Date: Tuesday 6 August 2019
Time: 9.30am
Meeting Room: Reception Lounge
Venue: Auckland Town Hall
301-305 Queen Street
Auckland

Komiti Whakarite Mahere / Planning Committee

OPEN ATTACHMENTS

ADDITIONAL ATTACHMENTS UNDER SEPARATE COVER

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Note: The attachments contained within this document are for consideration and should not be construed as Council policy unless and until adopted. Should Councillors require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.
PRIVATE PLAN CHANGE REQUEST

FOSTER CRESCENT
SNEILLS BEACH

ASSESSMENT OF ENVIRONMENTAL EFFECTS AND STATUTORY ANALYSIS

PREPARED FOR:
PRIME PROPERTY GROUP LIMITED
Attachment A

B&A

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Foster Crescent Plan Change

B&A Ref: 36220

Prepared by Brier Belymore
Reviewed by Bernette O’Connor

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APPENDICES:

Appendix 1: Certificate of Title and Documents
Appendix 2: Indicative Subdivision Scheme Plan
Appendix 3: Geotechnical Report
Appendix 4: Engineering Report
Appendix 5: Soil Contamination PSI Report
Appendix 6: Traffic Impact Assessment
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1.0 THE APPLICANT AND PROPERTY DETAILS

To: Auckland Council
Applicant’s Name: Prime Property Group Limited
Address for Service:
Banker & Associates Ltd
PO Box 591
Baxter Street
Warkworth 0941
Attention: Briar Belgrave / Burnette O’Connor
Legal Description: Lot 1 DP 149776 (refer to Certificate of Title in Appendix 1)
Site Address: Foster Crescent, Snells Beach
Site Area: 4.6384 hectares
AUP Zoning: Residential – Large Lot Zone
Brief Description of Proposal: Private Plan Change request to rezone the site from Residential – Large Lot to Residential – Single House zone.
2.0 EXECUTIVE SUMMARY

Prime Property Group Limited is applying for a Plan Change to the Auckland Unitary Plan – Operative in Part (“AUP”) to rezone Lot 1 DP 149776 (approximately 4.6384 hectares) from Residential – Large Lot to Residential – Single House zone. Following lodgement of the Plan Change request, a resource consent application will be lodged for a vacant lot subdivision in accordance with the Residential – Single House zone rules.

A Plan Change has been determined as the best option to secure development of the site in the manner proposed. Given the location of the site in close proximity to the school and community facilities, the most efficient use of the land is one that enables a higher density of residential development than is enabled with the Large Lot zoning. Alternative options such as seeking resource consent as a discretionary activity for either freehold sites or a comprehensive form of urban development were considered due to the defined site-specific nature of the proposal. However, the objectives and policies for the Residential – Large Lot zone were not considered to provide a sufficient level of flexibility to enable the proposed density of residential development sought. A Private Plan Change request is therefore the best option.

The site subject to the proposed rezoning is shown in Figure 1 below:

Figure 1: Showing Lot 1 DP 149776, proposed to be rezoned to Residential - Single House

---

Prepared by Brian Belgrave
Reviewed by Durette O’Connor

Foster Crescent Plan Change
D&A Ref: 10220
Under the legacy Operative Rodney District Plan the site was zoned ‘Low Intensity Residential’. This zoning was consistent with the adopted Sandspit – Snells Beach – Algies Bay Structure Plan (1999). The Residential – Large Lot zoning under the AUP is effectively a roll-over of the legacy plan zoning.

However, there is a different objective set by the Regional Policy Statement (“RPS”); Chapter B of the AUP. The RPS emphasises the need to increase the supply of land available for urban development in order to meet the growth demands of Auckland. This includes housing supply and business land. The RPS stipulates that urban development shall be undertaken in a manner that achieves a quality compact urban form that makes efficient use of the land resource and infrastructure, while responding to the local character and sense of place. The proposed re-zoning is considered to achieve this outcome.

Taking into account the land required for access and roading, utilities and reserve, the proposed rezoning would allow for approximately an additional 39 to 41 lots to be developed on the site, compared with the existing Residential – Large Lot zoning which would enable approximately 11 lots (approximately 50 to 52 lots in total if zoned Single House).

This nature and density of development is consistent with the Residential – Single House development to the east and the wider Snells Beach area and makes the best utilisation of the positive location attributes of the primary school, playing fields, community facilities and the adjacent walkway.

Taking into account the actual and potential effects of the proposal on the environment, the rezoning is considered to meet the key policies of the AUP for the following reasons:

- Residential amenity and character:
  - The density enabled by Single House zone (600m²) is consistent with the residential density to the east, which represents the predominate character of the Snells Beach settlement;
  - The lot sizes of the Single House zone and the applicable development standards such as yards, height in relation to boundary and maximum building coverage, will ensure that potential privacy and dominance effects to neighbours will be effectively managed;
  - Additional development controls will be proposed through the subdivision consent. These development controls will be reflected in a legal agreement subject to a legal agreement that is currently being formulated. The parameters of that agreement have already been agreed with the Te Whau Lane land owners. The purpose of the additional controls that will be reflected in the agreement is to manage effects associated with the
transition from Single House zone density to the adjoining Large Lot Residential zoned properties on Te Whau Lane. The proposed mitigation measures include a 15m building line restriction, 5m landscaping buffer, a height restriction to single storey, and 800m² lots along the western boundary of the subject land adjacent to Te Whau Lane.

- Infrastructure capacity:
  - There is sufficient capacity in the road network to accommodate the proposed increase in dwellings;
  - Watercare have confirmed that there is sufficient capacity in the wastewater and water supply networks to accommodate the proposed increase in dwellings; and
  - Stormwater from the site discharges via a restored wetland into the Mahurangi Harbour, and there is no risk of downstream flooding. Devices can be installed within the development to ensure that stormwater is sufficiently treated prior to being discharged.

- Ecological values:
  - There are opportunities for ecological enhancement through restoring approximately 40m of a permanent watercourse and a degraded wetland at the north-eastern edge of the site. These areas will form part of a proposed reserve that links with the Te Whau esplanade reserve and wider open space network of Goodall Reserve.

- Geotechnical:
  - In terms of the geotechnical conditions of the site, these have been assessed and the analysis confirms that the groundwater conditions can support greater development on the site.

- Open Space and Community Facilities:
  - The site has excellent connections to open space networks, community facilities, shops and the Snells Beach Primary school.

We seek that Auckland Council processes the Private Plan Change concurrently with the resource consent for subdivision that will be lodged in the near future. This will ensure that all necessary resource consent applications required to facilitate the development are achieved in a similar timeframe to the rezoning. While the proposed subdivision is a separate application to Council, it is complimentary to this Plan Change requestand given the site specific and limited nature of this development, the Plan Change could be processed as a resource consent. This is an option available to Council and it is sought that this option is considered.

An indicative subdivision scheme plan has been prepared and is shown in Figure 2 below. The indicative scheme plan demonstrates a potential plan for subdivision in
acccordance with the Residential – Single Ho use zone rules, which would enable approximately 50 - 52 residential sites to be created.

Figure 2: Indicative Subdivision Scheme Plan for the site

A range of technical reports have been procured to inform the Plan Change request and suitability of the proposed subdivision:

- Archaeology Assessment by Clough and Associates Ltd;
- Consultation Report by B&A;
- Cultural Impact Assessment by Ngati Manuhiri;
- Ecological Assessment prepared by Bio researches;
- Engineering Report prepared by LDE Limited;
- Geotechnical Report prepared by LDE Limited;
- Landscape Assessment prepared by Littoralis;
- Open Spaces and Community Facilities Assessment by B&A;
- Preliminary Contamination Assessment by LDE; and
- Traffic Impact Assessment prepared by TEAM Limited.
3.0 INTRODUCTION

3.1 BACKGROUND TO ZONING ON SUBJECT SITE

The land within the Plan Change area is currently zoned Residential – Large Lot under the AUP. The subject site is located within the urban area of the existing Snells Beach township. Under the legacy Operative Rodney District Plan, the site was zoned ‘Low Intensity Residential’ consistent with the Snells Beach - Algies Bay Structure Plan (which zoned the site Low Intensity Urban (L1)). This area was zoned Low Intensity Residential because of potential slope instability and sensitivity of the Mahurangi receiving environment to sedimentation, including sedimentation from intensive urban development (Section 2.3.2 of Decision Report 2258 to the Proposed Rodney District Plan 2000).

In response to these two concerns, the geotechnical conditions of the site have been assessed in the Geotechnical Report (Appendix 3) which confirms that the ground conditions can support greater development on the site.

Sedimentation and other effects arising from earthworks can and will be managed through the subdivision and development process. Potential earthworks mitigation measures are discussed in the Engineering Report (Appendix 4).

During the AUP process the New Zealand Institute of Architects (NZIA) and the Urban Design Forum lodged submissions seeking rezoning of the Dawson Road peninsula to enable a greater density and range of residential development opportunities. One of the points raised in the submission was that if Council wanted to achieve the Auckland Plan’s objective of enabling growth and development, then the AUP needs to provide for residential intensification. To this end, the NZIA submission appended maps showing spatially where residential intensification could be achieved, while not losing those features that make Auckland special, such as the coastal character.

For the area that includes the proposed Plan Change site, NZIA sought a zoning of Single House, Mixed Housing and Terrace Housing and Apartment Building zones rather than Large Lot residential (refer to Figure 3 below). The explanation provided by NZIA for the rezoning was –

Density too low. Large lot is an inefficient use of resource and prevents consolidation of Snells Beach as a coastal residential centre. Future Urban, Single House or Mixed Housing will provide for a diversity of residential options.

This Plan Change supports the rationale in the NZIA submission, and considers that Single House residential is a more efficient use of the subject site.
3.2 ACCEPTING THE PLAN CHANGE REQUEST (CLAUSE 25)

Council has the discretion to adopt the change, or part of the change as if it were a Council Plan Change; accept the plan change enabling it to be notified; or reject a Plan Change. The Council may also decide to process the request as a resource consent. Clause 25(4)(a)-(e) of Schedule 1 of the Resource Management Act 1991 (RMA) sets out these options.

In considering whether to accept or reject Plan Change requests, the Council has developed criteria to aid its assessment, which was endorsed by the Planning Committee on 28 March 2017. These criteria are as follows:

The outcomes of the private plan change:

- Align with the Future Urban Land Supply Strategy;
- Give effect to the Auckland Plan;
- That any structure planning and subsequent plan changes follow Appendix 1 – Structure Plan Guidelines of the AUP; and
- Gives effect to the environmental outcomes expected and effectiveness of the AUP.

Detailed discussion that outlines how this Plan Change request satisfies the matters outlined in Clause 25 and the Council’s additional criteria is provided throughout this section 32 report and it is concluded that the Council can accept it for processing.
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In addition, Schedule 1, Clause 25(4) states that Council may only reject the request in whole, or in part on the grounds that –

(a) The request, or part of the request is frivolous or vexatious; or
(b) Within the last 2 years, the substance of the request or part of the request
   (i) Has been considered and given effect to, or rejected by, the local authority or the Environment Court; or
   (ii) Has been given effect to by regulations made under section 360A; or
(c) The request or part of the request in not in accordance with sound resource management practice; or
(d) The request or part of the request would make the policy statement or plan inconsistent with Part 5; or
(e) In the case of a proposed change to a policy statement or plan, the policy statement or plan has been operative for less than 2 years.

In summary, the Plan Change request, including the planning analysis, supporting technical analysis, the process undertaken to prepare the request, including public consultation, demonstrate that the proposal accords with the Council’s strategic documents, is consistent with the objectives and policies of the AUP, and is consistent with sound resource management practice. The request is not frivolous or vexatious and the subject matter has not been considered in the last two years. The request will not make the plan inconsistent with Part 5 and the Unitary Plan has now been operative for more than two years. Therefore, Council is able to accept the Plan Change request.

4.0 SITE LOCATION AND DESCRIPTION

4.1 SITE DESCRIPTION

The subject site, shown with the property boundary highlighted in Figure 4 below, has a total area of 4.6384 hectares. The site is irregular in shape and has undulating terrain that generally falls downwards from south to north. The site is currently vacant and mostly in pasture.
Legal access to the site is provided from the southern end of Fosters Crescent. To the west the legal termination of Fosters Crescent adjoins Te Whau Lane, a private accessway that provides legal access to five properties. Te Whau Lane has a legal width of approximately 18 metres where it joins Foster Crescent, then reduces to a 6-metre width from 22 Te Whau Lane (Lot 5 DP 476107) onwards.

4.2 SURROUNDING LOCALITY

The Plan Change area is located immediately to the west of the existing Snells Beach settlement. The neighbouring properties are established residential houses which gain access off Foster Crescent and Cornel Circle (refer Figures 5, 6 and 7).
Figure 5: Neighbouring properties to the east (Source: B&A 2018)

Figure 6: Neighbouring properties to the east (Source: B&A 2018)
The northern boundary of the site abuts the Te Whau River walkway which extends from the Goodall reserve around the coastal edge of the Dawson Road peninsula to the boat ramp at the western end of Dawson Road (refer Figures 8 and 9). These adjoining reserve areas are zoned Open Space – Conservation. The Dawson Creek arm of the Mahurangi Harbour extends up to the north eastern boundary of the site. This area is zoned Coastal Transition in the AUP. as.
To the west of the Plan Change area, following a spur is Te Whau Lane. The land provides legal access to a discrete area of land recently developed for Large Lot Residential land uses (refer Figures 10, 11 and 12). About half the sites are built on to date. The Rural Coastal zoned land is further west again. It is mostly in pasture and is being farmed, gaining access off Dawson Road.

Figure 9: Linkage between site and Te Whau coastal walkway (Source: B&A 2018)

Figure 10: Neighbouring properties to the west (Source: B&A 2018)
Uphill from the site on the southern boundary, is a Council reserve located to the east of Snells Beach Primary School (refer Figure 13). There is walking access from the school across the reserve to Foster Crescent and the subject site (approximately 100m).
5.0 DESCRIPTION OF THE PLAN CHANGE REQUEST

5.1 OVERVIEW OF THE PROPOSED ZONING

The Plan Change seeks to rezone approximately 4.6384 hectares, held in one certificate of title, from Residential – Large Lot to Residential – Single House, as shown in Figure 14 below.

Figure 14: Proposed Re-Zoning Map
The proposal provides for the establishment of additional residential development that logically extends from the existing housing community and builds on the specific density and scale of the area and characteristics of the land.

It is considered that the standard zone, overlay and Auckland-wide provisions will ensure future development gives effect to the AUP, RPS and Part 2 of the RMA.

Additional controls for the Plan Change site are proposed to be applied at the subdivision stage to restrict buildings and other activities along the northern fringe of the site where there is a wastewater rising main. Consultation with Watercare is ongoing on this matter. Details of any potential development restrictions will be included with the subdivision application in the same manner that the additional restrictions agreed with the Te Whau Lane land owners will be.

It is intended to lodge a resource consent application for the subdivision of the land and related land use consents to be processed concurrently with the Plan Change, unless the Council decides to process this request as a resource consent; in which case the applications would be processed together.

5.2 PURPOSE AND REASONS FOR THE PLAN CHANGE

Clause 22(1) of the RMA requires that a Plan Change request explains the purpose of, and reasons for the proposed Plan Change.

The applicant is the owner of the Plan Change area and intends to develop their landholdings in a manner consistent with the proposed zoning which this Plan Change request will enable. As detailed below, the proposal will provide additional housing land supply in a location that is well serviced and accessible to a range of open space and community facilities. This is consistent with the objectives of the Council's planning documents and in this regard, the reasons for the Plan Change are justified and consistent with sound resource management practice.

The current objectives, policies and rules for the Residential – Large Lot zone makes subdivision and development to a density such as that proposed difficult. This is because, quite rightly the objectives and policies refer to maintaining a spacious landscape character and ensuring that development is in keeping with landscape qualities or natural features. Discretionary activity resource consents could be applied to enable single housing outcomes, however because of the objectives and policies that apply to the Large Lot zone this option was considered too great a risk. Therefore, a Plan Change has been determined as the best option to secure the most efficient and effective development of the site. A Plan Change is also considered to be a more transparent and open approach that will enable a zoning that properly reflects the type and density of residential development sought.
6.0 STRATEGIC FRAMEWORK

A number of strategic and statutory planning documents have informed the Plan Change process. This section provides a summary of those documents.

6.1 NATIONAL POLICY DOCUMENTS

6.1.1 Hauraki Gulf Marine Park Act 2000

The subject site is within the drainage catchment for the Hauraki Gulf, as defined by Schedule 3 in the Hauraki Gulf Marine Park Act 2000. The purpose of this Act is to establish the Marine Park and Forum, and to:

- Establish objectives and integrate the management of the natural, historic and physical resources of the Hauraki Gulf, its islands and catchments; and
- Recognise the historic, traditional, cultural and spiritual relationship of the tangata whenua with the Hauraki Gulf and its island;

The Plan Change is considered to give effect to the requirements of this Act. Tangata whenua have been consulted and they have no cultural concerns with the proposal (refer Appendix 11). In addition, potential effects on the ecological health of the Gulf through sedimentation will be appropriately addressed at the subdivision stage through conditions of consent. The proposal includes earthworks mitigation measures including silt traps, refer to the Engineering Report (Appendix 4).

6.1.2 New Zealand Coastal Policy Statement

The New Zealand Coastal Policy Statement (NZCPS) sets out an overarching policy framework for the coastal environment, including the landward interface with the Coastal Marine Area. The northern boundary of the site is approximately 20 metres from the coastal marine area of the Mahurangi Harbour. The Te Whau River walkway is between the site and the Harbour.

The site therefore has a coastal context and must such policies within the NZCPS are applicable, particularly those relating to the location and appropriateness of development, for example Policy 6 Activities in the Coastal Environment. The Plan Change is considered to give effect to the NZCPS for the following reasons:

- The rezoning will increase the density of the existing residential zone thereby consolidating the existing coastal settlement (Policy 6(1)(c));
- The rezoning will result in development that maintains the character of the existing built environment (Policy 6(1)(f));
The visual impacts of development will be minimal as the subject site is discretely located in a shallow gully, not on a sensitive coastal location like a headland or prominent ridgeline (Policy 6(1)(h)); and

- The subject site is set back from the coastal marine area by the existing Te Whau River walkway. Public access to the coastal environment will be provided for through the subdivision layout (Policy 6(1)(i)).

The Plan Change is consistent with Policy 2 of the Treat of Waitangi. Tangata whenua have been consulted and they have no major concerns with the Plan Change (refer Appendix 11).

The Plan Change is also considered consistent with Policy 7 – Strategic Planning, as the site has already been identified as an appropriate location for residential use. The Plan Change simply seeks to change the density of the residential use (Policy 7(1)(b)).

6.1.3 National Policy Statement on Urban Development Capacity

The National Policy Statement on Urban Development Capacity 2016 (NPS on Urban Development Capacity) came into effect on 1 December 2016. It recognises the national significance of urban environments and provides direction to the decision-makers on planning for urban environments. The NPS on Urban Development Capacity seeks to ensure there is sufficient development capacity and supply of developable land for housing and business with a suite of objectives and policies to guide decision-making in urban areas. There is an emphasis on integrated planning of land use, development and infrastructure provision.

NPS Policy PA1 sets out housing and business land development capacity that local authorities are required to provide in the short, medium and long-term. Auckland Council’s Future Urban Land Supply Strategy (FULSS) is the key strategic document that gives effect to this National Policy Statement, and identifies future housing and business land for development.

Snells Beach is not included in FULSS. This is discussed further in Section 6.3.2. However, the proposed Plan Change will assist in that there is a sufficient supply of housing provided in this high demand location and in a location that is able to be serviced without further extension or significant investment in infrastructure.

6.1.4 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management 2011 (NPSFM) sets a national policy framework for managing freshwater quality and quantity. The NPSFM was updated in August 2017 to incorporate amendments from the National Policy Statement for Freshwater Amendment Order 2017. The amendments came into effect on 6 September 2017 and include provisions that seek to improve fresh water
quality with a target to increase the proportion of rivers and lakes suitable for
primary contact to 90 per cent by 2040. There are also new provisions that enable
the use of freshwater for economic wellbeing.

The NPSFM is further discussed in Section 9.5.3 under Ecology.

6.2 NATIONAL ENVIRONMENTAL STANDARDS

6.2.1 National Environmental Standards for Air Quality

The National Environmental Standards (NES) for Air Quality contains standards:
banning activities that discharge significant quantities of toxins; ambient outdoor air
quality; new wood burners in urban areas; and large landfills to collect greenhouse
gas emissions. These standards are set to ensure a guaranteed minimum level of
health protection for all New Zealanders. Due to the earthworks and cut and fill
required to redevelop the site, the NES for Air Quality is considered to be relevant.
Adequate mitigation measures will be proposed as part of the resource consent
process for the subdivision proposal to ensure compliance with the standards for
ambient outdoor air quality.

6.2.2 National Environmental Standards for Sources of Drinking Water

The NES for Sources of Drinking Water sets requirements for protecting sources of
human drinking water from becoming contaminated. It is intended to reduce the risk
of contaminants entering natural water bodies such as lakes, rivers or ground water.
For the purpose of this NES, the standards apply to the source water before it is
treated and only sources used to supply human drinking water. Given the
construction activities associated with implementing the subdivision consent and as
such the potential for contaminants to enter drinking water supplies, the NES for
Sources of Drinking Water is considered to be relevant. Erosion and sediment
controls such as sediment detention ponds, clean water diversion channels and
bunds and dirty water diversion bunds will be undertaken in accordance with
industry best practices and resource consent requirements.

6.2.3 National Environmental Standards for Assessing and Managing Contaminants in
Soil to Protect Human Health

The NES for Assessing and Managing Contaminants in Soil to Protect Human Health
(NESCSo) is a nationally consistent set of planning controls and soil contaminant
values. It ensures that land affected by contaminants in soil is appropriately identified
and assessed before it is developed — and if necessary, the land is remedied or the
contaminants contained to make the land safe for human use. Given the previous
and present use of the site for stock grazing and the proposed change of land use,
the NESCS is considered to be relevant. However, the results of the Preliminary investigation Report (refer to Appendix 5) concluded that it is unlikely that a HAIL (Hazardous activities and industries list) have occurred on site and therefore the NESCS does not apply.

6.3 COUNCIL STRATEGIC PLANS

6.3.1 Auckland Unitary Plan (Operative in Part)

The Auckland Unitary Plan (AUP) is the primary statutory planning document for Auckland. It is comprised of the Regional Policy Statement, Regional Coastal Plan, Regional Plan and District Plan. The AUP provides the regulatory framework for managing Auckland’s natural and physical resources while enabling growth and development and protecting matters of national importance.

6.3.1.1 Regional Policy Statement

Chapter B1 of the Regional Policy Statement (RPS) provides an overview of the resource management issues of significance for the region. The regionally significant issues of particular relevance to this Plan Change are the provisions relating to B2 Urban growth, B7 Natural resources, B8 Coastal environment and B10 Environmental risk.

Chapter B2 Urban growth of the RPS contains provisions directing urban growth and form in Auckland. It promotes providing for Auckland’s growing population in an integrated manner within the Urban Area (as defined in Appendix 1A of the AUP) and to enable urban growth and intensification within the Rural Urban Boundary, towns, and rural and coastal towns and villages. According to the Auckland Plan 2050, around 62% of development is anticipated within the existing urban area and the remaining development is anticipated to occur in future urban areas (32%) and in rural areas (6%). There is an emphasis on the need to provide for integrated land use, development and the provision of infrastructure. The RPS emphasises the need to increase housing supply to achieve a ‘quality compact’ urban form that makes efficient use of land and existing infrastructure while responding to local character and sense of place.

We note of relevance the comments made in the independent Hearing Panel’s report to Auckland Council (Topics 016, 017 RUB, 080 Rezoning and precincts – general and 081 Rezoning and precincts – geographic areas) where in the overview of recommendations it was stated:

“The panel considers the Rural Urban Boundary an appropriate planning tool to define the extent of the large urban areas (including the satellites of Warkworth and Pukekohe). The Panel recommends also placing the Rural
B&A

Urban Boundary around Kumeu-Huapai because its proximity to the main urban area of Auckland puts it under particular growth pressure. The panel does not consider it appropriate to place the Rural Urban Boundary around rural and coastal villages because they do not exhibit the same growth pressures. instead, the Panel consider that structure planning of any proposed change from rural zones to urban zone should adequately address growth issues.

While the subject site is not within the Urban Area or the Future Urban zone, it is considered that the proposed Plan Change is consistent with Chapter B2 Objectives and Policies for the following reasons:

- Rezoning this site represents a quality compact urban form due to the higher density, and better use of existing infrastructure (Objective B2.2.1(1));
- It is urbanisation within a coastal town (Objective B2.2.1(4)), that includes the provision of appropriate infrastructure (Objective B2.2.1(5));
- The residential intensification is located in and around a local centre, and is close to social, educational and healthcare facilities, and open spaces (Policy B2.2.2(5), Objective B2.4.1(3), and Policy B2.4.2(2));
- The proposed residential area will be in keeping with the built character of the existing area due to the similar density between the existing residential area and the density provided for under the Single House zone (Objective B2.4.1(2));
- It is a medium residential intensity that is in close proximity to the Snells Beach shopping centre, public transport and social facilities like the Mahurangi East Library and the Mahurangi Community Centre (Policy B2.4.2(3));
- The current lower residential intensity zoning of the subject site is not considered an efficient use of the land because the site is close to Snells Beach centre; it is not subject to high environmental constraints or significant natural hazard risks; there are no natural or physical resources scheduled in the AUP; the site can be serviced by existing infrastructure, and there are no existing incompatible activities that would result in reverse sensitivity effects (Policy B2.4.2(4) and (5));
- There will be the creation of reserves as indicated on the indicative scheme plan and engineering plans, increased public access, and a degraded wetland will be restored (Policy B2.6.2(2)); and
- Public access to the coastline will be enhanced through linkages to the coastal walkway (Objective B2.7.1(2)).

Taking into account the land required for roads and access, utilities and stream and wetland restoration, the proposed rezoning will enable an additional 39 to 41 lots (approx.) to be developed on the site, compared with the existing Residential - Large Lot zoning which would enable approximately 11 lots.

The extra lots will provide additional housing capacity within the existing urban area and make efficient use of land and existing infrastructure resources. The nature and

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density of development will also be consistent with the established residential
development to the east and the wider Snells Beach area.

The existing Large Lot zone to the west of the site ensures that a visual transition in
residential density is achieved between the residential area in the east and the rural
coastal land further west thereby retaining the area’s sense of place.

Chapter B7 Natural resources has identified that the combination of urban growth
and past land, coastal and freshwater management practices as an issue as it has
placed increasing pressure on land and water resources including habitats and
biodiversity. The objectives and policies to address this issue that are relevant to the
Plan Change site are indigenous biodiversity, freshwater systems, and coastal water.

The proposed Plan Change will give effect to Chapter B7 Objectives and Policies for
the following reasons:

- There are no areas of significant indigenous biodiversity value on the subject site,
as identified in the Ecological Assessment (Appendix 7) (Objective B7.2.1(1),
Policy B7.2.2(1));
- Through the subdivision process, it is proposed to restore a degraded wetland
and section of permanent stream on the site (Objectives B7.2.1(2) and B7.3.1(1),
Policy B7.3.2(3));
- Water supply, stormwater and wastewater infrastructure are adequately
provided for (Policies B7.3.2(1) and B7.4.2(1)(a));
- The proposed change in residential density will have no effects on the coastal
waters as there is an existing 20-metre-wide (approx.) coastal esplanade reserve
between the site and the Harbour which will act as a buffer. In addition, subdivision
conditions will manage any effects from sedimentation (Objective
B7.4.1(5), Policy B7.4.2(8));
- Mana Whenua have been consulted on the Plan Change and no cultural concerns
have been identified that would not otherwise be addressed (refer Appendix 11)
(Objective B7.4.1(6)); and
- There will be no effects from wastewater discharges as the site can be fully
serviced by connecting to the existing reticulated wastewater (Policy B7.4.2(10)).

Chapter B8 Coastal environment states that subdivision, use and development within
the coastal environment needs to be in an appropriate location and of an appropriate
form. The proposed Plan Change is consistent with Chapter B8 Objectives and
Policies for the following reasons:

- It is not located in a coastal area identified as having outstanding or high natural
character (Objective B8.2.1(1);
- The character of the coastal environment will not be affected as there is a
minimum of 5 metre (approx.) difference in elevation between the coastal

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marine area and the building platforms on the propose lots along the coastal edge of the site. In addition, the vegetation along the coastal walkway screens the site from the coastal environment. The elevation and the vegetation combined will reduce any potential effects on the character of the coastal environment (Objective B8.2.1(2), Policy B8.2.2(4));

- The site is considered to be located in an appropriate place as it is a shallow discrete gully, and it is an area already identified for residential use (Objective B8.3.1(1); Policy B8.3.2(2)); and
- Public access to the coastal marine area will be enhanced through linkages provided at the subdivision stage (Objective B8.4.1(1), Policy B8.4.2(1)).

The issues covered by Chapter B10 Environmental risk that are of relevance to this Plan Change are natural hazards and climate change. The other issues under B10 are not relevant because there are no hazardous substances on the site, the Plan Change does not involve genetically modified organism, and a contaminated land assessment has been undertaken, and no risk to human health has been identified (refer Appendix 5).

The proposed Plan Change is consistent with Chapter B10 Objectives and Policies for natural hazards and climate change for the following reasons:

- The subdivision, use and development of this site will not create new risks to people, property or infrastructure because the site is set back from the coastal environment by the Te Whau River walkway. There is a minimum of 5 metre difference in elevation between the Mean High Water Springs (MHW5) and the buildable areas on the proposed lots along the northern boundary of the site (refer Appendix 4, Sheet 1 of LDE Engineering Drawings). This is considered sufficient for sea level rise, given the allowance of 1 metre is used for the purpose of local government planning (MFE publication Coastal Hazard and Climate Change Guide for Local government, December 2017, Chapter 5, section 5.7). In addition, the subject site is located in the upper reaches of the Mahurangi Harbour, which is a low energy wave environment. Therefore, the potential effects from future sea rise are likely to be less pronounced (Objective B10.2.1(3)).
- The conveyance function of overland flow paths will be maintained (refer Appendix 4) (Objective B10.2.1(6)).

6.3.1.7 Residential – Large Lot Zone

The description for the Residential – Large Lot Zone states that this zone –

... provides for large lot residential development on the periphery of urban areas. Large lot development is managed to address one or more of the following factors:

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- it is in keeping with the area’s landscape qualities; or
- the land is not suited to conventional residential subdivision because of the absence of reticulated services or there is limited accessibility to reticulated services; or
- there may be physical limitations to more intensive development such as servicing, topography, ground conditions, instability or natural hazards where more intensive development may cause or exacerbate adverse effects on the environment.

To manage existing or potential adverse effects, larger than standard site sizes are required and building coverage and impervious surface areas are restricted.

The factors describing why Large Lot residential is provided for, rather than conventional residential development, when applied to the subject site supports the re-zoning of the site to Single House zone. The reason this land was zoned Large Lot was due to geotechnical constraints and potential sedimentation effects on the Mahurangi receiving environment arising from more intensive urban development.

Firstly, the proposed re-zoning is in keeping with the landscape qualities of the area as influenced by the existing residential area to the east, as articulated by the Landscape Assessment (Appendix 8):

The circumstances of the Site occupying what is effectively one face of a very shallow valley, with that terrain relating immediately to its partnering flank that has long been established as a residential neighbourhood; the inherent containment of that underlying landform; a fringe defined to the opposite, western side by a form of residential use; the immediate proximity of the built volume of Snells Beach School; and presence of public open space to either end, collectively serve to “ringfence” the Site and draw it into a well-established pattern of residential character.

In landscape terms, the proposal is a predictable and logical fit within that pattern and its wider impact is considerably constrained by the topographic characteristics of the land (as distinct, for example, from the level of landscape impact that may arise if the Site had instead sat across a ridge or spur in a more isolated setting).

In this context, and when compared with the development provided for under the current Residential Large Lot zoning, the magnitude of landscape effects of the proposal is considered to be moderate-low.

Secondly, the site can be fully serviced by reticulated water and wastewater services, as identified in the Engineering Report (Appendix 4). Watercare has completed an
initial high-level assessment of the proposal and they confirmed that “there are no capacity constraints identified in the current water and wastewater network as at today’s date” (refer to letter from Watercare dated 11th December 2018 attached in Appendix 9). Also as addressed in the engineering report development will be undertaken in a manner that will ensure any sedimentation effects associated with the development process and subsequent urban development will be less than minor.

Finally, the site contains no physical limitations restricting more intensive development. The Geotechnical Report (Appendix 3) has identified no issues such as topography, ground conditions, instability or natural hazards.

In summary, rezoning of the site to Residential - Single House is supported because it is able to be serviced, it is stable, and the Single House zone is in keeping with the established Snells Beach neighbouring residential areas.

6.3.1.3 Residential – Single House Zone

The description for the Residential – Single House Zone states –

The purpose of the Residential – Single House Zone is to maintain and enhance the amenity values of established residential neighbourhoods in number of locations. The particular amenity values of a neighbourhood may be based on special character informed by the past, spacious sites with some large trees, a coastal setting or other factors such as established neighbourhood character. To provide choice for future residents, Residential – Single House Zone zoning may also be applied in greenfield developments.

To support the purpose of the zone, multi-unit development is not anticipated, with additional housing limited to the conversion of an existing dwelling into two dwellings and minor dwelling units. The zone is generally characterised by one to two storey high buildings consistent with a suburban built character.

Residential – Single House zoning is considered to be more appropriate for the subject site because it will enable an efficient use of the land resource that is in keeping with the established character of the residential area to the east of the site. Therefore, there will be similar amenity and character values between the existing Single House zone and the proposed Single House zone. Applying this zoning to greenfield developments like this application, is provided for.

6.3.2 Auckland Plan 2050

The Auckland Plan is the Council’s key strategic document which sets the Council’s social, economic, environmental and cultural objectives. For this private Plan Change proposal, we have reviewed the Auckland Plan 2050 (adopted by Council 5 June 2018).
A key component of the Auckland Plan is the Development Strategy which sets out how future growth will be accommodated up to 2050. It takes into account the outcomes Council wants to achieve, as well as population growth projections and what the Auckland Unitary Plan allows for. The Auckland Plan 2050 provides a pathway for Auckland’s future physical development and a framework to align planning and infrastructure provision. This includes:

- significant redevelopment and intensification in areas that are already developed
- newly established communities in the future urban areas
- enabling business growth by supporting flexible and adaptable business areas
- limiting residential growth in rural areas to ensure that rural production can continue and develop, while maintaining rural values.

The Development Strategy’s aim is that Auckland will take a quality compact approach to growth and development. The quality aspect of this approach means that:

- most development will occur in areas that are easily accessible by public transport, walking and cycling;
- most development is within reasonable walking distances of services and facilities including centres, community facilities, employment opportunities and open spaces; and
- future development maximises efficient use of land.

The subject site has an urban zoning and is located directly adjacent to the established urban area of Snells Beach. The proposed Plan Change will enable a more efficient use of the existing urban land resource and infrastructure in this location. The location is close to urban amenities, schools, shops, doctors, open space areas, community facilities and public transport. Bus route 996 serves Snells Beach seven days a week including public holidays. This bus route follows Mahurangi East Road through the centre of Snells Beach, with two bus stops close to the subject site, one on the corner of Dawson Road and the other outside the Snells Beach shopping centre.

The Plan Change proposal will result in a more efficient use of residential land, compared to the existing Residential - Large Lot zoning, in a location that is within the existing urban area. The objectives of the Auckland Plan have informed the development of the proposal, which is further detailed in Sections 9 and 10 of the report.

### 6.3.3 Future Urban Land Supply Strategy 2017

The Council's Future Urban Land Supply Strategy, refreshed in July 2017, implements the Auckland Plan and gives effect to the NPS on Urban Development Capacity by identifying a programme to sequence future urban land over 30 years. The strategy relates to greenfield land only and ensures there is 20 years of supply of development
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capacity at all times and a seven-year average of unconstrained and ready to go land supply. ‘Ready to go’ land is land with operative zoning and bulk services in place such as the required transport and water infrastructure.

The Future Urban Land Supply Strategy (FULSS) informs the council’s infrastructure funding priorities and feeds directly into the council’s long-term plans, annual plans and other strategic documents.

The refresh of the Future Urban Land Supply Strategy did not include Snells Beach as an area for consideration because it is not identified as an area where significant new urban growth is to be provided for. However, given that the Plan Change site is completely confined, localised and would only supply a small number of additional lots above the number of lots that could be provided under the current Large Lot zoning, the FULSS is not considered relevant. Notwithstanding this, the proposed rezoning of the subject site is in line with intent of the FULS as infrastructure is available to enable the servicing of the proposed density of residential development, reflecting the 2021 completion date for the supporting bulk infrastructure, including the Puhoi to Warkworth motorway extension and the Snells Beach Wastewater Treatment Plant.

6.3.4 Open Space and Community Facilities

The Council has prepared various policies and action plans regarding the provision of community facilities and open space in Auckland, including:

- Open Space Provision Policy 2016;
- Rodney Greenways Paths and Trails Plan: Puhoi to Pakiri 2017; and

These policies and plans have been taken into account in preparing the Open Spaces and Community Facilities Report (Appendix 10) for the Plan Change, and determining future community facility needs. This is discussed further in Sections 9 and 10 of this report.

6.3.5 Auckland’s Long Term Plan 2018 – 2028

Auckland Council develops a ten year Long Term Plan (LTP) which is reviewed every three years to allocate funding for its various activities. The ability and timeframe to implement any Council project or initiative is dependent on the level of budget allocated in the LTP processes.

A key strategic project is the upgrade of the wastewater treatment plant located at Snells Beach to accommodate wastewater from Warkworth, Snells Beach and Algés Bay. It is intended that the upgrade will be completed in 2022. Watercare have
confirmed that there is capacity to service the subject site as discussed in the Consultation Report and Watercare letter dated 11th December 2018 attached as Appendix 9, however there will need to be upgrades to the local reticulation to service the development. Details of the future upgrade requirements will be provided in the subdivision consent application.

6.4 OTHER PLANS AND REPORTS (NON-STATUTORY)

6.4.1 Sandspit – Snells Beach – Algies Bay Structure Plan (1999)

Under the legacy Operative Rodney District Plan the site was zoned ‘Low Intensity Residential’. This zoning was consistent with the adopted Sandspit – Snells Beach – Algies Bay Structure Plan (1999) in which the subject site was identified as ‘Low intensity Urban’. This area was zoned Low Intensity Residential because of potential slope instability and sensitivity of the Mahurangi receiving environment to sedimentation, including sedimentation from intensive urban development (Section 2.3.2 of Decision Report 2298 to the Proposed Rodney District Plan 2000).

These concerns are addressed in this Plan Change. In particular, the Geotechnical Report (Appendix 3) confirms that the ground conditions can support greater density on the site. The potential for sedimentation to enter the Harbour will be avoided through the provision of silt traps and by way of subdivision consent conditions (refer to the Engineering Report attached as Appendix 4).

6.4.2 Rodney Greenways Paths and Trails Plan: Puhoi to Pakiri 2017

The Greenways Plan 2017 is a visionary document which aims to provide cycling and walking connections which are safe and pleasant, while also improving ecology and access to recreational opportunities. The Greenways Plan seeks to create a future network of greenways that will provide safe and enjoyable ways for people to get around, get active, and get engaged with their community and environment.

The Greenways Plan has identified a network of priority routes throughout the Rodney area. There is a network of priority routes identified around the subject site: through Goodall Reserve, connecting with the coastal walkway along to the boat ramp at the end of Dawson Road, looping back along Dawson Road through the school site, along the walkway to Foster Crescent, then back through to Goodall Reserve.

Future greenways infrastructure is provided for by the Plan Change that will complement the existing network. Within the site there is the provision for linkages between the site and the coastal walkway, Goodall Reserve, and the school. This will be through an offer of two reserves, one linking the site to the coastal walkway, another reserve linking to Goodall Reserve. This latter reserve will also be part of the...
stormwater drainage network for the subject site, and will include the ecological enhancement of the degraded wetland. Finally, the linkages to the school will be provided via a road to vest. It is considered that this will be a positive addition to the greenways routes for Snells Beach as identified in the Greenways Plan.

6.4.3 Supporting Growth Programme

Supporting Growth is a collaborative document prepared by Auckland Council, Auckland Transport and the New Zealand Transport Agency to provide a coordinated approach to land use and transportation infrastructure delivery necessary to support planned urban growth within Future Urban areas in Auckland. This programme substantiated the strategic need for both new and improved/upgraded road corridors, new and improved public transport corridor and cycle network to support accessibility in the new future urban areas. The 2016 preferred network plan for Warkworth is shown in Figure 15 below.

Figure 15: Preferred network plan for Warkworth, 2016 (Source: Supporting Growth Preferred Transport Network Plans)

Since the release of the preferred networks plans, several Supporting Growth priority projects have already progressed. This include improvements in transport...
connectivity between Matakanal Road and State Highway 1. This project is known as the Matakanal Link Road, and is proposed to be completed by 2021. This aligns with the timeframe for the motorway extension completion date. The Notice of Requirement has been lodged, and the submission period finished in November 2018.

The Matakanal Link Road will enable future connectivity with the wider proposed network, which includes a future extension of the Matakanal Link Road to Sandspit Road. The Sandspit Link route is not yet confirmed however the location of the Matakanal Link Road in relation to this proposed link was a relevant consideration when determining the preferred route for the Matakanal Link Road (Section 6.2.2(4) of Assessment of Environmental Effects to the Matakanal Link Road Notice of Requirement October 2018). These proposed road linkages will take the pressure off the Hill Street intersection in Warkworth. The future extension of the Matakanal Link Road to Sandspit Road will be of benefit for Snells Beach and the traffic associated with the Plan Changes thereby improving transport connectivity.

7.0 STATUTORY CONSIDERATIONS

This report has been prepared in accordance with the requirements of the Resource Management Act 1991 (RMA), including the matters set out in Schedule 1 and Section 32, which detail the requirements for an evaluation report (emphasis added):

32 Requirements for Evaluation Reports

(1) An evaluation report required under this Act must—

(a) Examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and

(b) Examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—

(i) identifying other reasonably practicable options for achieving the objectives; and

(ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and

(iii) summarising the reasons for deciding on the provisions; and

(c) Contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

(2) An assessment under subsection (1)(b)(ii) must—

(a) Identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—

(i) economic growth that are anticipated to be provided or reduced; and
(ii) employment that are anticipated to be provided or reduced; and
(b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
(c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

The following sections address the matters set out in Schedule 1 and Section 32 of the RMA.

8.0 CONSULTATION AND ENGAGEMENT

8.1 CONSULTATION AND ENGAGEMENT

The Plan Change was subject to extensive consultation and engagement throughout 2018 as detailed in the Consultation Report (Appendix 9).

The following stakeholders and groups have been consulted:

- Mana Whenua;
- Landowners and occupiers of land around the Plan Change area;
- Key stakeholders, including:
  - Auckland Council;
  - Watercare;
  - Auckland Transport;
  - Snells Beach Primary School.
- Local interest groups, including:
  - Friends of the Mahurangi and Mahurangi Action;
  - Snells Beach Ratepayers and Residents Association.

The key outcomes of engagement with these stakeholders is summarised as follows:

- Ngati Manuhiri identified no major cultural concerns in their Cultural Impact Assessment (Appendix 11). Detail is provided in section 8.2 of this report (below).
- Te Whau Lane neighbours have raised concerns, which will be responded to in the subdivision application by incorporating additional controls for the lots along the shared boundary e.g. 5m landscape buffer, 15m building setback, single storey restriction, and 800m² (approx.) proposed lots. A letter of support for the Plan Change has been provided by each of the five property owners on Te Whau Lane.
For the neighbours along the eastern boundary of the site, a consultation pack was mailed out, and an invitation to a community meeting about the proposal. A number of these residents attended the public meeting. Burnette O’Connor also conducted a one to one meeting with Rachel Balke, the owner of 19 Cornel Circle. Requests for further information have been provided, including to Mr and Mrs Wallbank of 2 Foster Crescent regarding their driveway;

Watercare – Discussions were undertaken with Watercare in 2016, and written confirmation was provided from Watercare stating that the site could be serviced with wastewater provided a number of conditions are met. In addition, they confirmed via email that there is sufficient capacity to service the site with reticulated water. Given the time that has passed, a ‘new’ request has been made to Watercare for confirmation that the subject site can be serviced with water and wastewater. Watercare have provided that confirmation.

Auckland Council – Meetings have been held on 14 December 2016 and 2 November 2017. Matters raised have been investigated, and the Plan Change proposal has been amended accordingly;

Auckland Transport – Feedback from Auckland Transport states that they have no issues with the Plan Change, as the development trip generation is low, and there are no known existing traffic issues at this location.

Snells Beach Primary School – Consultation package was provided, and meetings were held with the principal and with the Board of Trustees. The main concern raised by the Board was around traffic issues and safety of children on Foster Crescent and Iris Streets. The Traffic Impact Assessment considers that the additional traffic movements attributed to the proposed residential subdivision will not noticeably affect pedestrian safety or amenity on Foster Crescent and Iris Street;

Friends of the Mahurangi and Mahurangi Action – The Mahurangi Action Committee advised that they do not see what benefits the proposal for a 52-lot subdivision extension to urban Snells Beach would present socially or environmentally, including landscape and visual impact, over the current Large Lot zoning. Based on their current understanding of the private Plan Change proposal, Mahurangi Action cannot provide support; and

Snells Beach Ratepayers and Residents Association – Phone and email contact with the Chairman has been undertaken, with the proposal discussed. An invite to the community meeting was emailed. No written feedback has been provided to date.
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8.2 CULTURAL VALUES

Mana Whenua have been consulted as part of the development of the Plan Change as detailed in the Consultation Report (Appendix 9). Ten Iwi groups were contacted regarding this proposal whose rohe (area of interest) covered the Snells Beach area.

Manuhiri Kaitiaki Charitable Trust prepared a Cultural Impact Assessment (Appendix 11). There were no major cultural concerns raised in the CIA. A number of recommendations were made, which were agreed to. For example; having a representative present during ground disturbing activities adjacent to waterways; to be able to review the Erosion and Sediment Control Plan; and, that eels are relocated before the pond is de-watered. A recommendation to remove the proposed lots along the coastal edge of the subject site was not agreed to. This is because all the matters raised were adequately addressed. Details of the responses are included in the Consultation Report.

9.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

The following section of the report provides an assessment of the actual and potential effects that the proposed Plan Change may have on the environment. This assessment is based on analysis and reporting undertaken by various experts, which are attached as appendices to this report.

9.1 URBAN FORM

The Landscape Assessment (Attachment 4) has considered the future urban form of the proposed Plan Change when the subdivision is implemented. Key landscape-related matters that will potentially help integrate future development under the proposed Plan Change include:

- Contiguity with the area of well-established residential neighbourhood that adjoins to the east and is served by Foster Crescent, Cornet Circle and Iris Street;
- Containing topography where a spur provides a physical definition to the otherwise least delineated margin to the site;
- Frame of open space, with Goodall Reserve to the North and an unnamed parcel of reserve to the east;
- Close connection with Snells Beach School, in both spatial terms and in relation to the “built presence” established by the schools dynamic, modern buildings;
- Visual separation from the wider expanse of Mahurangi Harbour and limited imposition upon Dawson Creek, which is barely navigable and heavily contained by mangroves; and
- Potential for pedestrian connections to the adjoining esplanade reserve and Goodall Reserve.

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in summary, as the urban form of future developments will be able to integrate into the surrounding environment, any effects are considered to be addressed.

9.2 OPEN SPACE AND COMMUNITY FACILITIES

An assessment of the future need for open space and community facilities has been prepared to inform the Plan Change and is included in Appendix 30 to this report.

Snells Beach currently has an extensive and diverse range of community facilities and open spaces, including primary schools, kindergarten, sports fields, walkways, beach front esplanade reserves, healthcare facilities, churches, community centre, and boat ramps. The majority of these facilities are located in close proximity to the Plan Change site.

Due to the small and confined nature of the plan change which will provide approximately 50 - 52 additional dwellings, it is considered that the existing community facility infrastructure in Snells Beach is sufficient to support the proposed population increase resulting from this plan change. Also, the proposed plan change site is in close proximity to existing open space and provides linkages between the site and Goodall Reserve and the coastal walkway. Therefore, additional open spaces are not required to be provided.

For these reasons, it is considered that the Plan Change does not warrant additional community facilities nor additional open spaces or reserves in Snells Beach, and the potential effects in relation to the social well-being of the future community are to be positive.

9.3 LANDSCAPE VALUES AND AMENITY

9.3.1 Landscape Values

The effects of the proposal on landscape values are discussed in the Landscape Assessment (Appendix B) which states:

In landscape terms, the proposal is a predictable and logical fit within that pattern and its wider impact is considerably constrained by the topographic characteristics of the land (as distinct, for example, from the level of landscape impact that may arise if the Site had instead sat across a ridge or spur in a more isolated setting).

Adverse landscape, visual and natural character effects have been assessed as being largely at the lower end of the scale, and less than moderate-low, with higher (moderate through to high) effects being restricted to those occupying a small number of immediately adjacent properties where the land use change will be most directly experienced.
The proposed zoning pattern responds to key landscape considerations by:

- Retaining the broad topography of the Plan Change area;
- Acknowledging the wetland area by restoring it (refer to section 9.5 Ecology);
- Configuring the proposed subdivision layout to optimise opportunities for quality urban environments, strong landscape identity and high levels of amenity; and
- Integrating, where practicable, the edges of the Plan Change area with adjoining reserve areas so that linkages and open space corridors can continue seamlessly and be strengthened where possible.

Based on the landscape analysis, it is considered that the proposed zoning will appropriately respond to the existing landform in the context of a residential zone, and the effects on landscape values will be acceptable.

9.3.2 Character and Amenity

Consideration of visual amenity effects is framed around the difference between the site being developed into Single House residential use (approximately 50 - 52 lots), rather than Large Lot residential use (approximately 11 lots), which can be undertaken with the current zoning.

In terms of residential amenity and character, the proposed rezoning is considered to address amenity and character effects of the development for the following reasons:

- The density envisaged by Single House zone (600m² average) is generally consistent with the residential density to the east of the subject site, and a consistent character would therefore be achieved. The change for these neighbours is that the neighbouring residential density will change to something similar to their own;
- It is considered that the properties at Te Whau Lane already provide an appropriate transition between the Residential Large Lot zoning on the western boundary of the site and the Rural Coastal zoning beyond, and the Residential Single House zoning on the eastern boundary of the site. Further, it is considered Te Whau Lane provides sufficient separation between the Plan Change site and the low-density zoned properties to the west;
- It is acknowledged that there is going to be a change in anticipated residential character as a result of the proposed rezoning of the site from Residential Large Lot to Residential Single House zone. However, careful consideration has been given through the introduction of additional development controls as part of the subdivision process to ensure that any potential amenity affects as perceived by the Te Whau properties are avoided and/or mitigated; and
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- The site size of the Single House zone and the development controls that apply, including height in relation to boundary, maximum building coverage and minimum landscaped area for example, will ensure that potential privacy and dominance effects to neighbours will be effectively managed. In addition, there is a private road between the existing Residential - Large Lot houses and the subject site, providing a separation distance.

The Landscape Assessment (Appendix 8) has undertaken an analysis of the visual effects on the surrounding viewing audiences from the site. The visual effects can be considered the main driver of effects on amenity.

The Landscape Assessment considers that those residents whose properties bound the site would be most affected by development resulting from the proposed zoning. The level of exposure of the bounding properties along the wider eastern edge of the site varies considerably. A few properties are oriented to take in views to the west, whereas the balance have chosen to heavily plant their western boundary.

It is considered that introducing Residential Single House development to the site would bring a predictable extension of the existing Foster Crescent suburban neighbourhood into this area. When compared with the visual and character effects of a permitted Residential Large Lot development, Residential Single House use of the site would bring a moderate – low level of adverse visual effect to those properties set back from the site and the related road corridor, and a moderate adverse visual effect to those which bound the site. The Landscape Assessment considers that the owners of those properties which have provided for a view across the site to the west would probably respond to either a Residential Large Lot or Residential Single House scenario with boundary screen fencing or planting in order to maintain privacy to their outdoor spaces.

For residents of Te Whau Lane, the Landscape Assessment considers that the adverse visual effect arising from the proposed rezoning would be moderate to high for these residents. That impact would be primarily experienced from the accessway, rather than within their properties. This is because these homes tend to be oriented to the estuarine and rural views to the northwest with their glazing and living areas, as distinct from the north eastern aspect occupied by the site.

Because of the shared boundary, there is a close relationship between the site and Te Whau Lane. Therefore, it is considered that Te Whau Lane residents using their access will have their primary experience of the future development of the site as they travel to and from their properties, rather than from within their properties.

As stated above, to mitigate these potential visual and amenity effects, it is proposed to have a 5 metre wide landscape buffer; a restriction to single storey dwellings only; a minimum 15 metre setback from that common boundary and a graduation of lot sizes across the site, with larger lots (800m² approx.) along the western boundary.
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To conclude, within the context of the Residential zone where urban activities are expected, and where the proposed re-zoning is an extension of the existing neighbouring zoning, it is considered that overall, the potential effects on visual amenity from the proposed re-zoning on the environment will be minor.

9.4 TRANSPORT

A Traffic Impact Assessment (TIA) has been prepared for the Plan Change and is included at Appendix 6 to this report. The TIA has based its assessment on the site generating 52 lots. The TIA report has focussed on addressing the following:

a) Whether any upgrades to the surrounding road network are required to enable development, taking into account the potential trips generated within the Plan Change area;

b) The appropriateness of the future local road network within the Plan Change area; and

c) Pedestrian access ways to connect to existing public walkways.

These matters are addressed in turn below.

9.4.1 Existing Road Network

The TIA outlines the expected volume of traffic generated by the Plan Change area and the consequent impact on the existing road network and intersections.

The TIA states that the traffic generation associated with a 52-lot subdivision is predicted to be in the order of 520 vehicle trips per day and 52 trips during commuter peak periods. All vehicle movements to and from the subdivision will be via Foster Crescent with access to Mahurangi East Road via an intersection with Iris Street.

The Assessment considers that the traffic generated by the proposed Plan Change and residential subdivision will not create any tangible safety or operational concerns for the surrounding road network. In addition, the Assessment found that the additional traffic movements attributable to the proposed residential subdivision will not noticeably affect pedestrian safety on Foster Crescent or Iris Street.

9.4.2 Future Local Road Network within the Plan Change Area

An indicative road network is shown in the indicative Scheme Plan (Appendix 2), with access to the proposed lots provided via two new roads to vest. All details associated with the future local road network within the Plan Change area will be determined through the subdivision resource consent process.

Vehicle access to the subdivision will be via an existing cul-de-sac head on Foster Crescent. The detailed design of the proposed new roads, including geometric
alignment, carriageway formation, footpaths, berms and intersection arrangement will be developed as part of the subdivision consenting process.

The Assessment considers that the shared private access (Te Whau Lane) will have to be adjusted to create a new vehicle crossing off the proposed new road carriageway. Similarly, the existing vehicle crossing for Numbers 1 or 2 Foster Crescent will have to be reconstructed to align with the new road formation for the proposed subdivision. The design and reconstruction of the vehicle crossings for Numbers 1 and 2 Foster Crescent and Te Whau Lane will be subject to consultation with the owners of these properties, and Auckland Transport, as road controlling authority. This will be addressed with at the subdivision stage.

9.4.3 Pedestrian Access ways

The two proposed roads included in the subdivision will have footpaths. The new footpaths will connect with Foster Crescent at the cul-de-sac head. The TiA confirms that changes to the existing turning head on Foster Crescent will consider the safe operation of the existing footpath on Foster Crescent and connection with the off-road path linking with the Snells Beach Primary School.

9.4.4 Auckland Transport Feedback

Auckland Transport (AT) has provided feedback to the proposed Plan Change. Details of their feedback are in the Consultation Report (Appendix 9). They have no issues with the Plan Change, given the development trip generation is low and there are no known existing traffic issues on the wider network, in particular the Iris Street intersection.

9.4.5 Transport Conclusion

The Assessment concludes that the predicted increase in vehicle movements associated with the proposed Plan Change and subsequent subdivision is not expected to generate a notable concern with respect to queuing or delay on Foster Crescent and Iris Street, nor at the intersection of Iris Street with Mahurangi East Road. In addition, the local road network within the Plan Change area can be designed to be well connected and appropriately provide for all modes. Feedback from AT state that they have no issues with the Plan Change proposal (refer Consultation Report, Appendix 9).

9.5 ECOLOGY

An ecological assessment has been undertaken to support the Plan Change and is included as Appendix 7 to this report. This includes an assessment of terrestrial ecology (vegetation, herpetofauna, and avifauna) and freshwater ecology.
9.5.1 Terrestrial Ecology

As described in section 3 of the Ecological Assessment, the existing environment of the site consists of a variety of vegetation, avifauna and herpetofauna. Of particular relevance, only four small tōtara trees were located on site which are the only native trees of any significance found within the site. Further, no at risk or threatened native birds were recorded during the site visits and no native skinks and geckos were detected on site. Overall, the ecological vegetation and the habitable value for avifauna and herpetofauna within the site are considered very low.

9.5.2 Freshwater Ecology

The site contained three main overland flow paths (Watercourses 1, 2 and 3) that run in a general south-north direction before draining into an inlet of the Mahurangi Harbour (Figure 15).
The remainder of the overland flow paths within the site contained no flowing water, had no defined channel and contained established terrestrial vegetation across their entire widths. Additionally, no evidence of floodplain debris or substrate sorting was evident throughout the watercourses. Accordingly, these reaches are classified as ephemeral under the AUP. These ephemeral reaches are considered to be of very low aquatic ecological value, due to the lack water flow, shading, aquatic habitat and hydrologic heterogeneity.
9.5.3 Ecology Conclusion and Recommendations

In relation to ecology, the assessment makes the following conclusions and recommendations:

- The permanent section of Watercourse 1 as well as the wetland and its associated boggy areas and ephemeral reaches is considered to have the highest current ecological value and the highest potential ecological value. Through the design process these areas of highest ecological value should be retained;
- The proposed Plan Change provides for the reclamation of the ephemeral reaches associated Watercourses 1-3; the short permanent section of Watercourse 2 (10m); and the artificial stock pond and the boggy area associated with Watercourse 3. All of these areas are considered to have a low or very low current ecological value. In addition, these areas are also considered to have low ecological potential due to their relatively small catchments, lack of aquatic habitat, and lack of upstream connectivity. Consequently, the adverse aquatic ecological effects of the proposed development are considered minor;
- Due to the very low terrestrial ecological value of the site the adverse terrestrial ecological effects of the proposed development are considered minor;
- It is recommended that the permanent section of Watercourse 1 (downstream of the culvert) as well as the wetland and its associated boggy areas are enhanced through restoration planting and protected through a covenant. There should also be a requirement for a Weed Management and Planting Plan prior to earthworks commencing; and
- The recommended enhancement would entail the restoration of approximately 40m of permanent watercourse and 110m² of wetland habitat, including the retention of the tōtara. Overall the proposed development would constitute a net biodiversity gain.

The areas recommended for enhancement are all located within an indicative reserve (Lot 53) of the subdivision. Based on the ecological assessment, the recommended enhancements to the wetland area and the watercourses can be addressed through the resource consent process.

To facilitate an urban development of the land some filling of ephemeral watercourses, 10m of a permanent watercourse, an artificial stock pond, and a boggy area will be required. The effects of any required filling and the adequacy of the mitigation proposed would be considered as part of the resource consent process under the standard AUP provisions.

The National Policy Statement for Freshwater Management 2011 (NPSFM) sets a national policy framework for managing freshwater quality and quantity. Objective A2 seeks that the overall quality of freshwater is maintained or improved. Given the proposed restoration of the wetland and stream on the site, this proposal is
considered to be consistent with the NPS on Freshwater Management. The wetland and stream restoration will be assessed against the Auckland Unitary Plan provisions through the subdivision application.

On the basis of the above, it is considered that the potential effects of the rezoning Plan Change on the ecological values of the environment related to terrestrial and freshwater ecology will be minor, due to the low ecological values currently on the site. In addition, the proposed development will have a positive ecological effect taking into account the recommended restoration of the wetland and permanent watercourse located on the indicative reserve (Lot 53).

9.6 FLOODING, STORMWATER MANAGEMENT, WASTEWATER AND WATER SERVICING

An Engineering Report was prepared to inform the Plan Change, which is included at Appendix 4 to this report.

9.6.1 Flooding

The subject site is not within an identified flood plain. The Engineering Report considers that there is no substantial increase in the risk of flooding or inundation of the surrounding properties from the creation of new impervious areas within the site because runoff is discharged directly into the Mahurangi Harbour.

9.6.2 Stormwater Management

Stormwater runoff from the site drains into two flow paths running through the site. Both flow paths discharge into a small degraded wetland at the lowest point on the site. From the wetland, the stormwater runoff drains into the Mahurangi Harbour.

In terms of the management of stormwater quality, the subdivision proposes to apply the standard quality rules in Chapter 8 Stormwater Discharge and Diversion of the AUP. This will ensure that there are rules in place to manage the stormwater runoff quality from new impervious areas that have the potential to adversely affect waterways. The engineering report proposes to use stormfilters for the treatment of runoff from both road areas and residential areas. No additional controls to manage the quality of stormwater runoff are considered necessary.

In terms of managing stormwater flow, the Engineering Report (Appendix 4) considers that attenuation for this site is not required as runoff is discharged directly into the Mahurangi Harbour. As such, there is no substantial increase in the risk of flooding or inundation of the surrounding properties from the creation of new impervious areas within the site. The stormwater network serving the site has been designed for the impermeable areas created as well as the increase in rainfall due to climate change.
In terms of conveyance, it is proposed to convey stormwater through a combination of piped networks and catchpits. The treated stormwater will be discharged to the existing wetland within the Plan Change area, and then into the Mahurangi Harbour. Overall, it is considered that stormwater can be managed on site, ensuring that the effects of urban development on the Mahurangi Harbour and the Dawson Creek tributary are minor.

9.6.3 Wastewater

There are two wastewater lines currently extending through the property. A gravity line extends through the southeast corner of the site. Due to the location of this pipe above all the proposed lots, it is not practical to discharge wastewater into this line. The other line is a Watercare rising main located along the northern boundary of the site. A pump station is located on the eastern boundary of the subject site from which this rising main extends across to the treatment ponds on the other side of the estuary.

As this line is the main wastewater line for Snells Beach, investigations are ongoing to ensure the proposed subdivision lot layout protects the integrity of the wastewater main. Watercare are being consulted through the investigation process.

The Engineering Report (Appendix 4) sets out a proposed wastewater servicing plan and includes options for the location of the required wastewater infrastructure. The options are being discussed with Watercare, and the final outcome will be included with the subdivision application. In terms of infrastructure capacity, Watercare have confirmed that there is sufficient capacity in the wastewater network to accommodate the proposed increase in dwellings.

In summary, it is proposed to install a new gravity wastewater network within the proposed subdivision, which will connect to the existing manhole located near the pump station. The layout has been designed in accordance with Watercare’s Code of Practice. Therefore, there will be no wastewater effects on the environment.

9.6.4 Water Supply

In terms of infrastructure capacity, Watercare have confirmed that there is sufficient capacity in the water supply network to accommodate the proposed increase in dwellings. As the proposed development can be serviced by the existing water supply network, it is consistent with the National Environmental Standard for Sources of Drinking Water.

As the existing water supply network terminates at the end of Foster Crescent, it is proposed to extend the network into the subject site. It is also proposed to extend a link main through from Cornel Circle network to provide a loop connection for the
development. The estimate has been done of the post development water demand. The Engineering Report considers that the estimated demand for water can be satisfied through the extension of the Council water supply network to the subject site. All works will be completed in accordance with Watercare’s Code of Practice. The options have been discussed with Watercare.

Regarding water supply for firefighting purposes, it is proposed to install two new fire hydrants within the development which will be able to provide sufficient firefighting water.

9.6.5 Other Utilities

In terms of telecommunications and other service connections, given the close proximity of the subject site to the existing residential areas of Snells Beach, extension of these services is likely to be feasible. Confirmation from these service providers will be included with the subdivision application.

9.6.6 Conclusion

On the basis of the above, it is considered that the potential effects on the environment of the rezoning proposal from flooding, stormwater management, water and wastewater servicing will be minor, taking into account the provisions of the AUP that will apply to the subdivision development.

9.7 COASTAL INUNDATION

Based on Auckland Council’s Geomaps, under the 1% Annual Exceedance Probability (AEP) event, a small portion of the indicative Reserve (Lot 53) will be affected by coastal inundation. There is a similar coastal inundation extent for the 50 and 100 year Annual Return Interval (ARI) with a 2 metre sea level rise. Based on this, it is considered that the residential use of this site will not be affected by coastal inundation.

9.8 EARTHWORKS

The Engineering Report (Appendix 4) has considered earthworks and this has informed the Plan Change.

As part of seeking consent for the subdivision, consent will be required for the earthworks under Chapters E11 Earthworks Regional and E12 Earthworks District of the Auckland Unitary Plan. The effects of any required cut and fill and the adequacy of the mitigation proposed would be considered as part of the resource consent process under the standard AUP provisions. This includes ensuring compliance with
the National Environmental Standards for Air Quality. In addition, all earthworks activities will be undertaken to ensure that there are no stability or hazard effects.

9.8.1 Erosion and Sediment Control

Earthworks associated with implementing the subdivision consent will be undertaken to minimise any effects on water quality of the surrounding environment including the Mahurangi Harbour. For all earthworks operations, erosion and sediment controls and site stabilisation measures will be undertaken in accordance with industry best practice and resource consent requirements. Controls proposed include sediment detention ponds, decant earth bund, clean water diversion channels and bunds, dirty water diversion bunds, contour drains, temporary culvert crossings, stabilised construction access, and the retention of existing vegetated areas where possible.

9.8.2 Conclusion

On the basis of the above, it is considered that the potential effects on the environment of the rezoning proposal from earthworks will be minor, taking into account the provisions of the AUP that will apply to the subdivision development.

9.9 ARCHAEOLOGY

Clough and Associates prepared an assessment of the archaeology of the site to inform the Plan Change. The report is included in Appendix 12.

In summary, no archaeological sites have previously been recorded in the Plan Change area and none were identified during site surveys. While there is some potential to expose unidentified subsurface archaeological remains during earthworks, this potential is considered to be low. However, if suspected archaeological sites should be exposed during earthworks the Accidental Discovery Rule in the Unitary Plan will apply.

Because no archaeological sites were identified, the subject site therefore has no known archaeological value or significance.

9.10 LAND CONTAMINATION

A preliminary site investigation (Appendix 5) has been undertaken of the site to determine if any potential sources of contamination from past or present land use activities have been undertaken at the site or surrounding area, to assess compliance with the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES) Regulations 2011. The legislation requires that
land is appropriately identified and assessed to protect human health, before it is developed.

The results of the investigation indicate that a very low potential for ground contamination exists within the property and that the NES does not apply. For this reason, a detailed investigation is not required, and that the proposed development of the land is unlikely to pose a risk to human health.

9.11 GEOTECHNICAL

A preliminary geotechnical report has been prepared to inform the Plan Change and a copy is included at Appendix 3 of this report.

The geotechnical report concludes that buildings associated with the subdivision development can be safely located on the site provided that the recommendations given are adhered to. Those recommendations cover matters like development in the swampy areas, settlement after de-watering, flow paths, cuts, fill, site contouring, topsoiling, roads, building setback lines, retaining walls, foundation design and construction, verification checks, and service pipes.

Based on the findings of this analysis, it is considered that the land conditions are generally suitable for more intensive urban development than what is currently enabled; and can be appropriately managed through the resource consent process.

9.12 POSITIVE EFFECTS

The positive effects associated with the Plan Change are demonstrated and explained throughout this report. In summary, the positive effects include:

- The proposal being an efficient residential use of the site which is in close proximity to open space networks, community facilities, shops, public transport, and the Snells Beach Primary School; and
- The restoration of the degraded wetland and permanent stream. The positive effects associated with the Plan Change and subsequent development is the efficient residential use of the site, which is in close proximity to open space networks, community facilities, shops, public transport, and the Snells Beach Primary School. The restoration of the degraded wetland and permanent stream is also a positive effect from this Plan Change proposal.

9.13 SUMMARY OF EFFECTS

The actual and potential effects of the proposed Plan Change have been considered above, based on extensive reporting and analysis undertaken by a wide range of technical experts. On the basis of this analysis, it is considered that the area is
suitable for re-zoning to Residential - Single House, and will result in positive effects on the environment in terms of the ecological restoration, and social and economic well-being of the community given the site’s close proximity to community facilities and open spaces. In addition, the development can be serviced by existing infrastructure.

10.0 SECTION 32 ANALYSIS

10.1 APPROPRIATENESS OF THE PROPOSAL TO ACHIEVE THE PURPOSE OF THE ACT

Section 32(1)(a) of the RMA requires an evaluation to examine the extent to which the objectives of the proposed Plan Change are the most appropriate way to achieve the purpose of the RMA.

10.1.1 Objectives of the Plan Change

No site-specific objectives are proposed to apply to the Plan Change site, however the objectives as set out in the Unitary Plan Single House zone are proposed to be applied, as well as the objectives associated with the relevant Auckland-wide rules. In summary, within the Residential - Single House zone, these objectives seek to ensure development is in keeping with the residential amenity values and character values of the area. It is considered that the Plan Change will achieve this objective, as all the rules, standards and controls of the Single House zone will apply to future development on this site.

10.1.2 Assessment of the Objectives against Part 2

Section 5 identifies the purpose of the Resource Management Act (RMA) as being the sustainable management of natural and physical resources. This means managing the use, development and protection of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being and health and safety while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remediating or mitigating adverse effects on the environment.

It is considered that the Plan Change is consistent with Part 2 of the RMA, given that the residential use of the site will remain, and only the density is proposed to change, providing more opportunities for residential development in Snells Beach in an area that is close to community facilities and at a site that can be fully serviced. This will therefore enable the community to provide for their own social and economic well-being.

The natural resources of the site, including access to the Mahurangi Harbour, the Dawson Creek tributary, and the restoration of the existing wetland area, will ensure...
that these natural resources will be sustained for future generations. The provisions of the AUP that will apply to future development will ensure that any development avoids, remedies or mitigates adverse effects on the environment.

Section 6 of the RMA sets out a number of matters of national importance which need to be recognised and provided for in achieving the purpose of the RMA. This includes:

- The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins;
- The protection of outstanding natural features and landscapes;
- The protection of areas of significance indigenous vegetation and significant habitats of indigenous fauna;
- The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;
- The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;
- The protection of historic heritage;
- The protection of protected customary rights; and
- The management of significant risks from natural hazards.

The proposed Plan Change does not compromise the recognition of, or provision for these matters of national importance for the reasons set out in Section 9 of this report. In particular:

- The proposal provides public access to the coastal marine area;
- The Plan Change proposal responds to the matters of importance to Mana Whenua, as identified in their Cultural Impact Assessment;
- There is no historic heritage on the site; and
- The proposal will not involve significant risks from natural hazards.

Section 7 of the RMA identifies a number of “other matters” to be given particular regard by Council. Specific matters from Section 7 that are relevant to the Plan Change include:

- b) The efficient use and development of natural and physical resources—

The Plan Change will support the efficient use of natural and physical resources by applying a land use zone that will result in an efficient, compact residential use of this site.

- d) The maintenance and enhancement of amenity values; and
• Maintenance and enhancement of the quality of the environment –

The proposed zoning will enable the amenity values of the Single House zone to be achieved. The Single House zone provisions that would apply to future development under the AUP would ensure that a high quality, built environment is achieved that is consistent with the surrounding character and nature of the area.

Section 8 requires Council to take into account the principles of the Treaty of Waitangi. It is considered that this proposal will not offend against the principles of the Treaty of Waitangi as Mana Whenua have been consulted, and no major cultural concerns were raised.

The proposed Plan Change is a more effective means of achieving the sustainable management purpose of the RMA than the current zone or an alternative option (as detailed below). It is considered that the objectives of the Plan Change are the most appropriate way to achieve the purpose of the RMA.

10.2 APPROPRIATENESS OF THE PROVISIONS TO ACHIEVE THE OBJECTIVES

10.2.1 The Objectives

Section 32(1)(b) of the RMA requires an evaluation to examine whether the provisions in the proposed Plan Change are the most appropriate way to achieve its objectives by:

• Identifying other reasonably practicable options for achieving the objectives;
• Assessing the efficiency and effectiveness of the objectives; and
• Summarising the reasons for deciding on the provisions.

The options considered relate to the proposed zone for the Plan Change site. It is considered more appropriate to determine the extent to which the options would give effect to the relevant objectives of the AUP Regional Policy Statement as opposed to the Plan Change itself.

10.2.2 Other Reasonably Practicable Options for Achieving the Objectives

In determining the most appropriate method for achieving the objectives of the Plan Change, consideration has been given to the following other reasonably practicable options:

• Option 1: Do nothing - retain Residential - Large Lot zoning.
• Option 2: Re-zone half the Plan Change site to Residential - Single House zone.
• Option 3: Seek resource consent as a discretionary activity for either freehold sites or a comprehensive form of urban development.
Option 4: Re-zone all of Plan Change area Residential – Single House zone - Preferred option.

Each of these alternatives is discussed below and a summary of the s32(2) matters for the options are set out in Table 1 below.

10.2.2.1 Option 1 – Do nothing

This is the status quo option, to retain the Residential – Large Lot zone. While this is a possible option, it is not considered the most efficient use of this site, given the site is able to be serviced by reticulated infrastructure as confirmed by Watercare, and its close proximity to community facilities and open spaces. In addition, the status quo option does not enhance the ability to create a more compact urban form, consistent with the RPS in comparison to what could be achieved through the other options. It is a discrete site that will not undermine the intent of the Future Urban Zone. For these reasons, this option is not preferred.

10.2.2.2 Option 2 – Re-Zone half the Plan Change area Residential – Single House zone and leave the other half as Residential – Large Lot zone

This option involves applying the Residential – Single House zone to only half the subject site, thereby allowing the site to act as a transition between the two zones on its west and east boundary. While this option is technically feasible, it is not considered viable due to the reduced number of lots that will be yielded, while all the services and infrastructure will still largely need to be established, which would result in the lots being unaffordable. Therefore, this option is not considered to be an efficient use of residential land and is not the best planning outcome. In addition, the proposed lot sizes for the subdivision would have a graduation across the site from west to east, thereby achieving a transition between the zones which Te Whau Lane also provides. Therefore, option 2 is not preferred.

10.2.2.3 Option 3 - Seek resource consent as a discretionary activity for either freehold sites or a comprehensive form of urban development

Under this option, a resource consent could be sought as a discretionary activity for either freehold sites or a comprehensive form of urban development like integrated Residential Development. This was considered because of the defined site-specific nature of the proposal. However, it was decided that this was not an efficient process. Resource consents would be required for developments on each site, which would be difficult to obtain due to the Residential – Large Lot zoning objectives and policies which apply to the site which are not supportive of a Single House zone type density. A plan change would deliver a more transparent approach as future development of the site will be more consistent with Single House zoning. Therefore, option 3 is not preferred.
10.2.2.4  Option A – Re-zone all of Plan Change area Residential – Single House zone - Preferred option

This option involves applying the Residential - Single House zone to the whole site, as proposed by this Plan Change application. The environmental effects, policy rationale and benefits for this option are outlined in the preceding sections of this report.

To summarise, this is the preferred option because it is an efficient use of residential land by delivering a compact urban form through better utilising existing urban zoned land. The subject site is close to social, educational and healthcare facilities, shops, open spaces, and the Mahurangi Harbour. Watercare have confirmed that the site can be serviced by existing reticulated services. It is a relatively small site so additional traffic generated will be able to be accommodated by the existing road network. The proposed residential density is considered compatible and appropriate with the surrounding neighbourhood.

In addition, given the subject site is within the walking catchment of the Snells Beach Primary School, having site sizes that will be more affordable for families with school aged children is considered a positive effect for the school and the social fabric of the wider Snells Beach area. Large Lot residential sites are likely to not be affordable for families with children.

Table 1: Summary of Options Analysis Addressing S32(2) Matters

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Costs</th>
<th>Efficiency and Effectiveness</th>
</tr>
</thead>
</table>
| **Option 1: Do Nothing - Retain Residential Large Lot zone**  | • Would result in less dwellings, where there is currently a shortfall in the number of new dwellings being constructed to meet the Council’s targets.  
• Site is within easy walking catchment of the school, but families of school aged children are less likely to be able to afford to purchase and develop a Large Lot residential site.  
• This option is not efficient or effective given the large lots that would result, rather than the compact urban form that can be delivered, which is considered consistent with the AUP, RPS and the RMA. |                                                                                              |
| **Option 2: Re-Zone half the Plan Change area Residential - Single House zone**  | • Would provide an even transition between the two existing zones on the site.  
• Would not provide as many residential sites as if the whole site was re-zoned.  
• This option is not efficient or effective as it would result in land being zoned for an activity that is |                                                                                              |
10.2.3 Risk of Acting or Not Acting

In this case, there is sufficient information about the subject matter of the proposal to determine the range and nature of environmental effects of the options set out in Table 1 above. For this reason, an assessment of the risk of acting or not acting is not required.
10.2.4 Summary of Reasons for Deciding on the Plan Change

Compared with other potential zoning options for the Plan Change area, it is considered that the proposal is the most efficient and effective option. In addition, the proposed Plan Change gives effect to the AUP Regional Policy Statement, particularly in relation to urban growth (Chapter B2).

The site has linkages to and is within easy walking distance to educational, social, health and commercial facilities, and natural resources, like parks and the coastal walkway. The site is adjacent to existing residential areas of Snells Beach, and a logical extension. Within the proposed site, the potential effects of development are able to be appropriately managed through the application of the standard zone and Auckland-wide rules. Watercare have confirmed that the Plan Change site can be adequately serviced.

11.0 CONCLUSION

This report has been prepared in support of a request from Prime Property Group Ltd for a Plan Change to the provisions of the AUP to rezone 4.8884 hectares of land on the western fringe of Snells Beach for urban activities under the Residential – Single House zone provisions.

The request has been made in accordance with the provisions of Schedule 1; Section 32 of the Resource Management Act 1991, and the preparatory work has been guided by Appendix 1 of the AUP – Structure Plan Guidelines.

Based on an assessment of environmental effects and specialist assessments, it is concluded that the proposed Plan Change will have positive effects on the environment in terms of the social and economic well-being of the community. Other potential effects are able to be managed through the application of the AUP zone and Auckland-wide provisions.

An assessment against the provisions of section 32 of the RMA is provided in section 10 of the report. This includes an analysis with respect to the extent to which the purpose of the proposal is the most appropriate to achieve the purpose of the RMA and an examination of whether the purpose of the proposal is the most appropriate way to achieve the objectives.

For the above reasons, it is considered that the proposed Plan Change accords with the sustainable management principles outlined in Part 2 of the RMA and should be accepted and approved.
Attachment A

Appendix 1 - Certificate of Title and Documents
Identifier: NA89A/917
Land Registration District: North Auckland
Date Issued: 27 March 1992

Prior References:
NA70A/812

Estate: Fee Simple
Area: 4.684 hectares more or less

Legal Description: Lot 1 Deposited Plan 149776

Registered Owners:
Foster Crescent Property Limited

Interests:
Subject to a drainage right (in gross) over part marked A on DP 149776 in favour of The Rodney County Council created by Transfer B423478.1

10788190.1 Mortgage to Bank of New Zealand - 17.5.2017 at 4.21 pm

Transaction Id
Client Reference: whanagister001

Search Copies Dated: 18/12/18 11:44 am, Page 1 of 2
Register Only
MEMORANDUM OF TRANSFER CREATING
A WATER AND SEWERAGE DRAINAGE EASEMENT

WHEREAS NOEL FLETCHER and ROYAL ALEXANDER FLETCHER both of
Kaukapakapa, Farmers (hereinafter called "the Grantor") is
registered as proprietor of an estate in fee simple subject
however to such encumbrances, liens and interests as are
notified by memoranda underwritten or endorsed hereon in the
land described in the First Schedule hereto (such land being
hereinafter referred to as "the land"), and

WHEREAS a sewer or drain has been constructed by THE RODNEY
COUNTY COUNCIL (hereinafter called "the Council") beneath the
surface of those portions of the land as are described in the
Second Schedule hereto (such portions of the land being
hereinafter referred to as "the servient land"), and

WHEREAS the Grantor has agreed to transfer and grant to the
Council a Drainage Easement in gross in over and through the
servient land for the conveyance and drainage of sewage,
waste-water and water (whether rain, tempest, spring, soakage
or seepage water) and the disposal thereof in such manner as
the Council shall determine on the terms and conditions
hereinafter set out;

NOW THEREFORE in pursuance of the said agreement the Grantor
does hereby transfer and grant to the Council as an easement in
gross in perpetuity over the servient land, comprising the
rights powers and liberties hereinafter outlined as follows:

1. THE full free uninterrupted and unrestricted right liberty
and privilege for all times hereafter to convey and drain
sewage, waste-water and water in any quantities through under
and across the servient land in lines of pipes and to
discharge the same beyond the land and for such purposes from
time to time to lay place and maintain lines of pipes over in
upon and under the servient land, such pipes to be of good
quality and construction and of such diameter suitable for the
purposes and to be laid in accordance with good workmanship at

such depth, along such line and in such manner as the Council shall determine necessary for such purposes, AND also full power and authority for the Council and its servants, agents, workmen or contractors to enter upon the land for the purposes of the easement hereby granted and created to inspect, clean, repair, maintain, rebuild, relay and replace the lines of pipes and in particular but without limiting the generality of the foregoing rights:

(a) To use any line of pipes already or from time to time laid in replacement or in substitution for all or any of those pipes;

(b) To lay, place, maintain, replace, or, to have laid placed, maintained and replaced lines of pipes of sufficient internal diameter and of suitable material for the purposes aforesaid under the surface of the servient land over which the easement is hereby granted;

(c) In order to lay, place, maintain or construct any such lines of pipes the full free, uninterrupted and unrestricted right, liberty and privilege for the Council and its servants, agents, workmen and contractors with or without any tools, implements, machinery, vehicles and animals or equipment of whatsoever nature necessary or appropriate for the purposes to enter upon the land or upon such part thereof and by such route as is reasonable in the circumstances and to remain there for any reasonable for the purpose of laying, inspecting, cleaning, repairing, maintaining, rebuilding, relaying and renewing the lines of pipes and of opening up the soil of the servient land to such extent as may be necessary and reasonable subject to the condition that, as little disturbance as possible is caused to the surface of the land of the Grantor and that the surface is restored as nearly as possible to its original condition and any other damage done by reason of the aforesaid operations is repaired.

AND the Grantor and the Council hereby mutually covenant and agree as follows:
2. THE rights hereinafter created and granted are without prejudice to and shall be in addition to any other rights which the Council may have by statute or at common law in connection with the conveyance and drainage of sewage, waste-water and water through and across the servient land AND nothing herein contained or implied shall be deemed to compel the Council to convey or drain sewage waste-water and water through the servient land and the Council may from time to time discontinue and thereafter recommence the conveyance and drainage of sewage, waste-water and water through the same at will.

3. THE Grantor will not place or construct any structure which could hinder the Council's right of access to the lines of pipes or to the servient land and will not at any time hereafter do or permit or suffer to be done any act whereby the rights powers privileges and liberties hereby created and granted to the Council may be interfered with or affected or whereby the free and unimpeded flow of sewage waste-water and water through the lines of pipes may be in any way interrupted or restricted and will do nothing to injure or damage the lines of pipes or any of them as may be laid down constructed or erected in pursuance of the said easement PROVIDED ALWAYS this provision shall not affect any boundary fence between the servient land of the Grantor and any adjoining land.

4. THE Grantor shall be entitled to connect to the lines of pipes laid within the servient land pursuant to this easement for the purpose of disposal of sewage from any subdivision of the land which the Grantor may carry out and for the purpose of disposal of sewage from any motor camp and/or caravan park which the Grantor may establish on the land.

5. THE Council will pay the Grantor's legal costs and disbursements in respect of and incidental to the preparation and registration of this easement.
5. THE easement hereby created and granted shall not be surrendered merged modified or extinguished without the prior consent of the Council.

AND IT IS HEREBY AGREED AND DECLARED by and between the parties hereto that the true intent and meaning of this transfer and grant is that the easements rights obligations and covenants hereby created or expressed shall so far as the rules of law or equity permit endure to the benefit of and shall bind the appropriate parties thereto and their respective executors administrators assigns and successors in title.

IN WITNESS WHEREOF these presents have been executed this day of May 1936

FIRST SCHEDULE

130

All that piece of land containing 22.309 hectares more or less being parts Allotment 17 Parish of Mahurangi, and being the remainder of the land in Certificate of Title No. 586 (North Auckland Registry) limited as to parcels and being SUBJECT TO Mortgage 796663.4.

SECOND SCHEDULE

Those portions of the land described in the First Schedule hereto, being more particularly the areas marked P and R on Survey Office Plan 55144.

EXECUTED by the Grantor
the said NOEL FLETCHER
and ROSLYN ALEXANDER
FLETCHER in the presence of:-

Auckland
THE COMMON SEAL of THE
RODNEY COUNTY COUNCIL was
hereunto affixed in the
presence of :

County Chairman

County Manager

Attachment A
1. THAT by deed dated the 13th day of November, 1979 copies of which are deposited in the Land Transfer Offices at:

   AUCKLAND   AS No.  606757   HOKITIKA   AS No.  057010
   BLENHEIM   06973   INVERCARGILL  052479.1
   CHRISTCHURCH  251971.1   NAPIER  372018.1
   DUNEDIN   526566   NELSON  200451
   GISBORNE   133407.1   NEW PLYMOUTH  263122
   HAMILTON  11282523   WELLINGTON  293854.1

I was appointed as Attorney of ANZ Banking Group (New Zealand) Limited incorporated in New Zealand and having its head office at Wellington, Bankers, on the terms and subject to the conditions set out in the said deed.

2. THAT at the date hereof I have not received any notice or information of the revocation of that appointment by the winding up or dissolution of the said ANZ Banking Group (New Zealand) Limited or otherwise.

SIGNED at Auckland this 17th day of April 1985

[Signature]

6007-5/81
CONSENT OF MORTGAGEE

ANZ BANKING GROUP (NEW ZEALAND) LIMITED being the Mortgagor under and by virtue of Memorandum of Mortgage No. 796663.4 (North Auckland Registry) HEREBY CONSENTS to the registration of the foregoing transfer creating a water and sewerage drainage easement in favour of THE Rodney COUNTY COUNCIL, affecting the land described in the said transfer.

DATED this 17th day of April 1984.85

Signed by
ANZ BANKING GROUP (NEW ZEALAND) LIMITED
by its Attorney JOHN CROZIER HANNA
in the presence of:

ANZ Banking Group (New Zealand) Limited
By its Attorney
The District Land Registrar,  
Land Transfer Office,  
Private Bag,  
AUCKLAND.

For: Ms V.M. Dempster

Dear Sir,

Abstract No. B418969 – Transfer Creating Sewage Drainage Easement – Survey Office Plan 55144

With reference to the rejected registration and our subsequent telephone conversation we now enclose the form fee of $15.00 and with reference to the requirement for inclusion of a Survey Office Plan would point out the following:

1. We requested instruction from the Land Transfer Office regarding definition of the easement by Survey Office Plan prior to preparing and having executed these documents. We enclose a copy of our letter and your reply indicating that reference only to the Survey Office Plans would be acceptable and it would not be necessary to attach plans to the documents.

2. It does not seem possible to insert a plan into the document at this stage.

3. We have already registered a number of these easements without a Survey Office Plan included.

Yours faithfully,

BUTLER WHITE & HANNA

Ms McPherson  
211036  
11 June 1985

M.J. McPherson  
C0007X/21
Messrs Butler White & Mann
Solicitors
P O Box 46
AUCKLAND 1

Attention: Ms McPherson 211036

Dear Sirs

SURVEY OFFICE PLANS 55137 TO 55144 AND TRANSFER CREATING SEWAGE DRAINAGE EASEMENT

I refer to your letter dated 3 October 1984.

The Memorandum of Transfer creating a Water and Sewerage Drainage Easement submitted with your letter is approved as to form, subject to the following:

1. Use of paper of approved quality as usual, such as Geotexin Parchment paper.
2. Secure affixing together of the pages by binding or gluing along their length.
3. Pencil notes on the backing page.
4. Satisfactory completion of the missing details, such as the names of the Grantor and the land descriptions.
5. Due execution, witnessing and certification as correct for the purposes of the Land Transfer Act 1952.

Definition of the easement by reference to the Survey Office plans would be acceptable. The appropriate letter (e.g. "A" on S O Plan 55137) on the plan should be referred to.

Your documents are returned herewith.

Please note that if it is proposed to use this form on a repeated basis, this approval is tentative only, and the final form will require to be printed and given final approval.

Yours Faithfully,

(P J Sayegh)
for District Land Registrar

Encl.
Dear Sir,

SURVEY OFFICE PLANS 55137 TO 55144 & REGISTRATION OF SEWAGE PIPELINE EASEMENT — HOKEY COUNTY

We wish to create the Easements as shown on Survey Office Plans Nos. 55137 to 55144 (photocopies attached). Because of the nature of the covenant we would rather do it by means of a transfer under the Land Transfer Act than a Declaration under the Public Works Act.

Could you please provide us with written advice as to the two following queries:

1. Are the Survey Office Plans acceptable to define the Easement in the transfers under the Land Transfer Act?

2. If not, will copies of the plans attached to each transfer be acceptable as diagrams?

As this matter has been in progress for some time now and we wish to complete it as soon as possible we would appreciate your early reply.

Yours faithfully,

BUTLER WHITE & HANNA

N.J. McPherson
Appendix 2 - Indicative Scheme Plan
Item 18

Appendix 3 - Geotechnical Report
Prime Property Group Ltd

Geotechnical Report for Proposed Subdivision
of
Lot 1 DP 149776
Foster Crescent, Snells Beach

Project Reference: 13641
4 April 2018
ATTACHMENT A - PROPOSED SCHEME PLAN (CSR SURVEYORS)

APPENDIX B: SITE PLANS AND CROSS SECTIONS

APPENDIX C: SUBSURFACE INVESTIGATION DATA

APPENDIX D: SLOPE STABILITY ANALYSES

APPENDIX E: LABORATORY TEST CERTIFICATES
1 INTRODUCTION

Land Development & Exploration Ltd (LDE) was engaged by Prime Property Group to undertake a geotechnical assessment of the property proposed for subdivision development at Fosters Crescent, Shells Beach. The purpose of the assessment was to determine the suitability of the land for intensive residential development, and to provide engineering recommendations for the overall development.

The subject property is legally described as Lot 1 DP 149776. It is located approximately 500m south of the central Shells Beach township, on the western side of the main Mehurangi East ridgeline (Figure 1). The site covers an area of 4.34ha.

The proposed scheme plan is shown in Figure 2 below and attached to this report as Appendix A, provided by CSR Surveyors, ref. 5708 dated 15/01/2017. The development will create 52 residential lots ranging in size from 530m² to 830m², along with several public and utility reserve lots, and two public vested roads.

![Figure 1: Location of the subject site (Google Earth).](image-url)
2 INVESTIGATIONS

Our investigation of the site included the following work:

- A desktop study of published and unpublished information of the site.
- An analysis of historic aerial photographs to assess key geomorphological features of the site and surrounding area.
- A walkover assessment of the site and surrounding area to assess its geomorphology and any features which may potentially influence the long-term behaviour of the site.
- Inspections of existing exposures of the underlying geology, and areas where a high groundwater table is evident.
- Fifteen 50mm hand augered boreholes put down to 3m to 5m depth or refusal. Measurements of the undrained shear strength were taken at 200mm intervals within cohesive soils encountered down through the boreholes using a calibrated shear vane. The soils encountered were generally logged to NZ Geotechnical Society Logging Guidelines for the field classification of soil and rock for engineering purposes.
- Eleven test pits carried out using a 16-tonne excavator, to a depth of 4.5m or refusal/collapse.
- Two disturbed soil samples retrieved from the site and taken for laboratory testing.
The locations of the subsurface investigations are shown on the appended Geotechnical Investigation Plan (Appendix B). Logs of the boreholes and test pits are also appended (Appendix C).

The bulk of the field work was carried out in spring 2015, with further assessment and the collection of soil samples undertaken in autumn 2018, in response to amendments to the development proposal.

3 SITE CHARACTERISTICS

The main ridgelines in the area are orientated north-south along Mahurangi East Road and east-west along Dawson Road, which are located to the east and the south of the subject site respectively. The site is located on northeast aspect slopes of a spur ridge which extends north from Dawson Road.

The site covers an area of 4.84ha, currently occupied entirely by farmland. The site is free from any existing structures within the property, with the exception of a livestock race near the southeastern corner. Overhead electricity lines pass through the site from southeast to northwest. Underground sewer lines pass through the northern and of the site and through the southeastern corner.

The site characteristics are summarised on the appended topographic site plan and detailed in the sections below.

3.1 Topography

The site can be categorised into two areas: the ridge area occupying the western side of the site; and the low-lying areas on the eastern side (delineated by the dashed red line on Figure 3). The low-lying area is then divided into western and eastern catchments by a central spur (Figure 3). These areas are more accurately defined against the topographic survey data in Appendix B.
The ridge area is dominated by low-angled (5-10°) undulating slopes descending from the main ridgeline. The slopes generally appear stable, with no signs of active instability, however the overall topography indicates that the site may have been unstable in the past. In several areas, the land is contoured in such a way the no natural overland drainage is available, creating hydrological “sinks” (Figure 4). This has resulted in large areas of rushes growing in elevated positions.

At the margins between the ridge area and the low-lying area, slopes generally steepen (up to approximately 15°). This is particularly evident to the immediate east and west of the central spur. These sloping areas have a less stable appearance, forming lobe-like features (Figure 4). The ground in these areas is generally stepped, indicating that shallow soil creep is occurring on the steeper slopes.
3.2 Drainage

A man-made pond is present at the southern end of the low-lying area, at the base of the slopes descending from the main ridgeline (Figure 4). The pond has been constructed within what appears to have been a natural flow path, possibly over a perennial spring. An earth bund surrounds the pond on the downstream sides. A culvert is built into the bund on the western side, which drains into a natural flow path. A ditch has been scoured through the bund on its northern side, which appears to be the primary outlet for the pond. From here the pond water appears to flow both into the flow path toward the west and toward the swampy area to the east.

Figure 4: View north over the man-made pond.
Two main watercourses flow through the site, both stemming from the eastern catchment (shown on Figure 2). Of these, the central flow path takes most of the flow from the pond, which in turn is fed by overland flow from the paddocks to the south of the subject property. The flow path follows the base of the steeper slopes from the ridge area, then deviates toward the northeast at the central spur. Towards the lower half of the site the flow path begins to incise quite deeply below the surrounding ground level, reaching a maximum depth of approximately 1m, while remaining less than 0.5m wide. In some areas, shallow instability has resulted in collapse of the banks into the gully. In other areas, the flow path is entirely underground, evidently flowing through a subterranean tunnel. It is likely the deep incision of the flow path has resulted from past tunnel gully erosion, and it is apparent that this continues to occur in the lower areas of the flow path (Figure 5).

The second main watercourse flows out of the swampy area on the eastern side of the property. This swampy area is fed by stormwater discharge from adjacent properties to the east, as well as overland flow from the pond to the west. The flow path flows along the eastern boundary of the property, in an incised gully, eventually discharging into the swamp at the base of the slope.

![Image](Image)

Figure 5. View along incised overland flow path, toward the swampy area.

4 ENGINEERING GEOLOGY

4.1 General

The engineering geology of the site is summarised below and on the appended cross sections. It is based on an integration of published and unpublished data, the geomorphology of the site, surface exposures of the underlying geology, and subsurface investigations carried out at discrete locations. The nature of the ground between the investigation points...
is inferred and may vary from that described. For details of the materials encountered and measurements of their respective strengths please review the appended investigation legs.

4.2 Geological Setting

The 1:250,000 geological map of the region shows the site as being underlain by Mengekeke Complex mudstone of the Northland allochthon.

This material was encountered at shallow depth (2-3m) through the elevated ridge areas of the site, and generally at greater depth through the low-lying areas (>4m). The mudstone was found to be overlain by soils derived from in situ weathering (residual soil), and organic rich alluvium in the low-lying areas.

4.3 Subsurface Conditions

4.3.1 Ridge Areas

In the elevated areas, a shallow weathering profile was generally encountered. This generally comprised topsoil to a depth of 0.2 to 0.3m, underlain by clay and silt residual soils. These soils were found to be of moderate to high strength (stiff to very stiff), and moderately to highly plastic. Groundwater was often encountered within these soils immediately before the transition into mudstone, however the water level tended to rise up the boreholes over time, suggesting a piezometric pressure head, although due to rain over the investigation period there may be some contribution from surface water inflows.

The residual soils were found to be underlain by mudstone at 1.0m to 3m depth. In most boreholes and test pits a transition zone of soft, extremely weak mudstone was encountered above the underlying harder material. The strength of the mudstone typically increased with depth, generally becoming weak (uniaxial compressive strength of 1.5 MPa) by 4m depth.
4.3.2 Low-Lying and Swamp Areas

Within the swamp areas the soil profile was found to be relatively variable, although it typically included organic rich topsoil to a depth of 0.2m to 0.4m. Underlying the topsoil, either alluvium, residual soil, or residual soil derived colluvium was encountered. These layers were all typically clay dominated with high silt content, often with significant amounts of organic matter. Soil strengths were generally low to moderate (firm to stiff), although pockets of stronger (very stiff) material were sporadically encountered. Test pits carried out in the low-lying areas typically began to cave in at shallow depths.

Beneath the near surface soils, extremely weak mudstone was generally encountered. The extremely weak zone often extended to significant depths, and in many cases, competent mudstone was not encountered within 4.5m of the surface. Testing carried out near the incised flow paths generally encountered rock at a shallower depth, while testing in the swamps found greater depths of alluvium and more deeply weathered mudstone.
4.3.3 Groundwater Conditions

Groundwater was found to be perched above the mudstone layer in elevated areas. In the low-lying areas, it was found to saturate the near surface soils down to the underlying mudstone. Test pits often encountered groundwater under piezometric pressure, flowing out of soil fissures beyond a certain depth. Within boreholes, water levels typically rose within the hole during drilling, and continued to rise in the following days, which also indicates the presence of an piezometric pressure head. Based on borehole levels the pressure head could be up to 1.5m at the base of the steeper slopes.

We consider that complete saturation of the slopes is likely to occur during extreme rainfall events.

5 Natural Hazards and Ground Deformation Potential

5.1 General

This section summarises our assessment of the natural hazards within the property as generally defined in the Building Act [2004] and Resource Management Act [1991], and the
potential risk that these present to the proposed building in terms of vertical and lateral ground deformation. This section also includes our assessment of ground beneath the building site which is outside the definition of “Good Ground” as defined by the Compliance Document for the NZ Building Code, NZS3604 (2011) “Timber Framed Buildings” and NZS4229 (2013) “Concrete Masonry Buildings Not Requiring Specific Engineering Design”. This is any ground which could foreseeably experience movement of 25mm or greater for any reason including one or a combination of compressible ground, land instability, ground creep, subsidence, seasonal swelling and shrinking, frost heave, changing groundwater level, erosion, dissolution of soil in water, and the effect of tree roots.

5.2 Earthquake Shaking

We consider that the site is a Class C shallow soil site as defined by NZS 1170.5 (2004) “Structural Design Actions: Part 5: Earthquake actions – New Zealand”.

According to the NZS1170.5 calculation method, the site is expected to be subject to a peak ground acceleration of 0.17g during an Ultimate Limit State event (i.e. a large earthquake with a probability of exceedance of 1 in 500 years), and 0.04g during a Serviceability Limit State earthquake event (i.e. a moderate earthquake with a probability of exceedance of 1 in 25 years).

The Auckland Council Code of Practice for Land Development and Subdivision specifies that the 150-year seismic event be used for slope stability analysis. This has been taken as 0.1g, based on the NZS1170.5 calculation method.

5.3 Slope Instability

5.3.1 Slope Conditions

The site has an undulating and in places hummocky topography, giving the impression of underlying instability. The geomorphology of the site suggests that the ground has generally moved from the western elevated area toward the lowlying area. This is demonstrated by the presence of locally steepened areas with the appearance of scours, and slumped areas creating swampy areas in elevated positions. However, subsurface testing at the site found relatively high soil strengths on the steep slopes, with rock present at shallow depths. No evidence of active slope movement was found during the site walkover or observed in any of the test pits.

The soils encountered in low lying areas on the eastern side of the site were found to be the most susceptible to slope instability due to their low strengths, however slope angles within these areas are low, removing any substantial risk of movement. The low undrained shear
strength values found in these areas is likely heavily influence by the complete saturation of soils in these areas.

It is therefore considered that the landform has generally developed by steady state long term gully development processes and localised erosion features associated with the elevated groundwater conditions compromising the long term strength of the natural hillside soils, rather than any significant active near surface or historic deep-seated slope instability movements.

5.3.2 Stability Analysis

Numerical slope stability analysis was carried out on what we assessed to be the most critical slope sections, using an integration of data derived from sub-surface testing and both published and unpublished data from similar sites. Slopes were assessed for minimum Factor of Safety (FoS) criteria as follows:

- \( \geq 1.5 \) for slopes under normal ground water conditions.
- \( \geq 1.3 \) for extreme (worst credible) groundwater condition.
- \( \geq 1.2 \) for seismic condition with 150-year event (see Section 5.2).

The extreme groundwater condition was taken as complete saturation of the ground. We consider this plausible under current conditions, however following development this is likely to be become implausible, due the increase in impervious areas and improved surface drainage controls. Conservative values for material strength parameters were chosen based on the subsurface testing results, factored down to allow for any inaccuracy in measurements and possible weakening during wetter months.

Based on the worst-case slope model analysed ([G31]), a FoS of 2.4 was found under normal conditions. Under extreme groundwater conditions this reduces to 1.7. Under the 150-year seismic load and normal groundwater conditions, the FoS was found to be 1.6. The slope therefore satisfies the minimum FoS criteria for all slope cases. Based on these results we consider the site to generally be stable with respect to slope instability.

A long low angled slip targeting the transition materials above the mudstone bedrock was also modelled, which yielded a FoS value of 2.7 for normal groundwater conditions (fully saturated on lower slopes), which is also considered to be satisfactory and indicates that a deep-seated mechanism at the site is unlikely. A sensitivity analysis was run with a very low strength clay layer in the transition zone (cohesion OkPa, friction angle 10°), which yielded a FoS value of 1.6, which is also considered satisfactory. Although adding a seismic load to the sensitivity analysis yielded a FoS value of 0.8 which suggests that a failure mechanism is
possible, this combination of factors is considered to be implausible given the absence of evidence of any such very low strength clay layer identified during the test pit and hand auger investigation.

The analysis does not account for areas of shallow instability which are present around the incised stream (i.e. where slope toe has been undercut). These features are considered to be localised erosion and slumping features in response to the farm activities on the site and not part of a wider instability issue. They are expected to be able to be remediates by appropriate design and installation of drainage controls and earthworks operations during the subdivision development.

5.4 Soil Creep

In the steeper slope areas, we expect shrink-swell related soil creep to occur. This is supported by the presence of several isolated inclined fence posts across the site. As a result, we consider that all building and construction on the site should assume no lateral support from downward sloping, near surface soils (upper 1m), unless otherwise retained or accounted for during bulk earthworks operations.

5.5 Compressible Ground and Consolidation Settlement

The topsoil encountered across the site is expected to consolidate under loading and should therefore be removed prior to any construction or earthworks.

Within the swampy areas, and all areas where the water table was encountered near the surface, we anticipate that improved drainage will be required to assist with the development. The construction of a road or shared right of way is also expected to be required. Both of these activities may result in the consolidation and settlement of the alluvial clay materials present near the surface. The dewatering may also have a residual effect on the sloping areas and the soils within the upper ridge area of the site, due to the lowering of the moisture content of these soils.

Subdivision staging and earthworks should be carried out with this in mind and should follow the recommendations given in Section 6 below.

5.6 Erosion and Subsidence

Tunnel gully erosion appears to have occurred and continues to occur along the central flow path of the site. This has resulted in collapse of tunnels and the formation of deep gullies along the flow path. The deep gullies have now induced shallow instability at the base of slopes.
This behaviour, which has occurred within what is likely to be residual soil-derived colluvium, suggests that this material is somewhat dispersive. As a result, extra care will be required when undertaking earthworks and when dealing with stormwater drainage at the site. Recommendations are given in Section 5 below.

5.7 Ground Shrinkage and Swelling Potential

Plastic soils can be subject to shrinkage and swelling due to soil moisture content variations which can result in apparent heaving and settlement of buildings, particularly between seasons.

The two disturbed soil samples taken from the site were tested for liquid limit and linear shrinkage for assessment of compliance with the definition of “Good Ground” in accordance with NZS3804 [2011]. Soils with a liquid limit >55% and a linear shrinkage value >15% are considered expansive in terms of NZS3804 [2011] and therefore outside the definition of “Good Ground”. Both samples were found to not meet the above criteria for expansive soils and would ordinarily be considered to be non-expansive soils.

However, based on our understanding of the materials encountered, and the evidence of soil shrinkage and swelling observed on site (soil creep, deep desiccation cracking in test pits), we consider that that site as a whole shall be considered as moderately expansive (Class M in terms of AS2870 [2011]), unless specific testing within the building sites show otherwise.

We consider that shallow foundations may be used but should be deepened to the depth at which significant changes in soil volume do not occur, or otherwise be design to resist heave and suction caused by shrinkage and swelling.

Specific recommendations for foundation design are given in Section 6 below.

6 ENGINEERING RECOMMENDATIONS

6.1 General

From our assessment of the natural hazard and ground deformation risks presented to the proposed development we consider that buildings associated with the subdivision development can be safely located on the site provided that the recommendations given in the following subsections are adhered to.

It should be appreciated that the recommendations given below are based on the surface and subsurface conditions encountered at the time of the investigation. In addition to the
possible variations in the subsurface conditions away from the investigation points within and around the site, changes to the site levels can have a dramatic effect on the recommendations given. Furthermore, cuts into the slopes above and below the site can significantly jeopardise its stability, unless an appropriate measure is put in place to restore the stability of the slope. Accordingly, we should be contacted prior to commencing any earthworks within the slopes to assess how this may affect the subject development. We should also be contacted immediately should the ground conditions encountered vary from that described in this report.

6.2 Site Development and Earthworks

The following recommendations have been given to assist with the overall development of the site, including the formation of the building platforms and access roads. The recommendations have been made based on our current understanding of the development proposal. We should be contacted to re-assess any future development, should it change significantly from what is currently proposed.

6.2.1 Drainage

Residential development is proposed over the swampy areas of the eastern side of the site. We consider that de-watering will be required to make these areas more suitable. Drainage of these swamp areas should be carried out using an integration of stormwater run-off control and sub-soil drainage.

6.2.1.1 Flow Paths

- The existing man-made pond should be de-constructed, and all alluvium infilling the pond should be removed. All fill material surrounding the pond should also be removed from the flow path area.
- The existing flow paths should be dug out and cleared of any soft organic material and mulllock. Where scouring or tunnel gully erosion has occurred in the past, the gullies should be excavated to 0.3m below their base and 0.3m around their sides. Where tunnel gully erosion continues to occur, the flow path should be excavated to 1m below the base and 0.5m around the sides.
- The gullies should be backfilled to design levels with engineered fill if required. Subsoil drains should be installed at the base of filled areas along all flow paths.
- If any areas of widespread seepage are encountered in the base of the gullies, a drainage blanket should also be installed extending from the subsoil drain to approximately 1.5m beyond the extent of the seepage.
- Areas where shallow instability has occurred on the edges of the gully should be dug out and backfilled with engineered fill.
Existing overland flow paths should be replaced with either open stormwater drains or piped along their entire length.

Open drains should be lined with geotextile and riprap to accommodate high flow velocities. The sides of shallow open drains should be no steeper than 1v to 3h. For steeper sides or for deep drains (>1m), concrete or boulder lining should be used to support the slopes.

If the flow path is to be replaced with a pipe, it should be underlain by a subsoil drain to prevent the dispersion of soils around the perimeter of the pipe. The should be joined with ductile fittings to allow for ground heave, settlement or slight lateral movements.

6.2.1.2 Swamp Areas
We expect that the swamp areas may be dried significantly by intercepting the overland flow and re-contouring the gently sloping land to provide direct overland flow paths into the gullies. Further drainage can be achieved by installing counterfort or buttress drains in key areas. Such drains should intercept the interface of the surficial residual soil and the underlying mudstone (2-3m). Drains should generally comprise trenches of drainage metal enveloped completely in a suitable geotextile fabric, capped by at least 0.5m of well compacted cohesive fill.

Subsoil drainage is expected to be most effective at the base of slopes, on the uphill side of swamp areas, and where the depth to mudstone is shallowest. Locations of drainage will need to be confirmed in conjunction with the civil design for the site and may need to be finalised on site following initial stripping earthworks.

6.2.1.3 Settlement from Dewatering
Dewatering of the swamp areas is expected to result in a potentially significant amount of settlement of the low strength near surface soils, as the moisture content is reduced. We recommend that settlement is monitored using vertical extensometers or settlement monitoring plates, to ensure that a stable state is reach before any building development occurs. Depending on the amount of drainage measures installed and fill placed, we anticipate that settlement could take up to 3 to 6 months, depending on the time of year the earthworks is carried out.

If the project requires a shorter turn-around to building development specific investigation and appraisal of the settlement characteristics of the site soils should be undertaken by an experienced geotechnical practitioner to assess the loads imposed by the fill and any surcharge loading.
6.2.2 Cuts

Permanent cut slopes into virgin soil should be at slope angles of no greater than 1v to 4h, for heights up to 4m. Steeper cuts may be possible in some areas but should be assessed on a case by case basis by a suitably qualified geotechnical engineer or engineering geologist. Where cut slopes intersect the mudstone boundary specific assessment may also be required. Cut slopes should be covered as soon as possible after excavation to prevent desiccation or rilling during rainfall.

The saturated organic rich alluvium encountered in the swampy areas at the site is considered to be unsuitable for filling and should therefore be removed from the site. Non-organic alluvium is generally expected to be suitable for filling but may require significant drying before placement. Any residual soil cut from the site are expected to be suitable for placement as fill at around their natural moisture content, based on the results of laboratory testing [S1].

During the excavation of the cut there may be defects [e.g. planes of weakness] or materials exposed which were not identified or differ from that described in this report. We should be contacted without delay to assess how these may alter the stability of the slope at the design gradient. A reduction in the slope gradient, or slope support [e.g. soil nailing, retaining walls etc] may be required to maintain the level of stability required.

6.2.3 Fills

The recommendations below are given to assist with the placement of fill where required. Fill should not be placed on sloping ground unless specifically assessed by a suitably qualified person. In the low-lying areas, the placement of fill is likely to induce settlement of the low strength, saturated clay materials. In these areas the near surface organic rich material should be stripped prior to filling, and the depth of fill should be limited to 3.5m above original ground level. Greater fill depths should be carried out with specific assessment and allowance for settlement periods / consolidation time. In the flat elevated areas on the western side of the site, we consider fill depths of up to 3m to be acceptable without specific assessment, provided they are not loading the surrounding slopes.

Fill slopes using non-organic material sourced on site may be graded to a slope of 1v to 3h.

The following specification is recommended for the placement of engineered fill:

1. All topsoil and unsuitable materials, including low strength ground, uncontrolled fill, rubbish etc. shall be stripped from the footprint area of the fill.
2. All slopes greater than 4h to 1v shall be benched.
3. Where shallow groundwater or seepage is evident within the footprint areas, underfill drains should be installed.

4. The fill footprint area shall be inspected by the certifying engineer's representative prior to the placement of fill.

5. The fill shall be placed uniformly in horizontal layers not exceeding 200mm in thickness at the optimum moisture content recommended by the suppliers of the material. Alternatively, the material should be inspected and approved as suitable material by a Suitably Qualified Professional. Material which is wet or saturated shall not be placed unless that is the optimum moisture content for the fill.

6. The fill should be compacted to achieve the strengths given in the following table:

<table>
<thead>
<tr>
<th>Undrained shear strength for cohesive fill [measured by in situ vane to plasticity corrected shear strength values]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average not less than</td>
</tr>
<tr>
<td>140kPa</td>
</tr>
<tr>
<td>Minimum single value</td>
</tr>
<tr>
<td>110kPa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air voids percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average value not more than</td>
</tr>
<tr>
<td>10%</td>
</tr>
<tr>
<td>Maximum single value</td>
</tr>
<tr>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum dry density percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average value not less than</td>
</tr>
<tr>
<td>95%</td>
</tr>
<tr>
<td>Minimum single value</td>
</tr>
<tr>
<td>92%</td>
</tr>
</tbody>
</table>

Preliminary laboratory testing has been carried out on two soil samples representative of the residual soils and alluvial soils encountered near the surface at the site. The residual soils were found to have an optimum moisture content roughly equal to the natural moisture content of the soils, at around 17%, and a maximum dry density of 1.82 t/m³. At depth these soils generally increase in moisture content, so may require drying before compaction.

In their natural state, the alluvial soils were found to be well wet of their optimum moisture content, meaning significant drying of these materials would be required for use as fill. Furthermore, in some areas this material contains organic matter, which would make it unsuitable for use as fill.

We consider that more comprehensive testing be carried out on cut materials prior to filling, to provide more accurate specification for compaction.

Provision should be made to ensure that the earthworks are conducted with due respect for the weather, particularly due to the low permeability of the underlying ground. The fill should not be placed on to wet ground, especially if ponded water is present.
6.2.4 Site Contouring and Topsloping

As soon as possible, all final cut-slopes and fill slopes should be covered with topsoil at a minimum thickness of 0.10m to prevent the ground from readily drying out and resulting in the development of cracks. This is particularly important for the fill materials that are particular to this site due to their high expansivity (shrink – swell behaviour).

The finished ground level should be graded so that water cannot pond against, beneath or around the building areas. To achieve this it will be important that the fill surface beneath the topsoil grades away from the site.

Contouring should avoid the potential for concentration and discharge of surface water over point locations which could result in soil erosion or instability.

6.3 Roads

The proposed development will include the construction of two public roads, as shown on the appended scheme plan. The construction of these roads will require significant cutting and filling to achieve steady grades across their length, given that they do not follow the natural topography of the site (as currently proposed).

In general, the materials over which the roads will be construction are not expected to provide favourable subgrade strengths. Based on the in-situ testing carried out across the site and the laboratory testing results, we consider that the roads should be designed for a subgrade CBR of 3% (for both in-situ and fill materials). Where the roads cross the marked swamp areas subgrade improvement by undercutting and backfilling with clean fill materials will be required to achieve this strength.

It is recommended that where the roads pass lower elevation areas, or where they are cut down into natural ground, deepened counterfort drains be constructed along the edges of the formation to aid in keeping the subgrade dry and to prevent groundwater from getting into the pavement courses. In some areas it may be necessary to provide a drainage blanket beneath road formations.

6.4 Building Set Back Lines

As the location and density of the residential subdivision development or the extent of any of the associated earthworks is not yet known, it is recommended that the requirement of any building set-back lines be carried out following the completion of the subdivision design.
6.5 Retaining Walls

The following recommendations are made to assist with the engineering design of any retaining walls:

1. For walls founded in residual soils or mudstone, the effective strength parameters of 27° friction angle, 0 kPa cohesion, and unit weight of 19 kN/m³ should be assumed for the wall design. An undrained shear strength of 75 kPa can be assumed at a depth of 0.3 m below ground level. These values may be revised with specific investigation.

2. Walls within the swamp areas will require specific investigation.

3. Allowances should be made for any sloping ground above and below the walls.

4. Enhanced behind wall drainage is recommended. The excavation for the drainage unit should be lined in a non-woven geotextile (filter cloth) prior to placement of the drainage metal to minimise the potential for sitation. A 100 mm diameter slotted drainage coil surrounded with at least 50 mm of drainage metal should be placed at the base of the drainage unit. Drainage metal should comprise clean 10 mm to 20 mm angular durable gravel (drainage metal) which should extend up to 70% of the wall height. The top of the drainage unit should be wrapped in filter cloth.

5. Low permeability soil should be placed into the top of the excavation above the drainage unit. The soil should be compacted in layers not exceeding 200 mm using a small compactor (e.g., "wacker packer") to achieve a minimum strength of 1 blow per 50 mm using a Scala penetrometer or 80 kPa using a hand-held shear vane.

6. The drainage coil should be connected to the stormwater system for the development or should discharge to an area of low gradient well away from any fill.

At the construction stage the post holes or foundations should be checked by a Building Inspector or Suitably Qualified Professional to ensure that the soils encountered are consistent with those described in this report, and that the depth of the excavation meets or exceeds the engineering design requirements. The wall designer should be contacted immediately should differing conditions be encountered. Alteration of the design may be required.

It is also important that adequate behind wall drainage is installed, and as such the drainage unit should be inspected by a Building Inspector or Suitably Qualified Professional prior to its backfilling.
The poles should be fully encased with concrete in accordance with the design. This includes ensuring that the poles are centred within the pile hole. All deleterious material should be removed from the excavation. Backfilling with soil shall not be carried out.

### 6.6 Foundation Design and Construction Recommendations

Given the variability of the ground at the subject site, and the potentially unsuitable materials found in some areas, we consider that specific investigation should be carried out for each building within the subdivision, unless otherwise determined at the earthworks completion stage.

We consider that AS2670 type slab foundations to be most appropriate for the site. These should be constructed assuming Class M moderately expansive soils unless specific investigation shows otherwise. Soil conditions are expected to generally be suitable for commercially available raft foundations (e.g., Frith RbRaft, Cupolex, etc.), if ground conditions are found to be unsuitable then specific foundation design may be required.

Standard shallow foundations, designed in accordance with NZS3504 (2011) may be suitable in some areas of the property, provided all footings are taken to a minimum depth below which shrink swell does not occur. This should be verified at building consent stage.

At the elevated ridge areas, ground with a geotechnical ultimate bearing capacity of at least 300kPa (allowable bearing capacity of at least 100kPa) and a vertical and lateral movement potential of less than 25mm is expected to exist from below the topsoil based on the undrained shear strength and bearing capacity calculations. Within the underlying mudstone unit (2-3m depth) an ultimate bearing capacity of 3MPa is expected to be available (1MPa allowable bearing capacity).

At the low lying swampy areas ground with a geotechnical ultimate bearing capacity of at least 210kPa (allowable bearing capacity of at least 70kPa) is expected to exist from below the topsoil based on the undrained shear strength, however specific design should be undertaken to address potential consolidation settlement issues.

### 6.7 Verification Checks

As required by NZS3504 (2011) and NZS4229 (2013), the fill beneath buildings will need to be certified by a Chartered Professional Engineer or Professional Engineering Geologist in accordance with NZS4431 (1989). A “Certificate of Suitability of Earthfill for Residential Development” will also be required in accordance with NZS3504 and NZS4229.
In order for the fill to be certified, the excavation will need to be inspected by the certifying Engineer or Engineer’s representative to ensure that all compressible materials are removed prior to the placement of the new fill.

Verification strength testing of the backfill by the certifying Engineer or Engineer’s representative will also be required to ensure that the minimum fill strengths specified in this report have been achieved.

Verification testing of the ground by a Building Inspector or Suitably Qualified Professional is recommended to ensure that the ground conditions at the base of the foundation excavations are as described in the report, and that all unsuitable and loose materials have been removed as required by NZ33604 (2011) and NZ94229 (2013). We should be contacted immediately if these conditions vary from that described in this report. Deepening of the foundations or a modification to the recommendations or design may be required.

6.8 Service Pipes

All service pipes, stormwater structures, and culverts should be designed and constructed to ensure adequate capacity, strength, and watertightness to prevent leakage into the platform through blockage, running under pressure, or structural failure.

All service pipes installed within fill should be flexible, or flexibly joined, so that they may deflect without breaking if the ground settles.

A record should be kept of the position, type, and size of all subsoil drains, and in particular of their outlets.

7 OTHER CONSIDERATIONS

This report has been prepared exclusively for Prime Property Group, with respect to the particular brief given to us. Information, opinions and recommendations contained in it cannot be used for any other purpose or by any other entity without our written consent. Land Development & Exploration Ltd accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

This report was prepared in general accordance with current standards, codes and practice at the time of this report. These may be subject to change.

Opinions given in this report are based on visual methods, and subsurface investigations at discrete locations. It must be appreciated that the nature and continuity of the subsurface materials between these locations are inferred and that actual conditions could vary from

Project Ref. 130411 21 04/04/2015
that described herein. We should be contacted immediately if the conditions are found to differ from that described in this report.

This report should be read in its entirety to understand the context of the opinions and recommendations given.

This report has been prepared for Resource Consent purposes. As such, recommendations given may be conservative to allow for differing ground conditions that may not have been identified in the level of investigation carried out for this purpose. The recommendations given may be able to be refined at the Building Consent Stage with detailed subsurface investigation and analysis that is specifically undertaken for the particular structures proposed for the sites.

For and on behalf of LDE Ltd

Report prepared by:

Finlay Wallen-Hallwell
BSc, PMEG
Engineering Geologist

Report reviewed by:

Dave Dravitzki
BSc. MSc. CEngNZ (PEngGeol)
Senior Engineering Geologist

Report authorised by:

Georg Winkler
CEngNZ, CEng
Principal Engineering Geologist-Geotechnical Engineer

Find out more about LDE professionals
APPENDIX A

SUBDIVISION SCHEME PLAN

(CSR SURVEYORS LTD)
Attachment A

Item 18

Prime Property Group Ltd
Foster Crescent
Snells Beach

Lots 1 to 55 and 60 to 61
Being Proposed Subdivision of Lot 1 DP149776

C & R SURVEYORS LTD
Registered Professional
Land Surveyors

Total Area: 4.8528 ha
Complied to: NA99A917

Notes:
1. This plan is prepared for the purpose of obtaining subdivision consent and is not
to be used for any other purpose.
2. All metric measurements and areas are
subject to final survey.

Original Scale: 1:1500
Original Date: A3
Date: 15/01/2017
Job Number: 8708
APPENDIX B

SITE PLANS AND CROSS SECTIONS
Planning Committee
06 August 2019

Attachment A

Item 18

Legend
- Overland flow paths
- Drainage area
- Major contour [5m]
- Lot boundary
- Cross section line
- Hand auger borehole location
- Test pit location
- Disturbed soil sample location

Prima Property Group Ltd
PO Box 117285
Wellington

BIEC
Biotechnical Investigation for Subdivision
Lot 1 DP 1492776
Foster Crescent, Snells Beach

Scope:
Biotechnical Investigation Plan

LDE
LDE DEVELOPMENT & EXPLORATION LTD

Page 106
### Geological Cross Section CS1

**Scale:** A3 1:100

- TP1
- BH1
- RH2
- BH3
- TP3

### Geological Cross Section CS2

**Scale:** A3 1:100

- BH1
- TP2
- BH8

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Unit name</th>
<th>Generalised description</th>
<th>$\theta$ ($^\circ$)</th>
<th>C (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Alluvium/Colluvium derived from Residual Soil</td>
<td>CLAY/CLAY with organic zones, grey/creamy brown, firm to very stiff, moderately to highly plastic</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Brown</td>
<td>Residual Soil</td>
<td>CLAY/Clayey SLT, grey to greybrown, stiff to very stiff, moist to wet, moderately to highly plastic</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>Blue</td>
<td>Completely Weathered Mudstone</td>
<td>Extremely weak MUDSTONE (silt clay), dark grey/blue/brown, pervasively fractured or sheared, saturated, feathery</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Blue</td>
<td>Mangakaha Complex Mudstone</td>
<td>MUDSTONE, highly weathered to slightly weathered, dark green/blue/brown, massive, very weak to weak</td>
<td>35</td>
<td>15</td>
</tr>
</tbody>
</table>

**Notes:**
1. The cross sections show an interpretation of the geology beneath the site based on borehole and test pit data at the points shown.
2. Materials encountered have been described in accordance with "NZSEE Field Description of Soil and Rock".
3. The friction angle and cohesion parameters given are derived from correlations with undrained shear strength measurements, as taken in the field.
4. Surface profiles have been taken from topographic survey data.
5. Investigation points are based on surveyed locations, projected perpendicular to the cross section line.
APPENDIX C
SUBSURFACE INVESTIGATION DATA
## BOREHOLE LOG

**Client:** Northern Investors Trust  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149776, Foster Crescent, Snells Beach  
**Test Method:** 50mm Hand Auger  
**Vara ID:** C342  
**Test ID:** BHS  
**Date:** 3/11/2016  
**Logged by:** RMH  
**Checked by:** DD

<table>
<thead>
<tr>
<th>Position</th>
<th>E</th>
<th>N</th>
<th>Depth (m)</th>
<th>Samples and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Classification</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SILT, organic, dark-brown, dry</td>
<td>Top soil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SILT, dark-brown, very soft, moderately plastic mud</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brownish grey and brown metalling</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dark red staining [excised]</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>grey, zone of saturated clay, saturated</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>grey, brown, hard wax</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>grey, loose, highly weathered, very weak, fibrous, dry</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Difficult to auger, stoney, loose silt</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dark grey, red interlayers</td>
<td>residual silt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>End of borehole at target depth of 3m</td>
<td>residual silt</td>
</tr>
</tbody>
</table>

**Notes:** Water table at 1.5m depth.
## BOREHOLE LOG

### Test ID: BH6
### Sheet: 1 of 1

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** Hand Augered Borehole  
**Vane ID:** C342  
**Logged by:** RAM  
**Checked by:** DD  
**Date:** 3/11/2016

**Position:**

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<thead>
<tr>
<th>R (m)</th>
<th>Depth (m)</th>
<th>Sampled and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Graphic Log</th>
<th>Description</th>
<th>Geology</th>
<th>Unconfined Shear Strength (kPa)</th>
<th>Peak Residual</th>
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</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>D</td>
<td>CL</td>
<td></td>
<td></td>
<td>GLT, organic, dark brown, loose, friable, dry</td>
<td>Topsoil</td>
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<td></td>
</tr>
<tr>
<td>-0.5</td>
<td>1.57</td>
<td>M</td>
<td>VC</td>
<td></td>
<td></td>
<td>CLAY, dark grey, very stiff, moderately plastic, moist</td>
<td>Clayey soil</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>-1.0</td>
<td>3.13</td>
<td>M</td>
<td>VS</td>
<td></td>
<td></td>
<td>CLAY, greyish brown, very stiff, moderately plastic, moist</td>
<td>Clayey soil</td>
<td>150</td>
<td>30</td>
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<tr>
<td>-1.5</td>
<td>4.69</td>
<td>M</td>
<td>VC</td>
<td></td>
<td></td>
<td>greyish brown, rotted</td>
<td>Clayey soil</td>
<td>200</td>
<td>40</td>
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<tr>
<td>-2.0</td>
<td>6.25</td>
<td>M</td>
<td>VC</td>
<td></td>
<td></td>
<td>bluish discoloration around rotted</td>
<td>Clayey soil</td>
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<td>50</td>
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<tr>
<td>-2.5</td>
<td>7.81</td>
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<td>VC</td>
<td></td>
<td></td>
<td>stiff, saturated, grey, trace orange mottling, saturated</td>
<td>Clayey soil</td>
<td>300</td>
<td>60</td>
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<td>-3.0</td>
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<td>VC</td>
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<td></td>
<td>no orange</td>
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<tr>
<td>-3.5</td>
<td>10.93</td>
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<td>VC</td>
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<td>hardens</td>
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<td>130</td>
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<td>VS</td>
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<td>VS</td>
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<td>VS</td>
<td></td>
<td></td>
<td>CLAY, greyish brown, very stiff, moderately plastic, saturated</td>
<td>Clayey soil</td>
<td>950</td>
<td>190</td>
</tr>
<tr>
<td>-9.5</td>
<td>29.68</td>
<td>M</td>
<td>VS</td>
<td></td>
<td></td>
<td>CLAY, greyish brown, very stiff, moderately plastic, saturated</td>
<td>Clayey soil</td>
<td>1000</td>
<td>200</td>
</tr>
</tbody>
</table>

End of Borehole at target depth of 4.6m  
Water table at 1.8m depth
### BOREHOLE LOG

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** 50mm Hand Auger  
**Vane ID:** C342

<table>
<thead>
<tr>
<th>Position</th>
<th>E (m)</th>
<th>N (m)</th>
<th>Elevation (m)</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>Topsoil</td>
<td>GILT, organic, dark brown, dry, very soft.</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.05</td>
<td>0.00</td>
<td>Residual soil</td>
<td>GILT, clayey, grey, some orange matting, very stiff, slightly plastic, moist.</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.10</td>
<td>0.00</td>
<td>Residual soil</td>
<td>CLAY, some silt, greyish brown, some orange matting, very stiff, highly plastic, moist.</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.15</td>
<td>0.00</td>
<td></td>
<td>grey, some orange matting</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.20</td>
<td>0.00</td>
<td></td>
<td>stiff</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.25</td>
<td>0.00</td>
<td></td>
<td>hard, slush decolonisation</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.30</td>
<td>0.00</td>
<td></td>
<td>very stiff</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.35</td>
<td>0.00</td>
<td></td>
<td>MUDDYSTONE brown, completely to highly weathered, very weak, friable, moist.</td>
<td></td>
</tr>
<tr>
<td>0.00</td>
<td>0.40</td>
<td>0.00</td>
<td></td>
<td>dark brown, highly weathered, weak strength increases with depth to 3m</td>
<td></td>
</tr>
</tbody>
</table>

**Test ID:** BH7  
**Project number:** 13641  
**Date:** 3/11/2016  
**Logged by:** FWA  
**Checked by:** DD
## BOREHOLE LOG

<table>
<thead>
<tr>
<th>Position</th>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Sampler and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Geology</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>D</td>
<td>CL</td>
<td>D</td>
<td>V0.5</td>
<td>Topsoil</td>
<td>LIQUID, organic, dark brown, dry</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>V0.5</td>
<td>M</td>
<td>V0.5</td>
<td>Residual soil</td>
<td>LIQUID, clayey, grey, very soft, moist</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>V0.5</td>
<td>M</td>
<td>V0.5</td>
<td>Clay soil</td>
<td>CLAY, some silt, grey, streaked orange, very soft, highly plastic, moist</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>L</td>
<td>V0.5</td>
<td>L</td>
<td>V0.5</td>
<td>Less orange, soil</td>
<td>LIQUID, very soft</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>A</td>
<td>V0.5</td>
<td>A</td>
<td>V0.5</td>
<td>Silty</td>
<td>LIQUID, silty</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>W</td>
<td>V0.5</td>
<td>W</td>
<td>V0.5</td>
<td>Grey soil</td>
<td>GREY, brown, heavy dark orange streaking</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>G</td>
<td>V0.5</td>
<td>G</td>
<td>V0.5</td>
<td>Mangakauhia Complex</td>
<td>MUDSTONE, dark brown, completely to highly weathered, friable, heavy orange streaking, wet, hard, saturated</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>V0.5</td>
<td>M</td>
<td>V0.5</td>
<td>Mangakauhia Complex</td>
<td>MUDSTONE, dark brown, completely to highly weathered, friable, heavy orange streaking, wet, hard, saturated</td>
</tr>
</tbody>
</table>

End of Borehole at target depth of 2.2m
Water table at 2.6m depth

---

**Permeability**
- **Porosity Resistance**: 120, 180, 240, 300
- **Unconfined Shear Strength (kPa)**
  - **Peak**: 60, 120, 180, 240, 300
  - **Residual**: 60, 120, 180, 240, 300

---

**Planning Committee**
06 August 2019

**Client**: Prime Property Group
**Project**: Geotechnical Investigation for Subdivision
**Address**: Lot 1 DP 134777, Foster Crescent, Snells Beach

**Test Method**: 50mm Hand Auger  
**Vane ID**: C342

**Test ID**: BHB  
**Sheet**: 1 of 1

**Logged by**: FAH  
**Checked by**: DD

---

**Attachment A**
## Borehole Log

**Test ID:** BH9  
**Sheet:** 1 of 1

<table>
<thead>
<tr>
<th>Client: Prime Property Group</th>
<th>Project number: 13461</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project: Geotechnical Investigation for Subdivision</td>
<td>Date: 3/11/2016</td>
</tr>
<tr>
<td>Address: Lot 1 DP 149778, Foster Crescent, Snells Beach</td>
<td>Logged by: RWH</td>
</tr>
<tr>
<td>Test Method: 50mm Hand Auger</td>
<td>Checked by: DD</td>
</tr>
</tbody>
</table>

### Position: E: m, N: m, Elevation: m

<table>
<thead>
<tr>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Samples and Field Tests</th>
<th>Moisture</th>
<th>Classification</th>
<th>Soil Description</th>
<th>Graphical Log</th>
<th>Penetration Resistance (blows/50mm)</th>
<th>Undrained Shear Strength (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td>D</td>
<td>O</td>
<td>CLAY, silt, trace of organics, grey, moderately plastic saturated</td>
<td>Alumina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.05</td>
<td>0.05</td>
<td>D</td>
<td>MUDSTONE dark brown extremely weak hardens, unweathered, strong</td>
<td>Mangakaha complex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

End of Borehole at 0.55m depth

Refusal due to impenetrable material

No waterisable encountered
## BOREHOLE LOG

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** 50mm Hand Auger  
**Vane ID:** C342

<table>
<thead>
<tr>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Sampled and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Geotechnical Analysis</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>D</td>
<td>CL</td>
<td>S</td>
<td></td>
<td>SILT, organic, dark brown, odorous, saturated</td>
<td>Alluvium</td>
</tr>
<tr>
<td>-0.5</td>
<td>0.5</td>
<td>S</td>
<td>ClH</td>
<td>S</td>
<td></td>
<td>CLAY, some sized clay, grey, heavy, orange mottling, stiff, highly plastic, saturated</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-1.0</td>
<td>1.0</td>
<td>Vx</td>
<td>ML</td>
<td>S</td>
<td></td>
<td>SILT, clayey, greyish white, very soft, slightly plastic, saturated</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-1.5</td>
<td>1.5</td>
<td>Vx</td>
<td>L</td>
<td>S</td>
<td></td>
<td>GILSTONE, greyish white, highly weathered, weak</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-2.0</td>
<td>2.0</td>
<td>VxG</td>
<td>D</td>
<td>S</td>
<td></td>
<td>CLAY, silty, greyish white, very soft, saturated</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-2.5</td>
<td>2.5</td>
<td></td>
<td>Sx</td>
<td></td>
<td></td>
<td>sodiums</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-3.0</td>
<td>3.0</td>
<td></td>
<td>Sx</td>
<td></td>
<td></td>
<td>white powdery zone, stiff</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-3.5</td>
<td>3.5</td>
<td></td>
<td>Sx</td>
<td></td>
<td></td>
<td>suction on sample</td>
<td>Mangakaua complex</td>
</tr>
<tr>
<td>-4.0</td>
<td>4.0</td>
<td></td>
<td>Sx</td>
<td></td>
<td></td>
<td>End of Borehole at target depth of 3m. No wateratable encountered</td>
<td>Mangakaua complex</td>
</tr>
</tbody>
</table>

**Permeability Test**  
**Unconfined Compressive Strength (kPa)**  
**Residual Strength (kPa)**  

**Test ID:** BH10  
**Sheet:** 1 of 1  
**Project number:** 13641  
**Date:** 3/11/2016  
**Logged by:** PAH  
**Checked by:** DD
Borehole Log

Test ID: BH11
Sheet: 1 of 1

Client: Prime Property Group
Project: Geotechnical Investigation for Subdivision
Address: Lot 1 DP 149778, Foster Crescent, Snells Beach
Test Method: 50mm Hand Auger

Date: 3/11/2016
Logged by: RWH

Vane ID: C342
Checked by: DD

Position: E: m, N: m
Elevation: m

Graph Log

Soil Description

Penetration Resistance [blows/50mm]

Unconfined Shear Strength (kPa)

Peak
Residual

0 50 100 150 200

Topsoil
CLAY, silty, greyish brown, stiff, highly plastic
trace of organics, minor silt fibrous organics and roots, streaked orange, saturated

Mangakaha Complex
CLAY, silty, dark grey, stiff, highly plastic, saturated

MUDSTONE, dark grey, highly weathered very weak, inelastic

End of Borehole at target depth of 3m
Water table at 0.9m depth

Attachments Page 120

Attachment A
## BOREHOLE LOG

**Test ID:** BH12  
**Sheet:** 1 of 1  
**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** 50mm Hand Auger  
**Vane ID:** C342  
**Date:** 3/11/2016  
**Logged by:** RVAH  
**Checked by:** DD

<table>
<thead>
<tr>
<th>Position</th>
<th>E - m</th>
<th>N - m</th>
<th>Depth (m)</th>
<th>Sampled and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Graphic Log</th>
<th>Seal Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>CLD</td>
<td>D</td>
<td>DR</td>
<td>CL</td>
<td>DLT, organic, dark brown, loose, friable, dry</td>
<td>Topsoil</td>
</tr>
<tr>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>VLO</td>
<td>M</td>
<td>VLO</td>
<td>DLT, clayey, greyish brown, some brown nodules very soft</td>
<td>Rehbolt soil</td>
</tr>
<tr>
<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>VLO</td>
<td>M</td>
<td>VLO</td>
<td>CLAY, grey, some orange staining, very soft, moderately plastic, moist</td>
<td>rockers</td>
</tr>
<tr>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>S</td>
<td>St</td>
<td>S</td>
<td>St</td>
<td>no orange</td>
<td>no orange</td>
</tr>
<tr>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>VLO</td>
<td>M</td>
<td>VLO</td>
<td>trace of organics, decomposing wood, blue staining around organic, saturated stiff</td>
<td>Mangatawha Complex</td>
</tr>
<tr>
<td>0.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>CLAY, greyish brown, friable, very soft, saturated, stiff</td>
<td>hard</td>
</tr>
<tr>
<td>0.6</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>M</td>
<td>VLO</td>
<td>M</td>
<td>VLO</td>
<td>MUDSTONE, dark brown, highly weathered, very weak, friable, dry</td>
<td>extremely weak to very weak, moist</td>
</tr>
<tr>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>End of borehole at target depth of 3m</td>
<td>End of borehole at target depth of 3m</td>
</tr>
</tbody>
</table>

*Note: The above table and diagram are specific to the borehole log and the available data.*
### BOREHOLE LOG

**Test ID:** BH15  
**Sheet:** 1 of 1

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149776, Foster Crescent, Snells Beach  
**Test Method:** 50mm Hand Auger  
**Vane ID:** C342

<table>
<thead>
<tr>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Sample and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Description</th>
<th>Geology</th>
<th>Unconfined Compressional Strength (kPa)</th>
<th>Unconfined Shear Strength (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td>S</td>
<td>D</td>
<td>CL</td>
<td>Gilt, organic, black, peaty, saturated</td>
<td>Topsoil</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1.15</td>
<td>1.15</td>
<td>W</td>
<td>V86</td>
<td>CL</td>
<td>Gilt, silt, trace of organics, dark grey, spongy, very soft, slightly plastic, wet, clayey, grey, moderately plastic</td>
<td>Allusum</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1.18</td>
<td>1.18</td>
<td>S</td>
<td>V86</td>
<td>CL</td>
<td>Silt, trace of organics, dark brown, roots, decomposing wood</td>
<td>Allusum</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1.50</td>
<td>1.50</td>
<td>W</td>
<td>D</td>
<td>CLH</td>
<td>Gilt, clayey, grey, hard layer, very stiff, wet</td>
<td>Allusum</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1.55</td>
<td>1.55</td>
<td>S</td>
<td>V86</td>
<td>CLH</td>
<td>Clay, silt, trace of organics, dark grey, spongy, very soft, highly plastic, saturated</td>
<td>Allusum</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>1.60</td>
<td>1.60</td>
<td>W</td>
<td>D</td>
<td>CLH</td>
<td>Gilt, clayey, grey, hard layer, very stiff, wet</td>
<td>Allusum</td>
<td>2</td>
<td>60</td>
</tr>
</tbody>
</table>

- End of Borehole at 1.6m depth
- Refusal due to swelling
- Water table at 0.6m depth
- Hole closed in at 0.6m depth

**Logged by:** PAH  
**Date:** 3/11/2018  
**Checked by:** DO
TEST PIT LOG

Client: Prime Property Group
Project: Geotechnical Investigation for Subdivision
Address: Lot 1 DP 149778 Foster Crescent, Snells Beach
Test Method: 16 Tonne Excavator

<table>
<thead>
<tr>
<th>Position</th>
<th>E: m</th>
<th>N: m</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td></td>
<td></td>
<td>BTL, organic, dark brown, moist</td>
<td>Topsoil</td>
</tr>
<tr>
<td>0.45</td>
<td></td>
<td></td>
<td>CLAY, clay, grey, some orange streaking, vertical shrinkage swell occurring to 0.5m depth, moderately plastic, wet, very stiff</td>
<td>Residual soil</td>
</tr>
<tr>
<td>2.55</td>
<td></td>
<td></td>
<td>MUDSTONE, brown, generally very weak, moderately altering blue zones, dry</td>
<td>Margeantic Complex</td>
</tr>
<tr>
<td>4.55</td>
<td></td>
<td></td>
<td>blue, breaks under firm hand pressure</td>
<td></td>
</tr>
</tbody>
</table>

End of Test Pit at target depth of 3.5m
No wateratable encountered

Attachments
# TEST PIT LOG

**Client:** 13641  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** 16 Ton Excavator  
**Vane ID:** C342  

<table>
<thead>
<tr>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Sample and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>General Description</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td></td>
<td>M</td>
<td>CL</td>
<td>W</td>
<td>GILT, organic, dark brown, moist</td>
<td>CLAY, some silt, grey, small gravel visible to 0.8m depth, moderately plastic, wet</td>
<td>Topsoil</td>
</tr>
<tr>
<td>-0.05</td>
<td></td>
<td>W</td>
<td>LH</td>
<td>W</td>
<td>CLAY, some silt, grey, small gravel visible to 0.8m depth, moderately plastic, wet</td>
<td>pit walls unstable, stable in exposed trenches, stiff</td>
<td>Residual soil</td>
</tr>
<tr>
<td>-0.15</td>
<td></td>
<td>W</td>
<td>St</td>
<td>W</td>
<td>orangish grey, moderately plastic, wet</td>
<td>orangish grey, moderately plastic, wet</td>
<td></td>
</tr>
<tr>
<td>-0.20</td>
<td></td>
<td>S</td>
<td>VGL</td>
<td>S</td>
<td>groundwater flows into pit, very stiff saturated</td>
<td>groundwater flows into pit, very stiff saturated</td>
<td></td>
</tr>
<tr>
<td>-0.25</td>
<td></td>
<td>W</td>
<td>MG3</td>
<td>D</td>
<td>MORXSTONE, dark brown extremely weak, sheared, highly fractured material in soft matrix, wet</td>
<td>MORXSTONE, dark brown extremely weak, sheared, highly fractured material in soft matrix, wet</td>
<td>Mangakaha complex</td>
</tr>
<tr>
<td>-0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>hard, weak, dry</td>
<td>hard, weak, dry</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- End of Test Pit at target depth of 3m
- Water table at 3m depth

**渗透度：**
- Penetration Resistance
  - Uniaxial Shear Strength (MPa)
    - Peak
    - Residual

**Logged by:** FAH  
**Checked by:** DD  

**Planning Committee**  
**06 August 2019**
TEST PIT LOG

Client: Prime Property Group
Project: Geotechnical Investigation for Subdivision
Address: Lot 1 DP 149778, Foster Crescent, Snells Beach
Test Method: 16 Ton Excavator

Position: E: m Elevation: m N: m

Depth (m) | Samples and Field Tests | Moisture Strength Classification | Soil Description | Geology | Penetration Resistance (blows/50mm) | Undrained Shear Strength (kPa) | Peak Residual

-0.10 | W | CLAY, some silt, trace of organics, brown, wet | Burned stream flowing in ~ 15cm tunnel infilled with organics, flow of approximately 0.3/s, saturated wet.

-0.10 | S | CLAY, dull grey, brown mottled, organics, brown, wet | Residual soil

-0.20 | M | Mudstone, dark grey, very weak, highly fractured, moist | Manganakti Complex

-0.50 | D | | Hardened, moderately strong, highly fractured, slick surfaces on fractures, dry

End of Test Pit at 0.5m depth
Reclaim due to Water table at 0.6m depth
### TEST PIT LOG

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149776, Foster Crescent, Snells Beach  
**Test Method:** 16 Tonne Excavator  
**Vane ID:** C342

<table>
<thead>
<tr>
<th>Position</th>
<th>E (m)</th>
<th>N (m)</th>
<th>Depth (m)</th>
<th>Sampled and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Classification</th>
<th>Description</th>
<th>Geology</th>
<th>Unconfined Shear Strength (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>0.0</td>
<td>M</td>
<td>CL</td>
<td></td>
<td>GILT. organic, clayey, black, moist</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>0.0</td>
<td>M</td>
<td>CL</td>
<td></td>
<td>GILT. grey, homogenous, moist</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>0.0</td>
<td>M</td>
<td>D</td>
<td></td>
<td>whitish grey chalk, friable, moist</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.05</td>
<td>St</td>
<td>VSE</td>
<td></td>
<td>hardend [very weak] breaks under Hard hand pressure, very stiff, dry</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.15</td>
<td>S</td>
<td>VSE</td>
<td></td>
<td>CLAY trace of organic, grey, black, specs, very stiff, highly plastic, saturated</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.25</td>
<td>S</td>
<td></td>
<td></td>
<td>stiff</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.35</td>
<td>M</td>
<td>St</td>
<td></td>
<td>CLAY, silty, greenish grey, friable, bricky, soft, moist.</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.35</td>
<td>M</td>
<td></td>
<td></td>
<td>CLAY, silty, greenish grey, friable, bricky, soft, moist.</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.55</td>
<td>M</td>
<td></td>
<td></td>
<td>MUDSTONE, greenish grey, extremely weak to very weak, moist.</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>-0.65</td>
<td>M</td>
<td></td>
<td></td>
<td>Mnogahia complex</td>
<td>Silt</td>
<td>Alluvium</td>
<td></td>
</tr>
</tbody>
</table>

*End of Test Pit at target depth of 4m. No wateratable encountered.*

---

**Planning Committee**  
**06 August 2019**
### TEST PIT LOG

**Client:** Prime Property Group  
**Project:** Geotechnical Investigation for Subdivision  
**Address:** Lot 1 DP 149778, Foster Crescent, Snells Beach  
**Test Method:** 16 Tonne Excavator  
**Date:** 3/11/2016

<table>
<thead>
<tr>
<th>Position</th>
<th>E: m</th>
<th>N: m</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL (m)</td>
<td>0.0</td>
<td>0.0</td>
<td>DILT, organic, dark brown, wet</td>
<td>Topsoil</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>0.0</td>
<td>CLAY, silty, grey wet</td>
<td>Residual soil</td>
</tr>
<tr>
<td></td>
<td>0.1</td>
<td>0.0</td>
<td>grey, some orange streaks, soft</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.1</td>
<td>some mottles, saturated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.1</td>
<td>MUDSTONE, dark brown, extremely weak, clay matrix with weak gravel zones, wet</td>
<td>Mangakaha Complex</td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.5</td>
<td>MUDSTONE, dark brown, very weak</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.6</td>
<td>dark greenish brown, hardens, weak to moderately strong, retrievals large blocks, dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.7</td>
<td>End of Test Pit at target depth of 4m</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.8</td>
<td>Water table at 1.5m depth</td>
<td></td>
</tr>
</tbody>
</table>

---

**Attachments**

### Attachment A

**Item 18**
Attachment A
Client: Prime Property Group
Project: Geotechnical Investigation for Subdivision
Address: Lot 1 DP 149776, Foster Crescent, Snells Beach
Test Method: 16 Tonne Excavator

Test Pit Log

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Samples and Field Tests</th>
<th>Moisture</th>
<th>Strength Classification</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>D</td>
<td>CL</td>
<td>S</td>
<td>DILT. organic, dark brown, dry</td>
<td>Topsoil</td>
</tr>
<tr>
<td>0.0</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>W</td>
<td>D</td>
<td></td>
<td>CLAY, silt, grey vertical shrink swell loading to 1.5m depth, mixed upper 2m cayes in yellow, recedes quickly</td>
<td>Residual Soil</td>
</tr>
<tr>
<td>1.0</td>
<td>W</td>
<td>S</td>
<td></td>
<td>orangey grey, drift wet</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>W</td>
<td>VEL</td>
<td></td>
<td>groundwater intrusion through fractures, steady pressure flow in places, very stiff</td>
<td>Mangawhai Complex</td>
</tr>
<tr>
<td>2.0</td>
<td>M</td>
<td></td>
<td></td>
<td>MUDDSTONE. greyish brown, extremely weak to very weak, oxidised and highly fractured, moist</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>D</td>
<td></td>
<td></td>
<td>dark brown, very weak, highly fractured</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td>dark bluish grey, weak to moderately strong dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>strength increase difficult to excavate</td>
<td></td>
</tr>
</tbody>
</table>

End of Test Pit at target depth of 4.5m
Water table at 1.5m depth
### TEST PIT LOG

<table>
<thead>
<tr>
<th>Position (RL, m)</th>
<th>Depth (m)</th>
<th>Sampled and Test Sampled</th>
<th>Moisture</th>
<th>Strength</th>
<th>Description</th>
<th>Soil Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.5</td>
<td>W</td>
<td>CL</td>
<td>R</td>
<td>CLAY, grey, light brown, wet saturated</td>
<td>Topsoil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W</td>
<td></td>
<td></td>
<td>rapid groundwater inflow</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td>trace of organics, buried log</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td>CLAY, greenish grey, very stiff, slightly plastic, saturated</td>
<td>Residual soil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td>stiff</td>
<td></td>
</tr>
</tbody>
</table>

**End of Test Pit at target depth of 0.5m**

Water table at 0.5m depth

Hole collapse on all sides from below topsoil

---

**Geology**

- Topsoil
- Aquifer
- Residual soil

---

**Unconfined Compressibility**

- **Penetration Resistance (bbls./50mm)**
  - 0 50 100 150 200 250 300

- **Unconfined Shear Strength (kPa)**
  - Peak
  - Residual

---

**Attachments**

- Attachment A

---

**Planning Committee**

06 August 2019
Planning Committee
06 August 2019

TEST PIT LOG

Test ID: TP9
Sheet: 1 of 1

Client: Prime Property Group
Project: Geotechnical Investigation for Subdivision
Address: Lot 1 DP 149778, Foster Crescent, Snells Beach
Test Method: 16 Tonne Excavator
Vane ID: C342

Position: E: m, N: m, Elevation: m

<table>
<thead>
<tr>
<th>RL (m)</th>
<th>Depth (m)</th>
<th>Samples and Field Tests</th>
<th>Moisture</th>
<th>Strength</th>
<th>Classification</th>
<th>Soil Description</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td>W</td>
<td>CL</td>
<td>DILT, organic, dark brown, wet</td>
<td>Topsoil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>0.25</td>
<td>S</td>
<td>ODH</td>
<td>CLAY, trace of organics, grey, moderately plastic, saturated stiff</td>
<td>Alluvium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.50</td>
<td>0.50</td>
<td>St</td>
<td>ODH</td>
<td>CLAY, silty, grey, rapid inflow artesian pressure, stiff, moderately plastic, saturated dark brown very stiff</td>
<td>Residual soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.75</td>
<td>0.75</td>
<td>St</td>
<td>ODH</td>
<td>MUDSTONE, bluish grey, extremely weak to weak, pale greenish grey in areas, highly fractured, wet fracture surfaces hardens, weak</td>
<td>Margakaha Complex</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

End of Test Pit at target depth of 4.5m
Water table at 1.5m depth

Attachments
Page 134
APPENDIX D
SLOPE STABILITY ANALYSES
Attachment A

Item 18
Attachment A

Item 18

APPENDIX E

LABORATORY TEST CERTIFICATES
TEST REPORT

Lab Job No: 8334-005
Your ref: -
Date of issue: 23/03/2018
Date of Re-issue: -
Page: 1 of 3

Test Report
No. C18-141

PROJECT: Snells Beach Subdivision – NZ Standard Compaction
CLIENT: LDE
127 Bank Street
Whangarei

ATTENTION: Finlay Weller-Halwell
INSTRUCTIONS: Determination of the dry density/water content relationship - New Zealand standard compaction
TEST METHOD: NZS 4402:1986 Test 4.1.1
SAMPLING METHOD: N/A
TEST RESULTS: As Per Laboratory Sheets attached

B. Lucas
Laboratory Technician

Y. Warnerclari
Approved Signatory

IANZ ACCREDITED LABORATORY
All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

-CPT – Aggregates – Soil – Roading-
This report shall not be reproduced except in full without written approval of the laboratory
Determination of Dry Density/Water Content Relationship
New Zealand Standard Compaction
NZE-4462:1989 Test4.1.1

Lab Job No: 8334-005
Client: L2C
Project: Snells Beach Subdivision
Location: Snells Beach Subdivision 5-1

Sample No.: C18-009
Tested By: JV
Date: 14/03/2010

Checked By: 
Date: 24/03/2010
Page: 2 of 3

Sample Description: Silty Clay, traces of fine sand, traces of organics(oillets), brown-orange, moist

Compaction used: New Zealand Standard Compaction Test performed on fraction passing 1.18 mm BS test sieve

History: Natural

Total mass of sample: 14887.6 g
Mass retained on 1.18 mm BS test sieve: 6 g

Dry Density vs Moisture Content

Shear Strength vs Moisture Content

<table>
<thead>
<tr>
<th>Water Content (%)</th>
<th>Dry Density (t/m³)</th>
<th>Shear Value (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>1.636</td>
<td>N/A</td>
</tr>
<tr>
<td>7.7</td>
<td>1.586</td>
<td>N/A</td>
</tr>
<tr>
<td>12.3</td>
<td>1.724</td>
<td>N/A</td>
</tr>
<tr>
<td>15.5</td>
<td>1.924</td>
<td>N/A</td>
</tr>
<tr>
<td>17.4</td>
<td>1.750</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Solid Density (t/m³) = 2.79
Optimum Water Content (%) = 17
Max Dry Density (t/m³) = 1.82
Natural Water Content (%) = 17

C18-005, s comp
8334-005, Snells beach Sub, Lab test CHCH
26/03/2010

Issue: 2
DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP
NEW ZEALAND STANDARD COMPACtion
NZS 4402:1998 Test 4.1.1

Lab Job No: 6334-060
Client: LDC
Project: Snells Beach Subdivision
Location: Snells Beach Subdivision S-2

Date Received: 9/03/2018
Report No: C18-141
REF: 15-129

Sample No: C18-010
Sample Description: Silty Clay. minor organics (amorphous and roddets), traces of fine sand, dark brown, mottled grey, moist-wet
Compaction used: New Zealand Standard Compaction Test performed en faction passing 6.5 mm BS test sieve

History:
Natural

Total mass of sample: 17224.5 g
Mass retained on 19mm BS test sieve: 0 g

Test Results

<table>
<thead>
<tr>
<th>Water Content (%)</th>
<th>Dry Density (kN/m³)</th>
<th>Shear Value (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.2</td>
<td>1.389</td>
<td>N/A</td>
</tr>
<tr>
<td>18.5</td>
<td>1.653</td>
<td>N/A</td>
</tr>
<tr>
<td>23.2</td>
<td>1.466</td>
<td>N/A</td>
</tr>
<tr>
<td>34.2</td>
<td>1.379</td>
<td>N/A</td>
</tr>
<tr>
<td>39.5</td>
<td>1.263</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Solid Density (kN/m³) = 2.70
Optimum Water Content (%) = 23
Max Dry Density (kN/m³) = 1.47
Natural Water Content (%) = 34

C18-010, s comp
8334-005, Snells beach Sub. Lab test CHCH
21/03/2018

Issue: 2

Attachments
Page 147
TEST REPORT

Lab Job No.: 8334-005
Your ref.: 
Date of Issue: 19-03-2018
Date of Re-Issue: -
Page: 1 of 6

Test Report,
No. W18-110

PROJECT: Snells Beach Subdivision
CLIENT: LDIE
127 Bank St
Whangarei

ATTENTION: Finlay Wallen-Allen
INSTRUCTIONS: Determination of the Water Content
Determination of the liquid & plastic limits, Plasticity index and water content
Determination of the Linear Shrinkage
Determination of the California Bearing Ratio (CBR)
(re-moulded samples) (not accredited)

TEST METHOD: NZS 4402:1986 Test 2.1
NZS 4402:1986 Tests 2.2, 2.3, 2.4
NZS 4402:1986 Test 2.6
NZS 4407:2015 Test 3.15 (not accredited)

SAMPLING METHOD: Sampled by client – sampling not accredited
TEST RESULTS: As Per Laboratory Sheets attached

G. Breckon
Laboratory Technician

D. Kriessissen
Approved Signatory

IANZ
ACCREDITED LABORATORY

Tests indicated as not accredited are outside the scope of the laboratory's accreditation

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**DETERMINATION OF WATER CONTENT**

**N.Z.S. 4021:1985 Test 2.1**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Water Content (% Weight)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.12</td>
<td>S1</td>
<td>25.1</td>
</tr>
<tr>
<td>18.125</td>
<td>S2</td>
<td>33.7</td>
</tr>
</tbody>
</table>

**Sample Description:**
- Silty CLAY, traces of fine sand, traces of organic (rootlets), brown-orange, moist, mixed fine sand, dark brown reddened grey, moist-wet

**Client:**
- Shells Beach Subdivision

**Date:**
- 2/10/2019

**Sampled By:**
- D.K.

**Sampled On:**
- 2/10/2019

**Sample Method:**
- Unknown

**Sample Method:**
- Silty CLAY, traces of fine sand, traces of organic (rootlets), brown-orange, moist, mixed fine sand, dark brown reddened grey, moist-wet
DETERMINATION OF THE LIQUID & PLASTIC LIMITS,
PLASTICITY INDEX & WATER CONTENT
NZS 4402:1996 Test 2.2.2.3.2.4

<table>
<thead>
<tr>
<th>Lab Job No:</th>
<th>8334-005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client:</td>
<td>LDE</td>
</tr>
<tr>
<td>Location:</td>
<td>Snells Beach Subdivision</td>
</tr>
<tr>
<td>Date Received:</td>
<td>28/02/2018</td>
</tr>
<tr>
<td>Report No:</td>
<td>W1-110</td>
</tr>
<tr>
<td>REF:</td>
<td>13941</td>
</tr>
</tbody>
</table>

| Sample No.: | 18-124 |
| Test Details: | Newly received on: 21/03/2018 |
| Fraction passing 425μm sieve |

| Sampling Method: | Unknown |
| Date Sampled:   | Unknown |

| Test Details: | Sample history: |
|              | Natural State |

| Description of Sample: | Silty CLAY, traces of fine sand, traces of organics (rootlets), brown-orange, moist. |

<table>
<thead>
<tr>
<th>No. of blows</th>
<th>15</th>
<th>20</th>
<th>27</th>
<th>35</th>
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</thead>
<tbody>
<tr>
<td>Water content (%)</td>
<td>41.2</td>
<td>40.5</td>
<td>39.6</td>
<td>38.8</td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>Plastic Limit</td>
<td>NWC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------------</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.2</td>
<td>21.1</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>Plastic Limit</td>
<td>Plasticity index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>21</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LIQUID LIMIT GRAPH

Pl. 18-124
8334-005, Snells beach Sub. Lab tests
21/03/2018

Issue 3

D. Krassensen
Approved Signatory

Attachments
### DETERMINATION OF THE LINEAR SHRINKAGE

**NZS 4402:1985 Test 2.6**

<table>
<thead>
<tr>
<th>Lab Job No:</th>
<th>Sample No:</th>
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<tbody>
<tr>
<td>8334-005</td>
<td>18-124</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Client:</th>
<th>Tested By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOE</td>
<td>N.K.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 1</td>
<td>12/03/2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<table>
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<th>Page:</th>
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<td>4 of 6</td>
</tr>
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**Test performed on:** Fraction passing 425mm sieve

**History:** Natural state

**Description of Sample:** Silty CLAY, traces of fine sand, traces of organics (rootlets), brown-orange, moist.

<table>
<thead>
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<th>Linear shrinkage</th>
<th>10</th>
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Attachment A

LS, 18-124
8334-005, Shells beach Sub, Lab tests
21/03/2019

Issue 3

D. Khesansari
Approved Signature
### Determination of the California Bearing Ratio

<table>
<thead>
<tr>
<th>Sample No</th>
<th>Sample Location / Description</th>
<th>Treatment</th>
<th>Bulk Density (lbs/ft³)</th>
<th>Dry Density (lbs/ft³)</th>
<th>Water Content As Compacted (%)</th>
<th>Under plunger (%)</th>
<th>CBR (%)</th>
<th>Penetration (mm)</th>
<th>Swell (%)</th>
<th>% Over size material</th>
<th>Operator</th>
<th>Date tested</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-124</td>
<td>Silty CLAY, traces of fine sand, traces of organics (rootlets), brown-orange, moist</td>
<td>nil</td>
<td>1.83</td>
<td>1.54</td>
<td>18.9</td>
<td>27.9</td>
<td>1</td>
<td>2.5 &amp; 5.0</td>
<td>3.3</td>
<td>0</td>
<td>S.K</td>
<td>15/03/2018</td>
<td></td>
</tr>
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</table>

**Note:**
1. All samples compacted in accordance with NZ Standard Compaction NZS 4402:1998 Test 4.1.1
2. A surcharge mass of 4kg was used for all samples.
3. All samples were soaked for 4 days prior to testing.
4. Lime treated samples were cured for 3 days prior to soaking.
5. Plunger penetration rate was 1mm/min for all samples.
6. Tests performed on material passing 18mm test sieve.
7. All results obtained in accordance with the above test method.
DETERMINATION OF THE LINEAR SHRINKAGE
NZS 4402:1985 Test 2.6

Lab Job No: 8334-005
Client: LDE
Location: Snells Beach Subdivision
5.2
Date Received: 28/02/2018
Report No: W6-110
REP: 13841
Sample No: 18-125
Tested By: N.K
Date: 12/03/2018
Checked By: 
Date:
Page: 6 of 6

Test performed on:
Fraction passing 425μm sieve
Natural state

Description of Sample: Silty CLAY, minor organics, (amorphous and rootlets), traces fine sand, dark brown mottled grey, moist-wet.

Linear shrinkage

7
Determination of the Liquid & Plastic Limits, Plasticity Index & Water Content
NZS 4402:1986 Test 2.2.2.3.2.4

Lab Job No: 8334-005
Client: LDE
Location: Snells Beach Subdivision 3
Date Received: 28/02/2018
Report No: WA-110
REF: 13641

Sample No.: 18-125
Tested By: N.K
Date Tested: 9/03/2018
Checked By: [Signature]
Date Checked: 21/3/18
Page: 7 of 8

Sampling Method: Unknown
Date Sampled: Unknown
Sampled By: Client

Test Details:
Test performed on: Fraction passing 425μm sieve
Sample history: Natural state

Description of Sample: Silty CLAY, minor organics, (amorphous and rootlets), traces fine sand, dark brown mottled grey, moist-wet.

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<th>No. of blows</th>
<th>Plastic Limit</th>
<th>NWC</th>
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<tr>
<td>15</td>
<td>49.2</td>
<td>28.0</td>
</tr>
<tr>
<td>20</td>
<td>48.3</td>
<td>28.2</td>
</tr>
<tr>
<td>25</td>
<td>47.7</td>
<td>28.5</td>
</tr>
<tr>
<td>30</td>
<td>47.0</td>
<td>28.9</td>
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</tbody>
</table>

Liquid Limit Graph

Liquid Limit
49.5 - 46.5
Water Content (%)

Number of Blows
10 - 40

PI, 18-125
8334-005 Snells beach Sub, Lab tests
2/03/2018

D. Kristiansen
Approved Signatory
### Determination of the California Bearing Ratio

<table>
<thead>
<tr>
<th>Sample No</th>
<th>Sample Location / Description</th>
<th>Treatment</th>
<th>Bulk Density (\text{t/m}^3)</th>
<th>Dry Density (\text{t/m}^3)</th>
<th>Water Content (%)</th>
<th>CBR (%)</th>
<th>Penetration (mm)</th>
<th>Swell (%)</th>
<th>% Oversize material</th>
<th>Operator</th>
<th>Date Tested</th>
<th>Comments</th>
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<tbody>
<tr>
<td>18-125</td>
<td>Silty CLAY, minor organics, (amorphous and rootlet), traces of fine sand, dark brown mottled grey, moist-wet.</td>
<td>nil</td>
<td>1.83</td>
<td>1.44</td>
<td>27.2</td>
<td>28.1</td>
<td>3.6</td>
<td>5.0</td>
<td>0.5</td>
<td>SK</td>
<td>16/03/2018</td>
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**Note:**
1. All samples compacted in accordance with NZ Standard Compaction NZS 4402:1986 Test 4.1.1.
2. A surcharge mass of 45kg was used for all samples.
3. All samples were soaked for 4 days prior to testing.
4. Lime treated samples were cured for 3 days prior to soaking.
5. Plunger penetration rate was 1mm/min for all samples.
6. Tests performed on material passing 10mm test sieve.
7. All results obtained in accordance with the above test method.

CBR report, 18-125
8334-005, Swnells beach Sub. Lab tests
2/03/2018

Issue 3

D. Kristiansen
Approved Signatory
Appendix 4 - Engineering Report
Prime Property Group Ltd.

Construction Drawings and Specification for

52 Lot Residential Subdivision

Lot 1 DP149776, Foster Crescent, Snells Beach

<table>
<thead>
<tr>
<th>SHEET</th>
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<th>STATUS</th>
<th>REVISION</th>
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<tr>
<td>1</td>
<td>Existing Topographical Survey and Locality Plan</td>
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<td>Resource Consent</td>
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<td>2</td>
<td>Design Site Plan</td>
<td>02/03/2018</td>
<td>Resource Consent</td>
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<td>3</td>
<td>Service Network Layout</td>
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<td>Resource Consent</td>
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<td>Wastewater Design Site Plan</td>
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Attachment A
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<td><strong>Design Levels</strong></td>
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<td><strong>Cut/Fill Depth</strong></td>
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<td><strong>Vertical Geometry</strong></td>
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<td>L = 25.98</td>
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<td>k = 10.98</td>
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<td><strong>Horizontal Geometry</strong></td>
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<td>166.00</td>
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<td>L = 114.02</td>
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<td>R = 56.80</td>
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<td><strong>Chainage</strong></td>
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<td>166.00</td>
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**Legend**
- Existing ground level
- Finished ground level

**Scale**
- 1:100 (m)
- 1:500 (m)
Surface Analysis: Elevation Ranges

<table>
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<tr>
<th>Number</th>
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<th>Minimum Elevation (m)</th>
<th>Maximum Elevation (m)</th>
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<td>1</td>
<td>Red</td>
<td>-3.000</td>
<td>-1.500</td>
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<td>2</td>
<td>Red</td>
<td>-1.500</td>
<td>-1.000</td>
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<tr>
<td>3</td>
<td>Red</td>
<td>-1.000</td>
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<td>4</td>
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<td>5</td>
<td>Green</td>
<td>0.500</td>
<td>1.000</td>
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<tr>
<td>6</td>
<td>Green</td>
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<td>1.500</td>
</tr>
<tr>
<td>7</td>
<td>Green</td>
<td>1.500</td>
<td>3.000</td>
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Earthwork Volumes
- Cut: 7100 m³
- Fill: 50250 m³
Attachment A

Item 18

Detention Pond
Plan and Cross Section

[Diagram of Detention Pond]

Decanting Earth Bund
Plan and Cross Section

[Diagram of Decanting Earth Bund]
Datum 15.0m

<table>
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<tr>
<th>Invert Levels</th>
<th>15.04</th>
<th>14.67</th>
<th>14.34</th>
<th>13.30</th>
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<td>Depth to Invert</td>
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<td>4.87</td>
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<td>Ground Level</td>
<td>12.25</td>
<td>12.34</td>
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<td>12.50</td>
<td>12.55</td>
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<tr>
<td>Pipe Details</td>
<td>3200 RDRU CLASS 2</td>
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<td>900 RDRU CLASS 2</td>
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<tr>
<td>Distance</td>
<td>L = 28.02</td>
<td>L = 20.93</td>
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<tr>
<td>Grade</td>
<td>11.2%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>10.9%</td>
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</table>

SW Line A Long Section - MHA9 to MHA5

Legend
- Finished ground level
- Scale 1:100
- Scale 1:500

Prime Property Group Ltd
PO Box 11-785
Wellington

S2 Lot Residential Subdivision
Lot 1 DP 140776
Foster Crescent, Nelles Beach

Stormwater Long Section - Line A
MHA9 to MHA5

LDE Land Development Exploration Ltd

Consent
13641 24 of 43
13641-C01 0
Attachment A

Item 18

Datum 5.0m

| Invert Levels | 16.41 | 15.75 |
| Depth to Invert | 1.00 | 1.25 |
| Ground Level | 18.73 | 19.25 |
| Pipe Details | Ø305 RCPRU CLASS 2 | Ø425 RCPRU CLASS 2 |
| Distance | L = 30.47 | L = 51.05 |
| Grade | 8.0% | 8.9% |

SW Line A Long Section - MHAS to MHA3
Datum B.D.m

| Invert Levels | 7.44 | 7.13 | 7.00 | 6.00 |
| Depth to Invert | 3.15 | 3.74 | 5.13 | 6.64 |
| Ground Level | 3.19 | 3.74 | 5.13 | 6.64 |
| Pipe Details | Ø525 RCP/CLASS 2 | Ø525 RCP/CLASS 2 | Ø525 RCP/CLASS 2 | Ø525 RCP/CLASS 2 |
| Distance | L = 20.76 | L = 18.57 | L = 9.01 | L = 8.81 + 3.58 |
| Grade | 6.3% | 3.1% | 0.3% | 2.8% | 0.3% |

SW Line A Long Section
MHAA 3 to Outlet
SWMHB67 Ø1050 concrete

SWMHB68 Ø1050 concrete

SWMHB65 Ø1050 concrete

SWMHB64 Ø1050 concrete

Datum 5.0m

Invert Levels

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Ground Level

<table>
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<th>1.65</th>
<th>1.65</th>
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Pipe Details

<table>
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<th>Ø375 RCPRU CLASS 2</th>
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Distance

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<th>L = 16.40</th>
<th>L = 43.66</th>
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Grade

<table>
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<th>4.0%</th>
<th>4.1%</th>
<th>3.5%</th>
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SW Line B Long Section
MH84 to MH41

| Item 18 | 06 August 2019 | Attachment A | Auckland Council | Planning Committee | Prime Property Group Ltd.,
FD Box 11-708 Wellington | S2 Lot Residential Subdivision Lot 1 DP 140276 Foster Crescent, Shells Beach | Stormwater Long Section - Line B MH84 to MH41 | LDE Land Development Exploration Ltd.
Vertical 1:100
Horizontal 1:500

Datum 5.0m

| Invert Levels | 7.496 | 13.93 | 15.01 |
| Depth to Invert | 1.75 | 1.43 | 1.03 |
| Ground Level | 0.79 | 1.38 | 1.36 |
| Pipe Details | Ø225 RCPRJ CLASS 2 | Ø225 RCPRJ CLASS 2 | Ø225 RCPRJ CLASS 2 |
| Distance | L = 70.41 | L = 42.04 | L = 30.93 |
| Grade | 2.1% | 12.0% | 100% |

SW Line C Long Section - MHC3 to MHB2
### Attentions A

#### Item 18

**Datum 0.00m**

<table>
<thead>
<tr>
<th>Invert Levels</th>
<th>Depth to Invert</th>
<th>Ground Level</th>
<th>Pipe Details</th>
<th>Distance</th>
<th>Grade</th>
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<td>Ø150 RD/RJ CLASS 2</td>
<td>L = 57.19</td>
<td>0.0%</td>
</tr>
<tr>
<td>3.45</td>
<td>4.57</td>
<td>3.18</td>
<td>Ø2075 RD/RJ CLASS 2</td>
<td>L = 18.59</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

**SW Line F Long Section - MHF2 to MHA1**

**Legend**

- **0-1** Finished ground level
- **Scale 1:100 (m)**
- **5**
- **0-5**
- **Scale 1:500 (m)**
- **20**
- **300mm clearance to WW pipe**

---

**Prime Property Group Ltd.**

PD Box 11-785
Wellington

**Stormwater Long Section - Line F**
MHF2 to MHA1
Datum 0.00

<table>
<thead>
<tr>
<th>Item 18</th>
<th>SW Line G Long Section - MHG3 to Outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invert Levels</strong></td>
<td>4.80</td>
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<td><strong>Ground Level</strong></td>
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<td><strong>Pipe Details</strong></td>
<td>Ø225 RCPRU CLASS 2</td>
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<td><strong>Distance</strong></td>
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<td><strong>Grade</strong></td>
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</table>

Legend
- Finished ground level
- Scale 1:100 (m)
- Scale 1:500 (m)

Vertical 1:100
Horizontal 1:500
**Vertical 1:100**
**Horizontal 1:500**

Datum 10.0m

| Insert Levels | 2.04 | 2.34 | 3.00 | 3.02 | 3.03 |

| Depth to Invert | 0.00 | 0.21 | 0.24 | 0.26 | 0.30 |

| Ground Level | 12.7 | 13.2 | 13.5 | 13.7 | 13.8 |

| Pipe Details | Ø150 UPVC PN6 | Ø150 UPVC PN6 | Ø150 UPVC PN6 |

| Distance | L= 52.03 | L= 15.52 | L= 83.65 |

| Grade | 100% | 5.3% | 8.3% |

WW Line A Long Section - MHA4 to MHA2

---

**Attachments**

Item 18

---

**Prime Property Group Ltd.**
PD Box 11-785
Wellington

**S2 Ltd Residential Subdivision**
Lot 1 DP 140276
Foster Crescent, Snells Beach

**Wastewater Long Section - Line A**
MHA4 to MHA2
Planning Committee
06 August 2019

Attachment A

Item 18

Vertical 1:100
Horizontal 1:500

Datum 0.0m

<table>
<thead>
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<th>Invert Levels</th>
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<tbody>
<tr>
<td>Depth to Invert</td>
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</tr>
<tr>
<td>Ground Level</td>
<td>13.94</td>
<td>6.50</td>
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<tr>
<td>Pipe Details</td>
<td>Ø150 UPVC PN 6</td>
<td>Ø150 UPVC PN 6</td>
</tr>
<tr>
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<td>L = 64.06</td>
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<td>Grade</td>
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<td>0.7%</td>
</tr>
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</table>

WW Line A Long Section - MHA3 to MH Existing

Legend

Finished ground level

Scale 1:100 (m)

Scale 1:500 (m)
Datum 0.0m

<table>
<thead>
<tr>
<th>Dimension</th>
<th>0.0m</th>
<th>3.0m</th>
<th>4.0m</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3.0m</td>
<td>4.0m</td>
</tr>
<tr>
<td>Depth to Invert</td>
<td>2.0m</td>
<td>2.0m</td>
<td>2.0m</td>
</tr>
<tr>
<td>Ground Level</td>
<td>8.18</td>
<td>8.58</td>
<td>8.58</td>
</tr>
<tr>
<td>Pipe Details</td>
<td>Ø150 UPVC PN 8</td>
<td>Ø150 UPVC PN 8</td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>L = 45.16</td>
<td>L = 23.26</td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>2.2%</td>
<td>1.0%</td>
<td></td>
</tr>
</tbody>
</table>

**Legend**

- **Finished ground level**
  - Scale: 1:100 (m)
  - Scale: 1:500 (m)

**WW Line B Long Section - MHB2 to MHA1**

**Attachments**

- Attachment A

---

**Planning Committee**

06 August 2019
Vertical 1:100
Horizontal 1:500

Datum 15.0m

<table>
<thead>
<tr>
<th>Invert Levels</th>
<th>15.66</th>
<th>15.35</th>
<th>15.04</th>
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<td>1.56</td>
<td>1.56</td>
<td>1.56</td>
<td>1.56</td>
</tr>
<tr>
<td>Ground Level</td>
<td>15.61</td>
<td>15.71</td>
<td>15.81</td>
<td>15.91</td>
<td>16.01</td>
</tr>
<tr>
<td>Pipe Details</td>
<td>Ø150 UPVC FN 6</td>
<td>Ø150 UPVC FN 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>L = 33.69</td>
<td>L = 30.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>4.8%</td>
<td>2.2%</td>
<td></td>
<td></td>
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</tbody>
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WW Line D Long Section - MHD1 to MHA4
## Item 18

### WW Line B3 Extension Long Section

<table>
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<th>Drawn</th>
<th>Invert Levels</th>
<th>Depth to Invert</th>
<th>Ground Level</th>
<th>Pipe Details</th>
<th>Distance</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T7.7</td>
<td>276</td>
<td>10.75</td>
<td>Ø150 UPVC PN 6</td>
<td>L= 27.64</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

### WW Line A3 Extension Long Section

<table>
<thead>
<tr>
<th>Drawn</th>
<th>Invert Levels</th>
<th>Depth to Invert</th>
<th>Ground Level</th>
<th>Pipe Details</th>
<th>Distance</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T6.25</td>
<td>19.77</td>
<td>19.77</td>
<td>Ø150 UPVC PN 6</td>
<td>L= 26.79</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
PROPOSED 52 LOT RESIDENTIAL SUBDIVISION

LOT 1 DP 149776, FOSTER CRESCENT, SNELLS BEACH

ENGINEERING REPORT

Project Reference: 13841
Date: 21 March 2018

LDE LTD
WHANGAREI | WAIKATO | NORTH SHORE | AUCKLAND | SHROPSHIRE | NAPIER
www.lde.co.nz
1 PROJECT DESCRIPTION

LDE Ltd were engaged by Prime Property Group Limited to undertake the civil infrastructure design for a proposed residential development at Lot 1 DP 149776, Foster Crescent, Snells Beach. The subject site is located to the southwest of Snells Beach extending down to the Mahurangi River Estuary to the north. Figure 1 shows the site location in relation to Snells Beach township.

Figure 1 - Site location (Google Maps).

The proposed development involves a subdivision creating 52 new residential lots with areas between 530m² and 830m². The balance of the property is to be utilised for access to the residential lots, treatment of stormwater runoff and providing water and wastewater connection for the development. The proposed scheme plan is shown in Figure 2.
This report presents the proposed design for the civil infrastructure servicing the development including access, proposed earthworks, stormwater management systems, wastewater management and water supply.

2 ACCESS

Access to the development will be from the end of Foster Crescent. The road currently ends in a cul-de-sac near the southeast corner of the site. It is proposed to extend the road [Road A] into the subject development to service the new residential lots. A link road [Road B] is proposed from the cul-de-sac head joining back onto the main alignment which will provide access to the lots on the western side of the development. All lots will have individual vehicle crossings from one of the proposed roads.

A footpath is proposed to be installed along both sides of Road A through to the cul-de-sac. Road B will have a footpath on one side only. The proposed footpath will have connections to the walking track along the esplanade reserve as well as the footpath to the school on Dawson Road.
3 STORMWATER MANAGEMENT

3.1 Site Description

The subject site is 4.638ha located on a north facing ridge to the west of Snells Beach. The ridge has a moderate slope down to the Mahurangi Harbour to the north. The site is currently grassed with no existing impermeable areas. A topographical survey of the site is shown in Figure 3 below.

Stormwater runoff from the site drains into two flow paths running through the site. Both flow paths extend northeast and discharge into a small degraded wetland at the lowest point of the site. From the wetland stormwater runoff drains into the Mahurangi Harbour. A small manmade pond some 10m in diameter is located on the upper slopes of the site and is used for watering stock.

Figure 3 - Topographical survey plan of the site.
An accessway servicing the adjacent properties runs along the southern and western boundaries of the site. An open drain extends along this accessway collecting runoff from the accessway and the upstream catchment. Two culverts pass under this accessway which currently discharge into the two flow paths through the site. The existing culvert diameters and associated catchment area are shown in Table 1. Flows from these upper catchments shall be considered in the stormwater network design within the site.

Table 1 - Existing culvert summary.

<table>
<thead>
<tr>
<th>Culvert ID</th>
<th>Pipe Diameter</th>
<th>Catchment Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culvert UA</td>
<td>450 mm</td>
<td>27,335 m²</td>
</tr>
<tr>
<td>Culvert UB</td>
<td>300 mm</td>
<td>17,175 m²</td>
</tr>
</tbody>
</table>

We consider that stormwater attenuation on this site is not required as runoff from the site is discharged directly into the Mahurangi Harbour. As such, there is no substantial increase in the risk of flooding or inundation of the surrounding properties from the creation of new impervious areas within the site. The entire stormwater network servicing the site will be constructed during the development of the site and has been designed allowing for the impermeable areas created as well as the increase in rainfall due to climate change.

Stormwater treatment will be provided for runoff from impermeable surfaces within the road reserve in accordance with Council requirements. Details of this are provided in Section 3.3 below.

### 3.2 Design Considerations

Accordingly, the stormwater network has been designed generally in accordance with the guidance provided in Auckland Council’s Technical Publication 10 “Stormwater management devices: Design guidelines manual”. Specifically, design principles from TP10 used in this design are:

- Overland flow disposal shall mimic as far as possible the natural drainage process of the area.
- Modification to any existing drainage patterns shall be kept to a minimum.
- Overland flows shall not be discharged directly into streams from a piped system.
- Impervious areas shall be kept to a minimum.

The design presented in the following subsections of this report for the proposed development complies with the Auckland Council requirements described above.

Due to the small catchment size, a concentration time of 10 minutes has been used in this design.
3.2.1 Rainfall Data

HIRES V3 rainfall data for the site was used in the design. In accordance with Auckland Councils Stormwater Code of Practice Clause 4.2.10 the rainfall data has been factored to allow for increases in intensity and frequency of rainfall events due to climate change. The factors applied are shown in Table 2.

<table>
<thead>
<tr>
<th>Design Storm</th>
<th>Increase for Climate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year ARI Rainfall</td>
<td>13.2 %</td>
</tr>
<tr>
<td>100-year ARI Rainfall</td>
<td>16.8 %</td>
</tr>
</tbody>
</table>

3.2.2 Geotechnical Assessment

The geotechnical investigation and report for the site undertaken by LDE Ltd indicates that the site is underlain by stiff to very stiff clay and silt residual soils over mudstone. At the time of investigation, groundwater was generally found at this residual soil/mudstone interface at some 1.8m to 3.0m depth.

The underlying soils have been assessed as SCS Group C soils as defined in Table 3.2 of Auckland Councils Technical Publication 108. As such, the seepage rate of these soils is considered poor and for this reason infiltration is not considered suitable for the site.

The runoff coefficients used in this design are shown in Table 3 below. They are generally in accordance with those outlined in the NZ Building Code E1.

<table>
<thead>
<tr>
<th>Surface Type</th>
<th>Runoff Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grassed or landscaped areas</td>
<td>0.40</td>
</tr>
<tr>
<td>Impermeable areas</td>
<td>0.95</td>
</tr>
<tr>
<td>Road pavement</td>
<td>0.95</td>
</tr>
</tbody>
</table>

3.3 Stormwater Treatment

3.3.1 Design Considerations

To meet stormwater quality control requirements, stormwater treatment devices were sized using Water Quality Flow (WGF) calculations as outlined in TR2013:035 “Auckland Unitary Plan stormwater management provisions: Technical basis of containment and volume management requirements” Appendix C. This provides a tested methodology for reliably sizing treatment devices.
that are sized on water flow rates rather than a Water Quality Volume (WQV) basis and overcomes shortcomings recognised in TP10 guidance.

Swales are the only standard stormwater treatment practice in TP10 that are sized based on a WQF rather than a WQV. In this regard, TP10 requires calculating the WQF from the peak flow from 1/3 of the 24 hour 2 year ARI rainfall event using TP10B methodology. Substantial anecdotal evidence exists that swales and other such devices [such as proprietary filters] which are sized according to this flow rate are substantially oversized and treat considerably more of the annual runoff than devices sized to capture the WQV.

TP35 Appendix C undertakes an analysis designed to determine the percent of annual rainfall captured by treatment devices sized according to the TP10 WQV and the WQF that correlates with the same percent of annual rainfall as the WQV. The analysis and data can be reviewed in the TP35 document however the conclusions are as follows.

1. Volume based devices sized to capture a WQV based on the depth of 1/3 of the 24 hour 2 year ARI rainfall event can be expected to capture the runoff from 90% of the annual rainfall volume.
2. Flow based devices sized to match a WQF based on the peak intensity from the 1/3 of the 24 hour 2 year ARI rainfall event capture nearly 100% of the annual rainfall volume.
3. Flow based devices sized to match a WQF based on 10mm/hr rainfall intensity can be expected to capture the runoff from 90% of the annual rainfall volume.

The above analysis demonstrates using a 10mm/hr water quality flow calculation for flow-based devices provides the equivalent to 90% of the annual rainfall capture required by TP10. Therefore, the rainfall intensity of 10mm/hr has been adopted to determine the WQF from the new impermeable areas in this development.

3.3.2 Treatment Devices

It is proposed to install two Stormwater380 Stormfilters to provide treatment for runoff from the development. The development has been divided into two catchments (A and B) which generally follow the alignment of each road.

The stormwater filters were sized assuming the upstream catchment was not treated. Although the upstream catchment is collected into the same ppa network, the concentration time is larger therefore we consider that the rainfall that falls on the road areas within the site will be treated before the flows from the upstream catchment reach the filters.
Due to site constraints it is impractical to split flows from the road areas and residential areas. Therefore, the filters have been sized for flows from both areas even though treatment is only required for impermeable surfaces in the road reserve.

From a design rainfall intensity of 10mm/hr, the design water quality flows for catchment A and B are 28.9 L/s and 41 L/s respectively. From design guidance available from Stormwater360, Stormfilter A requires 21 cartridges to treat the design flow, and Stormfilter B requires 20 cartridges to treat the design flow.

Both stormfilters are to be located at the base of the site and discharge to a common outlet. They are located in a utility reserve such that access will be readily available for maintenance. Their layout and subject catchments can be seen in the civil drawings for the site.

3.4 Network Design

The stormwater network within the site has been designed in accordance with Auckland Council’s Stormwater Code of Practice.

Design flows have been determined using the rational method. A catchment plan is provided in the construction drawings for the site.

It is proposed to collect and pipe the upstream flows coming from the two culverts extending under the neighbouring accessway. Stormwater from road reserve areas will be collected in a series of catchpits. Each lot will be provided with a connection for discharge of collected impermeable surfaces within each lot.

It is proposed to discharge treated stormwater into the existing wetland at the base of the site. Two outlets are proposed, one for Stormwater Line C and one for the rest of the site. Stormwater Line G only receives water from the residential lots located below the road on the northern boundary of the site.

The secondary flow path for the site follows the road alignment through the site to the low point in the road at CH305. Flows are then discharged into the wetland at the base of the site and into the Mahurangi Harbour. A shallow secondary flow path shall be constructed from the upstream culverts through the lots to the road corridor to provide passage for the 100 year peak flows from the upstream catchment.
4 WASTEWATER MANAGEMENT

This section details the existing and proposed wastewater demands for the site and provides recommendations for infrastructure extensions for servicing the proposed development.

There are two wastewater lines currently extending through the property. A gravity line extends through the southeast corner of the site. Due to the location of this pipe above all the proposed lots it is not practical to discharge wastewater into this line. The other line is a Watercare rising main located along the northern boundary of the site. It is some 12m from the boundary in places. A pump station is located on the eastern boundary of the subject site from which this rising main extends across to the treatment ponds on the other side of the estuary.

As the line is the main wastewater line from Snells Beach it is not proposed to relocate it into the road reserve. Its location has been considered in the scheme plan such that a building can be located on those lots and not infringe on the rising main.

4.1 Wastewater Demand

The existing and post development wastewater demands are outlined in Table 4 below. These demands have been calculated using the method outlined in the Watercare Code of Practice for Land Development and Subdivision. Specifically, the following values were used:

- Average demand = 225 L/day/person
- Peak wet weather flow = 1500 L/day/person
- Assumed population = 3 persons/dwelling

<table>
<thead>
<tr>
<th>Wastewater Summery</th>
<th>Dwellings</th>
<th>Persons</th>
<th>Average Residential Demand (L/day)</th>
<th>Peak Residential Demand (L/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Development Demand</td>
<td>52</td>
<td>3</td>
<td>35,100</td>
<td>234,000</td>
</tr>
</tbody>
</table>

4.2 Engineering Recommendations

It is proposed to install a new gravity wastewater network within the proposed development. The network will connect to an existing manhole located near the pump station on the eastern boundary of the site. 150mm PVC pipes are proposed throughout the development.

The layout of the proposed network can be seen in the civil drawings for the development. It has been designed in accordance with Watercare’s Code of Practice.
5 POTABLE WATER SUPPLY

This section details the existing and proposed water supply demands for the site and provides recommendations for infrastructure extensions for servicing the proposed development.

From Auckland Council GIS there does not appear to be any existing water supply connections for the site. The existing water supply network terminates at the end of Foster Crescent. This network will be extended into the development. It is also proposed to extend a link main through from Cornell Circle network to provide a loop connection for the development. This link main will extend through the lot where the wastewater pump station is located.

A fire hydrant is located at both these connection locations on which flow testing was undertaken. The results of the flow testing are appended to this report.

5.1 Water Supply Demand

The post development demand is outlined in the table below. This demand has been calculated using the method outlined in Watercare Code of Practice for Land Development and Subdivision. Specifically, the following values were used.

- Average demand = 250 L/day/ person
- Peak residential demand factor = 1.5
- Assumed population = 3 persons/dwelling

<table>
<thead>
<tr>
<th>Water Supply Summary</th>
<th>Dwellings</th>
<th>Persons</th>
<th>Average Residential Demand</th>
<th>Peak Residential Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Development Demand</td>
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<td>158</td>
<td>39,000</td>
<td>68,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>[L/day]</th>
<th>[L/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>0.451</td>
<td></td>
</tr>
<tr>
<td>Peak</td>
<td>0.677</td>
<td></td>
</tr>
</tbody>
</table>

5.2 Engineering Recommendations

This demand can be satisfied through an extension of the council water supply network through the proposed development. A 100mm main shall extend along each of the proposed roads, with a 50mm rider main located on the opposite side of the road to reduce the number of lot connections extending under pavement areas. The proposed network alignment can be seen in the civil drawings for the development. All works are to be completed in accordance with Watercare’s Code of Practice.
6 FIREFIGHTING WATER SUPPLY

We consider that the subject property has a firefighting water supply classification of FW2 from PAS 4509:2008 Table 1. Accordingly, one fire hydrant is required within 135m of each property with a secondary fire hydrant located within 270m of the property.

It is proposed to install two new fire hydrants within the development to provide sufficient firefighting water supply. The location of these hydrants are shown in the civil drawings for the development.

7 EARTHWORKS

The proposed earthworks are to be undertaken within Auckland Council’s earthwork season and during periods of fine weather. The subject earthworks include installation of erosion and sediment control devices, bulk site grading, topsoil spreading with grass seeding and mulching.

The earthworks areas and volumes are calculated using AutoCAD Civil 3D and are based on the finished surface levels. The earthworks are estimated to disturb some 19,000m$^3$ with total volumes as shown in Table 9 below. Cuts and fills of up to 3.0m are proposed for the site.

<table>
<thead>
<tr>
<th>Earthworks Summary</th>
<th>Proposed Cut</th>
<th>Proposed Fill</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Volume</td>
<td>7,100m$^3$</td>
<td>6,050m$^3$</td>
<td>1,050m$^3$ [CUT]</td>
</tr>
</tbody>
</table>

The earthworks volume given is solid measure that includes any potentially unsuitable material that cannot be re-used as fill on the site.

The material within the swampy land extents is not considered to be suitable for reuse on site therefore the balance of 1,050m$^3$ excess cut has been allowed for disposal of this unsuitable material off site.

8 EROSION AND SEDIMENT CONTROL

8.1 General

In accordance with industry best practice and resource consent requirements, implementation of erosion and sediment controls for the earthworks operation will be undertaken during the construction works.

Erosion and sediment control and site stabilisation during the earthworks will be undertaken in accordance with the methodologies of Auckland Council’s GD005. Earthworks undertaken in
Plan according to these guidelines will act to minimise and/or mitigate any adverse environmental effects of sediment discharge during the works through appropriate use and design of erosion and sediment control technique and measures.

The proposed erosion and sediment control methodology is detailed in the following section and on the construction drawings. It is noted that the methodology may be subject to change depending on the Contractor's construction operation and phasing, which will be discussed with Council at the time of works.

A qualified and experienced engineer will be appointed to monitor the sediment control measures on a regular basis (weekly) and after every significant rainfall event to ensure that the measures are being maintained to the correct standard and are in accordance with the erosion and sediment control plan.

8.2 Proposed Control

The proposed erosion and sediment control measures are as follows:

- Sediment Retention Pond
  A sediment retention pond will be installed as per the erosion and sediment control plan in the construction drawings. The sediment pond has been designed for a maximum catchment of 33,200m³ and will have a total volume of 680m³. The sediment pond will discharge into the existing discharge point at the base of the site.

- Decant Earth Bund
  A decant earth bund will be installed as per the erosion and sediment control plan in the construction drawings. The decant earth bund has been designed for a maximum catchment of 3,000m³ and will have a total volume of 32m³. The decant earth bund will discharge treated water into the clean water bypass channel extending through the site.

- Clean Water Diversion Channels and Bunds
  The upper catchment shall be collected and bypass the sediment control devices. The channel shall extend from the culverts under the neighbouring accessway to the eastern boundary of the site and along this boundary to the discharge point at the base of the site. A bund shall be constructed along the upstream side of the channel to prevent dirty water entering the channel. The channel shall be lined with a suitable geotextile lining to reduce the risk of erosion and scour of the channel throughout construction. The diversion channel has been sized for the 20 year rainfall event.

- Contour Drains
  Contour drains shall be installed at 30m intervals across the earthworks site as shown on the erosion and sediment control plan in the construction drawings.
Temporary Culvert Crossing
A temporary culvert crossing shall be installed in the clean water diversion channel such that construction vehicles from Foster Crescent can enter the site without disturbing flows in the clean water bypass channel. Any flows in the channel are to be pumped past the culvert during installation and removal of the culvert. The temporary culvert has been sized for the 20 year rainfall event and is to be installed as shown in the erosion and sediment control plan in the construction drawings.

Dirty Water Diversion Bunds
Each earthworks catchment will have a dirty water diversion bund constructed around its extents to collect and direct stormwater runoff from the earthworks area to the sediment control devices. These diversion bunds are shown on the erosion and sediment control plan in the construction drawings and have been sized for the 20 year rainfall event.

Stabilised Construction Access
A stabilised construction access shall be installed at the entrance to the site from Fosters Crescent. The position of the construction access will be confirmed onsite with the contractor at the time of works.

Retention of existing vegetated areas
Only those areas beneath proposed earthworks shall be stripped of vegetation and topsoil to minimise the amount of earth exposed at any one time.

Site Stabilisation
Site stabilisation will reduce the time that bare earth is exposed to erosive forces and ability for generation of sediment laden runoff. Penmeter controls will remain in place until sufficient stabilisation is achieved over the site. Once subgrade levels are achieved, progressive site stabilisation will be undertaken and shall include the following:

- Placement of topsoil, grass seeding and mulching to establish grass cover over development lots and berms.
- Placement of roasting aggregate over the accessway as soon as practicable.
9 OTHER CONSIDERATIONS

This report has been prepared exclusively for Prime Property Group Limited with respect to the particular brief given to us. Information, opinions and recommendations contained in it cannot be used for any other purpose or by any other entity without our review and written consent. LDE Ltd accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

This report was prepared in general accordance with current standards, codes and practice at the time of preparation. These may be subject to change. This report should be read in its entirety to understand the context of the opinions and recommendations given.

For and on behalf of LDE Ltd

Report prepared by:

[Signature]
Jamie Simson
BE(Hons)
Civil Engineer
### Catchment Assessment

**Client:** Prime Property Group Ltd  
**Project:** 52 Lot Residential Subdivision  
**Address:** Rosier Crescent, Shelly Beach  
**Br.:** JS  
**Data:** 01/05/2018  
**By:** AR  
**Date:** 01/05/2018

**Planning Committee**  
06 August 2019

---

#### Assumptions
- Lot impermeable areas are collected and discharged to primary network through its connections.
- Lot permeable areas drain to road reserves and are collected by catchpits.

#### Rainfall Intensities

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<th>Event</th>
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**Notes:**
- **Road pavement**
- **Utt permeable**
- **Total Area**
- **Average Coefficient**
- **Depth**
- **Depth**
### Attachment A

**Item 18**

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**Line B**

| **SW NH** | Catchments | G<sup>a</sup> | G<sup>ac</sup> | Pipe Size | Pipe Slope | n | Pipe Area | V m<sup>3</sup>s | G<sub>Actual</sub> | % Check |
| From | To | L/s | L/s | | | | m<sup>2</sup> | m<sup>3</sup><sup>s</sup> | m<sup>3</sup> | |
| ... |

**Line C**

| **SW NH** | Catchments | G<sup>a</sup> | G<sup>ac</sup> | Pipe Size | Pipe Slope | n | Pipe Area | V m<sup>3</sup>s | G<sub>Actual</sub> | % Check |
| From | To | L/s | L/s | | | | m<sup>2</sup> | m<sup>3</sup><sup>s</sup> | m<sup>3</sup> | |
| ... |

**Line D**

| **SW NH** | Catchments | G<sup>a</sup> | G<sup>ac</sup> | Pipe Size | Pipe Slope | n | Pipe Area | V m<sup>3</sup>s | G<sub>Actual</sub> | % Check |
| From | To | L/s | L/s | | | | m<sup>2</sup> | m<sup>3</sup><sup>s</sup> | m<sup>3</sup> | |
| ... |

**Line E**

| **SW NH** | Catchments | G<sup>a</sup> | G<sup>ac</sup> | Pipe Size | Pipe Slope | n | Pipe Area | V m<sup>3</sup>s | G<sub>Actual</sub> | % Check |
| From | To | L/s | L/s | | | | m<sup>2</sup> | m<sup>3</sup><sup>s</sup> | m<sup>3</sup> | |
| ... |

**Line F**

| **SW NH** | Catchments | G<sup>a</sup> | G<sup>ac</sup> | Pipe Size | Pipe Slope | n | Pipe Area | V m<sup>3</sup>s | G<sub>Actual</sub> | % Check |
| From | To | L/s | L/s | | | | m<sup>2</sup> | m<sup>3</sup><sup>s</sup> | m<sup>3</sup> | |
| ... |
Divide catchment into two storm filters.

\[ A = 24.9 \, \text{L/s} \]
\[ B = 41.0 \, \text{L/s} \]

Storm filter unit capable of treating 1.42 L/s.

Therefore:

\[ A = \sqrt{\frac{24.9}{1.42}} = 21 \, \text{cartridges} \]
\[ B = \sqrt{\frac{41.0}{1.42}} = 29 \, \text{cartridges} \]

Adopt suitable sized chamber for number of cartridges to be located in utility reserve at base of site.
OPEN DRAIN SIZE CALCULATION SHEET

Client: Prime Property Ltd
Project: Foster Crescent Subdivision
Address: Foster Crescent, Orewa Beach

Project No.: 13641

By: JG  Date: 13/03/2015  Checked: AH  Cleared: 13/03/2015

1 Objective
The objective of this calculation report is to determine the required open drain dimensions (including longitudinal gradient) in order to transmit a flow of water for a specific storm event return period.

2 Methodology
This objective is achieved by use of the Manning's formula by iteration by calculation of velocity and cross-sectional area for an entered depth. The flow is then calculated as the product of cross-sectional area and velocity. A suitable freestream is considered.

3 Analysis
The following analysis shall be carried out using a trial and error method in order to determine the provisional flows that a specific set of dimensions will provide.

4 Conclusion
Check Calculated Q Capacity > Designed Q Requirement

Example Section

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Attachment A
## G005 Sediment Retention Pond Design

**Client:** Prime Property Group Ltd  
**Project:** 50 Lot Residential Subdivision  
**Address:** Foster Crescent, Snells Beach  
**Project No.:** 12841

### 1 Site Characteristics

| Catchment Size | 32000 m² | CDP catchment should be limited to 50ha  
| Catchment Length | <200m |  
| Catchment Width | <100m |

### 2 Pond Sizing

| Required Pond Volume | 2% | 504 m³ |  
| Pond Length |  
| Pond Width | 6 m |  
| Pond Depth | 2 m |  
| Length to Width Ratio | 1:2 |  
| Inlet Diameter | 3 m |  
| Perimeter Diameter | 2 m |  
| Pond Volume | 650 m³ |  

Adopt a 20m long x 6m wide x 2m deep Sediment Retention Pond with a total of 650m³ volume.

### 3 Decants

| Recommended SDR Decant Flow Rate (L/sec/ha) | 3.56 L/sec/ha |  
| Standard T-Bar Decant flow rate | 4.5 L/sec |  
| Required number of T-bar decants | 3 |  

Adopt 3 T-bar decants in SDR for the recommended 9.96 L/sec flow rate.

| Inlet Storage Level (First T-Bar) | 0.5 m |  
| Required Dead Storage (30%) | 207 m³ |  

Install first T-bar decant system 0.5m above SDR base.

| Second Decanting T-bar range | upper 60% of live storage |  
| Third Decanting T-bar range | upper 30% of live storage |  

Install Second T-bar decant system to operate in upper 60% of live storage.
1 Site Characteristics

- Catchment Size: 9184 m²
- Catchment Length: >200m
- Catchment Length: <18%

2 DEB Sizing

- Required DEB Volume: 1% = 31 m³
- DEB Length: 65 m
- DEB Width: 2 m
- DEB Depth: 3 m
- Length to Width Rate: 1:8
- DEB Volume: 36 m³

   Excluding Batteries:

   - Adopt a 60m long x 3m wide x 3m deep Decanting Earth Bund with a total of 36m³ volume

3 Decant

- Recommended Decant Flow Rate: 0.99 L/sec
- Required: 10mm T-Bar decant holes for flow rate: 48 holes

   Adopt 42 holes (10mm diameter) evenly spaced across the 100mm diameter T-bar decant to achieve the recommended 0.99 L/sec flow rate.

- Dead Zone Level [T-Bar Level]: 6.8 m
- Dead Zone: 9.8 m

   T-Bar required to be able to float at full storage level
   Permanent Storage (30% DEB storage)

   Install T-bar decant 0.8m above Decanting Earth Bund base for a permanent storage of 3.6m³

4 Decanting Earth Bund Levels

- Spillway: 2.1m
- Tap of Bund: 2.25m
- Primary Overflow: 3m
- Dead/Decant: 0.6m
- Base: 3m
Attachment A
1 Dirty Water Diversion Catchment Characteristics

20yr Storm Rainfall Intensity

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<th>Surface 1</th>
<th>Surface 2</th>
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<td>28000 m²</td>
<td>0.7</td>
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<tr>
<td></td>
<td>2500 m³/s</td>
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<td>0.50 m³/s</td>
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2 Dirty Water Diversion Characteristics

Average Diversion Grade
Diversion Drain Batter (A)
Diversion Drain Batter (B)
Diversion Drain Batter (C)
External Diversion Slope

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<tr>
<td>Average Diversion Grade</td>
<td>10%</td>
<td>9%</td>
<td>5%</td>
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<tr>
<td>Diversion Drain Batter (A)</td>
<td>1</td>
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<tr>
<td>Diversion Drain Batter (B)</td>
<td>2</td>
<td>0.06 m</td>
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3 Dirty Water Diversion Capacity

Total Depth
Div. Water Diversion Velocity
Div. Water Diversion Flow Rate

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<tr>
<td>Total Depth</td>
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<tr>
<td>Div. Water Diversion Velocity</td>
<td>5.91 m/s</td>
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</tr>
<tr>
<td>Div. Water Diversion Flow Rate</td>
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</table>

Adopt a Clean Water Diversion Depth of 0.3m to accommodate the required 20yr storm flow rate of 0.590 m³/s.

Additional 300mm required for 50000 30/60mm diameter drainpipes.

4 Dirty Water Diversion Details

A

<table>
<thead>
<tr>
<th>Total Height of Diversion</th>
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<td>Required Flow Depth</td>
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<td>Batter B</td>
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Appendix 5 - Soil Contamination PSI Report
BARKER & ASSOCIATES

SOIL CONTAMINATION PRELIMINARY SITE INVESTIGATION REPORT

FOR THE PROPOSED SUBDIVISION AT FOSTER CRESCENT, SNELLS BEACH, WARKWORTH

Project Reference: 13641:Contam
16 October 2018

LDE LTD
WHANGAREI | WARKWORTH | NORTH SHORE | AUCKLAND | GIBBORNE | NAPIER | WHANGAREI
wn-386-012
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Appendix B: Search of Council Records
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Appendix D: Certificates of Title
Appendix E: Site Assessment Photographs
Appendix F: Site Walkover Assessment Form

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Project Ref: 13041 Contam
Page 2
15/10/2013
EXECUTIVE SUMMARY

A contamination preliminary site investigation (PSI) has been conducted for the site located at Foster Crescent, Shells Beach, Warkworth, legally described as Lot 1 DP 149776.

The objectives of the investigation was to identify any potential sources of contamination from past and present land use activities at the site and surrounding area to determine the contamination status of soils at the site, and to subsequently assess compliance with the NES in regards to the proposed subdivision.

The work completed as part of the investigation included a desktop review of site ownership and district and regional council records, review of historic aerial imagery showing the property, a walkover inspection, and review of geotechnical data specific to the site.

The results of the investigation indicate that a very low potential for ground contamination exists within the property and that the NES does not apply. We consider that a detailed investigation of soil contamination at this property is not required and that the proposed development of the land is unlikely to pose a risk to human health.
**INTRODUCTION**

Land Development & Exploration Ltd has been engaged by Barker & Associates to undertake a contamination PSI of the land parcels legally described as Lots 1 DP 149776, currently zoned for large lots, located at Foster Crescent, Snells Beach, Warkworth.

Our client is proposing to rearrange and subdivide the existing legal lot boundaries of Lot 1 DP 149776, creating 57 lots (including the 2 access lots) in total at the site. LDE considers that the proposed subdivision and change of use of the land are relative to Regulation 5(E) and (D)6 respectively, of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES) Regulations 2011.

This investigation has been carried out in general accordance with the *Contaminated Land Management Guidelines No.1: Reporting on Contaminated Sites in New Zealand* (Revised 2011) and *Contaminated Land Management Guidelines No.5: Site Investigation and Analysis of Soils* (revised 2011).

The scope of the investigation is consistent with the LDE letter of engagement for the PSI to Barker and Associates, Reference 13641, dated 11 September 2018. The PSI includes the review of available historic aerial photographs showing the site, site specific council records, and a walkover/inspection of the site.

The objectives of the investigation were to:

- Identify any potential sources of contamination from past and present land use activities at the site which are listed on the Ministry for the Environment's [MfE] Hazardous Activities and Industries List [HAIL] [MfE, 2011]
- Assess compliance with the soil contaminant standards [SCS] for a ‘Residential 10% productive’ land use.

**SITE DETAILS & SETTING**

**1.1 Proposed Site Development**

Our client is proposing to subdivide the legal lot boundaries of Lot 1 DP 149776, creating 58 lots (including the access lots) at the site.

Residential dwellings are intended for proposed Lots 1 to 53, whilst proposed Lot 60 and 81 will comprise the access way, proposed Lots 54 and 54 will comprise accessways to vest, and proposed Lot 53 will comprise a local purpose utility reserve to vest. Excluding proposed non-residential lots, the lot sizes range from 530m² at proposed Lots 29 to 33, to 836m² at proposed Lot 21.
Refer to Figure 1 and Appendix A for the proposed subdivision scheme plan.

Figure 1: Proposed scheme plan supplied by CSR Surveyors Ltd.

1.2 Site Description

The site is located approximately 500m south of the central Snells Beach township, on the western side of the main Mahurangi East ridgeline (Figure 2). The site covers an area of 4.64ha, and is accessed by Fostar Crescent to the east, at the southern corner of the site. Auckland Council zones the site as Residential – Large Lot Zone, in both operative and unitary plans.

The site comprises generally undulating, rolling ground, and has a gentle rolling contour down to the northwest, at the lowest point of the site it bounds the upper estuary (Figure 4). The vegetation covering is consistent with grassland and light wetland areas.
Figure 2. Annotated location map showing the site. Source: LINZ Data Service.

Figure 3. Annotated site plan. Source: Google Maps. Approximate area of investigation shown by red boundary.
Figure 4: Topographic map with contours. Source: LINZ. Red site boundary line approximate indicator only. Contour interval of 20 meters.

Figure 5: Topographic map with Key areas. Source: Auckland Council GeoMaps.

1.3 Hydrology

The northern portion of the site is bound by Mahurangi Harbour estuary, with Auckland GeoMaps (GIS) indicating overland flow paths overlaying the site (Figure 5).
A man-made pond is present in the mid-southern portion of the site, shown in figure 3. The Auckland GIS shows there are no other mapped water courses within 500m of the site.

LDE’s previous geotechnical report with eleven test pits of the site indicated watertable was encountered from 0.2m to 3.4m depth.

![Figure 6: Map of site showing overland flow paths in dark blue. Site outlined in pale blue. Source: Auckland Council GeoMaps Public (GIS)]](image)

1.4 Geology

The New Zealand Geology Web Map by GNS science identifies the site as being underlain by ‘Mangakahia Complex’, described as 'structurally complex units of tectonically intercalated micaceous sandstone and mudstone, siliceous mudstone and minor micritic limestone'.

**PRELIMINARY SITE INVESTIGATION**

An 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 reviewed in order to establish the history of the site:

- ‘Search of Council Record Contaminated Sites Enquiry Report’ provided by the Auckland Council [AC].

---

1.5 Search of Council Records

The Auckland Council’s (AC) ‘Contaminated Sites Enquiry Report’ dated 28th September 2018 has been reviewed.

Contamination, Air and Noise Technical Office states there is no contamination information help by the Auckland Council.

Refer to Appendix B for a copy of the AC provided document.

1.6 Historic Aerial Imagery

Aerial images from 1966 to 2017 have been reviewed. Copies of these photographs are presented in Appendix C. A summary of our review of these images is as follows:

1968 Photograph:

![Image of 1968 Photograph](image-url)

Figure 7. Source: Retrolens, taken 14th October, 1966. Retrieved 21st September, 2018.

The site has a generally uniform vegetative cover, with some darker shading along the eastern portion indicating wetter areas. Those marking are consistent with the overland...
flowpaths established by Auckland Council Geomaps (Figure 6), with allowance for some path change over five decades.

1973 Photograph:

![1973 Photograph](image)


Southern area of site shaded darker, likely due to paddock boundaries with different grass length. Does not indicate horticultural activity.
1982 Photograph:


Small areas near centre of site likely to be ponding water because of low lying area and shade consistent with other water bodies pictured, could possibly be soil disturbance. Residential land east of the site becoming more built up.

2011 Photograph:

Site topography and vegetation variance more prominent. Vegetation along overland flow paths consistent with estuarine vegetation north of site. Paler patches alongside overland flow paths could be dryer grass on water banks. School established south of site.

2017 Photograph:


Manmade pond evident near centre of site. Potential soil disturbances noted on a minor scale.

1.7 Certificates of Title

The Certificates of Title (CoT) for Lot 1 DP 149776 were included in the NES search of council records provided to LDE. The CoT for each lot was issued on 4 October 2018 and shows Foster Crescent Property Limited as the proprietors.

Refer to Appendix D for a copy of the CoT for Lot 1 DP 149776.

1.8 Review of Recent LDE Geotechnical Investigation

Geotechnical testing was undertaken by LDE in November 2018. This included the soil logging of fifteen hand augened boreholes to the depth of 3m to 5m, and eleven test pits to a depth of 4.5m, distributed evenly throughout the site (Figure 12).
Test Pit 3 encountered a buried stream flowing in a 15cm tunnel infilled with organics, approximately 0.85m below ground. Test Pit 11 encountered grey cohesive fill material overlaying topsoil in the top 0.2m of ground.

The test logs recorded topsoil extending from 0.0 to 0.4 meters overlaying residual soil, before reaching Mangakahia Complex. Two test pits (9 and 10) have no topsoil, instead alluvium from 0.0 to at least 0.4m to 1.2m below ground level. Test pit 11 includes both topsoil to 0.2m and alluvium to 2.2m. No uncontrolled fill was encountered during the investigation.

Figure 12: Extract from LDE geotechnical report showing layout of geotechnical test pits/boreholes. The test pits are generally laid out evenly over the site.

**SITE WALKOVER INSPECTIONS**

A site walkover inspection was undertaken on 10th October 2016 by LDE. No HAIL activities were identified during the site walkover assessment.
The site was covered by pasture and some gorse (Figure 13), with stock grazing on the site. A small dam was identified as well as surface flows of water. The surrounding land was used for grazing and residential land use. No further notable features were present.

Figure 13. Photo of site taken from northern end of site facing east, showing gorse, only present on the edge of the site.

Photographs taken during the site walkover inspections are shown in Figures 14 to 15 of Appendix E.

Refer to Appendix F for the Site Walkover Assessment Form.

**CONCEPTUAL SITE MODEL**

1.9 Hazardous Substances and Potential Contaminants of Concern

Our PSI investigation did not identify any hazardous substances associated with the former or current land use at the site that we consider a potential risk to human health.

A human health risk can only occur where there is a complete pathway between contaminant sources and a receptor, as there is no HAIL identified, a conceptual site model is not relevant to this investigation.
PSI Conclusions and Recommendations

Our PSI has found that the site has been used for stock grazing as early as 1966 until 2018.

The proposed development will include subdivision whereby changing the land use.

We consider that a HAIL activity is less then likely to have occurred on the site and therefore the NES does not apply to this land. As such, a further detailed site investigation (DSI) is not considered necessary and we consider it is highly unlikely that there will be a risk to human health if the proposed development occurs at the site.

Therefore we recommend that Auckland Council approve the subdivision at the site.

Report Limitations

This investigation presents a preliminary site assessment of the potential for ground contamination prepared exclusively for Barker and Associates with respect to the particular brief given to us.

Information, opinions and recommendations contained in it cannot be used for any other purpose or by any other entity without our review and written consent. Land Development & Exploration Ltd accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report by any third party.

Opinions given in this report are based on a review of existing data, evidence gathered during the site walkover and anecdotal information.

There is still some possibility that contaminating activities have taken place or contamination at the site is in excess of that described in this report and we should be contacted immediately if the conditions are suspected to differ from that described.

For and on behalf of LDE Ltd

Project Ref: 13941 Contam

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10/10/2013
Attachment A

Item 18

Anastasia Zaleta
Environmental Scientist

Jeff Davenport
Senior Environmental Scientist

Goerg Winklar
MIPENZ, CPEng
Principal Engineering Geologist-Geotechnical
Engineer

LDE Contaminated Land Assessment Report
Contamination Preliminary Site Investigation Report

Report prepared by:
Report reviewed by:

Report authored by:
APPENDIX A: SUBDIVISION SCHEME PLAN
APPENDIX B: SEARCH OF COUNCIL RECORDS

Dear [Name],

Thank you for your request for any available site contamination information held within the Environmental Health Unit of the Planning and Compliance Services Department (PCS).

Council’s regulatory records indicate that there could be the potential for historic and/ or current land use activities on or adjacent to this site that falls within the Hazardous Activities and Industries List (HAIL) published by the Ministry for the Environment.

Lot 1 DP 145718 Foster Crescent, Waitakere there may be site contamination information to download our records for this site.

Please note that only council’s soil contamination records within the LCS department and GIS may have been checked. There may be other soil contamination information held within:

1. Contaminated Site inquiry team - contaminatedsite@aucklandcouncil.govt.nz

Please note that any soil contamination records within the LCS department and GIS may have been checked. There may be other soil contamination information held within:

2. Contaminated Site inquiry team - contaminatedsite@aucklandcouncil.govt.nz

Kind regards,

Claire

Claire Lacina | Technical Officer - Contamination, Air & Noise
Specialist Input | Resource Consents
Ph: 09 3522021 (ext 460221) | Mob: 021 718 308
Auckland Council, Level 2, 35 Graham Street, Auckland
Visit our website: www.aucklandcouncil.govt.nz

---

Project Ref: 1364 Contam Page 10 10/10/2018
APPENDIX C: HISTORIC AERIAL PHOTOGRAPHS


Attachment A

Item 18
APPENDIX E: SITE ASSESSMENT PHOTOGRAPHS

Figure 14. Photo of site taken facing east.

Figure 15. Photo of site taken from the southern road entrance facing north. Wooden stock loading ramp visible in left of photo.
### APPENDIX F: SITE WALKOVER ASSESSMENT FORM

**PSI/DSI SITE WALKOVER INSPECTION FORM**

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<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEFF DALEWART</td>
<td>10/10/18</td>
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**Client:** RAGLEYS

**Site:** FOSTER'S LUGS

**Any Hazards Identified:** LARGE ROCK

**PRE Used:** Boots/Hand

**Site Information**

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<td>Small Dam</td>
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<table>
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<td>Grazing</td>
<td>Grazing, Reservoir</td>
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**Local Topography**

- Rolling

**Surrounding Environmental Setting**

- Nothing of concern

**Visible Signs of Contamination or Potential Contamination (e.g., spills, leaks, surface staining, absent or increased vegetation, odours)**

- Nil

**Visible signs of areas of fill, stockpiled material, waste, ground disturbance, burnt areas, and former building foundations.**

- Nil

**Presence and location of chemical storage, transfer and waste storage areas.**

- Nil
Appendix 6 - Traffic Impact Assessment
PROPOSED PLAN CHANGE AND RESIDENTIAL SUBDIVISION

FOSTER CRESCENT, SNELLS BEACH

TRAFFIC IMPACT ASSESSMENT
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1 INTRODUCTION

This report addresses traffic related matters associated with a combined Plan Change and resource consent application for a residential subdivision at Lot 1 DP 149776 west of Foster Crescent in Snells Beach. The Plan Change is seeking to rezone the site to Single House zone from Large Lot zone. The proposed subdivision will establish 52 residential lots with two new roads formed to provide access to each lot. It is intended that the new roads will be vested to Auckland Council. Additional access lots are proposed to provide pedestrian connection with adjoining walkways and reserve areas.

The site is located to the south of the Snells Beach retail area and to the west of Mahurangi East Road. Figure 1 shows the general location of the site.

![Figure 1: General Site Location](Source: Google Maps)

The site is located at the western end of Foster Crescent. Vehicle access for the site will be via Foster Crescent with connection to Mahurangi East Road via Iris Street. The existing cul-de-sac turning head on Foster Crescent will be removed with new road carriageway continuing through the proposed subdivision. The legal description of the site is Lot 1 DP149776 and current zoning is Residential – Large Lot as defined in the Auckland Unitary Plan – Operative in part (AUP). The total site area is 4.6384 hectares. Figure 2 shows the site location, surrounding zoning and adjacent road network.
2 EXISTING TRANSPORT ENVIRONMENT

2.1 The Adjacent Transport Network

As noted, the site is located at the western end of Foster Crescent which is a short residential street. Connection between Foster Crescent and Mahurangi East Road is via Iris Street which is also a short residential street. The AUP does not currently provide consistent road hierarchy classification. Mahurangi East Road, to the south of Snells Beach Road was previously classified as Collector road in the Auckland Council District Plan – Rodney Section. Mahurangi East Road to the north of Snells Beach Road was previously classified as a District Arterial road in the District Plan. Current traffic volumes and observed operation would suggest that the previous District Plan road classifications on Mahurangi East Road remain valid.

All vehicle movements to and from the Plan Change and proposed subdivision site will travel via Foster Crescent, Iris Street and Mahurangi East Road. The intersection of Mahurangi East Road and Iris Street is subject to priority Stop control on Iris Street. Figure 3 shows the site location in relation to the adjoining road network.

PROPOSED PLAN CHANGE AND RESIDENTIAL SUBDIVISION
FOSTER CRESCENT, SNELLS BEACH
Foster Crescent has a carriageway width of around 7.8 metres and provides for two-way operation with no marked centre line. A footpath is provided on the southern side of the road and there is kerb and channel on both sides of the road. There are no formal parking controls on Foster Crescent with unrestricted parking available between vehicle crossings. The carriageway is generally level at the southern end with a slight downhill grade to the north of the horizontal curve part way along the road. Traffic volumes on Foster Crescent, to the south of Iris Street are estimated to be in the order of 250 vehicles per day.

Iris Street is approximately 7.8 metres wide between kerbs with a footpath on the northern side of the road. There is a short section of no-stopping markings on both sides of the road at the intersection with Mahurangi East Road with unrestricted parking available elsewhere. Iris Street provides the sole access to and from Mahurangi East Road for properties on Foster Crescent and Corneli Circle. Based on the number of dwellings on these roads traffic volumes on Iris Street are estimated to be in the order of 800 to 900 vehicle per day.

As noted above Mahurangi East Road is considered to function as a Collector road to the south of Snells Beach Road, changing to a District Arterial road to the north of the roundabout. In the vicinity of the intersection with Iris Street the carriageway width is in the order of 10.8
metres with provision for one traffic lane in each direction and a painted flush median. The flush median provides an effective turn bay for right turning vehicles into Iris Street. There is a pedestrian refuge island within the flush median approximately mid-point between Iris Street and Dalton Road. There are no-stopping markings in place along both sides of Mahurangi East Road in the vicinity of intersections with Iris Street and Dalton Road. The Mahurangi East Road carriageway is on a is moderate downhill grade from south to north.

Recorded traffic volumes for Mahurangi East Road are available from the Auckland Transport website. A 2013 traffic count in the vicinity of the intersection with Iris Street recorded an average weekday two-way volume of 5,200 vehicles per day with peak volumes of around 480 vehicles per hour. A more recent traffic count was undertaken in June 2015 at a site to the north of Iris Street. This count was undertaken during a Queen’s Birthday holiday weekend and would not normally be representative of normal traffic demand patterns. Recorded traffic volumes for the June 2015 count were around 5,800 vehicles per weekday and peak volumes of 520 to 570 per hour.

2.1.1 Intersection of Mahurangi East Road and Iris Street

It can be expected that almost all vehicle trips generated by the proposed residential subdivision will pass through the intersection of Mahurangi East Road and Iris Street. The side road of Iris Street is subject to stop control. Figures 4 and 5 below show driver visibility in both directions from the limit line on Iris Street.

![Figure 4: Driver Visibility Looking North along Mahurangi Road from Iris Street](image-url)
Available sight lines at the intersection are considered sufficient for safe intersection operation (refer Section 2.2 for recent crash history).

A traffic survey was undertaken as part of this assessment to gain an understanding of current turning movements at the intersection of Mahurangi East Road and Iris Street. A turning count survey was undertaken on Thursday 11 November 2017. Recorded turning movements for the morning and afternoon peak periods are presented in Tables 1 and 2 below.

<table>
<thead>
<tr>
<th>Time</th>
<th>Mahurangi East Road (North)</th>
<th>Mahurangi East Road (South)</th>
<th>Iris Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Southbound</td>
<td>Right In</td>
<td>Northbound</td>
</tr>
<tr>
<td>0700-0715</td>
<td>18</td>
<td>3</td>
<td>59</td>
</tr>
<tr>
<td>0715-0730</td>
<td>20</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td>0730-0745</td>
<td>21</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>0745-0800</td>
<td>32</td>
<td>5</td>
<td>66</td>
</tr>
<tr>
<td>0800-0815</td>
<td>39</td>
<td>2</td>
<td>74</td>
</tr>
<tr>
<td>0815-0830</td>
<td>47</td>
<td>5</td>
<td>57</td>
</tr>
<tr>
<td>0830-0845</td>
<td>64</td>
<td>2</td>
<td>67</td>
</tr>
<tr>
<td>0845-0900</td>
<td>73</td>
<td>5</td>
<td>89</td>
</tr>
<tr>
<td>0900-0915</td>
<td>44</td>
<td>2</td>
<td>87</td>
</tr>
<tr>
<td>0915-0930</td>
<td>34</td>
<td>6</td>
<td>49</td>
</tr>
<tr>
<td>0930-0945</td>
<td>32</td>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>0945-1000</td>
<td>27</td>
<td>4</td>
<td>44</td>
</tr>
</tbody>
</table>

**Table 1: Mahurangi East Road/Iris Street Intersection – AM Peak**

There is a slight tidal pattern during the morning peak period with the predominant movement being northbound through the intersection. Turning movements to and from Iris Street are mainly left turn out and right turn into the side street. The peak turning demand
recorded was 15 left turn movements from Iris Street or an average of one movement per minute.

<table>
<thead>
<tr>
<th>Time</th>
<th>Mahurangi East Road (North)</th>
<th>Mahurangi East Road (South)</th>
<th>Iris Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Southbound</td>
<td>Right In</td>
<td>Northbound</td>
</tr>
<tr>
<td>1430-1445</td>
<td>69</td>
<td>2</td>
<td>38</td>
</tr>
<tr>
<td>1445-1500</td>
<td>88</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>1500-1515</td>
<td>68</td>
<td>6</td>
<td>112</td>
</tr>
<tr>
<td>1515-1530</td>
<td>61</td>
<td>4</td>
<td>97</td>
</tr>
<tr>
<td>1530-1545</td>
<td>58</td>
<td>11</td>
<td>85</td>
</tr>
<tr>
<td>1545-1600</td>
<td>58</td>
<td>11</td>
<td>47</td>
</tr>
<tr>
<td>1600-1615</td>
<td>57</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td>1615-1630</td>
<td>56</td>
<td>6</td>
<td>54</td>
</tr>
<tr>
<td>1630-1645</td>
<td>58</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>1645-1700</td>
<td>70</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>1700-1715</td>
<td>62</td>
<td>9</td>
<td>51</td>
</tr>
<tr>
<td>1715-1730</td>
<td>84</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>1730-1745</td>
<td>87</td>
<td>14</td>
<td>47</td>
</tr>
<tr>
<td>1745-1800</td>
<td>62</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Peak Hour 1445-1545</td>
<td>276</td>
<td>26</td>
<td>277</td>
</tr>
</tbody>
</table>

Table 2: Mahurangi East Road/Iris Street Intersection – PM Peak

The afternoon peak hour occurs during the school pick-up period. The highest single count (15-minute) is between 3.00pm and 3.15pm for the northbound movement through the intersection. The Snells Beach Primary School is located on Dawson Road a short distance to the north of the subject site. While the peak hour for the intersection is around the end of school period [2.45pm to 3.45pm] the peak turning movements to and from Iris Street occur during a more conventional commuter peak period of 5.00pm to 6.00pm (52 movements to/from Iris Street during school peak, and 74 movements to/from Iris Street during evening commuter peak).

Recorded peak hour volumes from the traffic surveys undertaken align well with summary values taken from the Auckland Transport website for periods in 2013 and 2015. Traffic volumes on Mahurangi East Road are slightly high to the south of Iris Road with peak hour counts of 540 to 560 vehicles per hour to the south and 570 to 600 vehicles per hour to the north.

2.2 Road Safety

A study has been made of the crash records maintained by NZTA for the five-year period 2012 to 2016 inclusive. Also included in the search were the crashes that have been processed and were on file for 2017.

The crash search area covered Foster Crescent, Iris Street and Mahurangi East Road including intersections with Iris Street and Dalton Road. Two crashes were identified as occurring within the defined period and search area. Both crashes were classified as non-injury. The collision diagram and crash listing obtained from this search are attached as Appendix A.

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A crash occurred at the intersection of Foster Crescent and Iris Street in 2012 with a vehicle losing control at the intersection and hitting a fence. The crash occurred at around 1.15pm on a Saturday and alcohol was a reported factor in the crash.

The second reported crash involved an eastbound car on Iris Street colliding with a parked vehicle. The crash occurred in on a Wednesday morning in May 2014 with sunstrike noted as a causal factor.

The reported crash history in the vicinity of the site does not represent a current road safety concern.

2.3 Non-car Based Travel

There are currently limited public passenger transport services available to and from Snells Beach. The Kowhai Connection operated under licence to Auckland Transport provides roughly 2-hourly services linking Snells Beach with nearby settlements and townships including Warkworth, Matakana and Point Wells. There is a privately operated commuter bus service that runs between Snells Beach and Auckland CBD via Warkworth during weekdays. There are currently three morning and three evening services each weekday offered by the operator.

There are no formal on-road cycling facilities in the vicinity of the site and cyclists have to share road space with other road users.

The proposed subdivision includes two new roads which will include footpaths. The new footpaths will connect with Foster Crescent at the cul-de-sac head and there will be footpath connections with the adjacent reserve to the north.

The traffic survey undertaken at the intersection of Mahurangi East Road and Iris Street recorded pedestrian activity at the intersection in addition to vehicle movements. The survey information was collected by video camera over the course of a day and highlighted peak pedestrian activity associated with the start and end of the nearby Snells Beach Primary School on Dawson Road. A summary of observed movement of school children at the intersection is provided below.

- Morning walk to school (8.20 to 9.00am observed activity) – 9 children unaccompanied and 13 children accompanied by an adult
- Afternoon walk from school (3.00 to 3.25pm observed activity) – 8 children unaccompanied and 12 children accompanied by an adult

The observed movement of school related pedestrians at the intersection identified a higher proportion of pedestrians walking along Iris Street rather than crossing Iris Street at the intersection with Mahurangi East Road. Pedestrians walking along Iris Street to and from the school will typically follow available footpaths walking along the northern side of Iris Street and crossing to the footpath on the south/east side of Foster Crescent.
3 THE PROPOSAL

3.1 General Description

A full description of the proposal is included in the application material. The key traffic related aspects of the proposal are outlined below.

- Plan Change to Single House zone with capacity for 52 residential lots
- Two new roads to vest with access to the proposed subdivision via existing cul-de-sac head on Foster Crescent
- Separate pedestrian accessways to vest to connect to existing public walkways
- Connection to existing private accessway (Te Whau Drive) to be retained from proposed new road

Residential lots will generally have direct access to one of the two proposed new roads. One residential will be formed as a rear lot. An excerpt from the proposed subdivision lot plan prepared by C & R Surveyors Ltd is shown in Figure 6 below. The following sections provide a description of the proposed new roads and vehicle access for individual residential lots.
3.2 Lot 60 – Road to Vest

Proposed Lot 60 will form the primary access link for the subdivision. The new road formed by Lot 60 will provide direct vehicle access for 26 to 30 residential lots including one rear lot, each with one vehicle crossing serving the lot. Figure 6 shows the relative alignment of the existing Foster Crescent carriageway and the proposed new road. The connection between existing and proposed road sections will form a horizontal curve with a relative angle of around 105-degrees. The existing shared private access (Te Whau Drive) will have to be adjusted to create a new vehicle crossing off of the new road carriageway. Similarly, existing vehicle crossings for Nos. 1 and 2 Foster Crescent will have to be reconstructed to align with the new road formation continuing into the proposed subdivision.

The design and reconstruction of vehicle crossings for Nos. 1 and 2 Foster Crescent and Te Whau Drive will be subject to consultation with affected property owners and Auckland Transport as road controlling authority. The design of the proposed road to vest, including edge features and carriageway markings and formation will consider the safe and functional operation of the amended vehicle crossings. The design of the new section of road and changes to the existing turning head on Foster Crescent will consider the safe operation of the existing footpath on Foster Crescent and connection with the off-road path linking with the Snells Beach Primary School.

The road reserve created by Lot 60 will be 18 metres wide which is sufficient to provide for traffic lanes, kerbside or indented parking bays, berm strips and footpaths on both sides of the road. Auckland Transport Code of Practice (ATCOP) Drawing Sheet GD004 presents an example cross section for a local road with an overall width of 17 metres.

The proposed road reserve cross section is not defined at this time and development of the new road arrangement including connection with Foster Crescent and internal connections with proposed Lot 61 will be progressed with consideration of AUP and ATCOP requirements and also the Transport Design Manual once operational.

With regard to the development of the proposed new road the following design criteria are noted.

- The general alignment of the new road will support nominal 3.0 metre wide traffic lanes with localised curve widening to accommodate vehicle tracking as necessary, including truck movements associated with servicing and deliveries for the proposed subdivision.
- The vertical alignment of the proposed road is still to be developed but the site topography will support a maximum longitudinal grade of 1 in 8 or 12.5% and allow suitable vertical transitions to flatter profiles at driver decision areas at both ends of the road and at the proposed intersection with a second new road (Lot 61).
- The proposed road reserve provides sufficient width to support the development of vehicle crossings within berm and footpath areas for access to individual residential lots.
- The proposed road reserve will support on-street parking either within indented bays or at kerbside of a wider formed carriageway.

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• As noted, the design of the new road and transition to the existing Foster Crescent carriageway will accommodate reconstructed vehicle crossings for nos. 1 and 2 Foster Crescent and Te Whau Drive
• The design of the new road and connection with Foster Crescent will make provision for a transition between a footpath on both sides of the new road and the single footpath on the southern side of Foster Crescent

3.3 Lot 61 – Road to Vest

Proposed Lot 61 will form a secondary access link for the subdivision. The new road formed by Lot 61 will provide vehicle access for 22 to 26 residential lots. The proposed road reserve width for Lot 61 is 14 metres which meets the Auckland Transport minimum requirement for a standard local road cross section.

The proposed road reserve cross section is not defined at this time and development of the new road arrangement including connection with proposed Lot 60 will be progressed with consideration of AUP and ATCOP/TDM requirements.

With regard to the development of the proposed new road the following design criteria are noted.
• The general alignment of the new road will support nominal 3.0 metre wide traffic lanes with localised curve widening to accommodate vehicle tracking as necessary
• Design of the carriageway form and associated on-street parking provision will have to consider unobstructed access for delivery and service vehicles including refuse trucks
• The vertical alignment of the proposed road is still to be developed but the site topography will support a maximum longitudinal grade of 1 in 8 or 12.5% and allow suitable vertical transitions to flatter profiles at driver decision areas at both ends of the road including the proposed intersection with the Lot 60 road
• The proposed road reserve provides sufficient width to support the development of vehicle crossings for access to individual residential lots
• The proposed road reserve will support on-street parking either within indented bays or at the kerbside of a wider formed carriageway

3.4 Vehicle Tracking for New Roads

A review of vehicle tracking has been undertaken for the proposed new roads including connection with the existing Foster Crescent carriageway. As noted, road formation has not yet been developed and the vehicle tracking check has adopted a 6.0 metre wide usable carriageway (two 3.0 metre wide traffic lanes) located centrally within the proposed access lot. The following series of tracking diagrams demonstrate that acceptable vehicle access can be accommodated within the proposed new access lots. It is noted the form and layout of proposed new roads including connections and intersections, once developed will be subject to approval from Auckland Transport.
Figure 7 below presents car tracking to and from the proposed subdivision with connection to the existing Foster Crescent carriageway. As noted previously the relative angle between the existing and proposed new road (Lot 60) will be around 105-degrees. The form of the new road will have to transition between an existing carriageway width of approximately 7.8 metres wide on Foster Crescent to the proposed new road width with allowance for vehicle tracking through the horizontal curve.

_**Figure 7: Car Tracking – Connection to Foster Crescent**_

An intersection will be formed between the two proposed new roads as shown in Figure 8 below. Proposed Lot 61 will form the minor leg of a ‘T’ intersection formation and accordingly turns to and from the side road will typically involve low vehicle speeds. Figure 8 shows that car tracking at the intersection can be accommodated within nominal 6.0 metres wide carriageways with provision for low-radii kerb lines. Turning movements at the intersection will typically involve travel to and from Foster Crescent rather than circulation within the subdivision. The intersection location on the outside of a slight horizontal curve assists with driver visibility to and from vehicles waiting to turn from the side road.

_**Figure 8: Car Tracking – Intersection of Lot 60 & Lot 61**_
Figure 9 shows the tracking paths of a truck turning to and from proposed Lot 61. The design vehicle adopted for this assessment is a 10.3 metre rigid truck for representation of a refuse collection truck. Turns between the two proposed new roads cannot be fully accommodated within marked 3.0 metre wide traffic lanes and an element of driver courtesy may be necessary when large trucks, including refuse collection vehicles access the proposed subdivision. The proposed intersection can be designed to better accommodate trucks however it is considered preferable to limit the scale of the intersection to acceptable daily use by cars and other light vehicles and accept minor driver inconvenience when trucks infrequently access the proposed subdivision.

Figure 9: Truck Tracking – Intersection of Lot 60 & Lot 61

The two proposed new roads meet at a relative angle of around 55-degrees at the northwest of the subdivision. As noted previously, the primary access road (Lot 6) will have a road reserve width of 18 metres and the secondary access road will have a reserve width of 14 metres. A nominal 6.0 metre wide carriageway has been adopted for the purpose of assessing vehicle manoeuvring. Figure 10 shows the modelled tracking paths of 10.3 metre long trucks traversing between the two proposed roads. The tracking paths partly overlap to achieve a narrower effective carriageway width through the curve. Truck movements through the proposed subdivision will be infrequent and the modelling tracking overlap is considered acceptable.
4 TRAFFIC GENERATION AND DISTRIBUTION

Traffic generation associated with the proposed residential subdivision can be estimated from typical generation rates established by relevant research documents and traffic surveys undertaken by Traffic Engineering and Management Ltd (TEAM). Two relevant research documents are the Roads and Traffic Authority (RTA), New South Wales – ‘Guide to Traffic Generating Developments’, and the Transfund New Zealand Research Report 210 – ‘Trips and Parking Related to Land Use’.

Typical traffic generation rates for residential dwellings are well defined from research and summary survey data. For stand-alone dwellings and potential provision for minor dwellings\(^1\) on the proposed development site, the upper range traffic generation rate of 10 vehicle trips per day is considered appropriate. A peak hour generation rate of one trip per hour is adopted in light of the general location of the site. The proposed 52 lot residential subdivision is accordingly predicted to generate in the order of 520 vehicle trips per day and 52 trips during the peak hour.

Consideration has been given to the traffic survey undertaken for this assessment and briefly summarised in Section 2.1.1 above. The turning count survey undertaken at the intersection of Mahurangi East Road and Iris Street recorded all vehicle movements to and from Iris Street, which as previously noted is the sole vehicle access point for existing dwellings on Foster

\(^1\) Minor dwellings up to 65m\(^2\) are permitted under the Single House zone (minimum 600m\(^2\))
Crescent and connecting residential streets. At present there are approximately 85 dwellings that access Mahurangi East Road via Iris Street. Recorded movements at the intersection resulted in peak turning movements to and from Iris Street of 61 trips in the morning peak hour period (8:00am to 9:00am) and 74 trips in the evening peak hour (5:00pm to 6:00pm). In considering the recorded traffic movements at the intersection the resultant peak hour generation rates for the 85 existing dwellings accessed via Iris Street are around 0.71 trips per dwelling in the morning peak period and 0.87 trips per dwelling in the evening peak.

The adopted peak hour generation rate of one trip per dwelling is considered to present a robust estimate of potential generation for the purpose of this assessment. Tables 3 and 4 below present a summary of existing and predicted movements at the intersection of Mahurangi East Road and Iris Street for both commuter peak periods. The directional distribution of turning movements associated with the proposed subdivision has been derived from observed movements to and from Iris Street.

<table>
<thead>
<tr>
<th>Time</th>
<th>Mahurangi East Road (North)</th>
<th>Mahurangi East Road (South)</th>
<th>Iris Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Southbound</td>
<td>Right In</td>
<td>Northbound</td>
</tr>
<tr>
<td>0800-0900</td>
<td>Existing 233</td>
<td>14</td>
<td>287</td>
</tr>
<tr>
<td></td>
<td>Development: nil</td>
<td>12</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>Total 233</td>
<td>26</td>
<td>287</td>
</tr>
</tbody>
</table>

*Table 3: Mahurangi East Road/Iris Street Intersection – AM Existing and Predicted Distribution*

<table>
<thead>
<tr>
<th>Time</th>
<th>Mahurangi East Road (North)</th>
<th>Mahurangi East Road (South)</th>
<th>Iris Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Southbound</td>
<td>Right In</td>
<td>Northbound</td>
</tr>
<tr>
<td>1700-1800</td>
<td>Existing 255</td>
<td>45</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>Development: nil</td>
<td>32</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>Total 255</td>
<td>76</td>
<td>185</td>
</tr>
</tbody>
</table>

*Table 4: Mahurangi East Road/Iris Street Intersection – PM Existing and Predicted Distribution*

The predicted traffic generation for the proposed subdivision can comfortably be accommodated on Foster Crescent and Iris Street. Observations at the intersection of Iris Street with Mahurangi East Road indicate very low levels of delay for movements to and from Iris Street. The predicted volumes of additional vehicle turning movements associated with the proposed subdivision are generally very low by direction of travel. The highest value for additional turning movement (32 trips) equates to approximately one vehicle every two minutes for the left turn from Iris Street in the morning peak period and right turn into Iris Street in the evening peak. The left turn from Iris Street in the morning is opposed by only 287 vehicles per hour northbound along Mahurangi East Road. The right turn into Iris Street in the evening is opposed by a combined movement of 193 vehicles per hour or an average of one vehicle every 18 seconds.

The above assessment of predicted traffic generation considers the total yield of the proposed Plan Change and associated residential subdivision. It is noted that the current

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2 The values in Table 3 and 4 are based on the timing of peak hour turning movements recorded at the intersection rather than the peak hour movements passing through the intersection

PROPOSED PLAN CHANGE AND RESIDENTIAL SUBDIVISION
FOSTER CRESCENT, SNELLS BEACH
zoning of the subject site is Residential – Large Lot. The site area of over 4.6 hectares could be expected to yield up to 11 lots under the current zoning. The proposed Plan Change to Single House zoning, and subdivision plan as currently presented results in a net increase of 41 residential lots for the site. The corresponding increase in traffic generation potential for the site is 410 vehicle trips per day and 41 trips during the peak hour of generation.

Traffic volumes on Mahurangi East Road, including past the Iris Street intersection will increase in line with current and future development in the surrounding area. One known development at the time of writing is a residential subdivision opposite the Snells Beach School (Primary) on Dawson Road to the south of the subject site. The potential yield is understood to be in the order of 85 residential lots which would be expected to generate around 800 vehicle trips per day and 80 trips during the peak hour of generation.

Given the nature of the surrounding road network and land uses it is anticipated that a large proportion of the additional vehicle trips on Dawson Road would pass the Iris Street intersection. These trips would be split by direction in a similar pattern to existing traffic volumes on Mahurangi East Road. Currently, through movements past the Iris Street intersection are around 510 trips in the weekday morning peak hour and 480 trips in the evening peak hour. The addition of around 70 trips (combined northbound and southbound from the Dawson Road subdivision) during peak hour periods will not noticeably affect vehicle queuing or delays experienced at the Iris Street intersection.

5 FURTHER CONSIDERATION OF ADDITIONAL TRAFFIC

As noted previously the predicted increase in vehicle movements associated with the proposed plan change and subsequent subdivision is not expected to generate a notable concern with respect to queuing or delay on Foster Crescent and Iris Street, nor at the intersection of Iris Street with Mahurangi East Road. Notwithstanding this consideration has been given to potential effects associated with additional vehicle movements on Foster Crescent and Iris Street in relation to the safe and efficient movement of pedestrians and general traffic on these links.

5.1 Pedestrian Activity

Section 2.3 above outlined a summary of observed movement of school children at the intersection with Mahurangi East Road. Observed pedestrian activity associated with the school was split between crossing Iris Street at the intersection with Mahurangi East Road or walking along the footpath on the northern side of Iris Street which would typically involve crossing Iris Street at the intersection with Foster Crescent. Figure 11 highlights key pedestrian movements on Iris Street in relation to connections with the Snells Beach Primary School.
Observed and predicted vehicle movements to and from Iris Street at the intersection with Mahurangi East Road can be taken to be similar to combined turning movements at the intersection of Iris Street and Foster Crescent. A summary of current and predicted traffic movements on Iris Street is provided in Table 5 below.

<table>
<thead>
<tr>
<th>Period</th>
<th>Iris Street (current traffic)</th>
<th>Iris Street (predicted traffic)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eastbound</td>
<td>Westbound</td>
</tr>
<tr>
<td>AM Peak (8.15 – 9.15am)</td>
<td>33</td>
<td>19</td>
</tr>
</tbody>
</table>
| School Peak 1
  7.45 – 8.45pm        | 24        | 28          | 42        | 46          |
| PNI Peak
  4.45 – 5.45pm        | 25        | 45          | 42        | 80          |

Table 5: Current and Predicted Vehicle Movements on Iris Street

When considering the start and end periods for the primary school the predicted number of turning movements that conflict with identified pedestrian crossing locations on Iris Street are 104 and 88 respectively for the morning and afternoon periods. In a practical sense this relates to on average one turning movement at each intersection (in any direction) roughly every 30 seconds in the morning period and every 40 seconds in the afternoon period. It is noted that sightlines between pedestrians and approaching vehicles are acceptable for

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3 Traffic generation for proposed 52-lot subdivision assessed as 0.7 trips per dwelling during school-end period, split evenly for arrival and departure.
crossing at both ends of Iris Street and the nature of the intersection control (Stop control at both ends of Iris Street) and layout dictates generally lower vehicle speeds.

It is considered that the additional traffic movements attributable to the proposed residential subdivision will not noticeably affect pedestrian safety or amenity on Foster Crescent and Iris Street.

5.2 Traffic Operation on Foster Crescent and Iris Street

The predicted traffic volumes on Foster Crescent and Iris Street, with the proposed residential subdivision in place are considered to be comfortably below the operating capacity of the two residential streets. The highest volumes will be on Iris Street with up to around 125 vehicle movements (two-way) during the weekday evening peak hour. Traffic volumes along Foster Crescent will typically be significantly lower than on Iris Street as the traffic movements are essentially split between north and south sections of Foster Crescent.

Traffic volumes on the southern section of Foster Crescent, including the proposed subdivision will be in the order of;

- 72 vehicle movements in the morning peak, primarily eastbound towards Mahurangi East Road;
- 60 vehicle movements at the afternoon end of school period, roughly even directional split; and
- 77 vehicle movements in the evening commuter peak, primarily westbound towards the proposed subdivision.

The existing carriageway width on Foster Crescent to the south of Iris Street is typically around 7.8 metres. The carriageway does not readily accommodate two-way operation if there is kerbside parking on both sides of the road. The predicted two-way hourly vehicle movements listed above generally represent one vehicle movement (in either direction) every 45 to 60 seconds. The likelihood of two opposing vehicles meeting on the southern section of Foster Crescent is low and the likelihood of two opposing vehicles meeting a location where there are vehicles parked on both sides of the road is lower still. Notwithstanding this, drivers will occasionally be required to slow or stop while giving priority to an on-coming vehicle due to the road carriageway being effectively reduced to a single lane.

This outcome is common on many residential streets and typically drivers having to give way are presented with no worse than a minor irritation to their journey. It is expected that the need to slow or give way to on-coming vehicles will be close to non-existent outside of the evening peak period both in terms of predicted vehicle movements and also typical low demand for on-street parking during normal working hours. It is noted that the majority of vehicle movements on Iris Street and Foster Crescent will involve regular users of the
residential streets and accordingly drivers will typically be aware of the possible need to slow or stop as necessary if there is an on-coming vehicle.

It is considered that the traffic generated by the proposed Plan Change and residential subdivision will not create any tangible safety or operational concerns for the surrounding road network.

6 CONCLUSION

The proposed rezoning of the subject site and subsequent residential subdivision will establish a total of 52 residential lots with access provided via two new roads to vest. Vehicle access to the subdivision will be via an existing cul-de-sac head on Foster Crescent and additional pedestrian connections are proposed to existing walkways.

The proposed access lots are 14 metres and 18 metres wide and are considered adequate to provide for future public roads. The design of the proposed new roads, including geometric alignment, carriageway formation, footpaths, berms and intersection arrangement is yet to be developed. The proposed new roads will accommodate vehicle crossings serving individual lots in addition to on-street parking.

Traffic generation associated with the proposed subdivision is predicted to be in the order of 520 vehicle trips per day and 52 trips during commuter peak periods. With respect to the proposed Plan Change, additional vehicle movements associated with the proposed rezoning (Large Lot to Single House zones) are 410 trips per day and 41 trips during the peak hour.

All vehicle movements to and from the subdivision will be via Foster Crescent with access to Mahurangi East Road via an intersection with Iris Street. In considering current traffic operation at the Iris Street intersection and predicted additional vehicle trips generated by the development it is considered that there will be no discernible increase to queuing or delay at the intersection.

Effects on road users including pedestrians on Foster Crescent and Iris Street are considered acceptable when considering predicted increases in vehicle movements associated with the proposed residential subdivision.
Appendix A: Crash Listing and Diagram
Appendix 7 - Ecological Assessment
ECOLOGICAL ASSESSMENT:
LOT 1 DP 149776, FOSTER CRESCENT, SNELLS BEACH

July 2018
ECOLOGICAL ASSESSMENT:
LOT 1 DP 149776,

PREPARED BY:  MARK DELANEY
BIORESEARCHES GROUP LTD
68 BEACH ROAD, AUCKLAND
MARKDELANEY@BIORESEARCHES.CO.NZ

FOR:  PRIME PROPERTY GROUP LIMITED

DATE:  17 JULY 2018

REFERENCE:  BIORESEARCHES (2018), ECOLOGICAL ASSESSMENT: LOT 1 DP 149776, FOSTER CRESCENT, SNELLS BEACH

COVER PHOTO:  LOT 1 DP 149776, SNELLS BEACH
Attachment A

Item 18
1. INTRODUCTION

Prime Property Group Limited is seeking to rezone the site, at Lot 1 DP 149776, Foster Crescent, Snells Beach, from ‘Large Lot’ to ‘Single House’ zone and to develop the site into residential lots. The development would involve earthworks to contour the site and to form building platforms.

Prime Property Group Limited engaged Bioresearches Group Limited, to undertake a watercourse classification and freshwater environmental assessment of the site and to address the effects of the proposed rezoning and potential development of Lot 1 DP 149776 in relation to the Auckland Unitary Plan Operative in Part (AUP OP).

Within this report the existing ecological values of the site are described, the scale and severity of potential effects of the project on these values are assessed, and measures to avoid, minimise or mitigate adverse effects on the aquatic ecology of the site are identified where required.
2. METHODOLOGY

Prior to a field survey, a map of the site was created using the overland flow paths and contours from the Auckland Council GIS viewer to determine where potential watercourses may exist and to preliminary classify the ephemeral, intermittent, or permanent nature of the watercourses. A walkover of all the aquatic habitats and potential watercourses was originally undertaken on 29 November 2016 by an experienced freshwater ecologist. A follow up site assessment was undertaken on 8 February 2018.

During the site assessment the presence and extent of water was noted, measurements and reference photos were taken and notes were made on the quality of the instream habitats. Riparian and catchment information was also noted. Habitat characteristics, including the size of any pools, as well as the presence of continuously flowing water were recorded. The watercourses were classified under the AUP OP, to determine, in accordance with the definitions in this plan, the ephemeral, intermittent, or permanent status of these watercourses.

A qualitative assessment of the MHWS for the junction of the Te Whau Esplanade Reserve and the Hamatana Marginal Strip was undertaken using a range of natural indicators, including edge fauna and flora of the coastal zone, highest line of driftwood and tide marks.

Additionally, during the site visits a botanical assessment recorded native and exotic vascular vegetation present. An opportunistic bird survey took note of birds seen or heard within the duration of the visit. A hand-searching method was used to survey lizard fauna under any debris.
3. EXISTING ENVIRONMENT

3.1 TERRESTRIAL ECOLGY

3.1.1 Vegetation

In regards to vegetation, the site consisted primarily of pasture grasses with a few pockets of gorse (Ulex europaeus) and Edgar’s rush (Juncus edgariae). A wetland formed within the north-east corner of the site and consisted predominately of Arum lily (Zantedeschia aethiopica), starwort (Callitriche stagnalis), weak rush (Juncus effusus) and Edgars’ rush. Additionally, four small tōtara (Podocarpus totara) were found located around the edge of the wetland. These tōtara were the only native trees or trees of any significance found within the site.

The overall ecological vegetation value within the site was considered very low.

3.1.2 Avifauna

For native birdlife, it is important to have a healthy, dense, and diverse range of vegetation present to provide year-round sources of food and habitat. The avifauna that occurred on the property was of very low diversity, consisting of two common introduced species: house sparrow (Passer domesticus) and blackbird (Turdus m. merula). Non-threatened native species that were not recorded, but may visit the property intermittently, include silver eye (Zosterops lateralis), fantail (Rhipidura fuliginosa placabilis) and tui (Prosthemadera novaeseelandiae). No “At Risk” or “Threatened” species were recorded, or are likely to utilize the property, even on an intermittent basis.

The overall habitat value for avifauna within the site was considered very low.

3.1.3 Herpetofauna

Herpetofauna (reptiles and amphibians) comprise a significant component of New Zealand’s terrestrial fauna. More than 80% of the 104 endemic taxa are considered ‘Threatened’ or ‘At Risk’ of extinction (Hitchmough et al. 2016). All indigenous reptiles and amphibians are legally protected under the Wildlife Act 1953, and vegetation and landscape features that provide significant habitat for native herpetofauna are protected by the Resource Management Act 1991. Statutory obligations require management of resident reptile and amphibian populations where they or their habitats are threatened by disturbance or land development.

Leaf litter, undergrowth and wooden debris suitable for skink habitat was very sparse throughout the property. A hand search within the site, did not result in the detection of any skinks, indicating native skinks are absent or if present, skink abundance is likely to be very low. Furthermore, the few native trees within the property was not considered suitable habitat for native geckos. Consequently, the habitat assessment indicated that the area would not likely support any native lizard species.

The overall habitat value for herpetofauna within the site was considered very low.
3.1.4 Long-tailed bats

A targeted bat survey was not undertaken as the vegetation within site and the surrounding environment was considered insufficient to provide roosting of foraging habitat for bats.

3.2 Freshwater Ecology

Rainfall within close proximity of the site in the preceding four weeks before the initial site assessment (29/11/2016) site assessment was at a moderate to high level, with two high rainfall events (>25mm) occurring within that time (Auckland Council Environmental Monitoring Site: Mehurangi @ Satellite Dish) (Figure 1). The rainfall in the preceding week before the initial site survey was at a low to moderate level. Approximately 3mm of rain had fallen in the previous 48 hours prior to the initial site survey.

Rainfall within close proximity of the site in the preceding four weeks before the follow up site assessment (6/2/2018) site assessment was at a moderate level, with four high rainfall events (>25mm) occurring within that time (Figure 2). The rainfall in the preceding week before the follow up site survey was at a high level with three high rainfall events (>25mm) and one 24mm rain event occurring within that time. Approximately 1mm of rain had fallen in the previous 48 hours prior to the follow up survey.

![Rainfall Chart]

*Figure 1.* Total daily rainfall depth (mm) from the Mehurangi satellite dish monitoring site between 01/11/16 – 29/11/16.
The site contained three main overland flow paths (Watercourses 1, 2 and 3) that ran in a general south-north direction before draining into an inlet of the Mahurangi Harbour (Figure 3).

Watercourse 1 ran for approximately 125m before joining at the confluence of the other watercourses on site. The upper reach (c. 110m) of Watercourse 1 contained no flowing water, had no defined channel and contained established terrestrial vegetation across the entire width (Photo 1). Clumps of Edgar’s rush are scattered along the watercourse. Edgar’s rush is not considered an obligate wetland flora (Clarkson 2013). A small sinkhole or ‘como’ was observed along the lower reach of Watercourse 1. The upper reach was classified as ephemeral and was considered to have a very low aquatic ecological value due to the lack of water flow, shading, aquatic habitat and hydrologic heterogeneity.
Figure 3. Watercourses and their classification within the site extent.
A hanging culvert was located approximately 10m upstream from the confluence. The inlet of the culvert was buried. From the culvert outlet to the confluence (lower reach, Photo 2) flowing water was present. The lower reach was classified as permanent (Figure 3) and was considered to have a low aquatic ecological value due to low amount of shading, aquatic habitat and hydrologic heterogeneity.

![Photo 1. Upper reach of Watercourse 1.](image1)

![Photo 2. Confluence of Watercourses 1, 2 and 3.](image2)

Watercourse 2 ran for approximately 250m from the southern boundary of the site to the confluence. The upper reach (c. 50m) was fed by a diverted roadside drain (Photo 3) and contained no flowing water, had no defined channel and contained established terrestrial vegetation across the entire width (Photo 4). The upper reach was classified as ephemeral and was considered to have a very low aquatic ecological value due to the lack of water flow, shading, aquatic habitat and hydrologic heterogeneity.

![Photo 3. Drain running parallel to a driveway which is being diverted into Watercourse 2.](image3)

![Photo 4. Upper reach of Watercourse 2.](image4)

The upper reach of Watercourse 2 drains into an artificial stock pond approximately 10m in diameter (Photo 5). From the pond to the confluence (lower reach, c. 150m) the watercourse had a defined, scoured channel (Photo 6). No evidence of floodplain debris was evident and the watercourse contained established terrestrial vegetation within the channel. During both site visits no flowing water was evident. The only exception was a very short reach (approximately 10m), between the pond and the confluence (Figure 3), where a small trickle flow emerged from the ground before...
flowing back underground (Photo 7). The average stream width of the exposed section was 0.18 m. This exposed area seems to have been used as a vehicle access point which has caused the ground to subside exposing the underground watercourse.


Photo 7. Exposed reach of Watercourse 2.

Although there was a clearly defined channel, the majority of the lower reach of Watercourse 2, with the exception of the 10 m exposed reach, was classified as ephemeral due to the absence of flowing water or natural pools, no evidence of floodplain debris and the presence of established terrestrial vegetation. It should be noted that given the amount of rain prior to the surveys, it is expected to observe flowing or pooling water within the channel if the channel bed was below the groundwater level. Consequently, it is believed that the watercourse is subterranean and a continuous/permanent flow of water would be present underground. It is expected that water flow would be present within the overland flow path during and shortly after (<48 hrs) heavy or persistent rain.

The defined channel of Watercourse 2 is thought to be from cattle walking over the subterranean watercourse and creating connecting tomo, this would explain why the channel is highly indented/steep and narrow.

[Ecological Assessment: Lot 1 DP 1-99776, July 2018]
The assumption that Watercourse 2 is predominately subterranean and the highly incised channel is a product of farming practices, seems to be corroborated by historical aerial images (Figure 4) where it appears no watercourses are evident within the site.

Figure 4. Aerial photograph from 1973 showing approximate site boundary.

The short exposed reach of Watercourse 2 was classified as permanent but may have historically been subterranean prior to the subsidence. Watercourse 2 was considered to have a low aquatic ecological value due to the lack of water flow, shading, aquatic habitat and hydrologic heterogeneity.

Watercourse 3 run for approximately 90m from the southern boundary to the eastern boundary of the site. The watercourse contained no flowing water, had no defined channel and contained established terrestrial vegetation across the entire width. The lower approximately 30m of the watercourse was located within a boggy area (Photo 8, Figure 3), and was not considered at wetland due to the lack of aquatic habitat and the fact that ‘obligate’, ‘facultative wetland’ or ‘facultative’ plants did not constitute 50% of the total density (Clarkson 2013). The dominant vegetation within the boggy area was pasture grasses.

The channel within Watercourse 3 became more defined for the last approximately 5m, before it drained into the neighbouring property, 27 Cornel Circle (Photo 9). Watercourse 3 was classified as ephemeral due to the absence of flowing water or natural pools, no evidence of floodplain debris and the presence of established terrestrial vegetation and was considered to have a very low aquatic...
ecological value due to the lack of: water flow, shading, aquatic habitat and hydrologic heterogeneity.

At the confluence of where the three watercourses meet, a small degraded wetland formed, approximately 110 m² (Figure 3). In addition there was approximately 30 m of permanent watercourse associated with the wetland, with an average width of 0.4 m. Arum lily, starwort, weak rush and Edgars’ rush (Photo 10) were present within the wetland area. Of these species only starwort is considered an obligate wetland species (Clarkson 2013). Edgars’ rush was the only native species within the wetland and the arum lily is considered a ‘Surveillance Pest Plant’ by Auckland Council. The wetland was considered to have a low aquatic ecological value due to small area, low amount of water and lack of native species diversity.

The remainder of the overland flow paths within site contained no flowing water, had no defined channel and contained established terrestrial vegetation across their entire widths. Additionally, no evidence of floodplain debris or substrate sorting was evident throughout the watercourses. Accordingly these reaches were classified as ephemeral under the AUP OP. These ephemeral reaches were considered to be of very low aquatic ecological value, due to the lack water flow, shading, aquatic habitat and hydrologic heterogeneity.
3.3 **MARINE ECOLGY**

A qualitative assessment to determine the mean high water spring (MHWS) mark for the Te Whau Esplanade Reserve and the Hamatana Marginal Strip was undertaken. A clear delineation of plant species was evident indicating the extent of the MHWS mark (Photo 11). Starting from upstream, the dominant bands of plant species present were flax (*Phormium tenax*), Edgars’ rush, umbrella sedge (*Cyperus ustulatus*), and then oioi (*Apodasmia similis*). Downstream of the band of oioi, salt tolerant plants, such as remuremu (*Selliera radicans*), slender clubrush (*Isolepis cernua*) and mangroves (*Avicennia marina*), became established. The MHWS mark was at the interface between the oioi and the salt tolerant plants (Figure 3).
4. ASSESSMENT OF EFFECTS AND RECOMMENDATIONS

The permanent section of Watercourse 1 as well as the wetland and its associated boggy areas and ephemeral reaches was considered to have the highest current ecological value and the highest potential ecological value. Through the design process these areas of highest ecological value should be retained.

The proposed Plan Change provides for the reclamation of the ephemeral reaches associated Watercourses 1-3, the short permanent section of Watercourse 2 (10m), the artificial stock pond and the boggy area associated with Watercourse 3. All of these areas were considered to have a low or very low current ecological value. In addition these areas were also considered to have low ecological potential due to their relatively small catchments, lack of aquatic habitat, and lack of upstream connectivity. Consequently, the adverse aquatic ecological effects of the proposed development were considered minor.

Due to the very low terrestrial ecological value of the site the adverse terrestrial ecological effects of the proposed development were considered minor.

It is recommended, that the Plan Change ensures that the permanent section of Watercourse 1 (downstream of the culvert) as well as the wetland and its associated boggy areas are enhanced through restoration planting and protected through a covenant. There should also be a requirement for a Weed Management and Planting Plan prior to earthworks commencing.

The recommended enhancement would entail the restoration of approximately 40m of permanent watercourse and 110m² of wetland habitat, including the retention of the tōtara. Overall the proposed development would constitute a net biodiversity gain.
5. REFERENCES


Attachment A

Appendix 8 - Landscape Assessment
ATTACHMENTS

FOSTER CRESENT, SNELLS BEACH
PRIME PROPERTY GROUP PLAN CHANGE

123_Attachments_20180621
ATTACHMENT ONE
CONTEXT ANALYSIS
Planning Committee
06 August 2019

Attachment A

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1223_Attachments_20180621
ATTACHMENT THREE
SITE PHOTOGRAPHS

Looking west from Mahurangi East Road alongside the Mahurangi East Fire Station, with the Site seen as a narrow, grass strip to either side of the Norfolk Island pines in the midground. Hoses seen above that grassed strip are those reached by the private shared access to the west of the Site.

Standing in Goodall Reserve, just beyond the northern end of Foster Crescent. The Site is glimpsed above the footpath seen leading downhill and punctuated by the pair of Norfolk Island pines seen in association with that path.
ATTACHMENT THREE
SITE PHOTOGRAPHS

Panorama VP03:
A view south from the approximate midpoint of Goodall reserve, where a walkway connects the upper portion of the park with the esplanade track running near its estuarine toe. A segment of the Site can be seen in the centre of the image, framed between the poplars in the midground and the totara in the immediate foreground.

Photograph VP04:
Looking east along the Te Whau Esplanade Reserve walkway, just below the northern apex of the Site. None of the Site can be seen from this or adjacent parts of the shoreline walkway due to a combination of intervening topography and developing native plantings.
ATTACHMENT THREE
SITE PHOTOGRAPHS

Panorama VP05:
Taken from the eastern corner of the open parkland associated with Dawson Road, with some of the established housing in the Foster Crescent neighbourhood seen on the right margin. The Site is distinguished by the brighter green grass to the right of the power pole and beyond the browning clippings that demarcate the recently mown reserve.

Panorama VP06:
A view to the north and east from within the adjacent school grounds. The Site is visible beyond the fence and mown grass of the adjoining reserve, largely to the right of the young totara situated in the foreground.
ATTACHMENT THREE
SITE PHOTOGRAPHS

Panorama VP07:
Glimpsing a narrow belt of the Site over roofs of mature homes clustered around the turning head related to the sharply angled bend in Cornwall Circle.

Panorama VP08:
A north west view down across the Site from the private shared access near its junction with the end of Foster Crescent.
ATTACHMENT THREE
SITE PHOTOGRAPHS

Panorama VP09:
A very close view downslope over the Site from midway along the private drive seen in the preceding.

Panorama VP10:
A sweeping panorama from within the lower portion of the Site itself, swinging from the larger lot homes to the west to the Foster Cres neighbourhood and Goodall Reserve to the east.
1 INTRODUCTION AND METHODOLOGY

This report has been commissioned by Prima Property Limited to inform a private plan change and resource consent application for subdivision proposed for the terrain bordering Snells Beach settlement's western margin.

The Applicant seeks to rezone a 4.64ha title described as Lot 1 DP149776 (the Site) from its current Residential Large Lot status under the Auckland Unitary Plan - Operative in Part (UPOP) to being Residential Single House Zone. As such, the plan change proposal and related resource consent application applies to that single title.

A comprehensive Plan Change Application report which has been prepared by Barker and Associates contains a full description of the proposal and includes detailed analysis against the UPOP provisions.

The disciplines of ecology, planning, civil engineering, survey and landscape architecture have been involved in developing the plan change proposal.

This landscape-related assessment has been undertaken on the basis of the following methodology:

- Review background documents that inform an understanding of the Site and wider setting in terms of both physical characteristics and the regulatory framework.
- Undertake a detailed walkover of the Site and visit immediately adjacent, publicly accessible places, including Snells Beach School, Te Whau Esplanade Reserve, Goodall Reserve and nearby public road verges.
- Photograph the Site – where visible – from these various locations and assemble the resulting images into accompanying attachments. Vantage points were selected to capture the greatest exposure or “worst case” view from each locale.
- Describe and analyse the biophysical and land use characteristics of the Site.
- Broadly categorise the Site context based upon areas of contiguous landscape/urban character, with these areas being frequently determined by land use as the primary determinant.
- Assess the relationship between the Site and the various viewing audience groupings that are potentially affected by the proposal in order to report upon visual effects.
- Assess landscape effects in relation to the form of the proposal and its compatibility or otherwise with established characteristics, patterns and general structure of both the Site and its wider context.
- Identify and quantify natural character effects that may be imposed upon adjacent areas of coast.
- Relate the proposal to the key built environment outcomes sought by section 52.3 of the Regional Policy Statement for Auckland.
- Provide some summarising conclusions that draw together the main body of findings.

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SECTION A: DESCRIPTION OF THE SITE

The boundaries for the title underlying the Site are shown in Attachments One and Four to this report. Figure 1, below, illustrates the Site in relation to surrounding landmarks. These images highlight the way that a combination of existing, residially-located land uses and a parcel of Open Space define the Site. Attachment One also illustrates how landform then further reinforces these activity delineations.

Figure 1: High oblique view with the Site indicatively highlighted. Snells Beach can be seen in the background and Mahurangi Harbour to lower left, with Dawsons Creek cutting up to the left of the Site.

2 EXISTING PHYSICAL CHARACTERISTICS

2.1 Geology and soils

The neck of peninsula associated with Snells Beach stretching from the open beach to the shore of Mahurangi Harbour and Dawsons Creek lies across terrain founded upon geology derived from the Mangakahia Complex. This material is described as being closely fractured to shvoared siliceous and lightly calcareous mudstone, green and brown shale, and some muddy limestone.

An isolated pocket of Albic utic class soils, which are common throughout northern New Zealand, dominates across the Snells Beach area generally, including the Site. These soils, which are found immediately under the organic or topsoil horizon, are strongly weathered, with a well-structured, clay enriched subsoil horizon. They tend to be acidic and strongly leached.

2.2 Landform

Close inspection of Attachment One reveals a tier of 1m interval contours that illustrate the almost basin-like form of the Site and closely related residential area traversed by Foster Crescent to the east.
A gentle spur that drops from the Dawson Road ridge runs down the eastern margin of Snells Beach School and then tracks near the private Te Whau Drive on the western edge of the Site. This gentle brow can be seen in Panorama VP08 of Attachment Three, and more clearly still on the left margin of Panorama VP09. Panorama VP10 looks in the opposite direction, up the Site, so the slight spur can be distinguished on the right side of that image, where it is closely associated with the houses in the neighbouring Residential Large Lot Zone.

A slight depression ascending the core of the Site contributes to the mildly hollowed, basin form mentioned. The base of that focussing terrain carries the minor watercourse seen highlighted as a blue line Attachment One.

2.3 Hydrology
The watercourse just referred to is a minor, unchannelled ephemeral seep that results from the gentle focussing of overland flow by the underlying landform. As such, the watercourse barely expresses itself to casual observation and is not a physical feature amidst the wider nature of the Site.

A minor pond, apparently formed alongside the flow path just described, appears to have been installed to provide stock water. It too fails to register as any more than a minor element within the broader form of the Site. A second, even more subtle flow path alongside the lower portion of the eastern boundary of the Site as it conveys water shed from the base of the Foster Crescent enclave. This passes through a damp depression en route to its discharge in the north eastern corner of the Site. The third flow path sweeps around the northern core of the Site, its route marked by rushes, but once again not forming a conspicuous feature of the land.

The confluence of these three minor watercourses occurs on the north eastern edge of the Site and its more emphatic presence reflects the combined deliveries of the flows just described. An ecological assessment\(^1\) describes the detail of this most sensitive environment and recommends that it be enhanced with supplementary planting and protected through a covenant. Spatial provision is made for this to occur within Lot 54 of the concept scheme plan found in Attachment Four.

2.4 Vegetation and Land use
The fencing of the Site indicates its past devotion to agricultural grazing, but stock was withdrawn from the property some time ago, allowing the poor-quality pasture to erode into the rank growth dominated by kikuyu (Pennisetum clandestinum), Yorkshire fog (Holcus lanatus) and broad-leaved dock (Rumex obtusifolius), that currently exists. A scattering of young gorse (Ulex europaeus).

An overhead power service currently traverses the midst of the Site in a northerly direction, as seen on the cover of this report, and would be removed or undergrounded as part of the proposal.

\(^{1}\) Ecological Assessment: Lot 1 DP 149776, April 2018. Bioreserves
SECTION B: CHARACTERISATION OF SETTING

3 DEFINING ELEMENTS / LANDSCAPE CHARACTER AREAS

The character of Snells Beach's existing urban area and immediate hinterland can be categorised into a series of defining elements and landscape character areas. These express themselves in Attachment One, which highlights the context of the site within an aerial photograph, and even more graphically in the LIGP zoning map found in the reporting of Baxter and Associates. In general, the land uses that are established in this relatively developed area are the prevailing divisions for the character areas, rather than typographic and biophysical components that hint at the character of less populated areas of landscape.

3.1 Urban Centre and Commercial / Industrial pockets

Snells Beach's primary commercial centre is closely associated with the Mahurangi River, a main road that forms the north of the Snells Beach area, and incorporates a service station, liquor store, large format supermarket and a range of other, smaller retail and service providers. Typical of these found in compactly鳞3 scaled shopping areas, this urban service area is well established with a mix of modern, larger format buildings and older, smaller buildings. The setting for this shopping area is well established, with a mix of modern and older buildings. The larger format buildings have a more commanding presence than the smaller, lower scale buildings located next to them.
3.2 Conventional residential areas
A consistent belt of housing runs from the Mahurangi East Ridge down the shore of Snells Beach, as partially seen in Attachment One and more comprehensively (but distantly) in Figure 1 preceding.

Photograph 1: A view along Foster Crescent, showing scale of street and contribution of associated vegetation in creating amenity.

Travelling through the network of streets on this flank reveals that most of the housing stock dates from the 1970's and the two subsequent decades, confirming a period of intense development through that period. The extension of settlement over the Mahurangi East Ridge to Iris Street, Foster Crescent and Carmel Circle is of a similar era, but with housing more modest and compact. Photograph 2 opposite illustrates the well-established public road corridor of Foster Crescent, with a developed framework of trees that has not been so fully realised on the eastern side of the main ridge, where competition with sea views sees vegetation more intensively managed. It is this area of mature residential enclaves that forms the immediate eastern context to the Site.

Photograph 2: A newer portion of Snells Beach settlement at Hewson Drive, to the west of the Mahurangi East Road. A tiny portion of the Site can be seen amidst mature trees associated with Goddall Reserve.

Most of the recent development in the settlement has occurred on its northern edges, both on the gentle coastal flank associated with Aurora Avenue and, to the west of the Mahurangi East Ridge in the pocket accessed by Riverleigh Drive, as seen above. These more modern neighbourhoods bring a greater sense of urbanity, due largely to a combination of smaller titelles and larger house footprints.
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LANDSCAPE ASSESSMENT

This arrangement means that the scale of vegetation associated with the mature streets and sections of the Foster Crescent area is unlikely to so fully develop in these newer areas.

3.3 Residential Large Lot
This zoning currently applies across the Site, the block of titles that are served by the private Te Whau Drive to its west, and Snells Beach School (seen in Photograph 4 above) extending up to Dawson Road ridge. In this location, the zone sits in its declared position on the margin of the presently established suburban extent that is related to Foster Crescent.

Photograph 4: Looking across part of Snells Beach School, with its bold, modern architecture and general sense of "newness".

Photograph 5: Housing under construction on Te Whau Drive to the south west of the Site, as seen from within the lower, northern part of the Site.

Relatively recent housing development sees buildings strung along the modest spur outlined earlier to capitalise upon views over the mid Dawson's Creek reach to rolling rural land beyond. The youthfulness of this housing area means that there is little vegetation currently established, but the size of the titles involved suggests that there is adequate space to encourage planting of species that will ultimately frame and buffer the present domination of built elements, as seen in Photograph 5 above.

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It should be noted that three further, vacant titles exist to the north of the developing lots seen in Photograph 5 above and the aerial photographs found in the Attachments.

3.4 Western farmed headlands

Lying a short distance to the west of the Site, this landscape character area coincides neatly with the Rural Coastal Zone. It is defined by a rolling landscape that projects out into the Mahurangi Harbour as it runs up to Warkworth from its mouth in Kawan Bay.

Photograph 6: Looking out over the inner portion of the western farmed headland associated with Dawson Road from the road on Mahurangi East Road near Rangimarie Crescent junction.

When placed within this area, there is a sense of being in a broad scale intermediary between the Harbour and western margin of residential settlement, with recent subdivisions such as that at on the opposite side of Dawson Road from Snells Beach School.

3.5 Estuarine Mahurangi Harbour and Dawson’s Creek

This landscape character area covers the tidal Mahurangi Harbour as it rapidly narrows to run north west to run up to Warkworth from its mouth in Kawan Bay.

As can be seen in Attachment One, the coastal depression carved by Dawson’s Creek, which forms a minor arm to the Harbour, has infilled with sediment to become predominantly colonised by mangrove. The tidal Creek meanders in lazy sweeps along the eastern margin as the only water of any depth amongst this intertidal flat and in doing so relates quite closely to the Site. Despite that proximity, the visual connection between Creek and Site is almost non-existent due to the scale of the mangroves alongside the channel and a steadily developing belt of indigenous planting that has been installed or naturally established within the related esplanade reserve.

The body of water that can be seen from the most elevated fringe of the Site – as witnessed to the left of Panorama VP09 – are the pair of rectilinear ponds associated with the waste water treatment plant situated on the north western margin of the Creek. These can be readily distinguished in Attachment One.
SECTION C: OPEN SPACE NETWORK

Attachment One highlights the open space context that the Site is located within, with those areas highlighted with a pale green outline and with a brighter green coloured fill that they share on that plan with the Site itself.

Goodall Reserve to the north east is a generous Open Space - Sport and Active Recreation Zone focus for the wider settlement, catering for a range of team sports, tennis, lawn bowls, skate-boarding, library and informal pursuits.

A network of predominantly concrete paths, which are highlighted in Attachment One and seen in Photograph 7 above, provide a range of walking route options through the reserve. Parking areas are provided in the south east corner of the park.

Collectively, these amenities define the reserve as a Suburb Park under the Auckland Council Open Space Provision Policy.

A belt of specimen trees established alongside Matarangi East Road, comprising predominantly pohutukawa (Metrosideros excelsa), set the theme for much more extensive, informal patterns of specimen planting that structure the south western half of the Reserve. This eclectic assemblage includes deciduous Albizzia (seen in Photograph 7 above) and poplar (Populus sp.), Norfolk Island pine ( Araucaria heterophylla), Eucalyptus sp., pohutukawa, young kauri (Agathis australis) and totara (Podocarpus totara). Panoramas VP01-03 inclusive provide an impression of this vegetated portion of the park and how the scale of that tree structuring serves to largely separate the Reserve from surrounding areas, including the Site. Despite its immediate proximity, there are few parts of the Reserve where views to the Site can be gained.

A second body of parkland exists as the Te Whau Esplanade Reserve, a narrow riparian strip defined as Open Space – Conservation Zone that hugs the coastal margin of Dawson’s Creek from the western end of Dawson Road through to

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1 Open Space Provision Policy 2016. Auckland Council
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Goodall Reserve, where it then continues on to the termination of Hamakana Road. Whilst it retains an informal, natural identity, the Esplanade Reserve contains extensive native planting, as is evident in Photograph 8 below, pockets of mature pine (Pinus sp.) and a measure of naturally occurring colonisation by species like mapoumatikoro (Myrsine australis).

Photograph 8: Looking east along the Te Whau Esplanade walkway as it passes below the northern edge of the Site.

A well-formed gravel path capitalises upon the linear form of the reserve to provide an easy, well graded route to connect with the network of trails within Goodall Reserve.

A third area of related parkland lies to the uphill, southern edge of the Site, where an apparently unnamed reserve fills a semi-triangular void created by Dawson Road, Snells Beach School, the private Te Whau Drive corridor and the western margin of the existing urban neighbourhood associated with Foster Crescent. This open, largely undeveloped pocket of reserve is punctuated at its centre by a lone willow (Salix sp.) It is bisected by a concrete footpath that connects the end of Foster Crescent with Snells Beach to serve the iris Street enclave and provide a short cut that largely avoids the primary ridgeline roads for children moving across from the north eastern flank of the wider settlement.

Photograph 9: Looking along the Dawson Road verge, with the undeveloped Open Space immediately to right and Snells Beach School seen beyond.

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This concrete walkway rather unimaginatively cuts a direct line from its origin to its destination, oblivious to the gentle topography that it crosses, as can be seen in Photograph 10 opposite. The path currently serves as the boundary between the portion of the reserve that is associated with the Dawson Road that is more and that nearer the Site which exists in a rank, overgrown state.

Photograph 18: A path that bisects the undeveloped reserve to link the end of Foster Crescent with Snells Beach School. The willow to centre lies near the head of an overland depression that forms into an ephemeral stream as it passes through the Site.

SECTION D: LANDSCAPE / SPATIAL OPPORTUNITIES AND CONSTRAINTS

The preceding analysis of the characteristics of the Site and its wider context imply a range of opportunities and constraints for the future development. Key landscape-related imperatives that underpin the potential for effectively integrating future development under the proposed plan change include:

- contiguity with the area of well-established residential neighbourhood that adjoins to the east and is served by Foster Crescent, Cornel Circ and Iris Street;
- containing topography where a spur provides a physical definition to the otherwise least delineated margin to the Site;
- powerful frame of open space, with Goodall Reserve to the North and an unnamed parcel of reserve to the east;
- close connection with Snells Beach School, in both spatial terms and in relation to the ‘built presence’ established by the schools dynamic, modern buildings;
- visual separation from the wider expanse of Mahurangi Harbour and limited imposition upon Dawsons Creek, which is barely navigable and heavily contained by a mass of mangrove (Avicennia marina subsp. australis) that cluster in to the channel margins;
- potential for pedestrian connections to the adjoining esplanade reserve and Goodall Reserve, and
extremely limited options for a road access, determined by private property defining the majority of the perimeter boundary and the northern margin being bordered by public Open Space. This leaves the narrow throat provided by a stub off of the western end of Foster Crescent as the only option for extending a street into the Site.

SECTION E: SPATIAL PLANNING APPROACH

Prior segments have analysed the Site and its context as a setting for the proposed plan change. Attachment Four contains an indicative subdivision scheme plan to create 52 Residential Single House Zone titles that have a lot size ranging from 530m² to 836m².

A primary constraint to the format of development is the sole road access point on offer at the south eastern head of the Site. From this relatively tight, triangular entrance point, a primary road corridor is proposed to run parallel to, and one lot removed from, the eastern boundary to the site.

A narrower lane is anticipated to traverse the western side of the Site to serve a rank of titles backing onto (but without access to) Te Whau Drive and another in the midst of the Site. This combination of the primary road and secondary public access creates a well-connected permeability within the Site, allowing almost all future homes to address a "road frontage" and virtually avoiding any requirement for right of ways or narrow individual drive corridors to reach rear lots.

Complementing the vehicular corridor connections is the intention to capture two available opportunities to link with the riparian reserve and Goodall Reserve that present themselves. Those pedestrian connections are highlighted by a pair of white arrows on Attachment One and on the indicative scheme plan by the assignment of a pair of titles devoted to that linkage role and to generally heightening amenity.

The westernmost of these corridors sits in association with a slight rise to the toe of the spur approximately traced by Te Whau Drive. Its flared shape provides for a meander in a future path to achieve comfortable grading, and for riparian vegetative themes to be drawn up into the body of the Site. An eastern pocket of open space would provide a connection to the foot of Goodall Reserve. It also offers scope for that route to emphasise the presence of the small wetland that it would contain.

It is anticipated that a detailed streetscape design process would deliver high quality street spaces, low impact urban design outcomes and a measure of unity throughout the Site, doing so in a way that relates to the established character of the wider Snells Beach settlement. Measures to achieve that collective result are likely to include variable carriageway widths, contrasting and permeable parking bays, emphasis of nodal points within the corridor, planting initiatives to modulate spaces and draw in contextual themes, and careful configuration of footpaths. Opportunities to merge the public and private realms that relate to the road corridors can also bring heightened spatial character and amenity.
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SECTION F: AUCKLAND UNITARY PLAN
Section B2.3 of the Regional Policy Statement portion of the Auckland Unitary Plan
Operative in Part (UPCP) promotes "a quality built environment". Many of these
policies provide a useful framework against which to analyse the plan change
component of the proposal, in particular.

The first grouping of policies under B2.3.2 requires that a proposal is configured to:

(1) Manage the form and design of subdivision, use and development, so
that it does all of the following:

(a) supports the planned future environment, including its shape,
landform, outlook, location and relationship to its surroundings,
including landscape and heritage;

○ The indicated pattern of development reflects the form and approximate
density of the adjoining residential of the existing Residential Single House
zone of Snells Beach, and particularly the Foster Crescent enclaves.
○ Forms an intermediate between long established suburban character to
the east and Residential Large Lot zone to the west.
○ The underlying landform and drainage pattern informs the schematic
form of development.
○ Site planning provides for the conservation and enhancement of the area
of wetland on the Site that is of highest value.
○ Detailed design will provide an opportunity for response to surrounding
vegetative themes and the estuarine ambience of the Site’s wider setting
through street planting and development of the connecting fingers of
proposed reserve on the northern edge of the Site.
○ A deliberate relatedness to adjoining reserve areas fosters a sense of
belonging and care for those public spaces amongst future residents.

(b) contribute to the safety of the site, street and neighbourhood;

○ Indicated street spaces are strongly addressed by private properties,
providing excellent surveillance and promoting engagement.
○ The configuration of the proposal lends itself to traffic
management/calm initiatives being woven into the detailed resolution
of design for resource consenting.

(c) develops street networks and block patterns that provide good
access and enable a range of travel options;

○ Roading options are limited due to surrounding land ownership, but the
proposal maximises potential internal circulation by the combination of a
primary road corridor complemented by a more intimate public to provide
a broad loop.

(d) achieves a high level of amenity and safety for pedestrians and
cyclists;

○ Detailed design will provide the opportunity to create low speed,
pedestrian and cycle-friendly road corridors, as well as generally
heightening amenity within those street spaces. Further cues should seek
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...to provide a linkage between the public and private realm, bring a measure of unity and concepts of “shared visual spaces” between each:

- Promotes access to and use of existing off-road routes for walkers.

(e) **meets the functional needs of the intended use;**
- A cohesive access pattern, close relationship with adjacent school, open space and recreation facilities and spatial arrangement that provides for further design resolution collectively engender the proposal for the Single House Residential zoning that is sought by the proposed plan change.

(f) **allows for change and enables innovative design and adaptive re-use.**
- A Residential – Single House Zoning provides for a range of built forms that can respond to occupant needs, lot orientation, shape and street relationship.

(2) **Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following:**

(a) **providing access for people of all ages and disabilities:**
- Street corridors are aligned to flow with the moderate, natural gradients of the Site.
- Shops, the adjacent school and a range of recreational/community facilities are close by and are within easy reach and served by existing off-road pedestrian paths that are free of steps.

(b) **Enabling walking, cycling and public transport and minimising vehicle movements:**
- Walking and cycling are promoted through the provision of two pedestrian corridors connecting to the To Whau esplanade and more directly into Goodall Reserve.
- Those connecting segments from the Site then provide access into a much wider network of pedestrian routes (and vice versa), including the primary vehicular transportation corridor along Mahurangi South Road.
- An existing, adjacent walkway links directly to Snells Beach School from the entrance to the Site.

(3) **Enable a range of built forms to support choice and meet the needs of Auckland’s diverse population:**
- At this rezoning and resource consent level, the proposal is not prescriptive other than seeking a Residential Single House Zoning in relation to a conceptual subdivision scheme plan. If that zone is applied, there are opportunities through the development of sites to provide a diversity of innovative options for how titles are utilised, as is catered for in the sought Zone.
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(4) Balance the main functions of streets as places for people and the movement of vehicles.
   - Scope is built into the spatial format of the public areas of the site to be experienced as shared spaces for neighbourly interaction and a local asset to be valued and nurtured.
   - Further detailed design resolution should explore the potential for traffic calming and an intimacy of streetscape that has a quiet, lane-like character that engenders neighbourhood involvement and moderates vehicle speed in the process. This may include initiatives such as varied carriageway widths, contrasting (and permeable) parking bays, contrasting road surfaces, a range of street planting techniques, public space furniture and a spectrum of other approaches that are well documented in the Auckland Design Manual.

Chapter E38 of the Auckland-wide rules in the LPOP covers urban subdivision. The following provisions are considered to be of most relevance to resource consent component of this proposal:

(3) Require subdivision design to respond to the natural landscapes by:
   (a) avoiding building platforms and, where practicable, infrastructure, on identified or dominant ridgelines on sites zoned Residential – Large Lot Zone or Residential – Rural and Coastal Settlement Zone;
   - The proposal seeks to rezone the site from its current Residential – Large Lot status, but notwithstanding that circumstance the natural basin-like topography of the land ensures that it is removed from ridgeline terrain.
   (b) locating and designing roads, access and infrastructure in a manner which minimises earthworks; and
   (c) locating roads and development to follow land contours
   - The format of proposed development sees road alignment (the primary civil undertaking involved) running along the modest contour of the site, thereby largely eliminating the need for enduring cut or fill intrusions.

(10) Require subdivision to provide street and block patterns that support the concepts of a liveable, walkable and connected neighbourhood including:
   (a) a road network that achieves all of the following:
      (i) Easy and safe to use for pedestrians and cyclists;
      - It is anticipated that the detailed configuration of the road spaces will engender a low speed traffic environment and heightened level of amenity. That combination of outcomes is expected to “empower” those on foot or by bicycle relative to motorists to provide enhanced levels of safety and comfort.
      - Sightlines and other traffic management parameters would be achieved with specialist advice.
(ii) is connected with a variety of routes within the immediate
neighbourhood and between adjacent land areas; and
   o The format of proposed development sees road corridors (the primary civil
     undertaking involved) running along the modest contour of the Site, thereby
     largely eliminating the need for enduring cut or fill intrusions.

(iii) is connected to public transport, shops, schools, employment,
      open spaces and other amenities; and
   o The position of the Site places it in easy reach of the adjacent school,
     shopping area, reserve areas and Mahurangi East Road as the arterial traffic
     corridor.
   o Off road pedestrian linkages to all of these amenities is well integrated within
     the Site and offers direct access within a 10 minute walk.

(b) vehicle crossings and associated access designed and located to
    provide for safe and efficient movement to and from sites and
    minimising potential conflict between vehicles, pedestrians, and
    cyclists on the adjacent road network.
   o Almost all allotments would have a generous and direct road frontage with
     associated sightlines. Only one title is a rear lot that is accessed by a drive
     stub between neighbouring titles.

(11) Require subdivision to be designed to achieve a high level of amenity
      and efficiency for residents by:

(a) aligning roads and sites for maximum sunlight access where
    topography and parent site shape allows; and
   o The relatively narrow form and northwest orientation of the parent title is
     somewhat determinative in the configuration of allotments, but titles oriented
     to achieve a northerly quarter orientation along their long axes for heightened
     solar gain.

(b) aligning sites to the road to maximise opportunities for buildings
    fronting the road.
   o Introducing a lower tier loop road within the format allows all but one of the 52
     proposed residential titles to have a direct relationship with the street, bringing
     urban form benefits and the values of engagement between private and
     public realm.

(12) Limiting rear sites to places where the site topography, existing
    boundaries, natural features, or scheduled places will prevent the
    creation of front sites.
   o The proposal has been very deliberately configured to avoid rear lots,
     resulting in just a single title falling into that category in order to efficiently
     utilise the land.
(13) Require subdivision to deliver sites that are of an appropriate size and shape for development intended by the zone by:
(a) providing a range of site sizes and densities; and
   - Lot sizes are determined by the provisions of the Residential – Single House Zone provisions, in accordance with that being the zoning sought. In so doing, the resulting neighbourhood would provide a consistency with adjacent established residential area to the east.
(b) providing for higher residential densities in locations where they are supportive of pedestrians, cyclists, public transport and the viability and vibrancy of centres.
   - The convenient positioning of the Site relative to public amenities, the primary transportation corridor and an established network of off-road access corridors is a primary motivation for the proposal to rezone the land from its current Residential – Large Lot status.

(14) Encourage the design of subdivision to incorporate and enhance land forms, natural features, and indigenous trees and vegetation.
   - A slight valley-like contour and the relatively narrow width of the Site dictate that the underlying landform is accommodated by the development. The terrain would inevitably be smoothed and evened to accommodate roads, service water management and practicable private titles, but would not drive a requirement for substantial earthworks relative to comparable residential development on less accommodating sites.

   - As indicated by the earlier description of the Site, it exists in a rather compromised and denuded state. The proposal allows to conserve the best of the wet areas and related vegetation.

   - Road corridors – particularly around the entry to the proposed neighbourhood and the reserve connections provide useful opportunity for the development of the Site to draw in established vegetative themes from related areas.

(18) Require subdivision to provide for the recreation and amenity needs of residents by:
(a) providing open spaces which are prominent and accessible by pedestrians;
(b) providing for the number and size of open spaces in proportion to the future density of the neighbourhood; and
(c) providing for pedestrian and/or cycle linkages.
   - As the analysis contained in Attachment One demonstrates, the Site is virtually surrounded by an abundance of diverse public open space. This takes the form of Goodall Reserve with its range of recreational and public amenity, the walking corridor offered by the Te Whau Esplanade and the unnamed and undeveloped parkland immediately to the south of the Site.
   - Provision for access takes the form of two path corridors to reach the esplanade and Goodall Reserve in the lower portion of the Site, connecting with well-established walkways that exist in each of these parks. A connection to the southern, un-named reserve at the crest of the
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Site coincides with the entry to a concrete path that serves Snells Beach School on the opposite, western side of the reserve.

SECTION F: EFFECTS ASSESSMENT

Proceeding sections describe the characteristics of the Site and its setting. These are followed by a description of the anticipated subdivision of the Site and its component parts. The purpose of this section of the report is to define the effects of the proposal upon the setting, to consider how the proposal would impact upon the experience of people viewing development that would result from the plan change from outside of the site, and to comment upon the resulting level of effect upon landscape character, visual amenity and natural character.

Prior to providing that description however, it is useful to acknowledge a preliminary background technical report that Auckland Council commissioned to assist its decision-making in relation to the rural/urban boundary in the north and northwest of the region, prior to notification of the Proposed Auckland Unitary Plan (PAUP).

That landscape investigation assessed landscape character, sensitivity, and capacity to absorb urban development in relation to the rural urban boundary to the north and north-west of Auckland\(^3\) (the ENPAD report). The observations of that investigation that apply to the Site, as part of Area 10 - West Snells Beach, were:

- undulating to moderately sloping terrain;
- inner harbour headlands and slopes;
- contained southern basin framed by hills slopes to the south;
- defined headland contained by river to the east;
- strong visual and physical connection to existing residential areas; and
- strong capacity to accommodate urban built form.

ENPAD documents are appended to the section 32 reports for the PAUP.

**Adverse effects** impact negatively on the landscape and result in landscape or visual amenity values being diminished. **Benign or neutral effects** are those in which a proposed change neither degrades nor enhances the landscape setting when considered in the whole. In circumstances where **positive effects** arise from a development, the changes that have been brought are deemed to be beneficial relative to the landscape state of the site prior to that change.

Effect ratings that will be used:

**Very high** resulting in a dramatic or total loss of the defining landscape characteristics of the site/ context, or visual amenity associated with that setting.

\(^3\) Rural/Urban Boundary (North and Northwest) Preliminary Landscape Investigation – Explanatory Note. August 2013. ENPAD. Auckland Council
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High: leading to a major change in the characteristics site or setting, or significantly diminishing key attributes, and/or comparable impacts upon visual amenity.

Moderate – high: an interim measure of effect in which impact of the development results in a change of some significance to the qualities or perception subject landscape.

Moderate: a self-explanatory magnitude in which effects sit midway between the extremes this spectrum of magnitude. Can also be considered as an "average" level.

Moderate – low: impacts on landscape characteristics and attributes are relatively contained. The threshold defining "minor" in relation to the S104D gateway test sits within this level of magnitude, typically towards the lower end of its spectrum.

Low: effects are generally very limited and do not result in compromising the characteristics of a landscape or perceptions of it in a more than subtle way.

Very low: negligible or imperceptible effects result upon the landscape and/or perceptions of it.

Whilst the following descriptions and assessments will not provide a detailed comparison with a permitted baseline development of the Site, it is useful to maintain an awareness of the development that could occur on the property as-of-right.

A Residential Large Lot zoning provides for 9-10 lots to be created on the Site, making due allowance for an access within the area available. In addition to these dwellings, development is likely to include a road or shared access, individual driveways, boundary fences, ancillary sheds, and the like. Te Whau Drive provides a useful indicator of likely character (as seen in Attachments Two and Four), with generously-scaled homes occupying a relatively large portion of their titles and additional utility buildings being a common theme. When seen in an oblique view, as witnessed in many of the panoramas contained in Attachment Three, the buildings are often seen against the surrounding dwelling, giving a sense of compressing the intervening space that is evident when viewed in plan form.

Residential Large Lot development of the Site would come with an impact that is typically not dramatically less than that created by Residential Single House use of the land.

7 Visual Amenity Effects

Viewing Audiences / Affected Parties

To assist with predicting the level of visual and landscape effect that the proposal would generate, publicly accessible vantage points in the area were selected to be broadly representative of each of the following identified audience groups; selecting worst-case views wherever possible. Photographs for each vantage point.
are found in Attachment Three. These will be referred to in the following commentary. Their location is marked in the aerial photograph comprising Attachment Two.

The degree of adverse visual / landscape effect generated by a proposed change or development depends upon the character of the surrounding landscape (the context), existing levels of development on the application site, the contour of the land, the presence or absence of screening and/or backdrop vegetation, and the characteristics of the proposed development.

**Travellers on Mahurangi East Road**

As the primary arterial route between Warkworth and Snells Beach, Algies Bay, Scandretts Regional Park, Martins Bay and Scott Landing, this road corridor carries in the order of 5,000 vehicles per day as it travels past Goodall Reserve to the east of the Site, according to Auckland Transport figures. A lesser number of people would travel the corridor on foot or by bicycle, making this the most substantial viewing audience by a significant margin.

Panorama VP01 in Attachment Three is taken from the Mahurangi East Road verge and illustrates a typical limited view to the Site as glimpsed across Goodall Reserve from passing vehicles, with the Te Whau Drive residences seen projecting above the spur in the background and the window of view to the Site fragmented by intervening trees growing within the Reserve. Many of these trees are of moderate maturity, so their scale and screening capacity will continue to increase over coming decades.

As a result of views to the Site being narrow, fleeting and moderated by intervening vegetation, adverse visual effects upon users of the Mahurangi East Road corridor would be very low.

**Users of Goodall Reserve**

The most intensively used parts of the Reserve are found on the parts with the flattest terrain and most closely related to Mahurangi East Road and Hamatana Road corridors. Those portions of the reserve are, effectively, the most spatially separated from the Site and largely blocked from any visual connection by the substantial belts of trees seen in Attachments one and Two.

Panorama VP01, just described in relation to Mahurangi East Road, also serves to demonstrate the experience of users of the upper portion of the Reserve. Whilst users of the Reserve will have a more "static" view in comparison with the occupants of passing cars, the preceding observations in relation to the relative scale of vistas, imposition of trees within the park and conditioning role of Te Whau Drive residences apply equally to users of the upper portion of the Reserve. Accordingly, visual effects upon this grouping is predicted to be low.

Lower parts of the Reserve have a slightly closer connection with the Site, due in part to being at a similar elevation and being spatially closer. Panoramas VP02...
and VP03 were captured from the central parts of the Reserve, as indicated in Attachment Two. The use of this part of the park is likely to be largely focussed upon the paths that are be seen in these images, so the positioning and alignment of those walkways determines how the Site is experienced. For the most part, trees within the Reserve block views from the paths, but there are periodic points where the line of the path coincides with an opening in the vegetation. VP02 and VP03 were deliberately selected as examples of this relatively rare occurrence. They demonstrate that the exposed portion of the Site occurs as a segment of a much wider vista defined by the trees of the Reserve, so that pocket of future urban development would be part of the scene, rather than a dominating feature. Adverse visual effects experienced from these lower reaches of the reserve are therefore assessed as being low.

**Walkers using the Te Whau Esplanade Reserve path**

This path commences at the Mahurangi Harbour termination of Dawson Road and winds alongside the mangrove-lined shoreline of Dawson Creek as it heads north to link in with the network of paths that course through Goodall Reserve. The track typically sits upon a bench associated with the margin of the Creek, with a flank ascending quite steeply to inland terrain. That situation is most pronounced as the walkway passes along the toe of the Site.

Extensive indigenous planting has been installed to either side of the path for large parts of its length, as can be seen in Photograph 8 found earlier in this report. That installed vegetation supplements the mapou, pines and other naturally occurring flora described earlier to limit views outside of the walking corridor to occasional glimpses across to the creek.

The combination of blocking terrain and rapidly developing vegetation precludes any views to the Site from the adjacent esplanade, so there would be no adverse visual effect upon this audience.

**Pedestrians and motorists on Dawson Road**

In its position atop the Dawson Road Ridge (as identified in Attachment One), this road corridor sits above the Site and separated from it by a distance of approximately 150m by the semi-triangular block of unnamed open space sitting to the east of Snells Beach School. It is used by a modest number of residents and a much larger body of students, staff and parents associated with the school.

As Panorama VP05 illustrates, the view down to the Site is framed by the established residential neighbourhood associated with Foster Crescent to the east and by the complex of school buildings to the west. Lying in the midground – at a similar depth to the Site – are the buildings established to date on the Te Whau Drive subdivision and these will be joined by further structures as those remaining, undeveloped titles to the north are developed. In the more distant background are the building and oxidation ponds of the waste water treatment plant, which in turn are backed by the rural hinterland stretching off to the north and west.
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The Dawson Road ridge is effectively exposed to the narrow axis of the descending Site, so future urban development of the land would be experienced primarily in terms of the most elevated edge of that housing, with the balance of the development lying within the lee of that first rank of buildings when experienced from this viewing area.

A likely influence upon the view will be the future state of the reserve. Whilst it currently sits partially mown and otherwise undeveloped, it is likely that at some stage it will be enhanced with planting to create an improved amenity and character, just as other nearby reserves have been enhanced over recent years. If such planting were to occur, it is highly likely that it would either screen or substantially buffer any future urban development on the Site from this more elevated viewing area.

Overall, and without accounting for the possible future improvement of the reserve just mentioned, it is considered that adverse visual effects upon this viewing audience would be at the bottom end of the moderate to low spectrum, and therefore less than minor.

**Students, staff and community visitors to Snells Beach School**

Impacts upon much of this viewing audience would be first initiated when moving along the Dawson Road corridor, as just outlined. The school’s arrival area, building complex and car parking are concentrated in the upper, south western portion of its site, nearest to Dawson Road. The buildings tend to be orientated on north west to south east axis, aligning their primary aspect roughly toward the Site.

The fabric of the school is tiered down the contour of its site in a series of platforms but those level changes do not appear to particularly provide for views over lower structures towards the Site. Most of the eastern side of the school and its buildings do, however, provide a largely unimpeded outlook in that direction. Similarly, a sports field and related hardcourt area that are positioned in the lowest, northern portion of the school grounds are closely associated with the Site and allow for unobstructed views in that direction.

As Panorama VP06 demonstrates, views towards the Site from the school are over the lower, presently unimproved portion of the neighbouring reserve, with homes on Te Whau Drive defining to the left, the Fester Crescent neighbourhood to the right and slopes of Goodall Reserve in the middle distant background. Where they are capped by the large format retail buildings of the Snells Beach shopping centre. Previous comments about the likelihood of future development and planting of the reserve immediately adjacent to the school are of particular relevance to the outlook.

Putting aside that potential, it is considered that potential visual effects as experienced from various parts of Snells Beach School would be at the lower end of the moderate-low spectrum.
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Photograph 11: Looking into the core of Sneills Beach School, showing the courtyard looking classrooms oriented towards the Site (to centre and right) and the further tier of buildings to left that help to delineate courtyard spaces, but have a more limited outlook.

Residents living near or approaching the Cornell Cres turning head and those on the western edge of Foster Crescent

Panorama VP 07 shows the view from the eastern edge of the radiused elbow in the Cornell Cres cu-de-sac. Here the Site is seen above the two tiers of houses that lie between this vantage point and the boundary to the Site a short distance to the west. Buildings on Te Whau Drive can be seen atop that low spur in the middle distance and the rural hinterland beyond. Permitted activity development of the Site would see those Residential Large Lot building types flow over into the more immediate setting of the current settlement, significantly modifying its current "micro rural" character, contained by the varied land uses that surround the Site and are described earlier.

The underlying topography and alignment of Foster Crescent determine that there is no view to the Site from that road corridor itself. A view to the Site only opens upon reaching the very end of that legal corridor, as seen in Panorama VP08. It is primarily the few houses at the western end of that street that are subject to any level of exposure, although some double storey dwellings situated on the slope above and to the south of Foster Crescent appear to have limited views amongst interspersed vegetation from upper level windows.

Introducing contemporary Residential Single House development to the Site would bring a predictable extension of the Foster Crescent suburban neighbour into this void, albeit in a more condensed form due to lesser lot sizes and a resulting limitation of residual space for establishing vegetation of any scale.

These residents whose properties bound the Site would clearly be most affected by development resulting from the proposed zoning. As Panorama VP09 partially illustrates, the level of exposure of the bounding properties along the wider eastern edge of the Site varies considerably. A few properties are oriented to take in views to the west, whereas the balance have chosen to heavily plant their western boundary to provide backyard containment. The distribution of that domestic amenity vegetation can be seen through close inspection of Attachments Two (where shadows emphasise the presence of trees) and Four.

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Attachment A

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POSTER CRESSENT SNells BEACH

natural character effects

landscape effects

The proposed development would include a number of landscaping features at the existing site, including planting areas, native vegetation, and landscaped areas. The landscaping would enhance the natural character of the site and provide an aesthetically pleasing environment for residents and visitors.

Propagation of plants and trees would be included as part of the landscaping, providing a green corridor and enhancing the overall appearance of the development.
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"The degree or level of natural character within an area depends on the extent to
which natural elements, patterns and processes occur; and the nature and extent of
modifications to the ecosystems and landscape / seascape. The highest degree of
natural character (greatest naturalness) occurs where there is least modification.
The effect of different types of modification upon the natural character of an area
varies with the context and may be perceived differently by different parts of the
community."

As the preceding extract indicates, natural character exists on a continuum that
spans from totally modified at one extreme, to entirely natural at the other.

The oblique aerial image that forms Figure 1 early in this report offers an overview
that is informative when considering the relationship between the partial valley form
of the Site and the adjacent maritime area. That topographic arrangement sees the
Site relating largely to that tiny tributary arm to Dawson’s Creek that lies at the
northern foot of the Site, as more clearly seen in Attachment One.

A further relevant aspect highlighted by Attachment One is the way that the Te
Whau Drive Spur and a subsequent, parallel landsform to the west, serve to isolate
the Site from the mid to lower reaches of Dawson Creek and the wider Mahurangi
Harbour further to the south still. This situation is expressed in Panoramas VP05
and VP06, which highlight the small extent of mangrove canopy that represents
Dawson Creek that are seen in connection with the Site.

Existing levels of natural character associated with Dawson’s Creek are considered
to lie in the midst of a spectrum that stretches from pristine down to dramatically
compromised. The morphology of the creek is intact and it has a fringe of riparian
vegetation – some of it exotic and a measure invasive – along much of its length.
Recent efforts to revegetate parts of the esplanade reserve will serve to marginally
heighten natural character values as that planting matures and diversity develops.

Countering those positive contributors are the unsympathetic intrusion of the waste
water treatment ponds and related building, the modest impact of the Te Whau
Drive esclave and Snells Beach School beyond, and the more assertive existence
of the current Snells Beach settlement, reaching up to and along the Mahurangi
East Ridge (as defined in Attachment One).

Fitting within that existing context and amidst the topographic containment
described earlier, the magnitude of adverse effect resulting from development
provided for by the proposed plan change is considered to be low.

SECTION G: CONCLUSIONS

The Site is an unremarkable pocket of terrain, related to adjacent, long established
residential land-use established on the rimming side of the shallow valley that it
sits within. The frame to the Site includes Large Lot Residential development

MAY 2018
FOSTER CRESCENT SNELLS BEACH
PROPOSED PRIVATE PLAN CHANGE / RESOURCE CONSENT APPLICATION

LANDSCAPE ASSESSMENT

along its other long boundary and public open space to its two lesser frontages. A close relationship with the newly established Snell's Beach School and the diverse community and recreational offerings of Goodall Reserve complete the local land use context.

Whilst physically close to the maritime Dawson's Creek, the Site has a remarkably restricted visual connection to that natural, estuarine body and natural character impacts are correspondingly limited. The site is not noted for its landscape values and the early ENPAD assessment determined that the wider Dawson's Road peninsula has a strong connection with the existing Snells Beach settlement and a correspondingly well-developed capacity to absorb residential growth.

Ecological values within the Site are substantially suppressed, as are the general landscape characteristics of the land, with a small pocket of wetland (proposed to be conserved under the proposal) being the only element worthy of enduring improvement and protection.

The subdivision layout being proposed relates upon the only vehicular access point into the Site and indicates a combination of a primary road and lower level lane to address the format of titles that could occur. Linkages are provided for the two walkway connections into neighbouring reserves that present themselves.

This subdivision concept carries the potential for detailed design resolution that optimises the public spaces in terms of their amenity, safety, local character reference and relatedness to established patterns of development that surround the Site. Currently, Large Lot Residential zoning of the site effectively provides for a level of development – in terms of building footprints, ancillary buildings and other “structured” components – which is not dramatically less than the Residential Single House zoning sought by the application.

Adverse landscape, visual and natural character effects have been assessed as being largely at the lower end of the scale, and less than moderate-low, with higher (moderate through to high) effects being restricted to those occupying a small number of immediately adjacent properties where the land use change will be most directly experienced.

Mike Farrow
Registered landscape architect
May 2018

MAY 2018
Appendix 9 - Consultation
PRIVATE PLAN CHANGE REQUEST

FOSTER CRESCENT
SNELLS BEACH

CONSULTATION REPORT

PREPARED FOR:
PRIME PROPERTY GROUP LIMITED

B&A
Urban & Environmental

15-Feb-2019
B&A

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Appendix 2: Mana Whenua Consultation pack
Appendix 3: Community Meeting notes 16 August 2018
Appendix 4: Feedback and Requests for Additional Information
Appendix 5: Te Whau Lane meeting notes 26 August 2018 and Letters of Support
Appendix 6: Indicative Landscaping buffer along boundary with Te Whau Lane
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1.0 EXECUTIVE SUMMARY

The Private Plan Change seeks to rezone the subject site (Lot 1 DP 149776) from Residential – Large Lot to Residential – Single House. The Plan Change has been prepared taking guidance from the requirements of the Auckland Unitary Plan Appendix 1 Structure Plan Guidelines.

In accordance with best practice, consultation on the draft Plan Change was undertaken on behalf of Prime Property Group Limited (PPGL), being the owner of the site proposed to be rezoned as detailed in the Section 32 report.

Consultation was undertaken with neighbouring property owners and key stakeholders from July to September 2018. Letters were sent to property owners and occupiers and a public meeting was held. There were also specific individual meetings held with the Board of Trustees of the Snells Beach Primary School and the Te Whau Lane residents.

A position has been reached with the owners and occupiers of properties on Te Whau Lane whereby they have provided letters of support for the plan change based on proposed development controls, including setbacks, lots sizes and a landscape buffer that will be reflected in, and secured via the subdivision consent.

In addition to the above, the following were also consulted on the draft Plan Change:

- Mana Whenua;
- Key stakeholders including Auckland Council, Auckland Transport and Watercare; and
- Local interest and community groups.

In response to the feedback, some changes were made to the Plan Change to address the concerns raised. These are described further below.
2.0 INTRODUCTION

The Plan Change area covers 4.6384 ha of land zoned Residential - Large Lot. The site is bounded to the east by the well-established residential area of Cornel Circle and Foster Crescent which is zoned Residential – Single House, to the west is Residential – Large Lot, to the north is the Dawson Creek arm of the Mahurangi Harbour, and to the south of the site is reserve land and the Snells Beach Primary School.

As part of the development of the private plan change request, consultation was undertaken to gauge the views of the community and relevant stakeholders.

3.0 METHODS OF ENGAGEMENT AND STAKEHOLDERS

3.1 METHODS

A consultation package was created consisting of a covering letter outlining the draft Plan Change process, a summary document of the Plan Change including maps, and a feedback form. Letters were dispatched by email, post and hand delivery. A copy of the Consultation Pack is included in Appendix 1. Follow up emails and phone calls were made to persons who did not respond or who sought further information.

A Community meeting was held at the Mahurangi East Community Centre on 16 August 2018 where a presentation of the proposal was given by Burnette O’Connor and Yenisa Anich, followed by a question and answer session. One-on-one and neighbourhood meetings were held with land owners, including with the residents of TeWhau Lane on Sunday 26 August 2018 attended by Burnette O’Connor. Further detail is provided below.

Meetings were held with Auckland Council, while email correspondence has been undertaken with Watercare and Auckland Transport. Meetings were also held with the Snells Beach Primary School Principal and the Board of Trustees.

3.2 KEY STAKEHOLDERS

The following persons and groups were identified as key stakeholders:

- Mana Whenua;
- Landowners and occupiers of land around the Plan Change area;
- Auckland Council, Watercare, Auckland Transport, Snells Beach Primary School Board of Trustees;
- Local interest groups – Friends of the Mahurangi; Mahurangi Action Group and Snells Beach Ratepayers and Residents Association.
4.0 SUMMARY OF CONSULTATION

The following sections describe the engagement with each group and the key outcomes and feedback provided.

4.1 MANA WHENUA

In accordance with Te Puni Kokiri website regarding the rohe (tribal area of interest) maps representing the area over which different iwi exercise kaitiakitanga (guardianship) for the purposes of the Resource Management Act, ten iwi groups were invited to provide feedback on the proposal. This was done by way of an initial email, with an Executive Summary attached and links to all the technical reports. A copy of the email and the attached documents is in Appendix 2. The mana whenua groups were asked to respond by the 1 September 2018. A summary of the responses received is provided below.

- **Manuhiri Kaitiaki Charitable Trust**: Fiona McKenzie, Pou Kaitiaki of the Trust, attended an on-site meeting, and provided a Cultural Impact Assessment (CIA). There were no major cultural concerns raised in the CIA. A number of recommendations were made, which were agreed to. For example, having a representative present during ground disturbing activities adjacent to waterways; to be able to review the Erosion and Sediment Control Plan; and, that eels are relocated before the pond is de-watered.

  A recommendation to remove the proposed lots along the coastal edge of the subject site was not agreed to. This is because all the matters raised were addressed. For example: not building on top of the existing wastewater easement, however, the required 15m by 8m buildable area is available on each of the lots clear of the easement; reducing the chance of discovering archaeological sites as these are often close to the coastal edge; however, the Accidental Discovery Protocol will be adhered to during all earthworks activities on the site; and, not having lots along the coastal edge will provide a buffer to the coast for sediment during earthworks, however, sediment will be controlled through the subdivision consent conditions, which will require erosion and sediment control measures to be in place.

- **Nga Tai ki Tamaki**: Gabriel Kirkwood confirmed that in this instance, they would defer to Ngati Manuhi.ri.

- **Te Runanga o Ngati Whataua**: Tame Te Rangi confirmed the Mana Whenua interests of Ngati Whaitua in the area of the proposed development, and stated that they defer those interests to Manuhiri in anticipation of their provision of an appropriate response accordingly, and that they anticipate that their future involvement will be determined following due consideration by Manuhiri.
B&A

- **Te Kawerau a Maki**: No response was received by 1 September, nor subsequently.
- **Ngāti Wai**: No response was received by 1 September, nor subsequently.
- **Ngāti Maru**: No response was received by 1 September, nor subsequently.
- **Ngāti Paoa**: No response was received by 1 September, nor subsequently.
- **Ngāti Whaanga**: No response was received by 1 September, nor subsequently.
- **Ngāti Te Ata**: No response was received by 1 September, nor subsequently.
- **Ngāti Tamatera**: No response was received by 1 September, nor subsequently.

4.2 **LANDOWNERS AND OCCUPIERS NEIGHBOURING THE PLAN CHANGE AREA**

Owners of neighbouring properties, shown on the map at Figure 1, were contacted to provide feedback on the proposal. Details of the consultation methods is provided in section 3.1 of this report. A summary is provided in the table below. Response to the matters raised is addressed in section 4.2.1.

![Map showing location of owners or occupiers who provided feedback (numbered) (B&A, September 2018).](image)

**Figure 1**: Map showing location of owners or occupiers who provided feedback (numbered) (B&A, September 2018).
<table>
<thead>
<tr>
<th>Map Ref</th>
<th>Property Address</th>
<th>Person</th>
<th>Action &amp; Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>62 Dawson Road</td>
<td>Snells Beach Primary Principal Board of Trustees Ministry of Education</td>
<td>Letter emailed 6 July 2018. Venessa Anich met with Principal 19 July 2018. Burnett O’Connor and Venessa Anich met with the Board of Trustees 1 August 2018. The matters raised are included later in this report. Flyer and technical documents link emailed to school 2 August 2018. Emails were sent to Ministry of Education on 23 July, 15 August, and 24 October 2018.</td>
</tr>
<tr>
<td>2</td>
<td>14 Te Whau Lane</td>
<td>Tara McGibbon and Ewen Thompson Brett and Loran Cowley</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July 2018. Attended Te Whau Lane residents meeting 26 August. Details of matters raised and the response is provided in section 4.2.1.</td>
</tr>
<tr>
<td>3</td>
<td>16 Te Whau Lane</td>
<td>Brian Philip Corric Chris Corric Brendan John Robinson</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Feedback: Concerned about only a small driveway between their property and the proposed new sites. Attended Community meeting (16 August). Attended Te Whau Lane residents meeting 26 August. Details of matters raised and the response is provided in section 4.2.1.</td>
</tr>
<tr>
<td>Map Ref</td>
<td>Property Address</td>
<td>Person</td>
<td>Action &amp; Feedback</td>
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</tr>
<tr>
<td>4</td>
<td>18 Te Whau Lane</td>
<td>Brett John Crockett</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Attended Te Whau Lane residents meeting 26 August. Details of matters raised and the response is provided in section 4.2.1.</td>
</tr>
<tr>
<td>5</td>
<td>20 Te Whau Lane</td>
<td>James David Stevens</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Feedback form provided requesting additional meeting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marlene Joyce Stevens</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grant Stevens</td>
<td>Attended Te Whau Lane residents meeting 26 August. Raised concern about having to wait at the end of Te Whau Lane in peak times with the traffic from the proposed development, which would have right of way. Details of other matters raised and the response is provided in section 4.2.1.</td>
</tr>
<tr>
<td>6</td>
<td>22 Te Whau Lane</td>
<td>Joel &amp; Suzannah Hernus</td>
<td>Email and feedback form requesting meeting 13 August.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Attended Te Whau Lane residents meeting 26 August. Details of matters raised and the response is provided in section 4.2.1.</td>
</tr>
<tr>
<td>7</td>
<td>31 Cornel Circle</td>
<td>Watercare Services Ltd</td>
<td>See section 4.3.</td>
</tr>
<tr>
<td>Map Ref</td>
<td>Property Address</td>
<td>Person</td>
<td>Action &amp; Feedback</td>
</tr>
<tr>
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</tr>
<tr>
<td>8</td>
<td>29 Cornel Circle</td>
<td>Amanda Jane &amp; Christopher John Paul Monks - Chandler</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Feedback: Neutral. Loss of privacy. Noise pollution from building works. So many residents in small area. Asks if houses will be fenced, and how close the dwellings will be to their property.</td>
</tr>
<tr>
<td>9</td>
<td>27 Cornel Circle</td>
<td>Andria Margaret &amp; Puhi Alfred Johnson</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Attended community meeting 16 August. Notes mailed out.</td>
</tr>
<tr>
<td>11</td>
<td>21 Cornel Circle</td>
<td>Graham and Edith Short</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>12</td>
<td>19 Cornel Circle</td>
<td>Rachel Karen Baikie</td>
<td>Letter mailed 10 July. Meeting 23 July, concerns raised included drainage and flooding issues as water from site drains onto her property, loss of sunlight due to site being higher than her property, new fencing along shared boundary. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>Map Ref</td>
<td>Property Address</td>
<td>Person</td>
<td>Action &amp; Feedback</td>
</tr>
<tr>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>13</td>
<td>16a Cornell Circle</td>
<td>Dorothy Ada Muir</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>14</td>
<td>17 Cornell Circle</td>
<td>Nigel Robin Ross</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>15</td>
<td>12 Cornell Circle Snells Beach</td>
<td>Corine and John Keast</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>16</td>
<td>11 Cornell Circle</td>
<td>Robyn &amp; Warwick Hambleton</td>
<td>Letter mailed 10 July. Submission: Agree. Good site for subdivision. 600m² sites appear to be standard. Iris St is narrow, suggests that one side should be ‘no parking’. Pedestrian access to water’s edge and Goodall Reserve is good, shortcut to shops. Access should be formed to sufficient standard for a pram or mobility scooter. Stormwater from eastern side of site shed towards Cornell Circle. Stormwater systems need to address this. Stormwater from school flows onto paddock above Te Whau Drive. This needs to be pipped downhill. Invite to community meeting mailed 26 July. Emailed reply will be attending 31 July. Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>17</td>
<td>14 Cornell Circle</td>
<td>Bella Boston</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>Map Ref</td>
<td>Property Address</td>
<td>Person</td>
<td>Action &amp; Feedback</td>
</tr>
<tr>
<td>---------</td>
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<td>------------------</td>
</tr>
<tr>
<td>18</td>
<td>1 Foster Crescent</td>
<td>Treetop Properties Ltd Pauline Fell</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>20</td>
<td>3 Foster Crescent</td>
<td>Brett Allan Rapley</td>
<td>Letter mailed 10 July. Tech reports emailed 17 July. Invite to community meeting mailed 26 July. Feedback: Disagree. Increase in traffic and noise. Loss of property value, negative impact on appeal of nearby properties, which will affect his property, and derogate from the reasonably use and enjoyment of his home and tranquility of the cul-de-sac. Concerned about high power cables being moved closer to his house, which affect his property and personal well-being. More pressure will be put on Warkworth intersection. Attended community meeting 16 August. Raised that he wants power lines put</td>
</tr>
</tbody>
</table>
### Item 18

<table>
<thead>
<tr>
<th>Map Ref</th>
<th>Property Address</th>
<th>Person</th>
<th>Action &amp; Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>4 Foster Crescent</td>
<td>Ora Noa McIndoe</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Attended community meeting 16/8. Notes emailed out 21/8, bounced, so mailed out.</td>
</tr>
<tr>
<td>22</td>
<td>5 Foster Crescent, C/- 36 Heathcote Rd, Caster Bay, North Shore.</td>
<td>Gordon Lee Davidson</td>
<td>Letter mailed 10 July. Bounced back, hand delivered but only a holiday home, so sent letter to Castor Bay address. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>23</td>
<td>6 Foster Crescent</td>
<td>Mudschute Trustee Co. Ltd, Wendy Fong</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July. Feedback: Agree. Asks if there will be covenants for the Single House zone, what measures will be taken to ensure good quality housing, how traffic will be managed, and is there a public right of way from new development to reserve to the north. Reply emailed 17/9/18.</td>
</tr>
<tr>
<td>25</td>
<td>8 Foster Crescent</td>
<td>Jennifer May Walsh</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>26</td>
<td>10 Foster Crescent</td>
<td>Neil Michael Kose</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>Map Ref</td>
<td>Property Address</td>
<td>Person</td>
<td>Action &amp; Feedback</td>
</tr>
<tr>
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<td>------------------</td>
<td>--------</td>
<td>------------------</td>
</tr>
<tr>
<td>27</td>
<td>12 Foster Crescent</td>
<td>Brian Philip Corrie &amp; Brendan Robinson</td>
<td>Letter mailed 10 July. Invite to community meeting mailed 26 July.</td>
</tr>
<tr>
<td>28</td>
<td>17 Foster Crescent</td>
<td>Cheryl and Scott Fenwick</td>
<td>They estimate 52 cars might result in 70+ cars to the street. They presume the entrance and exit for the proposal is Foster Crescent, and perhaps an extension to Te Whau Lane is at present. They want to know what improvements would be made to the pavements that children use to keep them safe from the road. Is there any provision or consideration for wider pavement and additional paving on the other side of the road? Is there any obligation and considerations for improving the corner of Foster Crescent and Iris Street for children to cross? More road markings, signs and possibly even no parking zig zags for visibility. Want to see anything that can be done to slow down cars, and improve safety as much as possible for the children. A lot of children bike on the road, there are buggies and prams, and scooters.</td>
</tr>
</tbody>
</table>

Others who attended the Community Meeting 16 August 2018.

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<thead>
<tr>
<th>Ref</th>
<th>Address</th>
<th>Person</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>11 Piccadilly Circus</td>
<td>A and C Catley</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
<tr>
<td>N/A</td>
<td>500 Mahurangi East Road</td>
<td>Martin Harris</td>
<td>Attended community meeting 16 August. Notes emailed out 21 August.</td>
</tr>
</tbody>
</table>
## 4.2.1 Matters Raised at the Community Meeting 16 August 2018

The notes from the 16 August 2018 Community meeting are in Appendix 3. The feedback received and the requests for further information are in Appendix 4. A summary of the matters raised and the response is as follows:

- **Zone Rules:** Questions were raised around the Residential - Single House zone development standards e.g. height – buildings could be two storied, breaches of maximum site coverage rules, and potential building setbacks from yards. Concern was raised by residents that the bulk and location rules will not be complied with.

  **Response:** Resource consent would be required if rules were not complied with, which is likely to involve having to seek a written approval from the affected neighbour.

- **Neighbour’s Privacy and Amenity:** Residents asked how their privacy was going to be protected. Currently they stated that they have rural outlook, plan change will mean that they will feel like they have been built out. They would prefer similar house density to Foster Crescent and Cornel Circle.

Concerned about the closeness of the new houses to the existing houses along the shared boundary with Cornel Circle and Te Whau Lane, and two-storey houses being constructed along common boundary.
Te Whau Lane residents brought their properties expecting more Large Lot residential neighbours east of them. Would prefer larger lots on new subdivision along this boundary, then transition to smaller lots further east.

**Response:** Further discussion with Te Whau Lane neighbours has taken place about possible mitigation measures. See discussion in section 4.2.2 below.

Regarding density, explained that the existing residential area was established under old rules, when 600m² was the minimum (Rodney District Plan Residential M (medium intensity) zone – reticulated and outside of Township Policy Area). There is now a mixture of lot sizes in this area, with some sites having a higher density because of infill via cross lease. The section sizes of the existing properties range from 1,243m² to 421m², with a lot of 800m² properties. The proposed density on the subject site is considered to be relatively consistent with existing section sizes along the eastern shared boundary. The change for these neighbours is that the neighbouring residential density will change to something similar to their own. Therefore, the residential amenity will be maintained.

- **Traffic on Foster Crescent and Iris Street:** Residents were concerned that there are already traffic issues along Iris Street, Foster Crescent and Cornell Circle, and that would be exacerbated with additional traffic. Traffic travelling down these streets is down to single lane if cars are parked on both sides of road. There were also concerns raised about safety of children who use these roads as a thoroughfare to and from Snells Beach Primary School. A lot of parents drive down Iris Street and Foster Crescent to drop off and pick up their children from school. Particularly whilst there is construction work happening opposite the school (Kia Kaha Drive).

People raised the possibility of the proposed new road extending through the reserve to connect with Dawson Road.

**Response:** Explained that this land is classified as a Recreation Reserve, and therefore it would be difficult to change the use of the land from reserve to road.

Regarding congestion, the Traffic Impact Assessment (**Appendix** 6 of the s32 Evaluation Report) has determined that the additional traffic generated by the proposed plan change and residential subdivision will not create any tangible safety or operational concerns for the surrounding road network, and there would be no discernible increase to queuing or delay at the intersection of Iris Street and Mahurangi East Road.

The Traffic Impact Assessment analysed observed movements of children along Iris Street and the intersections with Foster Crescent and Mahurangi East Road.
during the peak pedestrian activity associated with the start and end of the school day. The assessment found that the additional traffic movements attributable to the proposed residential subdivision will not noticeably affect pedestrian safety on Foster Crescent or Iris Street.

- **Entrance to site:** Entrance to Te Whau Lane and the subject site is also where school walkway comes out. Concerns about safety of children.

Number 2 Foster Crescent’s driveway is right at this point as well. Concerned that access to property will become dangerous given the location of the existing crossing into the site and the proposed road extension.

**Response:** The Traffic Impact Assessment considers that the shared private access (Te Whau Lane) will have to be adjusted to create a new vehicle crossing off the proposed new road carriageway. Similarly, the existing vehicle crossing for numbers 1 or 2 Foster Crescent will have to be reconstructed to align with the new road formation for the proposed subdivision. The design and reconstruction of the vehicle crossings for Numbers 1 and 2 Foster Crescent and Te Whau Lane will be subject to consultation with the owners of these properties, and Auckland Transport, as road controlling authority.

The Traffic Impact Assessment confirms that changes to the existing turning head on Foster Crescent will consider the safe operation of the existing footpath on Foster Crescent and connection with the off-road path linking with the Snells Beach Primary School.

- **Earthworks:** Concern about sediment entering the Harbour. Concern about the noise, dust, disruption, heavy vehicles, etc during the construction phase for the subdivision.

**Response:** Explained that earthworks are controlled through the subdivision consent conditions, and the Engineering Report proposes earthworks mitigation measures like silt traps. Subdivision consent conditions also manage the construction effects, e.g. timing, duration, dust, hours of operation.

- **Water and Wastewater Servicing:** Concern that there wasn’t sufficient infrastructure to service the site.

**Response:** Watercare has confirmed that the site can be serviced by water and wastewater (Appendix 7).

- **Stormwater:** It was raised that stormwater flows down Cornel Circle through people’s properties (and garages, etc) then onto the subject site. There are two
boggy wet areas on the subject site along Corne! Circle properties shared boundary. Have concerns that stormwater on subject site, when developed into houses and roads, will make existing situation worse.

**Response:** It was explained that the subdivision of the subject site will not necessarily fix existing problems with stormwater running down Corne! Circle and through properties. Stormwater issues need to be raised with Auckland Council. Stormwater on the subject site will be managed, treated and directed to the wetland at the north eastern corner of the site, before entering the Harbour. The Engineering Report also confirms that stormwater can be managed for the proposed development.

- **Powerlines:** 3 Foster Crescent would prefer if power lines are buried. If not buried, they don’t want them any closer to the houses.

  **Response:** Concern is noted. The requirement will be to provide underground reticulated power supply within the development. This will be addressed at subdivision stage.

- **Reserves:** It was raised that there is a need for a local reserve within the subdivision, for a playground, etc. Path linkage to Goodall Reserve needs to be good enough for mobility scooters.

  **Response:** Explained that there are Council standards for reserve requirements and this area has a number of reserves already. This is one of the positive attributes of this location. For example, there is Goodall Reserve, the Mahuruangi East Community Centre and associated facilities, and the Te Whau coastal walkway.

4.2.2  **Te Whau Lane Residents Meeting 26 August 2018.**

The notes from the 26 August 2018 Te Whau Lane meeting are in **Appendix 3.** Agreement has been reached with these neighbours subsequent to this meeting, including the provision of letters of support from them for the plan change based on controls and amendments to the subdivision (**Appendix 5**).

A summary of the matters raised at the 26 August meeting and the response is as follows:

- Larger sites along the common boundary with Te Whau Lane, a defined building site on each property that requires houses to be built closer to the internal road.
Response: The scheme plan has been amended to provide for larger residential sites (800m² approx.) that still achieve an efficient utilisation of the land resource. The scheme plan demonstrates that each proposed lot can contain the required 8 x 15 m building area that is clear of the required yards.

- Limiting the maximum building height to single storey, or a specific Reduced Level so that there is no overlooking to Te Whau Lane

Response: Through the subdivision consent, a single storey height restriction is to be placed on the proposed lots along the shared boundary with Te Whau Lane.

- Lot 54 access way (to the coastal walkway) to be relocated so that there is no boundary adjoining Lot 3 DP 499198 (22 Te Whau Lane).

Response: The scheme plan has been amended and the pedestrian accessway has been moved so that it is now located between proposed Lots 18 and 19.

- Requested topographical survey information, including details of depths and areas of cut and fill, so Te Whau Lane residents can determine whether the current topography on the boundary is maintained, improved or worsened.

Response: Advised that the current topography on the boundary is expected to be maintained, or slightly lowered. Detail on the final ground levels will be determined during the detailed engineering design stage. The height of the subsequent houses will be restricted to single storey through the subdivision consent. In addition, the effects of built development will be further mitigated by the proposed 15m building line restriction and proposed landscaping strip.

- The proposed planting and fencing was generally supported but questions were raised about how the planting on the western side of the fence would be maintained as there would be no legal access to that area.

Response: The indicative Landscaping Plan is to be included with the proposed subdivision and will be secured by consent conditions on the subdivision resource consent approval. There are options for the ongoing maintenance of this landscape planting that will be finalised in a legal agreement including:

- Provision for access over Te Whau Lane for the purposes of maintaining the planting.
• Establishment of an entity that the owners of each of the affected properties need to be part of. The entity shall be responsible for the ongoing maintenance of the landscape strip. The entity can have a contract with a landscaping company to undertake the ongoing maintenance.

• Te Whau Lane residents maintain the landscape planting.

• Each owner of the affected lots maintains the landscaping on their sites accordingly.

  Traffic was raised as an issue particularly concerned about having to wait at the end of Te Whau Lane in peak times with the traffic from the proposed development which would have right of way on the road extension.

  **Response:** As stated above, the effects of additional traffic have been considered in the Traffic Impact Assessment (Attachment B to the s32 Report). The Assessment states that the predicted increase in vehicle movements associated with the proposed plan change and subsequent subdivision is not expected to generate a notable concern with respect to queuing or delay on Foster Crescent and Iris Street, nor at the intersection of Iris Street with Mahurangi East Road.

• **Te Whau Lane Residents** would like to see a 15 metre separation between their boundary and the proposed built development.

  **Response:** The amended scheme plan includes a 15 metre setback between the boundary and the proposed building sites.

### 4.3 KEY STAKEHOLDERS

Public organisations identified as being key stakeholders were contacted initially by email, and further engagement by way of phone calls and meetings. A summary of the consultation undertaken and key feedback is included below.

• **Auckland Council:** A pre-application meeting was held on 14 December 2016, with attendees listed below. Meeting notes are in Appendix 7. At this stage, the proposal was to subdivide the site into 59 residential lots.

<table>
<thead>
<tr>
<th>Council</th>
<th>Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hayden Wadams (Senior Planner)</td>
<td>Burnette Macnicol (OPC)</td>
</tr>
<tr>
<td>Nicola Broadbent (Team Leader)</td>
<td>Peter Cherin (Applicant, Northern Investors Trust)</td>
</tr>
<tr>
<td>Scott Lamason (Development Engineer)</td>
<td></td>
</tr>
</tbody>
</table>

On the 2 November 2017 a meeting was held with the staff members listed below at Auckland Council. Meeting notes are in Appendix 7.
Council staff were open to the idea of the plan change. They could see merit in smaller site sizes given the location and community facilities nearby.

Feedback was given that the wastewater capacity would be the main matter of importance to confirm suitability. Council staff advised the need to clarify with Watercare the servicing capacity from the proposed treatment plant and when this capacity would be available. See comments below regarding Watercare.

Matters raised by Council have been taken into account in the final version of the Plan Change application.

- **Auckland Transport**: TEAM (Traffic Engineering & Management Ltd) have been in discussions with Alistair Lovell and Katherine Dorofeef from Auckland Transport (AT) ([Appendix 7](#)). Following is the feedback from AT:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Engineering</td>
<td>No issues at this time. The development trip generation is low and there are no known existing traffic issues and this location. Would like to review detailed plan of the proposed road and its interaction with the existing Foster Crescent once it is available.</td>
</tr>
<tr>
<td>Walking traffic cycling</td>
<td>Need to be aware of the walkways that go directly to Snells Beach from Foster Crescent. During development there are likely to be additional traffic vehicles parking around the entrance to the walkway and parking may need to be controlled. Note that the local bus service has introdused the Puhio to Pakiri Greenways Plan which includes a sector of route on the coastal esplanade adjacent to this development. <a href="http://aucklandtransportchangepoint.com/Dev/Wtc/North/Greenwa%20Plan%20%20%20%20%20%20%20%20%20%20%20.pdf">http://aucklandtransportchangepoint.com/Dev/Wtc/North/Greenwa%20Plan%20%20%20%20%20%20%20%20%20%20%20.pdf</a></td>
</tr>
<tr>
<td>Public transport</td>
<td>No network planning issues identified</td>
</tr>
</tbody>
</table>

Regarding the intersection with Foster Crescent and the proposed road, and how construction traffic will be managed around the school walkway, these matters will be addressed in the subdivision application. This level of detail is not required for the plan change application.

The Puhio to Pakiri Greenways Plan has been considered in the Open Spaces and Community Facilities Report ([Appendix 3 to the s32 Report](#)). The subject site and the proposed subdivision layout will complement the network in the Greenways Plan. Within the site there is the provision for linkages between the site and the coastal walkway, Goodall Reserve, and the school. It is considered that this will be a positive addition to the greenways routes for Snells Beach as identified in the Greenways Plan.
• **Watercare:** Discussions were undertaken with Watercare in 2016, and written confirmation was provided from Watercare stating that the site can be serviced with wastewater provided a number of conditions are met (Appendix 7). In addition, they confirmed via email that there is sufficient capacity to service the site with reticulated water.

Given the time that has passed, a ‘new’ (September 2018) request has been made to Watercare for an updated confirmation that the subject site can be serviced with water and wastewater. Watercare have provided that confirmation. Correspondence to date is in Appendix 7.

• **Snells Beach Primary School:** A consultation package consisting of a covering letter outlining the draft Plan Change process, a summary document of the Plan Change including maps, and a feedback form was emailed out on 6 July 2018 (see Appendix 1). A meeting was held with the school Principal on 19 July 2018 attended by Venessa Anich. A meeting was held with the Board of Trustees on 1 August 2018. A community meeting flyer about the proposed public meeting was distributed and also link to the technical documents was emailed 2 August 2018.

The main concern raised by the Board regarding effects of the plan change on the school was around traffic issues and safety for their children on Foster Crescent and Iris Street. Children use Foster Crescent to walk to and from school, and a lot of parents park on Foster Crescent to drop off and pick up their children. The walkway from school joins Foster Crescent where access to Plan Change site is, so this is a busy location and busy street twice a day during the school week. The Board stated that Foster Crescent and Iris Street are narrow, and have a lot of traffic already. Have safety concerns for the children with the extra vehicles from the plan change site when it is subdivided.

**Response:** As stated above, the Traffic Impact Assessment has determined that the additional traffic generated by the proposed plan change and residential subdivision will not create any tangible safety or operational concerns for the surrounding road network. Regarding the safe and efficient movement of pedestrian along Foster Crescent and Iris Street, through observing the movement of school children, and observing and predicting vehicle movements, the Assessment considers that the additional traffic movements attributed to the proposed residential subdivision will not noticeably affect pedestrian safety or amenity on Foster Crescent and Iris Street.

It is noted that currently there is additional school traffic using these streets as a result of construction activities on Dawson Road opposite the school. Consequently, this additional use is likely to change once the construction is completed and the school traffic resume to primarily using the school entrance off Dawson Road.
B&A

- **Ministry of Education**: An email was sent to the Ministry’s Property Advisor for Snells Beach School on 23 July and 15 August 2018. An email was sent to the Ministry’s Principal Advisor for RNA acquisitions and designations. The email correspondence is in Appendix 4. Further information has been provided to the Ministry, a reply is yet to be received.

4.4 **INTEREST GROUPS**

Two local interest groups were emailed the consultation package with cover letter on 6 July 2018 (refer Appendix 1). Follow up emails, phone calls and texts messages were undertaken, as summarised below:

- **Snells Beach Ratepayers and Residents Association**: Phone and email contact with Maure Hooper (Chairman) has been undertaken, and the proposal has been discussed with him. An invite to the community meeting was emailed on 30 July 2018. The community meeting Flyer was emailed on 2 August 2018. No written feedback has been provided to date.

- **Friends of the Mahurangi and Mahurangi Action**: Various emails and texts with Cimino Cole (Chair). A link to the Technical reports was emailed 24 July and 10 September 2018. An invite to community meeting was emailed 30 July 2018. Follow up email on 2 August 2018. Their feedback is in Appendix 4, and summarised as follows:

  Mahurangi Action is engaging intensively in the Warkworth Structure Plan process set in train by the decision that Warkworth be a satellite growth centre. An argument made by Auckland Council planners, during our discussions, is that Warkworth as a satellite growth centre is preferable to less structured growth over a wider geographic area.

  The Mahurangi Action committee advise that this organisation does not immediately see what benefits the proposal for a 50 – 52 lot subdivision extension to urban Snells Beach would present socially or environmentally, including of landscape and visual impact, over the current Large Lot zoning.

  Based on our current understanding of the private plan change proposal, Mahurangi Action cannot provide support.
Appendix 1

Consultation Pack
9 July 2018

XX

XX

Dear,

RE: Proposed Private Plan Change – Foster Crescent, Snells Beach

You have been identified as a party who is likely to have an interest in a request for a private plan change to rezone a site at Foster Crescent, Snells Beach (Lot 1 DP 149776). The proposal seeks to change the current Residential - Large Lot zone to Residential - Single House zone in the Auckland Unitary Plan.

The purpose of this letter is to initiate the consultation process. A summary of the technical background and assessments to the proposed re zoning is attached to this letter. If you would like to view the complete technical and assessment package, please let us know and we can send this to you electronically.

We value any feedback that you may have, therefore your comments in written form would be appreciated. A form has been prepared for ease of responding should you wish to use it. The form along with a self-addressed envelope are attached. If you choose not to use the form but would like to provide comments we are happy to receive your feedback by way of email or delivery to our office at 20 Baxter Street.

If you would like to meet to discuss this proposal in further detail, please contact us to arrange a suitable time.

Yours faithfully

Barker & Associates Ltd

Burnette O’Connor
Senior Associate

Mob: 021 422 346
Email: burnetteo@barker.co.nz
EXECUTIVE SUMMARY OF FOSTER CRESCENT PLAN CHANGE

INTRODUCTION

Prime Properties Limited is applying for a Plan Change to the Auckland Unitary Plan – Operative in Part to rezone Lot 1 DP 149776 (approximately 4.6384 hectares) from Residential - Large Lot Residential to Residential - Single House zone. At the same time, resource consent is proposed to be lodged for a vacant lot subdivision in accordance with the Single House zone rules.

The site subject to the proposed rezoning is shown in Figure 1 below:

Figure 1: Showing Lot 1 DP 149776, proposed to be rezoned to Single House.

The site is currently in pasture and slopes in a northerly direction from Foster Crescent/Te Whau Lane to Dawson’s Creek at the northern edge. The site is bounded by suburban residential development on the eastern side and larger lot development on the western side. The sites to the west have already been
subdivided in accordance with the Large Lot zone rules. Snells Beach School and a nearly three hectare Council reserve are located to the south of the site.

SUMMARY OF THE PROPOSAL

Under the former Rodney District Plan the site was zoned ‘Low Intensity Urban’ consistent with the Snells Beach – Algies Bay Structure Plan. This zoning was ‘rolled over’ to the Auckland Unitary Plan, which is now operative. While not explicitly stated, this zone was applied principally to provide a visual transition from the residential areas in the east and the rural edge of Dawsons Creek, and the wider Mahurangi harbour catchment in the west.

Since the Structure Plan was originally developed, the planning framework has changed considerably. The Regional Policy Statement of the Auckland Unitary Plan now emphasises the need to increase housing supply and achieve a ‘quality compact’ urban form that makes efficient use of land and infrastructure, while responding to local character and sense of place.

Taking into account the land required for access, utilities and stream maintenance, the proposed rezoning would allow for an additional 41 lots to be developed on the site, compared with the existing Large Lot zoning that would enable approximately 11 sites.

The extra lots would provide additional housing capacity within the existing urban area and make efficient use of land and infrastructure. The nature and density of development would also be consistent with the development to the East and the wider Snells Beach area. The existing and developed Large Lot zone to the west of the site would ensure that a visual transition in residential density is achieved between the residential area in the east and the rural land further west thereby retaining the area’s sense of place. In addition to this, the proposal is considered to meet the key policies of the Auckland Unitary Plan for the following reasons:

- In terms of residential amenity and character:
  - The density envisaged by Single House zone (600m²) is generally consistent with the residential density to the east, and a consistent character would therefore be achieved;
  - The minimum site size for the Single House zone and the development controls that apply, including height in relation to boundary, maximum building coverage and minimum landscaped area for example, will ensure that potential privacy and dominance effects to neighbours will be effectively managed.

- In terms of infrastructure capacity:
B&A

- There is sufficient capacity in the road network to accommodate the proposed increase in dwellings;
- There is sufficient capacity in the wastewater and water supply networks to accommodate the proposed increase in dwellings;
- Stormwater from the site discharges directly to the Mahurangi Harbour and there is no risk of downstream flooding. Devices can be installed within the development to ensure that stormwater is sufficiently treated prior to being discharged;

- In terms of ecology, the primary permanent watercourse and wetland at the north-eastern edge of the site will be maintained within the development and will form part of a proposed utility reserve that links with the Te Whau esplanade reserve and wider open space network;
- In terms of the geotechnical conditions of the site, these have been assessed and the analysis confirms that the ground conditions can support a higher density of development on the site.

A draft subdivision plan has been prepared for the development and is shown in Figure 2 below, which illustrates the potential layout of the site under the Single House zone.

*Figure 2: Showing the draft subdivision plan for the site.*
A range of technical reports have been developed that have informed the conclusions outlined above, including:

- Landscape assessment prepared by Littoralis;
- Geotechnical assessment prepared by LDE Limited;
- Engineering report prepared by LDE Limited;
- Traffic Impact assessment prepared by LDE Limited;
- Ecological assessment prepared by Biorsearches.

Copies of these reports are available upon request.

Burnette O'Connor
Senior Associate, Barker & Associates Limited
Date: 6 July 2018
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

Name:

Address of Property:

Phone number:

Email (or postal address if no email):

I have reviewed the proposed re-zoning to Residential Single House zone.

I agree with the proposed Residential - Single House zone.

I disagree with the proposed Residential - Single House zone.

I am neutral towards the proposed Residential - Single House zone.

The reasons for my / our opinion as indicated are -
and additional comments I / we wish to make are detailed below: (please use reverse side of this page if more room is needed)

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

I would like a meeting to discuss this proposal further:

I request additional information, as listed below:

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________
Appendix 2

Mana Whenua Consultation Pack
6 August 2018

XXX

Attr. XXXX

Dear

Re: Proposed Private Plan Change – Foster Crescent, Snells Beach

IWI XXX has been identified as a party who may have an interest in a private plan change proposal that is being advanced to rezone a site at Foster Crescent, Snells Beach (Lot 1 DP 149736). The proposal seeks to change the current Residential - Large Lot zone to Residential - Single House zone in the Auckland Unitary Plan. We are contacting you to initiate consultation on the proposal which has not yet been lodged with Auckland Council.

The purpose of this letter is to inform you of the proposal, where we are at in the process and seek any comment or feedback from you that you wish to make. A summary of the background and technical assessments to the proposed rezoning is attached to this email. The email also contains a link that will provide you access to the complete technical reports which include geotechnical, archaeological, ecological and engineering assessments amongst others. Community Facilities assessments are currently being prepared.

If you require any further detail or explanation please do not hesitate to contact me. If you would like to meet to discuss this proposal in further detail, please contact us to arrange a suitable time.

Based on information provided on Te Puni Kokiri website regarding the rohe maps representing the area over which different iwi exercise kaitiakitanga for the purposes of the Resource Management Act 1991, we are also consulting with Ngati Manuhiri, Ngati Wai, Te Kawerau a Maki, Ngati Maru, Ngati Paoa, Ngati Whanaunga, Te Runanga o Ngati Whataua, Nga Tai ki Tamaki, Ngati Te Ata, and Ngati Tamatea.

We would appreciate hearing from you by 1 September 2018.

Yours faithfully

Barker & Associates Ltd

Burnette O'Connor

B&A
Urban & Environmental
Senior Associate

Mob: 021 422 346
Email: burnetteo@barker.cc.nz
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B&A

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Since the Structure Plan was originally developed, the planning framework has changed considerably. The Regional Policy Statement of the Auckland Unitary Plan now emphasises the need to increase housing supply and achieve a ‘quality compact’ urban form that makes efficient use of land and infrastructure, while responding to local character and sense of place.

Taking into account the land required for access, utilities and storm maintenance, the proposed rezoning would allow for an additional 41 lots to be developed on the site, compared with the existing Large Lot zoning that would enable approximately 11 sites.

The extra lots would provide additional housing capacity within the existing urban area and make efficient use of land and infrastructure. The nature and density of development would also be consistent with the development to the East and the wider Snells Beach area. The existing and developed Large Lot zone to the west of the site would ensure that a visual transition in residential density is achieved between the residential area in the East and the rural land further west thereby retaining the area’s sense of place. In addition to this, the proposal is considered to meet the key policies of the Auckland Unitary Plan for the following reasons:

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  - The density envisaged by Single House zone (600m²) is generally consistent with the residential density to the East, and a consistent character would therefore be achieved;
  - The minimum site size for the Single House zone and the development controls that apply, including height in relation to boundary, maximum building coverage and minimum landscaped area for example, will ensure that potential privacy and dominance effects to neighbours will be effectively managed.

- In terms of infrastructure capacity:
There is sufficient capacity in the road network to accommodate the proposed increase in dwellings;
- There is sufficient capacity in the wastewater and water supply networks to accommodate the proposed increase in dwellings;
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Copies of these reports are available upon request.

Burnette O’Connor
Senior Associate, Barker & Associates Limited
Date: 6 July 2018
Appendix 3

Community Meeting Notes 16th August 2018
MEMORANDUM

Notes from Community Meeting

Private Plan Change proposal, Foster Crescent, Snells Beach, 16 August 2018

Presenter: Burnette O'Connor, Planner B&A supported by Venessa Anich, Planner B&A

Notes By: Venessa Anich, B&A

Zone Rules:

Questions were raised around the Residential - Single House zone development standards e.g. height – could buildings be two storied, breaches of maximum site coverage rules, and potential building setbacks from yards.

Concern was raised by residents, primarily land owners and residents in the Foster Crescent and Cornel Circle area that the bulk and location rules will not be complied with. Explained that resource consent would be required if rules were not complied with, or otherwise an approval provided by the affected neighbour, which may allow a boundary approval process to be followed.

Neighbour’s Privacy and Amenity:

Residents attending the meeting asked how their privacy was going to be protected? Currently have rural outlook, plan change will mean that they will feel like they have been built out.

The closeness of the new houses to the existing houses along the shared boundary with Cornet Circle and Te Whau Lane is a concern for these neighbours.

Residents of Cornet Circle raised a concern with respect to two-storey houses being constructed along properties on the common boundary. This was an issue particularly for these neighbours (e.g. 17 Cornet Circle).

For Te Whau Lane residents, they brought their properties expecting more large lot residential neighbours east of them. Now could have 5 dwellings. Would prefer larger lots on new subdivision along this boundary, then transition to smaller lots further east.

Both sets of neighbours on the western and eastern boundary of the subject site are interested to have further discussion about possible mitigation measures, e.g. maximum height / single storey controls and a greater yard setback separation being secured as part of future subdivision process, landscaping, fencing, etc. Further meetings with two sets of neighbours to be planned.

Traffic on Foster Crescent and Iris Street:

A key issue raised by those attending the meeting was traffic on Iris Street, Foster Crescent and Cornet Circle. Residents were concerned that there were already traffic issues that would be exacerbated with additional traffic. Those at the meeting who raised concerns about traffic stated that the streets are down to single lane if cars are parked on both sides of road. So for two cars to pass each other, one must give way. There were also concerns raised about safety of children who use these roads as a thoroughfare to and from Snells Beach Primary School.

People attending the meeting explained that a lot of school children walk along Foster Crescent and cross Iris Street, or continue down Foster Crescent to Goodall Reserve. Goodall reserve can be
MEMORANDUM

unsafe, sometimes dogs running loose, intimidating teenagers, etc. A lot of parents drive down Iris Street and Foster Crescent to drop off and pick up their children from school. Can get congested at these times of the day.

Idea that access could come off Dawsons Road instead, across Council land to south of subject site. Explained that this is classified as a Recreation Reserve. Would be hard to change the use of the land from reserve to road. It is also likely to be used for the school to expand onto in the future.

Concerned that subdivision will result in more traffic congestion at the Warkworth Hill Street intersection. It can take an hour to get into Warkworth sometimes when it is congested, often a Saturday morning or weekend evenings in summer.

Entrance to site:

Entrance to Te Whau Lane and the subject site is also where school walkway comes out. Concerns about safety of children. Maybe need a Stop sign here, or some sort of traffic calming?

2 Foster Crescent’s driveway is right at this point as well. Concerned that access to property will become dangerous given the location of the existing crossing into the site and the proposed road extension. Wants to know engineering details for this intersection.

Residential Density:

Question why not less houses on subject site. Would prefer similar house density to Foster Crescent and Cornel Circle. Explained that this residential area was established under old rules, when 800m² was the minimum. There is a mixture of lot sizes in this area, with some smaller sites because of infill via cross lease. The area of the existing properties range from 1,243m² to 421m², with a lot of 800m² properties.

Construction effects:

Concerns were raised about the noise, dust, disruption, heavy vehicles, etc during the construction phase for the subdivision.

During construction for Te Whau Lane properties, heavy vehicles could not turn around down narrow streets, so had to back up all the way along Foster Crescent. This was dangerous and inconvenient. During construction of the school (took 2-3 years) there was so much dust that could not hang washing on line when wind blow from the west (which is the predominant wind). Wants to know how going to mitigate effects during construction. Explained that subdivision consent conditions manage the construction effects, e.g. timing, duration, dust.

Servicing:

One neighbour had rung Council, who said that there wasn’t sufficient infrastructure to service the site. Explained that we have confirmation from Watercare that the site can be serviced with wastewater and water supply. Snells Beach Wastewater treatment plant is going to be upgraded. The engineering report also confirms that stormwater can be managed.

Stormwater:

Currently stormwater flows down Cornel Circle, through people’s properties (and garages, etc) then onto the subject site. There are two boggy wet areas on the subject site along Cornel Circle.
MEMORANDUM

properties shared boundary. Have concerns that stormwater on subject site, when developed into houses and roads, will make existing situation worse. Explained that the subdivision will not be able to fix existing problems with stormwater running down Cornel Circle and through properties. But stormwater on the subject site will be managed, treated and directed to the wetland at the north eastern corner of the site, before entering the Harbour. Detail available in the Engineering plans.

Wastewater:

Currently the wastewater pumping stations stinks, located at the north western corner of Cornel Circle. The Pumping station was upgraded a couple of years ago with a Biofilter, but this made smell worse. Sometimes there is sewage leaking on the road.

Powerlines:

Would prefer if power lines are buried. If not buried, don’t want them any closer to his house (3 Foster Cres).

Reserves:

Need a local reserve within the subdivision, for a playground, etc. Path linkage to Goodall Reserve needs to be good enough for mobility scooters.

Explained that there are Council standards for reserve requirements and this area has a number of reserves already.

Earthworks:

Concerned that most of site will be dug up when the subdivision roads and services are being established. This will result sediment entering the Harbour. Explained that this is controlled through the subdivision consent conditions, and the proposal includes earthworks mitigation measures like silt traps. They didn’t think these measures work very well.

When the school was built, the exposed earth was very stinky. Might be the case with this site as well.

Asked how much cut and fill will be undertaken? How much retaining will be needed? Explained that the Engineering drawings have detail on this.

A link to all the Technical documents will be emailed out to those who provided their email addresses.
Appendix 4

Feedback and Requests for Additional Information
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

Name: Brian Collie
Address of Property: 16 TE WHAT LAVE
Phone number: 027235785
Email (or postal address if no email): bcollie6@xtra.co.nz

I have reviewed the proposed re-zoning to Residential Single House zone.

I agree with the proposed Residential - Single House zone.
I disagree with the proposed Residential - Single House zone.
I am neutral towards the proposed Residential - Single House zone.

The reasons for my / our opinion as indicated are -

and additional comments if we wish to make are detailed below: (please use reverse side of this page if more room is needed)

WE ARE ONE OF 5 PROPERTIES ON LARGE LOT
SECTIONS ON THE WESTERN BOUNDARY OF THIS
PROPOSED SUBDIVISION WITH ONLY A SMALL LEASE
PRIVATE DRIVEWAY RUNNING BETWEEN US.
THE PROPOSED PROGRESS ALONG THIS BOUNDARY
LINE IS A MAJOR CONCERN FOR US AND A PRIVA
MEETING WITH THE AFFECTED OWNERS OF TE WHATU
WILL BE REQUESTED.

I would like a meeting to discuss this proposal further.

I request additional information, as listed below:

Attachment A
Dear Cheryl and Scott,

We certainly appreciate you taking the time to respond and also stating your concerns so clearly and professionally. As discussed we will record your comments and also pass them on to the project traffic engineer for consideration.

The proposed access will be from the existing formed end of Foster Crescent so yes the additional traffic generated by development of the land will use Foster Crescent.

Once again many thanks.

Nga Mihi | Kind Regards
Burnette O’Connor
Senior Associate

---

From: chezza fenwick <cherry.ellenwick@hotmail.co.uk>
Sent: Monday, 6 August 2018 9:12 PM
To: Burnette O'Connor <Burnette0@barker.co.nz>
Subject: Re: Foster Crescent - Change to housing plan

Ok thanks Burnette.

As a parent, we have strong views naturally. We would estimate 52 cars might result in 70+ cars to the street. We are presuming the entrance and exit is Foster, and perhaps an extension to what Te Whau estate is at present. We would want to know what improvements would be made to the pavements that our children use to keep them safe from the road. Is there any provision or consideration that can be given to wider pavement and additional paving on the other side of the road?

Is there any obligation and considerations for improving the corner of Foster and Iris for our children to cross? More road markings, signs and possibly even no parking zig zags for visibility.

I would just want to see anything that can be done to slow down cars, and improve safety as much as possible for the children. A lot of children bike on the road, there are buggies and prams, and scooters.

I wouldn’t feel right if we didn’t share this opinion or have it heard.

Thank you.
Cheryl and Scott
17 Foster Crescent

Get Outlook for iOS.

From: Burnette O'Connor <burnetteo@barker.co.nz>
Sent: Monday, August 6, 2018 6:50 PM
To: chezza fenwick
Cc: Veressa Anich
Subject: Re: Foster Crescent - Change to housing plan

Hi Cheryl,

Thank you for your email. If you are able to email me with your thoughts and concerns I will ensure that they are reflected in our Consultation Report.

I appreciate your time.

Many thanks

Burnette O’Connor

Sent from my Samsung Galaxy smartphone.

---------- Original message ----------
From: chezza fenwick <cheryl.fenwick@hotmail.co.uk>
Date: 6/08/18 18:37 (GMT+12:00)
To: Burnette O’Connor <BurnetteO@barker.co.nz>
Subject: Foster Crescent - Change to housing plan

Morning,

I am working on the day of the meeting in regards to the change of planning for the houses down our street, Foster Crescent.

I do have one opinion, or strong interest for our children so how can I express this opinion to otherwise?

Many thanks,

Cheryl Fenwick
M (021) 92578836

Virus-free. www.avg.com
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

Name: Warwick Hamilton
Address of Property: 11 Good Circle Snells Beach
Phone number: 09 925 6201
Email (or postal address if no email): 27.244 g mail.com

I have reviewed the proposed re-zoning to Residential Single House zone.

I agree with the proposed Residential - Single House zone.
I disagree with the proposed Residential - Single House zone.
I am neutral towards the proposed Residential - Single House zone.

The reasons for my / our opinion as indicated are -
and additional comments I / we wish to make are detailed below: (please use reverse side of this page if more room is needed)

1) This is a good site for Subdivision. It is protected by the ridge from the East (which is our worst weather) and from the South. It is a gentle North facing slope.
2) 600 sqm site does not give me pleasure, but appears to be now standard.
3) Road access is via Iris St. This is rather narrow. If cars are parked both sides it is only one way. It may be that one side of

I would like a meeting to discuss this proposal further:

I request additional information, as listed below:
It should become "no linking"

4) Pedestrian Access.
   I suppose the narrow site (Site Lot 52) is a foot access to the walkway round the water's edge. It should give foot access to Goodall Reserve and a short cut to the Snells Beach Stages. This should be of sufficient standard to push a pram or ride a mobility scooter.

5) I cannot read the comment on Lot 53
   Is this a settling pond for Stormwater?
   The present slope of the land tends to shed Stormwater from the East Side of this paddock onto the sections on Corncob Circle (From your lots 26 to 34) You may need to deflect this to a new Stormwater system.

6) Stormwater from the Snells Beach school now flows out onto the top of this paddock above Te Whiti Drive. This too needs to be piped down hill.
From: Cimino Cole <cimino@mahrangi.org.nz>  
Sent: Tuesday, 11 September 2018 8:34 AM  
To: Veressa Arich  
Subject: Foster Crescent Re-Zoning Proposal

Hello Venessa

Thank you very much for the invitation to discuss the Foster Crescent re-zoning proposal.

I reiterate my apology for the tardy response to your 23 August communication, which followed an earlier unsuccessful attempt to fix a meeting date.

As you are probably aware, Mahurangi Action is engaging intensively in the Warkworth structure-plan process set in train by the decision that Warkworth be a satellite growth centre. An argument made by Auckland Council planners, during our discussions, is that Warkworth as a satellite growth centre is preferable to less structured growth over a wider geographic area.

The Mahurangi Action committee has authorised me to advise that this organisation does not immediately see what benefits your client's proposal for a 52-lot subdivision extension to urban Snells Beach would present socially or environmentally, including of landscape and visual impact, over the current large-lot zoning.

Based on its current understanding of the private plan change proposal, Mahurangi Action cannot provide support for you client.

Best regards

Cimino
Hi,

Please find attached an Executive Summary of the Plan Change. Plus all the supporting technical reports can be accessed via the following One Drive link.

https://barkemx.my.sharepoint.com/:f:/g/personal/venessaa_barker_co nz/EjprpDfNjtD4efAUA wombCdw8QXicB-XFmJXM8j8TW3uyxg?e=pQ9vL7

Happy to discuss or meet, once you have reviewed this information.

Thanks.

Ngā Mihi | Kind Regards,

Venessa Anich
Senior Planner

---

From: Orchid Atimalala [mailto:Orchid.Atimalala@education.govt.nz]
Sent: Wednesday, 24 October 2018 11:16 AM
To: Greg Irvine; Venessa Anich; Janet Schofield
Subject: RE: Snells Beach Primary school - proposed plan change on neighbouring site

Hi all

Back on deck now and slowly getting through my emails.

Thanks for the heads up Venessa – and yes, while the numbers probably don’t trigger the need to remodel the network up that way (given AC’s growth priorities elsewhere; it would be useful to be across your clients’ development to ensure there is integration (infrastructure, roading/PT etc) of development in and around the school site.

Send us a precis of the information, we will determine the Minister/Ministry’s response (if any) and then meet with you and your client if there is a need to around submissions/written approvals/RA approvals.

I have cc’d in the Network Planning Manager for Auckland, Janet so she can be looped in also and FYI.

Soilua ma ia manuia
From: Greg Irvine
Sent: Wednesday, 10 October 2018 12:46 p.m.
To: Orchid Atimalala <Orchid.Atimalala@education.govt.nz>
Subject: FW: Snells Beach Primary school - proposed plan change on neighbouring site

Hi Orchid,

When you are back are you able to please provide some advice on the query below.

Regards,
Greg

Greg Irvine | School Property Advisor | IAS - Northern
DDI +64 9 638 2842 | Ext 92842 | Mobile +64 27 406 5623

From: Enquiries Auckland
Sent: Tuesday, 9 October 2018 9:31 a.m.
To: Greg Irvine <Greg.Irvine@education.govt.nz>
Subject: FW: Snells Beach Primary school - proposed plan change on neighbouring site

Good morning Greg

As the SPA for Snells Beach Primary School, can you please respond to the below?

Kind regards
Sami Burkitt | Senior Support Officer | Business Support
DDI +6496329449

From: Venessa Anich [mailto:VenessaA@barker.co.nz]
Sent: Monday, 8 October 2018 4:49 p.m.
To: Enquiries Auckland <enquiries.auckland@education.govt.nz>
Subject: Snells Beach Primary school - proposed plan change on neighbouring site

Hi,

On behalf of our client Prime Property Ltd, we are preparing a private plan change request to the Auckland Unitary Plan to re-zone land to Residential – Single House zone. The site gains access off the end of Fosters Crescent Snells Beach, and would result in approximately 52 additional dwellings.

Given the site is near the Snells Beach Primary School, I am enquiring whether the Ministry as neighbouring land owners, wishes to know more about the plan change proposal.
I have met with Kathryn Ramel, principal of Snells Beach School, and we have also meet with the Board of Trustees. Their feedback is being included in the application to Council.

I look forward to your response.

Ngā Mihi | Kind Regards,

Venessa Anich
Senior Planner

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EXECUTIVE SUMMARY OF FOSTER CRESCENT PLAN CHANGE

INTRODUCTION

Prime Properties Limited is applying for a Plan Change to the Auckland Unitary Plan – Operative in Part to rezone Lot 1 DP 149776 (approximately 4.6384 hectares) from Residential - Large Lot Residential to Residential - Single House zone. At the same time, resource consent is proposed to be lodged for a vacant lot subdivision in accordance with the Single House zone rules.

The site subject to the proposed rezoning is shown in Figure 1 below:

![Figure 1: Showing Lot 1 DP 149776, proposed to be rezoned to Single House.](image)

The site is currently in pasture and slopes in a northerly direction from Foster Crescent/Te Whau Lane to Dawsons Creek at the northern edge. The site is bounded by suburban residential development on the eastern side and larger lot development on the western side. The sites to the west have already been...
subdivided in accordance with the Large Lot zone rules. Snells Beach School and a nearly three hectare Council reserve are located to the south of the site.

**SUMMARY OF THE PROPOSAL**

Under the former Rodney District Plan the site was zoned ‘Low Intensity Urban’ consistent with the Snells Beach – Algies Bay Structure Plan. This zoning was ‘rolled over’ to the Auckland Unitary Plan, which is now operative. While not explicitly stated, this zone was applied principally to provide a visual transition from the residential areas in the east and the rural edge of Dawsons Creek, and the wider Mahurangi harbour catchment in the west.

Since the Structure Plan was originally developed, the planning framework has changed considerably. The Regional Policy Statement of the Auckland Unitary Plan now emphasises the need to increase housing supply and achieve a ‘quality compact’ urban form that makes efficient use of land and infrastructure, while responding to local character and sense of place.

Taking into account the land required for access, utilities and stream maintenance, the proposed rezoning would allow for an additional 41 lots to be developed on the site, compared with the existing Large Lot zoning that would enable approximately 11 sites.

The extra lots would provide additional housing capacity within the existing urban area and make efficient use of land and infrastructure. The nature and density of development would also be consistent with the development to the East and the wider Snells Beach area. The existing and developed Large Lot zone to the west of the site would ensure that a visual transition in residential density is achieved between the residential area in the east and the rural land further west thereby retaining the area’s sense of place. In addition to this, the proposal is considered to meet the key policies of the Auckland Unitary Plan for the following reasons:

- In terms of residential amenity and character:
  - The density envisaged by Single House zone (600m²) is generally consistent with the residential density to the east, and a consistent character would therefore be achieved;
  - The minimum site size for the Single House zone and the development controls that apply, including height in relation to boundary, maximum building coverage and minimum landscaped area for example, will ensure that potential privacy and dominance effects to neighbours will be effectively managed.
- In terms of infrastructure capacity:
B&A

- There is sufficient capacity in the road network to accommodate the proposed increase in dwellings;
- There is sufficient capacity in the wastewater and water supply networks to accommodate the proposed increase in dwellings;
- Stormwater from the site discharges directly to the Mahurangi Harbour and there is no risk of downstream flooding. Devices can be installed within the development to ensure that stormwater is sufficiently treated prior to being discharged;

- In terms of ecology, the primary permanent watercourse and wetland at the north-eastern edge of the site will be maintained within the development and will form part of a proposed utility reserve that links with the Te Whau esplanade reserve and wider open space network;
- In terms of the geotechnical conditions of the site, these have been assessed and the analysis confirms that the ground conditions can support a higher density of development on the site.

A draft subdivision plan has been prepared for the development and is shown in Figure 2 below, which illustrates the potential layout of the site under the Single House zone.

Figure 2: Showing the draft subdivision plan for the site.
A range of technical reports have been developed that have informed the conclusions outlined above, including:

- Landscape assessment prepared by Littoralis;
- Geotechnical assessment prepared by LDE Limited;
- Engineering report prepared by LDE Limited;
- Traffic Impact assessment prepared by LDE Limited;
- Ecological assessment prepared by Bioresearches.

Copies of these reports are available upon request.

Burnette O’Connor
Senior Associate, Barker & Associates Limited
Date: 6 July 2018
From: Venessa Anich  
Sent: Wednesday, 15 August 2018 11:25 AM  
To: Greg Irvine  
Subject: RE: plan change request for site near Snells Beach Primary School

Thanks, I will contact Goldi.

Just to clarify, I am seeking input from the Ministry as a neighbouring land owner to our site. Do you represent the Ministry as landowner? Or Goldi?

Thanks,
Venessa.

From: Greg Irvine [mailto:Greg.Irvine@education.govt.nz]  
Sent: Wednesday, 15 August 2018 11:05 AM  
To: Venessa Anich  
Subject: RE: plan change request for site near Snells Beach Primary School

Hi Venessa,

The best contact at the Ministry re the future dwellings would be Goldi Gherra. Goldi works in the Ministry’s Network team and has been working on the demographic report for Snells Beach School. I have included Goldi’s contact details below.

Goldi Gherra  
(09) 332 5522

Regards,
Greg

From: Venessa Anich [mailto:VenessaA@barker.co.nz]  
Sent: Wednesday, 15 August 2018 7:50 a.m.  
To: Greg Irvine <Greg.Irvine@education.govt.nz>  
Subject: FW: plan change request for site near Snells Beach Primary School

Morena Greg,

I am re-sending the email I sent you while you were away, now that you are back.

Can I give you a call to discuss please?

Thanks,
Venessa.
Hi Greg,

My name is Venessa, I work for a consultancy firm B&A whose client is preparing a private plan change request to the Auckland Unitary Plan to re-zone land to Residential – Single House zone. This site gains access off the end of Fosters Crescent Snells Beach, and would result in approximately 52 additional dwellings. I have attached a Summary document.

Last week I met with Kathryn Ramel, principal of Snells Beach School. And we are booked in to meet with the Board of Trustees in the beginning of August.

Kathryn said that you are the Ministry’s property advisor for Snells Beach school. So I am wondering if you would like to know more about the plan change proposal, given the Ministry owns the land the school is sited on.

I can ring you, if that is easier.

Ngā Mihi | Kind regards,

Venessa Arich
Senior Planner

M 021 409 339

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FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:
Name: Christ + Amanda Monks-Chandler
Address of Property: 29, Cornell Circle
Phone number: 021407786
Email (or postal address if no email): cmonkschandler@gmail.com

I have reviewed the proposed re-zoning to Residential Single House zone.

I agree with the proposed Residential - Single House zone.
I disagree with the proposed Residential - Single House zone.
I am neutral towards the proposed Residential - Single House zone.

The reasons for our opinion as indicated are -
and additional comments we wish to make are detailed below: (Please use reverse side of this page if more room is needed)

We don't wish to loose our privacy and worried about noise pollution from building works and so many residents in a small area.

I would like a meeting to discuss this proposal further.

I request additional information, as listed below:

Will houses be fenced? How close to our property will the dwellings be?
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

Name: Brett Allan Rapley
Address of Property: 3 Foster Crescent Snells Beach
Phone number: 021 3851340 021 235 1345
Email (or postal address if no email): b-rapley@hotmail.com

I have reviewed the proposed re-zoning to Residential Single House zone.

I agree with the proposed Residential - Single House zone.
I disagree with the proposed Residential - Single House zone.
I am neutral towards the proposed Residential - Single House zone.

The reasons for my / our opinion as indicated are -

and additional comments / we wish to make are detailed below: (please use reverse side of this page if more room is needed)

I have lived in my property as an owner/occupier since 1996. The increased traffic and noise and loss of property value which will negatively impact on the appeal of nearby properties which I feel will drastically affect mine and eliminate from the reasonable use and enjoyment of my home and the tranquility of the cul-de-sac which I have come to enjoy. I am very concerned about the high power

I would like a meeting to discuss this proposal further:

I request additional information, as listed below:
cables being moved closer to my house which will no doubt drastically affect my property and personal well-being. I also feel that this development will also put more pressure on the Workworth intersection which is already stressed. I will strongly oppose this development from happening.
File Note

Meeting Date: 1 August 2018
Present: Burnettte O’Connor and Veressa Anich
Meeting with: Snells Beach Primary School Board of Trustees
Topic: Foster Crescent Private Plan Change Proposal

Potential Impact on School:

Traffic - Children use Foster Crescent to walk to and from school, and a lot of parents park on Foster Crescent to drop off and pick up their children. Walkway from school joins Foster Crescent where access to Plan Change site is. So this is a busy location and busy street twice a day during the school week. Foster Crescent and Iris Street are narrow, and have a lot of traffic already. Have safety concerns for the children with the extra vehicles from the subdivision.

Consider that Mahurangi East Road needs a zebra crossing. The school has been in contact with Auckland Transport about this.

Responded that Traffic Report concludes that the additional traffic generated by the proposed 52 lots will result in no discernible increase in queuing or delays for these roads or intersections.

Earthworks:

Consider that a lot of earthworks will be needed, and the area is unstable, the school is moving. They don’t think the Council standards are sufficient, and sediment will be discharged into the Harbour.

Responded that measures will be used to ensure that sediment does not leave the site during the construction phase.

Process:

Asked when there is likely to be houses built and families move in? Responded that the timeframe is likely to be around 4 years. School will need to forward plan for this, as will result in additional children within the school’s catchment.

Asked if staged, responded no.

Asked if Plan Change will be notified? Responded yes, maybe limited notification process for
plan change. Subdivision application may not be notified.

Wished for school community to know about this proposal. Responded that we would email them a flyer for the upcoming Community meeting, and a link to all the technical documents.
Dear Brian,

Thank you to you and Chris for organising everyone to meet together yesterday afternoon and for opening your home to enable the meeting. It is greatly appreciated. I have set out what I consider to be a summary of the points raised and outcomes of the meeting. Can you please distribute and advise whether or not any clarifications or changes are required.

I look forward to hearing from you.

The Te Whau residents would like Prime to consider the following:

- Larger sites along the common boundary with The Whau – they suggested 2000m² – I advised I did not think that this was a goer as not an efficient use of land. Therefore potentially could the sites down that boundary be increased to closer to 800m² and that there be a defined building site on each property that requires houses to be built closer to the internal road. I advised that we could seek land use consent for front yard infringements of these sites to the new internal road.
- Lot 54 access way to be relocated so that there is no boundary adjoining Lot 3 DP499198.
- Would the client consider limiting maximum building height to single storey, Or a specific RL so that there is no overlooking to Te Whau?
- What topographical survey information is available, including details of depths and areas of cut and fill so Te Whau residents can determine whether the current topography on the boundary is maintained, improved or worsened – see contours below that show Te Whau Lane basically being on the ridge and the land sloping away. This detail would enable a more detailed assessment of the likely effects. I explained this level of detail would not typically be provided at this stage – or the plan change stage but that we could discuss with the engineers and obtain their input and then set a condition specifying that built development should not exceed a height above RL600 which would then potentially enable some tiered or multi storey houses depending on the finished levels.
The proposed planting and fencing were generally supported but questions were raised about how the planting on the western side of the fence would be maintained as there would be no legal access to that area because you would have to access over Te Whau lane. Potentially, with agreement there could be a right provided for pedestrian and vehicle access for the purposes of maintained and / or replacing the planting.

Traffic was again raised as an issue particularly by Marlene from 20 Te Whau Lane. She was concerned about having to wait at the end of Te Whau in peak times with the traffic from the proposed development which would have right of way on the road extension.

Ideally Te Whau Lane Residents would like to see if the above could achieve a 15 metre separation between their boundary and the proposed built development.

Agreed that we would investigate these points and report back to see if agreement can be achieved prior to lodging the application.

Nga Mihi | Kind Regards

Burnette O'Connor
Senior Associate

B&A
Urban & Environmental

M +6421 422 346
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

Name: **MAURICE & CAROL WALLIS**
Address of Property: **2 FOSTER CRESCENT**
Phone number: **09 4255438**
Email (or postal address if no email):  

I have reviewed the proposed re-zoning to Residential Single House zone. 
☐
I agree with the proposed Residential - Single House zone.  
☐
I disagree with the proposed Residential - Single House zone.  
☐
I am neutral towards the proposed Residential - Single House zone.  
☐

The reasons for my / our opinion as indicated are -

and additional comments I / we wish to make are detailed below: (please use reverse side of this page if more room is needed)

1. Traffic Volume in Foster Cres & Iris St.
3. Impact on our Property during construction (time: 12. DUST / TRUCKS / MACHINERY.)

I would like a meeting to discuss this proposal further:  
☐

I request additional information, as listed below:

---

Attachments

Page 399
FEEDBACK ON PROPOSED PLAN CHANGE – Foster Crescent, Snells Beach.

My name and contact details:

**Name:** Wendy Fong
**Address of Property:** 6 Foster Crescent (Postal address: 5 William St, Mt Albert, Auckland 1025)
**Phone number:** 027 488 0110
**Email (or postal address if no email):** wendy.fong@yahoocom

I have reviewed the proposed re-zoning to Residential Single House zone.

- [ ] I agree with the proposed Residential - Single House zone.
- [ ] I disagree with the proposed Residential - Single House zone.
- [ ] I am neutral towards the proposed Residential - Single House zone.

The reasons for my / our opinion as indicated are -

and additional comments I / we wish to make are detailed below: *(please use reverse side of this page if more room is needed)*

- Will there be covenants to the single house zoning?
- What measures will be taken to ensure that the development will be of good quality housing?
- How will traffic be managed?
- Is there a public right of way from new development to the existing reserve in the north?

I would like a meeting to discuss this proposal further:

- [ ]

I request additional information, as listed below:

- Geotechnical assessment
- Engineering report
- Traffic Impact assessment
Appendix 5

Te Whau Lane Meeting Notes 26 August 2018 and Letters of Support
Dear Brian,

Thank you to you and Chris for organising everyone to meet together yesterday afternoon and for opening your home to enable the meeting. It is greatly appreciated. I have set out what I consider to be a summary of the points raised and outcomes of the meeting. Can you please distribute and advise whether or not any clarifications or changes are required.

I look forward to hearing from you.

The Te Whau residents would like Prime to consider the following:

- Larger sites along the common boundary with The Whau – they suggested 2000m². I advised I did not think that this was a goer as not an efficient use of land. Therefore potentially could the sites down that boundary be increased to closer to 800m² and that there be a defined building site on each property that requires houses to be built closer to the internal road. I advised that we could seek land use consent for front yard infringements of these sites to the new internal road.
- Lot 54 access way to be relocated so that there is no boundary adjoining Lot 3 DP 499198.
- Would the client consider limiting maximum building height to single story, or a specific FL so that there is no overlooking to Te Whau?
- What topographical survey information is available, including details of depths and areas of cut and fill so Te Whau residents can determine whether the current topography on the boundary is maintained, improved or worsened – see contours below that show Te Whau Lane basically being on the ridge and the land sloping away. This detail would enable a more detailed assessment of the likely effects. I explained this level of detail would not typically be provided at this stage – or the plan change stage but that we could discuss with the engineers and obtain their input and then set a condition specifying that built development should not exceed a height above RL XXX which would then potentially enable some tiered or multi storey houses depending on the finished levels.
The proposed planting and fencing were generally supported but questions were raised about how the planting on the western side of the fence would be maintained as there would be no legal access to that area because you would have to access over Te Whau lane. Potentially, with agreement there could be a right provided for pedestrian and vehicle access for the purposes of maintained and / or replacing the planting.

Traffic was again raised as an issue particularly by Marlene from 20 Te Whau Lane. She was concerned about having to wait at the end of Te Whau in peak times with the traffic from the proposed development which would have right of way on the road extension.

Ideally Te Whau Lane Residents would like to see if the above could achieve a 15 metre separation between their boundary and the proposed built development.

Agreed that we would investigate these points and report back to see if agreement can be achieved prior to lodging the application.

Nga Mihi | Kind Regards

Burnette O'Connor
Senior Associate

B&A
Urban & Environmental

M +6421 422 346
Letter of Support

To: Auckland Council
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach
From:

Brett Crockett

I am the owner of the following property:

18 Te Whau Lane, Snells Beach

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I / we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

- 800m² lots along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18);
- 15 metre building setback along the shared boundary (proposed Lots 1, 2, 4 to 18);
- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 5.1.19

Signature: [Signature]

Electronic address: brett@illuminatebydesign.com

Postal address: 18 Te Whau Lane, Snells Beach 0920

Telephone: 021902261
Letter of Support

To: Auckland Council
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach

From: BRETT AND LORRAINE COWLEY

I am the owner of the following property:

14 TE WHAU LANE, SNELLS BEACH

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I / we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

- 800m² lots along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18);
- 15 metre building setback along the shared boundary (proposed Lots 1, 2, 4 to 18);
- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 29/11/18

Signature: [Signature]

Electronic address: brettandlou@xmail.com

Postal address: 14 TE WHAU LANE, SNELLS BEACH

Telephone: 021 1756131
To: Auckland Council  
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach

From: [Name of person giving support]  

I am the owner of the following property:  

16 TE WHAU LANE  
SNELLS BEACH  

[Address of the property]

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I/we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

- 800m² lots along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 16);
- 15 metre building setback along the shared boundary (proposed Lots 1, 2, 4 to 18);
- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 26\textsuperscript{th} Nov 2018

Signature: [Signature]

Electronic address: [Email]

Postal address: 16 TE WHAU LANE SNELLS BEACH

Telephone: 0272 555 785
Letter of Support

To: Auckland Council
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach

From: Marlene Stevens, Grant Stevens, James Stears

I am the owner of the following property:

20 Te Whau Lane
Snells Beach

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I / we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

- 800m² lots along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18);
- 15 metre building setback along the shared boundary (proposed Lots 1, 2, 4 to 18);
- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 29/11/2018

Signature: Marlene Stevens, Grant Stevens

Electronic address: marlene.stevens.oh@hotmail.co.nz
jimbostevens@gmail.com

Postal address: 6 Apollo Place, Snells Beach

Telephone: 0274960898, 0226780767, 021109770
Appendix 6

Indicative Landscaping buffer along boundary with Te Whau Lane
Appendix 7

Auckland Council, Auckland Transport and Watercare Consultation
AGENDA & MEETING NOTES

Project: Dawson Road and Foster Crescent
Date: 02 November 2017
Time: 1.00-2.00pm
Location: Auckland Council
Attendees: Burnette C, Lara C, David B, Warren M, Peter V,

<table>
<thead>
<tr>
<th>Item</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introductions &amp; role in project</td>
</tr>
<tr>
<td></td>
<td>• All parties introduced.</td>
</tr>
<tr>
<td>2</td>
<td>Overview of the Southern Snell’s beach area</td>
</tr>
<tr>
<td></td>
<td>• We noted that the sites are in proximity to Snell’s beach, close the reserve network and in close proximity to existing residential development.</td>
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<tr>
<td></td>
<td>• PV noted the significance of the Mahurangi Harbour and the need to manage development in this catchment.</td>
</tr>
<tr>
<td></td>
<td>• We discussed the roading access and suitability of this for the peninsular, the location of the school the future waste water capacity.</td>
</tr>
<tr>
<td>3</td>
<td>PAUP process (submissions UDF and NZIA)</td>
</tr>
<tr>
<td></td>
<td>• BO noted that in her view the submission points for the rezoning of this area were not properly considered.</td>
</tr>
<tr>
<td></td>
<td>• PV noted that the threshold for considering them had in his view been met. That they were addressed in evidence and given the High Court case law regarding the PAUP process (Whata) that he did not see merit in pursuit of a position that this provided the opportunity for them to be reconsidered.</td>
</tr>
<tr>
<td></td>
<td>• PV noted 2-year moratorium on PFC, that council would within this period consider them on their merits.</td>
</tr>
<tr>
<td>4</td>
<td>Fosters Crescent</td>
</tr>
<tr>
<td></td>
<td>• DB noted the location of the site connections with roading infrastructure and location within existing urban area.</td>
</tr>
<tr>
<td></td>
<td>• WM inquired about streams on site- DB confirmed ephemeral and underground (but no ‘streams’)</td>
</tr>
<tr>
<td></td>
<td>• WM and PV noted concerns with the roading network and the manner in which this is brought into the site. Also noted the use of rear lanes.</td>
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<tr>
<td></td>
<td>• WM noted that he saw merit in differing lot sizes consideration of how development was located within the site.</td>
</tr>
<tr>
<td></td>
<td>• PV had a differing view- would not see the support for mixed housing intensity.</td>
</tr>
<tr>
<td></td>
<td>• BO and DB confirmed that SHZ would be the zoning sought but that subdivision proves would confirm the ability to located development within the site.</td>
</tr>
</tbody>
</table>
|      | • Wastewater capacity confirmed as a key matter of importance to confirm suitability. PV advised the need to clarify capacity including Warkworth North,
### AGENDA & MEETING NOTES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
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</table>
| 5 | **Dawson Road**  
  * Noted that this is a rural coastal zone and was subject to NZIA submissions  
  * Stronger links to the mahurangi (than foster), concerns regarding sedimentation and ecological health as well as landscape and visual implications  
  * LC explained landscape and ecological advice, noted that these matters were to be addressed. Considering this when designing development.  
  * BO and LC discussed the location of the western ridge and the visual separation from the balance of the peninsular would visually isolate this area from the balance of the peninsular.  
  * BO noted development plans for Dawson landing area  
  * BO and LC noted that existing environment is changing considering the SH zoning and the school located within the central area of the peninsular.  
  * Noted that this area is unique in its proximity to smells and that this would not jeopardize the need to reconsider the use of RC zone elsewhere on the peninsular.  
  * PV considered regarding the change from rural to urban, impacts on sedimentation, landscape values, query potential for countryside living as an alternative to SH or an urban zone.  
  * LC noted that CSL zone has not been found to support retirement living- could consider other zones in term of suitability. |
| 6 | **Whole of Peninsular/general comments**  
  * PV confirmed that there is little appetite or support for reconsidering the zoning of the peninsular as a whole.  
  * PV noted that the reconsideration of RCZ at this location would challenge the application of the zone around the balance of the harbors.  
  * PV noted concerns about the visual catchment. Need to consider how this area is unique, could alternative zones be considered- instead of single house.  
  * WM confirmed that precincts were not a favored tool as there is a general feeling there are too many- also does not consider that one zone fits all for the region and that this may be appropriate in some circumstances.  
  * Consider the use of other overlays which would enable these matters to be further controlled. |
| 7 | **Consultation**  
  * We noted that this would occur and would involve the relevant community parties, no detailed discussion. |
| 9 | **Lodgment**  
  * PV advised not as supportive of lodgment of RC at the same time as the FC.  
  * PV noted that the PPC would need to address why this area is an opportunity appropriate to rezone vs the provision of capacity within the FUZ, why it is needed now. Merits of the proposal. |
Record of a pre-application meeting

Office use only

<table>
<thead>
<tr>
<th>File number:</th>
<th>PRES/2672</th>
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</thead>
<tbody>
<tr>
<td>Distribution List:</td>
<td></td>
</tr>
<tr>
<td>Duration of Meeting</td>
<td></td>
</tr>
<tr>
<td>Amount to be invoiced:</td>
<td></td>
</tr>
</tbody>
</table>

1. MEETING DETAILS

Date: 14 December 2016  Time: 10am

2. MEETING PARTICIPANTS – CUSTOMERS

<table>
<thead>
<tr>
<th>Name</th>
<th>Area of expertise / profession / title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Chevin</td>
<td>Applicant</td>
</tr>
<tr>
<td>Burnett Macriod</td>
<td>Director/Planner, CPC</td>
</tr>
</tbody>
</table>

3. MEETING PARTICIPANTS – COUNCIL

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Role at meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hayden Wadens</td>
<td>Senior Planner</td>
<td>Planning matters</td>
</tr>
<tr>
<td>Nicola Broadbent</td>
<td>Team Leader</td>
<td>Planning matters</td>
</tr>
<tr>
<td>Scott Lamason</td>
<td>Development Engineer</td>
<td>Engineering matters</td>
</tr>
</tbody>
</table>

APOLOGIES
n/a

4. SITE & PROPOSAL

Site address of proposal

Street number and name: Lot 1 DP 140776 Foster Crescent
Suburb, town or locality: Snells Beach
Brief Description of Proposal

Proposed subdivision of a 4.6 hectare site zoned Residential Large Lot under the AUP.

A concept plan provided shows 58 residential lots ranging from 485m² - 709m², with new public roads, reserves and access lots.

5. MATTERS / ITEMS DISCUSSED AT MEETING

- Peter explained that he is an experienced developer and has recently been undertaking projects in Te Kauwhata.
- It was noted that the site is approximately 4.6 hectares and is zoned large lot. This zone has a minimum site size of 4000m².
- Burnette noted that the whole Dawson Road peninsula lends itself well to single house residential development but the submissions lodged seeking Single House zoning were not considered in detail through the AUP hearings process due to the focus being on areas closer to metropolitan centres. Some land on Dawson Road was successfully re-zoned Single House because that land had been subject to a private plan change to zone it Medium Intensity under the legacy plan.
- Hayden queried whether the site held any particular landscape/amenity qualities which may explain the Large lot zoning. Peter advised that there were no landscape sensitivities and that visibility into the site from the harbor was restricted by mangroves. Wastewater capacity appears to be the main constraint.
- Peter/Burnette advised that Watercare has been consulted in terms of the proposal and that they have a letter confirming that they will be able to connect 50 lots by mid-late 2017 pending issue of Watercare’s new wastewater discharge consent. More than 50 lots would require upgrades to the Wastewater treatment plant.
- Various options for progressing the development were discussed, these being:
  - Vacant lot subdivision not meeting minimum site size – Non Complying
  - Integrated residential development – Discretionary (followed by a subdivision around consented development)
  - More than three dwellings on a site – Discretionary (followed by a subdivision around consented development)
- Hayden noted that the AUP promotes the building of dwellings and with no density rules, moves away from the model of vacant lot subdivision i.e. favours comprehensive development.
- Council’s assessment of an application for an integrated residential development or more than three dwellings on a site will pay close attention to the relevant development controls, particularly building coverage, as a means of determining what level of development is appropriate. Expect urban Design input will be vital to assess and support quality design outcomes and amenity.
- Peter suggested that a range of dwelling designs may be provided for specific/individual lots. All dwellings will be single storey.
- Burnette queried Council’s stance on notification. Hayden advised that at this stage based on the site zoning and Council’s regard to plan integrity, public notification would be a likely outcome. It was noted that the rules are new and are yet to be fully tested through a consenting process for a development of this nature.
- Written approvals from neighbours will be sought, particularly the existing residential sites to the east.
- Potential roading options/layouts were discussed with Scott indicating that Council’s preference is that the roads are vested as public. The number of lots accessed from privately owned/managed access lots should be minimized and Auckland Transport will likely comment on this.
- Hayden noted that each lot must be located within 130m of a fire hydrant which must be located within the road corridor.
- The road (in the vicinity of lots 11 and 45) will not be formed to the western boundary but the corridor will be vested as road reserve for future connectivity purposes.
- Scott advised that water reticulation will need to be extended to the site, and the application must provide test results of the existing system to demonstrate capacity. Comments from Watercare would be appreciated.
- Scott advised that there is significant overland flow coming into the site from the south and that careful thought will need to be given to this. Peter advised that he will work through this and various stormwater options will be explored. An Overland Flow Path report would be required, including...
sections (pre and post development), catchment plans, flow path location plans and all required
details of proposed flow path channels. Assessment will be required to set Minimum Floor levels.
Easements are required in favour of council.
- A utility reserve will be vested (adjacent to lots 28 and 59). Hayden queried whether a 20m wide
esplanade reserve is triggered adjacent to lot 59. Peter advised that the location of mean high water
springs has been investigated and it appears to be further out into the harbour.
- Hayden queried what is proposed to happen with the existing drainage right over the 8 lots at the
northern boundary. Peter advised that he has been in discussion with Watercare and his engineer
about relocating the rising main to within the road. It was recognized that this matter will need to be
worked through.
- Scott noted that these same lots at the northern boundary may be subject to coastal inundation to
3.5m (rough level from GIS). The Applicant is required to confirm the sea level rise and provide
assessment.
- A geotechnical investigation is being undertaken.
- It was confirmed that necessary expert reports to accompany the application include:
  - Traffic report
  - Urban design report
  - Engineering/Infrastructure report
  - Geotechnical report
  - Overtake Flow path Report
- Relevant Iwi should be consulted early in the process.
- Burnett advised that a complying 11 lot subdivision will be lodged in the near future, with consent
for the larger development likely to be lodged by late February.

**IMPORTANT INFORMATION**

The purpose of a pre-application meeting is to facilitate communication between applicants and the Council
so that the applicant can make informed decisions about applying for consents, permits or licenses.

The views expressed by Council staff in or following a pre-application meeting are those officers’ preliminary
views, made in good faith, on the applicant’s proposal. The Council makes no warranty, express or implied,
nor assumes any legal liability or responsibility for the accuracy, correctness, completeness or use of any
information or views communicated as part of the pre-application process.

The applicant is not required to amend their proposal to accommodate the views expressed by Council staff,
nor to comply with any suggestions made by Council staff. Further, it remains the applicant’s responsibility
to get their own professional planning and legal advice when making any application for consents, permits or
licences, and to rely solely on that advice in making any application for consents, permits or licenses.

To the extent permissible by law, the Council expressly disclaims any liability to the applicant (under any
theory of law including negligence) in relation to any pre-application process. The applicant also recognises
that any information it provides to the Council may be required to be disclosed under the Local Government
Official Information and Meetings Act 1987 (unless there is a good reason to withhold the information under
that Act).

---

Submitted for approval as
accurate record of meeting by
record taker

Name: Hayden Wadams

Signature: [Signature]

Attachments Page 418
Hi David

I have had the TIA (dated 27 March 2018 - Proposed Plan Change and Residential Subdivision, Foster Crescent, Snells Beach) reviewed internally within AT - this involves collating comments from different groups within AT with particular expertise. I have not received many detailed comments as your proposal for a rezoning from Large Lot to Single House Zone to enable a 52 lot residential subdivision is less complex than some we deal with.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td>Traffic Engineering</td>
<td>No issues at this time. The development trip generation is low and there are no known existing traffic issues and this location. Might like to review detailed plan of the proposed road and its intersection with the existing Foster Crescent once it is available.</td>
</tr>
<tr>
<td>Walking and cycling</td>
<td>Need to be aware of the walkway that goes directly to Snells Beach School from Foster Crescent. During development there are likely to be additional trade vehicles parking around the entrance to the walkway and parking may need to be controlled. Note that the local board has endorsed the Pihele to Pakiri Greenway Plan which includes a section of route on the coastal esplanade adjacent to this development. <a href="https://aucklandtransport.sharepoint.com/sites/WnCI/North/Greenway%20Plans%20-%20Rodney/P2P_ATP%20msps.pdf">Link</a></td>
</tr>
<tr>
<td>Public transport</td>
<td>No network planning issues identified.</td>
</tr>
</tbody>
</table>

Katherine Dorofaeff | Principal Transport Planner  
Planning and Investment Group  
Level 6, 20 Viaduct Harbour Avenue, Auckland 1010  
DDI +64 9 447 4547 | Ext 489 547 | M +61 932 722  
[www.at.govt.nz](http://www.at.govt.nz)  
[ktkatherine.dorofaeff@at.govt.nz](mailto:ktkatherine.dorofaeff@at.govt.nz)

---

From: Katherine Dorofaeff (AT)  
Sent: Monday, 1 October 2018 2:39 p.m.  
To: 'David Philip' <david@teamtraffic.co.nz>  
Cc: Peter Vari <Peter.Vari@aucklandcouncil.govt.nz>; Venessa Anich <VenessaA@barker.co.nz>; Alastair Lovell (AT) <Alastair.Lovell@at.govt.nz>  
Subject: RE: AT comment on proposed Plan Change - Snells Beach

Hi David
I work in Alastair’s team and he has passed your transport assessment onto me to co-ordinate some AT comments. However I note that you expect that the plan change will be lodged with the Council in the next week or so. Once the plan change is lodged, it may be more appropriate for AT to feed any comments back through Council as part of the s52 assessment of the application prior to notification.

Therefore, once I have some AT responses I will check with Peter Varl as to the progress of plan change application.

Katherine Dorofaeff | Principal Transport Planner
Planning and Investment Group
Level 6, 20 Viaduct Harbour Avenue, Auckland 1010
DDI +64 9 447 4547 | Ext 489 547 | M 021 932 722
www.at.govt.nz
katherine.dorofaeff@at.govt.nz

From: David Philip <david@teambuilding.com.nz>
Sent: Friday, 28 September 2018 7:39 a.m.
To: Alastair Lovell (AT) <Alastair.Lovell@at.govt.nz>
Cc: Peter Varl <Peter.Varl@aucklandcouncil.govt.nz>; Katherine Dorofaeff (AT) <Katherine.Dorofaeff@at.govt.nz>; Venessa Anich <VenessaA@barker.co.nz>
Subject: RE: AT comment on proposed Plan Change - Snells Beach

Hi Alastair,

I appreciate your response and advice regarding the transport assessment and reporting. You are correct in assuming single house zoning and the current subdivision plan allows for S2 residential lots.

I have attached our current traffic report prepared in support of the plan change and subdivision. We initially finalised the report in June this year before adding further content following public consultation undertaken by Barker & Associates. Picking up on one of your points below the consultation included local residents including those on the adjacent private way.

At this stage we have only worked to a subdivision plan, you will see that we have undertaken preliminary tracking assessment within a nominal carriageway. My understanding is that the civil and roading design is on-going and I cannot provide drawings at this stage. The detail around roading design, cross sections, geometry and individual crossings and the internal intersection will follow. We will provide input to this design to assist the Designers and as you suggest will consider speed control both on the approach to the site and within. Our current report makes note of the need to adjust existing vehicle crossings for two properties and the private way in line with the proposed new road and detail for these changes will follow with the roading design.

It would be helpful to have your initial comment. My understanding is that the plan change application may be submitted to Council in the next week or so but the on-going design of the proposed new roads would I am sure benefit form initial comment from AT. I note your comment below regarding narrow roads.

I am happy to talk through any aspect of the traffic report or associated matters if that helps.

Regards
David

David Philip
From: Alastair Lovell (AT) <Alastair.Lovell@at.govt.nz>
Sent: Thursday, 27 September 2018 7:21 a.m.
To: david@teamtraffic.co.nz
Cc: Peter: Vari <Peter.Vari@aucklandcouncil.govt.nz>, Katherine Dorofaeff (AT) <Katherine.Dorofaeff@at.govt.nz>
Subject: FW: AT comment on proposed Plan Change - Snells Beach

Hi David

Thanks for getting in contact.

AT normally lodges a submission on a private plan change. We expect an Integrated Transport Assessment (ITA) to be prepared and are happy to review that draft and provide a review/suggestions prior to lodgement. The ITA guidelines are on our website.

The key areas to investigate as part of this ITA would be:

- Effects on the transport network and in particular Mahurangi/ris street intersection from the rezoning
- Need for any speed control or any other safety measures on the approach to the site from the above intersection – please provide your opinion and we will review this rather than the other way round
- Safe and efficient access can be provided in line with the expected yield. If the intension is to vest the access, the design needs to meet engineering standards – please demonstrate with drawings
- The narrow roads are noted and will be difficult to approve/vest than designs meeting engineering standards
- The existing road entrance would also need to be formed and the crossing onto the private access

The key information missing is the proposed zone, which at this stage in the process is more relevant than your scheme plan. Presume it is single house or something similar?

It would also be worthwhile discussing the proposal with the neighbours on the private access way. With their cooperation a better road network may be able to be proposed through your proposal.

Once I receive a draft ITA, I am more than happy to provide comprehensive feedback on that document.

Best regards

Alastair Lovell (AT)
Land Use Policy Manager
Planning & Investment Group
20 Victoria Harbour Ave, Level 5, Auckland CBD
Auckland Transport
Private Bag 92250, Auckland 1142
Mobile: +6421674625
DDI: +6494475317
www.at.govt.nz
From: David Philip <david@teamtraffic.co.nz>
Sent: Monday, 24 September 2018 9:02 a.m.
To: Alastair Lovell (AT) <Alastair.Lovell@at.govt.nz>
Subject: RE: AT comment on proposed Plan Change - Snells Beach

Hi Alastair,

I previously sent some background information in a separate email but now see I misspelt your name. I will stick to replying to Mitra’s email this time.

The proposed plan change relates to a site at the end of Foster Crescent in Snells Beach. The snip below shows the site location which will have sole vehicle access via Foster Crescent and Iris Street, connecting with Mahurangi East Road.

The plan change and subsequent subdivision will allow for around 52 residential lots to be accessed via two new roads to vest. I have attached the most recent subdivision plan I have and understand this is still reflective of the...
general layout for proposed residential and access lots. Design drawings for civil and roading elements will follow at a later date.

We would be grateful for initial comment from AT. The plan change and subsequent subdivision applications will follow in due course but it may be that we can consider and address specific comments at an early stage. The applicant’s Planners – Barkers & Associates have been in discussion with Council and Watercare, and have also held a public consultation meeting.

There are a number of specific areas we are keen to have comment on. I have listed some points below with brief comment as relevant.

- There are two proposed roads to vest; the subdivision plan is all we have at the moment and as noted civil/roading design will follow. The access lots are 18m for the primary link within the site and 14m for the secondary link. It is a given that road geometry will have to be reviewed in general but particularly with regard to visibility along the roads and to/from crossings and the intersection.
- The legal road connection with Foster Crescent dictates that the new road will be formed with a tight radius as it enters the site. Te Whau Drive (private) will require a vehicle crossing connection with the new road and vehicle crossings for 1 & 2 Foster Crescent will also need to be considered in line with changes to the alignment of Foster Crescent.
- We have briefly considered the need for speed control measures on the new roads to vest and would be grateful for your thoughts.
- We have undertaken a video survey at the intersection of Mahurangi East Road and Iris Street which is the sole access point for all traffic to/from the proposed plan change/subdivision. Current vehicle movements at the intersection are as follows;
  - Morning peak – around 530vph through movement on MER and 52vph (total) to/from Iris Street
  - Afternoon (school) peak – around 550vph through movements and 52vph to/from Iris Street
  - Evening (commuter) peak – around 490vph through movements and 60vph to/from Iris Street

As mentioned I would be grateful for any comment or input from AT at this time prior to finalising our traffic assessment and reporting to accompany plan change application to Council.

I am happy to discuss.

Regards
David

David Philip

Traffic Engineering & Management Ltd
Level 3, 1b Buscomb Ave,
P.O.Box 21-803
Henderson 0650
Auckland
Phone: 09 8363886
DDI: 09 8351731
Mobile: 021 718 855

From: Mitra Prasad (AT) <Mitra.Prasad@at.govt.nz>
Sent: Friday, 14 September 2018 4:18 p.m.
To: David Philip <david@teamm Traffic.co.nz>; Alastair Lovell (AT) <Alastair.Lovell@at.govt.nz>
Subject: RE: AT comment on proposed Plan Change - Snells Beach

Hi David

Unfortunately I am bit hard to get a hold of by phone at the moment. As it’s a plan change it’s probably best managed by Alastair’s team, if you can get the info through to him that would be good. Have you had any discussions with AC?

Cheers,
Mitra

From: David Philip <david@teamm Traffic.co.nz>
Sent: Friday, 14 September 2018 2:44 p.m.
To: Mitra Prasad (AT) <Mitra.Prasad@at.govt.nz>
Subject: AT comment on proposed Plan Change - Snells Beach

Hi Mitra

I called and left a message around a week ago.

The call was to quickly discuss the possibility of getting AT input/comment on a proposed plan change in Snells Beach. We have pulled together a traffic report and the Planners have met and consulted with locals. There are a few points already covered in the traffic report but following public consultation I am keen to get initial comment from AT. I am not sure if you still look after North, if so would you be the right person to approach with relevant information?

I am happy to discuss if that helps.

Thanks
David

David Philip

Traffic Engineering & Management Ltd
Level 3, 1b Buxacomb Ave,
P.O.Box 21-663
Henderson 0650
Auckland
Phone: 09 8363888
DDI: 09 8351731
Mobile: 021 716 895

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7 December 2016

The Directors
Northern Investors Trust
P.O.Box 8120
Symonds St
Auckland

Re Waste Water Connections for Proposed 50 Lot Subdivision at Foster Crescent, Snells Beach

We refer to your email correspondence of Wednesday, November 23, 2016 requesting confirmation to connect 50 single lot dwellings to the Watercare wastewater network. As discussed, there are capacity constraints in the wastewater network in the Snells wastewater catchment. Watercare is working to resolve these via infrastructure upgrades and the renewal of the existing wastewater discharge consent for the Snells-Algies wastewater treatment plant.

In relation to the future wastewater servicing needs of the site known as Lot 1, DP 149776, Foster Cres, Snells Beach, Watercare will allow the connection of 50 residential lots to the wastewater reticulation system for this site subject to the following:

1. The renewal of the wastewater discharge consent for the Snells Beach treatment plant is granted by Auckland Council (this is expected to be granted by the middle of 2017).
2. The developer makes pre-payment of the Infrastructure Growth Charges for the 50 sites.
   The payment dates and staging of payments is to be agreed with Watercare.
3. Any additional sites can only be connected to the wastewater network once the upgrades to the treatment plant and outfall pipe have been completed (currently estimated at 5 years from the date the discharge consent is granted).

Discussions are underway on outstanding issues on the discharge consent. A decision is pending on whether a hearing will be required. If it is necessary, the hearing for the discharge consent would likely be scheduled for early 2017.

Should you have any further questions in this matter please feel free to contact me.

Yours faithfully,

[Signature]

Ilze Gutelli
Manager Developments and Commercial Relations, Retail
Watercare Services Limited
11/12/2018

Venessa Anich
Barker & Associates
VENESSAA@BARKER.CO.NZ

Dear Venessa

Re: Initial high-level assessment for water and wastewater capacity
Watercare application number 81856

We have completed an assessment for the proposed 52 DUEs at Lot 1 DP 140776. There are no capacity constraints identified in the current water and wastewater network as at today’s date. However, the timing of development is critical and we will need to assess future upgrade requirements in more detail when you apply for resource consent. You will need to include the following information in the infrastructure report when you lodge your resource consent application:

- A completed water and wastewater planning assessment form (available on the Watercare website)
- A plan showing the proposed location and size of the water and wastewater connections
- Design flows in accordance with the Watercare Code of Practice for Development
- Contributing catchment analysis showing calculations
- Hydrant flow test results
- A plan showing the proposed esplanade reserve, wastewater rising main easement and surveyed location of existing rising main 375mm and any air valves/washouts with coordinates and elevation sufficient to define the route and profile
- Route for access to the rising main.

If applicable the following requirements may also need to be included in the infrastructure report:

- Confirmation of development scale and any changes
- Acknowledgement of additional development in the contributing catchment which may affect water and wastewater network capacity
- Acknowledgement of any catchment network changes as a result of upgrades or any additional information that was not taken into consideration as part of this assessment

As part of the water reticulation design, the infrastructure report should consider boost pumping to upper levels of buildings of more than two storeys. Once consented, it is the responsibility of the building owner to conduct a periodic review of sprinkler design flow and pressure against available pressure and flow from the Watercare network.

Please note that this letter does not constitute a pre-approval from Watercare. We will only issue an official Watercare confirmation and approval under the Resource Consent processing stage through Auckland Council.

Yours faithfully,
Hi Vanessa,

As discussed, I have looked at the application I will refer to Ilze Gotelli and our Planners for the reply about the proposed plan Change Large Lot residential zone change to Single House residential zone and land use consent to infringe on the front yard requirements so that the buildings are located away from the existing wastewater rising main.

Ilze is back next week, but I am away first week of the school holidays.

Please can LDE send the following by return email:

- dimension the building setback [no build] from either side of the outside wall of the existing 375mm Rising main
- how the location of the rising main will be established
- dimension the reverse sensitivity from the existing wastewater facility DPCNL Cornet Pump Station. Usually this is a minimum of 20m
- dimension the front yard building set back from the proposed wastewater and water network and demonstrate Table 5.6A Minimum clearances from structures, including the outside wall of the wastewater Manholes. Please note that the wastewater manholes will be 1200mm with drop structures to conform with CoP-02 5.3.5.6 Maximum velocity reduce pipe grade
- provide a wastewater capacity assessment is described in our CoP-2 Wastewater 5.3.5.1.2 capacity assessment, level 1 check. The wastewater capacity assessment extents shall include the length of network between the development’s proposed connection point to the existing wastewater facility DPCNL Cornet Pump Station. This extent will also include all upstream existing customers in the catchment contributing flow to the network upstream of DPCNL Cornet Pump Station.

Kind regards

Ngaire Kingsbury | Connections Engineer

Watercare Services Limited
DDI: +64 9 335 7746
Customer service line: +64 9 442 2222
Postal address: Private Bag 92 322, Wellesley Street, Auckland 1141, New Zealand
Physical address: 73 Remuera Road, Remuera, Auckland 1050, New Zealand
Website: www.watercare.co.nz

Please note that new rates will apply for accepted applications received from 1 July 2018. For more information on rates please click on the following link: Watercare - Fess and Charges. The new Infrastructure Growth Charge will be $11,680 excluding GST, for the Metropolitan area.
Please be advised that Watercare Services Limited have recently revised their Standard Construction Drawings and these are available on our website. Click here for the Engineering Standards Framework which contains the latest Code of Practice for Land development and Subdivision. Standard Construction Drawings, General civil construction standard, and Templates.

Please consider the environment before printing this e-mail.

Kind regards

From: Venessa Anich [mailto:VenessA@barker.co.nz]
Sent: Thursday, 4 October 2018 10:19 a.m.
To: NKingsbury (Ngaire)
Cc: IGotelli (Izze)
Subject: RE: #81856 - EXTDIRECT - Foster Cres Snells Beach subdivision

Hi Ngaire,
Can you please provide me with an update on progress with this enquire request.

Thanks.

Ngā Mihi | Kind Regards,
Venessa Anich
Senior Planner

B&A

B&A
Urban & Environmental

M: +64 21 439 039

From: NKingsbury (Ngaire) [mailto:Ngaire.Kingsbury@water.co.nz]
Sent: Wednesday, 26 September 2018 3:51 PM
To: Venessa Anich
Cc: IGotelli (Izze)
Subject: RE: #81856 - EXTDIRECT - Foster Cres Snells Beach subdivision

Hi Venessa

Thank you for your application and phone call for an update.

I am prioritising your application and will commence work on it today.

I will get back shortly if I have any queries.

Kind regards

Ngaire Kingsbury | Connections Engineer

Watercare Services Limited
DDi: +64 9 539 7706
Customer service line: +64 9 442 2222
From: Venessa Anich <VenessaA@barker.co.nz>
Date: Monday, September 3, 2018, 3:21:33 PM
Cc: Gotelli (freet) <eliza.gotelli@water.co.nz>
Subject: Foster Cres Snells Beach subdivision - Enquiry request confirmation site can be serviced with reticulated water & wastewater

Hi,

On behalf of our client, Prime Property Group Ltd, we are progressing a plan change and subdivision application for 52 lots off the end of Foster Crescent, Snells Beach (Lot 1 DP 149776). I submit an enquiry request form regarding this proposal.

Please find attached—

1. Application for Development Consultation form
2. General Enquiry Infrastructure Assessment Form
3. Engineering drawings that show the location of the proposed water and wastewater connections.
4. 2016 Watercare letter confirming site can be serviced with wastewater
5. Survey Plan

Regarding the existing rising wastewater main which goes through proposed lots 21-25 in our scheme plan, we do not propose to build over this main line; instead, as part of the subdivision application process, we propose to apply to Council for land use consent to infringe on the front yard requirements so that the buildings are located away from the wastewater main.

I look forward to hearing back from you.

Ngā Mihi | Kind Regards,

Venessa Anich
Senior Planner

M: +64 21 439 539

Disclaimer: This e-mail message and any attachments are privileged and confidential. They may contain information that is subject to statutory restrictions on their use.
## General Enquiry

### Infrastructure Assessment Form

**Date of Application:** 3 September 2019

**Address of Development:** Western end of Foster Crescent, Snells Beach, Lot 1 DP 149779

### Layout Plan of Proposed Development clearly showing:
- Aerial photograph
- Road access
- Boundary of development

**Survey Plan attached.**

### Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Land Use</td>
<td>Residential (Single family dwellings) / Residential (Multi-unit dwellings) / Residential (Multi-storey apartment blocks) / Commercial / Industrial / Other (Please specify)</td>
</tr>
<tr>
<td>Proposed Land Use</td>
<td>Single House residential zone</td>
</tr>
<tr>
<td>Total Development Area (Ha.)</td>
<td>4.6384ha.</td>
</tr>
</tbody>
</table>

**Estimated Number of Residential Households (Consent & Ultimate):** 52

*E.g. 12-storey apartment building with 4 units per storey is 48 residential households.*

### Water Supply Development Assessment

- **Average and Peak Non-Residential Demand (L/s):** N/A
  - *Watercare CoF*
- **Average and Peak Non-Residential Demand (L/s):** N/A
  - *Watercare CoF*

**Further Water Supply comments:**

### Wastewater Development Assessment

- **Peak DWF and WWF Residential Design Flows (L/s):** DWF = 1.22 L/s, UAF = 2.71 L/s
  - *Watercare CoF*
- **Peak DWF and WWF Non-Residential Design Flows (L/s):** N/A
  - *Watercare CoF*

**Further Wastewater comments:**
<table>
<thead>
<tr>
<th>Data Application Ref No</th>
<th>Application Ref No</th>
<th>Approved Connection Engineer</th>
<th>Post Developer Correspondence with Watercare</th>
<th>Neighbouring developments to consider in capacity assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HI Vanessa

As discussed, I have looked at the application I will refer to Ilze Gotti and our Planners for the reply about the proposed plan Change Large Lot residential zone change to Single House residential zone and land use consent to infringe on the front yard requirements so that the buildings are located away from the existing wastewater rising main.

Ilze is back next week, but I am away first week of the school holidays.

Please can LDE send the following by return email:

- dimension the building setback [no build] from either side of the outside wall of the existing 375mm Rising main
- How the location of the rising main will be established
- dimension the reverse sensitivity from the existing wastewater facility DPCNL Cornell Pump Station. Usually this is a minimum of 20m
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Kind regards

Ngaire Kingsbury | Connections Engineer

Waterscare Services Limited
DDI: +64 9 539 7746
Customer service line: +64 9 442 2222
Postal address: Private Bag 92 521, Wellesley Street, Auckland 1141, New Zealand
Physical address: 73 Remuera Road, Remuera, Auckland 1050, New Zealand
Website: www.waterscare.co.nz

Please note that new rates will apply for accepted applications received from 1 July 2018. For more information
Kind regards

From: Venessa Anich [mailto:VenessaA@barker.co.nz]
Sent: Thursday, 4 October 2018 10:19 a.m.
To: NKingsbury (Ngaire)
Cc: IGotelli (Iiz)
Subject: RE: #81856 - EXTDIRECT - Foster Cres Snells Beach subdivision

Hi Ngaire,
Can you please provide me with an update on progress with this enquire request.

Thanks.

Nga Mihi | Kind Regards,

Venessa Anich
Senior Planner

B&A
Urban & Environmental
M +64 21 439 839

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Sent: Wednesday, 26 September 2018 3:51 PM
To: Venessa Anich
Cc: IGotelli (Iiz)
Subject: RE: #81856 - EXTDIRECT - Foster Cres Snells Beach subdivision

Hi Venessa

Thank you for your application and phone call for an update

I am prioritising your application and will commence work on it today.
I will get back shortly if I have any queries.

Kind regards

Ngaine Kingsbury  |  Connections Engineer

Watercare Services Limited
DMR: +64 9 442 3345
Customer service line: +64 9 442 2272
Postal address: Private Bag 92 521, Wellesley Street, Auckland 1141, New Zealand
Physical address: 78 Remuera Road, Remuera, Auckland 1050, New Zealand
Website: www.watercare.co.nz

Please note that new rates will apply for accepted applications received from 1 July 2018. For more information on rates please click on the following link: Watercare Fees and Charges. The new Infrastructure Growth Charge will be $1,880 excluding GST, for the Metropolitan area.

Please be advised that Watercare Services Limited have recently revised their Standard Construction Drawings and these are available on our website. Click here for the Engineering Standards Framework, which contains the latest Code of Practice for Land development and Subdivision, Standard Construction Drawings, General civil construction standard, and Templates.

Please consider the environment before printing this e-mail

From: Veressa Anich <VeressaA@barker.co.nz>
Date: Monday, September 3, 2018, 3:21:33 PM
Cc: IGoTelli (Ize) <Ize.gotoelli@water.co.nz>
Subject: Foster Cres Snells Beach subdivision - Enquiry request confirmation site can be serviced with reticulated water & wastewater

Hi,

On behalf of our client, Prime Property Group Ltd, we are progressing a plan change and subdivision application for 52 lots off the end of Foster Crescent, Snells Beach (Lot 1 DP 149776). I submit an enquiry request form regarding this proposal.

Please find attached –

1. Application for Development Consultation form
2. General Enquiry Infrastructure Assessment Form
3. Engineering drawings that show the location of the proposed water and wastewater connections.
4. 2016 Watercare letter confirming site can be serviced with wastewater
5. Survey Plan
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I look forward to hearing back from you.

Nga Mihi | Kind Regards,

Venesha Anich
Senior Planner

M +64 21 039 839

Disclaimer: This e-mail message and any attachments are privileged and confidential. They may contain information that is subject to statutory restrictions on their use.
Appendix 8

Written Approvals
Letter of Support

To: Auckland Council

Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach

From: BRET AND LORAN COWLEY

I am the owner of the following property:

14 TE WHAU LANE, SNEILLS BEACH

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I / we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

- 800m² lots along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18);
- 15 metre building setback along the shared boundary (proposed Lots 1, 2, 4 to 18);
- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 29/11/18

Signature: 

Electronic address: brettandlou@gmail.com

Postal address: 14 TE WHAU LANE, SNEILLS BEACH

Telephone: 021 175 6131
To: Auckland Council  
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach  
From: BRIAN CORRIC  

I am the owner of the following property:  
16 TE WHAU LANE  
SNELLS BEACH  

I have authority to sign on behalf of all of the other owners of the property.  

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I / we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:  

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• Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and  
• Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).  

Date: 26th Nov 2018  
Signature:  
Electronic address: bernie@extra.co.nz  
Postal address: 16 TE WHAU LANE SNELLS BEACH  
Telephone: 0272 555 785
Letter of Support

To: Auckland Council
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach
From:

Brett Crockett

I am the owner of the following property:

18 Te Whau Lane, Snells Beach

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I/we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

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- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 5.1.19

Signature: [Signature]

Electronic address: brett@illuminatebydesign.com

Postal address: 18 Te Whau Lane, Snells Beach 0620

Telephone: 021902201
Letter of Support

To: Auckland Council

Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach

From: Marlene Stevens, Grant Stevens, James Stevens

I am the owner of the following property:

20 Te Whau Lane
Snells Beach

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I/we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

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- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 29/11/2018

Signature: [Signature]

Electronic address: marlene.stevens@hotmail.com, jimbop.stevens@gmail.com, grant.stevens3572@gmail.com

Postal address: 6 Apollo Place, Snells Beach

Telephone: 0274960598, 0226790767, 0211099703

Whangarei • Warkworth • Auckland • Napier • Christchurch
5 Liburn Street, Warkworth • PO Box 591, Warkworth 0941
www.lanker.co.nz • +64 9 422 346
Letter of Support

To: Auckland Council
Re: Private Plan Change for Lot 1 DP 149776, Foster Crescent, Snells Beach
From:

[Name of person giving support]

I am the owner of the following property:

[Address of the property]

I have authority to sign on behalf of all of the other owners of the property.

This is a letter of support for the private plan change on Lot 1 DP 149776 Foster Crescent, Snells Beach based on the five controls listed below. In signing this letter of support I confirm that I understand and support the plan change proposal, subject to the points below which I/we understand will be reflected in both a legal agreement and any subsequent subdivision consent application:

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- 5 metre wide landscape buffer along the shared boundary (proposed Lots 1, 2, 4 to 18), including provisions for the ongoing maintenance that is mutually acceptable;
- Pedestrian accessway (proposed Lot 54) located between proposed Lots 18 and 19; and
- Single storey built development along the shared boundary where the Te Whau Lane houses start (proposed Lots 9 to 18).

Date: 13.12.18

Signature:

Electronic address: joes_hemus@hotmail.com

Postal address: 23A Glenmore Drive, Waitakere 0910

Telephone: 07 425 9849 or 021 959849
Appendix 10
PRIVATE PLAN CHANGE REQUEST

FOSTER CRESCENT
SNELLS BEACH

OPEN SPACE AND COMMUNITY FACILITIES REPORT

PREPARED FOR:
PRIME PROPERTIES GROUP LIMITED
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1.0 INTRODUCTION

1.1 BACKGROUND AND SCOPE

This report has been prepared to inform the Foster Crescent Private Plan Change Request on behalf of Prime Property Group Limited that seeks to rezone land at the end of Foster Crescent Snells Beach. This report provides a high level analysis of the existing community facilities, including areas of open space available in Snells Beach.

The boundary for the Plan Change is shown in Figure 1 below.

![Figure 1: Outline of the proposed Plan Change area.](image)

The Plan Change area is located immediately to the west of the land zoned Residential – Single House which forms part of the existing Snells Beach settlement. The neighbouring properties to the east are established residential houses which gain access off Foster Crescent and Cornel Circle. To the west of the subject site is the relatively recent housing development being established off Te Whau Lane, zoned...
Residential – Large Lot. Further west the zoning changes to Rural Coastal, with the land use appearing to be either pastoral farming or lifestyle blocks.

The northern boundary of the site abuts the Te Whau River walkway and then the Dawson Creek arm of the Mahurangi Harbour. This is zoned Open Space – Conservation, with a small area of Coastal Transition zone bordering along the north east coastal corner of the site, towards Goodall Reserve.

Uphill from the site on the southern boundary, is an unnamed reserve and then further to the south is the Snells Beach Primary School which adjoins Dawson Road. There is walking access from the school across the reserve to Foster Crescent and the subject site via a formed walkway.

In relation to open space, the proposed development of the site will provide a reserve (Lot 53) and linkage to Goodall Reserve, and linkage to the coastal walkway (Lot 54).

1.2 PURPOSE OF THIS REPORT

This report has been prepared in support of the Foster Crescent Private Plan Change in accordance with Appendix 1: Structure Plan Guidelines, of the Auckland Unitary Plan (Operative in Part Version) (AUP(OP)). Appendix 1 requires the consideration of the location, scale, function and provision of community facilities including educational, health, welfare and cultural facilities and open space.

Although the extent of the Private Plan Change request is limited to one site, it was considered appropriate to investigate and report on community facilities as these form an important aspect to the site attributes which are considered to make this site suitable for a higher density of development than it is currently zoned for.

This report addresses the following:

- Investigation of Snells Beach’s current community facility and open space areas;
- Apply the Auckland Council Community Facilities Network Plan principles and provision guidelines to the Plan Change area; and
- Apply the Auckland Council Open Space Provision Policy 2016 to the Plan Change area.
2.0 STRATEGIC FRAMEWORK

Figure 2: Strategic Framework of Council Documents which is of relevance to this assessment

Figure 2 above identifies the strategic framework which informs the provision for community facilities and open space areas in this plan change document. The relevant documents for this assessment are discussed further below.

2.1 LONG TERM PLAN

Council develops a ten year Long Term Plan (LTP) which is reviewed every three years to allocate funding for its various activities. The ability and timeframe to implement the actions in the network plan will be dependent on the level of budget allocated in the LT processes for community facilities.

The LTP 2018 – 2028 has identified that one of the issues facing Auckland is population growth. The rate and speed of population growth is putting pressure on communities. There is an increase demand for community infrastructure, which requires planning and response. Council aims to ensure that community facilities are fit for purpose going forward, and that there is a range of community-building initiatives at the local level.

Within the constraints of Council’s resources, the LTP has stated that it will promote innovation, diversity, inclusiveness, and cultural and recreational facilities that make Auckland a great city. A key role of Council, and one that is valued at the local level, is the provision of sport, recreational and community facilities. The LTP has made available funding of $120 million for the development of sports and recreational facilities.

The 21 Local Boards identify projects that they believe to be most important for their local community. For the Rodney Local Board, the key parks, reserves, and
B&A

community facilities projects (Local Community Services activity) they have identified (LTP, Volume 3, Part 2) for 2018-19 include:

- progressing a business case to construct a local indoor courts facility at Huapai Domain
- starting the masterplan (concept plan) for the future reserve at Green Road, Dairy Flat
- contributing $150,000 to the design of the future multipurpose building at Wantirna Showgrounds
- beginning work on an Open Space Omnibus Plan to address the needs and future uses of Rodney’s reserves and open space
- funding Rodney’s conservation volunteers in our public spaces, including community planting programmes, plant and animal pest control, and providing materials and green waste disposal
- progressing the design of priority greenway links that have completed feasibility assessments.
- funding the investigation and detailed design of town centre improvements in Warkworth and Helensville, followed by Wellsford and Kumeu-Huapai.

2.2 INFRASTRUCTURE STRATEGY

As part of the Long Term Plan, the Council has approved a 30 year Infrastructure Strategy. The key purpose of this Strategy is to set out how the Council is going to manage the major drivers of demand for Auckland’s infrastructure over the next 30 years within a constrained funding environment. The network plan has informed the strategy by providing data on the scale of investment required to meet future demand for community facilities.

2.3 COMMUNITY FACILITIES NETWORK PLAN

The Community Facilities Network Plan (the network plan) provides a road map for how Auckland Council will invest in community facilities over the next 20 years. The plan addresses the provision of:

- Arts and culture facilities;
- Community centres;
- Libraries;
- Pools and leisure facilities; and
- Venues for hire (Community or rural halls).

The network plan provides direction on the development of community facilities across Auckland including; arts and culture facilities, community centres, libraries, pools and leisure and venues for hire. The plan takes a regional approach to the planning and investment in facilities to prioritise and address competing demands across the region.
2.3.1 Community Facility Provision Targets – Quantity

The Foster Crescent Plan Change is expected to provide capacity for approximately 52 dwellings. Based on Statistics NZ (2013) assumption of 2.64 persons/dwelling, this would accommodate approximately 137 additional people.

To anticipate and plan for future demand, the network plan includes provision guidelines that help identify Council’s aspired provision levels. The guidelines show the type of community facility that should serve a particular population by outlining function of the facility, type of facility (e.g. small or large), and the provision approach.

Table 1 shows the provision guidelines.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Functions</th>
<th>Rural provision approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community centre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small facility</td>
<td>Community development activities including small meetings, co-located working spaces, clubs and social gatherings with activated programming and services</td>
<td>Target population threshold 5,000 – 10,000. Servicing a walking catchment of up to 15 minutes or 30 minute drive of rural and coastal villages.</td>
</tr>
<tr>
<td>Large facility</td>
<td>Community development activities including small and large meetings, social gatherings, recreation local arts and culture, health and wellbeing with activated programming</td>
<td>Target population of 20,000 plus. Serves a catchment of up to 15 minute driving time. Located in town centres and satellite towns. Desirably located within the centre of town.</td>
</tr>
<tr>
<td>Venues for hire</td>
<td>Bookable space for the community to book and run their own activities</td>
<td>Access to bookable space within 15 minute walk from local or town centres or 30 minute drive from rural centres.</td>
</tr>
<tr>
<td>Libraries</td>
<td>Access to information and technology</td>
<td>Respond to population growth of 10,000 in a rural area and 30,000 in a metropolitan centre. Capacity tests based on 33 m² / 1000 population.</td>
</tr>
<tr>
<td>Pools and leisure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local facility</td>
<td>Free play, fitness, learning, relaxation, casual-play, community programmes</td>
<td>Pools target population threshold of 35,000 to 50,000. Leisure target population thresholds of 18,000 to 40,000. Network to service local catchments of up to 5 km. Within 30 minute drive-time of a rural satellite town, target</td>
</tr>
</tbody>
</table>
## B&A

<table>
<thead>
<tr>
<th>Facility</th>
<th>Functions</th>
<th>Rural provision approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination</td>
<td>Aquatic entertainment, pools sports training, indoor sports leagues, special leisure activities and possible local functions</td>
<td>Population of 9,000 people or more, consider partnerships.</td>
</tr>
<tr>
<td>Facility</td>
<td></td>
<td>Limited number of facilities based on evidence of need and assessment of viability to service a catchment of 10km plus.</td>
</tr>
<tr>
<td>Regional</td>
<td>Aquatic entertainment both indoor and outdoor, pools sports training, indoor sports leagues.</td>
<td>One to three facilities to service the region.</td>
</tr>
<tr>
<td>Facility</td>
<td></td>
<td>Assessed on case by case basis, based on clear evidence of demand and viable business case.</td>
</tr>
<tr>
<td>Arts and culture space</td>
<td>Provide space for local community arts activity such as community drama, dance, local art classes and presentations</td>
<td>Provide space, opportunities and programmes through existing and new multi-use community facilities.</td>
</tr>
<tr>
<td>Destination</td>
<td>Provides specialised space for emergent, semi-professional and professional artists</td>
<td>Assessed on an as needed basis to meet identified sector and audience demand.</td>
</tr>
</tbody>
</table>

### 2.3.2 Community Facility Provision Targets – Distribution

The Community Facility Network Plan also provides objectives and principles to guide where and how best to locate and develop facilities. The network plan identifies four options for the configuration of community facilities which are outlined below:
It is noted that Council envisages seeing more facilities developed as connected and integrated facilities. Additionally, facilities which are accessible, well placed in the community, well maintained and are a sustainable option for the community and ratepayers who fund them are highlighted as key elements.

Council will focus its investment on strategic, well integrated community facilities.

2.4 OPEN SPACE PROVISION POLICY 2016

The Open Space Provision Policy 2016 provides direction to developers, planners and designers on the provision of open space sought by Council. In doing so, it aims to achieve a consistent and transparent framework for assessing open space provision across the region. The policy provides information on network principles which guide how high quality open space should be located to the social, built and natural environment, and provision metrics, which guide the amount, type and distribution of open space expected in new greenfield development areas.

Table 2, on the following page, shows the provision guidelines as outlined in the policy document.
<table>
<thead>
<tr>
<th>Typology</th>
<th>Description</th>
<th>Indicative amenities</th>
<th>Provision target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket Park</td>
<td>Provides ‘door step’ access to small amenity and socialising spaces in high density residential areas. Provides visual relief in intensively developed areas. New pockets parks are typically between 0.1 to 0.15 hectares.</td>
<td>landscaping and gardens, small lawn areas, furniture, specimen trees, hard surface treatments, areas for socialising and respite</td>
<td>Voluntarily provided at no capital cost and only on agreement by council. Alternatively pocket parks can be retained in private ownership. Located in urban centres or high density residential areas. Must be located on a public street and not an internalised space within a development block. Not to be located within 100m of other open space. In addition to requirements for neighbourhood parks.</td>
</tr>
<tr>
<td>Neighbourhood Park</td>
<td>Provides basic informal recreation and social opportunities within a short walk of surrounding residential areas. New neighbourhood parks are typically between 0.3 to 0.3 hectares.</td>
<td>play space, flat, unobstructed, kick-around space for informal games (30m by 30m), areas for socialising and respite, landscaping, specimen trees, furniture</td>
<td>400m walk in high and medium density residential areas. 600m walk in all other residential areas. Provides a range of different recreation opportunities between nearby neighbourhood and suburb parks.</td>
</tr>
<tr>
<td>Suburb Park</td>
<td>Provides a variety of informal recreation and social experiences for residents from across a suburb. Located in prominent locations and help form the identity of a suburb. Suburb parks will often accommodate organised sport facilities, such as sportsfields. New suburb parks are typically 3 to 5 hectares if providing for informal recreation uses only and up to 10 hectares or larger if also accommodating organised sport uses.</td>
<td>walking circuits or trails within the park, multiple kick-around spaces, socialising spaces, including picnic and barbecue facilities, larger and more specialised informal recreation attractions, such as large playgrounds, skate parks, hard courts, beaches and watercraft, launching facilities, organised sport facilities</td>
<td>1000m walk in high and medium density residential areas. 1500m walk in all other residential areas. Provides a range of different recreation opportunities between nearby neighbourhood and suburb parks. Provides a neighbourhood park function for immediately neighbouring residential areas.</td>
</tr>
</tbody>
</table>
# B&A

<table>
<thead>
<tr>
<th>Destination Park</th>
<th>Civic Space</th>
</tr>
</thead>
</table>
| Provides for large numbers of visitors, who often visit for an extended period of time, and may travel from across Auckland. Many destination parks are tourist attractions. Typically they will:  
- be more than 30 hectares  
- accommodate specialised facilities  
- have significant or unique attributes. Regional parks are considered to be destination parks. | Provides spaces for meeting, socialising, play and events in Auckland’s urban centres. Civic space encompasses a network of public space including squares, plazas, greens, streets and shared spaces. Civic spaces can be:  
- small (<0.1 hectares), typically providing respite, informal meeting and socialising opportunities  
- medium (0.15 to 0.2 hectares), typically capable of hosting small events  
- large (0.3 to 0.4 hectares), typically capable of hosting  
- medium scale events. |
| community event space  
- car parking and toilets  
- large events space  
- networks of walking circuits and trails  
- destination and/or multiple playgrounds  
- specialised sport and recreation facilities  
- distinct natural, heritage or cultural features  
- multiple places for gatherings and socialising such as barbeque and picnic facilities. | highly structured and developed urban spaces  
- predominately hard surfaces  
- meeting and socialising opportunities  
- event space  
- landscaping and gardens  
- public artworks. |
| A variety of destination parks should be located to serve each of the northern, western, central and southern areas of urban Auckland. Future provision will be determined through network planning, which will identify if and where new destination parks are required. Provides neighbourhood and subrub park functions for immediately neighbouring residential areas. | The extent of the civic space network should reflect the scale of the urban centre. Civic space should be planned as part of an integrated network, which responds to the local character and needs of an urban centre.  
**Local Centre**  
- one small civic space.  
**Town Centre**  
- one or more small civic spaces; and  
- one medium civic space  
**Metropolitan Centres**  
- one or more small civic spaces;  
- one or more medium civic spaces; and  
- one large civic space. |
### Connection and linkage open space

| Provides contiguous networks of open space that establish recreational, walking, cycling and ecological connections, integrated with on-street connections. |

- trails
- walkways
- cycleways
- seating
- landscaping
- boardwalks
- native bush

The provision of open space for linkages and connections will depend on the particular characteristics of an area. Primarily provided along watercourses or the coast.
2.5 **RODNEY GREENWAYS PATHS AND TRAILS PLAN: PIUHOI TO PAKIRI**

The Greenways Plan 2017 is a visionary document which aims to provide cycling and walking connections which are safe and pleasant, while also improving ecology and access to recreational opportunities. To achieve this, Greenways may cross existing areas of parkland, and follow street connections between parks. This network will link together areas of housing and employment, open spaces, town centres, recreational facilities, places of interest and transport hubs. In rural areas such as Warkworth, Snells Beach, Matakania and beach communities, greenways include bridleways as well.

The Greenways Plan seeks to create a future network of greenways that will provide safe and enjoyable ways for people to get around, get active, and get engaged with their community and environment.

The network of greenways identifies the location and opportunity to:

- Improve walking connections
- Improve cycle connections
- Improve bridle connections
- Improve recreation opportunities
- Improve ecological opportunities
- Improve access to streams and waterways.

The Greenways Plan has identified a network of priority routes throughout the Rodney area. Figure 3 below illustrates these in relation to the western side of Snells Beach. The network of priority routes are identified around the subject site: through Goodall Reserve, connecting with the coastal walkway along to the boat ramp at the end of Dawson Road, loop back along Dawson Road through the school site, along the walkway to Foster Crescent, then back through to Goodall Reserve.

Future greenways infrastructure is provided for by the Plan Change that will complement the existing network. Within the site there is the provision for linkages between the site and the coastal walkway, Goodall Reserve, and the school. This will be through an offer of two reserves, one linking the site to the coastal walkway, another reserve linking to Goodall Reserve. This latter reserve will also be part of the stormwater drainage network for the subject site, and will include the ecological enhancement of the degraded wetland. Finally, the linkages to the school will be provided via a road to vest. It is considered that this will be a positive addition to the greenways routes for Snells Beach as identified in the Greenways Plan.
3.0 EXISTING COMMUNITY FACILITIES AND OPEN SPACE AREAS IN SNELLS BEACH

3.1 OVERVIEW

The existing community facilities network in Snells Beach consists of one council owned community centre, a library, and sports field facilities next to the Snells Beach shops. There are a number of non-council owned churches that have associated halls and facilities. There are also schools, kindergarten, and health care facilities.

These are illustrated in Figure 4 and Table 3 below.

In terms of open space, a number of neighbourhood parks and reserves are located within the Snells Beach urban area, including Goodall Reserve, the adjoining Te Whau esplanade/walkway and an extensive esplanade reserve along the main beach front.

Goodall Reserve is a generous Open Space - Sport and Active Recreation Zone focus for the wider settlement, catering for a range of team sports, tennis, lawn bowls, skate-boarding, library and informal pursuits. A network of predominantly concrete paths provides a range of walking route options through the reserve. Parking areas

Figure 3: Proposed Greenways Network Plan for Snells Beach (Source: Rodney Greenways - Paths and trails Plan)
are provided in the south east corner of the park. Collectively, these amenities define the reserve as a Suburb Park under the Auckland Council Open Space Provision Policy.

A second body of parkland exists as the Te Whau Esplanade Reserve; a riparian strip defined as Open Space – Conservation Zone that follows the coastal margin of Dawson Creek from the western end of Dawson Road through to Goodall Reserve, where it then continues on to the end of Hamatana Road. There is also a well-formed gravel path through the reserve which provides an easy, well graded route to connect with the network of trails within Goodall Reserve.

A third area of parkland lies uphill on the southern edge of the Plan Change site, where a reserve fills a semi-triangular space created by Dawson Road, Snells Beach School and the Te Whau Lane corridor and the western margin of the existing urban development. This open, largely undeveloped pocket of reserve is bisected by a concrete footpath that connects the end of Foster Crescent with the primary school.

In terms of coastal facilities, there are boat ramps at the main beach area as well as at the end of Dawson Road.

The subject site shares a boundary with both the Te Whau Esplanade Reserve Walkway and Goodall Reserve. This is beneficial in providing linkages to these reserves for future residents within the Plan Change area.

The open spaces and facilities mentioned above are identified in the Table 3 and illustrated in Figure 4 below.
Figure 4: Existing community facilities and open space areas in Snells Beach

<table>
<thead>
<tr>
<th>Education</th>
<th></th>
<th>Sports Fields</th>
<th></th>
<th>Healthcare centres</th>
<th></th>
<th>Sports Centres</th>
<th></th>
<th>Religious Facilities/Churches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Snells Beach Kindergarten – 21 Hamatana Road</td>
<td>1</td>
<td>Goodall Recreation Reserve – Mahurangi East Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Snells Beach Primary School – 62 Dawson Road</td>
<td>2</td>
<td></td>
<td>5</td>
<td>Snells Beach Medical Centre – Corner Dalton and Mahurangi East Roads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Horizon School – 20 Goodall Road</td>
<td>3</td>
<td></td>
<td>6</td>
<td>Fitness Hub Ltd – 10/280 Mahurangi East Road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>7</td>
<td>Snells Beach Tennis Courts &amp; Club – Mahurangi East Road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td>8</td>
<td>Mahurangi East Bowls and Skate Park 21 Hamatana Road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>Snells Beach Seventh Day Adventist Church – 410 Mahurangi East Road</td>
<td></td>
</tr>
</tbody>
</table>
3.2 COMMUNITY FACILITIES NETWORK ACTION PLAN

The Community Facilities Network Action Plan (the Action Plan) is a companion document to the network plan. It identifies actions required to address gaps, growth or fit for purpose issues across the community facilities network.

While the Action Plan has identified no actions specifically for Snells Beach, for the Warkworth and the Mahurangi East area, the Action Plan has identified four actions. These are outlined in the table below. The upgrade of the Town Hall is now complete.

<table>
<thead>
<tr>
<th>Priority Actions</th>
<th>1) Upgrade of Warkworth Town Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Priority Action</td>
<td>1) Kowhai Art and Craft Inc and other Rodney Community Facilities: Undertake a community needs assessment to assess whether the existing facilities in Rodney are aligned to the community’s needs.</td>
</tr>
<tr>
<td></td>
<td>2) Investigate the need for a multi-purpose community facility space in Warkworth.</td>
</tr>
<tr>
<td></td>
<td>3) Investigate the need for expansion and refurbishment of Warkworth library.</td>
</tr>
</tbody>
</table>

4.0 PROPOSED PLAN CHANGE COMMUNITY FACILITY AND OPEN SPACE PROVISION

In order to identify likely community facility requirements for the Snells Beach area, this report has considered the following:

- The Community Facilities Network Plan’s guidelines for community facilities;
- Criteria for community facility locations;
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- Provision metrics from the Open Space Provision Policy 2016;
- The existing network; and
- Actions identified in the network action plan.

4.1 ANALYSIS AND RECOMMENDATIONS – COMMUNITY FACILITIES

The area covered by the proposed Plan Change will provide for approximately 52 dwellings. Based on the relatively small number of additional households the Plan Change will generate and the quantum and range of community facilities within close proximity to the area, it is considered that the existing community facilities infrastructure in Snells Beach is sufficient to support the proposed population increase from this Plan Change.

4.2 ANALYSIS AND RECOMMENDATIONS – OPEN SPACE

Following the guidelines outlined in section 2.4 above, it is considered that no additional open spaces are required to be provided within the Plan Change area. This is due to the proposed reserve (Lot 53) and linkage to Goodall Reserve, and the proposed accessway linkage to the coastal walkway (Lot 54) is adequate. In addition, there are only a small number of additional dwellings that the plan change will provide for, and there is a generous provision of existing open space surrounding the plan change site.

4.3 OVERALL CONCLUSION

In relation to community facilities, overall it is considered that the existing community facility infrastructure in Snells Beach is sufficient to support the small number of additional dwellings and households under this Plan Change. It is considered that no additional community facilities are required as a result of this Plan Change, and the potential effects in relation to the social well-being of the future community is likely to be positive.

In relation to the open space network, overall it is considered that the existing open spaces in Snells Beach is sufficient to support the Plan Change and the small increase in additional dwellings that would occur. In addition, given the linkages the Plan Change can provide to the existing open spaces and reserve, it is concluded that no additional open spaces are required as a result of this Plan Change. The potential effects in relation to the social well-being of the future community is likely to be positive, as is the case for community facilities.
Figure 4 above demonstrates the close proximity of the Plan Change site to existing community facilities and open spaces.
Appendix 11 - Cultural Impact Assessment
CULTURAL IMPACT ASSESSMENT FOR
PROPOSED FOSTER CRESCENT PLAN CHANGE AND
RESIDENTIAL SUBDIVISION

Prepared By
Fiona McKenzie
Pou Kaitiaki
Manuhiri Kaitiaki Charitable Trust

NM-CIA-2018-002

July 2018
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1.0 Introduction

This document provides a Mana Whenua Cultural Impact Assessment (CIA) on behalf of Ngāti Manuhiiri with regard to the proposed Foster Crescent Plan Change and (if approved) subsequent residential subdivision in Snells Beach. This report was commissioned by the Barker & Associates on behalf of the applicant/developer Prime Properties Limited.

As part of this assessment, reports prepared for the plan change and provided for our reference at time of writing include an Executive Summary, Engineering, Geotechnical, Ecological, Traffic and Landscape reports as well as plans and drawings. These reports and plans have been reviewed.

1.1 Cultural Background

Ngāti Manuhiiri are the descendants of the eponymous ancestor Manuhiiri, the eldest son of the Rangatira and warrior chieftain Maki who, along with other tribal members, came from Kāwhia to live among their relatives, all descendants of the Tainui waka, who occupied the greater Tāmaki Makaurau area from the 14th Century. From this whakapapa Ngāti Manuhiiri in their own right through Maki and his sons, have unbroken ties to their ancestral home. After migrating from Kāwhia in the early 17th Century, Maki and his people progressively settled in the southern Kaipara, Watākere, Waitamata, on to Whenua roa o Kahu (North Shore), Abanu up to Mahurangi districts including Pakiri, Matakana, Puhinui (Warkworth), and finally the offshore islands such as Hauturu o Toi/Little Barrier and Āotearoa/Great Barrier.

Ngāti Manuhiiri made strategic marriages with other tribal groupings such as Ngāi Tāihuhu and Ngāti Wai among others, who occupied the eastern coastline and many of the offshore islands. Through these marriages Ngāti Manuhiiri strengthened their links with the land, sea, and islands on the eastern coastline from Paepea o Tū (Bream Tail) to Te Raki Paewherua (Takapuna area) and inland Kaipara areas.
Manuhiri, our Tupuna, has ancestral ties with his brothers Maraesiri, Ngawhetu and Tawhia Ki te Rangi but descent from Maki, his father, and Manuhiri himself is the basis of our mana today. Through the Ngāti Tahuhu and Te Uri o Kataa descent, along with marriages, Ngāti Manuhiri developed intimate ties with the neighbouring iwi of Te Uri o Hau in the northwest. Ongoing strategic marriages also saw Ngāti Wai become an important relationship for Ngāti Manuhiri. Prior to the arrival of Europeans, Ngāti Manuhiri occupied all parts of their ancestral domain in a seasonal cycle of cultivation and resource gathering. While predominantly a coastal tribe because of the vast kaimoana resources available within Te Moana Nui o Toi, upper Waitamata, Mangawhai and Kaipara Harbours, other resources were routinely gathered from the
heavily forested interior, also occupied and utilised by Ngāti Manuhiri. These resources included food such as forest and wetland birds, freshwater fish and plants, but also medicines, weaving and building materials, as well as the vast kauri and other native trees valued for waka building. Specific areas within the forest interior are also immensely significant as they became sacred places, such as Te Ahiahi and Te Wehewaha. Ngāti Manuhiri frequently travelled to the Kaipara and west coast exchanging resources and strengthening their relationships with their whanaunga.

Ngāti Manuhiri maintain an unbroken connection with their rohe exercising their mana through manuhiriitanga in the form of tribal, traditions, songs, place names, tupuna (ancestral rights), urupā (burial grounds) and kaitiakitanga (guardianship and management of cultural and natural resources).

1.2 Legislative Framework

Though the Waitangi Tribunal process, the Ngāti Manuhiri Claims Settlement Act 2012 came into effect 19 November 2012. The act formally mandates and supports Ngāti Manuhiri as Mana Whenua for the rohe as outlined in the Deed of Settlement (Figure 1.). It recognised and apologised for breaches of the Treaty by the Crown - the actions of which have impacted negatively on the iwi for the past 150 years. The legislation provides statutory acknowledgement of statements by Ngāti Manuhiri regarding their particular cultural, spiritual, historical and traditional association, requiring the relevant authorities to have regard to the views of Ngāti Manuhiri in all matters affecting these areas.

The Resource Management Act (RMA) 1991 provides statutory recognition of the Treaty of Waitangi and the principles derived from the Treaty. It introduces the Māori resource management system via the recognition of kaitiakitanga and tino rangatiratanga and accords Territorial Local Authorities with the power to delegate authority to iwi over relevant resource management decisions. The Act contains over 30 sections, which require Councils to consider matters of importance to tangata whenua. Some of the most important of these are:

- The principles of the Treaty of Waitangi and their application to the management of resources (Section 8).
- Recognition and provision for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga (Section 6(e)).
- Having particular regard to the exercise of kaitiakitanga or the iwi’s exercise of guardianship over resources (Section 7(a)).
- Having regard to any relevant planning document recognised by an iwi/hapū authority (Sections 61(2)(a)(ii), 65(2)(c)(ii), 74(2)(b)(ii)).
- The obligation to consult with iwi/hapū over consents, policies and plans. (Combination of all the sections above and Clause 3(1)(d) of Pt 1 of the first schedule of the RMA).
The Auckland Unitary Plan (AUP) further recognizes:

“Māori have a special relationship with natural and physical resources through whakapapa. Inherent in this relationship is kaitiakitanga which seeks to maintain the mauri of these resources, while allowing their use for social, cultural and economic well-being.”

Also

“Development and expansion of Auckland has negatively impacted on Mana Whenua taonga, on customary rights and practices of Mana Whenua within their ancestral rohe. Further deterioration of taonga, sites and places of significance, and the values associated with cultural landscapes must be avoided. Degraded taonga and customary rights must be actively enhanced in order to restore the well-being and mana of those taonga, sites and places – and therefore the mana of the people. Mana Whenua participation in resource management decision-making, and the integration of mātauranga Māori and tikanga in resource management is of paramount importance to ensure a sustainable future for Mana Whenua and for Auckland as a whole.”

1.3 Ngāti Manuhiri Settlement Trust

The post settlement interests of Ngāti Manuhiri are managed and administered by the Ngāti Manuhiri Settlement Trust. The central purpose of the Trust is to enhance the spiritual, cultural, social, and economic well-being of the iwi and to provide for the kaitiaki responsibilities of ensuring the restoration and maintenance of the sociocultural and natural environment. These goals form the basis of any meaningful consultation or engagement with Ngāti Manuhiri.

1.4 Purpose

This assessment of actual and potential impacts on cultural values and interests will assist Prime Properties Limited in meeting its obligations in a number of ways, including:

- having regard to the statutory acknowledgement of Ngāti Manuhiri as Mana Whenua for north-east Tamaki Makaurau
- preparation of an Assessment of Environmental Effects (AEE) in accordance with s88(2)(b) and Schedule 4 of the Resource Management Act 1991 (RMA)
- requests for further information under s92 of the RMA in order to assess the application
- providing information to assist the council in determining notification status under ss95 to 95F of the RMA
- providing information to enable appropriate consideration of the relevant Part II matters when making a decision on an application for resource consent under s104 of the RMA
- consideration of appropriate conditions of resource consent under s108 of the RMA.
1.5 Objective

The objective of this CIA report is to provide Prime Properties Limited with insights into the potential cultural impacts associated with the proposed plan change and subsequent residential subdivision of the site, as far as can be ascertained, and recommendations as to how they might be considered and addressed.

1.6 Proposed Works

An overview of the proposed works as outlined by Barker & Associates is summarized below:

'Prime Properties Limited is applying to Auckland Council for a Plan Change to rezone Lot 1 DP 149776 (approximately 4.6Ha) from Residential - Large Lot Residential (11 lots) to Residential - Single House zone (additional 41 lots).

At the same time, resource consent is proposed to be lodged for a 52 lot subdivision in accordance with the Single House zone rules.'

1.5.1 Access

Access into the 52 lot subdivision would be via a road appending the end of the existing Foster Crescent. It is not known at this time whether this would be an extension of Foster Crescent or a ‘new’ road. Within the subdivision itself there would be a secondary loop (or linking) road. The main road will have footpaths on both sides while the link road (narrower) will only have a footpath on one side.

Pedestrian (and presumably cycle) access linking to the Te Whau Esplanade Reserve and Walkway, along the northern boundary would be gained via a utility reserve in the northeastern corner of the development.

1.5.2 Earthworks

A total volume of 19,000m$^3$ of cut to fill earthworks is proposed for the bulk earthworks, installation of sediment controls, infrastructure and final stabilisation, to create the lot building platforms and road network.

Soil from the swampy areas is not considered suitable for reuse on site, therefore approximately 1,050m$^3$ excess cut has been allowed for disposal off site.
1.5.3 Vegetation
Existing vegetation on site primarily consists of grazed pasture with pockets of gorse (~ from site visit grazing appears to have been halted with the grass now overgrown kikuyu or rank grass). Four small totara trees around the wetland are the only native plants of significance.

1.5.4 Waterways
Within the site itself there are 3 waterways all classified as ephemeral and in poor ecological condition. The 3 waterways meet in the northeastern (lowest) corner of the site, where approximately 30m of stream has then been classified as permanent. There is also a small, degraded wetland again with low ecological value. All ephemeral reaches and approximately 10m of permanent watercourse are proposed to be reclaimed.

Elsewhere on site are overland flowpaths (often ‘fed’ by drains from the neighbouring properties), a man-made pond for watering stock and ‘boggy’ areas. These areas are proposed to be reclaimed.

The Ecological Assessment recommends that the Plan Change ensures that the permanent section (below the confluence of the 3 waterways) as well as the wetland and its associated boggy areas are enhanced through restoration planting and protected through a covenant. There was also a requirement for a Weed Management and Planting Plan prior to earthworks commencing. The recommended enhancement would entail the restoration of approximately 40m of permanent watercourse and 110m² of wetland habitat, including the retention of the totara.

To the north the property abuts the Te Whau Esplanade reserve which is next to Dawson’s Creek, a tributary of the Mahurangi River and Harbour – the receiving environments for runoff from this site.

1.5.5 Sediment and Erosion Controls
Erosion and sediment control and site stabilisation during the earthworks are proposed to be undertaken in accordance with the methodologies of Auckland Council’s GD05. Controls will include a sediment pond, decanting earth bund, clean and dirty water diversion channels, stabilised entrance, staging and ground stabilising (i.e. reseeding and/or mulching).

1.5.6 Stormwater
The stormwater network is proposed to be designed generally in accordance with the Auckland Council’s technical document TP10. It is considered that stormwater attenuation on this site is not
required as runoff from the site discharges directly into the Mahurangi Harbour and therefore there is no substantial increase in the risk of flooding or inundation of the surrounding properties from the creation of new impervious areas within the site.

Stormwater flows from both the roads and other impervious surfaces will be treated in one of two, Stormwater 360 stormfilter units to be installed within the utility reserve. It is understood the treated stormwater will discharge into a wetland before flowing to the Mahurangi Harbour (via Dawsons Creek).

1.5.7 Biodiversity
Given the lack of quality habitat to sustain native biodiversity on this site, very little was identified. No reptiles, fish or bats and the only birds seen were two exotic species. It is likely however that some native bird species do visit or utilize the site from time to time.
1.5.8 Archaeology
An archaeological assessment of the property was undertaken in late 2017. No archaeological sites of Māori origin were recorded for the site at that time, nor were any discovered or identified during the assessment. The likelihood of finding artefacts as the result of any physical works is considered to be low.

1.5.9 Utilities
Currently above ground powerlines cross the property in a north-south direction. These will have to be undergrounded for the development.

Watercare has (apparently) indicated that their reticulated water supply and wastewater systems have enough capacity for the additional residential lots to connect. Currently across the northeastern corner of the site, Watercare has an existing underground wastewater pipeline (rising main) that connects to a pump station just outside (east) of the property boundary.

It is assumed other services such as telecommunications are readily available.
2.0 Ngāti Manuhiri Cultural Impact Assessment Process

2.1 Cultural Values

Our cultural leaders are experienced in our whakapapa, history mātauranga and tikanga. We have leaders in all areas of environmental management, influencing stakeholders to protect Ngā Taonga tuku iho, providing guidance and inspiration for our people.

Ngā Tikanga – the values and principles which guide our role as kaitiaki, in environmental management:
- Manuhiritanga – our identity and uniqueness as Ngāti Manuhiri, upholding the mana of Ngāti Manuhiri
- Mana Motuhake – active leadership and decision making
- Kaitiaktanga – cultivating a sustainable healthy environment and healthy lifestyle for all people
- Kotahitanga – participating together; having open, honest and transparent communication; unity
- Whanaungatanga – through our whakapapa, our identity; knowing our mātauranga Ngāti Manuhiri
- Manaakitanga – caring for the environment so that Ngāti Manuhiri can care for the people
- Sustainability – promoting use of environmentally friendly and sustainable practices and materials
- Principle of enhancement – restoration of degraded sites
- Long-term cultural wellbeing – a healthy environment for future generations
- Kū uta, kū tai (mountains to sea) – holistic integrated catchment management

2.2 Ngāti Manuhiri Cultural Footprint

Our uniqueness and identity as Ngāti Manuhiri is expressed in all the things that we do, that we can see, touch and hear. Our cultural footprint is underpinned by Manuhiritanga and how we express that through our tikanga and kawa.

One of our responsibilities and obligations as Mana Whenua Kaitiaki is to actively protect and enhance Ngā Taonga for the use and benefit of future generations as acknowledged in our governance and management protocols.

The role and responsibilities of Mana Whenua kaitiaki in contemporary cultural and natural resource management includes, but is not limited to:
- Protection and maintenance of wāhi tapu and other heritage sites
• Protection of taonga
• Placing of rahui (temporary ritual prohibition) to allow replenishment of harvested resources
• Restoration of damaged ecosystems
• Protection of sensitive environments
• Directing development in ways which are in keeping with the environment
• Ensuring the sustainable use of resources
• Observing the tikanga associated with traditional activities
• Providing for the needs of present and future generations

2.2.1 Te Ao Māori (Māori World View)

Māori traditionally believe that the forests, the waters, and all the life supported by them, together with natural phenomena such as mist, wind and rocks, possess a mauri or life force (Marsden, 1992).

Mauri is the life energy force or unique life essence that gives being and form to all things in the universe. All elements of the natural environment, including people, possess mauri and all forms of life are related. This interconnectedness of all things means that the wellbeing of any part of the environment will directly impact on the wellbeing of the people. The primary objective of Māori environmental management is to protect mauri from desecration and to maintain and restore the integrity of mauri and thus the interconnectedness of all forms of life.

Sustaining the mauri of taonga (treasure) whether a resource, species or place, is central to the exercise of kaitakitanga. Tikanga (custom, protocol) has emerged around this duty bringing with it mātauranga (knowledge, wisdom) or intimate knowledge and understanding about local environments, and a set of rules that guide our way of life, both spiritual and secular.

Mātauranga Māori (Māori knowledge) is dynamic and evolving, encompassing historical traditions as well as the aspirations of Tangata Whenua (indigenous people) for the provision of services for future generations. The protection of indigenous flora and fauna species as taonga species is important to the Kaitiaki role of Tangata Whenua.

2.2.2 Kaitiakitanga

The people of Ngāti Manuhiri have an obligation and responsibility to guard, protect and maintain the interests and associations of all aspects relating to the wellbeing of the iwi. In Te Ao Māori knowledge of the workings of the environment and the perception of humanity as part of the natural and spiritual world is expressed in the concept of mauri and Kaitiaki as described above. Practices have been
developed over many centuries to maintain the mauri of all parts of the world. Observing these practices involves the ethic and exercise of kaitakitanga.

The root word is ‘taki’ which includes notions of guardianship, care, respect and wise management. The kaitaki is the tribal guardian and can be spiritual or physical, human or non-human. The human kaitaki must be a member of the local iwi holding customary authority of Mana Whenua or their appointed representative.

Expressing kaitakitanga is an important way in which iwi maintain their Mana Whenua.

2.3 Methodology

This report is largely a desk top study, with oral kōrero provided by Manuhiri elders. An iwi representative attended a site visit on 16 August 2018. Satellite imagery, the Auckland Council’s GIS and Cultural Heritage Inventory (CHI) database have been referenced. Historical material pertaining to Ngāti Manuhiri and the Snells Beach/Mahurangi area was obtained internally, however a full history of association is not offered here.
3.0 Ngāti Manuhiri Association With Site

3.1 Physical Setting

The Mahurangi Peninsula lies on the east coast approximately 70km north of Auckland City in the Rodney District. Predominantly rural it features two main urban areas being Snells Beach (pop. ~3,200) and Algies Bay (pop. ~900). The western edge of the peninsula is adjacent the Mahurangi River and Estuary, while the eastern coast adjoins Kawau Bay (Moanauri) and faces Te Kawau Tūmārō & Toi (Kawau Island). The property proposed for the plan change and development is located adjacent the inner Mahurangi Harbour.

Figure 2: Map depicting approximate location of Foster Crescent (red arrow), Snells Beach, within the wider northeast Tāmaki Makaurau coastal region
3.2 Cultural Significance

As outlined previously, Ngāti Manuhiri links with the entire north east of Tamaki Makaurau and eastern Kaipara date back to at least the 14th century. Ngāti Manuhiri maintained kāinga and pā throughout the rohe, with a locus on both coastlines. Pā were usually located in defensive, significant or strategic places and there were both permanent and temporary (seasonal) kāinga (settlements), particularly adjacent to sheltered waters or rivers. Rivers and streams were not only a source of fresh water and kai (food) but were also the main highways inland to kāinga or cultivations and often the beginning of overland pathways. As previously stated, the entire rohe was occupied and utilised by Ngāti Manuhiri and their whanaunga (relations) for generations. This is evidenced by the large number or recorded archaeological sites of Māori origin (Figure 3) and traditional place names.

![Map depicting location of recorded archaeological sites](image)

**Figure 3:** Map depicting location of recorded archaeological sites (red dots) around the wider Mahurangi area. Approximate development indicated with green circle.

It is notable that the majority of sites are dispersed around the coastal and riverine areas, which is in line with general pre- (and post-) European settlement patterns. There are fewer sites recorded further inland.
and also within the heavily developed (urban) areas. The reasons for this apparent disparity may be attributed, in part at least, to: previous development activities that did not consider pre-European occupation; historic modification of the landscape by tree felling, horticulture and farming of heavy stock; and a lack of access and therefore archaeological recording within the forested interior rather than to a lack of occupation or activity within these locations. Thus, often what is recorded is merely representative of the actual number of sites and of the original occupation. Further, archaeological recording of sites does not capture esoteric or spiritual sites of significance to iwi.

The Mahurangi Peninsula is known to have been heavily occupied and utilised by Ngāti Manuhiri, and is evidenced by the multitude of recorded archaeological sites depicted in Figure 3 (Ngāti Manuhiri are aware of other currently unrecorded sites throughout the peninsula). Importantly, Manuhiri’s father, Maki and his wife Rotu, occupied Te Korotangi Pā at the southern entrance to the harbour.

Generational occupation is also reflected by the numerous place names and landmarks that dominate the wider area e.g. Mahurangi (name taken from Motu Mahurangi, an island at the mouth of the Waipera River - important in Ngāti Manuhiri traditions). Waikē (inner Mahurangi River), Motu Kororā (Saddle Island), the island pā of Maungamanu (Cassell Island), Motu Kauri (Grant’s Island), Puhinui (the waterfalls at Warkworth), and Pukapuka, a kūkū and now the site of a Cemetery which remains at the head of the harbour.

The traditional name for the harbour originates from the fact that its resources were jealously guarded and fought over down the generations, as recorded in the whakatauki;

*Kō te iiti o Waihē, he puta kino nui – Even though Waihē (the disputed harbour) is not large, it has been the cause of great trouble.*

This entire coastal region is associated with important tupuna, significant battles, kūkū, pā, wahi tapu, and rich resource gathering areas. Harbours, estuaries and rivers offered shelter, significant transport routes inland and food gathering areas, while the ridgelines of the forested interior were followed as walking tracks, with appropriate aspects utilised for gardening.

Snells Beach, mostly established on the eastern side of the peninsula, but growing, was protected by two pā, located at each end of the main beach (as was Algies Bay immediately to the south). It faces Te Kāwha Tūmārō o Toi (Kawau island) across a stretch of water known as Moanauriri. The tauranga māngā (shark fishing grounds) of Moanauriri were used by Ngāti Manuhiri and others to catch the school shark species known locally as muri. This important winter food source was desired by many iwi and became the cause of significant conflict. Recorded sites along the coastline include midden, pīmī, terraces, ovens and potentially remnant karaka groves that were cultivated.

To the north of Snells Beach is Te Awa Matakana (Matakana River) a river of major significance to Ngāti Manuhiri as a sub-regional boundary marker. The river provided an important inland route to kūkū
and cultivations located on the fertile country at the navigable head of the river. It also provided a wide range of food taken from both the fresh and salt water sections. The upper reaches were protected by several pa, including Pukemateke, while the lower reaches and the adjoining harbour were protected by the headland pa (opposite Sandspet) known as Matakanakana – ‘the glowing eyes’. This pa, which is of considerable significance to Ngāti Manuhiri gives its name to the river, town and surrounding district. The 2012 Ngāti Manuhiri Claims Settlement Act recognised the iwi’s Statutory Acknowledgement of te Awa Matakanakana. The awa discharges into Te Moana Nui o Toi (see below).

The area known today as Warkworth was once called Puhinui. The waterfalls at the head of the Mahurangi River, in the centre of town, are called the Puhinui Falls and are of particular significance to Ngāti Manuhiri. Further south of the Falls along the awa (river) are waka landing sites used by the people as they travelled inland from the coast.

Te Moana Nui o Toi – the Great Sea of Toi. This is the name Ngāti Manuhiri use to describe the seas north and east of Whangaparāoa. Named for the famous early Māori ancestor and voyager Toi Te Huatahi. This ocean area and its muri, kaitiaki, biodiversity, seaways, islands and traditions lie at the heart of the identity of Ngāti Manuhiri. Tradition tells that Te Moana Nui o Toi was a place of arrival for famous ancestral voyaging waka, a place intimately associated with the early ancestors of Ngāti Manuhiri, a place that is watched over by kaitiaki and a vast economic resource that was jealously guarded and desired over generations. Resources included sea mammals, fish, shellfish, seaweed and seabirds. School sharks locally known as muri, were an important winter food source, desired by many iwi and became the cause of significant conflict.

The impacts of post-European contact were devastating to Ngāti Manuhiri and included rewahewha (disease) and alienation of land from multiple illegal sales or confiscation events (including the controversial Mahurangi Purchase (1841) which encompassed land from Takapuna and north to Te Årai, including Snells Beach) - without the knowledge of Ngāti Manuhiri - all of which was further compounded by significant losses in battle during the Musket Wars.

Today, Manuhiri’s traditional lands and Mana Whenua interests are protected and watched over by his living descendants, with the Ngāti Manuhiri Settlement Trust the entity mandated to represent, manage and protect these interests.
4.0 Cultural Impact Assessment

The CIA is largely a desktop study although a site visit was undertaken by a Ngāti Manuhiri representative in August 2018. This report documents Ngāti Manuhiri's cultural values, interests and associations with the site and its resources, and the potential impacts of the proposed activity on these from our perspective as Kai Tākaha. Consideration of the proposal is made in regard to its impact upon Ngāti Manuhiri in the areas of wāhi tapu, taonga, spiritual values, and wellbeing.

Note: Any development, especially those involving cut or disturbance of the subsoil, has the potential to disturb archaeological materials and taonga. Under the Heritage New Zealand Pouhere Taonga Act (2014), any archaeological site or object, even if not previously recorded, is protected and it is prohibited to damage, modify, or destroy any such sites without an authority from Heritage New Zealand.

4.1 Wāhi tapu

Wāhi tapu may include pā sites, battlefields, burial grounds, significant historic wā sites, canoe landings etc.

A search of the Auckland Council Cultural Heritage Inventory (CHI) and GIS Maps did not identify any recorded wāhi tapu sites/sites of significance or value to Mana Whenua specifically within the property boundaries. Given however the proximity of other recorded sites and the known intense occupation and use of the harbor to which this property is adjacent, we would highlight the potential for sites to be uncovered during any works.

4.2 Taonga

Taonga can refer to artifacts or parts thereof, objects, flora, fauna, water bodies, or people.

As for 4.1. While no physical cultural features are immediately apparent upon looking over the land, there is always potential for sub-surface taonga and sites of significance, especially when adjacent waterbodies.

Living taonga include plants, birds, reptiles and fish all of which are found in the area, although it is noted specifically for this site that natural habitats are seriously degraded. As Kai Tākaha, Ngāti Manuhiri support all initiatives (e.g. avoidance, mitigation/enhancement planting) that will protect or enhance their continued presence and environment. This includes the ultimate receiving environments of Te Wahä and Te Moana Nui o Tōt.
4.3 Spiritual values

Spiritual values pertain to mauri (life force) and wairua (spiritual nature/forces/essences) of people, flora, fauna, land, bodies of water etc.

The significance of the harbour to Ngāti Manuhiri as a resource and transport route inland has already been stated. Te Waihē is also known to have a tanwha and Katiaki, known as Wāwaea. Historic land clearance and land use practices have resulted in large scale siltation of this awa, which impacts on both its mauri and wairua, including that of Wāwaea.

The impacts affect the life force or life sustaining properties of the awa and the land, both in terms for the naïve biodiversity and water quality.

As Katiaki, Ngāti Manuhiri would see this mauri restored and enhanced rather than just mitigated.

4.4 Wellbeing

Wellbeing relates to the potential effects to the people of Ngāti Manuhiri by outside influences or events that affect their way of life or traditions.

On face value this project does little to directly enhance the wellbeing of Ngāti Manuhiri, other than this opportunity to express our concerns from a cultural perspective. Therefore, consideration, inclusion and implementation of our recommendations in this subdivision development project is appreciated.

Being Mana Whenua, Ngāti Manuhiri have kaitiakitanga (guardianship) obligations to fulfil. These obligations include the protection of our culture, heritage and taonga on behalf of past, present and future generations.
5.0 Recommendations

This CIA report considers the potential impacts of the proposed plan change and subsequent proposed subdivision development with its associated works at the property of Foster Crescent, Snells Beach, from a Ngāti Manuhiri cultural perspective.

The following recommendations for avoidance or mitigation of cultural impacts are provided as points of discussion between applicant Prime Properties Limited and Ngāti Manuhiri.

5.1 Ngāti Manuhiri are aware of the pressure the housing demand creates within Tāmaki Makaurau, which does not appear to be lessened in the Mahurangi region even given its distance from the CBD. The nearby settlement of Warkworth has been identified as a satellite town which will see population growth increase over the next 30 years from approximately 45,000 to 2530,000. With an emphasis on creating local employment in the satellite towns, the attraction of this plan change, facilitating additional new homes close to jobs is obvious. In the context of Warkworth’s predicted growth, this plan change is small in scale, however consideration needs to be given to cumulative impacts. Some of these concerns are outlined further in the points below. We request these concerns or recommendations are taken into consideration, discussed and implemented where possible feasible.

- It is understood the original intention of the Large Lot Residential Zoning was to provide a visual transition from the dense urban housing of Snells Beach in the east to the largely rural aspect of the land to the west. As such the idea has merit as currently the urban density housing (off Fosters and Cornal Circle) ends very abruptly and sharply. Rezoning this site will simply move that urban density further west. We are aware that at the northern end of the site there is a buried Watercare Wastewater pipeline and further it is our understanding that such infrastructure cannot be built over. The current subdivision plan submitted shows 5 residential Lots over this pipe. It would be our preference if these Lots were removed from the Plan change and subdivision proposals and instead left as an extension to the proposed reserve. There are several advantages to this that would reduce cultural impacts:
  - Given these Lots are adjacent Dawson Creek (Mahurangi), leaving them undeveloped means that any undiscovered sub-surface taonga (which has a higher likelihood of being located near water) will remain undisturbed and protected
  - A larger reserve area provides the opportunity for the developer to ‘enhance’ the environment of the developed site, rather than just to ‘mitigate’ the works. Planting this expanded reserve with native fruiting and flowering trees will provide much more habitat for native biodiversity
  - The larger reserve area would be required to have a Weed and Pest control management plan. It is highly likely that native, cryptic wetland birds such as Banded
Rail and Australasian Bittern utilize the mangrove environment to the north of the site. A predator free or controlled riparian reserve would provide a safe habitat for such birds.

- By leaving these Lots as reserve instead of developing means the northern end of the site would not require earthworks a) reducing the amount of sediment generated and b) providing an extra buffering zone for leaching sediment from the exposed soils during bulk earthworks

- The reduced number of Lots and larger reserve area would go some way toward providing the visual transitioning originally intended
  - Fewer Lots will translate to fewer vehicles adding cumulative pressure onto the already congested Hill Street intersection in Warkworth
  - Not building adjacent the foreshore future-proofs against sea level rise

### Subdivision

5.2 All costs associated with any ceremonies, monitoring, reports, site visits and/or meetings attended by Ngāti Manuhiri representatives or the creation of any cultural structures, art or design, are to be met by the applicant.

5.3 While all archaeological sites, known and unknown, are afforded protection under the Heritage New Zealand Pouhere Taonga Act (2014), because of the potential for sub-surface taonga to be discovered during works, especially adjacent waterways, Ngāti Manuhiri request the following;

- We expect all contractors will be made aware of and adhere to Accidental Discovery Conditions. A Ngāti Manuhiri representative can present and/or review these with contractors at a pre-construction hui.
- A Ngāti Manuhiri representative may be required to be present for all ground disturbing works adjacent the waterways. Applicant to keep Ngāti Manuhiri advised of the timing of these works
- If intact subsurface archaeological features or artifacts associated with Māori are exposed during any works, it will be necessary to cease works in the vicinity and representatives of Ngāti Manuhiri and the Heritage New Zealand should be notified immediately of the discovery (as outlined in section 6.0)
- If intact subsurface archaeological features or artifacts associated with Māori are exposed during works, Ngāti Manuhiri may wish to increase cultural monitoring to the remaining earthworks
If any koiwi (human remains) should be exposed at any time, works should cease in the immediate vicinity and the police, Ngāti Manuhiri and the Heritage New Zealand should be contacted so that appropriate arrangements can be made (as outlined in section 6.0).

5.4 Maintaining a cut to fill balance within the same site is the preferred practice of Ngāti Manuhiri i.e. keeping the natural resources within the area where it has whakapapa (i.e. where it's from).
- It is understood that some of the swampy ground that will be cut is considered unsuitable for fill and will be taken off site. Ngāti Manuhiri request that the excess soil is deposited in a location as close as possible to the original site.

5.5 It is proposed that the erosion and sediment controls for the development will be designed in accordance with Auckland Council GD05;
- Ngāti Manuhiri request to be able to review and input into the detailed Erosion and Sediment Control Plan when available
- A Ngāti Manuhiri representative will require to visually inspect the sediment controls in place prior to bulk earthworks commencing.
- A sediment pond is proposed for receiving and treating runoff during earthworks. It is not stated whether or not the pond will be flocculated. The preference of Ngāti Manuhiri is that the contractors investigate the use of an organic flocculant (e.g. HaioKlear), being more environmentally friendly, as opposed to the usual Polyaluminium Chloride (PAC)
- These requests stem from rules or policy that require our waterways to be 'wadeable' or 'swimmable' or to have so many ppm suspended solids (for example), but from our aspiration to see our waterways returned to a state that it is 'drinkable' and that freshwater food and other resources are both abundant and able to be harvested and eaten or utilized safely.

5.6 It is understood that all stormwater from the subdivision will be treated through proprietary devices and a wetland before discharging into Dawson’s Creek.
- Ngāti Manuhiri are assuming that the devices and wetland are adequately sized to appropriately treat all runoff.

5.7 The manmade pond and ephemeral waterways are proposed to be infilled.
- It is likely that tuna (eels) are resident within the stock pond at the very least. We request that fish are transferred out of these waterbodies prior to them being filled in.
5.8 It is our expectation that all re-vegetation will be of locally sourced, fruiting and flowering natives, appropriate for the riparian/esplanade environment.
   - We assume all re-vegetation planting includes exotic weed removal
   - We recommend that reptile-friendly plants are included to provide suitable habitat for native reptiles.
   - Ngāti Manuhiri would appreciate being able to review and input into the Weed and Pest Management Plan

5.9 New buildings and associated infrastructure can contribute to good cultural and environmental outcomes through the use of sustainable, energy efficient materials and construction methods. Earthen, recycled or other sustainably sourced materials and careful design of natural lighting sources and heating, e.g. solar, can enhance the overall value of the project and site.

5.10 Ngāti Manuhiri welcome opportunities to reflect our cultural footprint as Mana Whenua and Kaitiaki via this development including but not limited to:
   - Opportunities to name roads or reserves
   - The commissioning of cultural art or design within the site

5.11 Ngāti Manuhiri request a formal written response to the above recommendations from the applicant.
6.0 Discovery Protocols

Protocol for the discovery of kōiwi or taonga unearthed during construction operations

The term ‘kōiwi’ here refers to human remains such as skeletal material, while ‘taonga’ means cultural artifacts such as implements, weapons or decorations traditionally and historically used by tangata whenua and includes parts or the remains thereof. Features such as pits, midden or terraces are afforded the same legal protection as other archaeological materials or taonga. Iwi play an important role as kaitiaki in the care and management of kōiwi tangata/human skeletal remains and taonga following discovery. It is essential that iwi are notified at the earliest opportunity should any kōiwi or taonga be unearthed during earthworks or other operations.

The following procedures should be adopted in the event that kōiwi, archaeological features or taonga are discovered or are suspected to have been unearthed during construction activities:

- If kōiwi, archaeological features or taonga are exposed during development, earthworks should immediately cease in the vicinity. It is important that any remains or artifacts are left undisturbed or in situ once discovered.
- The Site Supervisor should take steps immediately to secure the area so that kōiwi or taonga remain untouched and site access is restricted.
- The Site Supervisor will ensure that eating, drinking, and smoking in the immediate vicinity is prohibited.
- The Project Manager will notify
  a) the New Zealand Police (in the case of kōiwi/skeletal remains only)
  b) Heritage New Zealand
  c) Manuhiri Kaitiaki Charitable Trust
  d) The Project Archaeologist (if applicable)
- Manuhiri Kaitiaki Charitable Trust will contact the appropriate kaumatua in order to guide and advise the parties involved as to the appropriate course of action. Any associated costs should be met by the developer.
- The Project Manager will ensure staff are available on site to guide police (as appropriate) and kaumatua to the site.
- In the case of kōiwi, site access should be restricted to other parties until Police are satisfied the remains are of forensic relevance.
- If the parties involved are satisfied that the kōiwi or taonga are of Māori origin the kaumatua will decide how they are to be dealt with and will communicate this to...
the New Zealand Police and other parties are appropriate.

- Activity on the site will remain on hold until the Police (in the case of koiti), the kaumātua and Heritage New Zealand have given approval for activity to recommence.
- The Project Manager shall ensure that kaumātua have the opportunity to undertake karaia and other cultural ceremonies and activities at the site as may be considered appropriate in accordance with tikanga Māori (Māori customs and protocols).

7.0 Confidentiality
This report has been prepared for the particular brief given i.e. to inform applicant and Council. The data and opinions contained in it may not be used in any other context, shared with any other person or organization or for any other purposes without prior review and agreement with Ngāti Manuhiri.

8.0 Disclaimer
This report does not reflect the opinions, traditions or recorded history of any other iwi who express an interest in the Snells Beach region.

Should information in technical reports provided to Ngāti Manuhiri as reference material subsequently prove to be incorrect or inaccurate Ngāti Manuhiri should be informed immediately as this may result in the potential cultural impacts having to be reviewed.

9.0 References
Ngāti Manuhiri and the Crown (2011). Deed of Settlement of Historical Claims
Appendix 12 - Archaeological Assessment
FOSTER CRESCENT, SNELLS BEACH — PROPOSED SUBDIVISION: ARCHAEOLOGICAL ASSESSMENT

Prepared for
Prime Property Group Ltd
OPC Creative Planning Solutions

October 2017

By
Charlotte Judge (MA Hons)

Clough & Associates Ltd
321 Forest Hill Rd,
Waiatarua, Auckland 0612
Telephone: (09) 8141046
Mobile: 0274 550 090
www.clough.co.nz
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INTRODUCTION

Project Background

Prime Property Group Ltd is proposing the residential subdivision of the currently vacant lot at Foster Crescent, Snells Beach, Auckland (Figure 1, Figure 2). The legal description of the property is Lot 1 DP 149776. The proposal involves the subdivision of the 4.64ha property into 59 residential lots with associated roading and coastal access ways (Figure 3).

An archaeological assessment was commissioned by Prime Property Group Ltd and OPC Creative Planning Solutions Ltd to establish whether the proposed work is likely to impact on archaeological values. This report has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

Methodology

The New Zealand Archaeological Association’s (NZAA) site record database (ArchSite), Auckland Council’s Cultural Heritage Inventory (CHI), Auckland Unitary Plan (AUP) schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List were searched to determine whether any archaeological or other historic heritage sites had been recorded on or in the immediate vicinity of the property. Literature and archaeological reports relevant to the area were consulted (see Bibliography). Early plans held at Land Information New Zealand (LINZ) and the Alexander Turnbull Library (ATL) were checked for information relating to past use of the property.

A visual inspection of the property was conducted on 8 October 2017. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape, or indications of 19th century European settlement remains). Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy. Subsurface testing with a probe and spade was carried out across the property to determine whether buried archaeological deposits could be identified or establish the nature of possible archaeological features. Particular attention was paid to the northern end of the property close to the tidal inlet and river bank where archaeological sites within the area are often found to be located. Photographs were taken to record the topography and features of interest.
Figure 1. Aerial showing location of subject property (marked with arrow). Aerial source: Auckland Council GIS 2017
Figure 2. Aerial showing location of subject property (outlined in red). Aerial source: Auckland Council GIS 2017.
HISTORICAL BACKGROUND

Maori Settlement

The Mahurangi area has long been valued for its shark fishing grounds, control of which was the cause of much intertribal conflict. Shark meat was dried and kept as a winter food supply, while shark liver oil was mixed with pigments to produce paint. The inland forests provided bird and plant resources and were easily accessed via the Puhio and Mahurangi rivers. Canoe travel along the coast and rivers and overland routes to the Kaipara Harbour provided good communication with other areas (ARC 2005). The main focus of settlement and agriculture focussed on the coastal areas of the peninsula, particularly to the south and along the south-western coast.

Snells Beach and Algies Bay on the eastern coast of the Mahurangi Peninsula clearly played defensive roles, looking out over Kauau Bay and The Hauraki Gulf. Pa were constructed on the headlands at the ends of the bays, with midden sites recorded within the bays.

European Settlement

The first European land purchase recorded in the area was a transaction completed (c.1838) between an American, William Webster, and the Hauraki iwi for 4,046 hectares between Point Rodney and Tawharanui for a price of £490, without the knowledge of Ngati Raupo, its former occupants (Murdoch 1991:7). Subsequently, in 1841, the Crown negotiated the ‘Omaha and Mahurangi Purchase’, an extensive tract of land that included the entire coastline between Pakiri and Takapuna. However, as the purchase was carried out between the Crown and tribes of the Hauraki without consulting Ngati Raupo, Ngati Rongo and Ngati Mamahiri, occupiers of the coastline immediately to the north, the transaction was not completed for a further 13 years (Murdoch 1991:7). Te Henga Tanaha and his people continued to occupy their lands in the meantime.

After the Omaha and Mahurangi Purchase was finalised in 1853 European settlement of the Mahurangi area proceeded fairly rapidly. The earliest European settlement in the Mahurangi (and in the Auckland region) dates back to 1832, when a spar station was established by Gordon Brown for Captain Ralph Dacre on the Pukapuka Peninsula on the western side of the Mahurangi River. Brown had obtained cutting rights from Hauraki Maori and employed many Maori labourers. The venture ended in 1834 when Captain Sadler arrived on HMS Buffalo, having obtained permission from the Ngapuhi chief Titore to take spars for the navy, and took over the supply of trees and the work force. Logging continued around the harbour and in 1844 the first sawmill was established at Warkworth by John Brown. After the foreshore area had been cleared, logging extended inland, continuing until the late 1930s, by which time all the kauri had been logged. (ARC 2005).

Other early industries included shipbuilding, which flourished from c.1849 until 1880. At least 75 vessels were built in the Mahurangi area in this 30 year period. Lime kilns producing quicklime for mortar were established on the Mahurangi River by 1850, and the Wilson’s cement works was established at Warkworth in 1872, producing the first Portland cement in the country by 1885. Farms progressively replaced kauri forest. (ARC 2005).

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1 Adapted from Farley & Clough 2008.
ARCHAEOLOGICAL BACKGROUND

Kawau Bay, the Mahurangi Harbour and Matakana River were shark breeding grounds and traditional fishing areas visited by many whanau/hapu during the summer months. Many temporary encampments were established around the bays and inlets taking advantage of these rich fishing grounds – hence the concentration of middens sites around the coastal margins (Figure 4). Produce was gathered and processed in volume – preserving supplies for the winter. Occasionally, small gardens were planted in advance of the fishing season (Farley & Clough 2008).

Previous archaeological surveys undertaken close to the current survey area have included assessments for proposed subdivisions and developments, civil works and Council initiated coastal surveys. The earliest extensive site recording between Snells Beach and Algies Bay on the eastern side of the peninsula was undertaken by Walton in 1975. A total of 38 sites were located within the coastal margins of this area, predominantly comprising isolated shell midden deposits, with one pa, a cultivation area and one pit site also noted (Walton 1976).

A large scale survey for an extensive proposed subdivision at the end of Goodall Road on the western side of the peninsula was undertaken by Foster in 1999. The assessment located six archaeological sites, all of which were located within c.200m of the coast. No sites were located further inland within the study area (Foster 1999).

In 2004/05 an extensive coastal survey of the Mahurangi Harbour was undertaken by Judge for the former Auckland Regional Council (Brassey 2010). This survey resulted in the recording of numerous previously unrecorded archaeological sites related to both pre-European Maori and early European settlement of the coastal Mahurangi area.

In 2007 Clough & Associates undertook an assessment of the proposed new primary school on Dawson Road, Snells Beach (Judge & Clough 2007). No archaeological sites were identified.

In 2013 Clough & Associates undertook a survey for a proposed new watermain riser along Mahurangi East Road, Brigitte View and Dawson Road. No archaeological sites were located (Judge 2013).

In 2014 Clough & Associates undertook a survey of the proposed Snells Beach to Algies Bay replacement wastewater line (Judge 2015). The assessment ran from the wastewater treatment plant in the north, crossing through the northern end of the Te Whau Esplanade Reserve and along the western edge of the subject property, continuing south to culminate south of Algies Bay.

An assessment of Te Whau Esplanade Reserve was first undertaken by CFG Heritage Ltd in 2013 (Harris 2013). The assessment relocated two previously recorded coastal shell midden sites R09/1080 and R09/1081. The sites had originally been recorded during the 2004/5 survey of the Mahurangi Harbour (CHI site records). The Reserve was again surveyed by Clough & Associates in 2015 (Judge 2015b). In addition to the previously recorded sites, a further three coastal shell midden deposits were identified. Monitoring works undertaken for the project under Heritage NZ Authority No. 2015/079 resulted in the modification of three of the recorded sites. No additional features were exposed as a result of the works and the midden deposits were interpreted as short term seasonal encampments along the banks of the Mahurangi River (Judge 2017).
Few excavations of pre-European Maori sites have previously been undertaken within the general area. In 2006, Clough & Associates undertook the investigation of a shell midden site (R09/152) located at Algies Bay on the eastern shores of the Mahurangi Peninsula (Farley and Clough 2008). The site was found to comprise a scatter of shell with three associated hangi and a posthole and limited artefacts including obsidian flakes and chert located on a natural terrace. The remains identified indicated a short term settlement site located on the natural terrace overlooking the bay. There was no indication of long term settlement in the form of food storage pits or house floors. Shellfish comprised predominantly cockle and pipi. The midden also contained a small amount of snapper and mackerel bones, indicative of fishing. The site was thought to have originally been more extensive; however, post depositional modification, mainly the result of farming activities, was likely to have modified the site.

Also in 2006, Clough & Associates undertook the investigation of two shell midden sites at Whisper Cove, Snells Beach. The investigations showed patches of shell midden with no associated occupation features, once again indicating that these were likely to have been the remains of temporary fishing encampments (Farley & Clough 2007).

![Aerial map showing distribution of recorded archaeological and heritage sites within the general project area. Source: Auckland Council GIS 2017](image)

No archaeological sites have previously been recorded within the bounds of the subject property. The closest recorded archaeological sites comprise shell midden deposits identified within the Te Whau Esplanade Reserve (Figure 5, Figure 6), the closest of which is located c. 200m to the west (Figure 6).
Figure 5. Aerial showing distribution of archaeological sites (red dots) recorded within the Auckland Council CHI 2017 in relation to the subject property (outlined)
Figure 6. Map showing distribution of archaeological sites recorded within the NZAA site recording scheme within general proximity to the subject property (outlined). Source: Archsite 2017
HISTORICAL SURVEY

Detail from the 1928 Geological Map of Mahurangi and Kaua’i Survey Districts shows a number of historic farm settlements across the Mahurangi Peninsula (Figure 7). No buildings or other features are recorded within the area of the subject property.

No other information relevant information relating to early land use on the property was noted in a search of early survey plans.

Figure 7. Detail of Geological Map of Mahurangi and Kaua’i Survey Districts drawn by G.E. Harris and J.E. Hamah 1928, with location of subject property indicated. Source: Alexander Turnbull Library
PHYSICAL ENVIRONMENT

The property covers a gently sloping and hummocky section of land located on the southern side of an inlet that runs into the eastern shores of the Mahurangi Harbour (Figure 8). The inlet is very shallow, comprising exposed mud and mangroves outside of high tide. The property is currently in rough pasture and appears previously to have been grazed by cattle. Areas of waterlogged swampy land were identified towards the eastern edge of the property where overland flow paths culminate.

A line of electricity pylons crosses the property in a south–north direction. The installation of these would have caused modification within the area of works, as has long term farming of the area.

Figure 8. Aerial map showing the contours of the property as well as overland flow paths (shown in blue). The legal boundaries of the subject property are outlined in red. Map source: Auckland Council GIS 2017

The underlying geology of the area comprises rocks of the Mangakahia Complex which are typified by ‘soft, poorly exposed and structurally complex rocks’ (Edbrooke 2001).

The soils are of the Albic Ultic type which are described as being ‘strongly weathered soils that have a well-structured, clay enriched subsoil horizon’. These soils are poorly drained and prone to livestock trending damage and erosion. They are also described as being strongly acidic with low nutrient reserves (Landcare Research 2017). This type of soil
would have proved unsuitable for the cultivation of Maori crops such as kumara, which typically require more free draining soils with greater nutrient content – although soil additives could be used (Furey 2006).
FIELD ASSESSMENT

Probing and test pitting were undertaken across the property to determine if subsurface archaeological remains could be identified. Access was good for the purpose of this assessment over most areas, although dense kikuyu grass across parts of the property and gorse growth at the far northern end limited surface visibility and access to a minor degree.

The property was found to be covered in rough pasture (Figure 9, Figure 10). Areas of waterlogged, swampy ground were identified around the overland water flow channels along the southern edge of the property (Figure 11). Test pitting and examination of exposed soils across the property showed a soil profile comprising a mixed pale grey clay soil to a depth of c.20-25cm overlying the sterile clay subsoil (Figure 12 - Figure 14).

No archaeological remains were identified within the bounds of the subject property as a result of the current assessment.

Figure 9. Looking north over the subject property from Foster Crescent
Figure 10. Looking north over property

Figure 11. Waterlogged overland flow paths down eastern side of property
Figure 12. Exposed pale grey clay soils along wheel ruts

Figure 13. Typical results of test pitting
Figure 14. Exposed soils evident along northern boundary of property.
DISCUSSION AND CONCLUSIONS

Summary of Results
The property is located within the upper reaches of an inlet on the eastern side of the Mahurangi Harbour. No archaeological sites have previously been recorded within the bounds of the subject property, nor were any identified as a result of the current assessment.

Maori Cultural Values
This is an assessment of effects on archaeological values and does not include an assessment of effects on Maori cultural values. Such assessments should only be made by the tangata whenua. Maori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the general area with the tangata whenua is evident from the recorded sites, traditional histories and known Maori place names.

Survey Limitations
It should be noted that archaeological survey techniques (based on visual inspection and minor sub-surface testing) cannot necessarily identify all sub-surface archaeological features, or detect wahi tapu and other sites of traditional significance to Maori, especially where these have no physical remains.

Archaeological Value and Significance
The proposed area of works is located within the broader landscape of pre-European Maori and early European settlement of the Mahurangi River and Harbour. The majority of sites related to pre-European Maori occupation tend to be located along the coastal margins and river banks, with the vast majority relating to temporary encampments that were established around the bays and inlets of the harbour and up the navigable section of the Mahurangi River (as far as present day Warkworth) to take advantage of the rich fishing grounds and river access into the interior of the Mahurangi area. Sites indicating more permanent settlement along the banks of the river comprise pit, terrace and pa sites recorded within Duck Creek Scenic Reserve and Dunning Scenic Reserve. Additional pa and pit/terrace sites are located on the prominent headlands on the shores of the Mahurangi Harbour.

Extensive farms developed from the mid-1800s have resulted in damage to and probably the destruction of many of the sites within the general area, as has infrastructure and housing development, coastal erosion and tree removal and planting. However, many coastal and riverside shell middens sites have been identified within the wider area.

The subject property is located adjacent to an inlet on the eastern side of the Mahurangi Harbour within an area where recorded archaeological sites become scarcer. No archaeological sites have been identified within the subject property. The subject property therefore has no known archaeological value or significance.
Effects of the Proposal

The proposed subdivision will have no known effects on archaeological values as no archaeological sites were identified as a result of the current assessment.

In any area where archaeological sites have been recorded in the general vicinity it is possible that unrecorded subsurface remains may be exposed during development. While it is considered unlikely in this situation due to the results of the current assessment, the possibility can be provided for by putting procedures in place ensuring that the Council and Heritage NZ are contacted should this occur, or by obtaining an archaeological authority from Heritage NZ in advance of works (see below).

Archaeological features and remains can take the form of burnt and fire cracked stones, charcoal, rubbish heaps including shell, bone and/or 19th century glass and crockery, ditches, banks, pits, old building foundations, artefacts of Maori and early European origin or human burials. In this location shell midden relating to Maori occupation would be the most likely subsurface archaeological remains.

Resource Management Act 1991 Requirements

Section 6 of the RMA recognises as matters of national importance: ‘the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other launga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources’. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: (i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Maori, including wahi tapu; (iv) surroundings associated with the natural and physical resources’.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the rules of the RMA. The Auckland Unitary Plan Operative in Part is relevant to the proposed activity.

There are no scheduled historic heritage sites located on the property. This assessment has established that the proposed activity will have no effect on any known archaeological remains, and has little potential to affect unrecorded subsurface remains. If resource consent is granted, consent conditions relating to archaeological monitoring or protection would therefore not be required. However, if suspected archaeological remains are exposed during subdivision development works, the Accidental Discovery Rule (E12.6.1) set out in the Auckland Unitary Plan Operative in Part must be complied with. Under the Accidental Discovery Rule works must cease within 20m of the discovery and the Council, Heritage NZ, Mana Whenua and (in the case of human remains) NZ Police must be informed. The Rule would no longer apply if an Authority from Heritage NZ was in place, with the exception of significant post-1900 remains not covered by the Authority.
Heritage New Zealand Pouhere Taonga Act 2014 Requirements

In addition to any requirements under the RMA, the HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

- archaeological site means, subject to section 42(3), –
  (a) any place in New Zealand, including any building or structure (or part of a building or structure) that –
    (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
    (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
  (b) includes a site for which a declaration is made under section 43(1)

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)), or for the purpose of conducting a scientific investigation (Section 44(c)). Applications that relate to sites of Māori interest require consultation with (and in the case of scientific investigations the consent of) the appropriate iwi or hapu and are subject to the recommendations of the Māori Heritage Council of Heritage NZ. In addition, an application may be made to carry out an exploratory investigation of any site or locality under Section 56, to confirm the presence, extent and nature of a site or suspected site.

While no known archaeological sites will be affected by the proposed works, there is some, but limited potential for unidentified subsurface archaeological remains to be exposed during development. If archaeological sites should be exposed during earthworks and cannot be avoided, an Authority will be required before works that affect the site can proceed.

Alternatively, to avoid any delays should unidentified subsurface features be exposed, consideration should be given to applying for an authority under Section 44(a) of the HNZPTA to cover all works undertaken for this project, as a precaution. This should be obtained before any earthworks are carried out. The conditions of the authority are likely to include archaeological monitoring of preliminary earthworks, and procedures for recording any archaeological evidence before it is modified or destroyed. This approach would have the advantage of allowing any archaeology uncovered during the development of the property to be dealt with immediately, avoiding delays while an Authority is applied for and processed.

Conclusions

No archaeological sites have previously been recorded within close proximity to the proposed subdivision at Foster Crescent, Snells Beach, nor were any identified as a result of the current assessment. While there is some potential to expose unidentified subsurface archaeological remains during earthworks, this potential is considered to be low.
As no known archaeological sites will be affected by the proposed works, an archaeological Authority under HNZPTA is not a requirement. However, if suspected archaeological sites should be exposed during earthworks the Accidental Discovery Rule in the Auckland Unitary Plan will apply, requiring works to cease in the immediate vicinity while the appropriate authorities are notified, and an Authority may have to be obtained before works can proceed. Alternatively, an archaeological authority under the Heritage NZ Pouhere Taonga Act 2014 could be considered in advance of works as a precaution if time frames are tight.
RECOMMENDATIONS

- There should be no constraints on the proposed subdivision on archaeological grounds, since no archaeological sites are known to be present and it is considered unlikely that any will be exposed during development.

- If subsurface archaeological evidence should be unearthed during construction (e.g. intact shell midden, hangi, storage pits relating to Maori occupation, or cobbled floors, brick or stone foundation, and rubbish pits relating to 19th century European occupation), or if human remains should be discovered, the Accidental Discovery Rule (section E 12.6.1 of the AUP) must be followed. This requires that work ceases within 20m of the discovery and notification to the Auckland Council, Heritage NZ, Mana Whenua and (in the case of human remains) the NZ Police, who will determine the actions required.

- If modification of an archaeological site does become necessary, an Authority must be applied for under Section 44(a) of the HNZPTA and granted prior to any further work being carried out that will affect the site. (Note that this is a legal requirement).

- Alternatively, consideration could be given to applying for an Authority under Section 44(a) of the HNZPTA as a precaution prior to the start of works to minimise any delays once works are under way.

- Since archaeological survey cannot always detect sites of traditional significance to Maori, such as wahi tapu, the tangata whenua should be consulted regarding the possible existence of such sites on the property.
BIBLIOGRAPHY


Foster, R.S. 1999 and 2000. Proposed Subdivision, Goodall Road, Snells Beach: Archaeological Assessment.


Harris, J. 2013. Te Whau Walkway, Snells Beach: evaluation of the historic heritage values. CFG report prepared for Auckland Council.


October 2017 Foster Crescent, Snells Beach – Archaeological Assessment


Auckland Monthly Housing Update

June 2019
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Prepared by the Land Use and Infrastructure Research and Evaluation Team
Research and Evaluation Unit

June 2019
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1. Summary

Produced by the Auckland Council Research and Evaluation Unit (RIMU), the Auckland Monthly Housing Update brings together a number of significant Auckland housing related statistics.

The report includes:

- dwellings – consented, by type, and with CCCs issued
- residential parcels – created, and inside Auckland Plan monitoring boundaries – 2010 Metropolitan Urban Limit (MUL) and Rural Urban Boundary (RUB)
- permanent and long-term migration
- median residential sales price.
2. Highlights

- 1043 dwellings were consented in April 2019.
- In the year ending April 2019, 13,754 dwellings were consented in the region.
- 46 per cent of new dwellings consented in April 2019 were houses, 12 per cent were apartments and 41 per cent were townhouses, flats, units, retirement units, or other types of attached dwellings.
- 145 dwellings were consented on Housing New Zealand or Tāmaki Regeneration Company owned land in April 2019.
- 658 dwellings consented in April 2019 were inside the RUB. Over the past 12 months, 93 per cent of new dwellings consented were inside the RUB.
- 22 per cent of dwellings consented were inside the 1500m walking catchments of the rapid transport network.
- 788 dwellings were ‘completed’ by having a Code Compliance Certificate (CCC) issued in April 2019.
- In the year ending April 2019, 10,195 dwellings had a CCC issued.
- 494 new residential parcels under 5000m² were created in May 2019.
- In the past 12 months, 7758 new residential parcels under 5000m² were created — an average of 647 each month.
- 489 new residential parcels of all sizes were created inside the RUB.
- Median residential sales price in April 2019 was $800,000 (District Valuation Rolls sales records).
3. Dwellings consented

In April 2019, 1,043 dwelling consents were issued, which saw 13,754 consents issued for the past 12 months.

<table>
<thead>
<tr>
<th></th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwellings</td>
<td>1,163</td>
<td>1,128</td>
<td>1,354</td>
<td>1,109</td>
<td>1,043</td>
</tr>
</tbody>
</table>

Dwellings consented

Data source: Statistics New Zealand
4. Dwellings consented by type

Of all the dwellings consented in April 2019, 483 were houses, 560 were apartments, townhouses, flats, units or other types of attached dwellings.

[Graph showing dwellings consented by type]

Data source: Statistics New Zealand
5. Dwellings consented on Housing New Zealand or Tāmaki Regeneration Company owned land

In April 2019, 145 dwellings (14 per cent of total dwellings consented) were consented on Housing New Zealand (HNZ) or Tāmaki Regeneration Company (TRC) owned land. These included 76 apartment units, 37 houses and 32 townhouses, flats, and other attached dwelling types.

<table>
<thead>
<tr>
<th></th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HNZ/TRC dwellings consented</td>
<td>187</td>
<td>132</td>
<td>170</td>
<td>123</td>
<td>145</td>
</tr>
<tr>
<td>Percentage of total dwellings consented</td>
<td>16%</td>
<td>12%</td>
<td>13%</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Dwellings consented by type

Data sources: Statistics New Zealand and Auckland Council
6. Dwellings consented by Auckland Plan monitoring boundaries

In April 2019, 840 dwellings consented were inside 2010 MUL and a total of 956 dwellings consented were inside the RUB. Over the past 12 months, 93 per cent of the dwellings were consented inside the RUB.

<table>
<thead>
<tr>
<th></th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside 2010 MUL</td>
<td>980</td>
<td>902</td>
<td>1106</td>
<td>854</td>
<td>840</td>
</tr>
<tr>
<td>Between 2010 MUL and RUB</td>
<td>117</td>
<td>160</td>
<td>169</td>
<td>173</td>
<td>116</td>
</tr>
<tr>
<td>Outside RUB</td>
<td>66</td>
<td>66</td>
<td>79</td>
<td>82</td>
<td>87</td>
</tr>
</tbody>
</table>

Dwellings consented by Auckland Plan monitoring boundaries

Data source: Statistics New Zealand
7. Dwellings consented along the rapid transport network

In April 2019, 230 dwellings (22 per cent of total dwellings consented) were consented inside the rapid transport network’s (RTN) 1500m walking catchments. In the last 12 months, 3,659 dwellings were consented inside the 1500m RTN walking catchments.

<table>
<thead>
<tr>
<th></th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwellings consented inside the 1500m RTN walking catchments</td>
<td>367</td>
<td>319</td>
<td>327</td>
<td>220</td>
<td>230</td>
</tr>
<tr>
<td>Percentage of total dwellings consented</td>
<td>32%</td>
<td>28%</td>
<td>24%</td>
<td>20%</td>
<td>22%</td>
</tr>
<tr>
<td>12-month rolling total inside RTN walking catchments</td>
<td>3,176</td>
<td>3,600</td>
<td>3,843</td>
<td>3,796</td>
<td>3,659</td>
</tr>
<tr>
<td>Proportion from the last 12-month inside RTN walking catchments</td>
<td>27%</td>
<td>27%</td>
<td>28%</td>
<td>27%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Data sources: Statistics New Zealand and Auckland Council
Spatial distribution of dwelling consents

[Auckland Council Map]

- Dwelling consents
- Rail Station
- Railway
- Rural Urban Boundary (RUB)
- Urbanised area 2016
- 1000m pedestrian catchment of RTN stops
- 2010 Metropolitan Urban Limit

Data sources: Statistics New Zealand and Auckland Council

Dwelling consents issued April 2019
8. Dwellings with CCCs issued (completions)

788 dwelling units had received CCCs in April 2019. Eighty-seven per cent of the CCCs were issued to dwelling units that had building consents granted within the past two years.

<table>
<thead>
<tr>
<th>CCCs issued¹</th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>479</td>
<td>461</td>
<td>694</td>
<td>561</td>
<td>686</td>
</tr>
<tr>
<td>3-4 years</td>
<td>305</td>
<td>15</td>
<td>110</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>4+ years</td>
<td>10</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Dwellings with CCCs issued

Data source: Auckland Council

¹ CCC data has been updated to reflect current system records.
9. Residential parcels created

In May 2019, the total number of residential parcels under 5000m² created was 494.

<table>
<thead>
<tr>
<th>Parcel size category</th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1000 m²</td>
<td>559</td>
<td>497</td>
<td>533</td>
<td>435</td>
<td>466</td>
</tr>
<tr>
<td>1000 m² to 1999 m²</td>
<td>24</td>
<td>41</td>
<td>21</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>2000 m² to 2999 m²</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>3000 m² to 3999 m²</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>4000 m² to 4999 m²</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Total number of residential parcels &lt; 5000m²</td>
<td>595</td>
<td>552</td>
<td>561</td>
<td>456</td>
<td>494</td>
</tr>
</tbody>
</table>

Data source: RIMU and Land Information New Zealand
10. Residential parcels by Auckland Plan monitoring boundaries

477 of new residential parcels of all sizes created in May 2019 were inside 2010 MUL and a total of 489 new residential parcels were inside the RUB.

<table>
<thead>
<tr>
<th></th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside 2010 MUL</td>
<td>415</td>
<td>335</td>
<td>401</td>
<td>376</td>
<td>477</td>
</tr>
<tr>
<td>Between 2010 MUL and RUB</td>
<td>-</td>
<td>213</td>
<td>71</td>
<td>82</td>
<td>12</td>
</tr>
<tr>
<td>Outside RUB</td>
<td>-</td>
<td>15</td>
<td>99</td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>

Data source: RIMU and Land Information New Zealand
11. Permanent and long-term migration

Long-term arrival number in April 2019 was 2820. Net migration to Auckland data was not available because the requirement for passengers to complete departure cards stopped in November 2018. A new methodology was developed by Statistics New Zealand, however, no regional output was released at the time this monitoring report was produced.

<table>
<thead>
<tr>
<th>Month</th>
<th>Apr 18</th>
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<th>Feb 19</th>
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<tbody>
<tr>
<td>Arrivals</td>
<td>3,725</td>
<td>4,956</td>
<td>4,719</td>
<td>3,883</td>
<td>2,820</td>
</tr>
<tr>
<td>Departures</td>
<td>2,264</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Net Change</td>
<td>1,471</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Data source: Statistics New Zealand
12. Median residential sales price

The median residential sales price from REINZ in April 2019 was $850,000. The District Valuation Roll (DVR) sales records suggested that the median sales price was $800,000.

<table>
<thead>
<tr>
<th>Data source</th>
<th>Apr 18</th>
<th>Jan 19</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>REINZ</td>
<td>$850,000</td>
<td>$800,000</td>
<td>$850,000</td>
<td>$856,000</td>
<td>$850,000</td>
</tr>
<tr>
<td>DVR sales(^2)</td>
<td>$865,000</td>
<td>$780,500</td>
<td>$335,000</td>
<td>$815,000</td>
<td>$300,000</td>
</tr>
</tbody>
</table>

\(^2\) Back data has been updated to reflect the latest sales records captured in council’s District Valuation Roll database. Although conveyancers are required to inform council within 30 days after transactions have occurred, the monitoring team has identified the reporting process has not been thoroughly implemented. It should be noted that there is no penalty if a conveyancer fails to report to council within the 30-day period. As a result, the reporting lag varies from as short as one working day to as long as six months.

Data source: Real Estate Institute of New Zealand and Auckland Council
13. Notes on data and analysis

Dwellings consented and dwellings consented by type
Monthly building consent information is sourced from Statistics New Zealand’s InfoShare online portal, which includes counts of number of new dwellings consented, by type of dwelling.

Dwellings consented by Auckland Plan monitoring boundaries
Monthly data for individual building consents is supplied by Statistics New Zealand and mapped to properties by RIMU. This data is then analysed against its location relevant to the Auckland Plan monitoring boundaries, namely the 2010 Metropolitan Urban Limit (MUL) and the Rural Urban Boundary (RUB).

Dwellings with CCCs issued (completions)
Monthly building consent completions data is supplied by Auckland Council Building Control. The data shows the total number of dwelling units which have had Code Compliance Certificate (CCC) issued in that month. This gives an estimation of the number of dwellings being “completed”, or “released to the market”.

Residential parcels created and residential parcels created inside the 2010 Metropolitan Urban Limit and the Rural Urban Boundary
Parcel data is sourced from Land Information New Zealand (LINZ). A new dataset is downloaded from the LINZ Data Service by RIMU monthly. A list of parcels created in the previous month is also downloaded; this is used to extract new parcels created in the previous month. The new parcels created data is then analysed for size, the Auckland Unitary Plan (decisions version) zone it falls in and its location relevant to the 2010 MUL and the RUB.

Permanent and long-term migration
Migration data is sourced from Statistics New Zealand’s InfoShare online portal; arrivals, departures and net change are estimated for Auckland.

Median residential sales price
The Real Estate Institute of New Zealand (REINZ) produces monthly statistics on the median house price sales for Auckland from data provided to it by its members. This data is available on the REINZ website.
Auckland Monthly Housing Update

July 2019
Item 20

Attachment B

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Prepared by the Land Use and Infrastructure Research and Evaluation Team
Research and Evaluation Unit

July 2019
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1. Summary

Produced by the Auckland Council Research and Evaluation Unit (RIMU), the Auckland Monthly Housing Update brings together a number of significant Auckland housing related statistics.

The report includes:

- dwellings – consented, by type, and with CCCs issued
- residential parcels – created, and inside Auckland Plan monitoring boundaries – 2010 Metropolitan Urban Limit (MUL) and Rural Urban Boundary (RUB)
- permanent and long-term migration
- median residential sales price
- residential property buyer classification
- public housing supply and demand in Auckland.
2. Highlights

- 1657 dwellings were consented in May 2019.
- In the year ending May 2019, 13,881 dwellings were consented in the region.
- 35 per cent of new dwellings consented in May 2019 were houses, 28 per cent were apartments and 37 per cent were townhouses, flats, units, retirement village units, or other types of attached dwellings.
- 238 dwellings were consented on Housing New Zealand or Tāmaki Regeneration Company owned land in May 2019.
- 1582 dwellings consented in May 2019 were inside the RUB. Over the past 12 months, 94 per cent of new dwellings consented were inside the RUB.
- 29 per cent of dwellings consented were inside the 1500m walking catchments of the rapid transport network in May 2019.
- 1238 dwellings were ‘completed’ by having a Code Compliance Certificate (CCC) issued in May 2019.
- In the year ending May 2019, 10,107 dwellings had a CCC issued.
- 743 new residential parcels under 5000m² were created in June 2019.
- In the past 12 months, 7671 new residential parcels under 5000m² were created – an average of 639 each month.
- 691 new residential parcels of all sizes were created inside the RUB.
- Due to recent data release schedule change, May 2019 long-term migration and District Valuation sales data are not available.
- 28 per cent of residential properties sold in Auckland were purchased by first home owners in May 2019.
- 556 public housing applications have been housed in the March quarter 2019.
3. Dwellings consented

In May 2019, 1,657 dwelling consents were issued, which saw 13,881 consents issued for the past 12 months.

<table>
<thead>
<tr>
<th></th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>1,530</td>
<td>1,354</td>
<td>1,109</td>
<td>1,043</td>
<td>1,657</td>
</tr>
</tbody>
</table>

Data source: Statistics New Zealand
4. Dwellings consented by type

Of all the dwellings consented in May 2019, 581 were houses, 1076 were apartments, townhouses, flats, units, retirement village units or other types of attached dwellings.

Dwellings consented by type

Data source: Statistics New Zealand
5. Dwellings consented on Housing New Zealand or Tāmaki Regeneration Company owned land

In May 2019, 238 dwellings (14 per cent of total dwellings consented) were consented on Housing New Zealand (HNZ) or Tāmaki Regeneration Company (TRC) owned land. These included 93 apartment units, 28 houses and 117 townhouses, flats, and other attached dwelling types.

<table>
<thead>
<tr>
<th></th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HNZ/TRC dwellings consented</td>
<td>118</td>
<td>170</td>
<td>123</td>
<td>145</td>
<td>238</td>
</tr>
<tr>
<td>Percentage of total dwellings consented</td>
<td>8%</td>
<td>13%</td>
<td>11%</td>
<td>14%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Dwellings consented by type**

Data sources: Statistics New Zealand and Auckland Council
6. Dwellings consented by Auckland Plan monitoring boundaries

In May 2019, 1437 dwellings consented were inside 2010 MUL and a total of 1582 dwellings consented were inside the RUB. Over the past 12 months, 94 per cent of the dwellings were consented inside the RUB.

<table>
<thead>
<tr>
<th></th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside 2010 MUL</td>
<td>1291</td>
<td>1106</td>
<td>854</td>
<td>840</td>
<td>1437</td>
</tr>
<tr>
<td>Between 2010 MUL and RUB</td>
<td>163</td>
<td>169</td>
<td>173</td>
<td>116</td>
<td>145</td>
</tr>
<tr>
<td>Outside RUB</td>
<td>76</td>
<td>79</td>
<td>82</td>
<td>87</td>
<td>75</td>
</tr>
</tbody>
</table>

Data source: Statistics New Zealand
7. Dwellings consented along the rapid transport network

In May 2019, 478 dwellings (29 per cent of total dwellings consented) were consented inside the rapid transport network’s (RTN) 1500m walking catchments. In the last 12 months, 3699 dwellings were consented inside the 1500m RTN walking catchments.

<table>
<thead>
<tr>
<th></th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwellings consented inside the 1500m RTN walking catchments</td>
<td>438</td>
<td>327</td>
<td>226</td>
<td>230</td>
<td>478</td>
</tr>
<tr>
<td>Percentage of total dwellings consented</td>
<td>29%</td>
<td>24%</td>
<td>20%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>12-month rolling total inside RTN walking catchments</td>
<td>3,492</td>
<td>3,843</td>
<td>3,796</td>
<td>3,659</td>
<td>3,699</td>
</tr>
<tr>
<td>Proportion from the last 12-month inside RTN walking catchments</td>
<td>28%</td>
<td>28%</td>
<td>27%</td>
<td>27%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Data sources: Statistics New Zealand and Auckland Council
Spatial distribution of dwelling consents

Data sources: Statistics New Zealand and Auckland Council
8. Dwellings with CCCs issued (completions)

1238 dwelling units had received CCCs in May 2019. Ninety-one per cent of the CCCs were issued to dwelling units that had building consents granted within the past two years.

<table>
<thead>
<tr>
<th>CCCs issued</th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>1034</td>
<td>694</td>
<td>591</td>
<td>686</td>
<td>1128</td>
</tr>
<tr>
<td>3-4 years</td>
<td>283</td>
<td>110</td>
<td>66</td>
<td>92</td>
<td>96</td>
</tr>
<tr>
<td>4+ years</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

![Graph showing dwellings with CCCs issued](image)

Data source: Auckland Council
9. Residential parcels created

In June 2019, the total number of residential parcels under 5000m² created was 743.

<table>
<thead>
<tr>
<th>Parcel size category</th>
<th>Jun 18</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
<th>Jun 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1000 m²</td>
<td>775</td>
<td>533</td>
<td>435</td>
<td>456</td>
<td>695</td>
</tr>
<tr>
<td>1000 m² to 1999 m²</td>
<td>37</td>
<td>21</td>
<td>12</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>2000 m² to 2999 m²</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>3000 m² to 3999 m²</td>
<td>5</td>
<td>-</td>
<td>4</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>4000 m² to 4999 m²</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Total number of residential parcels &lt; 5000m²</td>
<td>830</td>
<td>561</td>
<td>456</td>
<td>494</td>
<td>743</td>
</tr>
</tbody>
</table>

Data source: RINU and Land information New Zealand
10. Residential parcels by Auckland Plan monitoring boundaries

586 of new residential parcels of all sizes created in June 2019 were inside 2010 MUL and a total of 691 new residential parcels were inside the RUB.

<table>
<thead>
<tr>
<th></th>
<th>Jun '18</th>
<th>Mar '19</th>
<th>Apr '19</th>
<th>May '19</th>
<th>Jun '19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside 2010 MUL</td>
<td>608</td>
<td>401</td>
<td>376</td>
<td>477</td>
<td>566</td>
</tr>
<tr>
<td>Between 2010 MUL and RUB</td>
<td>-</td>
<td>71</td>
<td>82</td>
<td>12</td>
<td>125</td>
</tr>
<tr>
<td>Outside RUB</td>
<td>-</td>
<td>99</td>
<td>10</td>
<td>18</td>
<td>87</td>
</tr>
</tbody>
</table>

Data source: RIMU and Land Information New Zealand
11. Permanent and long-term migration

Long-term arrival number in May 2019 will be updated next month. Net migration to Auckland data was not available because the requirement for passengers to complete departure cards stopped in November 2018. A new methodology was developed by Statistics New Zealand, however, no regional output was released at the time this monitoring report was produced.

<table>
<thead>
<tr>
<th>Month</th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrivals</td>
<td>3,691</td>
<td>4,719</td>
<td>3,883</td>
<td>2,820</td>
<td>N/A</td>
</tr>
<tr>
<td>Departures</td>
<td>2,136</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Net Change</td>
<td>1,555</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

![Permanent and long-term migration in Auckland (last five years)](image)

Data source: Statistics New Zealand
12. Median residential sales price

The median residential sales price from REINZ in May 2019 was $360,000. The District Valuation Roll (DVR) sales records in May 2019 will be updated next month.

<table>
<thead>
<tr>
<th>Data source</th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>REINZ</td>
<td>$852,000</td>
<td>$850,000</td>
<td>$866,000</td>
<td>$850,000</td>
<td>$360,000</td>
</tr>
<tr>
<td>DVR sales¹</td>
<td>$360,000</td>
<td>$835,000</td>
<td>$315,000</td>
<td>$800,000</td>
<td>N/A</td>
</tr>
</tbody>
</table>

¹ Back data has been updated to reflect the latest sales records captured in council's District Valuation Roll database. Although conveyancers are required to inform council within 30 days after transactions have occurred, the monitoring team has identified the reporting process has not been thoroughly implemented. It should be noted that there is no penalty if a conveyancer fails to report to council within the 30-day period. As a result, the reporting lag varies from as short as one working day to as long as six months.
13. Residential property buyer classification

In May 2019, 28 per cent of residential properties sold in Auckland were purchased by first home owners, 20 per cent were purchased by movers and 40 per cent were purchased by multi-property owners.

<table>
<thead>
<tr>
<th>Buyer classification</th>
<th>May 18</th>
<th>Feb 19</th>
<th>Mar 19</th>
<th>Apr 19</th>
<th>May 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>First home buyer</td>
<td>25%</td>
<td>26%</td>
<td>27%</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>Mover</td>
<td>23%</td>
<td>24%</td>
<td>23%</td>
<td>24%</td>
<td>20%</td>
</tr>
<tr>
<td>Multi-property owner</td>
<td>41%</td>
<td>38%</td>
<td>37%</td>
<td>38%</td>
<td>40%</td>
</tr>
<tr>
<td>New to market</td>
<td>6%</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Re-entry</td>
<td>5%</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Data source: CoreLogic NZ
### 14. Public housing in Auckland²

This section provides an overview of public housing demand and supply in Auckland region. These data are collected and distributed by the Ministry of Housing and Urban Development on a quarterly basis. In the March quarter 2019, 556 public housing applications have been housed with Housing New Zealand or with a Community Housing Provider.

<table>
<thead>
<tr>
<th></th>
<th>March quarter 2018</th>
<th>June quarter 2018</th>
<th>September quarter 2018</th>
<th>December quarter 2018</th>
<th>March quarter 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public housing stock</td>
<td>30,368</td>
<td>30,772</td>
<td>31,004</td>
<td>31,341</td>
<td>31,452</td>
</tr>
<tr>
<td>Public housing register - housing</td>
<td>3,286</td>
<td>3,609</td>
<td>3,908</td>
<td>4,363</td>
<td>4,409</td>
</tr>
<tr>
<td>register (top row) and transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>register (bottom row)</td>
<td>847</td>
<td>849</td>
<td>910</td>
<td>1,116</td>
<td>1,104</td>
</tr>
<tr>
<td>Public housing register - applications housed</td>
<td>658</td>
<td>559</td>
<td>691</td>
<td>818</td>
<td>556</td>
</tr>
</tbody>
</table>

Data source: Ministry of Housing and Urban Development

---

15. Notes on data and analysis

Dwellings consented and dwellings consented by type
Monthly building consent information is sourced from Statistics New Zealand’s InfoShare online portal, which includes counts of number of new dwellings consented, by type of dwelling.

Dwellings consented by Auckland Plan monitoring boundaries
Monthly data for individual building consents is supplied by Statistics New Zealand and mapped to properties by RIMU. This data is then analysed against its location relevant to the Auckland Plan monitoring boundaries, namely the 2010 Metropolitan Urban Limit (MUL) and the Rural Urban Boundary (RUB).

Dwellings with CCCs issued (completions)
Monthly building consent completions data is supplied by Auckland Council Building Control. The data shows the total number of dwelling units which have had Code Compliance Certificate (CCC) issued in that month. This gives an estimation of the number of dwellings being “completed”, or “released to the market”.

Residential parcels created and residential parcels created inside the 2010 Metropolitan Urban Limit and the Rural Urban Boundary
Parcel data is sourced from Land Information New Zealand (LINZ). A new dataset is downloaded from the LINZ Data Service by RIMU monthly. A list of parcels created in the previous month is also downloaded; this is used to extract new parcels created in the previous month. The new parcels created data is then analysed for size, the Auckland Unitary Plan (decisions version) zone it falls in and its location relevant to the 2010 MUL and the RUB.

Permanent and long-term migration
Migration data is sourced from Statistics New Zealand’s InfoShare online portal; arrivals, departures and net change are estimated for Auckland.

Median residential sales price
The Real Estate Institute of New Zealand (REINZ) produces monthly statistics on the median house price sales for Auckland from data provided to it by its members. This data is available on the REINZ website.
Public housing supply

Public houses are properties owned or leased by Housing New Zealand (HNZ) and registered Community Housing Providers (CHPs) that can be tenanted by people who are eligible for public housing. (definition extracted from Ministry of Housing and Urban Development 2019, Public Housing in Auckland factsheet March 2019, page 1. https://www.hud.govt.nz/assets/Community-and-Public-Housing/Follow-our-progress/March-2019/0da4c96930/Housing-regional-Factsheets-March-2019-Auckland-web.pdf)

Public Housing Register

The Public Housing Register is comprised of a Housing Register and a Transfer Register. The Housing Register is prioritised by need and consists of public housing applicants who have been assessed as being eligible. The Transfer Register is made up of people already in public housing, but who have requested and are eligible for a transfer to another property. (definition extracted from Ministry of Housing and Urban Development 2019, Public Housing in Auckland factsheet March 2019, page 3. https://www.hud.govt.nz/assets/Community-and-Public-Housing/Follow-our-progress/March-2019/0da4c96930/Housing-regional-Factsheets-March-2019-Auckland-web.pdf)
Memorandum

To: Planning Committee

Subject: America's Cup 36 programme's engagement with mana whenua

From: Martin Shelton, Programme Director AC36

Purpose

1. To provide an update on the America's Cup 36 programme's engagement with mana whenua, as requested at the Planning Committee workshop on 15 May 2019.

Summary

- The Joint Chief Executive Group, providing AC36 programme governance, currently has three members representing mana whenua. A fourth representative is to be appointed.
- Mana Whenua Kaitiaki Forum is engaged in the wider AC36 programme.
- AC36 resource consent requires specific ongoing iwi and hapū consultation and involvement. A detailed America's Cup Kaitiaki Engagement Plan (ACKEP) has been prepared to support this.
- A process is being established to ensure that the mana whenua engagement and Māori outcomes are integrated into deliverables within the event planning and city integration project.
- Operational support will be provided where possible in terms of public services for use of Whenua Rangatira/Baston Point and Maungauika/North Head.
- The 36th America's Cup Strategic Framework was developed in partnership with mana whenua to identify how Auckland and New Zealand can maximise the benefits of hosting the America's Cup. The newly formed Leverage and Legacy (project) Steering Group will be seeking a mana whenua member to ensure mana whenua representation in this project area going forward.

Context/Background

2. Planning Committee has sought clarity on the following areas:
   - engagement with mana whenua across the America’s Cup 36 (AC36) programme
   - engagement with Ngāti Whātua Orākei Reserves Board on use of Whenua Rangatira/Baston Point
   - engagement with the Tūpuna Maunga Authority on use of Maungauika/North Head.

Discussion

3. The America’s Cup 36 (AC36) programme is a partnership between Auckland Council, the Crown (represented by Ministry of Business, Innovation and Employment), and mana whenua (together the Hosts) and America’s Cup Event Limited.

Mana whenua engagement

He waka eke noa, kia eke panuku, kia eke Tāngaroa
We’re in this waka together. Through all our efforts, we will succeed.

4. This whakatauki was developed and chosen in partnership with mana whenua to encapsulate the spirit of the AC36 programme.
5. The AC38 programme continues to work with mana whenua to enable them to provide guidance on tikanga and fulfil their role as kaitaiki throughout the programme. Key mechanisms for this include:
   - Governance for the AC38 programme is provided by a Joint Chief Executive Group that includes representatives from Auckland Council group, the Crown, mana whenua and America’s Cup Event Limited. The group currently has three members representing mana whenua from the following iwi rōpū: Waikato Taipahi and Waikato, Ngāti Whātua, and Maruturū. A fourth representative from Ngāti Manuhiri, Ngāti Rehua, and Ngāti Waikato is yet to be confirmed.
   - Mana Whenua Kaitaiki Forum (which includes representatives of all 19 iwi and hapū) is also engaged in the wider AC38 programme.
   - AC38 resource consent requires specific ongoing iwi and hapū consultation and involvement. A detailed America’s Cup Kaitaiki Engagement Plan (ACKEP) has been prepared to support this.

6. The AC38 programme comprises three key projects. An update on the involvement of mana whenua in each is provided below.

AC38 infrastructure project

7. The infrastructure project is responsible for designing and constructing the essential infrastructure in the Wynyard Quarter and Viaduct Basin for the America’s Cup in 2021.

8. Te Tiriti o Waitangi underpins the relationship between mana whenua and the Crown, and as the Crown and Auckland Council are funding the project, the principles of partnership, reciprocity, active protection, and equity must be honoured (amongst others).

9. Resource consent holder Panuku Development Auckland and Wynyard Edge Alliance, entity responsible for designing and building the infrastructure, have partnered with mana whenua.

10. Panuku invited mana whenua to establish a forum to prepare the America’s Cup Kaitaiki Engagement Plan (ACKEP). The purpose of the ACKEP is to assist mana whenua in expressing their tikanga, fulfil their role as kaitaiki, and establish an engagement framework through the project. In November 2018, mana whenua involved in the forum endorsed the ACKEP that outlines the partnership between mana whenua and Panuku on the infrastructure project and describes several engagement activities.

11. Wynyard Edge Alliance and Panuku place a high emphasis on personal contact and attempts to engage with mana whenua kanohi ki te kanohi; this happens at the monthly hui, workshops, and regular site visits.

12. Panuku and Wynyard Edge Alliance acknowledge that Te Waiomaratā is of extremely high spiritual, ancestral, cultural, customary, and historical importance to mana whenua.

13. Mana whenua, as kaitaiki, see the project as an opportunity to create positive and better than expected outcomes – rather than the minimum requirements. Mana whenua have advocated for outcomes that, where possible, are above and beyond the minimum legal requirements.

14. Mana whenua have identified they are particularly concerned about activities that have the potential to affect cultural values and interests. For example:
   - Managing water quality
   - Managing underwater noise as to protect marine animals
   - Protecting the waters of the area from biosecurity risks
   - Providing cultural markers within the infrastructure that recognise the historical associations of mana whenua with the whenua and moana
   - Enabling the use of infrastructure for cultural activities.

15. Mana whenua have been involved in the preparation and implementation in a range of management plans. The management plans describe the procedures Wynyard Edge Alliance
will follow throughout construction (e.g. groundwater monitoring, noise and vibration, biosecurity). Mana whenua have also provided cultural statements for each of the management plans, and their input has been appended to each plan.

16. Wynyard Edge Alliance acknowledge that mana whenua have economic development aspirations in the project area and mana whenua are encouraged to nominate candidates to work on the infrastructure project. For example, mana whenua nominated a candidate to become the marine mammal observer to protect mammals from the noise and vibration effects of piling.

17. Wynyard Edge Alliance looks to mana whenua as kaitiaki to provide advice on how to remain tika and culturally safe. Mana whenua performed a whakawātea before the commencement of work, delivered cultural induction training for staff, and continue to guide the alliance as to the proper procedures. Cultural induction is compulsory for all Wynyard Edge Alliance staff and its contractors.

18. At present, mana whenua are formulating a set of cultural health indicators, to assess if the infrastructure project is responding to the cultural needs of the mana whenua. The cultural health indicators contain mana whenua aspirations and can be shared across the whole of Te Waiotapu.

19. Mana whenua are also formulating their cultural markers in the project area to influence urban design opportunities. Mana whenua seek to make the infrastructure project area reflect their cultural markers and histories. Wynyard Edge Alliance hope, when this work is complete, the public space can reflect mana whenua identity and aspirations.

**AC36 event planning and city integration project**

20. Auckland Tourism, Events and Economic Development (ATEED) is the lead agency for the hosts’ event planning and city integration.

21. ATEED works in close collaboration with the event deliverer, America’s Cup Event Limited, who is responsible for the planning, management and delivery of the AC36 race village and on-water racing.

22. Auckland Council and the Crown have entered into a Host Venue Agreement with Emirates Team New Zealand and America’s Cup Event Limited, defining the rights and obligations of the parties.

23. Mana whenua’s role as partner is reflected in the following Hosts’ rights and benefits in the Host Venue Agreement:

- The right to use Tāmaki Makaurau as an alternative to ‘Auckland’ in the official designation ‘Auckland – host city of the 36th America’s Cup presented by Prada’, and in the event logo.
- The opportunity to use Aotearoa as host country designation.
- Te reo will be used in the AC36 Race Village.
- Māori cultural themes will be incorporated in the AC36 Race Village programming.
- The Hosts will have the opportunity to incorporate Māori cultural elements in the ‘look and feel’ of the event, subject to approval by America’s Cup Event Limited and Challenger of Record.
- The Hosts have the right to host events while the Race Village is open such as a waka regatta.
- In addition, Annexure 1 specifically refers to the right to have a ‘mihi whakatau’ (formal welcome) developed by Auckland Council’s Mana Whenua Kaitiaki Forum as part of the event, and recognition mana whenua are the kaitiaki of Tāmaki Makaurau.

24. Early planning is in progress for supporting activations and opportunities to enhance the event experience for all Aucklanders and visitors.

25. A process is being established to ensure that the mana whenua engagement and Māori outcomes are integrated into deliverables within the event planning and city integration project.
Engagement with Ngāti Whātua Ōrākei Reserves Board on the use of Whenua Rangatira/Bastion Point

26. Emirates Team New Zealand originally identified the use of Whenua Rangatira/Bastion Point and Maungauika/North Head for viewing when they announced the proposed race courses. It is likely that the public will migrate to these sites during the America's Cup to see the race.

27. Ngāti Whātua Ōrākei will determine the use of the Whenua Rangatira/Bastion Point during AC36 and engage with ATEED as their plans are developed.

28. ATEED's role will be to provide operational support where possible, particularly in terms of public services such as traffic management, additional portable toilets and litter collection.

Engagement with the Tūpuna Maunga Authority on the use of Maungauika/North Head

29. ATEED has met with the council's Kaiwhakahaere Tupuna Maunga and the head of co-governance to discuss the potential use of Maungauika/North Head during the America's Cup and facilitate engagement with the event deliverer, America's Cup Event Limited. ATEED's role will be to offer support from a city operations perspective such as traffic management.

30. The project staff have met with the former katiaki of Maungauika, who held the post during the previous America's Cup in 2003, to understand key learnings gained from monitoring Maungauika through previous events.

31. ATEED and America's Cup Event Limited are meeting with the council's Kaiwhakahaere Tupuna Maunga and the head of co-governance this week to continue discussions around the potential use of Maungauika/North Head.

AC36 legacy and leverage project

32. The 36th America's Cup Strategic Framework was developed in partnership with mana whenua to identify how Auckland and New Zealand can maximise the benefits of hosting the America's Cup. The framework was signed off at the Joint Chief Executive Group meeting on 22 August 2018 (see Attachment A).

33. A series of leverage and legacy workshops were held with Crown agencies, Auckland Council agencies, America's Cup Event Limited and Mana Whenua Kaitiaki Forum (MWKF) between August 2018 and April 2019 to identify potential legacy and leverage opportunities and outcomes, which could be realised from the 36th America's Cup event. The workshops and the subsequent consolidation process undertaken to develop the leverage and legacy frameworks have focused on delivering the four AC36 programme outcomes of place, economic wellbeing, participation, and storytelling.

34. On 18 April 2019, the Mana Whenua Kaitiaki Forum approved the mana whenua outcomes it seeks to achieve from the 36th America's Cup.

35. An important aspect of the consolidation process leading to the leverage and legacy frameworks has been the identification of common outcomes and goals shared across several organisations. Legacy and leverage activities that are specific to only one organisation are not recorded in the frameworks but can still be pursued on a standalone basis, in the same way many private sector parties leverage off major events.

36. The leverage, legacy, and data and evaluation frameworks seek to agree on shared and multi-stakeholder goals. The Joint Chief Executive Group approved these frameworks on 24 June 2019. The frameworks will now be used to develop full plans in each key area, and leverage and legacy plans will be presented to Joint Chief Executive Group for endorsement by September 2019. The subsequent data and evaluation plans will be presented for endorsement by November 2019.

37. The newly formed Leverage and Legacy (project) Steering Group will be seeking a mana whenua member (approved by Joint Chief Executive Group on 24 June) to ensure mana whenua representation in this project area going forward.
Next steps
38. The AC36 Programme Management Office will continue to provide regular AC36 programme progress updates to the elected members in the lead up to the AC36 event.

Contact for queries
39. If you have any questions relating to this memo or the America’s Cup programme you can contact the Programme Management Office at americascuppmc@aucklandcouncil.govt.nz

Attachments
Attachment A: Strategic framework for AC36
Attachment A: Strategic Framework for AC36

A Strategic Framework for AC36 (vision, principles and themes) guides the programme and sets the themes from which the legacy and leverage frameworks will be structured.

Vision and Mission of the 36th Americas Cup

IGNITE THE PASSION – CELEBRATE OUR VOYAGES

Wakatipu

We Walk the Piko
AC36 Far Futuhi, Niu Piko Tae Gén

We’re in this Whare together
Through all our efforts, we will succeed

Manukitanga

A warm Welcome
We share the abundance and spirit of generosity with our visitors

Kaitaiaapa

Guardianship
Guided by mana whenua, we will actively care for our places, our environment, our people

Kete/whana

Collaboration
We will work together in unity

Place

To accelerate the sustainable transformation of our communities, our water and our Whenua

Economic Wellbeing

Creating shared benefit through connection, innovation and trade

Participation

Every New Zealander has the opportunity to participate in and celebrate the Americas Cup

Storytelling

The rich cultural and voyaging stories of tangata whenua and America are shared and valued
Memorandum

To: Planning Committee
From: Tony Reidy
Date: 19 July 2019

Topic: Auckland Council’s Submission on Proposed Plan Change 25 – Warkworth North (Private)

Background

The purpose of this memo is to advise the Planning Committee that Auckland Council has submitted on proposed Plan Change 25 – Warkworth North. PPC25 is a private plan change. Auckland Council’s submission seeks that the plan change more closely aligns with the Council’s own Structure Plan for Warkworth.

Auckland Council’s Warkworth Structure Plan was endorsed by the Planning Committee on 5 June 2019. The development of the plan involved extensive community engagement and input.

The Warkworth Structure Plan process began in December 2017 and contained seven phases. Each phase is briefly described below:

- **Phase 1**: A series of technical ‘Topic Reports’ were prepared to understand the existing environment within the study area and the opportunities and constraints for development.
- **Phase 2**: The initial public consultation for the project in April 2018. The purpose of this consultation was to promote awareness of the project, receive comments on the topic reports, and gain a local perspective on what is valued in Warkworth and potential opportunities and constraints associated with its growth.
- **Phase 3**: The community structure plan workshops in June 2018. The purpose of the workshops was to involve the public in ‘hands-on’ sessions to generate ideas on how the Warkworth Structure Plan could look in terms of a land use layout and supporting infrastructure.
- **Phase 4**: The structure plan team then reported back to the community in August 2018 through two open days to summarise the outcomes of the workshops.
- **Phase 5**: Developing the draft plan for consultation. The draft plan was shaped using inputs from the topic reports (opportunities and constraints), consultation feedback (from April 2018), LWI feedback, the community workshops ideas, and internal specialist workshops.
- **Phase 6**: Consultation with the community to receive feedback on the draft Warkworth Structure Plan during February and March 2019. A copy of the draft Warkworth Structure Plan map is shown on Figure 3 below.
- **Phase 7**: Reviewing the public feedback in April/May 2019 and making any required changes to the draft plan.

The private plan change request (the change request) was received on 29 March 2018 from Turnstone Capital Limited to rezone 90 hectares of land at Warkworth known as Warkworth North. The request seeks to rezone Future Urban zoned land, within the Rural Urban Boundary at Warkworth. The request more specifically seeks to:

b) Introduce new precinct provisions over that part of the Warkworth North land between Falls Road and State Highway 1.

c) Extend the Significant Ecological Area overlay along the Mahurangi River.

d) Extend the stormwater Management Area Flow Controls over the precinct area.

The Planning Committee considered the request on 5 February 2019 and resolved:

That the Planning Committee:

a) accept the private plan change request by Turnstone Capital Limited for Warkworth North, included as Attachments A and B to the agenda report, pursuant to clause 25(2)(b) of Schedule 1 to the Resource Management Act for the following reasons:


ii) Significant elements of the bulk infrastructure required for the Warkworth North area are well-advanced in terms of planning, funding, design and delivery.

iii) The applicant has prepared a structure plan to inform the plan change in accordance with Appendix 1 Structure Plan Guidelines of the Auckland Unitary Plan

iv) The request does not meet the criteria for rejection under clause 25(4) of the Schedule 1 of the RMA (having regard to relevant case law). It is not possible to deal with the request as a resource application as the request seeks to rezone land, and it is more appropriate to accept the request than adopt it given the need for further progress to be made with the council’s Warkworth Structure Plan and associated infrastructure planning/funding decisions.

Council staff indicated in the 5 February 2019 report that it was highly likely that staff will recommend the council makes a submission on the private plan change to ensure alignment with the Warkworth Structure Plan once adopted.

Auckland Council’s Submission

Auckland Council’s submission seeks the following relief:

**Warkworth Structure Plan (General)**

- That the provisions of PC25, including the proposed zoning pattern, be amended to reflect the Warkworth Structure Plan;
Industrial Land
- PC25 be amended to zone the land between the new Western Link Road (route yet to be finalized) and the Light Industrial zoned land along Hudson Road down to Falls Road (as shown as red hatched area in Figure 0) as Light Industry;

Other Non-Residential Land
- That no General Business, Mixed Use, or Business Park zones are used in PC25;

Reverse Sensitivity
- PC25 is amended to provide separation between industrial and residential land uses to avoid issues of reverse sensitivity;
- PC25 is amended to use arterial roads and esplanade reserves as separators between industrial areas and sensitive land uses, as per the Warkworth Structure Plan;
- PC25 is amended to reflect the approach for the creation of esplanade reserves and the vesting of land for open space contained in the Warkworth Structure Plan;

Neighbourhood Centre
- The size of the Neighbourhood Centre in PC25 be reduced to no more than 1500m2 GFA;

Buffer to Vv Davie – Martin Drive Area
- PC25 incorporates a transitional zoning approach along its boundary with the Vv Davie-Martin Drive area, that will continue to have larger site sizes in the future, in line with the approach contained in the Warkworth Structure Plan;
- PC25 be amended to reflect the zoning proposed within the Warkworth Structure Plan;

Walking/Cycling
- PC25 be amended to include the pedestrian connections as shown on the Warkworth Structure Plan, or similar routes that would meet the same purpose, with provisions stating that they will be provided by the developer;

Western Link Road
- PC25 be amended to reflect the Western Link Road route that is finally proposed by the Supporting growth Alliance;
- That funding for all infrastructure (including the Western Link Road) is finalised, and for all infrastructure (including arterial and collector roads) an infrastructure Funding Agreement be completed, before any approval of PC25;

Other Roads
- PC25 is amended to incorporate an indicative road layout for the “Potential Future Road Connections” shown in Precinct Plan 1, including how connections will be made to the Vv Davie – Martin Drive area;
- PC25 is amended to include a Collector Road as shown in the Warkworth Structure Plan, which includes separated walking and cycling provision;
Landscape Screening Areas
- Provisions are included in the PC25 precinct to require landscape screening in the same manner as that proposed in the Warkworth Structure Plan along the SH1 frontage and the motorway boundary;

Staging
- PC25 include staging provisions to ensure development does not occur before the infrastructure required to service it is available or in place;

Green Network
- PC25 is amended to incorporate all the Warkworth Structure Plan’s Green Network for the land covered by PC25 and include provisions to ensure such is provided;

Precinct
- PC25 precinct be amended to cover all of the plan change area and the precinct provisions cover the matters the Warkworth Structure Plan sets out in section 3.5.3;

Stormwater and Stream Management
- Various amendments be made to the proposed objectives, policies and standards, Precinct Plan 1, and Stormwater Management Plan in accordance with the Council’s submission.

A full copy of the submission is attached to this memo.

Tony Reidy | Principal Planner
Auckland-wide Planning, Plans and Places Auckland Council
Submission no 12

Submission on publicly notified private plan change request:
Plan Change 25 (Warkworth North)

Auckland Council
135 Albert Street
Private Bag 92300
Auckland 1142

Submitter:
Auckland Council

Scope of submission:
This is a submission on the whole of proposed private Plan Change 25 – ‘Warkworth North’.

The specific provisions which this submission relates to are:
All provisions of proposed private Plan Change 25.

I seek the following decision:
Proposed Plan Change 25 be amended in line with the submission points below.

Warkworth Structure Plan (general)

The Council submission is that:
- the council’s structure plan for Warkworth, referred to throughout this submission as the ‘Warkworth Structure Plan’, considered the entire 1,000ha of future urban zoned land around Warkworth in a comprehensive manner. The council’s Warkworth Structure Plan has gone through a robust process including four stages of consultation. Therefore, the landuse and supporting infrastructure conclusions reached by the Warkworth Structure Plan should be treated with more weight than the Warkworth North structure plan that forms part of PC25.
- While the RMA and Unitary Plan does not prevent privately initiated structure plans to be prepared, where there are two structure plans that cover the same area but show different land uses/infrastructure, preference should be given to the plan that looks at a larger area in a more strategic and comprehensive way, and the plan that has undertaken more consultation. In both cases that is the council’s Structure Plan and land uses.

The Council seeks the following decision:
- That the provisions of PC25, including proposed zoning pattern, be amended to reflect the Warkworth Structure Plan.

Industrial land

The Council submission is that:
Submission no 12

- For the land in question the Warkworth Structure Plan shows around 2.5ha of light industrial zoning compared to 13ha in PC25. While the route of the Western Link Road is not finalised, the concept in the Warkworth Structure Plan is that the land between that road and the existing industrial area should be zoned light industry. In respect to the area to the east of the proposed Western Link Road and just north of Falls Road, this area already contains two industrial activities (a consented industrial storage facility, and a water treatment plant).

- The Warkworth Structure Plan identifies that over the long term, a high level of employment land is required in Warkworth to prevent the town becoming a dormitory suburb of Auckland (with residents travelling to urban Auckland for work). The Warkworth Structure Plan work identified that there are relatively few areas in Warkworth that would be suitable for industrial land due to issues such as transport access, clustering industrial effects, and land contours. The land covered by PC25 is one of those areas identified as being suitable for light industry and the PC25 proposed residential land uses would preclude the ability of industrial land to be developed here in the future. This would impact on the ability for Warkworth to be self-sufficient for employment.

The Council seeks the following decision:

- PC25 be amended to zone the land between the new Western Link Route (route yet to be finalised) and the Light Industrial zoned land along Hudson Road down to Falls Road (as shown as red hatched area in Figure 0) as Light Industry.

Figure 0

Other non-residential land

Auckland Council submission on private plan change 25 – Warkworth North  page 2 of 23
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The Council submission is that:
- The majority of employment land proposed in PC25 is Light Industry rather than a zone that enables more retail/office (e.g. General Business, Mixed Use, Business Park) which would impact on the existing Warkworth town centre. The feedback from the public during the Warkworth Structure Plan project was that they wished for the existing town centre to remain as the focal point for Warkworth. This was backed up through the economic analysis for the Warkworth Structure Plan which stated that no new large areas of retail/office were needed in the Future Urban zone. The Warkworth Structure Plan contains a Planning Principle to “Retain the current town centre as the focal point and ‘beating heart’ of Warkworth”. It should be noted that the existing town centre has capacity for expansion within the Town Centre zoning and the surrounding Mixed Use zoning.

The Council seeks the following decision:
- No General Business, Mixed Use, or Business Park zones are used in PC25.

Reverse Sensitivity

The Council submission is that:
- The proposed land uses in PC25 raise significant reverse sensitivity issues around residential land (Mixed Housing Urban and Mixed Housing Suburban) directly adjoining Light Industry land. PC25’s SEA overlay map shows some thin areas of “Indicative Open Space” along most of the industrial interface. It is not clear whether these areas along the industrial interface are where an esplanade reserve would be expected to be vested or subdivision, or where the developer is offering up the open space area (i.e. some areas of indicative reserve are shown where the stream actually runs through the neighbouring site and therefore the esplanade reserve provisions would not apply).
- The existing industrial area along Hudson Road includes activities such as a concrete plant (Atlas), and a range of industrial activities could establish in the Hudson Road industrial area without the need for a resource consent (i.e. as a permitted activity).
- The Warkworth Structure Plan seeks to mitigate any reverse sensitivity issues between industrial areas and sensitive land uses such as residential by establishing spatial separation between the uses. This is primarily done through using arterial roads and esplanade reserve corridors. For Warkworth Structure Plan’s proposed Light Industry areas in the area covered by PC25, the boundaries are the existing SH1 corridor (with a planted buffer) to the north (although noting that this buffer is provided for the amenity entrance of Warkworth rather than sensitive uses), the existing Light Industry zone on Hudson Road to the east, the small ridgeline of Falls Road to the south, and part of the esplanade reserve (40m width) and the Western Link Road (32m with cycleways and planted areas) to the west.

The Council seeks the following decision:
- PC25 is amended to provide separation between industrial and residential land uses to avoid issues of reserves sensitivity.
- PC25 is amended to use arterial roads and esplanade reserves as separators between industrial areas and sensitive land uses, as per the Warkworth Structure Plan.
- PC25 is amended to reflect the approach for the creation of esplanade and the vesting of land for open space contained in the Warkworth Structure Plan.

Neighbourhood Centre
Submission no 12

The Council submission is that:
- The Warkworth Structure Plan identifies a small Neighbourhood Centre in roughly the same area as that shown in PC25. However, the council’s concern is around the size of the Neighbourhood Centre as the economic analysis carried out for the Warkworth Structure Plan shows that there is no need for large retail/office areas outside the town centre, and that any new large areas could be detrimental to the primacy of the town centre. The Warkworth Structure Plan anticipates that the Neighbourhood Centre in this location would be no more than 1,500m2 GFA. The Neighbourhood Centre in PC25 covers 3,000m2.

The Council seeks the following decision:
- The size of the Neighbourhood Centre in PC25 be reduced to no more than 1,500m2 GFA.

Buffer to Viv Davie-Martin Drive area

The Council submission is that:
- The land to the west (Viv Davie-Martin Drive area) of PC25 has various constraints which the Warkworth Structure Plan recognised by identifying it as Single House zone with a potential increased minimum site size to between 1,500m2 and 2,500m2. The Warkworth Structure Plan shows a transition of residential density towards this area by having this larger site size area border the Single House zone (with a standard 600m2 site size).
- PC25 does not show this transition of residential density and the Mixed Housing Suburban zone is proposed to adjoin the Viv Davie-Martin Drive area.

The Council seeks the following decision:
- PC25 incorporate a transitional zoning approach along its boundary with the Viv Davie-Martin Drive area, that will continue to have larger site sizes in the future, in line with the approach contained in the Warkworth Structure Plan.
- PC25 be amended to reflect the zoning proposed within the Warkworth Structure Plan.

Walking/cycling network

The Council submission is that:
- The Warkworth Structure Plan shows indicative Greenway routes for walkways and cycleways. This is to implement the Warkworth Structure Plan Planning Principle to “Prioritise convenient, segregated, and safe walking and cycling routes through the Future Urban zone connecting residential areas with key locations (e.g. schools, parks, centres), and the existing town, and to regional walking/cycling routes”.
- PC25 only shows one pedestrian connection route on Precinct Plan 1 that goes from the Indicative Western Link Road to the back of the Light Industry zoning along Hudson Road. It is not clear if or how this route would extend to Hudson Road itself.

The Council seeks the following decision:
- PC25 be amended to include the pedestrian connections as shown on the Warkworth Structure Plan, or similar routes that would meet the same purpose, with provisions stating that they will be provided by the developer.

Western Link Road
Submission no 12

The Council submission is that:
- The route of the Western Link Road is not finalised and it is noted that the Supporting Growth Indicative strategic transport network for Warkworth shows a thick dashed line in a slightly different alignment than the "Indicative Western Link Road" shown in PC25 (Precinct Plan 1). The council do not support PC25 being approved without further certainty from the Supporting Growth Alliance (AT, NZTA) as to the route for the Western Link Road. It is also clear that the Western Link Road is not funded in any AT or NZTA work programme.

The Council seeks the following decision:
- PC25 be amended to reflect the Western Link Road route that is finally proposed by the Supporting Growth Alliance.
- That funding for all infrastructure (including the Western Link Road) is finalised, and for bulk infrastructure (including arterial and collector roads) an Infrastructure Funding Agreement be completed, before any approval of PC25.

Other Roads

The Council submission is that:
- PC25 (Precinct Plan 1) shows spots for "Potential Future Road Connections" but does not show any further detail (i.e., these are indicative roads only). An indicative road layout (particularly of the collector routes) would be preferable to understand how the transport network will work in this area.
- The Warkworth Structure Plan shows a high level potential Collector Road in the PC25 area (with separated walking and cycling provision). While such a route may not be required along this particular alignment, it is expected that a collector level road would be provided through the PC25 area. The one part of the proposed Collector Road that is required by council is the link through to Sanderson Road from the PC25 to achieve an east-west connection.
- The "Potential Future Road Connections" to the west to the Viv Davie-Martin Drive area shown in PC25 need further detail to show how a link through to Viv Davie-Martin Drive itself would work.

The Council seeks the following decision:
- PC25 is amended to incorporate an indicative road layout for the "Potential Future Road Connections" shown in Precinct Plan 1, including how connections will be made to the Viv Davie-Martin Drive area.
- PC25 is amended to include a Collector Road as shown in the Warkworth Structure Plan, which includes separated walking and cycling provision.

Landscape screening areas

The Council submission is that:
- The Warkworth Structure Plan identifies a "Landscape screening area" over the Light Industrial land along the frontage of SH1. Warkworth's identity and overall amenity currently benefits from the passage through verdant gateways to the town – on SH1, and Sandspit and Matakanui Roads. The Warkworth Structure Plan proposes that the main SH1 'gateway' road entrance is through, or past, industrial areas, which would, inevitably, change public and local perceptions of the town. The Warkworth Structure Plan addresses this matter by showing landscape screening areas along the edge of the industrial zones in key locations. These are areas for planting that are large enough to effectively screen industrial
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Development, and would need to be in the order of 20-30m deep to accommodate mature native trees in the long term. PC25 does not propose any landscaping screening areas along the SH1 frontage.

- The Warkworth Structure Plan identifies a “Potential buffering/screening area from motorway” along the north western edge of the PC25 area.

The Council seeks the following decision:

- Provisions are included in the PC25 precinct to require landscape screening in the same manner as that proposed in the Warkworth Structure Plan along the SH1 frontage, and the motorway boundary.

Staging

- The Council submission is that:
  - If PC25 is approved and there are no appeals then the land will have a live zoning in place in perhaps 2020. This is two years from when the council’s Future Urban Land Supply Strategy indicates that this land will be ‘development ready’ (“from 2022”). The “from 2022” date in the Future Urban Land Supply Strategy is to recognise that the bulk infrastructure projects to service growth in Warkworth North (the Puhoi to Warkworth motorway, Matakana Link Road, Warkworth wastewater upgrade) will not be completed until the end of 2021 or in 2022. Therefore, if a live zoning is in place prior to the required infrastructure being in place there will be the ability to develop residential and business land without the complementary bulk infrastructure to service it. This was a key concern from the public during consultation on the Warkworth Structure Plan – that infrastructure should be provided before growth. The risk with PC25 is that if ‘live’ zones land and allows development ahead of when infrastructure will be in place.
  - Another concern around staging is the timing of when the Western Link Road will be completed as shown on Precinct Plan 1 (i.e. with a route connecting to the Mansel Drive bridge in the south up to SH1 and Matakana Link Road in the north). This is especially relevant as the private plan change proponent does not own or control all of the land along this alignment. Without connections at both ends of the Western Link Road there is the possibility of creating a long ‘cul de sac’ to service the development. If this were to occur, there may need to be staging provisions (based on transport evidence) around how much of the land could be developed before the full link is operating.

The Council seeks the following decision:

- PC25 include staging provisions to ensure development does not occur before the infrastructure required to service it is available or in place.

Green Network

- The Council submission is that:
  - The Warkworth Structure Plan has a foundation of a ‘Green Network’ that sets aside the areas around streams, floodplains and existing bush from development and requires them to be appropriately restored/revegetated as development occurs on the land around them. Many of the assessment reports on the Warkworth Structure Plan rely on this Green Network being implemented.
  - PC25 shows some areas around streams as “Indicative Open Space”. However, these areas do not fully match the Green Network in the Warkworth Structure Plan. There is also no
Submission no 12

Detail in the Precinct provisions as to how all these areas would be set aside from development and how restoration/revegetation would occur.

The Council seeks the following decision:
- PC25 is amended to incorporate all of Warkworth Structure Plan’s Green Network for the land covered by PC25, and include provisions to ensure such is provided.

Other possible precinct matters

The Council submission is that:
- The Warkworth Structure Plan outlines (at section 3.5.3) various matters that may be part of a precinct for the Warkworth North area. These items include:
  o Fencing standards in the lower density residential zones to maintain front open boundaries
  o Managing the interface between industrial and residential areas
  o Managing the interface of industrial sites with residential development on the Western Link Road to facilitate good urban design outcomes
  o “Rear loading” on collector roads to minimise interruption to separated cycle facilities
  o Design of subdivision to retain mature trees/shelter belts as features
  o Housing affordability
  o Non-spatial options to manage erosion and sediment (e.g. modelling to assess levels of erosion and sediment generation would assist in balancing cut and fill volumes)
  o The possibility for roads, streets and pathways be used to increase canopy and vegetation cover to improve environmental and health and wellbeing outcomes
  o Further mapping of wetlands for the areas not included in this assessment to date
  o Additional sediment controls for development in the vicinity of streams

The Council seeks the following decision:
- PC25 precinct be amended to cover all of the plan change area, and the precinct provisions cover the matters the Warkworth Structure Plan sets out in section 3.5.3.

Stormwater and Stream Management

The Council submission is that:
- In relation to issues of stormwater and stream management, the following:
<table>
<thead>
<tr>
<th>Issue</th>
<th>Application content</th>
<th>Comment</th>
<th>Relief Sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 11.2 (c)</td>
<td>The objective is: minimising loss of, or reduction in ecological values, and enhancing retained ecological values to achieve overall effects on ecological values that are less than minor.</td>
<td>The wording &quot;overall effects&quot; are less than minor the objective waters down the expectation that streams will be retained and restored and enhanced by creating an expectation that stream loss can be offset by restoration activities elsewhere. The AUP seeks to protect, restore and enhance areas where ecological values are degraded or where development is occurring. (37.2.1 (2) and 37.3.1).</td>
<td>Delete the objective and defer to the existing AUP policy framework.</td>
</tr>
</tbody>
</table>

11.3 Policies (4) | Provide an indicative network of open space areas to protect existing ecological values, provide for areas of public open space, as well as walkway and cycleway connectivity. | There need to be riparian margin stream protection areas identified, for intermittent as well as permanent streams. Some of these will be open space, i.e. no building development, but not all will be public open space. The Council-adopted Waitakere Structure Plan maps those areas, supported by detailed stream ecological assessments. Geomorphically effective stream management solutions need to be enabled, to ensure stream bank and bed erosion is managed which may require some widening of incised stream channels. | Amend the policy as follows. Strikethrough represents a deletion and underline represents an addition. Provide an indicative network of open space areas including riparian margin stream protection areas to protect existing ecological values, provide for areas of public open space, provide for geomorphically effective stream management solutions, as well as walkway and cycleway connectivity. |

11.3 Policies (5) | Provide for the retention of watercourses except where Precinct Plan 1 Warriworth North Precinct identifies that there will be stream loss and implement appropriate mitigation measures onsite to offset any adverse effects as indicated on Precinct plans 2 - Stormwater Catchment Management plans. | No stream loss is specifically identified in the precinct plan. Figure 3 compares the likely stream locations using the overland flow path layer and the precinct plan. The yellow segments indicate possible stream loss that would be enabled by the proposed plan change. | Delete the policy and defer to the existing AUP policy framework. |

11.3 Policies (6) | Enhance streams identified for enhancement using techniques such as boulder clusters; spur dikes, vanes and other rock deflectors; rock riffles; cobble or substrate; cobble floodways; root washes or large wooden debris; vegetated floodways; live siltation; erosion control blankets; living walls and culverts designed to enable fish passage. | This policy is helpful. Recent studies conducted by Auckland Council Healthy Waters have indicated that hydrology mitigation alone will not prevent stream bank erosion when new impervious surfaces are introduced into the catchment. Stream channel shaping and armouring with natural materials may be required to prevent excess sediment polluting freshwater and marine receiving environments, and stream bank instability. | Amend the policy as follows. Strikethrough represents a deletion and underline represents an addition. Enhance streams identified for enhancement to prevent stream bank erosion from new impervious surfaces using techniques such as boulder clusters, spur dikes, |
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11.4 Activity table A3, A4 and A5

(A3) Protection of streams and wetlands as indicated on the Workworth North Precinct Plan. Permitted in both precincts.

(A4) Enhancement of streams as indicated on the Workworth North Precinct Plan and in accordance with the ‘Additional Enhancement Opportunities’ identified in Policy 19.3 (6). Permitted in both precincts.

(A5) Stream loss other than that shown on the Workworth North Precinct Plan. Non-complying in both precincts.

The rule seeks to make a non-complying activity permitted in this precinct. The rule undermines the integrity of the plan because it doesn’t provide an assessment of effects of the proposed stream loss and seeks to circumvent the usual consent process.

While the plan change has been notified the application doesn’t address the assessment criteria and policy framework in the AUP, therefore the proposal subverts the opportunity for a notification assessment and the ability of the public to comment on the proposal because they are not fully informed.

Delete the rule and defer to the existing AUP policy framework.

11.5 Standards

The following Auckland-wide standards do not apply to activities (A3), (A4), and (A5) listed in Activity Table 4.4.1 above:

(a) E3 (A46) New reclamation or drainage, including filling over a piped stream.

The standards seek to avoid assessment against the AUP policy framework without an appropriate assessment. The non-complying status of stream reclamation is there to prevent the significant environmental damage that stream loss causes.

The AUP rule framework is intended to make reclamation enabled only in restricted circumstances:

(13) Avoid the reclamation and drainage of the bed of lakes, rivers, streams and wetlands, including any extension to existing reclassifications or drained areas unless all of the following apply:

(a) there is no practicable alternative method for undertaking the activity outside the lake, river, stream or wetland;

(b) for lakes, permanent rivers and streams, and wetlands the activity is required for any of the following:

(i) as part of an activity designed to restore or enhance the natural values of any lake, river, stream or wetland, any adjacent area of indigenous vegetation or habitats of indigenous fauna;
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11.6.2 Standard – Streams

Purpose:
- To achieve stream enhancement works that improve ecological values and water quality now and into the future.

(1) Stream enhancement shall be undertaken in accordance with the best practice guidelines including TP148 – Auckland Council Riparian Zone Management: Guidance for Water Sensitive Design (GWD4) – B1 Riparian Buffers and Planting and Auckland Council’s Strategy for Urban Ngāhere (Forest).

TP 148 only relates to stream side planting and GD04 is a broad approach to Water Sensitive Design. These are matters to be considered at resource consent stage taking into account the full suite of rules, objectives and policies in the AUP. Reference to TPs and GDs can be applied at resource consent stage.

Delete the standard. Replace with a standard for streams, permitting no building or development within stream protection areas, except permeable paved walkways and cycleways; stormwater management devices; and to require re-vegetation of the stream protection areas at time of earthworks and subdivision.

Precinct Plan 1

Precinct Plan 1 shows permanent, intermittent and ephemeral streams, and ‘Indicative Open Space’ alongside the permanent streams and some stands of trees.

The proposed Precinct Plan 1 pre-emptive protection of intermittent and ephemeral stream reaches. Use of the term ‘Indicative Open Space’ could be taken to mean all will be public open space. The streams should be identified with riparian margin protection areas.

Amend Precinct Plan 1 to show riparian margin protection areas for the intermittent streams as well as the permanent streams. Amend Precinct Plan 1 to show ‘Indicative Open Space’ only for land Council agrees will become public open space (neighbourhood park, esplanade reserve, SEAL conservation reserve, streamside walkways and cycleways), and to show the riparian margins of all permanent and intermittent.
# Submission no 12

| Precinct Plan 2 | Precinct Plan 2, which is the Stormwater Catchment Management Plan, shows presumed stream loss and a development plan showing road layout, stormwater management devices, post-development overland flow paths and discharges and diversions. | Such a precinct plan was used for consenting development under HASHAA for the special housing areas, and some of the AUP-COP SHA precincts still have such plans. If more of the intermittent stream reaches are retained (or the proposed stream reallocations are rejected) as requested by this submission, and their margins protected and re-vegetated, the development routing plan and overland flow paths could be quite different. If the SWCMF forms part of the Precinct Plan, it will purport to be a deemed consent for the stream filling, culverts, stormwater management devices, outfalls and overland flow path diversions. Stormwater and stream management should be matters to be considered at resource consent stage taking into account the full suite of rules, objectives and policies in the AUP, including in relation to any filling of streams, diversion of watercourses (including culverts), and discharges into streams. The Stormwater Catchment Management Plan (SWCMF) can be treated as supporting technical assessment demonstrating a land development scenario, but without providing the consents for filling of streams, diversions and discharges. | Delete Precinct Plan 2 (Drawing Nos. 402,403,404). |

| Biosearchers 2.4 Freshwater | One main watercourse (Mahurangi River tributary) was identified which ran along the majority of the eastern boundary of the site in a north-south direction before cutting across the southern section of the site. A further seven notable watercourses were identified and ran in a general west-east direction before draining into the Mahurangi River tributary. An additional notable watercourse was identified in the upper northwest section of the property which flowed in an east-west direction and drained into the Mahurangi River Left Branch Tributary (Figure 2 F). | It's unclear what "notable" means. The wording doesn't appear in the AUP in relation to streams (only trees). The report seems to be attempting to create a stream hierarchy to justify loss of some streams. The AUP seeks to restore and enhance all streams apart from ephemeral streams at the time of development. The report and Figure 6 doesn't explain why the other streams shown are not classified. Figure 5 tries also to create a hierarchy to justify loss of some streams. Overall the report is deficient and doesn't properly address the expectations in the AUP. | The relief is addressed by the relief set out above. |

| Appendix 14 Page 16 | Diagram showing retainer | Retaining walls within riparian margins will be undermined and fail in time. | Include a rule requiring retaining walls to be installed outside of the riparian margin. Include a rule requiring resource consent for structures within the riparian margin. |
Submission no 12

2.4 Geology
A Geotechnical Engineering Feasibility Assessment for the structure plan area has been completed by KGA Geotechnical which is included as part of the structure plan documentation. The following is an extract from the report by KGA regarding storm water soakage; “The underlying alluvial, alluvial, colluvial and residual soils over the subject area generally comprise silts and clays with a low permeability rate, and groundwater levels have been noted to be relatively high where recorded. Based on this, stormwater retention by ground recharge is not recommended from a geotechnical perspective. Site specific soakage assessments are to be carried out to confirm soakage capabilities of the different materials”.

For further geotechnical information, refer to the report completed by KGA.

The report conflates infiltration and soakage. The former working in used in the AUP to relate to small storm events (a return period of a few months) and soakage to relate to disposal of the 10% AEP to ground, order of magnitude larger than infiltration volumes.

The geotechnical report doesn’t assess the suitability of the ground for infiltration. If there are unstable soils present in this area (e.g. Onorepo Chaos) then infiltration may not be appropriate.

The application is deficient in this aspect.

In our opinion the structure plan area is suitable for the proposed plan change in relation to natural hazards - flooding. The existing flooding is generally confined to the gullies and streams enabling the majority of the structure plan area to be clear of any flooding risk at all. In the lower areas where flooding is present, it is our opinion that new development can be achieved providing the stormwater management practices outlined in this SWEMP are followed.

The timing and funding of this bridge has not been discussed.

The result of the assessment is based on the modelling of detention ponds for Stubbins Farm Development but omits retention. Notwithstanding this flood mitigation detention (typically the 10 and 1% AEP) is orders of magnitude larger than SMAP1 hydrology mitigation. The flood section conflates hydrology mitigation with flood mitigation.

Drawing 901 (Figure 7) shows Existing development flood extents but not MPO. Specific consideration of effects on the commercial properties east of the river has not been carried out.

Include an objective and rule framework that:
- Ensures development is outside of the 1% AEP flood plain including climate change in keeping with the AUP expectation that greenfield development avoid flood-related effects and the brownfield risk-based approach is not
## Submission no 12

At source peak flow mitigation is not considered suitable to mitigate the issues associated with the Falls Road Bridge and as such it is our opinion that this structure is replaced and suitably designed structure to flow the 1% AEP.

With the absence of flooding issues, the upgrade of the Falls Road Bridge, the potential to coincide subcatchment peak flows and that the Waitworth North catchment is located in the lower third of the water Mahurangi river catchment; we have concluded that retention for the 50% AEP, 20% AEP, 10% AEP and 1% AEP events is not required.

### Peak Flow Control

- Extended Detention Volume (EDV).
  - Peak flow control 50% AEP (1 in 2 year)
  - Peak flow control 90th percentile storm
  - Peak flow control 95th percentile storm

### Volume Reduction

- Reinwater harvesting
- Stormwater retention

### SMP Pg 42

5.5 Stormwater Management Summary

Based on the above information it is our opinion that with the provision of SMAF 1 and the DEQR with the addition of partial treatment of the local roads at source is the best most optimal option to mitigate the development's effects with respect to stormwater management, flooding, water

The DEGR standards were in the notified AUP but not in the operative in part AUP. The SMAF provisions will provide some water quality contribution and GDDI provides guidance.

The SMP conflates infiltration and soakage (see above). Table 11 doesn't refer to flood management.

It is unclear why a communal detention device would be used and retention achieved at source. A rain-tank for a residential lot sized to achieve SMAF would be very small.

The report says that "majority of the structure plan area to be clear of any flooding risk at all". This needs to be qualified so it is clear what areas are affected.

The flood sensitivity analysis requires further review because the recommendations seek to require hydrology mitigation for stream erosion management to achieve flood related outcomes which may be indicative of fundamental errors.

Stormwater technical report does not actually consider application of SMAF and its impact on flows through the development area and Falls Road.

No detail is provided on how the stormwater network would actually work, for example with some piped outfalls above dry basins.

Insufficient information on peak stormwater flows and durations from each sub-catchment, with the model and report assuming flows are limited to pre-development levels. Quality treatment of runoff is not included, even though there is an EEA downstream of Falls Road.

Rain gardens and stormwater tree-pits are shown on road cross-sections, but no detail is provided about areas or spacing, and whether they can achieve hydrological neutrality, particularly on steeper gradient roads (up to 12.5%).

The technical information does not appear to meet the standard of supporting resources consents for the proposed development and its stormwater components, and should not be considered to justify the plan change incorporating a Stormwater Catchment Management Plan to supplant the need for resource consents.

- Includes a rule that the bridge is upgraded by the developer prior to the establishment of new impervious surfaces.

- Requires a flood sensitivity analysis prior to any development applications that clearly shows the existing development volumetric AEP floodplain versus the maximum probable development scenario in the 1% AEP and specifically considers effects on the existing commercial development east of the river.

Stormwater Catchment Management Plan is not accepted for inclusion as a Precinct Plan, and the technical information does not support the SWCMP being a consent for the proposed stormwater and stream works, or roads (and relocated overland flow paths).

Delete reference to DEGR.

Delete reference to flooding in the discussion preceding table 11.

The application of the SMAF overlay is supported.

Include assessment criteria related to the subdivision that requires assessment of the efficiency of stormwater devices that are to be vested.
Table 11 shows that it's unnecessary to treat residential lots. Roots do generate contaminants and sediment is washed off roo/ls into the receiving environment. However, if hydrology mitigation is applied water quality treatment is applied by default.

There is no assessment of roads at steep grades (up to 12.5%) to achieve hydrology mitigation.

including the full life cycle cost. Require consideration of the amalgamation of rain gardens, or the construction of larger rain gardens to avoid a proliferation of small rain-gardens at catch-pt spacing.

Include assessment criteria requiring specific assessment of roads at grades over 5% to enable the location of rain-gardens adjacent to the road corridor or at intersections to achieve hydrology mitigation.

---

### Attachment D

**Item 20**

<table>
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<th>Quality</th>
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<td>No</td>
</tr>
<tr>
<td>Unknown</td>
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The proposed hydrologic mitigation and stormwater quality treatment is in accordance with E9 and E10 of the Auckland Council Unitary Plan.

Each stormwater sub-catchment will have a small detention device to provide detention volume for the road and the lots impervious surface.

The application of the controls in accordance with E9 and E10 of the Auckland Unitary Plan over the plan change area will ensure the stormwater outcomes within the plan change area will be aligned with the objectives and policies of the Auckland Unitary Plan E1.
Submission no 12

Figure 2 plan change area with flood plains and OLPs
Figure 2.4. Highest value sites recommended for vegetation and riparian restoration/ protection.
Submission no 12

Figure 6: Bioresearch stream identification

Auckland Council submission on private plan change 25 – Wainuiroa North

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I wish to be heard in support of this submission.

If others make a similar submission I would consider presenting a joint case with them at the hearing.

On behalf of Auckland Council:

Signature of person authorised to sign on behalf of submitter
Phil Reid
Manager Planning – Auckland Wide
Auckland Council

Dated: 05 June 2019
Address for service:
Phil Reid
Manager Planning – Auckland Wide
Submission no 12

Email: phill.reid@aucklandcouncil.govt.nz
Telephone: 09 301 0101
Postal address:
Auckland Council
135 Albert Street
Private Bag 92300
Auckland 1142
Memo

26 July 2019

To: Planning Committee, Local Board Chairs
cc: Chair and Chief Executive, Independent Māori Statutory Board
From: Megan Tyler, Chief of Strategy

Comprehensive Review of the Resource Management System

Purpose

To inform elected members about the Government’s recently announced review and how this review will be reported on.

Government announcements

On Wednesday 24 July 2019 the Minister for the Environment, Hon David Parker, announced the commencement of a comprehensive review of the resource management system. The review will occur in two stages:

- **Stage One** – amendments to the current Resource Management Act (RMA) to address problems associated with rights of appeal on subdivision and residential resource consent applications, reinstate the use of financial contributions, enable the review of conditions of multiple resource consents, strengthen enforcement tools and it may also include other policy proposals relating to the management of water. Government expects to complete these changes through the House before the 2020 general election.

- **Stage Two** – a comprehensive review of the RMA itself and its relationship with the Local Government Act (LGA), Land Transport Management Act (LTMA) and the Climate Change Response Amendment Act. Specific considerations will be given to the role and potential of spatial planning to better integrate decision making across the RMA, LGA and LTMA. More specific objectives of this review are set out and linked below.

Establishment of an Expert Advisory Group to undertake the review

The Government is forming an expert advisory group (EAG) with the Chair, Auckland Councillor Hon Tony Randerson QC being the first appointment. Four other members will be appointed by Cabinet to the EAG within the coming weeks.

A draft terms of reference has set out the aim of the review being:

‘to improve environmental outcomes and enable better and timely urban development within environmental limits.’
Other key aspects of the review include:

- Whether to separate statutory provision for land use planning from environmental protection;
- Whether a reworked Part 2 (purpose and principles) sits within the RMA or within separate legislation;
- Enabling a new role for spatial planning across processes within the RMA, LGA and LTMA; and
- Consider which entities are best placed to perform resource management functions.

More detailed issues that the review should address can be found on page 7 of the draft terms of reference for the EAG.

The EAG will prepare an issues and options paper for feedback by the end of October 2019. The final report is due with the Minister at the end of May 2020.

Following the Cabinet consideration of the final report a ‘broad, open process of public consultation’ will begin. Any legislative changes are expected in the next Parliamentary term.

Implications for Auckland Council

It is too early to report on likely implications for council’s planning functions.

Cabinet papers indicate that through LGNZ there will be an initial opportunity to engage with Government on the scope of the review and its current draft terms of reference.

The Auckland Unitary Plan is due for review by November 2020. It is likely that this second generation Auckland Unitary Plan will be able to be prepared under new legislation rather than needing to traverse both the current and new RMA.

Reporting

Staff will provide information and reports at appropriate times throughout the next 12 months. Once the EAG is appointed, the timeframes and processes will be become clear.

Further materials

Stage One reforms

Cabinet paper on stage one reforms - amendments to the current Resource Management Act (RMA)


Stage Two reforms

Cabinet paper on stage two reforms - comprehensive review of the RMA itself


Draft terms of reference for External Advisory Panel

Memo

To: Planning Committee
From: Phil Reid, Auckland-wide Planning Manager

The management of helicopter flights and helicopter landing areas under the Auckland Unitary Plan, operative in part, 2016

Purpose

The purpose of this memo is to advise the Planning Committee of the adequacy of the Auckland Unitary Plan to manage the effects of helicopter flights and helipads, particularly in residential zones.

Background

The Chair of the Planning Committee enquired about provisions regulating helicopters and helipads following media coverage on two high profile resource consent applications for helipads near residential areas. Also, there have been media articles on helicopter flights for private transport. Council wants to ensure that the Auckland Unitary Plan adequately manages helicopter flights and helipads, as well as respond to public concerns around this matter. This memo also considers whether the Auckland Unitary Plan sufficiently anticipates the effects of helicopter use.

What is the issue?

Helicopters are used for police, emergency services, search and rescue, air force/ military, sightseeing activities and private transport. Helicopter flights are managed through different layers of rules, including relevant civil aviation rules (e.g. Civil Aviation Act 1990) and the Auckland Unitary Plan.

The crux of the issue is the use of helicopters for private transport and the building of helipads; within urban residential environments.

There is a question of:

- what is the policy intent of the Auckland Unitary Plan for this matter?
- whether the Plan adequately manages the effects of helicopters flights and helipads, in residential environments? and
- if the Plan does not sufficiently manage helicopter flights in residential environments, how can this be addressed?

Given the public interest in this issue, council needs to assess if the Auckland Unitary Plan adequately manages these public concerns, to ensure public confidence in the Plan.

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1 New Zealand Herald, 30 April 2019, “The Helipads of Auckland: Who’s behind them and, where are they?”
What is the regulatory framework?

The Auckland Unitary Plan manages the landing and take-off of helicopters and the building of helipads.

Once a helicopter is airborne (at 1000ft in urban areas), the provisions of the Civil Aviation Act 1990 apply.

The New Zealand Standard for Noise Management and Land Use Planning for Helicopter Landing Areas (NZS 8807:1994) provides guidelines for controlling helicopter landings and take-off noise in the context of the Resource Management Act 1991. NZS 8807:1994 sets out daytime and nighttime maximum noise limits for helicopter use, depending on the adjacent land use activities (i.e., industrial, residential, rural). To be clear, this New Zealand Standard is not referenced through either the Auckland Unitary Plan or the Hauraki Gulf Islands District Plan – it has been referenced through consent conditions imposed on consents issued under both of these documents.

There are two parts to this analysis. The first is to determine what the provisions are in the Auckland Unitary Plan, and the second, to ascertain how these provisions are interpreted in resource consent applications.

Auckland Unitary Plan provisions

It is important to note that the Auckland Unitary Plan has different provisions that apply to the building of helipad structures compared to helicopter landing and take-off as these are considered as two different activities.

Helipad structures have rules around earthwork volumes, the impact of helipads on the physical and visual integrity of the landscapes etc. It should be noted that a helipad may not be required, as helicopters may also land in carparks, open grass, or in any large, flat area.

Helicopter landings and take-off is considered an activity and is also subject to noise standards to protect the acoustic amenity of its receiving environment. This means there are two parts to assessing a helicopter landing and take-off.

First is to determine the relevant activity status for the helicopter landing and take-off activity.

Generally, the Auckland Unitary Plan anticipates (i.e. permitted activity) helicopter landing and take-off in hospital areas and for the loading and unloading of cargo at the Port of Auckland and Onehunga. However, in the General Coastal Marine Zone (which most of the coastal marine area in Auckland), helicopter landing and take-off is a non-complying activity.
For the residential zones helicopter landings and take-offs are considered a non-complying activity in the Auckland Unitary Plan.

Secondly, it is an assessment of the noise created by the aircraft landing and take-off itself, which is assessed against the noise Standard E25.6.32. That is, the noise created should not be above the maximums set out in the Standard. If the noise generated by helicopters exceeds the Standard, then the noise aspect of the application is considered a restricted discretionary activity.

To consider a scenario, the use of helicopters for private transport, in a residential zone in Auckland would be subject to the following provisions:

- it would be a non-complying activity status for the helicopter landing and take-off as the activity is not provided for;
- the noise created by the aircraft for landing and take-off, will be subject to Standard E25.6.32 in the Auckland Unitary Plan; and
- the building of the helipad would be subject to provisions for building activities in a residential zone.

**Resource consents for helicopter flights**

The second arm of this assessment is to determine how the Auckland Unitary Plan provisions are applied in practice. Resource consents were assessed for:

1. how the activity status for helicopter landings and take-offs were determined; and
2. the environmental effects of helicopter landings and take-off that were assessed.

1) Activity status for helicopter take-off and landings

To carry out this assessment, 14 resource consent applications for helicopter activities (i.e. landing and take-off and helipads), were examined. The second arm of this exercise was a little problematic, as staff could not fully test the implementation of these helicopter flight and helipad provisions for residential zones. Of the 14 consents considered:

- four were assessed under the provisions of the Auckland Unitary Plan (the remainder were under the Hauraki Gulf Islands District Plan);
- of these four, only one was within a residential zone, even in that case the helicopter landing and take-off was for a temporary event to test its acoustic output.

As such, there isn’t a resource consent that illustrates fully how the Auckland Unitary Plan provisions would be interpreted for a residential zone.

Despite these challenges, the exercise was useful in identifying some broader learnings. These are:

- that some clarity around the policy intent of the Auckland Unitary Plan around helipads and helicopter landing and take-offs would be helpful, as the activity statuses for these are not immediately apparent;

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7 Helicopter flights, including landing and take-off are not included in the activity tables for most residential zones. Therefore, Rule (A1) of each residential zones activity table applies, which is that activities not provided for are considered non-complying activities.
8 C19(2) in the Auckland Unitary Plan states that where an activity does not comply with a standard, the activity is considered.
that the permanence of the helipad structure meant that much of the consent application assessments focused on the environmental effects of helipads rather than the helicopter landing and take-off;

- the environmental assessment of the helicopter landing and take-off was narrowly focused on its acoustic amenity; and

- consent conditions for flight restrictions are applicant-led not initially sought by officers, i.e. most flight times and approaches proposed in the consent were accepted.

This examination of the resource consents identified that there could be additional clarity in the policy intent of the Auckland Unitary Plan for helicopter use, because:

- it was not immediately apparent that helicopter landing and take-off were identified as an activity in their own right, and is usually considered alongside the helipad structure;

- the helicopter landing and take-off was always assessed for its noise impacts rather than whether the activity is provided for in the zone;

- under the Auckland Unitary Plan, the activity status of helicopter landing and take-off is not apparent, and

- the permanence of the helipad structure meant that consenting planners focused on the environmental effects of this and less on the impact of the helicopter landing and take-off.

2) Assessment of effects for helicopter use

This part of the assessment is to determine the types of matters that are considered in consent applications for helipads and helicopter landing and take-off.

Overall, the acoustic amenity was the key environmental effect considered for helicopter landings and take-off. In considering acoustic amenity, consent planners assessed:

- type of aircraft and its noise production

- flight paths – i.e. if it is over residential areas

- flight times – i.e. restrictions on flight landing and take-off

- flight movement restrictions – i.e. number of trips allowed.

These three matters helped mitigate the acoustic effects of helicopter landing and take-off.

However, the flight time and flight movement restrictions were applicant-led with the absence of an assessment framework. The NZS 6037:1994 was referenced in some consents as a guidance. Also, the Fly Neighbourly Guide was referenced to further reduce impacts on the receiving environment. In most cases, the times proposed by the applicant were adopted by processing planners. Therefore, there is wide variation in the flight restrictions.

Also, there are other environmental impacts from helicopter landing and take-off that can be considered. For instance, sand disturbance (in coastal marine zone), landscape effects from an aircraft landing and taking off, or impacts on the character of the adjacent residential landscape etc that can be considered alongside its acoustic amenity.

Another key matter that planners considered is the cumulative effect of helicopter landing and take-off on the receiving environment. In most cases, this was assessed in terms of distance from each helipad/ helicopter landing and take-off area. Cumulative effect is mostly considered in terms of the impacts on the acoustic environment. However, there are other impacts from cumulative effects, for instance if there are several properties that build helipads, over time the permitted baseline for the neighbourhood changes.
How well does the Auckland Unitary Plan manage helicopter flights?

There are enough provisions in the Auckland Unitary Plan to manage helicopter landing and take-off, and helipads in residential environments.

Helicopter flights and helipads are generally not provided for in residential environments unless the Auckland Unitary Plan does not specifically anticipate these activities in residential zones. Activities not provided for in these zones are considered non-complying activities under Rule (A1) within each of the residential zone activity tables.

As a non-complying activity the applications will be assessed both in terms of effects and the extent to which the proposals are contrary to Auckland Unitary Plan objectives and policies. Depending on location the amenity values (which by definition means those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes) associated with adjoining zones such as Open Space or the General Coastal Marine zone are within the Unitary Plan and will be of relevance for assessment.

There were no resource consents that fully tested the provisions for helicopters in residential zones in the Auckland Unitary Plan. Regardless, an assessment of resource consents revealed the following gaps:

- there could be more clarity and understanding in the policy intent around helicopter landing and take-off and guide consent planners
- much of the assessment of effects for helicopter flights are focused on the acoustic effects and could be wider
- the cumulative effect should be wider in its assessment of potential impacts rather than just a measure of distance between helipads and resultant acoustic impacts
- there can be more guidance on the use of NZS 6087:1994 and the Fly Neighbourly Guide as a framework for flight restrictions through conditioning on consents.

What are the potential options to fill these gaps?

Description of options

There are three options that could be pursued to address the gaps identified above. These are:

Option 1, staff adopt a ‘wait and see’ approach. That is, the policy team would wait to see how the existing provisions play out in land use consent applications, particularly for ones in the residential zones. Staff would periodically check in with the consents department for any resource consents for helicopter flights and helipads and assess these for consistency.

Option 2, staff would proactively prepare a practice note and/or interpretation guidance, to clarify the policy intent of helicopter landing and take-off as contained in the Auckland Unitary Plan and Hauraki Gulf Islands District Plan. This would also address conditioning of consents and best use of NZS 6087:1994 and the Fly Neighbourly Guide. This would be circulated among consent planners and drafted for external release. Also, a monitoring plan would be prepared to help assess the impact of these existing provisions and whether these are fit for purpose.

Option 3, staff would add specific helicopter provisions in the Auckland Unitary Plan, through a plan change. This would include, specific rules within activity tables and specific objectives and policies within the residential zones related to helicopters.

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9 These are not referred to in the activity table for residential zones which therefore renders this use a non-complying activity pursuant to rule (A1) within each of the residential zones activity tables.
Options 1 to 3 were assessed against benefits, costs, timeliness and risks. These are summarised below:

<table>
<thead>
<tr>
<th>Option 1: Status Quo – ‘Adopt a wait and see’ approach</th>
<th>Option 2: Develop practice note/policy guidance and monitor provisions</th>
<th>Option 3: Plan Change to add provisions to manage helicopter flights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• As the scale of the issue is unclear, the status quo provides some time to assess the issue</td>
<td>• This option clarifies the policy intent of the Auckland Unitary Plan for helicopter flights in residential areas</td>
<td>• Would enable a more nuanced approach to managing helicopter flights in different zones</td>
</tr>
<tr>
<td>• This option is least costly to council</td>
<td>• It enables the existing provisions in the Auckland Unitary Plan to embed properly</td>
<td>• The specific issue - i.e. helicopter flights in residential areas, will have a clear policy direction in the Auckland Unitary Plan.</td>
</tr>
<tr>
<td></td>
<td>• It enables a specific monitoring plan for this issue will help check the robustness of the existing provisions</td>
<td>• Specific policies may have a very minor benefit in assisting assessments of non-complying consent applications compared to current policies related to character and amenity.</td>
</tr>
<tr>
<td></td>
<td>• It encourages consistency in the assessment of consents for this matter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It would cost less than Option 3.</td>
<td></td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• This option does not prospectively manage the issue of helicopter use in residential areas</td>
<td>• This option would cost more than Option 1, where staff will be allocated to develop a practice note</td>
<td>• Plan changes are costly to the organisation and there will be trade off with other planning issues that need staff attention</td>
</tr>
<tr>
<td>• Does not adequately allay public and political concerns about helicopter flights in residential areas</td>
<td>• There will be a need to update the practice note as NZS 6807:1994 is updated or changed</td>
<td>• The scale of the issue for this specific matter is small. So far there have been 4 consent applications for this activity in 3 years assessed under the AUP. It does not warrant the allocation of staff resources for a plan change</td>
</tr>
<tr>
<td>• Does not clarify the policy direction of the helicopter provisions in the AUP</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Timeliness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Least timely, because this issue seeks to determine if there is an issue with the provisions and then deal with it.</td>
<td>• Much swifter response as compared to a plan change, as the processes for sharing of information between departments is in place</td>
<td>• Plan changes typically take 1-2 years, subject to appeals. A plan change is not nimble to react to an issue quickly</td>
</tr>
</tbody>
</table>
## Conclusion/Recommended option

The existing provisions in the Auckland Unitary Plan adequately manage helicopter landings and take-off in residential areas. An assessment of consent applications suggests a very small number of consent applications for this activity. However, the assessment also shows that staff could be proactive in the development of guidance to support the assessment of these applications.

A practice note/interpretation guidance to consent planners to clarify the policy intent would be a proactive and quick way to manage this issue. If there are more resource consent applications for this activity, the guidance document will help clarify the activity status and relevant matters for assessment. Also, it will enable the Auckland Unitary Plan to embed itself further, while monitoring these provisions will improve the ongoing evaluation of both environmental outcomes and this guidance.

Therefore Option 2 is the most prudent way to manage this issue, while maintaining the integrity of the policy direction in the Auckland Unitary Plan.
12 June 2019

Auckland Council Planning Committee

Dear Sir/Madam,

Graeme East – Presentation on Train Delays

Thank you for your email dated 7 June 2019, with a submission on behalf of Mr. Graeme East, and for the opportunity to respond to the points raised in the above-mentioned submission.

ETCS

It is important to note that the signalling system, and the train control system are owned by KiwiRail, and that the standards and methodology used by the European Train Control System (ETCS) is set by an international committee. Auckland Transport (AT) would strongly favour the ETCS Level 2 option as it would allow greater operational resilience; ETCS level 2 has been requested but is not in the imminent scope of either CRL, or KiwiRail.

To introduce a higher ETCS level across the Auckland network, it should be noted that to do so:

- This change would require that all trains operating in the Auckland network be fitted with the ETCS systems, where currently only the AT Metro fleet has the ETCS system. Trains belonging to KiwiRail (freight, etc.), are not fitted with ETCS and it would not be possible to operate the Auckland network to the desired capacity without fitting the ETCS to their rolling stock
- Upgrades to ETCS Level 2 or Level 3 would require new communications infrastructure, including digital radio. This also falls under the remit of KiwiRail and is further conflicted with the lack of available frequency on the radio spectrum
- Auckland Transport, as part of its Track Access agreement, would be required to fund 80% of any re-signalling costs
- Modifications to the existing AT Metro Electrical Multiple Unit (EMU) fleet would be borne solely by Auckland Transport.

Safety barrier timing

The signal and barrier down-time that Mr. East objected to is a safety measure and works on the summation of a series of (safety-related) scenarios:

- These assumptions are exacerbated where there is a station on the approach to the level crossing such as at Morningside Drive (very close to the level crossing), and Woodward Road (Mt. Albert Station is almost at the limit for needing to interact with the crossing)
• These worst-case safety assumptions include the time it will take for a train to come to a stand at the platform, the time a train will stand at a platform (the dwell time), and the train acceleration time away from the platform towards the level crossing.

• If a train (AT Metro or KiwiRail Freight), were involved in an operational incident such as a ‘Signal Passed at Danger’ (SPAD) at a level crossing signal without the 30 second delay in place, then the train would likely move across the crossing whilst the crossing was open to road traffic – the result of this could be potentially catastrophic.

• The safe method of working for the level crossings in Auckland was upon agreement with the drivers’ representatives, rail safety case holders (KiwiRail, Transdev and CAF), and the NZTA.

• The safety standards applied in Europe where ETCS has been designed, would result in timing extension of barrier arm application if applied within the Auckland network.

• Changes to any track circuits for level crossing activation will require a variation of the safety cases of both KiwiRail and Transdev, and would need to be agreed by NZTA.

• AT does not set the specifications for the ‘control systems’, or the ‘train control systems’. These are governed by the safety licences of KiwiRail and Transdev.

**Departure Delays**

Departure delays after doors closed are largely the result of signaling delays. Once the doors are closed, the electrical traction loop is engaged. The electrical traction loop, as a safety requirement, will not engage while the door loop is open. AT will be introducing the CAF ETCS on the new fleet which will commence arriving late in 2019. A retrofittting programme of works to meet this will be done on the existing fleet - this programme will commence in early 2020. The CAF ETCS upgrade will enable CAF to reduce the door close time by 3.8 seconds (per stop).

Please do not hesitate to contact me if you require any further information.

Yours sincerely

Stacey van der Putten

Group Manager, Metro Services - Integrated Network
Auckland Airport is getting on with building the airport of the future

Tomorrow we’ll be announcing the kick-off of Northern Network, our latest infrastructure project. We’d like to share the project details with you ahead of that announcement.

Northern Network is a roading project that will upgrade the main entranceway into the airport, ensuring it continues to get people to, from and around the precinct efficiently and reliably as passenger numbers increase.

From August 2019 you’ll begin to see changes on the roads.

We’re widening George Bolt Memorial Drive and adding high occupancy vehicle lanes to enable public transport, along with shared paths for pedestrians and cyclists. We’re also adding new roads and intersections on or around George Bolt Memorial Drive and Tom Pearce Drive. A new one-way loop road will be built, allowing traffic to flow efficiently through a pick up/drop off zone at the International Terminal, before connecting back into George Bolt Memorial Drive.

Northern Network is expected to complete by mid-2021.

Auckland Airport is doing this work because by 2044 we’re predicting the airport will be the arrival or departure point for 40 million travellers per year – double the number using the airport today. This forecast growth cannot be accommodated without upgrades to our supporting infrastructure.

We know that any time there are roadworks on busy roads across Auckland it can affect traffic. We have traffic management plans in place and are focused on minimising the impact on road users as much as possible. There will be two sealed lanes open in both directions along George Bolt Memorial Drive, just as there is today. It’s essential our site workers are kept safe, so we are asking road users to take care. We also ask people take the roadworks into account and allow extra time when planning their trip to the airport.

From 25 July, you can keep up-to-date with the project by checking out airportofthefuture.co.nz.
Frequently asked questions:

What is Northern Network?

The Northern Network is a project to create a resilient roading network to ensure consistent, reliable journeys for people travelling to, from and around Auckland Airport.

This project includes:

- widening George Bolt Memorial Drive to add high occupancy vehicle lanes,
- Altitude Drive, a new road, providing additional roading capacity,
- a new loop road formed by a new exit road from the international terminal connecting with George Bolt Memorial Drive,
- two new traffic light-controlled intersections to improve traffic flows and allow pedestrians and cyclists to cross safely,
- enhanced pedestrian and shared pathway links,
- replacing and installing new underground utilities to create a resilient, future-proofed network able to support the wider terminal and runway developments.

Northern Network is one of eight major infrastructure developments Auckland Airport will begin over the next decade. These major projects form the foundation to deliver the airport of the future.

Alongside Northern Network, projects in the planning, design or construction stages are:

- the new domestic jet terminal,
- a new international arrivals’ area
• the taxiway and remote stand airfield development,
• the second runway,
• multi-storey carpark,
• a new cargo facility,
• rejuvenation of the current domestic terminal,
• reconfiguration of the international forecourt pick-up and drop-off.

Why are you building Northern Network?

George Bolt Memorial Drive is one of the hardest working roads in Auckland. During seasonal peaks, more than 95,000 vehicles travel along it every day. And that number is expected to grow. By 2044 Auckland Airport will be the arrival or departure point for 40 million travellers and 260,000 flights a year – double the number of travellers currently using Auckland Airport. This forecast growth cannot be accommodated without upgrades to our supporting networks, such as roads.

By creating high occupancy vehicle lanes to enable public transport, along with a one-way loop road allowing traffic to pass efficiently through the international terminal, we are future-proofing our transport network. Other new roads, such as Altitude Drive, will provide additional roading capacity, allowing terminal bound traffic greater journey time reliability.

Below ground, gas, electricity and water mains will be replaced, boosting capacity and providing contingency and resilience to the utilities network. Ducting will be added to ensure future utility and technology demands can be met.

The combination of an efficient, reliable transport system and a resilient, high-capacity utilities network means Northern Network provides the backbone to supporting future airport development.

When is it starting and finishing?

Work is beginning in August 2019. While most of the new roads and intersections will be finished by the end of 2020, the intersection of George Bolt Memorial Drive and Tom Pearce drive is more complex and construction work on this part of the project is scheduled to be completed in the middle of 2021.

Will it make people late to work/miss their flight?

We recognise roadworks on busy Auckland streets can be a nuisance for drivers and can affect traffic, and we are focused on minimising the impact as much as possible.

The project team is making every effort to maintain capacity, so during the widening of George Bolt Memorial Drive two sealed lanes will be open in both directions – much the same as it is now.

With the completion of the heavy traffic route, Nixon Road, in 2018 and the introduction of traffic lights at both the Jimmy Ward and Puhinui Road roundabouts, we have added resilience into the network, with increased ability to manage traffic flows. This allows us to prioritise traffic flows during times of peak traffic.
It's essential we ensure the safety of our site staff and the public, so we are asking road users to take care when travelling through the construction zone. This, along with the need to temporarily reconfigure lanes during construction and road widening, means this part of their journey to the airport may take slightly longer.

We recommend people take this into account when planning their trip to the airport.

For more information, please follow these links, which will be available from 5am Thursday 25 July, when the media embargo lifts:

- [www.aucklandairport.co.nz/information/stay-in-the-know](http://www.aucklandairport.co.nz/information/stay-in-the-know)
- [www.aucklandairport.co.nz/auckland-airport-app](http://www.aucklandairport.co.nz/auckland-airport-app)
- [www.airportofthefuture.co.nz](http://www.airportofthefuture.co.nz)