soils and Productive Land

The Heretaunga Plains Urban Development Strategy [15] recognises (S5.22.1) that

> *"soil is essential for the extensive cropping and farming enterprises that are the core of the Hawke's Bay economy."*

Key approaches identify actively minimising the loss of versatile land by reducing need for green-field urban sites, and support for maintaining highly productive land for food production purposes. The Strategy stops short of protecting that essential soil (or land). It also omits the production of other primary products (fibre and fuel) and provision of ecosystem services.

Environment Court rulings caution against a single focus on protecting soil of a particular class. The ruling in the Environment Court case, *Becmead Investments v Christchurch City Council (A88/96)* states:

> *". . . One should not blithely proceed to introduce blanket objectives and means of attaining them on the basis of some exclusively conceived approach or outlook. Rather, consideration must be afforded to the full range of factors need to be weighed in the circumstances of the case, so that enlightened resource management options, merited in the promotion of the Act's purpose, may be identified and pursued."*

Keenan [16], arguing against protection of versatile soils, stated:

> *"An underlying premise is that the soil resource contributes to the wellbeing of the region. While that may, in essence, be correct, the statement fails to recognise that there needs to be a production system to enable wellbeing to be created. The growers and their operations are that production system, without which the soil resource would not be able to be utilised to create benefits for the district. That production system requires many components, not just suitable soil.*
>
> *A sole focus on soil means that all landowners with so-called 'versatile soils' are locked into a type of production system that may be neither possible, reasonable or economic."*

While a particular soil may be capable of producing food, there are many factors that also need to be available for the land to be used for productive capacity. This leads to the fuller consideration of factors given by Judge Treadwell (Appendix 2).

### 8.1 The effects of agriculture

The last century of farming in New Zealand has changed many soils that were originally poor. Acidity has been corrected by adding lime, low fertility by using fertilisers, drought by implementing irrigation, wetness by drainage, and poor drainage by breaking up subsoil 'pans' with deep-pronged equipment. These and other interventions have contributed to the country's wealth, and an increasing intensity of land use.

More intensive production, whether by horticulture, cropping or dairying, raises the issue of sustainability.[3] Agriculture on the Heretaunga Plains has impacted on soils in negative ways,

particularly through repeated cultivation weakening soil structure and by contributing to wind erosion losses.

Cultivation pans have formed and reduce internal drainage and root penetration. These need not be permanent changes. Remediation is straight forward; requiring little but "resting" the land. But this often viewed as not economically viable in the short term.

Changing cultivation practices are showing positive changes in soil quality on the Heretaunga Plains, even under continuous cropping regimes. LandWISE[17] research, on strip tillage and minimum tillage and more latterly on controlled traffic farming systems, shows very significant benefits can be accrued to both soil quality and economic performance.

## 8.2 Elements of tension

Hawke's Bay has about 17,500 ha of class 1 soils and 26,500 ha of class 2 soils. These represent 9.4% and 2.2% of the national total respectively.[18]

As noted in Section 2 of this report, Heretaunga Plains primary production uses these soils, but is also dependent on class 3, 4 and 7 soils. Together these soils account for over 95% of Plains area, and because of **land** versatility they are highly valued.

The links between soil type and Land Use Capability are further discussed in Section 6. A map of soil type and LUC areas of the Heretaunga Plains is presented in Appendix 3 and as a Table in Appendix 4.

### 8.2.1 Competing demands

Land is a finite and critical resource for the future of New Zealand currently fulfilling a range of roles. These include meeting demands from production, urbanisation and recreation:

- agriculture and forestry,
- housing,
- recreation and tourism
- and increasingly renewable energy

as well as providing ecosystems services

- wildlife habitats,
- clean water,
- iconic landscapes, and for
- cultural and spiritual purposes.

Rutledge[19] identified that the conversion rate of productive land to non-productive uses were highest for highly versatile soils (LUC class 1 and 2).

Climate change also has implications for the use of the land, both in mitigating the drivers of change, and in adapting and responding to those changes likely to occur.[20]

### 8.2.2 Land use conflicts

Rands[21] suggests that,

> *"Left alone, land use choices are unlikely to provide optimal solutions for the provision of public benefit from the use of land."*

The implication is that planned solutions are necessary. The increased market value of land developed for urban use is considerable and beyond agricultural returns to sustain. Urban expansion on to agricultural land will continue unless controlled, because the financial incentives are strong.

Once developed, the economic value of urban and industrial infrastructure normally means this land is permanently removed from primary production.

Within agriculture, land use conflicts can occur around short-term economic incentives and the future sustainability of the soils.

In the Heretaunga Plains, there is a requirement for post-farm processing of crops, and for service industries and a labour pool. Land is required for food processing and storage/cool storage facilities and transport infrastructure. This demand occurs both on farm, and at designated regional facilities such as factories.

Guidance will also be increasingly important around the future possibilities for land - possibly for as yet unknown or regionally insignificant crops. And recognition must be given to the potential costs from the collapse in local ecosystem services including bio-diversity, water retention and natural water treatment. Protection of the Heretaunga Plains artesian aquifer is one example.

### 8.2.3 Protection for agriculture

Discussing Resource Management Act impacts on urban development of rural land, McShane[22] suggests,

> *"... It would appear that the intention of the Act was to protect soil as a natural resource, but by a process of argument which draws on other sections of the Act regarding the efficient use of resources, (arguments which may or may not be legitimate) this need to safeguard the life-supporting capacity of soil as a resource has been translated into a need to protect traditional farming as a use."*

Palmer[2], submitting for the protection of high value soils and productive lands, presents the cases for and against protection.

He notes and refutes the following points offered against protection:

- The free market will provide positive resource management under the RMA
- New technology can improve poor quality soils
- Because of new technology there is now more potentially valuable soil
- Reduced social well being when citizens are not permitted to sell or purchase as they desire
- The increased cost of subdivision on poor quality land

Arguing for protection, Palmer notes:

- Versatile soils are scarce in NZ
- The cumulative effects of sub-division (If the current rate of loss is only 0.5% /yr [in Manawatu], versatile soils will all be gone in 200 years)
- Versatile soils once built on are a non-renewable resource
- The market cannot predict future values and needs
- In almost every case, planning could see poorer quality soils subdivided in preference
- The natural attributes of versatile soils cannot be replaced without much cost and energy
- Versatile soils grow better food more cheaply and with fewer environmental consequences
- Retaining versatile soils close to urban areas lowers transport costs, creates local economy

Keenan[16] argues:

- *"While Section 30 (1) (c) does appear to provide some function to manage land for the purpose of soil conservation, soil conservation in the RMA means avoiding, remedying, or mitigating soil erosion and maintaining the physical, chemical, and biological qualities of soil."*
- *"Urbanisation has no significant effect on the soil resource – rather it has effects on the productive capability of the land in question. The production system is what required protection, not the soil."*

Independent Hearings Commissioners hearing evidence of Keenan and Palmer concluded that the Proposed Horizons One Plan should include the following statement:

> *Allowing urban expansion, including development of rural residential lifestyle blocks onto the more versatile soils adjacent to urban areas, results in a reduction of options for their productive use*
> (proposed One Plan Ch 3.1)

### 8.2.4 Heretaunga Plains Urban Development Strategy

The Heretaunga Plains Urban Development Strategy does recognise the significance of the land based economy and encourages its further development. It recognises the productive values of its soil and water resources and provides for their sustainable use.

The strategy seeks to protect the region's soil resource by minimising urban sprawl through compact urban design and taking a number of criteria into account in identifying areas for future growth.

Those criteria included identifying areas where:

- Soils are of lesser versatility or,
- Productive capacity is compromised by:
  - Size and shape of land parcels that mitigates against productive use
  - Surrounding land uses and reverse sensitivity
  - Lack of water/poor drainage
- Clear natural boundaries exist or
- Logical urban edge greenbelts could be created.
- Greenbelts could provide opportunities for walking and cycling connections
- Sites can be serviced at reasonable cost and integrated with existing development.

So the Heretaunga Plains Urban Development Strategy already acknowledges that soil versatility is only one factor to consider.

## 8.3 Court rulings on Versatile Land

A number of Court rulings relate to attempts to limit urban growth for the purpose of safeguarding productive land. The outcomes have been variable, but the protection of soil was not found sufficient justification to refuse sub-division.

A comprehensive list of factors that require consideration was given by Environment Court Judge Treadwell in *Canterbury Regional Council v Selwyn District Council [W142/96]*, and guides much argument and decision in this area (Appendix 2). These factors include natural resources and human infrastructure and their relationship to the land in question.

Regardless of soil qualities, land may not be of high versatility given its setting. In the decision above, Judge Treadwell commented that *"an extremely good soil might be disqualified for a farming use by one or several of the factors"*.

Conversely, a relatively poor soil might exhibit high value because of proximity to other resources and services.

### 8.3.1 Environment Court urban growth cases

The Ministry for the Environment reviewed case law relating to design-related decisions made before July 2008 by the Environment Court (the Court) under the Resource Management Act 1991 (RMA)[23].

The Court has been critical in the past of the lack of regional direction in managing urban growth (*Canterbury Regional Council v Waimakariri District Council*[24]).

Several of the cases reviewed were between regional and district councils. An issue that emerged from these cases was the desire, at a regional level, for regional planning matters to be resolved prior to new zoning provisions being introduced at a district level.

Several cases reflected attempts to limit urban growth (at least for a certain planning period), particularly to areas within reach of employment centres, schools and other amenities. In the case of *Canterbury Regional Council v Christchurch City Council*[25] several different blocks of land were

considered by the Court under a proposed re-zoning and it made various findings as to the appropriateness of the blocks, depending on their relationship to the existing urban area.

Another case that supported urban containment was *North Shore City Council v Auckland Regional Council*,[26] in which the Court found that limits to a new urban area needed to be drawn to take into account the need to protect landscape and ecological values.

In a case where a greenfield area with landscape values and ecological sensitivities was proposed for urban growth, the Court considered the growth could be differentiated (and declined) in the area when compared with growth proposals (in the same case) in another greenfield area that had landscape values of less importance and less sensitive ecology (*North Shore City Council v Auckland Regional Council*)[27].

The Court found that the loss of a site in an industrial zoned area to a large format retail activity could not promote sustainable management of such a scarce resource, observing that retail activity – unlike noxious industry – might have alternative location opportunities. It observed that while the RMA is permissive, plans allocate zones in recognition of the likely effects of types of activities and the zoning in this instance intended to preserve an industrial character that could sustain industrial needs[28].

The Court has recognised that, despite the intentions of councils to apply structure plans and new zoning to achieve new growth nodes as part of their provisions for planned urban growth, the existing environment also needs to be taken in account.

Given that landscape values and ecology are grounds upon which urban growth on greenfields sites can be differentiated (and declined), it seems soil quality and land productivity might also provide grounds for differentiation.

However, the protection of soil was not found sufficient justification to refuse sub-division in the cases of *Becmead Investments Ltd v Christchurch City Council [1997]* NZRMA 1[29], and in *Canterbury Regional Council v Selwyn District Council [1997]* NZRMA 25[30].

The Court found in both cases[31], where developers sought rezoning of rural land for housing expansion, that the protection of versatile soils under the RMA was not an overriding objective and the rezoning of the land was approved on the basis of housing need. Other cases indicated that in isolated rural areas, where sound reasons could support rezoning to allow large lot lifestyle blocks or the development of resources, approval would be given.

In *Canterbury Regional Council v Selwyn District Council*, the Court acknowledged that a rural site proposed for urban expansion already had low productive value because of reverse sensitivity effects from its existing residential urban neighbours.

The central issue concerned protection of land versatility. The Court found evidence of growth in demand for residential activity, with only two to seven years of suitably zoned land available to meet this demand (partly because of resistance to infill/intensification). It found that the removal of this land from productivity would not affect the ability of future generations to feed themselves.

In considering the appeal, it took into account the difficulties the landowner had experienced farming the land because of the sensitivity of adjacent residential activities, and found that soil quality is not a deciding factor on its own. Regardless of soil qualities, the land was not of high versatility given its setting. The Court held that Section 5 RMA provides for the protection of the environment for human beings as much as protecting resources for human beings.

It would seem, that if the intent of a regional policy is to ensure agricultural productive capacity is not excessively compromised by urban expansion, restrictions based solely on soil type or versatility are insufficient.

The focus should be on limiting the urban expansion directly, or by identifying food production zones, not attempting to do so by controlling use of one factor that affects productive capacity.

# 9. Maps as a planning tool

Land Use Capability and Soil Survey maps present information about the potential productivity, or limits to productivity, of soils in a district.

However, as noted, soil alone is insufficient to determine the value (in terms of either productivity or versatility) of any particular piece of land. That requires consideration and integration of a raft of factors.

Both land use capability and soil maps have inherent limitations of accuracy, scale and veracity.

## 9.1 Land Use Capability Maps

Land Use Capability maps available for the Heretaunga Plains (Land Resource Inventory) were mapped at a resolution of 1:63360 (1 inch to 1 mile). They have not been substantially reviewed for some four decades.

Lines (polygons) appearing on LRI Maps are only indicative. They show the likely extent of areas with a predominance of land with similar use capabilities. Mapping was based on limited soil assessments, and interpretations relied on observations of ground covers existing at survey date and assumptions about the relationship between soils, soil properties and position in the landscape.

Land Use Capability maps do offer a good first assessment tool when considering the likely versatility status of an area or areas. As with all maps, their veracity should be determined through ground truthing carried out at an appropriate scale.

## 9.2 Soil Maps

The Heretaunga Plains soils maps by Griffiths[32] offer a newer set of maps at higher resolution. These maps also have limitations for planning as the soil polygon boundaries are interpolated and drawn at a certain scale (1:25,000). Soils are far more variable than this.

The variability of soil and the accuracy of maps have been, and continue to be, the subject of litigation. Mapped polygons show only the dominant soil, or note complexes in a broader sense. Actual in-situ assessment, particularly of smaller areas, will often identify variation from the mapped soil types.

Griffiths also provides thematic maps for the Ruataniwha Plains[33], a concept that could be extended to the Heretaunga Plains. The maps show ratings for soils according to a range of potentially limiting factors:

- water holding capacity
- drainage capacity
- susceptibility to compaction
- permeability
- risk of wind erosion

The thematics could be extended to include other relevant factors (e.g. including from Treadwell's list).

## 9.3 Correlation of Land Use Capability and Soil Types

There is not absolute agreement between the available Land Use Capability and Soil Type maps.

On the Heretaunga Plains, a good correlation between soils or groups of soils and land capability classes might be expected. Climate, topography and vegetation are broadly similar. The main variations will flow from parent material, deposition history and soil age. These will affect classification by soil type and by land use capability (limitations) in similar ways.

A GIS assessment was completed by Hawke's Bay Regional Council GIS staff for this report[34]. It shows that while there are areas of commonality, there are also areas of disagreement (Appendix 4).

Appendix 4 is a comparison of GIS polygons showing intersects between Heretaunga Plains soil type and Land Use Capability from GIS layers. It shows the number of hectares with each combination of soil type and LUC. So, for example, 2,414 ha of Ahuriri soil fits within the Class 3 land use class.

It is clear that there are significant areas where one soil type crosses a number of LUCs. Flaxmere soil, for example, appears in Classes 1, 2, 3, and 7. Moteo soil appears in Classes 1, 2, 3 and 4. Both examples cross the boundary of what would commonly be considered highly versatile and less-versatile soil.

In addition, there are many minor variations, most likely reflecting the scale of mapping and even the scale of base maps and the map projections used when mapping was undertaken.

## Appendix 1: Land Use Capability

The New Zealand Land Use Capability (LUC) Classification is defined as,

> *"a systematic arrangement of different kinds of land according to those properties that determine its capacity for long term sustained production. Capability is used in the sense of suitability for productive use after taking into account the physical limitations of the land."* [35]

There are eight classes with limitations to use increasing and versatility of use decreasing from Class1 to Class 8.

LUC Classes 1 to 4 are suitable for arable and vegetable cropping, horticulture (Including vineyards and berry fields), pastoral grazing, tree crop or production forestry use.

- Class 1 is the most versatile multiple-use land with minimal physical limitations to arable use (deep, resilient, easily worked, well drained, fine textured, naturally fertile and flood free).
- Class 2 is very good land with slight limitations to arable use, readily controlled by management and soil conservation practices. Slight limitations include texture, moderate soil depth, structure and difficulty in working, potential erosion, potential flooding.
- Class 3 has moderate physical limitations to arable use. These may restrict the choice of crops and the intensity of cultivation, and/or make special soil conservation practices necessary. Limitations may include susceptibility to erosion under cultivation, shallow or stony soils, wetness or water logging after drainage, occasional damaging overflow, low moisture holding capacity, structural impediments to cultivation or low natural fertility.
- Class 4 land has severe limitations to arable use. These limitations substantially reduce the number of crops that can be grown, and/or make intensive soil conservation and management necessary. Some Class 4 land is suited to vineyards and berry fields.
- Classes 5 to 7 are not suitable for arable or vegetable cropping but are suitable for pastoral grazing, tree crop or production forestry use, and in some cases vineyards and berry fields.
- Class 8 is unsuitable even for grazing or production forestry, and is best managed for catchment protection, and / or conservation or biodiversity.

LUC Subclasses identify main kinds of physical limitations or hazards to use. Four limitations are recognised;

- erodibility
- wetness
- soil limitations within the rooting zone
- climate.

## Appendix 2: Factors to be considered in regard of land versatility

The case in W142/96 Canterbury Regional Council v Selwyn District Council related to an unsuccessful appeal by Canterbury Regional Council against a suggested change to the [then] Selwyn Transitional District Plan from 5ha of farmland to permit residential development adjacent to Lincoln township.

In the decision on this matter, Environment Court Judge Treadwell stated:

*The factors, which I take into account in recommending or otherwise a particular site for a particular crop, are as follows:*

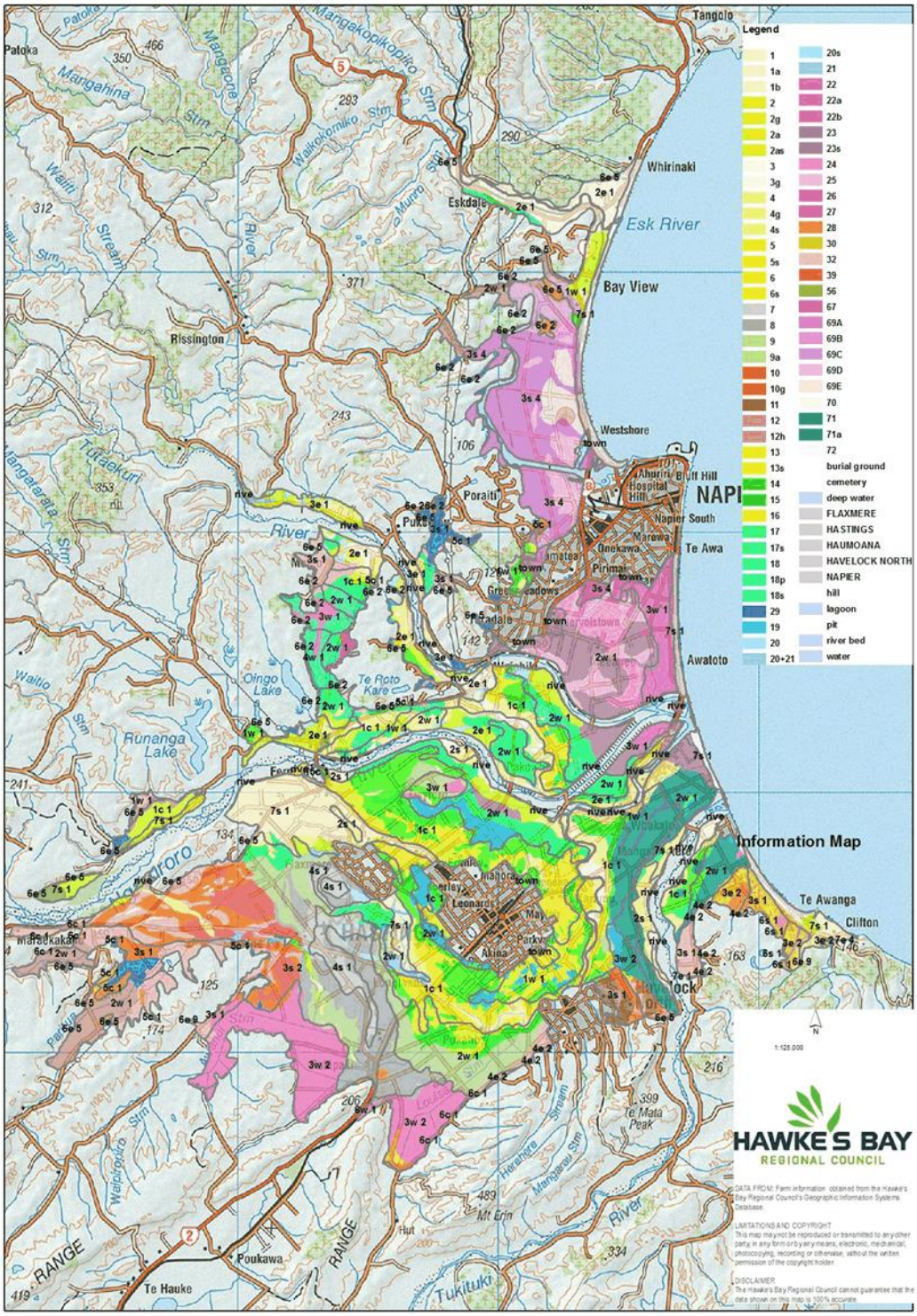
- Soil texture
- Soil structure
- Soil water holding capacity
- Soil organic matter stability
- Site's slope
- Site's drainage
- Temperature of the site
- Aspect of the site
- Storm water movements
- Flood plain matters
- Wind exposure
- Shelter planted
- Availability of irrigation water
- Transport, both ease and distance
- Effect of the use on neighbours
- Effects of the neighbours on the use
- Access from the road
- Proximity to airport
- Proximity to port
- Supply of labour
- Quality of that labour
- Previous cropping history
- Relevant contamination
- Sunlight hours
- Electricity supply
- District Scheme
- Economic and resale factors

*This list demonstrates the real relevance of the soil on its own. Obviously one can have an extremely good soil which would be disqualified for a farming use by one of several of the factors above."*

In this case, the Court concluded:

- *"protection of versatile land is no longer recognised by the RMA as of national importance"*
- *"land/soil is a resource and must be considered in terms of s5 and s7 of the Resource Management Act in relation to both present and future generations..."*
- *"Resource Management Act Part 2 matters in a regional context are broad based and a regional council should not concern itself with matters of minor significance such as five hectares of land."*

## Appendix 3: Map of Soil Type and Land Use Class




Versatile Soils - Productive Land 25

## Appendix 4: Soil Type by Land Use Capability

Table 1 : Area in hectares of Soil Type by Land Use Capability on the Heretaunga Plains

| | Land Use Capability Class | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Soil Name | 1 | 2 | 3 | 4 | 5c | 6 | 7 | Rivers & town | Grand Total | % of Area |
| Ahuriri | 49 | 3 | 2414 | | 1 | 28 | 31 | 62 | 2587 | 7.5 |
| Awatoto | 3 | 9 | 8 | | | | 416 | 79 | 514 | 1.5 |
| Esk | 195 | 1034 | 79 | | 1 | 10 | 101 | 57 | 1477 | 4.3 |
| Farndon | 9 | 1962 | 130 | | | 2 | 17 | 124 | 2244 | 6.5 |
| Flaxmere | 443 | 743 | 232 | | 1 | 11 | 223 | 64 | 1717 | 5.0 |
| Hastings | 2112 | 432 | 70 | | 4 | 5 | 30 | 53 | 2707 | 7.8 |
| Havelock | 109 | 678 | 123 | | 3 | 40 | 5 | | 958 | 2.8 |
| Irongate | 48 | 171 | 135 | 19 | | 6 | 47 | 4 | 431 | 1.2 |
| Kaiapo | 191 | 397 | 59 | | | 5 | | 3 | 654 | 1.9 |
| Karamu | 675 | 129 | 2 | | | | | 10 | 816 | 2.4 |
| Mangateretere | 589 | 826 | 102 | | | | 18 | 1 | 1537 | 4.4 |
| Matapiro | 1 | 19 | 142 | 2 | 63 | 58 | | | 284 | 0.8 |
| Meeanee | | 52 | 651 | | | | 29 | 35 | 767 | 2.2 |
| Moteo | 102 | 332 | 99 | 144 | | 16 | | 3 | 695 | 2.0 |
| Ngatarawa | | 3 | 970 | | 5 | | | | 977 | 2.8 |
| Okawa | 29 | 54 | 298 | 4 | 13 | 36 | | 2 | 436 | 1.3 |
| Omahu | 66 | 44 | 24 | | | 2 | 1153 | 13 | 1302 | 3.8 |
| Omarunui | 911 | 842 | 252 | | 4 | 7 | 194 | 54 | 2264 | 6.5 |
| Ormond | 193 | 32 | | | | 2 | | | 227 | 0.7 |
| Otane | | 1 | 162 | | | | | 3 | 166 | 0.5 |
| Pakipaki | 11 | 47 | 1485 | 500 | | | 5 | | 2048 | 5.9 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pakowhai | 476 | 1244 | 134 | 13 | | 6 | 32 | 3 | 1909 | 5.5 |
| Poporangi | 120 | 302 | 1265 | 43 | 32 | 61 | 3 | 5 | 1831 | 5.3 |
| Rotoatara | | 46 | 3 | 1 | | 3 | | | 54 | 0.2 |
| Takapau | | | 541 | | 0 | | | | 541 | 1.6 |
| Te Awa | 113 | 721 | 708 | 12 | | | | | 1554 | 4.5 |
| Tukituki | 21 | 18 | 4 | | | 2 | 61 | 11 | 118 | 0.3 |
| Turamoe | | 26 | 1844 | 25 | 5 | 27 | | | 1927 | 5.6 |
| Twyford | 1249 | 83 | 15 | | 1 | | 44 | 27 | 1420 | 4.1 |
| Waipukurau | | 16 | 363 | | 23 | 15 | 32 | | 449 | 1.3 |
| Washpool | 18 | 4 | 27 | | | | | | 49 | 0.1 |
| Grand Total | 7736 | 10270 | 12341 | 763 | 155 | 342 | 2442 | 611 | 34659 | 100.0 |
| LUC Unit % total | 22 | 30 | 36 | 2 | 0 | 1 | 7 | 2 | 100.0 | |

Source: Hawke's Bay Regional Council GIS database - NZ LRI and Heretaunga Plains Soil Map layers

Table 1 is a comparison of GIS polygons showing intersects between Heretaunga Plains soil type and Land Use Capability from GIS layers. Each table cell shows the number of hectares with a combination of soil type and LUC. So, for example, 2,414 ha of Ahuriri soil fits within the Class 3 land use class.

## Glossary

Ecosystems services — *a multitude of resources and processes that are supplied by natural ecosystems. May be grouped into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination; and cultural, such as spiritual and recreational benefits.*

Wikipedia, http://en.wikipedia.org/wiki/Ecosystem_services

Land$_1$ — *(i) The entire complex of surface and near surface attributes of the solid portions of the surface of the earth, which are significant to human activities; water bodies occurring within land masses are included in some land classification systems. (ii) (economics) One of the major factors of production that is supplied by nature and includes all natural resources in their original state, such as mineral deposits, wildlife, timber, fish, water, coal, and the fertility of the soil.*
Soil Science Society of America

Land$_2$ — *Land is considered to include:*

- *the aesthetic components of landform and landscape including the vegetation cover*
- *the physical components of soil and parent material (the soils and underlying rock types that give rise to soil)*
- *the plant and animal communities in the soil, such as insects, mites, springtails, nematodes, worms, fungi, bacteria, and algae*
- *the exotic and native ecosystems resident on the land, such as exotic forestry, urban settlements, native forests, and tussock grasslands.*

Williams and Mulcock [36]

Land use capability — (LUC)

*a systematic arrangement of different kinds of land according to those properties that determine its capacity for long term sustained production. Capability is used in the sense of suitability for productive use after taking into account the physical limitations of the land.*

Productive $_1$ — *1. producing, tending to produce;*

*2. producing commodities of exchangeable value;*
*3. producing abundantly (a productive soil, mine, writer)*
Concise Oxford Dictionary

Productive $_2$ — *Producing or capable of producing, producing abundantly, fertile, yielding favourable or useful results; constructive, involved in the creation of goods and services to produce wealth or value, effective in achieving specified results*
on-line Free Dictionary[37]

| | |
|---|---|
| Productive land | See Treadwell in Appendix 2 |
| Productive soil | See soil productivity below |
| $Soil_1$ | *the unconsolidated mineral or organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants, . . . that has been subjected to and shows effects of genetic and environmental factors of: climate (including water and temperature effects), and macro- and micro-organisms, conditioned by relief, acting on parent material over a period of time. A product-soil differs from the material from which it is derived in many physical, chemical, biological, and morphological properties and characteristics.*<br>Soil Science Society of America (SSSA) [38] |
| $Soil_2$ | *Soil is a natural body consisting of layers (soil horizons) of mineral constituents of variable thicknesses, which differ from the parent materials in their morphological, physical, chemical, and mineralogical characteristics.*<br>Birkeland[39] |
| $Soil_3$ | *Soil is composed mostly of particles of broken rock that have been altered by chemical and environmental processes including weathering and erosion. Soil differs from its parent rock due to interactions between the lithosphere, hydrosphere, atmosphere, and the biosphere.*<br>Chesworth [40] |
| $Soil_4$ | *Soil particles pack loosely, forming a soil structure filled with pore spaces. These pores contain soil solution (liquid) and air (gas).* Taylor and Ashcroft [41] |
| Soil formation | The effect of processes involving additions, losses, transformations and translocations of material that compose the soil. Minerals derived from weathered rocks undergo changes that cause the formation of secondary minerals and other compounds that are variably soluble in water, these constituents are moved (translocated) from one area of the soil to other areas by water and animal activity. As a result, layers or horizons develop in the soil profile. |
| Soil productivity | *the output of a specified plant or group of plants under a defined set of management practices*<br>Soil Science Society of America |
| Soil type | The basis unit of soil mapping, a unique combination of chemical, physical, biological and mineralogical characteristics and site features. Often designated by a geographic name and/or topsoil textural and depth qualifier. |
| Versatile | *Turning easily or readily from one subject or occupation to another, capable of dealing with many subjects*<br>Concise Oxford Dictionary |

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APPENDIX D

NES ASSESSMENTS, REMEDIATION ACTION PLAN

EAM
ENVIRONMENTAL CONSULTANTS

# DETAILED SITE ASSESSMENT WITH NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING AND MANAGING CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH


## 52 RAYMOND ROAD HAUMOANA, HAWKE'S BAY

PROJECT NO. EAM1731-REP-01

PREPARED FOR
A.L & J.H MAURENBRECHER

PREPARED BY
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AUGUST 2017

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# 1.0 INTRODUCTION

## 1.1 BRIEF

EAM NZ Limited (EAM) has been engaged by A.L and J.H Maurenbrecher to undertake a detailed Site investigation at a rural residential property located at 52 Raymond Road, Haumoana (Herein referred to as the Site). Figure 1 illustrates the Site location.

The owners propose to subdivide the property into several lifestyle blocks. As the property has been used historically as an orchard there is the potential for soil contamination at the Site. The DSI has been undertaken to provide an assessment of the Sites contaminative status and to assess the human health risks for the proposed development.

A phased approach has been adopted for the investigation, with an initial preliminary Site investigation of assembling background information to identify potential sources of contamination from past and present activities. This information is then used to develop a conceptual Site model and investigation strategy.

The NES will be triggered by a resource consent application through a change in activity, earthworks, and being identified as having or had an activity or activities undertaken on it (in this case an orchard) that is listed on the Hazardous Activities or Industrial List (HAIL).

This report provides the following information:

- Background information;
- Site history and laboratory results;
- A conceptual Site model;
- Evaluation of determinants and risk assessment;
- Brief outline of recommendations; and
- Conclusions.

This investigation has been carried out in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES).

Notwithstanding the Report Limitations, we confirm that Hastings District Council can rely on this report for the purposes of determining compliance with the NES guidelines with respect to the development identified in this assessment.

# 2.0 SITE DETAILS

## 2.1 SITE IDENTIFICATION AND ZONING

The Site is located approximately 8.5 kilometres west of Hastings City Central Business District, on Raymond Road, Haumoana (Figure 1). The Site is legally described as LOT 1 DP 22124 BLK III CLIVE SD and covers a total area of approximately 6 hectares. The Site is zoned Plains Zone as per the Hastings District Plan.

## 2.2 SITE DESCRIPTION AND CURRENT LAND USE

The Site is predominantly flat and currently used a lifestyle block (grazing and some fruit trees) with a residential dwelling.

FIGURE 1: SITE LOCATION


# 3.0 ENVIRONMENTAL SETTING

## 3.1 GENERAL SETTING

The topography of the site and surrounds is low gradient flat land. Land use immediately surrounding the site is predominantly orchards/vineyards with associated residential dwellings.

The Tukituki River is the nearest natural waterway and is located approximately 2.3 kilometres to the west of the site.

A review of the soil map of the Heretaunga Plains (Griffiths, 2001) indicates the soil at the site is a 'Waipukurau' Soil with >30 cm ash sandy loam (loess) on pan at 40-50 cm; on terraces. The soils are described as poor-water perched on pan.

# 4.0 DESKTOP REVIEW OF SITE HISTORY

A desktop assessment was undertaken to provide an overview of any potential contaminants of concern that may be present at the site as a result of any documented past and present activities. The following information was sourced in order to establish the history of the site:

- Hastings District Council (HDC) Resource Consents Database and Property Files (supplied by client as LIM report);
- Anecdotal information;
- Historical aerial photographs
- Historical Certificates of title;
- A search of the Land Use Register held at Hawkes Bay Regional Council (HBRC).
- Site Inspection.

## 4.1 ANECDOTAL INFORMATION

The current owners have provided information on the historic use of the property.

In 1993 (when they took ownership of the property) kiwifruit, boysenberries and apples were planted. From 1994 through to 2005 only boysenberries were grown.

From 2005 until present day kiwifruit, boysenberries and apples have been grown at the property.

All crops grown over this time have been done so organically.

The first sheds were built at the property in 1995 and the residential dwelling was constructed in 1997.

## 4.2 HASTINGS DISTRICT COUNCIL PROPERTY FILES

EAM viewed the HDC property files for the site at HDC offices. No information regarding possible contaminant sources were found.

## 4.3 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the Site from 1949 onwards have been reviewed. The aerial photographs were sourced from HDC and are shown as Figures 2-7.

1949 - 1974: - The photographs for this period illustrate that the property was used for pastoral grazing. There are no structures identified at the property during this period.

1974 - 1988: - The photographs for this period show that the property was still used primarily for pastoral grazing. However, the front area of the site nearest Raymond Road looks to have been planted out with a crop of some type. Discussions with the current owners suggests this was either grapes or asparagus. There are still no structures identified at the property during this period.

1988 - 2004: - Between this period the property was planted in kiwifruit, boysenberries and apples. Also noticeable is the presence of the residential dwelling and sheds.

2004 - 2014: - The aerial shows little change since 2004 with the exception being a few areas of trees have been removed.

**FIGURE 2: HISTORIC (1949) AERIAL PHOTO OF SITE**

FIGURE 3: HISTORIC (1974) AERIAL PHOTO OF SITE

FIGURE 4: HISTORIC (1980) AERIAL OF SITE

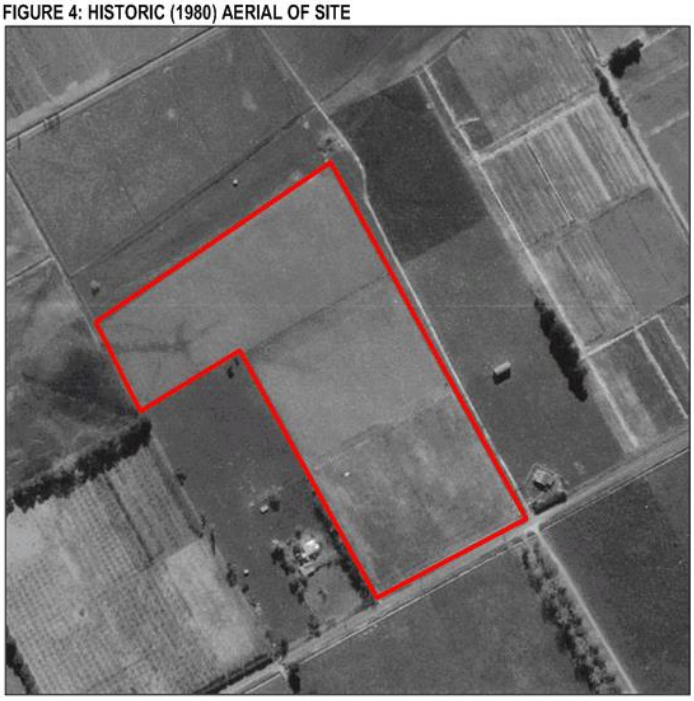

FIGURE 5: HISTORIC (1988) AERIAL OF SITE

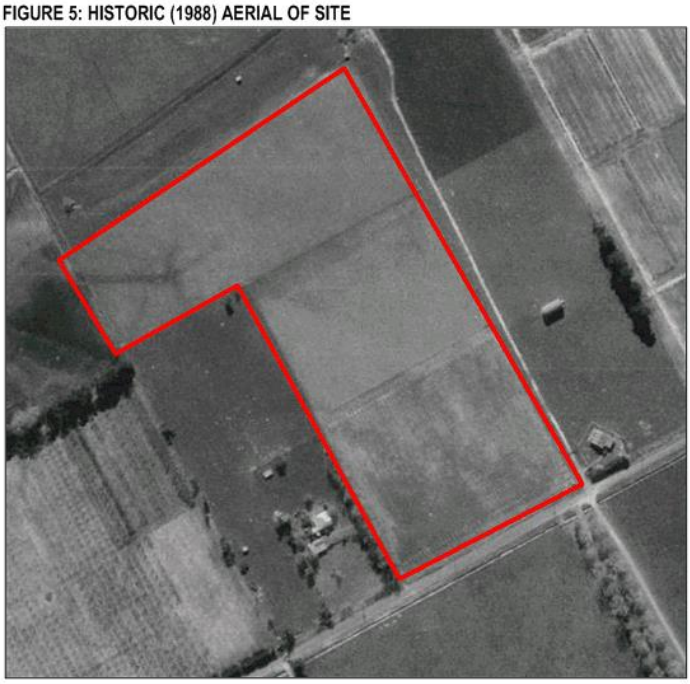

FIGURE 6: HISTORIC (2004) AERIAL OF SITE

FIGURE 7: HISTORIC (2014) AERIAL OF SITE

## 4.4 HAWKE'S BAY REGIONAL COUNCIL LAND USE REGISTER

A search was made for information from HBRCs Listed Land Use Register (LLUR). This register is used to hold information about sites that have used, stored or disposed of hazardous substances, based on activities detailed in the Ministry for the Environment's (MfE) Hazardous Activities and Industries List (HAIL) (MfE, 2011a). The search revealed that the site under assessment is not listed on the LLUR.

## 4.5 SITE INSPECTION

An initial site inspection was carried out in June 2017, with objective of identifying any potential sources of land contamination.

The residential dwelling is located to the north of the site (Figure 8) and located close by to the east are two small sheds used for storage (Figure 9).

A water bore is located along the northern boundary (Figure 10) to the east of the sheds. Water supply areas such as this are typically high-risk for horticultural land, as chemical preparation may have been carried out next to these.

A small chemical store was located at the north eastern corner of the property (Figure 11).

At the time of the site visit, no obvious indicators of soil contaminations were identified e.g. stunted vegetation, stained soils, dead grass/plants.

FIGURE 8: ASSESSMENT SITE LOOKING NORTH SHOWING RESIDENCE

FIGURE 9: ASSESSMENT SITE LOOKING NORTH SHOWING SMALL SHEDS NEAR RESIDENCE

FIGURE 10: ASSESSMENT SITE LOOKING NORTH SHOWING BORE ON BOUNDARY

FIGURE 11: ASSESSMENT SITE LOOKING EAST SHOWING CHEMICAL STORAGE SHED

### 4.6 SUMMARY OF DESKTOP INVESTIGATION

The desktop summary has identified that a HAIL activity (an orchard) has occurred at the site under assessment. The orchard activity occurred during the late part of the 20th Century (post 1980). This was at a time when horticultural sprays containing arsenic, lead and organo-chlorines were no longer in use in New Zealand.

Therefore, it is likely from the historic review that there is not significant (or any) soil contaminants present at this site. However, as there are signs of chemical use and storage at the site, it is appropriate to carry out a Detailed Site Investigation that includes soil sampling and analysis.

## 5.0 INVESTIGATION & RISK ASSESSMENT PROCESS

### 5.1 CONCEPTUAL SITE MODEL

The potential effects of the proposed activity of the Site from contaminated soils are outlined in a preliminary site conceptual model set out below. The following is an analysis of potential contaminants, receptors and pathways (linkages) between the two.

#### 5.1.1 HAZARDOUS SUBSTANCES AND POTENTIAL CONTAMINANTS OF CONCERN

Hazardous substances potentially exist at the site as a result of past activities.

- Heavy metals from horticultural sprays, and in particular arsenic and lead;
- Organic compounds such as organo-chlorines e.g. DDT and dieldrin etc. from horticultural sprays.

#### 5.1.2 POTENTIAL RECEPTORS

Potential receptors include:

- Current and future residents of the Site;
- Excavation and construction workers during any future redevelopment of the Site.

#### 5.1.3 EXPOSURE PATHWAYS

A human health risk can only occur where there is a complete pathway between contaminant sources and a receptor. Building floors, paved areas and grass will largely or completely prevent contact with soil and therefore direct exposure pathways are or will be incomplete for such areas. Potential complete pathways are:

- Direct contact (dermal) with soil;
- Consumption of produce grown at the Site;
- Direct contact and inhalation of dusts and soil during construction and ongoing site maintenance and/or subsurface maintenance works.

## 5.2 INVESTIGATION RATIONALE

The overall rationale for the DSI was to determine whether any of the historical activities on the Site have caused soil contamination that would affect the proposed future use. In this instance, it was decided to carry out a general broad-scale sampling exercise with some targeted sampling around water supplies and the shed where chemicals are known to have been stored.

### 5.2.1 SITE SAMPLING

The number of samples collected as part of this assessment was in keeping with the "Contaminated Land Guidelines No. 5" (MfE 2011). These guidelines set out (in Table A1; p63) the *"minimum sampling points required for detection of circular hotspots using a systematic sampling pattern at 95% confidence level"*.

At each sample Site (Figure 12), ten 150mm cores (as this represents the predominant topsoil depth at this Site) were collected around a central point to ensure good coverage of each area. Soil samples were collected using a hand auger and were handled using disposable gloves. Samples were collected in clean glass jars provided by Hill Laboratories Limited (Hills) and labelled with sample name, number, time and date collected. Once collected, samples were stored in a chilly bin and then despatched to Hill Laboratories Ltd in Hamilton. Sample Sites were identified and marked using a wooden peg and co-ordinates were taken using a handheld GPS.

### 5.2.2 SAMPLE COMPOSITING

To keep costs to a minimum, samples were composited for metals and organo-chlorine pesticide compound (OCP) analysis. The composites were prepared by the laboratory. Note: When comparing composite results against guideline values, the guideline value must be adjusted by dividing the value by the number of sub-samples in the composite.

### 5.2.3 FIELD QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Quality Assurance and Quality Control procedures undertaken during sampling included the following:

- Changing of disposable gloves after each sample;
- Decontaminating and rinsing of tools between each sample;
- Collection of soil samples in new, clean, appropriately labelled glass jars supplied by Hill Laboratories;
- Storing samples in chilled conditions whilst on Site and until delivery to the laboratory for analysis;
- Use of chain of custody procedures and forms; and Use of IANZ accredited laboratories with in-house QA/QC procedures for the analyses requested.

FIGURE 12: SAMPLE SITES

# 6.0 RESULTS OF ANALYSIS - DISCUSSION

## 6.1 ARSENIC & LEAD

Table 1 shows the laboratory results of analysis for soil concentrations of arsenic and lead from this assessment.

TABLE 1: SUMMARY OF SOIL ARSENIC AND LEAD RESULTS (ALL RESULTS $mgkg^{-1}$ DRY WEIGHT)

| Sample Name | Arsenic | Lead |
|---|---|---|
| Composite 1 = Site #1 + Site #2 | 3 | 8.1 |
| Composite 2 = Site #3 + Site #4 | 3 | 6.2 |
| Composite 3 = Site #5 + Site #6 | 2 | 5.4 |
| Composite 4 = Site #7 + Site #8 | 2 | 5.7 |
| Composite 5 = Site #9 + Site #10 | 2 | 6.1 |
| Composite 6 = Site #11 + Site #12 | 2 | 9.2 |
| Composite 7 = Site #13 + Site #14 | 3 | 15.2 |
| Composite 8 = Site #15 + Site #16 | 5 | 14.6 |
| Composite 9 = Site #17 + Site #18 | 5 | 18.9 |
| Composite 10 = Site #19 + Site #20 | 4 | 14.8 |
| Composite 11 = Site #21 + Site #22 | 3 | 16.3 |
| Composite 12 = Site #23 + Site #24 | <2 | 16.7 |
| Composite 13 = Site #25 + Site #26 | <2 | 14.2 |
| Composite 14 = Site #27 + Site #28 | 3 | 134 |
| Composite 15 = Site #29 + Site #30 | 2 | 13.0 |
| Composite 16 = Site #31 + Site #32 | 4 | 11.4 |
| Composite 17 = Site #33 + Site #34 | 4 | 12.1 |
| Composite 18 = Site #35 + Site #36 | 2 | 12.9 |
| Composite 19 = Site #37 + Site #38 | <2 | 14.6 |
| Composite 20 = Site #39 + Site #40 | 3 | 10.4 |
| Composite 21 = Site #41 + Site #42 | <2 | 10.6 |
| Composite 22 = Site #43 + Site #44 | 6 | 10.2 |
| Composite 23 = Site #45 + Site #46 | 2 | 18.5 |
| Composite 24 = Site #47 + Site #48 | <2 | 20.4 |
| Composite 25 = Site #49 + Site #50 | <2 | 18.9 |
| Composite 26 = Site #51 + Site #52 | 6 | 14.5 |
| Composite 27 = Site #53 + Site #54 | 4 | 10.6 |
| Composite 28 = Site #55 + Site #56 | 3 | 11.5 |
| Composite 29 = Site #57 + Site #58 | 7 | 15.3 |
| Composite 30 = Site #59 + Site #60 | 2 | 14.9 |
| **NES Rural Residential/lifestyle block 25% produce SCS** | **17** | **160** |
| **Adjusted SCS (for a two-sample composite i.e. divided by 2)** | **8.5** | **80** |
| **Hawke's Bay Background soil concentrations (Cavanagh, 2014)** | **9** | **27** |

The results show that arsenic and lead concentrations over the entire sampled area were well below the NES Soil Contaminant Standard (SCS) of 17 mg/kg and 160 mg/kg respectively for the land use scenario of rural residential/lifestyle block (25% produce). In addition, when compared to Hawke's Bay background soil concentrations arsenic and lead are within the expected native soil range.

### 6.2 ORGANO-CHLORINE PESTICIDES (OCPS)

The results for the composited samples show that of the twenty-five compounds analysed for, twenty-three were below the method detection limits and therefore compliant with the NES.

### 6.3 RISK ASSESSMENT

A hazard – pathway – receptor pollution linkage is considered to aid assessment of risk associated with results of the site investigation. The focus of the NES is protection of human health so only this aspect is considered and not the potential effect on the surrounding environment.

For contaminated soils to pose a risk to a receptor, a complete pathway must exist between the contamination source and the identified receptor(s). If there is an incomplete pathway then there is no risk. In this instance the results show that a risk to human health at this site is unlikely to exist and therefore extremely LOW.

## 7.0 NES COMPLIANCE

From this review it is determined that due consideration was given to the full range of potential contaminants that might be expected to occur at this site ('piece of land'). This includes consideration of and sample laboratory analysis for heavy metals and OCPs.

Comparison of the samples analysed with the NES standard standard values showed that concentrations were present at levels acceptable (low risk) for the purpose of human health with regard to the proposed activities at this site and therefore is compliant with the NES.

## 8.0 CONCLUSIONS

This DSI has been undertaken to provide an assessment of the Sites contaminative status and to assess the human health risks for the proposed development. The findings of this report are as follows:

- A review of the site history was carried out that indicated a requirement for site sampling;
- Appropriate site sampling and laboratory soil analysis was then carried out;
- No contaminants were identified at levels above the rural residential (25% produce) NES value.

The results show that the site is compliant with the NES and does not present a risk to humans. No further assessment under the NES is required for this Site.

## 9.0 REFERENCES

MfE 2011 Contaminated Land Management Guidelines No.1 Reporting on Contaminated Sites in New Zealand. Ministry for the Environment.

MfE 2012 Users'Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Ministry for the Environment.

MfE 2011 Contaminated Land Management Guidelines No.5; Site Investigation and Analysis of Soil. Ministry for the Environment.

# APPENDIX 1

## LABORATORY REPORT OF ANALYSIS

Hill Laboratories
TRIED, TESTED AND TRUSTED
R J Hill Laboratories Limited
1 Clyde Street Hamilton 3216
Private Bag 3205
Hamilton 3240 New Zealand
T 0508 HILL LAB (44 555 22)
T +64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

# ANALYSIS REPORT



| | | | |
|---|---|---|---|
| Client: | EAM NZ Limited | Lab No: | 1805118 SPv1 |
| Contact: | J Strong | Date Received: | 07-Jul-2017 |
| | C/- EAM NZ Limited | Date Reported: | 13-Jul-2017 |
| | PO Box 1154 | Quote No: | 72316 |
| | Napier 4140 | Order No: | |
| | | Client Reference: | 80 Raymond Street |
| | | Submitted By: | J Strong |

**Sample Type: Soil**

| Sample Name: | | Composite of 80 Raymond St 1 and 80 Raymond St 2 | Composite of 80 Raymond St 3 and 80 Raymond St 4 | Composite of 80 Raymond St 5 and 80 Raymond St 6 | Composite of 80 Raymond St 7 and 80 Raymond St 8 | Composite of 80 Raymond St 9 and 80 Raymond St 10 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.55 | 1805118.56 | 1805118.57 | 1805118.58 | 1805118.59 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 3 | 2 | 3 | < 2 |
| Total Recoverable Lead | mg/kg dry wt | 10.2 | 56 | 11.5 | 10.6 | 11.5 |

| Sample Name: | | Composite of 80 Raymond St 11 and 80 Raymond St 12 | Composite of 80 Raymond St 13 and 80 Raymond St 14 | Composite of 80 Raymond St 15 and 80 Raymond St 16 | Composite of 80 Raymond St 17 and 80 Raymond St 18 | Composite of 80 Raymond St 19 and 80 Raymond St 20 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.60 | 1805118.61 | 1805118.62 | 1805118.63 | 1805118.64 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 3 | < 2 | 3 | < 2 |
| Total Recoverable Lead | mg/kg dry wt | 14.9 | 12.9 | 11.7 | 13.3 | 10.3 |

| Sample Name: | | Composite of 80 Raymond St 21 and 80 Raymond St 22 | Composite of 80 Raymond St 23 and 80 Raymond St 24 | Composite of 80 Raymond St 25 and 80 Raymond St 26 | Composite of 80 Raymond St 27 and 80 Raymond St 28 | Composite of 80 Raymond St 29 and 80 Raymond St 30 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.65 | 1805118.66 | 1805118.67 | 1805118.68 | 1805118.69 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 2 | 2 | 2 | 2 |
| Total Recoverable Lead | mg/kg dry wt | 12.3 | 13.3 | 12.1 | 13.8 | 14.1 |

| Sample Name: | | Composite of 80 Raymond St 31 and 80 Raymond St 32 | Composite of 80 Raymond St 33 and 80 Raymond St 34 | Composite of 80 Raymond St 35 and 80 Raymond St 36 | Composite of 80 Raymond St 37 and 80 Raymond St 38 | Composite of 80 Raymond St 39 and 80 Raymond St 40 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.70 | 1805118.71 | 1805118.72 | 1805118.73 | 1805118.74 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | < 2 | 2 | 5 | 3 | 3 |
| Total Recoverable Lead | mg/kg dry wt | 11.3 | 12.9 | 13.6 | 15.3 | 13.2 |

| Sample Name: | | Composite of 80 Raymond St 41 and 80 Raymond St 42 | Composite of 80 Raymond St 43 and 80 Raymond St 44 | Composite of 80 Raymond St 45 and 80 Raymond St 46 | Composite of 80 Raymond St 47 and 80 Raymond St 48 | Composite of 80 Raymond St 49 and 80 Raymond St 50 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.75 | 1805118.76 | 1805118.77 | 1805118.78 | 1805118.79 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | < 2 | 2 | 3 | < 2 | 3 |
| Total Recoverable Lead | mg/kg dry wt | 16.7 | 14.7 | 14.5 | 15.0 | 27 |

IANZ ACCREDITED LABORATORY

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

| Sample Type: Soil | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sample Name: | | Composite of 80 Raymond St 51 and 80 Raymond St 52 | Composite of 80 Raymond St 53 and 80 Raymond St 54 | Composite of 80 Raymond St 1, 80 Raymond St 21, 80 Raymond St 11 and 80 Raymond St 6 | Composite of 80 Raymond St 43, 80 Raymond St 26, 80 Raymond St 34 and 80 Raymond St 24 | Composite of 80 Raymond St 4, 80 Raymond St 51, 80 Raymond St 53 and 80 Raymond St 51 |
| Lab Number: | | 1805118.80 | 1805118.81 | 1805118.82 | 1805118.83 | 1805118.84 |
| Individual Tests | | | | | | |
| Dry Matter | g/100g as rcvd | - | - | 75 | 73 | 78 |
| Total Recoverable Arsenic | mg/kg dry wt | 15 | 10 | - | - | - |
| Total Recoverable Lead | mg/kg dry wt | 111 | 240 | - | - | - |
| Organochlorine Pesticides Screening in Soil | | | | | | |
| Aldrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| alpha-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| beta-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| delta-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| gamma-BHC (Lindane) | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| cis-Chlordane | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| trans-Chlordane | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Total Chlordane [(cis+trans)* 100/42] | mg/kg dry wt | - | - | < 0.04 | < 0.04 | < 0.04 |
| 2,4'-DDD | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 20 |
| 4,4'-DDD | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 61 |
| 2,4'-DDE | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.135 |
| 4,4'-DDE | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.90 |
| 2,4'-DDT | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 1.57 |
| 4,4'-DDT | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 7.0 |
| Total DDT Isomers | mg/kg dry wt | - | - | < 0.08 | < 0.08 | 91 |
| Dieldrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endosulfan I | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endosulfan II | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.052 |
| Endosulfan sulphate | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.026 |
| Endrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endrin aldehyde | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endrin ketone | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Heptachlor | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Heptachlor epoxide | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Hexachlorobenzene | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Methoxychlor | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |

## SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

| Sample Type: Soil | | | |
|---|---|---|---|
| Test | Method Description | Default Detection Limit | Sample No |
| Environmental Solids Sample Preparation | Air dried at 35°C and sieved, <2mm fraction.<br>Used for sample preparation.<br>May contain a residual moisture content of 2-5%. | - | 55-81 |
| Organochlorine Pesticides Screening in Soil | Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082). Tested on as recieved sample | 0.010 - 0.08 mg/kg dry wt | 82-84 |
| Dry Matter (Env) | Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550. | 0.10 g/100g as rcvd | 82-84 |
| Total Recoverable digestion | Nitric / hydrochloric acid digestion. US EPA 200.2. | - | 55-81 |
| Composite Environmental Solid Samples* | Individual sample fractions mixed together to form a composite fraction. | - | 1-84 |
| Total Recoverable Arsenic | Dried sample, sieved as specified (if required). Nitric/hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2. | 2 mg/kg dry wt | 55-81 |
| Total Recoverable Lead | Dried sample, sieved as specified (if required). Nitric/hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2. | 0.4 mg/kg dry wt | 55-81 |

Lab No: 1805118 v 1 Hill Laboratories Page 2 of 3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This report must not be reproduced, except in full, without the written consent of the signatory.

Kim Harrison MSc
Client Services Manager - Environmental

EAM
ENVIRONMENTAL CONSULTANTS

# DETAILED SITE ASSESSMENT WITH NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING AND MANAGING CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH


## 80 RAYMOND ROAD HAUMOANA, HAWKE'S BAY

PROJECT NO. EAM1723-REP-01

PREPARED FOR
DAVE & ANNIE EVANS

PREPARED BY
JASON STRONG

JULY 2017

EAM NZ LTD – ENVIRONMENTAL CONSULTANTS
67 Auckland Road, PO Box 1154, Napier 4110
Phone 06 835 0248 Mobile 027 440 5990 Email info@eam.co.nz

Report prepared by:

**Jason Strong (MSc)**
Principal Environmental Scientist
EAM NZ Limited

**LIMITATIONS:**

This report has been prepared on the basis of information provided by third parties. EAM NZ LTD has not independently verified the provided information and has relied upon it being accurate and sufficient for use by EAM NZ LTD in preparing the report. EAM NZ LTD accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information. This report has been prepared by EAM NZ LTD on the specific instructions of DAVE & ANNIE EVANS for the limited purposes described in the report. EAM NZ LTD accepts no liability to any other person for their use of or reliance on this report, and any such use or reliance will be solely at their own risk.

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## Figures



## Tables



## Appendices

# 1.0 INTRODUCTION

## 1.1 BRIEF

EAM NZ Limited (EAM) has been engaged by Dave and Annie Evans to undertake a detailed Site investigation at a rural residential property located at 80 Raymond Road, Haumoana (Herein referred to as the Site). Figure 1 illustrates the Site location.

Dave and Annie Evans propose to subdivide the property into several lifestyle blocks. As the property has been used historically as an orchard there is the potential for soil contamination at the Site. The DSI has been undertaken to provide an assessment of the Sites contaminative status and to assess the human health risks for the proposed development.

A phased approach has been adopted for the investigation, with an initial preliminary Site investigation of assembling background information to identify potential sources of contamination from past and present activities. This information is then used to develop a conceptual Site model and investigation strategy.

The NES will be triggered by a resource consent application through a change in activity, earthworks, and being identified as having or had an activity or activities undertaken on it (in this case an orchard) that is listed on the Hazardous Activities or Industrial List (HAIL).

This report provides the following information:

- Background information;
- Site history and laboratory results;
- A conceptual Site model;
- Evaluation of determinants and risk assessment;
- Brief outline of recommendations; and
- Conclusions.

This investigation has been carried out in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES).

Notwithstanding the Report Limitations, we confirm that Hastings District Council can rely on this report for the purposes of determining compliance with the NES guidelines with respect to the development identified in this assessment.

# 2.0 SITE DETAILS

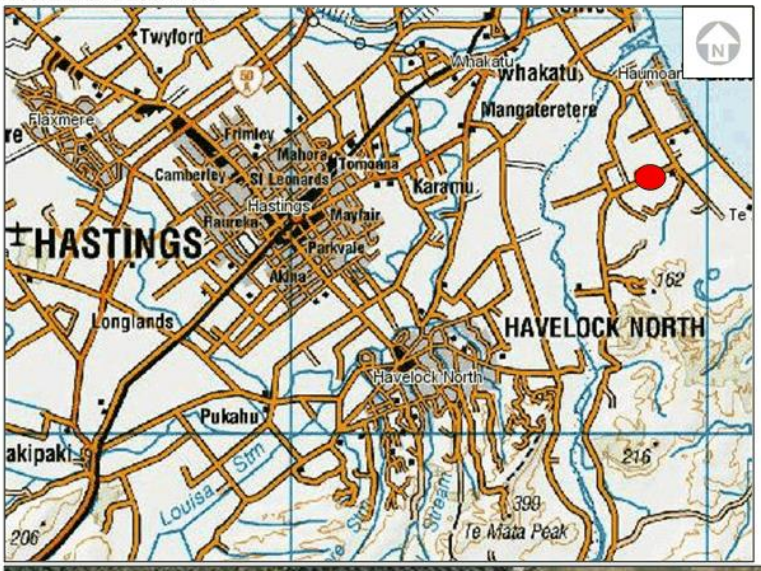
## 2.1 SITE IDENTIFICATION AND ZONING

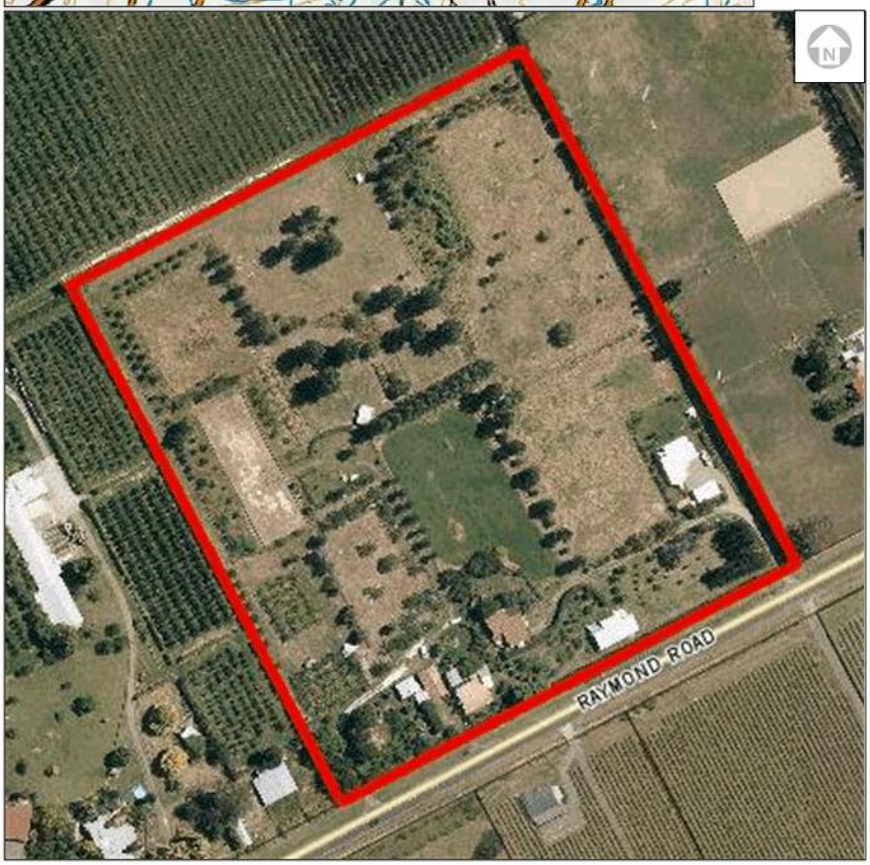
The Site is located approximately 8.5 kilometres west of Hastings City Central Business District, on Raymond Road, Haumoana (Figure 1). The Site is legally described as LOT 5 DDP 800 BLK III CLIVE SD and covers a total area of approximately 4.6412 hectares. The Site is zoned Plains Zone as per the Hastings District Plan.

## 2.2 SITE DESCRIPTION AND CURRENT LAND USE

The Site is predominantly flat and currently used a lifestyle block with three residential dwellings.

FIGURE 1: SITE LOCATION



# 3.0 ENVIRONMENTAL SETTING

## 3.1 GENERAL SETTING

The topography of the site and surrounds is low gradient flat land. Land use immediately surrounding the site is predominantly orchards/vineyards with associated residential dwellings.

The Tukituki River is the nearest natural waterway and is located approximately 2.3 kilometres to the west of the site.

A review of the soil map of the Heretaunga Plains (Griffiths, 2001) indicates the soil at the site is a 'Waipukurau' Soil with >30 cm ash sandy loam (loess) on pan at 40-50 cm; on terraces. The soils are described as poor-water perched on pan.

# 4.0 DESKTOP REVIEW OF SITE HISTORY

A desktop assessment was undertaken to provide an overview of any potential contaminants of concern that may be present at the site as a result of any documented past and present activities. The following information was sourced in order to establish the history of the site:

- Hastings District Council (HDC) Resource Consents Database and Property Files (supplied by client as LIM report);
- Historical aerial photographs
- Historical Certificates of title;
- A search of the Land Use Register held at Hawkes Bay Regional Council (HBRC).
- Site Inspection.

## 4.1 HASTINGS DISTRICT COUNCIL PROPERTY FILES

EAM viewed the HDC property files for the site at HDC offices. No information regarding possible contaminant sources were found.

## 4.2 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the Site from 1949 onwards have been reviewed. The aerial photographs were sourced from HDC and are shown as Figures 2-5.

1949: - This photo shows that the land use at the site was an even mix of pastoral grazing and orchard. The original residential dwelling and associated shed is also present.

1974: - This photo shows that the land use at the site was predominantly an orchard. No additional structures were noted.

2004: - This image shows that the orchard activity has largely ceased with a considerable number of the trees now removed and converted to pasture. A large rectangle area is clearly visible and discussions with the land owners indicate that this was used as an equestrian staging area. Two new structures are also present in this aerial to the left of the original dwelling. These have been confirmed as a new residence and a woodworking workshop.

2014: - The aerial shows little change since 2004 with the exception being a new residential dwelling located close to the eastern boundary.

FIGURE 2: HISTORIC (1949) AERIAL PHOTO OF SITE


FIGURE 3: HISTORIC (1974) AERIAL PHOTO OF SITE

FIGURE 4: HISTORIC (2004) AERIAL OF SITE


FIGURE 5: HISTORIC (2014) AERIAL OF SITE

### 4.3 HAWKE'S BAY REGIONAL COUNCIL LAND USE REGISTER

A search was made for information from HBRCs Listed Land Use Register (LLUR). This register is used to hold information about sites that have used, stored or disposed of hazardous substances, based on activities detailed in the Ministry for the Environment's (MfE) Hazardous Activities and Industries List (HAIL) (MfE, 2011a). The search revealed that the site under assessment is not listed on the LLUR.

### 4.4 SITE INSPECTION

An initial site inspection was carried out in June 2017, with objective of identifying any potential sources of land contamination. The Site is predominantly in pasture and trees (Figure 6) with three residential dwellings located towards the southern boundary adjacent to Raymond Road. A large rectangle area is fenced off and this was used as an equestrian staging area (Figure 6). A relatively new woodworking shed is located near the boundary with Raymond Road. This has a concrete floor.

Two small sheds are located immediately to the west of the original dwelling (Figure 8). The wooden shed closest to the original dwelling is constructed of timber and concrete and is likely as old as the dwelling. The second shed is made from corrugated iron and is somewhat newer. The current owners have suggested that most of the horticultural chemicals utilised by the previous owner were stored in the older shed.

A number of water supplies (taps/bores) were noted at the site. One was located close to the northern boundary (Figure 9) and this bore looked to be relatively old. A water supply tap was located next to the original dwelling (Figure 10) and the newer dwellings (Figure 11). These water supply areas are typically the high-risk areas for orchard land as chemical preparation may have been carried out close by.

At the time of the site visit no obvious indicators of soil contaminations were identified e.g. stunted vegetation, stained soils, dead grass/plants.

**FIGURE 6: ASSESSMENT SITE LOOKING NORTH SHOWING EQUESTRIAN STAGING AREA AND PASTURE SURROUNDS**

FIGURE 7: ASSESSMENT SITE LOOKING SOUTH SHOWING WORKSHOP

FIGURE 8: ASSESSMENT SITE LOOKING SOUTH SHOWING SHEDS

FIGURE 9: ASSESSMENT SITE LOOKING NORTH SHOWING OLD BORE

FIGURE 10: ASSESSMENT SITE LOOKING SOUTH SHOWING TAP BY ORIGINAL RESIDENCE

FIGURE 11: ASSESSMENT SITE LOOKING SOUTHEAST SHOWING TAP BY NEW RESIDENCE

### 4.5 SUMMARY OF DESKTOP INVESTIGATION

The desktop summary has identified that a HAIL activity (an orchard) has occurred at the site under assessment. The orchard activity occurred during the early to late part of the 20th Century and this was a time when horticultural sprays containing arsenic, lead and organo-chlorines was prevalent. As such it is considered appropriate to carry out a Detailed Site Investigation that includes soil sampling and analysis.

## 5.0 INVESTIGATION & RISK ASSESSMENT PROCESS

### 5.1 CONCEPTUAL SITE MODEL

The potential effects of the proposed activity of the Site from contaminated soils are outlined in a preliminary site conceptual model set out below. The following is an analysis of potential contaminants, receptors and pathways (linkages) between the two.

#### 5.1.1 HAZARDOUS SUBSTANCES AND POTENTIAL CONTAMINANTS OF CONCERN

Hazardous substances potentially exist at the site as a result of past activities.

- Heavy metals from horticultural sprays, and in particular arsenic;
- Organic compounds such as organo-chlorines e.g. DDT and dieldrin etc. from horticultural sprays.

### 5.1.2 POTENTIAL RECEPTORS

Potential receptors include:

- Current and future residents of the Site;
- Excavation and construction workers during any future redevelopment of the Site.

### 5.1.3 EXPOSURE PATHWAYS

A human health risk can only occur where there is a complete pathway between contaminant sources and a receptor. Building floors, paved areas and grass will largely or completely prevent contact with soil and therefore direct exposure pathways are or will be incomplete for such areas. Potential complete pathways are:

- Direct contact (dermal) with soil;
- Consumption of produce grown at the Site;
- Direct contact and inhalation of dusts and soil during construction and ongoing site maintenance and/or subsurface maintenance works;

## 5.2 INVESTIGATION RATIONALE

The overall rationale for the DSI was to determine whether any of the historical activities on the Site have caused soil contamination that would affect the proposed future use. In this instance, it was decided to carry out a general broad-scale sampling exercise with some targeted sampling around water supplies and the old shed where chemicals are known to have been stored historically.

### 5.2.1 SITE SAMPLING

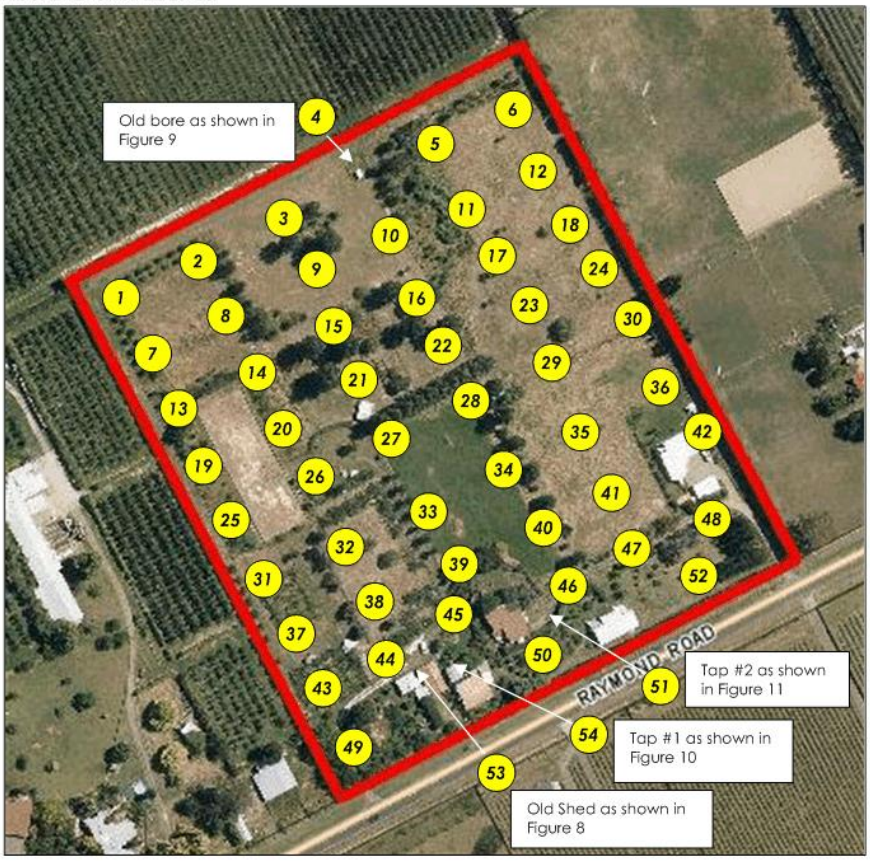
The number of samples collected as part of this assessment was in keeping with the "Contaminated Land Guidelines No. 5" (MfE 2011). These guidelines set out (in Table A1; p63) the *"minimum sampling points required for detection of circular hotspots using a systematic sampling pattern at 95% confidence level"*.

At each sample Site (Figure 12), a total of ten 150mm cores (as this represents the predominant topsoil depth at this Site) were collected around a central point to ensure good coverage of each area. Soil samples were collected using a hand auger and were handled using disposable gloves. Samples were collected in clean glass jars provided by Hill Laboratories Limited (Hills) and labelled with sample name, number, time and date collected. Once collected, samples were stored in a chilly bin and then despatched to Hill Laboratories Ltd in Hamilton. Sample Sites were identified and marked using a wooden peg and co-ordinates were taken using a handheld GPS.

### 5.2.2 SAMPLE COMPOSITING

To keep costs to a minimum, samples were composited for metals and organo-chlorine pesticide compound (OCP) analysis. The composites were prepared by the laboratory. Note: When comparing composite results against guideline values, the guideline value must be adjusted by dividing the value by the number of sub-samples in the composite.

FIGURE 12: SAMPLE SITES




### 5.2.3 FIELD QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Quality Assurance and Quality Control procedures undertaken during sampling included the following:

- Changing of disposable gloves after each sample;
- Decontaminating and rinsing of tools between each sample;
- Collection of soil samples in new, clean, appropriately labelled glass jars supplied by Hill Laboratories;
- Storing samples in chilled conditions whilst on Site and until delivery to the laboratory for analysis;
- Use of chain of custody procedures and forms; and Use of IANZ accredited laboratories with in-house QA/QC procedures for the analyses requested.

# 6.0 RESULTS OF ANALYSIS - DISCUSSION

## 6.1 ARSENIC & LEAD

Table 1 shows the laboratory results of analysis for soil concentrations of arsenic and lead from this assessment.

TABLE 1: SUMMARY OF SOIL ARSENIC AND LEAD RESULTS (ALL RESULTS $mgkg^{-1}$ DRY WEIGHT)

| Sample Name | Arsenic | Lead |
|---|---|---|
| Composite 1 = Site #1 + Site #2 | 2 | 10.2 |
| Composite 2 = Site #3 + Site #4 | 3 | 56 |
| Composite 3 = Site #5 + Site #6 | 2 | 11.5 |
| Composite 4 = Site #7 + Site #8 | 3 | 10.6 |
| Composite 5 = Site #9 + Site #10 | <2 | 11.5 |
| Composite 6 = Site #11 + Site #12 | 2 | 14.9 |
| Composite 7 = Site #13 + Site #14 | 3 | 12.9 |
| Composite 8 = Site #15 + Site #16 | <2 | 11.7 |
| Composite 9 = Site #17 + Site #18 | 3 | 13.3 |
| Composite 10 = Site #19 + Site #20 | <2 | 10.3 |
| Composite 11 = Site #21 + Site #22 | 2 | 12.3 |
| Composite 12 = Site #23 + Site #24 | 2 | 13.3 |
| Composite 13 = Site #25 + Site #26 | 2 | 12.1 |
| Composite 14 = Site #27 + Site #28 | 2 | 13.8 |
| Composite 15 = Site #29 + Site #30 | 2 | 14.1 |
| Composite 16 = Site #31 + Site #32 | <2 | 11.3 |
| Composite 17 = Site #33 + Site #34 | 2 | 12.9 |
| Composite 18 = Site #35 + Site #36 | 5 | 13.6 |
| Composite 19 = Site #37 + Site #38 | 3 | 15.3 |
| Composite 20 = Site #39 + Site #40 | 3 | 13.2 |
| Composite 21 = Site #41 + Site #42 | <2 | 16.7 |
| Composite 22 = Site #43 + Site #44 | 2 | 14.7 |
| Composite 23 = Site #45 + Site #46 | 3 | 14.5 |
| Composite 24 = Site #47 + Site #48 | <2 | 15.0 |
| Composite 25 = Site #49 + Site #50 | 3 | 27 |
| Composite 26 = Site #51 + Site #52 | 15 | 111 |
| Composite 27 = Site #53 + Site #54 | 10 | 240 |
| NES Rural Residential/lifestyle block 25% produce SCS | 17 | 160 |
| Adjusted SCS (for a two-sample composite i.e. divided by 2) | 8.5 | 80 |
| Hawke's Bay Background soil concentrations (Cavanagh, 2014) | 9 | 27 |

The results show that arsenic and lead concentrations over most of the sampled area were well below the NES Soil Contaminant Standard (SCS) of 17 mg/kg and 160 mg/kg respectively for the land use scenario of rural residential/lifestyle block (25% produce). In addition, when compared to Hawke's Bay background soil concentrations arsenic and lead are within the expected native soil range.

The exception to this was the composites made from sample sites 51, 52, 53 and 54. These composite samples were above the amended (for two samples in composite) arsenic SCS of 8.5 mg/kg but below the single sample SCS of 17 mg/kg for a rural residential scenario. It is very likely that re-testing of individual samples will show compliance.

Similarly, Composite 26 (sample sites 51 and 52) was above the amended (for two samples in composite) lead SCS of 80 mg/kg but below the single sample SCS of 160 mg/kg for a rural residential scenario. Again, it is very likely that re-testing of individual samples will show compliance.

The lead result for Composite 27 however suggests that one or both samples are above both the adjusted SCS and unadjusted SCS and therefore individual testing will likely show non-compliance with the NES under this land use scenario.

## 6.2 ORGANO-CHLORINE PESTICIDES (OCPS)

Three composite samples were analysed for OCPs. These composites were as follows:

Composite 1: Samples 1, 6, 11 and 21;

Composite 2: Samples 24, 26, 34 and 43; and

Composite 3: Samples 4, 51, 53 and 54.

The samples in Composite 1 and 2 were selected to provide an even spread across the site. The samples selected in Composite 3 were selected as these were all from around the bore/tap/shed areas - the most likely places to find contamination.

Of the twenty-five compounds analysed for in Composites 1 and 2, none were above the method detection limits, and therefore were compliant with the NES.

The results for Composite 3 showed that of the twenty-five compounds analysed for, twenty-three were below the method detection limits and therefore compliant with the NES. However, concentrations were recorded for ∑DDT and Endosulfan with 91 mg/kg and 0.077 mg/kg respectively.

**TABLE 2: SUMMARY OF SOIL ORGANIC COMPOUND RESULTS (ALL RESULTS $mgkg^{-1}$ DRY WEIGHT)**

| Sample Name | ∑DDT | Endosulfan |
|---|---|---|
| Composite 3 (samples 4, 51, 53 and 54) | 91 | 0.078 |
| NES Rural Residential/lifestyle block 25% produce | 45 | |
| Composite adjusted soil standard value* | 11.25 | |

The result of 91 mg/kg ∑DDT is above the un-amended SCS of 45 mg/kg for a rural residential land use scenario and as such suggests that one or more of the samples is non-compliant with the NES. Re-analysis will be required to isolate the non-compliant sample(s).

Note: As there is no acceptance criteria included in the soil NES or in other New Zealand risk based acceptance criteria for Endosulfan, for the purposes of this assessment the Australia NEPC (2013) criteria for land use scenario of Residential A was adopted. This standard is 270mg/kg for Endosulfan.

This standard is applicable residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry), includes children's day care centres, preschools and primary schools and is considered to provide a reasonable assessment of risk for the current land use and associated risks to human health, in the context of this assessment.

Based on this, the concentration of Endosulfan is compliant and of low risk to human health.

### 6.3 RISK ASSESSMENT

A hazard – pathway – receptor pollution linkage is considered to aid assessment of risk associated with results of the site investigation.

For contaminated soils to pose a risk to a receptor, a complete pathway must exist between the contamination source and the identified receptor(s). If there is an incomplete pathway, then there is no risk. In this instance, the results show that a risk to human health at this site may exist due to:

- The presence of arsenic (possibly not though), lead and DDT in shallow soils;

The possible pathways and receptors associated with this site and its end use are presented in Table 3.

#### 6.3.1 END USERS

In terms of human health, a risk for exposure exists. Elevated concentrations of arsenic, lead and DDT have been confirmed within the shallow sub-surface soils. Therefore, ingestion, inhalation and dermal exposure could potentially occur. Remediation is therefore required. This must be addressed in future site remediation/management plans.

#### 6.3.2 SITE WORKERS

Normal precautions for development of the site will apply and should include dust suppression measures. Site workers will need to be made aware of the presence of arsenic, lead and DDT contamination within the soil in this area and a programme of site working should be developed in accordance with relevant building guidelines. This must be addressed in future site remediation/management plans.

#### 6.3.3 ADJACENT SITES

Heavy metals are generally immobile and therefore the potential for lateral migration in the soil profile is considered low. However, to avoid any windborne spread; dust suppression measures such as keeping the soil wet/moist during earthworks are considered appropriate. This must be addressed in future site remediation/management plans.

#### 6.3.4 RISK TO SURFACE WATER & GROUNDWATER

The risk of ground water and surface water contamination is low as arsenic, lead and DDT are largely immobile in soil.

TABLE 3: PATHWAYS AND POTENTIAL RECEPTORS

| Contaminants | Receptor | Pathway |
|---|---|---|
| Arsenic, Lead and DDT | End Users | Oral Ingestion of soil or dust, dermal absorption or inhalation where soil is exposed |
| | | Oral ingestion of soil through uptake by vegetables and by soil attached to vegetables where soil is exposed in garden areas |
| | Site workers | Dermal absorption and Inhalation, oral ingestion of soil. |
| | Adjacent Sites | Dermal absorption and Inhalation, oral ingestion of soil. |

## 7.0 NES COMPLIANCE

From this review, it is determined that due consideration was given to the full range of potential contaminants that might be expected to occur at this site. This consisted of laboratory analysis for metals and organo-chlorine pesticides. Comparison of the sample results with the NES SCS values or adopted standards showed that the main contaminants of concern at this site are lead, arsenicand DDT. Remediation will be required to attain full compliance with the NES.

## 8.0 CONCLUSIONS

Based on the findings of this report for the assessed piece of land at 80 Raymond Road, Haumoana:

- A review of the site history was carried out that indicated a requirement for site sampling;
- Appropriate site sampling and preliminary laboratory soil analysis was then carried out;
- Results from three composite samples (Composites 26, 27 and OCP#3) recorded lead, arsenic and DDT concentrations above their respective NES SCS for the land use scenario of Rural Residential with 25% produce. As such Individual sample analysis will be required to isolate the non-compliant sample sites;
- Based on the results of individual sample analysis it is likely that remediation will be required in some areas to attain full compliance with the NES;
- As such a Remedial Action Plan (RAP) will need to be developed and submitted to HDC once individual sample analysis is completed.

## 9.0 REFERENCES

MfE 2011 Contaminated Land Management Guidelines No.1 Reporting on Contaminated Sites in New Zealand. Ministry for the Environment.

MfE 2012 Users'Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Ministry for the Environment.

MfE 2011 Contaminated Land Management Guidelines No.5; Site Investigation and Analysis of Soil. Ministry for the Environment.

# APPENDIX 1

## LABORATORY REPORT OF ANALYSIS

Hill Laboratories
TRIED, TESTED AND TRUSTED
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T +64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

# ANALYSIS REPORT



| | | | |
|---|---|---|---|
| Client: | EAM NZ Limited | Lab No: | 1805118 SPv1 |
| Contact: | J Strong | Date Received: | 07-Jul-2017 |
| | C/- EAM NZ Limited | Date Reported: | 13-Jul-2017 |
| | PO Box 1154 | Quote No: | 72316 |
| | Napier 4140 | Order No: | |
| | | Client Reference: | 80 Raymond Street |
| | | Submitted By: | J Strong |

**Sample Type: Soil**

| Sample Name: | | Composite of 80 Raymond St 1 and 80 Raymond St 2 | Composite of 80 Raymond St 3 and 80 Raymond St 4 | Composite of 80 Raymond St 5 and 80 Raymond St 6 | Composite of 80 Raymond St 7 and 80 Raymond St 8 | Composite of 80 Raymond St 9 and 80 Raymond St 10 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.55 | 1805118.56 | 1805118.57 | 1805118.58 | 1805118.59 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 3 | 2 | 3 | < 2 |
| Total Recoverable Lead | mg/kg dry wt | 10.2 | 56 | 11.5 | 10.6 | 11.5 |

| Sample Name: | | Composite of 80 Raymond St 11 and 80 Raymond St 12 | Composite of 80 Raymond St 13 and 80 Raymond St 14 | Composite of 80 Raymond St 15 and 80 Raymond St 16 | Composite of 80 Raymond St 17 and 80 Raymond St 18 | Composite of 80 Raymond St 19 and 80 Raymond St 20 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.60 | 1805118.61 | 1805118.62 | 1805118.63 | 1805118.64 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 3 | < 2 | 3 | < 2 |
| Total Recoverable Lead | mg/kg dry wt | 14.9 | 12.9 | 11.7 | 13.3 | 10.3 |

| Sample Name: | | Composite of 80 Raymond St 21 and 80 Raymond St 22 | Composite of 80 Raymond St 23 and 80 Raymond St 24 | Composite of 80 Raymond St 25 and 80 Raymond St 26 | Composite of 80 Raymond St 27 and 80 Raymond St 28 | Composite of 80 Raymond St 29 and 80 Raymond St 30 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.65 | 1805118.66 | 1805118.67 | 1805118.68 | 1805118.69 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 2 | 2 | 2 | 2 | 2 |
| Total Recoverable Lead | mg/kg dry wt | 12.3 | 13.3 | 12.1 | 13.8 | 14.1 |

| Sample Name: | | Composite of 80 Raymond St 31 and 80 Raymond St 32 | Composite of 80 Raymond St 33 and 80 Raymond St 34 | Composite of 80 Raymond St 35 and 80 Raymond St 36 | Composite of 80 Raymond St 37 and 80 Raymond St 38 | Composite of 80 Raymond St 39 and 80 Raymond St 40 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.70 | 1805118.71 | 1805118.72 | 1805118.73 | 1805118.74 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | < 2 | 2 | 5 | 3 | 3 |
| Total Recoverable Lead | mg/kg dry wt | 11.3 | 12.9 | 13.6 | 15.3 | 13.2 |

| Sample Name: | | Composite of 80 Raymond St 41 and 80 Raymond St 42 | Composite of 80 Raymond St 43 and 80 Raymond St 44 | Composite of 80 Raymond St 45 and 80 Raymond St 46 | Composite of 80 Raymond St 47 and 80 Raymond St 48 | Composite of 80 Raymond St 49 and 80 Raymond St 50 |
|---|---|---|---|---|---|---|
| Lab Number: | | 1805118.75 | 1805118.76 | 1805118.77 | 1805118.78 | 1805118.79 |
| Individual Tests | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | < 2 | 2 | 3 | < 2 | 3 |
| Total Recoverable Lead | mg/kg dry wt | 16.7 | 14.7 | 14.5 | 15.0 | 27 |

IANZ ACCREDITED LABORATORY

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

| Sample Type: Soil | | | | | | |
|---|---|---|---|---|---|---|
| Sample Name: | | Composite of 80 Raymond St 51 and 80 Raymond St 52 | Composite of 80 Raymond St 53 and 80 Raymond St 54 | Composite of 80 Raymond St 1, 80 Raymond St 21, 80 Raymond St 11 and 80 Raymond St 6 | Composite of 80 Raymond St 43, 80 Raymond St 26, 80 Raymond St 34 and 80 Raymond St 24 | Composite of 80 Raymond St 4, 80 Raymond St 51, 80 Raymond St 53 and 80 Raymond St 51 |
| Lab Number: | | 1805118.80 | 1805118.81 | 1805118.82 | 1805118.83 | 1805118.84 |
| Individual Tests | | | | | | |
| Dry Matter | g/100g as rcvd | - | - | 75 | 73 | 78 |
| Total Recoverable Arsenic | mg/kg dry wt | 15 | 10 | - | - | - |
| Total Recoverable Lead | mg/kg dry wt | 111 | 240 | - | - | - |
| Organochlorine Pesticides Screening in Soil | | | | | | |
| Aldrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| alpha-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| beta-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| delta-BHC | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| gamma-BHC (Lindane) | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| cis-Chlordane | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| trans-Chlordane | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Total Chlordane [(cis+trans)* 100/42] | mg/kg dry wt | - | - | < 0.04 | < 0.04 | < 0.04 |
| 2,4'-DDD | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 20 |
| 4,4'-DDD | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 61 |
| 2,4'-DDE | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.135 |
| 4,4'-DDE | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.90 |
| 2,4'-DDT | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 1.57 |
| 4,4'-DDT | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 7.0 |
| Total DDT Isomers | mg/kg dry wt | - | - | < 0.08 | < 0.08 | 91 |
| Dieldrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endosulfan I | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endosulfan II | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.052 |
| Endosulfan sulphate | mg/kg dry wt | - | - | < 0.014 | < 0.014 | 0.026 |
| Endrin | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endrin aldehyde | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Endrin ketone | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Heptachlor | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Heptachlor epoxide | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Hexachlorobenzene | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |
| Methoxychlor | mg/kg dry wt | - | - | < 0.014 | < 0.014 | < 0.013 |

## SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

| Sample Type: Soil | | | |
|---|---|---|---|
| Test | Method Description | Default Detection Limit | Sample No |
| Environmental Solids Sample Preparation | Air dried at 35°C and sieved, <2mm fraction.<br>Used for sample preparation.<br>May contain a residual moisture content of 2-5%. | - | 55-81 |
| Organochlorine Pesticides Screening in Soil | Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082). Tested on as recieved sample | 0.010 - 0.08 mg/kg dry wt | 82-84 |
| Dry Matter (Env) | Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550. | 0.10 g/100g as rcvd | 82-84 |
| Total Recoverable digestion | Nitric / hydrochloric acid digestion. US EPA 200.2. | - | 55-81 |
| Composite Environmental Solid Samples* | Individual sample fractions mixed together to form a composite fraction. | - | 1-84 |
| Total Recoverable Arsenic | Dried sample, sieved as specified (if required). Nitric/hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2. | 2 mg/kg dry wt | 55-81 |
| Total Recoverable Lead | Dried sample, sieved as specified (if required). Nitric/hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2. | 0.4 mg/kg dry wt | 55-81 |

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These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Kim Harrison MSc
Client Services Manager - Environmental