I hereby give notice that a hearing by commissioners will be held on:

Date:	**Monday 5, Friday 9 & Monday 12 October 2020 Friday 16 & Monday 19 October 2020 (overflow days)**
Time:	**9.30am**
Meeting Room:	**Council Chambers**
Venue:	**Level 1, Orewa Service Centre, 50 Centreway Road, Orewa**

APPLICATION MATERIAL

VOLUME ONE

PRIVATE PLAN CHANGE 40

CLAYDEN ROAD, WARKWORTH

COMMISSIONERS

Chairperson	**Les Simmons**
Commissioners	**Bridget Gilbert**
	Michael Parsonson

Wendy Stephenson
HEARINGS ADVISOR

Telephone: 09 890 8159 or 021 708 832
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Website: www.aucklandcouncil.govt.nz

Note: The reports contained within this document are for consideration and should not be construed as a decision of Council. Should commissioners require further information relating to any reports, please contact the hearings advisor.

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PRIVATE PLAN CHANGE 40, CLAYDEN ROAD, WARKWORTH

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ATTACHMENT A

PLAN CHANGE REQUEST

PART A – AMENDMENT TO AUCKLAND UNITARY PLAN GIS VIEWER (MAPS)

Map 1 – Proposed Rezoning of IXXX Warkworth Clayden Road Precinct

Notes:

1. The proposed change to the viewer (maps) has not been made.
2. The map is shown to place the changes in context.

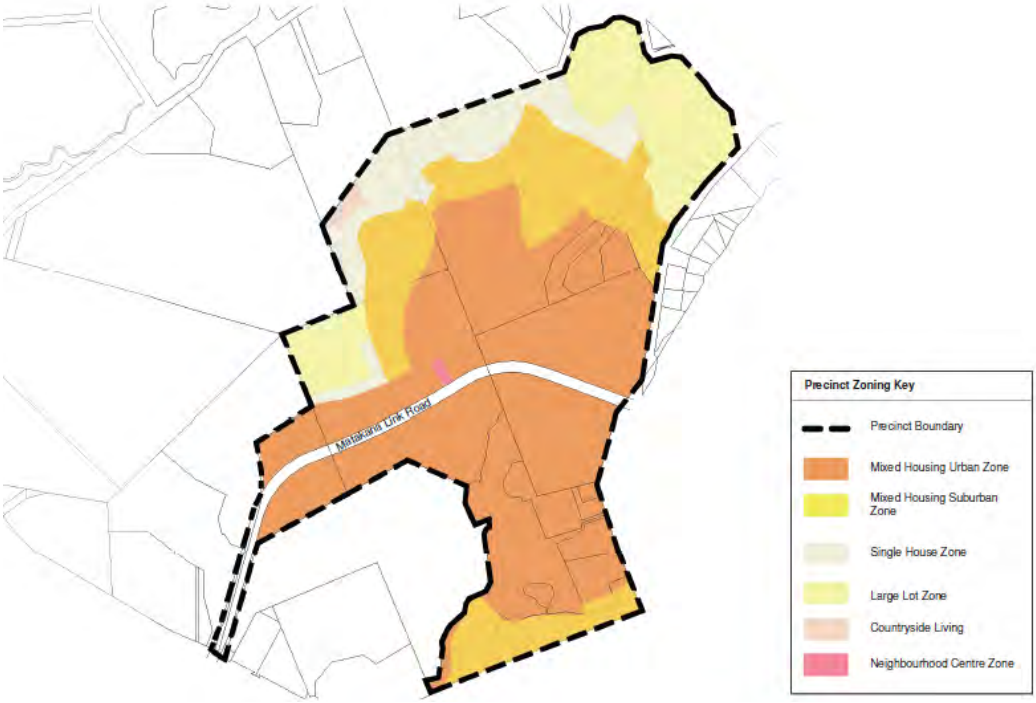
Map number:	1
Geographic area:	North
Current zones:	Future Urban zone and Light Industry zone
Proposed zones:	Residential – Mixed Housing: Urban
	Residential – Mixed Housing: Suburban
	Residential – Single House
	Rural Countryside Living

PART A AMENDMENT TO THE MAPS

ZONING

That the land currently zoned Future Urban be rezoned Mixed housing Urban, Mixed Housing Suburban, Single House and Large Lot residential as shown on the following zoning plan

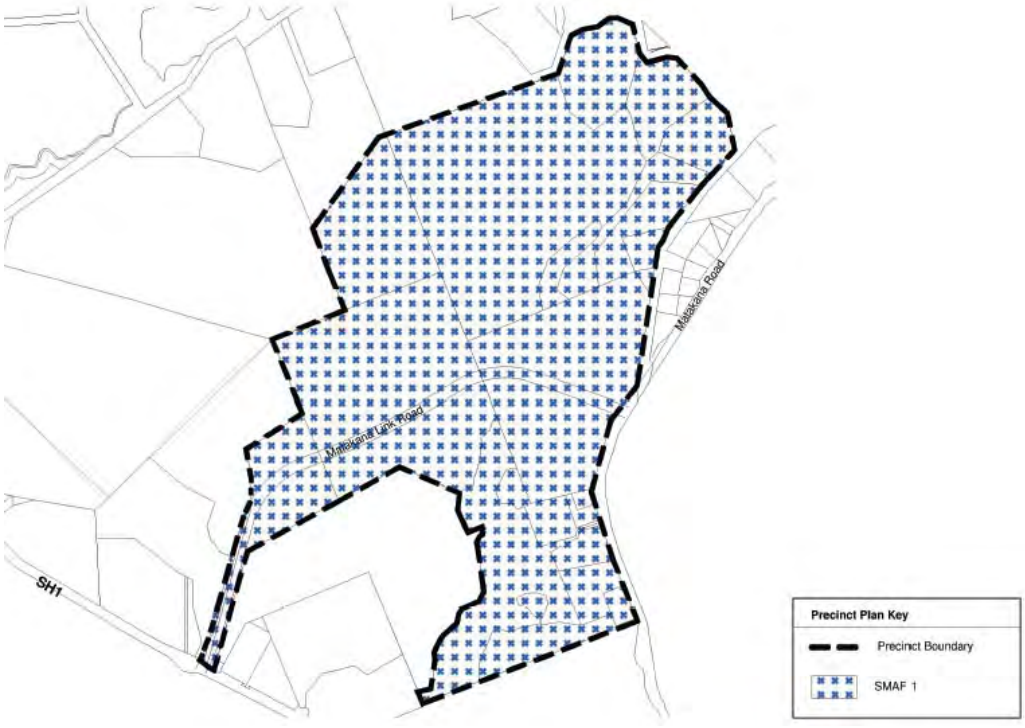
Map 1 - Zoning



CONTROLS

The land shown below be identified as “SMAF1” in the ‘Controls’ map.

May 2 – Control: SMAF1



PRECINCTS

The land shown below be identified as ‘Warkworth: Clayden Rise’ in the ‘Precinct’ Map.

Map 3 –Precinct Boundary of IXXX Warkworth Clayden Road Precinct

PART B AMENDMENT TO IXXX CLAYDEN ROAD PRECINCT

Insert the following new precinct provisions:

IXXX Warkworth Clayden Road

IXXX.1 Precinct description

The Warkworth Clayden Road Precinct is located between State Highway 1 and Matakana Road north of the Warkworth Showgrounds. It is intended to assist in providing for growth within the Warkworth area. The planned Sandspit Link Road creates good connectivity to this part of Warkworth with direct connections to State Highway 1 and the new Highway to the south.

A range of zonings apply within the Precinct. Employment opportunities are retained in the Light Industrial zone to the west. More intensive residential opportunity is created around the Sandspit Link Road and the future public transport options this offers with direct access to and views across the Warkworth Showgrounds. Medium density housing is provided in the northern area of the Precinct. Low density 'Single House' zoning is provided on the Rural Urban Boundary fringe with particular controls applying along the interface between the Countryside Living zone and the Single House zone. A small area of land is zoned 'Country side Living'. These controls are designed to create a lower density interface and a landscape buffer between the urban and rural areas.

Provision is made for a local centre designed to provide services to the Warkworth North community and yet be complementary to the Warkworth town centre.

Special provision is made for the northern arena, a planned indoor recreational facility.

IXXX.2 Objectives

The following objectives apply in addition to the relevant overlay, Auckland-wide, and zone objectives.

(1) Provide for residential urban growth within the northern Warkworth area.
(2) Apply urban zoning efficiently to protect against future urban expansion into Warkworth's valued rural hinterland.
(3) Enhance the character of the rural – urban interface through limitations on housing density and enhanced landscaping.
(4) Create an accessible residential development with vehicle and cycleway connections.
(5) Manage reverse sensitivity issues at the interface between the residential and light industrial land.

IXXX.3 Policies

The following policies apply in addition to the relevant overlay, Auckland-wide, and zone policies.

(1) Provide a range of diverse zones and therefore housing options to help meet community needs.
(2) Locate high density housing adjacent to the Sandspit Link Road and overlooking the Warkworth showgrounds and Mahurangi tributaries and supporting public transport.
(3) Create low density housing along the urban-rural boundary to form a transition from urban to rural uses.

(4) Create the opportunity for local shops to service the neighbourhood, by zoning a suitable area of land for a "neighbourhood centre".
(5) Create an intensively landscaped interface along the rural urban boundary.
(6) Prevent building development on the special landscape areas shown on Precinct Plan 1 and incentivise the planting of these landscape elements.
(7) Enable extensive active walking and cycling network and futureproof key walkway/cycleway routes and vest these key routes in the Council.
(8) Create the opportunity for a major indoor recreation facility adjacent to the Warkworth showgrounds.
(9) Create a landscaped buffer and require "no complaints covenants" on the properties adjacent to the industrial zoned land so as to manage reverse sensitivity issues.
(10) Limit direct access from individual sites on to the Sandspit Link Road to pedestrian and cycle access only.
(11) Manage the effects of stormwater on water quality in streams through riparian margin planting, on site detention and retention and protection of streams shown on Precinct Plan IXXX.9.1 by way of land covenant at the time of subdivision.

IXXX.4 Activity table

The provisions in any relevant overlays, Auckland-wide provisions and zone apply in this precinct unless otherwise specified below.

Table IXXX.4 Activity tables specify the activity status of land use, development and subdivision activities in the Warkworth North 1 Precinct pursuant to sections 9(2),9(3) and 11 of the Resource Management Act 1991 or any combination of all of these sections where relevant.

Table IXXX.4.1 Mixed Housing Urban

Activity		**Activity status**
Use		
Community		
(A1)	Recreation Facility in the location shown on Precinct Plan 1 as "Special Use Overlay – Sporting Facility"	RD
Development		
(A2)	Buildings within the "Special Subdivision Control Area" that do not comply with standard IXXX.9.1.	D
(A3)	Any building or structure (excluding fencing less than 2m in height) within the Special Landscape Area.	NC
(A4)	Reclamation of streams other than those shown on Precinct Plan IXXX.9.2	RD

(A5)	Reclamation of streams shown on Precinct Plan IXXX.9.2	NC
(A6)	Removal of any native vegetation shown as "Covenanted Area" or "significant bush" on Precinct Plan IXXX9.2, except this shall not preclude: (i) removal of deceased or damaged limbs or trees that could create a fall hazard; (ii) clearing of bush up to 2m wide to create public tracks.	NC
Subdivision		
(A7)	Vacant site subdivision sites (either less than 1ha or 1ha and greater) complying with standard E38.8.2.3 and generally in accordance with Precinct Plan I1XXX.4.1	RD
(A8)	Any subdivision in the special density area shown in Precinct Plan 1 that does not meet the minimum site size requirements in Rule IXXX.4.1.	NC
(A9)	Any subdivision that is not in general accordance with Precinct Plan 1 Rule I1XXX.4.1.	NC

IXXX.5 Notification

(1) Any application for resource consent for a restricted discretionary activity listed under IXXX.4 will be considered without public or limited notification or the need to obtain written approval from affected parties unless the Council decides that special circumstances exist under sections 95A(9) or 95B(10) of the Resource Management Act 1991.

IXXX.6 Standards

The overlay, Auckland-wide, and zone standards apply in this precinct unless otherwise specified below:

IXXX.6.1 Special Height Limit

(1) The maximum height limit in the Mixed Housing Urban zone in the area shown as "special height limit 1" on Precinct Plan 1 (IXXX.9.1) shall be the same as rule H.4.6.4 'Building Height' in the Mixed Housing Suburban zone.
(2) The maximum height limit in the Single House zone in the area shown as "special height limit 2" on Precinct Plan 1 (IXXX.9.1) shall be 5m for any building that is within 10m but further than 6m from the Rural Urban Boundary.

IXXX.6.2 Special Yard

(1) All buildings on sites subject to the "special yard" control shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1 must be set back from the Rural Urban Boundary for a minimum distance of 6m. This rule replaces any other yard applying within 6m of the Rural Urban Boundary.
(2) All land within the "special yard" shown on Precinct Plan 1 shall be landscaped. A minimum of 50% of the area shall be planted in native trees that will attain a height of at least 5m when mature.

IXXX.6.3 Special Landscape Yard

(1) No building or structure shall be built within the 'Special Landscape Yard shown on Precinct Plan 1. This rule does not apply to fencing less than 2m in height.
(2) Fifty percent of the 'Special Landscape Yard shall be planted with native trees that achieve a height of 5m or more on maturity.

IXXX.6.4 Limited Access

(1) Road junctions with the Sandspit Link Road servicing the precinct, shall be limited to three, to be located in the general location identified as Access Points onto Sandspit Link Road on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1
(2) No vehicular access from any property shall be allowed directly onto the Sandspit Link Road for the frontage shown indicatively on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1

IXXX.6.5 Subdivision Standards

(1) The minimum net site area in the area shown as "Special Subdivision Control" on Precinct Plan 1 shall be 1,000m² net site area.

IXXX.6.6 Noise measurement line

(1) For the purposes of measuring consented noise levels for the Warkworth Heliport on 38 Goatley Road, the "nearest residential boundary for noise measurement within the precinct shall be taken as the "noise measurement line" shown on Precinct Plan 1. The condition shall not apply to the residential sites west of the noise measurement line.

IXXX.6.7 Landscape Screening Area

(1) A 6m landscaped screening area in the location shown on Precinct Plan 1 shall be provided. This area shall be intensively planted and maintained with native trees and shrubs. The 6m distance shall be measured from the zone boundary. This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m^2.

IXXX6.8 High Contaminant Yielding Materials

The total area of high contaminant roofing, spouting, cladding or external architectural features must not exceed 5m².

IXXX.7 Assessment – restricted discretionary activities

IXXX.7.1 Matters of discretion

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary activity resource consent application, in addition to the matters specified for the relevant restricted discretionary activities in the overlay, Auckland wide or zone provisions:

(1) Vacant lot subdivision
  (a) The matters of discretion listed at E38.12.1(7)
  (b) The location of the facility
  (c) Building scale
  (d) Landscaping
  (e) Transport including Access and Parking

(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1:

  (a) Building scale
  (b) Landscaping
  (c) Parking
  (d) Interface with residential development
  (e) Interface with Warkworth Showgrounds

(3) Modification or reclamation of streams

  (a) Stream ecology
  (b) Base flow
  (c) Management of water flow
  (d) Offset mitigation
  (e) Stream bed level
  (f) Riparian planting
  (g) Overland flow.
  (h) Providing for growth and development

IXXX.7.2 Assessment criteria

The Council will consider the relevant policies identified below for controlled activities, in addition to the assessment criteria or policies specified for assessment of the relevant controlled activities in the zone, Auckland wide or overlay provisions:

(1) Vacant Lot Subdivision

(a) In addition to the matters of discretion listed at E38.12.2(7), the extent to which:

  (i) The proposal contributes to the implementation of policies IXXX.3(1)-(5).
  (ii) Subdivision layout is consistent with Precinct Plans 2 and 3.
  (iii) Intersections to local roads accessing the Matakana Link Road are limited to the locations identified on Precinct Plan 1.
  (iv) The eastern access to Matakana Link Road is confined to a 'left-in/left-out' only road connection.
  (v) Subdivision layout meets the minimum lot sizes of Rule I1XXX.6.5 (special subdivision control).
  (vi) Subdivision layout is designed to ensure that no sites require vehicular access from the Matakana Link Road. Sites shall be serviced from local roads, laneways JOAL's, or other suitable mechanisms.

(vii) Sites that include streams shown on Precinct Plan 2, have complying practical building platforms clear of identified stream areas.

(viii) Earthworks are managed in such a way as to provide high quality erosion and sediment control measures.

(ix) For the area identified on Precinct Plan 1 as "no complaints covenant area" a no complaints covenant is registered against any title acknowledging the location is adjacent to an industrial area and a consented heliport and that the resident will not complain about permitted activity meeting the Auckland wide standards, or helicopter activity operating under and complying with the conditions of consent of Resource Consent XXXX.

(x) All sites that contain a special yard under rule IXXX.6.1 provide a covenant which requires 50% of the yard area to be planted in native trees that will attain a height of at least 5m when mature, and the covenant provides for the maintenance and protection of this planting in perpetuity.

(xi) The erosion and sediment control measures shall provide for and include use of the stormwater management pond and establishment of the wetland, shown in Precinct Plan 1.

(xii) The greenways shown on Precinct Plan IXXX.9.1 are vested in the Council at the time of subdivision.

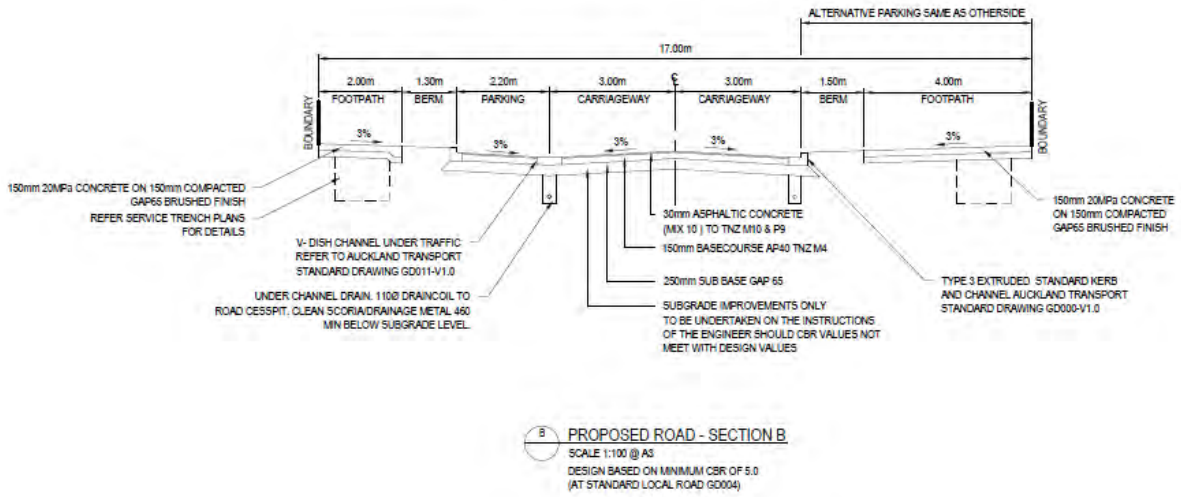
(xiii) The staging of any part of the precinct relying on access to the MLR is such that completed homes are not occupied prior to the MLR becoming operational

(xiv) A walkway network, generally in accordance with Precinct Plan 3 IXXX9.3 including roads and open space area, is created to ensure an interconnected neighbourhood. This includes connections to the footpaths and known bus stops on Matakana Link Road.

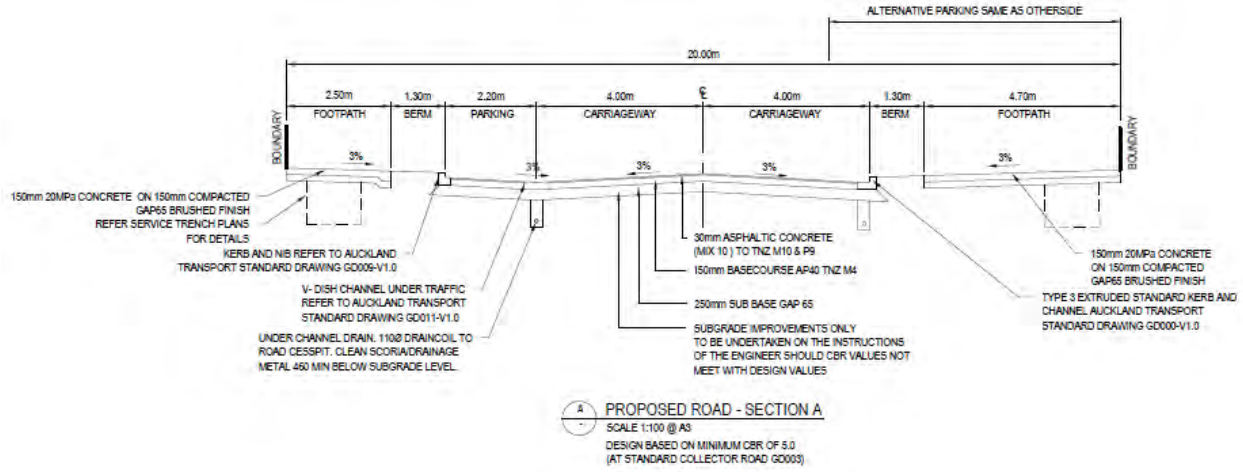
(xv) Cycling facilities are provided on collector roads to integrate with cycling facilities on the MLR, and to generally meet the typical road cross-section shown in the diagram.

(xvi) Local and collector roads shown on Precinct Plan IXXX9.3 are designed to generally meet the typical cross-sections shown below.

Typical road cross-section: Local road



Typical road cross-section: Collector road



(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan

The extent to which:

(a) The indoor recreation facility is located within the land area identified on Precinct Plan 1.
(b) The height of the building complies with zonal height.
(c) Landscaping, particularly front yard and the yard adjoining residential zoned land provides a reasonable amenity to the neighbourhood.
(d) Provision is made for transport related matters including access and adequate parking to service the facility, and hours of operation.
(e) The interface with the Warkworth Showgrounds provides a good built and landscaped amenity, and a degree of visual overlooking of the showgrounds.

(3) Stream modification or reclamation

The extent to which:

(a) Streams can be retained through re-alignment and raising of stream beds to integrate with land contouring;
(b) Ten metre riparian native planting will be provided along each side of any re-aligned stream;
(c) Where streams are proposed to be reclaimed with no vertical or horizontal re-alignment, the degree and extent of off-setting, and compensation;
(d) Management of water flow is achieved to prevent flooding of residential sites;
(e) Base flows to the head of retained streams affected by any reclamation of a permanent stream are maintained;
(f) Reclamation is required to achieve the minimum road grade requirements.
(g) Development potential will be lost without reclamation works, balanced against the ecological value of the stream to be reclaimed.
(h) The ecological classification of the underlying stream is maintained.
(i) The 'effects management hierarchy' (avoidance, remediation, mitigation, offset) has been applied.

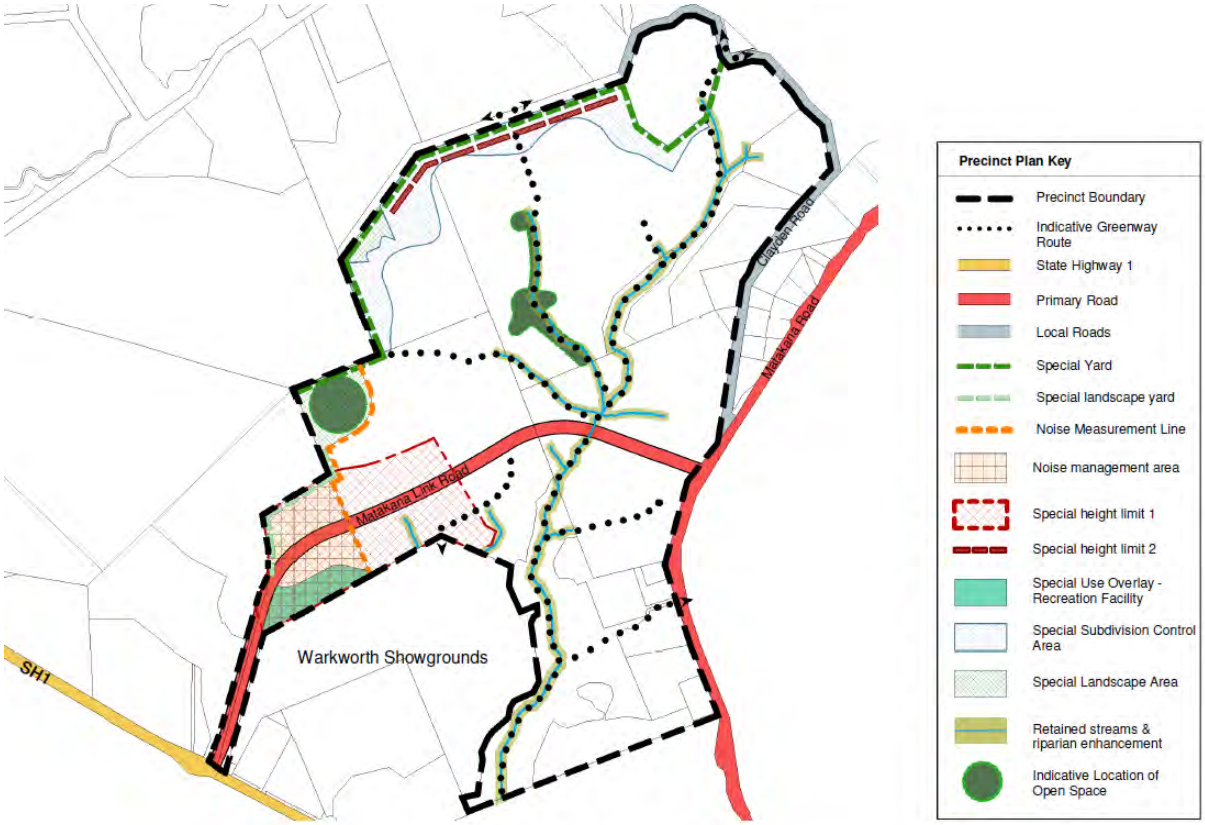
(j) The degree of mitigation or offset where changes to the vertical and horizontal alignment are proposed.

IXXX.8 Special information requirements

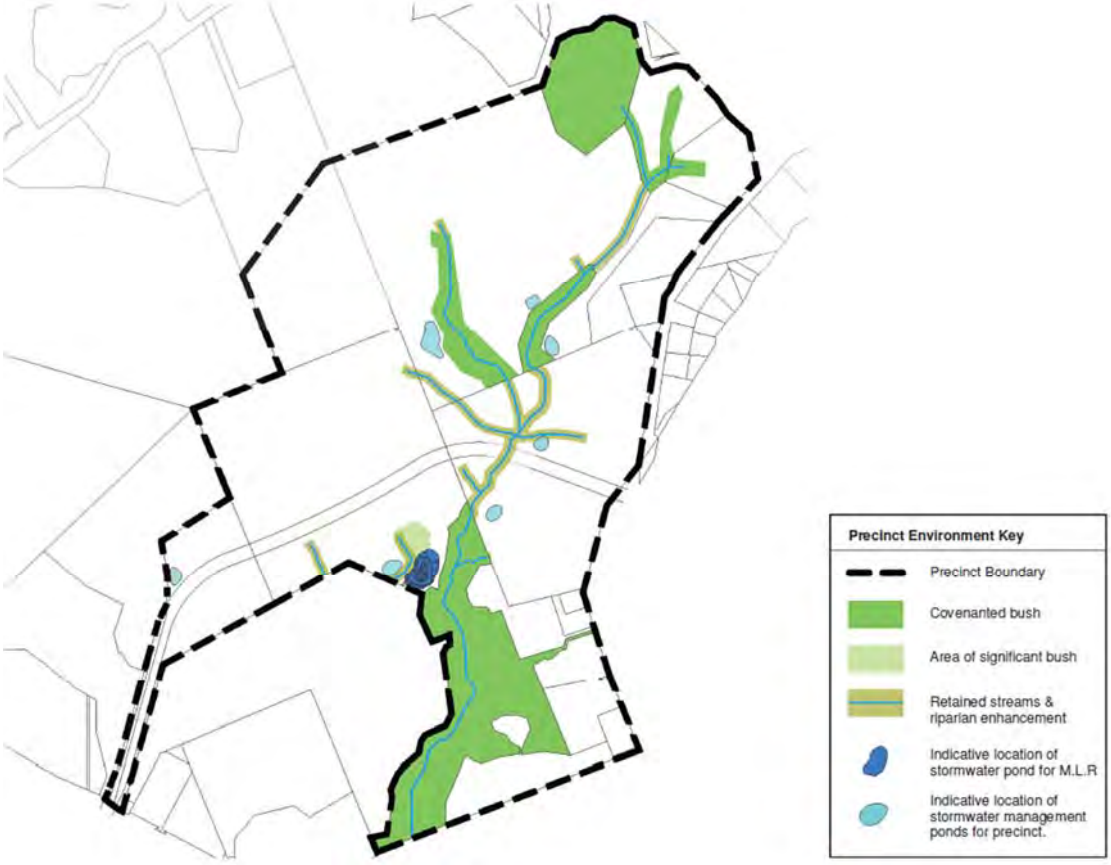
The special information requirements in the underlying zone and Auckland-wide provisions apply in this precinct, together with the following:

There are no special information requirements

IXXX.9.1 Precinct Plan 1:



IXXX.9.2 Precinct Plan 2



IXXX9.3 Precinct Plan 3

ATTACHMENT A1

PLAN CHANGE REQUEST (revised post notification)

PRIVATE PLAN CHANGE 40 : MODIFIED REQUEST : 26 August 2020 v3

PART A – AMENDMENT TO AUCKLAND UNITARY PLAN GIS VIEWER (MAPS)

Map 1 – Proposed ~~Rez~~ Zoning of IXXX Warkworth Clayden Road Precinct

Notes:

1. The proposed change to the viewer (maps) has not been made.
2. The map is shown to place the changes in context.

Map number:	1
Geographic area:	North
Current zones:	Future Urban zone and Business Light Industry zone
Proposed zones:	Residential – Mixed Housing: Urban
	Residential – Mixed Housing: Suburban
	Residential – Single House
	Residential – Large Lot Zone
	Rural Countryside Living
	Business – Neighbourhood Centre Zone
	Business – Light Industry

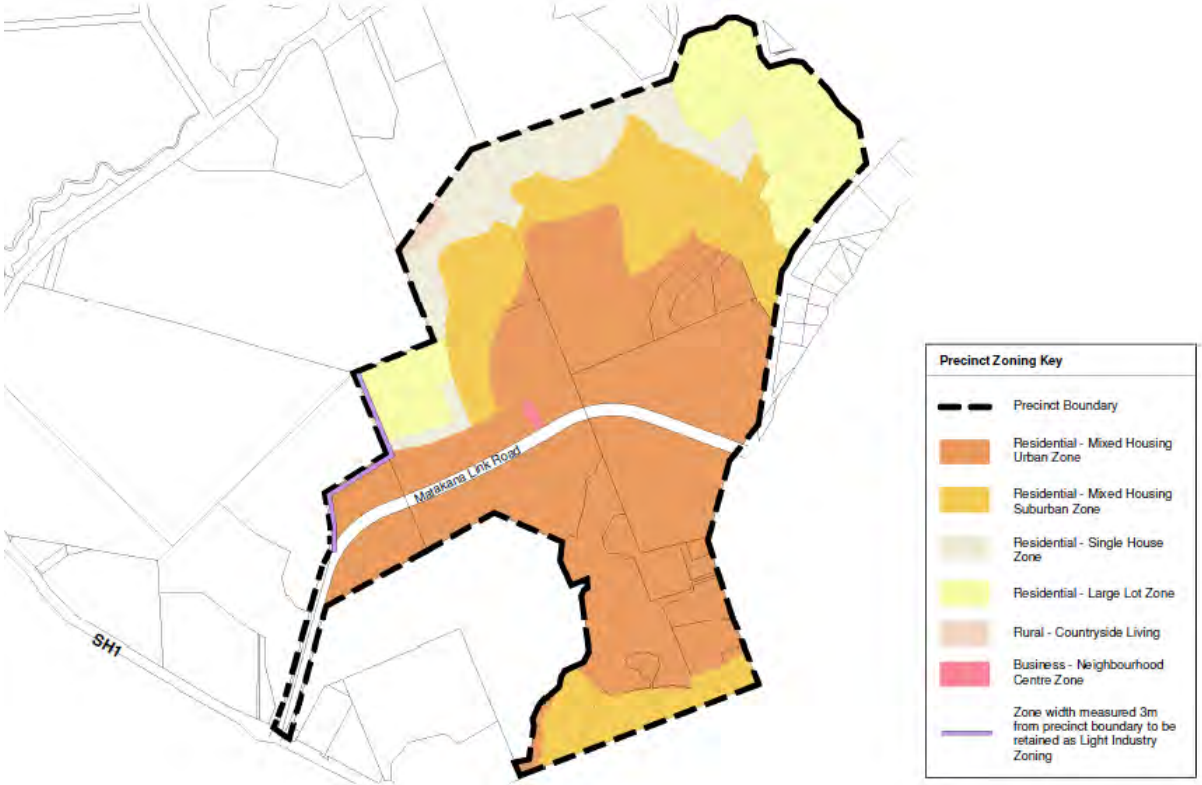
PART A AMENDMENT TO THE MAPS

ZONING

That the land currently zoned Future Urban Zone be rezoned Residential - Mixed Housing Urban, Residential - Mixed Housing Suburban, Residential - Single House, Residential - Large Lot Zone, Rural – Countryside Living Zone and Business-Neighbourhood Centre Zone as shown on the following zoning plan.

That the land currently zoned Business- Light Industry Zone be substantially rezoned Residential – Mixed Housing Urban, with the interface area retained as Light Industry, as shown on the following zoning plan.

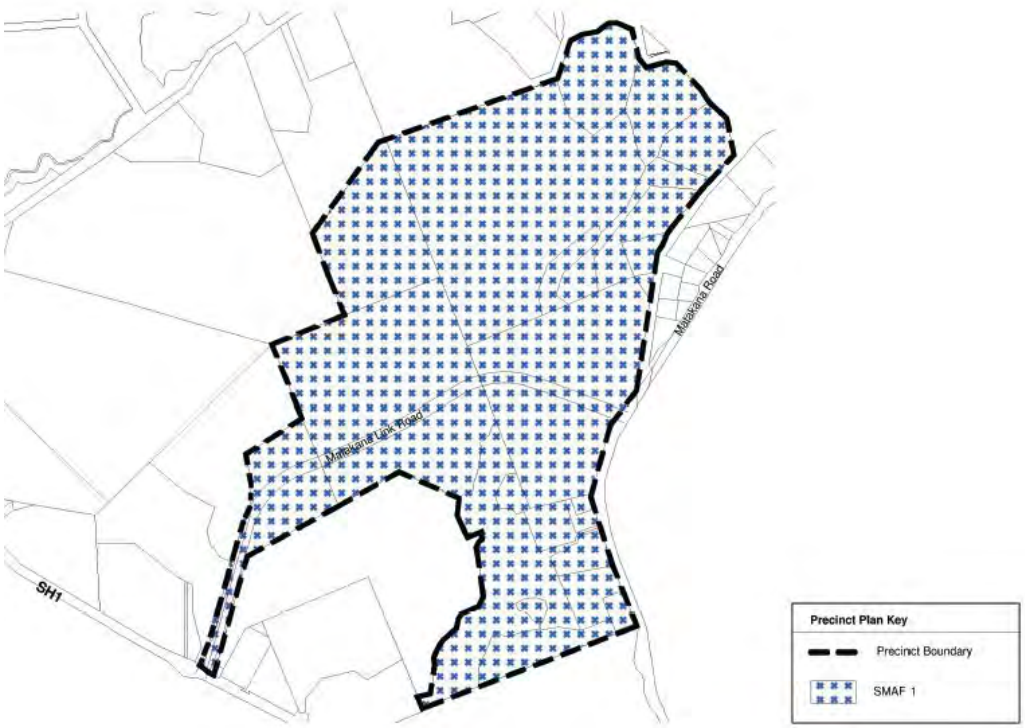
Map 1 - Zoning


Matakana Link Road
SH1
Precinct Zoning Key
Precinct Boundary
Residential - Mixed Housing Urban Zone
Residential - Mixed Housing Suburban Zone
Residential - Single House Zone
Residential - Large Lot Zone
Rural - Countryside Living
Business - Neighbourhood Centre Zone
Zone width measured 3m from precinct boundary to be retained as Light Industry Zoning

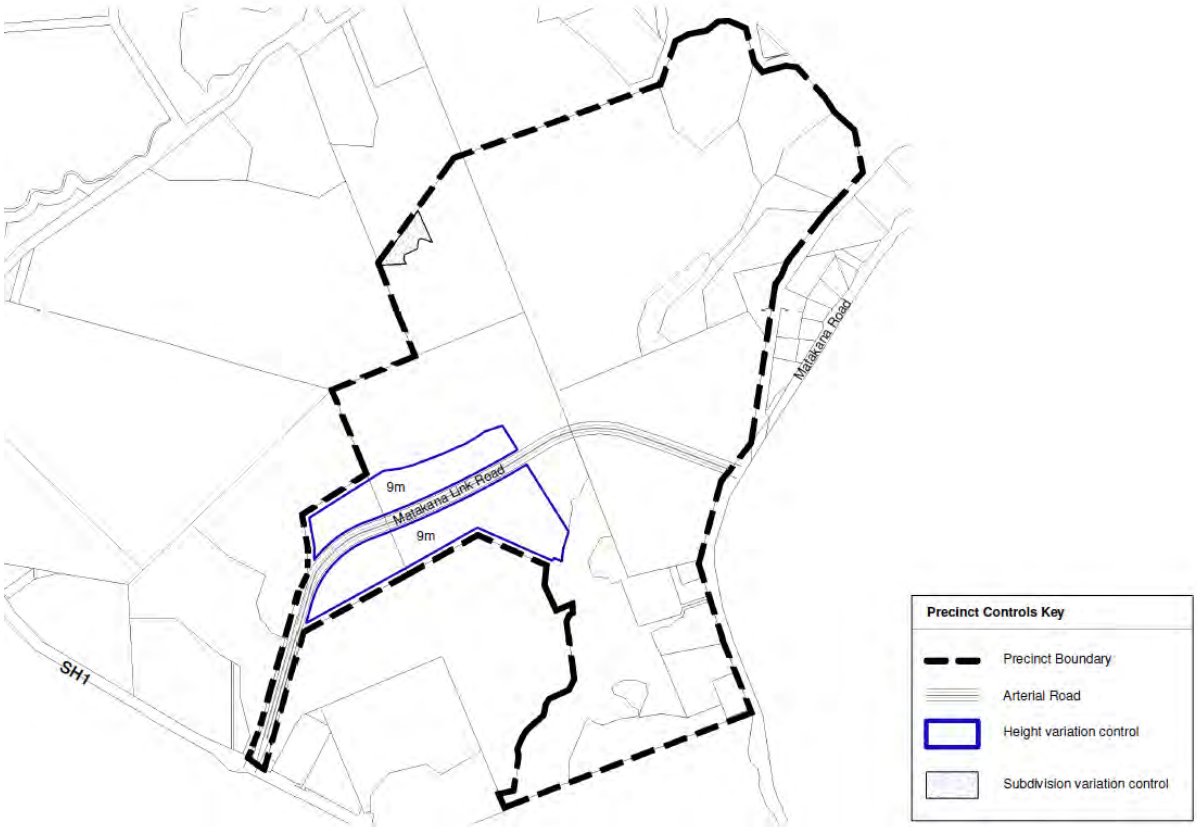
CONTROLS

The land shown below be identified as “SMAF1” in the ‘Controls’ map.

Map 2 – Control: SMAF1



Map 2 – Control: Height Variation Control, Subdivision Variation Control, Arterial Roads



PRECINCTS

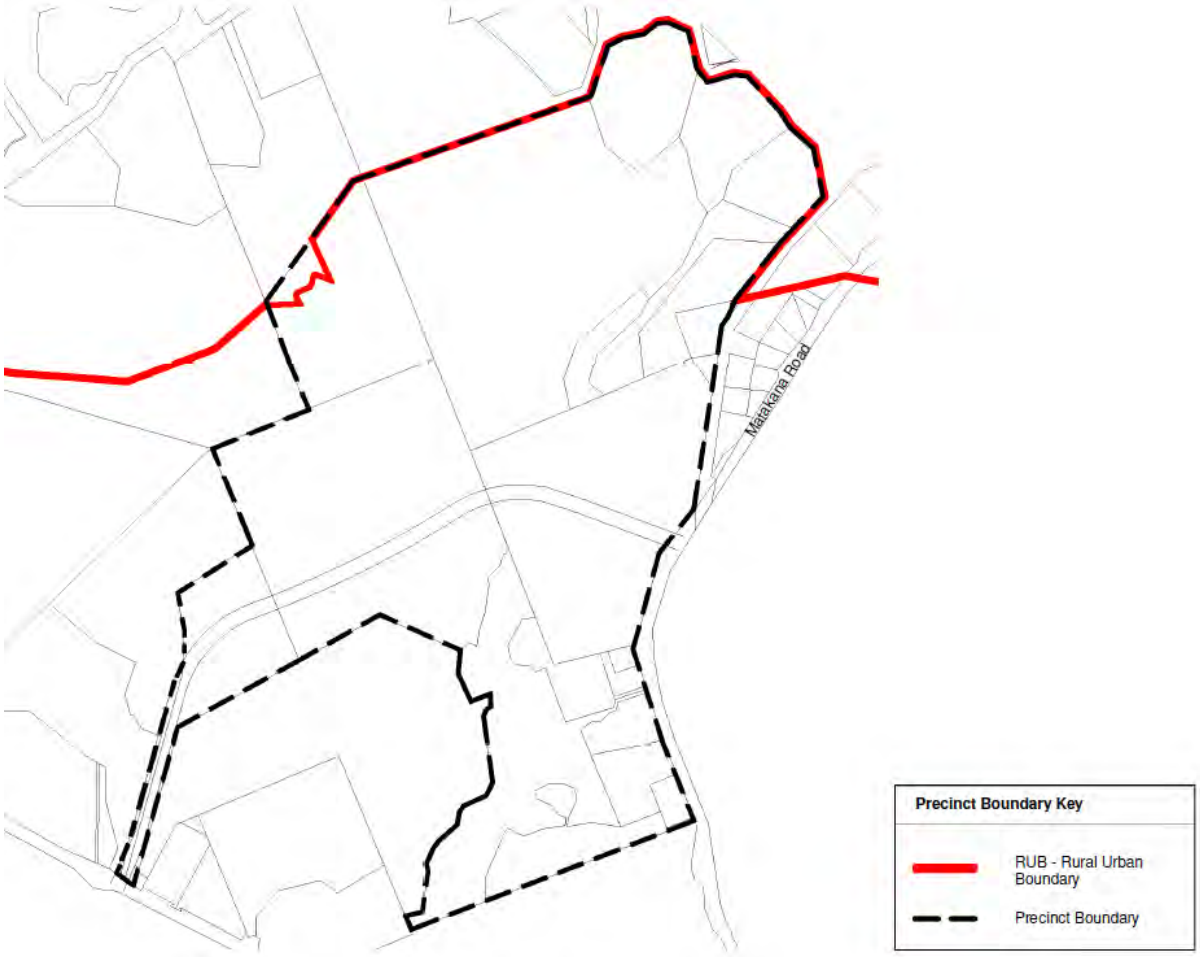
The land shown below be identified as 'Warkworth: Clayden Road' in the 'Precinct' Map.

Map 3 –Precinct Boundary of IXXX Warkworth Clayden Road Precinct

RURAL URBAN BOUNDARY

The location of the Rural Urban Boundary on the planning maps be modified as shown below.

Map 4 –Rural Urban Boundary



PART B AMENDMENT TO IXXX WARKWORTH CLAYDEN ROAD PRECINCT

Insert the following new precinct provisions:

IXXX Warkworth Clayden Road

IXXX.1 Precinct description

The Warkworth Clayden Road Precinct assists in providing for growth within the Warkworth area. The land slopes up to the north to adjoin the Rural Urban Boundary. The topography of the site with the back drop of Dome Valley and key bush clad streams, creates landscape and environmental benefits to the precinct. The development of this urban zoned land will create a range of housing types, respond to the topography of the precinct, and result in enhanced landscape and environmental outcomes. The planned ~~Sandspit~~ Matakana Link Road creates good connectivity to this part of Warkworth with direct connections to State Highway 1 and the new Highway to the south.

A range of zonings apply within the Precinct. The zoning of land within this Warkworth Clayden Road Precinct is Rural – Countryside Living, Residential - Large Lot, Residential - Single House, Residential - Mixed Housing Suburban, Residential - Mixed Housing Urban, and Business - Neighbourhood Centre zones. A small portion of land within the Precinct will be retained as Business – Light Industry zoned land to enable a 3-metre buffer to the Business – Light Industry zoned land to the north west. Retaining a small portion of land as Business – Light Industry is to assist in managing reverse sensitivity and other effects that may arise as a result of the adjacent Business zoned land. ~~Employment opportunities are retained in the Light Industrial zone to the west.~~ The Residential - Mixed Housing Urban zone applies to the more intensive residential opportunity created around the ~~Sandspit~~ Matakana Link Road and the future public transport options this offers with direct access to and views across the Warkworth Showgrounds. Residential - Mixed Housing Suburban zone medium density housing is provided in the northern area of the Precinct. Low density Residential - Single House zoning is provided on the Rural Urban Boundary fringe with particular controls applying along the interface between the Countryside Living zone and the Residential - Single House zone and the Rural – Countryside Living zone, where rural character is to be maintained and lower levels of residential intensification enabled. A small area of land is zoned Residential - Large Lot and Rural - Countryside Living. These zones and controls are designed to create a lower density interface and a landscape buffer between the urban and rural areas.

Provision is made for a ~~local~~ neighbourhood centre designed to provide services to the northern Warkworth community and yet be complementary to the Warkworth town centre.

Provision is made for a greenway network providing a network of tracks and walkways along streams and connecting to the broader network outside the precinct.

Special provision is made for the northern arena, a planned ~~indoor~~ recreational facility.

All relevant overlay, Auckland-wide and zone provisions apply in this precinct unless otherwise specified below.

IXXX.2 Objectives

~~The following objectives apply in addition to the relevant overlay, Auckland-wide, and zone objectives.~~

(1) Provide for residential urban growth within the northern Warkworth area.
(2) Apply urban zoning efficiently to protect against future urban expansion into Warkworth's valued rural hinterland.
(3) Enhance the character of the rural – urban interface through limitations in key locations on housing density, building location, height and enhanced landscaping.
(4) Create an accessible residential development with safe and integrated vehicle, walking and cycleway connections while supporting the safety and efficiency of the surrounding transport network.
(5) ~~Manage reverse sensitivity issues at the interface between the residential and light industrial land.~~ Provide an appropriate interface between the existing light industry zone and the new residential areas to manage reverse sensitivity effects.
(6) Subdivision and development is coordinated with the delivery of the transport, infrastructure and services required to provide for development within the precinct and connect it to the wider transport network.
(7) Subdivision and development recognises and provides for Matakana Link Road and the strategic transport connection this makes through the Warkworth Clayden Road Precinct which support growth in the wider Warkworth area.
(8) Subdivision and development within the precinct occurs in a manner which remedies or mitigates adverse effects on the safe and efficient operation of transport infrastructure and services.
(9) Subdivision and development within the precinct provides for the protection and enhancement of identified landscape features within the Warkworth Clayden Road Precinct.
(10) Provide amenity for, and manage effects from operations within the industrial area to the north west of the Warkworth Clayden Road Precinct including heliport operations on, activities sensitive to noise within the area identified on the Precinct Plan IXXX.9.1.

All relevant overlay, Auckland-wide and zone objectives apply in this precinct in addition to those specified above.

IXXX.3 Policies

~~The following policies apply in addition to the relevant overlay, Auckland-wide, and zone policies.~~

(1) Provide a range of diverse residential zones and therefore housing options to help meet community needs.
(2) Locate ~~high-density~~ more intensive housing adjacent to ~~the~~ ~~Sandspit~~ Matakana Link Road and overlooking the Warkworth showgrounds and Mahurangi tributaries and supporting public transport.
(3) Create low density housing along the ~~urban~~ rural - urban boundary to form a transition from urban to rural uses.
(4) Create the opportunity for local shops to service the neighbourhood, by zoning a suitable area of land for a ~~"~~neighbourhood centre~~"~~.
(5) Create an intensively landscaped interface along the rural urban boundary.
(6) Protect landscape values by preventing ~~Prevent~~ building ~~development~~ on the special landscape areas shown on Precinct Plan 1 and requiring ~~incentivise the~~ planting of these landscape elements, and applying the height variation control to limit building heights in sensitive locations.

(7) Enable extensive active walking and cycling network and futureproof key walkway/cycleway routes and vest these key routes in the Council.
(8) Create the opportunity for a major ~~indoor~~ recreation facility adjacent to the Warkworth showgrounds.
(9) Create a landscaped buffer and require ~~"~~no complaints covenants~~"~~ on the properties adjacent to the industrial zoned land so as to manage reverse sensitivity issues.
(10) Avoid direct vehicle access from individual sites on to ~~the Sandspit~~ Matakana Link Road, while allowing direct ~~to~~ pedestrian and cycle access.
(11) Manage the effects of stormwater on water quality in streams through riparian margin planting, and at source hydrological mitigation to enhance in-stream values and avoid stream bank erosion. ~~on site detention and retention and protection of streams shown on Precinct Plan IXXX.9.1 by way of land covenant at the time of subdivision.~~
(12) Require subdivision and development to provide transport infrastructure within the precinct and to provide connections to adjoining land in accordance with Precinct Plan 3.
(13) Mitigate the adverse effects of stormwater runoff from all impervious areas in the precinct through a treatment train approach which assists in maintaining high water quality and enhances poor water quality.
(14) Require subdivision and development to be co-ordinated with the provision of transport infrastructure and services identified in the precinct plan.
(15) Require subdivision and development to protect permanent streams and identified intermittent streams on Precinct Plan 2.
(16) Enhance protected streams on Precinct Plan 2 through native planted riparian setbacks.
(17) Require subdivision and development to protect the landscape values of the ridgeline of the knoll adjacent to the north western boundary of the precinct
(18) Require "no complaints covenants" on the properties adjacent to the Warkworth Show grounds so as to manage potential reverse sensitivity issues regarding noise and lighting
(19). Create a special yard buffer on the properties adjacent to Tomlinsons Bush so as to manage the interface between the bush and adjacent residential land.
(20) Manage the design and construction of residential buildings within area identified on the Precinct Plan IXXX.9.1. so as to mitigate the adverse potential noise effects and manage potential reverse sensitivity effects on operations within the industrial area to the north west of the Warkworth Clayden Road Precinct including heliport operations.

All relevant overlay, Auckland-wide and zone policies apply in this precinct in addition to those specified above.

IXXX.4 Activity table

The provisions in any relevant overlays, Auckland-wide provisions and zones apply in this precinct, ~~unless otherwise specified below~~, except the following:

(a) E3.4.1 : Activity Table relating to Lakes, Rivers, Streams and Wetlands: Activities (A1), (A48), (A49)

(b) E.12.4.1: Activity Table relating to Land Disturbance – District: Activities (A6) and (A10)

Activity Table IXXX.4.1 – IXXX.4.6 specify the activity status of regional and district land use, development, subdivision and activities in, on, under or over the beds of streams in the Warkworth : Clayden Road ~~North 1~~ Precinct pursuant to sections 9(2),9(3), 11 and 13 of the Resource Management Act 1991 or any combination of all of these sections where relevant.

A blank in the activity status column means that the activity status in the relevant overlay, Auckland-wide or zone provision applies and one or more precinct standards apply.

Note

Activities and standards apply to vegetation removal within SEA overlay as listed in Chapter E15 Vegetation management and biodiversity.

Table IXXX.4.1 All zones

Activity		**Activity status**
Use		
Development		
(A1) [rp]	New reclamation or drainage, including filling over a piped stream not shown as a ~~Reclamation of~~ retained stream~~s~~ ~~other than those shown~~ on IXXX.9.2 Precinct Plan 2 ~~IXXX.9.2~~	RD
(A2) [rp]	New reclamation or drainage, including filling over a piped stream shown as a ~~Reclamation of~~ retained stream~~s~~ ~~shown~~ on IXXX.9.2 Precinct Plan 2 ~~IXXX.9.2~~	NC
(A3)	Deadwood removal within covenanted bush or area of significant bush on IXXX.9.2 Precinct Plan 2.	P
(A4)	Biosecurity tree works within covenanted bush or area of significant bush on IXXX.9.2 Precinct Plan 2.	P
(A5)	Emergency tree works within covenanted bush or area of significant bush on IXXX.9.2 Precinct Plan 2.	P
(A6)	Vegetation alteration or removal for routine operation, maintenance and repair of existing tracks and proposed indicative greenway routes as shown on Precinct Plan 3 within the covenanted bush or area of significant bush on IXXX.9.2 Precinct Plan 2	P
(A7) [rp/dp]	Removal of any native vegetation shown as covenanted bush or area of significant bush ~~"Covenanted Area" or "significant bush"~~ on Precinct Plan IXXX9.2, not	NC

	otherwise provided for ~~on Precinct Plan IXXX9.2, except this shall not preclude: (i) removal of deceased or damaged limbs or trees that could create a fall hazard; (ii) clearing of bush up to 2m wide to create public tracks.~~	
(A8)	Activities sensitive to noise within the area shown on precinct plan IXXX9.1 as Noise Management Area, Noise Measurement Line and Covenant ~~Sensitive Area~~ that complies with Standard IXXX6.6	P
(A9)	Activities sensitive to noise within the area shown on precinct plan IXXX9.1 as Noise Management Area, Noise Measurement Line and Covenant ~~Sensitive Area~~ that does not comply with Standard IXXX6.6	NC
(A10)	Landscaping in accordance with Standard IXXX.6.3	C
(A11)	Any development of the land shown on Precinct Plan IXXX.9.1 as Special Landscape Yard that is not landscaped in accordance with Standard IXXX.6.3	NC
Subdivision		
(A12)	~~Subdivision sites (either less than 1ha or 1ha and greater) complying with standard E38.8.2.3 and generally in accordance with Precinct Plan IXXX.4.1~~ Subdivision involving parent sites of 1ha or greater complying with Standard E38.8.2.1 or E38.8.3.1, and Standard IXXX.6.6, and generally in accordance with Precinct Plans IXXX.9.1, IXXX.9.2 and IXXX.9.3	RD
(A13)	Subdivision involving parent sites of less than 1ha complying with Standard E38.8.2.1 or E38.8.2.3 and Standard IXXX.6.6 and generally in accordance with Precinct Plans IXXX.9.1, IXXX.9.2 and IXXX.9.3.	RD
~~(A7)~~ (A14)	~~Any subdivision that is not in general accordance with Precinct Plan 1 Rule~~	~~NC~~

	~~IXXX.4.1.~~ Subdivision that does not comply with Standard IXXX.6.6.	D
(A15)	Subdivision that does not comply with the 'access points onto Matakana link Road', 'eastern access', and / or 'pedestrian and cycle connection to Matakana Link Road' as shown on Precinct Plan IXXX.9.3.	NC

Table IXXX.4.2 Rural - Countryside Living Zone

Activity		**Activity status**
Use		
Development		
(A1)	~~Any building or structure (excluding fencing less than 2m in height) within the Special Landscape Area.~~ New buildings and additions to buildings within the Special Landscape Area on Precinct Plan 1	NC

Table IXXX.4.3 Residential - Large Lot Residential Zone

Activity		**Activity status**
Use		
Development		
(A1)	~~Any building or structure (excluding fencing less than 2m in height) within the Special Landscape Area.~~ New buildings and additions to buildings within the Special Landscape Area on Precinct Plan 1	NC
(A2)	New buildings and additions to buildings within the Special Landscape Yard on Precinct Plan 1 that do not comply with Standard IXXX.6.3	NC

Table IXXX.4.4 Residential - Single House Zone

Activity		Activity status
Use		
Development		
(A1)	~~Buildings within the "Special Subdivision Control Area" that do not comply with standard IXXX.9.1~~. New buildings and additions to buildings that do not comply with Standard IXXX.6.1	D
(A2)	New buildings and additions to buildings within the Special Yard on IXXX.9.1 Precinct Plan 1 that do not comply with Standards IXXX.6.2	NC
(A3)	~~Any building or structure (excluding fencing less than 2m in height) within the "Special Landscape Yard"~~ New buildings and additions to buildings within the Special Landscape Yard on IXXX.9.1 Precinct Plan 1 that do not comply with Standard IXXX.6.3	NC
Subdivision		
(A4)	Any subdivision in the "special ~~density~~ subdivision control area" area shown in Precinct Plan 1 that does not meet the minimum net site size requirements in Standard ~~Rule~~ IXXX.6.5. ~~4.1.~~	NC

Table IXXX.4.5 Residential - Mixed Housing Urban Zone

Activity		Activity status
Use		
Community		
(A1)	Recreation Facility in the location shown on Precinct Plan 1 as ~~Special Use Overlay – Sporting~~ Recreation Facility complying with Standard IXXX.6.9	RD
(A2)	Recreation Facility in the location shown on Precinct Plan 1 as ~~Use Overlay –~~	D

	~~Sporting~~ Facility not complying with Standard IXXX.6.9	
Development		
(A3)	Development that does not comply with standard E27.6.4.1(3)	NC
(A4)	Construction of a road that does not comply with Standard IXXX.6.4 Limited Access	NC
(A5)	New buildings and additions to new buildings that do not comply with Standard IXXX.6.1	D
(A6)	New buildings and additions to buildings within the Special Landscape Yard on IXXX.9.1 Precinct Plan 1 that do not comply with Standard IXXX.6.3	NC
(A7)	Residential activity within the area shown on Precinct Plan IXXX9.1 as Noise and Lighting Sensitive Area that complies with Standard IXXX6.7	P
(A8)	Residential activity within the area shown on Precinct Plan IXXX9.1 as Noise and Lighting Sensitive Area that does not comply with Standard IXXX6.7	NC
(A9)	Residential activity within the area shown on Precinct Plan IXXX9.1 as Special Yard Tomlinsons Bush that complies with standard IXXX6.3A	P
(A10)	Residential activity within the area shown on Precinct Plan IXXX9.1 as Special Yard Tomlinsons Bush that does not comply with standard IXXX6.3A	D
Subdivision		
(A11)	Any subdivision not complying with standards IXXX.6.4	D

Table IXXX.4.6 Business – Neighbourhood Centre

Activity	**Activity status**
Use	
Development	

(A1)	Development that does not comply with standard E27.6.4.1(3)	NC
(A2)	Construction of a road that does not comply with Standard IXXX.6.4 Limited Access	NC
Subdivision		
(A3)	Any subdivision not complying with standards IXXX.6.4.	D

Table IXXX.4.7 Business – Light Industry Zone

Activity		**Activity status**
Use		
Development		
(A1)	Any building	NC
(A2)	Earthworks and/or landscaping associated with any bund.	P

IXXX.5 Notification

~~(1)~~ Any application for resource consent for a restricted discretionary activity listed under IXXX.4 will be considered without public or limited notification or the need to obtain written approval from affected parties unless the Council decides that special circumstances exist under sections 95A(9) or 95B(10) of the Resource Management Act 1991;~~-~~provided that:

(a) Any application for a residential activity in the Noise Management Area on IXXX.9.1 Precinct Plan 1 that does not comply with Standard IXXX6.6(2) will be subject to the normal tests for notification under the relevant sections of the Resource Management Act 1991; and
(b) Any application for a residential activity in the Noise and Lighting Sensitive Area on IXXX.9.1 Precinct Plan 1 that does not comply with Standard IXXX6.6A will be subject to the normal tests for notification under the relevant sections of the Resource Management Act 1991.
(c) When deciding who is an affected person in relation to any activity for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration, in relation to Rules IXXX.6.6 and IXXX.6.7 which manages reverse sensitivity effects, to the operator of the heliport which is protected by the rule from such effects.
(d) When deciding who is an affected person in relation to any activity for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration, in relation to Rules IXXX.6.6A which manages reverse sensitivity effects, to the operators/clubs of the Warkworth Showgrounds which is protected by the rule from such effects.

IXXX.6 Standards

(1) Unless specified in Standard IXXX.6(2) below, all relevant overlay, Auckland-wide and zone standards apply to all activities listed in Activity Tables IXXX.4.1 to IXXX.4.6 above.

(2) The following Auckland-wide and zone standards do not apply to the activities listed in activity tables above:

(a) Activity Table IXXX.4.1 All zones:

- Activity (A6): E38.8.2.3 does not apply to subdivision in Single House Zone where land is subject to special subdivision control area shown on IXXX.9.1 Precinct Plan 1 and Standard IXXX6. 5 applies
- Activity (A7): E38.8.3.1(3)-(5) does not apply to subdivision in Single House Zone where land is subject to special subdivision control area shown on IXXX.9.1 Precinct Plan 1 and Standard IXXX6. 5 applies

(b) Activity Table IXXX.4.4 Residential – Single House Zone:

- Activity (A1): H3.6.6 Building height standard of 8 metres does not apply to that part of the site subject to the height variation control shown on the planning maps and where Standard IXXX.6.1 Height Variation Control applies
- Activities (AX), (AX): H3.6.8 Yards. The relevant yard in Table H3.6.8.1 Yards does not apply where
    - Standard IXXX.6.2 Special Yard applies
    - Standard IXXX.6.3 Special Landscape Yard applies

(c) Activity Table IXXX.4.5 Residential – Mixed House Urban Zone:

- Activity (AX) H5.6.4 Building height standard of 11 metres does not apply to that part of the site subject to the height variation control shown on the planning maps and where Standard IXXX.6.1 Height Variation Control applies
- Activity (AX) H5.6.8 Yards. The relevant yard in Table H5.6.8.1 Yards does not apply where
    - Standard IXXX.6.3 Special Landscape Yard applies

(1) Activities listed in Activity Tables IXXX.4.1 to IXXX.4.6 must comply with Standards IXXX.6

~~The overlay, Auckland-wide, and zone standards apply in this precinct unless otherwise specified below:~~

IXXX.6.1 Special Height Limit

Purpose: To reduce the height of buildings adjacent to the Rural Boundary interface.

(1) The maximum height limit in the Single House zone in the area shown as "special height limit" on Precinct Plan 1 (IXXX.9.1) shall be 5m for any part of a building that is within 10m but further than 6m from the Rural Urban Boundary.

IXXX.6.1A Height Variation Control

Purpose: To reduce building height below the standard zone height, where the standard zone height would have adverse effects on the rural backdrop of Dome Valley

~~(1) The maximum height limit in the Mixed Housing Urban zone in the area shown as "special height limit 1" on Precinct Plan 1 (IXXX.9.1) shall be the same as rule H.4.6.4 'Building Height' in the Mixed Housing Suburban zone.~~

(1) If the site is subject to the Height Variation Control, buildings must not exceed the height in metres shown for that part of the site on the planning maps.

IXXX.6.2 Special Yard

Purpose:

- to form a transition from urban to rural uses;
- to prevent building on the upper slopes of identified parts of the precinct which contribute to the landscape values and amenity of the Warkworth Clayden Road precinct

(1) ~~All buildings on sites subject to the "special yard" control shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1 must be set back from the Rural Urban Boundary for a minimum distance of 6m.~~
A building or parts of a building on sites shown as subject to the Special Yard on IXXX.9.1 Precinct Plan 1 must be set back 6m from the boundary as shown on Precinct Plan 1.

(2) All land within the "special yard" shown on Precinct Plan 1 shall be landscaped. A minimum of ~~50%~~ fifty percent of the area shall be planted in native trees that will attain a height of at least 5m when mature.

IXXX.6.3 Special Landscape Yard

Purpose:

- to provide a landscape buffer and manage reverse sensitivity effects; and
- to maintain a reasonable standard of residential amenity for sites adjoining business land.

(1) A building or parts of a building must be set back from the precinct boundary by 6m where sites are subject to the Special Landscape Yard on IXXX.9.1 Precinct Plan 1.

(2) ~~No building or structure shall be built within the 'Special Landscape Yard shown on Precinct Plan 1. This rule does not apply to fencing less than 2m in height.~~

(3) A minimum of Fifty percent of the 'Special Landscape Yard shall be planted ~~with~~ in native trees that will attain ~~achieve~~ a height of at least 5m ~~or more on maturity~~ when mature.

IXXX.6.3A Special Yard Tomlinsons Bush

Purpose:

- to provide a buffer adjacent to Tomlinsons Bush.

(1) A building or parts of a building must be set back from the legal boundary with Tomlinsons Bush

by 6m where sites are subject to the Special Yard Tomlinsons Bush on IXXX.9.1 Precinct Plan 1.

IXXX.6.4 Limited Access

Purpose:

- to avoid direct vehicle access from individual sites onto Matakana Link Road; and
- to have safe and efficient operation of transport infrastructure.

(1) Road ~~junctions~~ intersections with ~~the~~ ~~Sandspit~~ Matakana Link Road servicing the precinct, shall be ~~limited to three, to be~~ located as ~~in the general location~~ identified as Access Points onto ~~Sandspit~~ Matakana Link Road on ~~I1554.9.1~~ IXXX.9.3 Warkworth Clayden Road: Precinct Plan 3 except

(a) that the intersections from the north and south connecting with the easternmost access point identified on IXXX.9.3 Precinct Plan 3 shall be limited to a left turn in/left turn out intersection with Matakana Link Road only, and may be offset from each other by a maximum distance of 100m.

~~(b) No vehicular access from any property shall be allowed directly onto the Sandspit Link Road for the frontage shown indicatively on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1~~

IXXX.6.5 ~~Subdivision Standards~~ – Special Subdivision Control Area in Single House Zone

Purpose: To create larger sites along a portion of the northern boundary of the precinct identified as a "Subdivision Control Area".

(1) Proposed sites in ~~The minimum net site area in~~ the area shown as ~~"~~Special Subdivision Control~~"~~ on IXXX.9.1 Precinct Plan 1 must comply with the minimum net site area of ~~shall be~~ 1,000m² ~~net site area~~.

IXXX.6.5A Subdivision Standard – Planting

Purpose:
'Special Yard' - to form a transition from urban to rural uses;
"Special Landscape yard' - to provide a landscape buffer and manage reverse sensitivity effects and to maintain a reasonable standard of residential amenity for sites at the Business Light Industry zone interface.

(1) All land within the "special yard" shown on Precinct Plan 1 shall be:
   (i) 6m in width measured from the Precinct Boundary
   (ii) Landscaped area with no less than ~~A minimum of~~ 50% of the area ~~shall be~~ planted in ~~native trees~~ indigenous vegetation that will attain a height of at least 5m when mature.
   (iii) Legally protected by a covenant or consent notice providing for the maintenance and protection of the landscaped area and planting in perpetuity.
   (iv) This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m².

(2) All land within the 'Special landscape yard' shown on Precinct Plan 1 shall be;
   (i) 6m in width measured from the precinct boundary

(ii) Landscaped area with no less than 50% of the area planted in indigenous vegetation that will attain a height of at least 5m when mature.

(iii) Legally protected by a covenant or consent notice providing for the maintenance and protection of the landscaped area and planting in perpetuity.

(iv) This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m^2.

~~(v) Fifty percent of the 'Special Landscape Yard shall be planted with native trees that achieve a height of 5m or more on maturity.~~

~~A 6m landscaped screening area in the location shown on Precinct Plan 1 shall be provided. This area shall be intensively planted and maintained with native trees and shrubs. The 6m distance shall be measured from the zone boundary.~~

~~(vi) All sites that contain a special yard under rule IXXX.6.1 provide a covenant which requires 50% of the yard area to be planted in native trees that will attain a height of at least 5m when mature, and the covenant provides for the maintenance and protection of this planting in perpetuity.~~

IXXX.6.5.B Residential Subdivision Standard - Stormwater

Purpose:

- To assist in land stability and the ecology of streams

(1) At least fifty percent of any riparian yard required under the zone provisions shall be planted in native vegetation

IXXX.6.6 Noise Management Area, Noise Measurement Line and Covenants

Purpose: As any residential site west of the Noise Measurement Line shown on Precinct Plan 1 and within the Noise Management Area, may be exposed to noise levels from either or both the Heliport and the adjacent industrial area, the controls identify the location at which noise measurement shall be undertaken in terms of noise levels for the Warkworth Heliport at 38 Goatley Road and the adjacent industrial area, and requires "no complaints" covenants, and mechanical ventilation, to address noise issues

~~For the purposes of measuring consented noise levels for the Warkworth Heliport on 38 Goatley Road, the "nearest residential boundary for noise measurement within the precinct shall be taken as the "noise measurement line" shown on Precinct Plan 1. The condition shall not apply to the residential sites west of the noise measurement line.~~

(1) ~~For the area identified on Precinct Plan 1 as "no complaints covenant area" a~~ A 'no complaints' covenant is registered against ~~any~~ the certificate of title for the site in the Noise Management Area and Covenants shown on IXXX.9.1 Precinct Plan 1. The covenant acknowledge: ~~ing:~~

- the site ~~location~~ is adjacent to an industrial area and a consented heliport and that the residents will not complain about any permitted activity meeting ~~the Auckland wide~~ district plan standards, or any heliport or any helicopter activity operating lawfully, or any helicopter operation at any time responding to an emergency flight including search and rescue or fire fighting.~~under and complying with the conditions of consent of Resource Consent XXXX.;~~ and

- for residential sites west of the Noise Measurement Line shown on Precinct Plan 1, that the site is within the Noise Measurement Line and that when determining whether the Heliport at 68 Goatley Road complies with the noise limits in the conditions of its resource consent, noise levels will be measured from the Noise Measurement Line and not from the boundary of the residential sites west of the Noise Measurement Line, as would otherwise be required by the conditions of consent.

(2) When determining whether any activity carried out on the adjacent light industrial zoned land complies with the noise limits in E25.6.19, noise levels are to be measured at the "Noise Measurement Line" and not at the closest residential boundary.

(3) Any residential building or part of a residential building within the Noise Measurement Area shown on IXXX9.1 Precinct Plan 1 must provide ventilation and/or an air conditioning system(s) that satisfies the requirements of New Zealand Building Code Rule G4 with all external doors of the building and all windows of the habitable rooms closed.

IXXX.6.7 Noise and Lighting Sensitive Area

Purpose: To help manage potential reverse sensitivity issues regarding noise and lighting issues associated with the Warkworth Showgrounds by requiring a no complaints covenant and mechanical ventilation or air-conditioning.

(1) A no complaints covenant shall be registered against the certificate of title for the sites adjacent to the Warkworth Showgrounds at which active sports and recreation activities are carried out in the Noise and Lighting Sensitive Area on IXXX.9.1 Precinct Plan 1. The covenant shall acknowledge the site is adjacent to the Warkworth Showgrounds including existing and future active sports and recreation activities and that the residents will not complain about any permitted activity meeting district plan standards, or any sports activity or sporting event that is being lawfully operated or carried out.
(2) Any residential building or part of a residential building within the Noise and Lighting Sensitive Area shown on IXXX9.1 Precinct Plan 1 must provide ventilation and/or air-conditioning systems that satisfy the requirements of New Zealand Building Code Rule G4 with all external doors of the building and all windows of the habitable rooms closed.

~~**IXXX.6.7 Landscape Screening Area**~~

(1) ~~A 6m landscaped screening area in the location shown on Precinct Plan 1 shall be provided. This area shall be intensively planted and maintained with native trees and shrubs. The 6m distance shall be measured from the zone boundary. This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m².~~

IXXX6.8 High Contaminant Yielding Materials

Purpose:
- to maintain water quality by limiting the release of contaminants from building materials to streams, and Mahurangi East catchment

(1) The total area of high contaminant roofing, spouting, cladding or external architectural features on a site must not exceed 5m².

IXXX6.9 Maximum Gross Floor Area Recreation Facility

Purpose:

- to indicate the size of recreation facility anticipated in Warkworth Clayden Road Precinct

(1) The maximum gross floor area of any recreational facility in the location shown on Precinct Plan 1 shall be 2,000m² gross floor area.

IXXX.7A Assessment –controlled activities

IXXX.7A.1 Matters of discretion

The Council will restrict its discretion to the following matter when assessing a controlled activity resource consent application, in addition to the matters specified for the relevant controlled activities in the overlay, Auckland wide or zone provisions:

(1) Landscaping in accordance with Standard IXXX.6.3
  (a) Landscaping

IXXX.7 Assessment – restricted discretionary activities

IXXX.7.1 Matters of discretion

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary activity resource consent application, in addition to the matters specified for the relevant restricted discretionary activities in the overlay, Auckland wide or zone provisions:

(2) ~~Vacant Lot~~ Subdivision
  (b) The matters of discretion listed at E38.12.1(7)
  ~~(c) The location of the facility~~
  ~~(d) Building scale~~
  (e) Landscaping
  (f) Transport including Access, walking, cycling and Parking
  (g) The design and operation of any intersection with Matakana Link Road
  (h) Stormwater management
  (i) Greenway connections

(3) ~~Indoor~~ Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1:

  (a) Building scale
  (b) Landscaping
  (c) ~~Parking~~ Transport including access, parking and traffic generation
  (d) Interface with residential development
  (e) Interface with Warkworth Showgrounds

(4) Modification or reclamation of streams

  (a) Stream ecology
  (b) Base flow
  (c) Management of water flow

(d) Offset mitigation
(e) Stream bed level
(f) Riparian planting
(g) Overland flow.
(h) Providing for growth and development

IXXX.7.1A Assessment criteria – Controlled Activities

The Council will consider the relevant assessment criteria identified below for controlled activities, in addition to the assessment criteria specified for assessment of the relevant controlled activities in the zone, Auckland wide or overlay provisions:

(1) Landscaping in accordance with Standard IXXX.6.3

(a) The extent to which:

(i) The landscaping and bund form a visual buffer between the industrial area to the west of the precinct and the housing within the Precinct.
(ii) The suitability of plant species to the location and the height and density of plants species when mature.

IXXX.7.2 Assessment criteria - Restricted Discretionary Activities

The Council will consider the relevant assessment criteria identified below for restricted discretionary activities, in addition to the assessment criteria specified for assessment of the relevant restricted discretionary activities in the zone, Auckland wide or overlay provisions:

(2) ~~Vacant Lot~~ Subdivision

(b) In addition to the matters of discretion listed at E38.12.2(7), the extent to which:

(iii) The proposal contributes to the implementation of policies and in particular IXXX.3(1)-(5).
(iv) Subdivision layout is consistent with Precinct Plans 2 and 3.
~~(v) Intersections to local roads accessing the Matakana Link Road are limited to the locations identified on Precinct Plan.~~
~~(vi) The eastern access to Matakana Link Road is confined to a 'left-in/left-out' only road connection.~~
(vii) Subdivision layout is designed to meet the minimum lot sizes of Rule I1XXX.6.5 (special subdivision control) to retain a lower density at this rural urban interface and provide a transition from urban to rural land uses.
(viii) Subdivision layout is designed to ensure that no sites require vehicular access from ~~the~~ Matakana Link Road. Sites shall be serviced from local roads, laneways JOAL's, or other suitable mechanisms.
(ix) Sites that include streams shown on Precinct Plan 2, have complying practical building platforms clear of identified stream areas.
(x) Earthworks are managed in such a way as to provide high quality erosion and sediment control measures.
(xi) The erosion and sediment control measures shall provide for and include use of the stormwater management ponds shown in Precinct Plan 2, and establishment of the wetland(s). ~~, shown in Precinct Plan 1.~~
(xii) The greenways shown on Precinct Plan IXXX.9.1 ~~are vested in the Council at the time of subdivision.~~:

- where they are on land subject to any resource consent application, are constructed to a walking track standard similar to that constructed in Regional Parks, and vested in the Council, or in the case where the greenway follows vested roads, constructed to normal footpath standards as appropriate;
- connections to greenways on public or private land outside the land subject to resource consent, are futureproofed by constructing track access to the boundary of the application site.

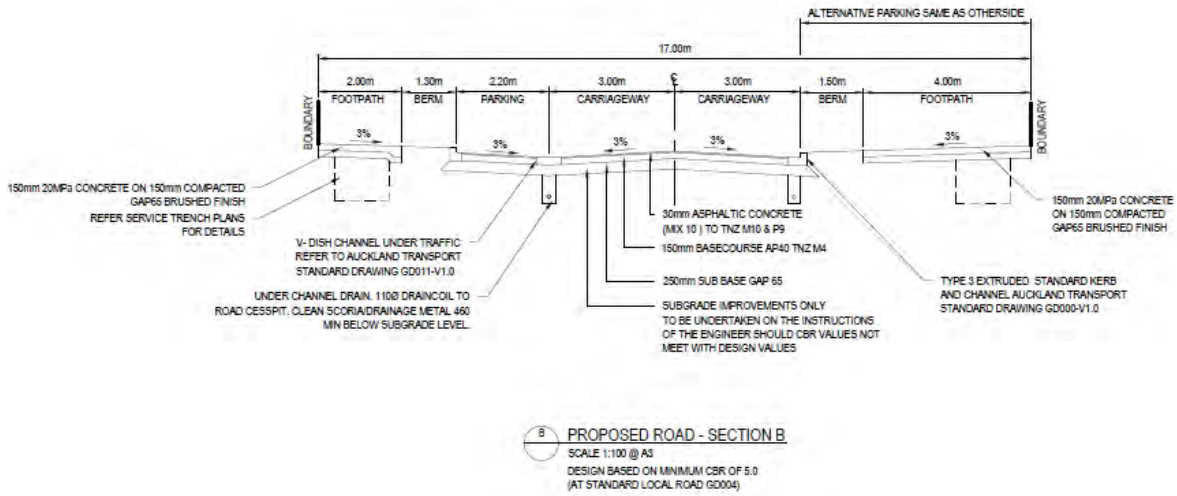
(xiii) The staging of any subdivision or development, including any residential or business zoned site, relying on access to Matakana Link Road is such that completed homes or businesses are not occupied prior to Matakana Link Road becoming operational

(xiv) A walkway network, generally in accordance with Precinct Plan 3 IXXX9.3 including roads and open space area, is created to ensure an interconnected neighbourhood. This includes connections to the footpaths and known bus stops on Matakana Link Road.

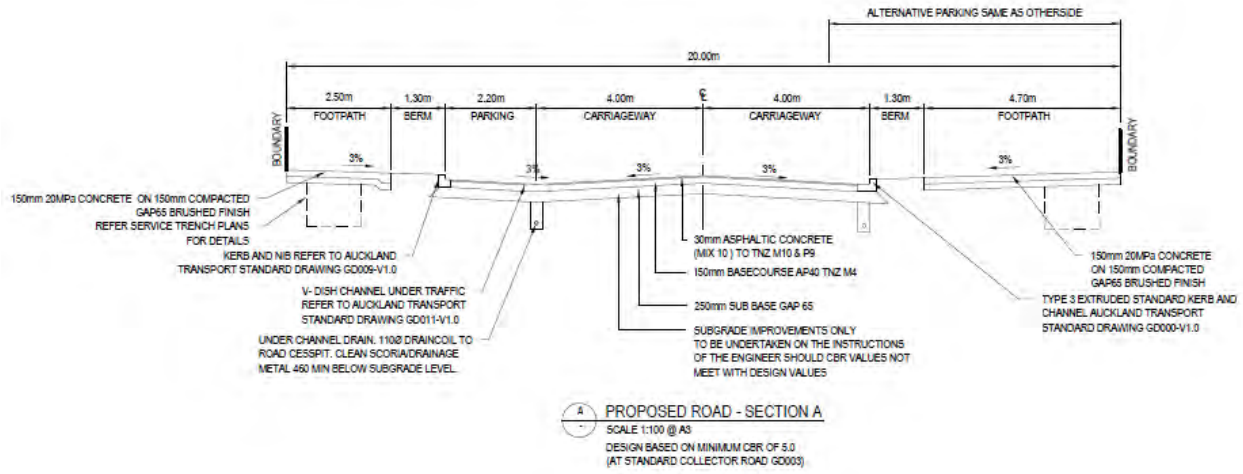
(xv) Cycling facilities are provided on collector roads to integrate with cycling facilities on Matakana Link Road, and to generally meet the typical road cross-section shown in the diagram.

(xvi) Local and collector roads shown on Precinct Plan IXXX9.3 are designed to generally meet the typical cross-sections shown below or such other similar cross section as agreed with Auckland Transport.

Typical road cross-section: Local road



Typical road cross-section: Collector road



(xvii) The intersection design of any road intersection with Matakana Link Road as shown on Precinct Play 3 is supported by a transport assessment and safety audit demonstrating the intersection will provide a safe, efficient and effective connection to service the expected subdivision and development. This includes safe and convenient provision for pedestrians and cyclists.

(xviii) The transport assessment and safety audit demonstrate the design and operation of the proposed intersection will not have adverse effects on the function of the surrounding transport network including Matakana Link Road.

(xix) The greenway network crossing of the Matakana Link Road occurs either at at-grade pedestrian crossing facilities at the access points on to the Matakana Link Road shown on Precinct Plan 3, or as a walking track underneath the Matakana Link Road bridge.

(xx) The cumulative effect of the approach to stormwater management is in accordance with an approved Stormwater Management Plan and achieves a 'treatment train' process based on a ten year attenuation standard which mitigates urban stormwater, quality issues and controls runoff from roads and other impervious surfaces.

(3) ~~Indoor~~ Recreation Facility

The extent to which:

(a) The ~~indoor~~ recreation facility is located within the land area identified on Precinct Plan 1.

(b) The height of the building complies with height variation control.

(c) Landscaping, particularly front yard and the yard adjoining residential zoned land provides a reasonable amenity to the neighbourhood.

(d) Traffic generation effects can be accommodated within the transport network, safe access is provided to the site, and sufficient well designed and well located parking is provided.

(e) The interface with the Warkworth Showgrounds provides a good built and landscaped amenity, and a degree of visual overlooking of the showgrounds.

(4) Stream modification or reclamation

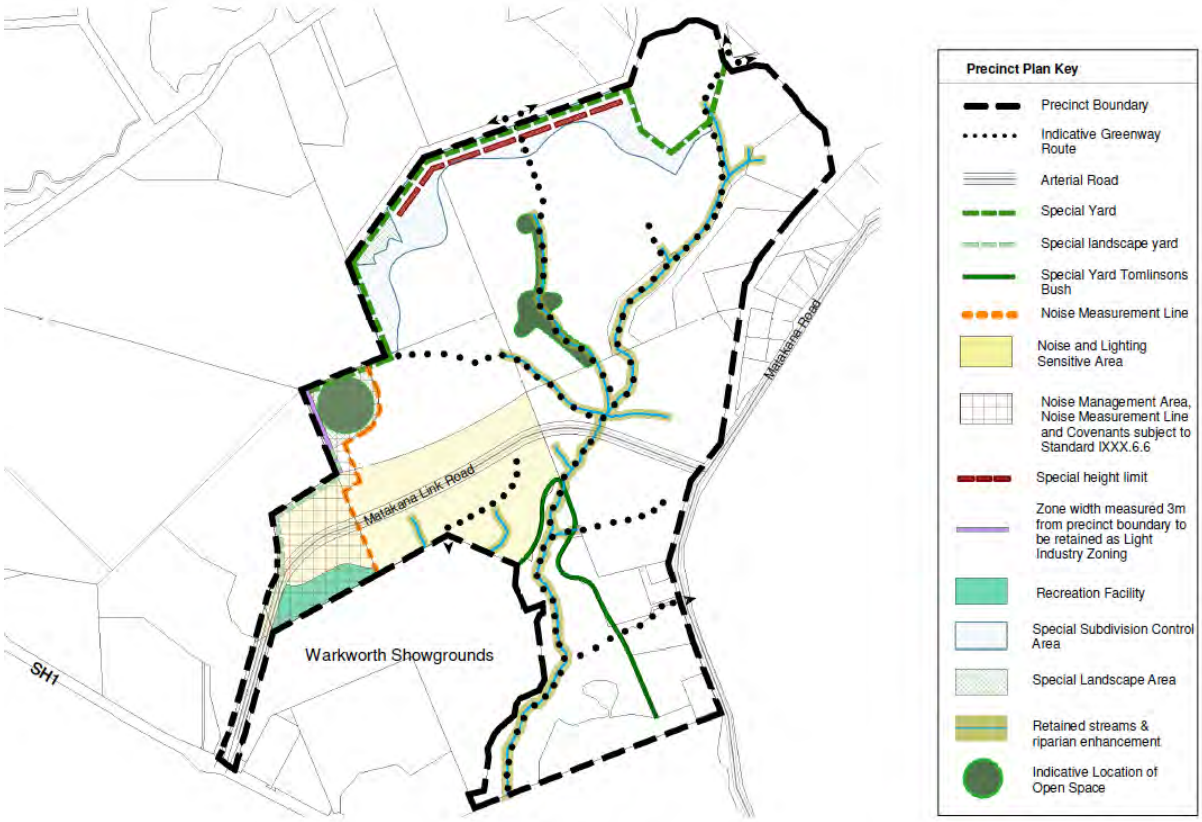
The extent to which:

(a) Streams can be retained through re-alignment and raising of stream beds to integrate with land contouring;
(b) Ten metre riparian native planting will be provided along each side of any re-aligned stream;
(c) Where streams are proposed to be reclaimed with no vertical or horizontal re-alignment, the degree and extent of off-setting, and compensation;
(d) Management of water flow is achieved to prevent flooding of residential sites;
(e) Base flows to the head of retained streams affected by any reclamation of a permanent stream are maintained;
(f) Reclamation is required to achieve the minimum road grade requirements.
(g) Development potential will be lost without reclamation works, balanced against the ecological value of the stream to be reclaimed.
(h) The ecological classification of the underlying stream is maintained.
(i) The 'effects management hierarchy' (avoidance, remediation, mitigation, offset) has been applied.
(j) The degree of mitigation or offset where changes to the vertical and horizontal alignment are proposed.

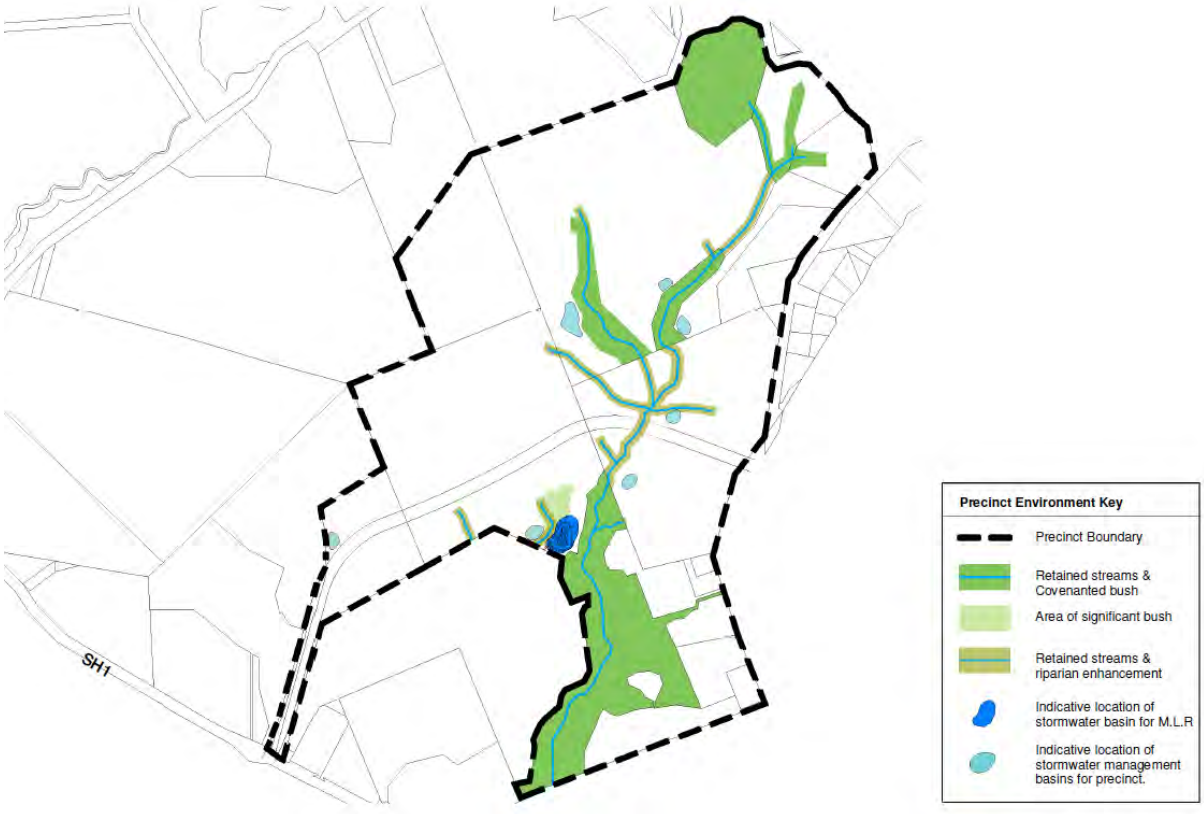
IXXX.8 Special information requirements

There are no special information requirements in this precinct.

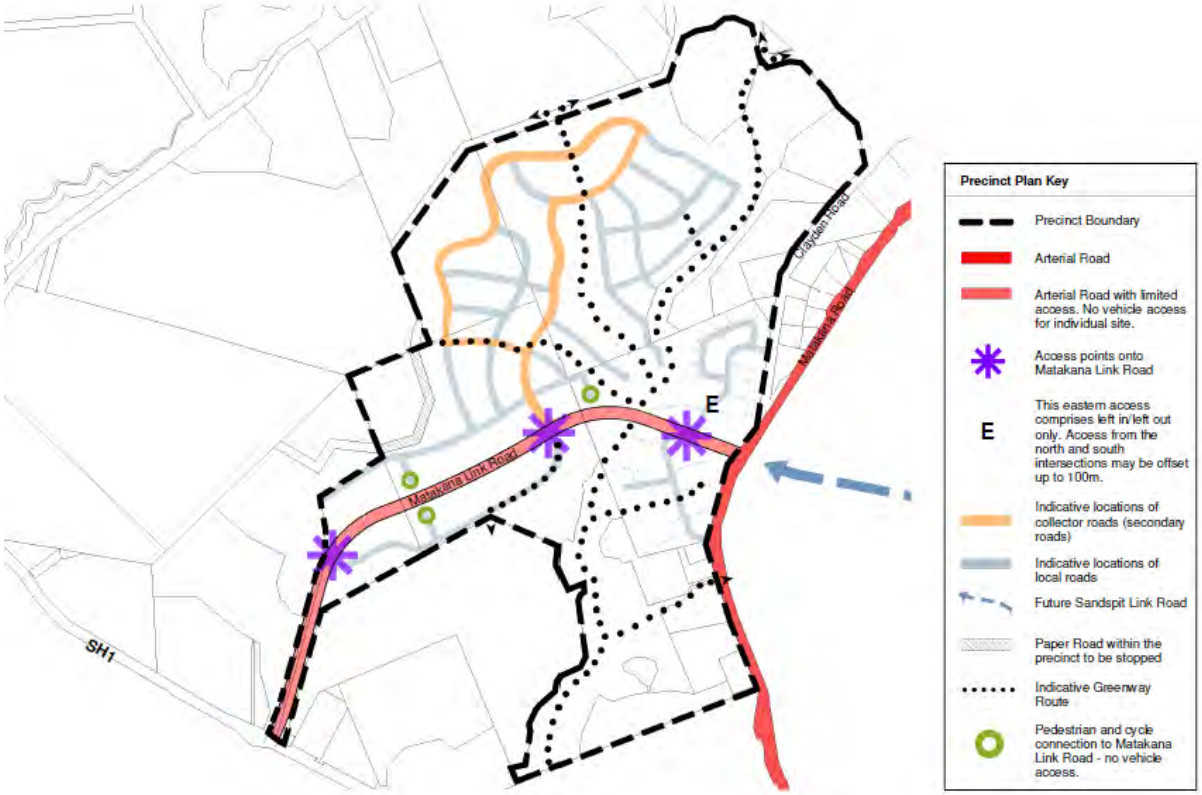
IXXX.9.1 Warkworth : Clayden Road Precinct Plan 1– Spatial provisions



IXXX.9.2 Warkworth : Clayden Road Precinct Plan 2– Environment



IXXX9.3 Warkworth : Clayden Road Precinct Plan 3~~:~~ Transportation



ATTACHMENT B

PLANNING REPORT BY TATTICO

tattico

Warkworth Clayden Road: Plan Change Request to Auckland Unitary Plan

Planning Report

including section 32 assessment

updated to include clause 23 requests

Final

24 February 2020

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Contents

1 EXECUTIVE SUMMARY

1.1 This is a private plan change request by a group of five co-operating landowners in the Warkworth North area. The plan change seeks rezoning of approximately 102ha of land between State Highway 1 and Clayden Road from Future Urban/Light Industry to a mix of residential zones. The plan change request includes the creation of a new precinct to be called "Warkworth Clayden Road". This plan change and the precinct provisions closely align to the final Warkworth Structure Plan.

1.2 Diagram 1 shows the land subject to this request.

Diagram 1: Land subject to the plan change

1.3 Diagram 2 shows the land ownership including the land holdings of the five cooperating landowners.

1.4 All the cooperating landowners have been active participants in the structure plan process. The Council's early consultation process through to the final Warkworth Structure Plan, has significantly impacted the environmental design, infrastructure inputs and the planning for this plan change.

1.5 This plan change request proposes the same suggested mix of high, medium and low density residential zoning signalled in the Warkworth Final Structure Plan. This includes single house zoning

along the northern interface with the rural area but at densities at 1,000m². It provides for the Matakana Link Road (MLR), and most of the stream network and landscape features identified in the Structure Plan. The detailed boundary between the medium density and low density areas does differ from the Structure Plan in a couple of key areas. The rationale for this is set out in this planning analysis. A small area of light industry land is proposed to be rezoned residential.

1.6 The key elements of the plan change request are:

(a) Supporting the MLR including its alignment, as a vital link in the transport network for Warkworth and Mahurangi.

(b) Recognising the importance of the Mahurangi River and its tributaries to the environment and amenity of Warkworth by identifying and protecting the primary streams which traverse the subject land and feed the river and showing these on the Precinct Plan.

(c) Assisting in delivering on the key planning principles identified in the Structure Plan, including providing quality connected residential neighbourhoods to support the growth of Warkworth, and enabling a range of housing typologies to encourage a diverse community.

(d) Managing stormwater in such a way as to ensure high water quality entering the Mahurangi River from this development.

(e) Creating a landscaped environment immediately around the streams with revegetation enhancement and the creation of public access.

(f) Identifying the key landscape features of the knoll at the north-western part of the site and creating lower density sites on the upper flanks of the ridgeline area adjacent to the Rural urban Boundary (RUB).

(g) Creating an interface of low density properties adjacent to the RUB.

(h) Creating a range of densities and housing typologies so as not to squander the release of important residential land and to encourage a diverse community.

(i) Focusing higher densities adjacent to the MLR and high amenity areas, such as land overlooking the Warkworth Domain and protected streams.

(j) Managing the height of buildings in sensitive parts of the land to manage viewlines of key landscapes.

(k) Rezoning a small area of light industry land to residential recognising the unsuitability of this land for industrial activity, given access constraints resulting from the MLR.

(l) Creating a network of walkways and cycleways through the property.

(m) Identifying key connections to the MLR including to service the industrial land to the north-west of the precinct.

(n) Providing for a major indoor recreation facility adjacent to the Warkworth Showgrounds.

(o) Managing reverse sensitivity issues between the light industry and residential zoned land.

1.7 In our view, the combination of these elements delivers a residential community which will make a demonstrable contribution to growth management within Auckland, and yet do it in a way which nestles this community into the landscape, protects key environmental features, and creates quality neighbourhoods for a broad diverse community.

1.8 The main areas where the plan change request is consistent with the Structure Plan are:

- the Matakana Link Road is provided in the agreed alignment;
- the Mixed Housing Urban zone follows the indicative zonings in the structure plan;
- the Mixed Housing Suburban zone is generally across the middle slope between the Matakana Link Road and the northern boundary;
- the northern area is zoned a combination of Single House and Large Lot Residential, albeit that the extent of zoning differs to a minor extent in precise boundary location from the structure plan;
- special landscape protection as signalled in the Structure Plan is provided with special density controls and enhanced landscaping controls;
- a number of the streams are protected including the primary stream;
- the walkway network is provided;
- yield is consistent with the provision of infrastructure;

- staging as set out in the Council's 'Future Urban Land Strategy' and confirmed in the structure plan is consistent with the timing of the development.

1.9 The main areas where the plan change request varies from the Structure Plan are:

- the extent of Mixed Housing Suburban zoning is slightly expanded along the northern perimeter, with a consequential reduction in the Single House zone;
- a portion of the central Large Lot Residential zone is committed as undeveloped open space, with a consequent concentration of housing in a portion of land signalled in the structure plan as 'Large Lot Residential' which is instead zoned 'Single House' zoning;
- some streams identified on the Structure Plan, are impacted by development and reclaimed.

1.10 The plan change request comprises:

A. Requested Plan change;

B. Planning Report by Tattico (this report);

C. Urban Design Report by Ian Munro;

D. Design and Masterplanning Analysis by AStudios Architects;

E. Landscape Assessment by LA4 Landscape Architects;

F. Ecological Assessment including streams by Freshwater Solutions Limited;

G. Engineering and Infrastructure Assessment by Maven Associates on the WLC land;

H. Stormwater Management Plan by Maven Associates.

I. Geotechnical Assessment by CMW Geosciences: WLC land;

J. Geotechnical Assessment by CMW Geosciences: 245 Matakana Road;

K. Transport Assessment by Traffic Planning Consultants Limited on the WLC land;

L. Land Supply Assessment by Colliers;

M. Economic Assessment by Property Economics;

N. Archaeological Assessment by Clough and Associates;

O. Land Contamination Report by Focus Environmental Services;

P. Land Contamination Report by Rileys on WLC land (referred to in the Focus report);

Q. Arborist Report by Craig Webb;

R. Report on native frogs by Alliance Ecology.

In addition, this development has relied on the cultural impact assessment provided by Ngāti Manuhiri as part of the Structure Plan feedback.

2 THE APPLICANT

This is an application by a group of landowners in the Warkworth: Clayden Road area (referred to as the 'co-operating landowners'). These landowners comprise:

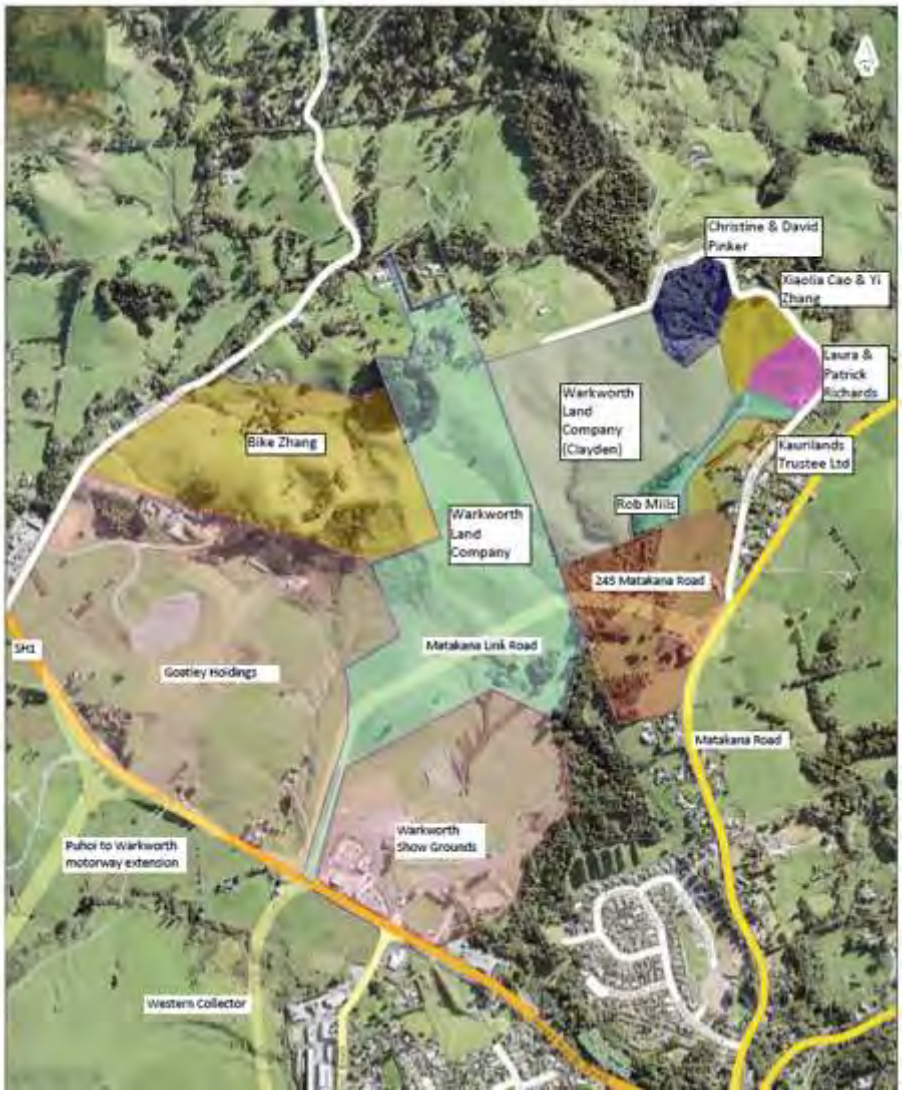
- Warkworth Land Company ('WLC') being the owner of two blocks of land known as the Stevenson and Clayden blocks. The Stevenson block is in the ownership of WLC. The Clayden block is an unconditional sale with settlement in March 2020.
- White Light Trust Limited at 245 Matakana Road.
- Kaurilands Trustee Limited at 21 Clayden Road.
- Rob Mills at 35 Clayden Road.
- Richards at 43 Clayden Road.

The plan change includes all of the land owned by the co-operating landowners.

Each landowner will develop their property independently. However, all co-operating landowners see the benefit of this joint plan change request.

Diagram 2 below shows the property ownership for each individual/company.

Diagram 2: Land ownership showing cooperating landowners and adjacent sites

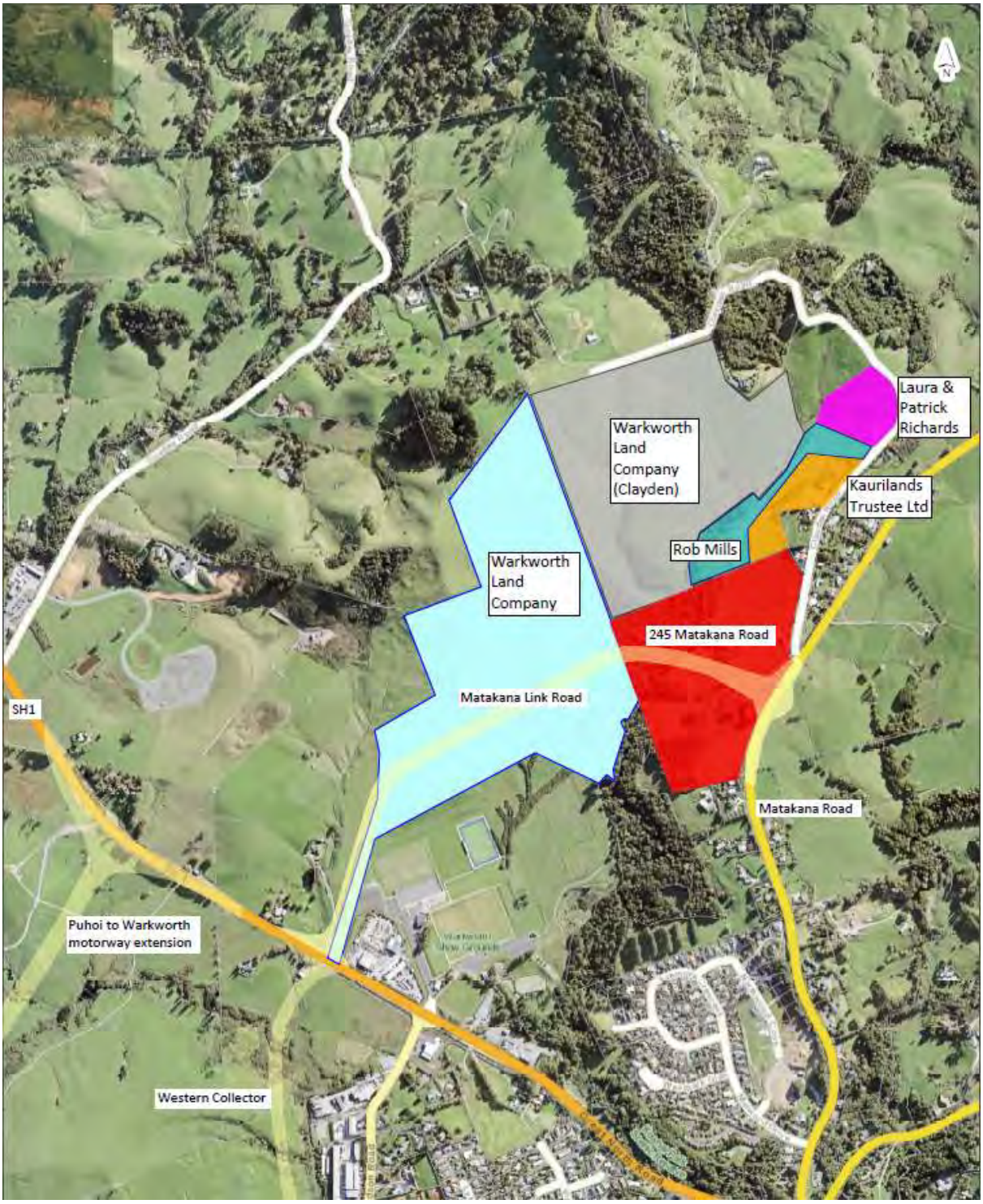


3 PRECINCT AND PROPERTY DETAILS

3.1 Co-operating land owners

This section gives a brief summary of each of the land interest. It provides context to understanding this plan change request. The cooperating landowners own 76ha of the 102ha precinct. Diagram 3 below identifies the specific land holding of the cooperating landowners.

Diagram 3: Cooperating landownership



3.2 WLC ownership

WLC is the outright owner of one block, and the beneficial owner of a second block of land, together known as the Stevenson and Clayden blocks in Warkworth North. This is shown on Diagram 4. This

combined land holding is 54.7ha. The former Stevenson block is now owned by WLC. The land purchase on the Clayden block is unconditional and fully committed. WLC has purchased this land to undertake comprehensive masterplanned development and to deliver a quality residential neighbourhood.

Diagram 4: Warkworth Land Company land

WLC is a wholly New Zealand owned company established to deliver the environmental and urban development of lands in the Warkworth area, focusing initially on this Warkworth North block set out in Diagram 5.

WLC is 80% owned by Nigel McKenna, an experienced developer of large masterplanned residential development and niche development projects. It is 20% owned by the Gough family who have extensive development experience in New Zealand.

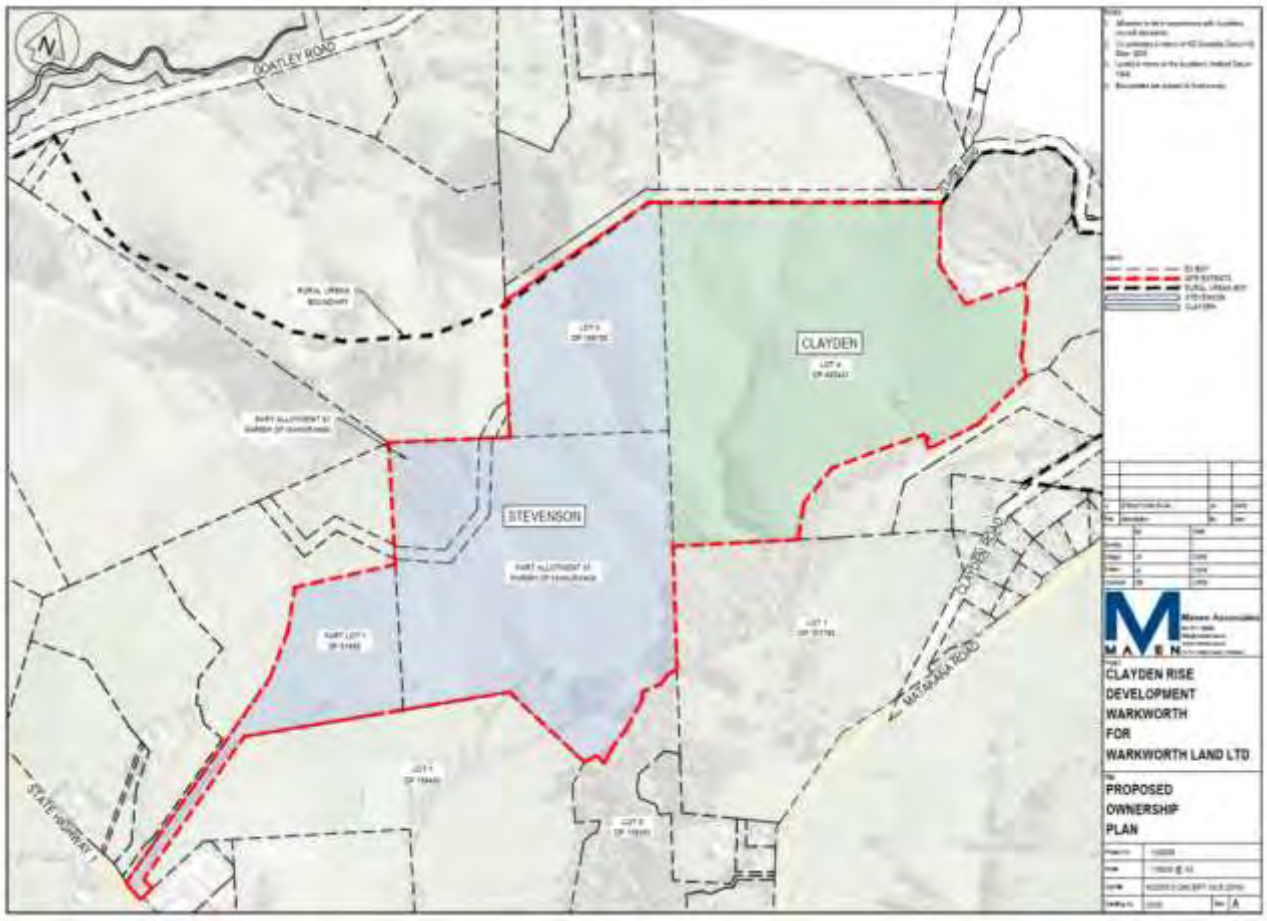
WLC is supported by an investment partner, LJ Investments Limited. LJ Investments Limited is a New Zealand registered company operating from New Zealand and internationally.

WLC has the funds and the ability to proceed with this development immediately on transfer of the titles or when development is enabled through this plan change request.

Diagram 5 below shows the WLC land holdings (current and future). This land comprises:

- Lot 3-4 Deposited Plan 199755;
- Part Lot 1 Deposited Plan 61693;
- Part Allotment 97 Parish of Mahurangi; and
- Lot 4 Deposited Plan 492431.

Diagram 5: Warkworth Land Company land



3.3 White Light Trust

The White Light Trust owns the property at 245 Matakana Road. The Trust are a long-established Warkworth family being the Membery family located on this land for four generations.

The White Light Trust land is currently a 14.7 ha block in one title

The site is cut in two by the MLR. Subsequent retitling of residual land will be required once the major roundabout and MLR construction is complete.

On completion of the MLR, it is the intention of the landowners to progress development of the property.

3.4 21 Clayden Road

21 Clayden Road is owned by Kaurilands Trustee Limited. This is a 2.4ha block of land within the Structure Plan area and suitable for residential development.

3.5 35 Clayden Road

35 Clayden Road is owned by Rod Mills. This is a 3.2 ha block of land within the Structure Plan area and suitable for residential development.

3.6 43 Clayden Road

43 Clayden Road is owned by the P and L Richards. This is a 2.1 ha block of land within the Structure Plan area and suitable for large lot development.

3.7 Other landowners

This plan change does include other properties that are not part of the cooperating landowner applicant group. This is so that the precinct has a logical boundary in terms of the Warkworth Structure Plan. The largest additional site is in bush and subject to covenants to protect the bush area.

In the case of each of these additional properties, this plan change request fully adopts the indicative zonings proposed through the Warkworth Structure Plan.

4 WARKWORTH STRUCTURE PLAN

4.1 Future Urban Land Supply Strategy

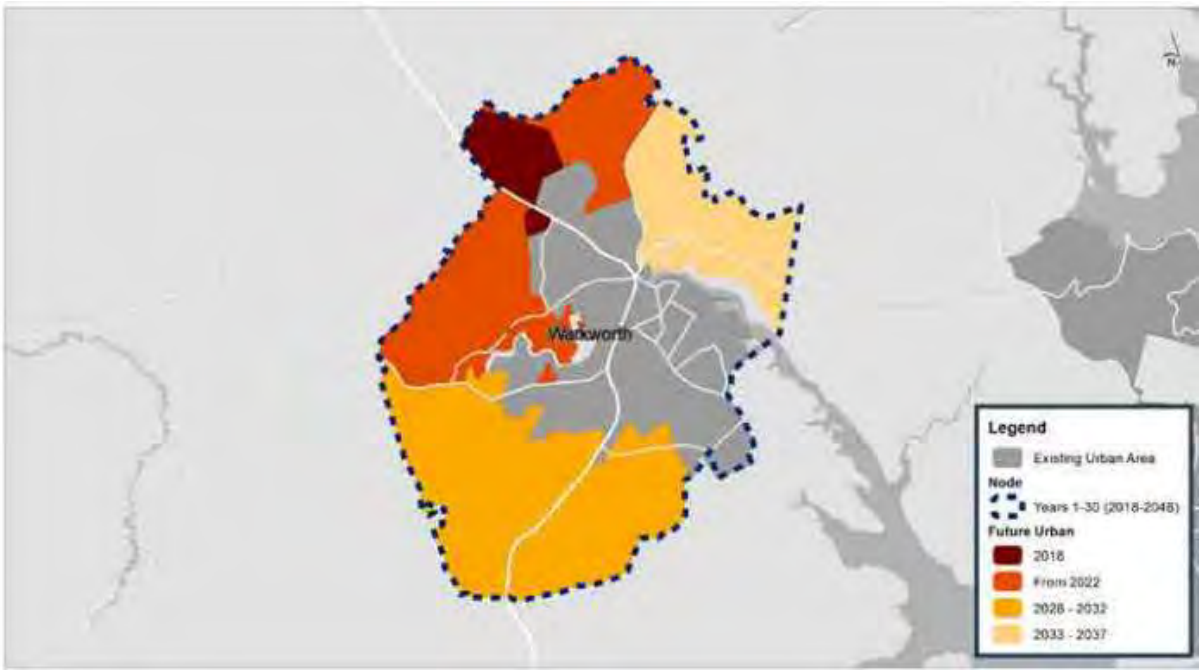
The Auckland Plan 2050 identifies Warkworth as a growth node. The Council adopted the "Future Urban Land Strategy" in 2017. This identified the phasing for release of land for urban development.

Significant residential and employment growth is expected over the next 30 years in Warkworth with around 1100 hectares earmarked as future urban land. This can accommodate approximately 7,500 additional dwellings, or an additional 20,000 people.

The Warkworth North block, including the subject land, is identified in the first tranche of land to be developed. The timing of development within the Warkworth Growth Node is shown on Diagram 6 below. It is identified as being 'development ready' by 2022.

This plan change gives effect to this strategy and is fully consistent with the timing adopted by the Council.

Diagram 6 – Warkworth Growth Node



4.2 Structure planning

A prerequisite to release of land for growth is to undertake detailed structure planning of the area to ensure it is adequately serviced by infrastructure, and achieves environmental, social, cultural and economic planning outcomes.

This Structure Plan process is the means with which this growth is enabled and planned for. The Council describes structure planning as to *"refine the staging and timing of development and identify the mix and location of housing, employment, retail, commercial and community facilities" (source: Auckland Plan 2050 website).*

4.3 Warkworth Structure Plan process

Auckland Council has embarked on a significant structure planning process for Warkworth. This commenced in 2017 with the background research. This was followed with significant periods of public feedback, community Structure Plan workshops and report back to the community on the result of the workshops.

From this a draft Structure Plan was released in the second half of 2018 with public feedback being considered through early 2019.

This then led to the final Structure Plan being adopted by the Council on 4 June 2019.

The co-operating landowners have:

(a) Been a significant participator and contributor to the evolution of the Structure Plan process. Landowners attended information days, participated in workshops, and provided extensive feedback at the various consultation and draft Structure Plan phase.

(b) The Structure Plan has been a significant informer of this Precinct Plan request and the owners development aspirations on other sites.

4.4 Final adopted Warkworth Structure Plan

This plan change has been developed to closely align with the final Warkworth Structure Plan.

The zone boundaries are closely aligned to, but do not strictly follow, the indicative zoning pattern suggested within the Structure Plan. The reasons for differences are set out in section 7 of this report.

The Precinct Plan boundaries are also closely aligned to the Structure Plan boundaries, as they apply to the subject land.

The key precinct provisions around:

- the MLR;
- special landscape areas;
- the walkway and cycleway network;

are closely aligned to the Structure Plan. There are differences but these are minor and are explained in section 7.

The issue of streams varies from the Structure Plan:

- most of the permanent streams are protected;
- the status of applications to modify these protected streams is a 'non-complying activity';
- other streams are subject to the normal plan controls;
- applications to modify streams subject to these normal controls trigger a 'restricted discretionary activity consent'.

Diagram 7: Adopted Structure Plan

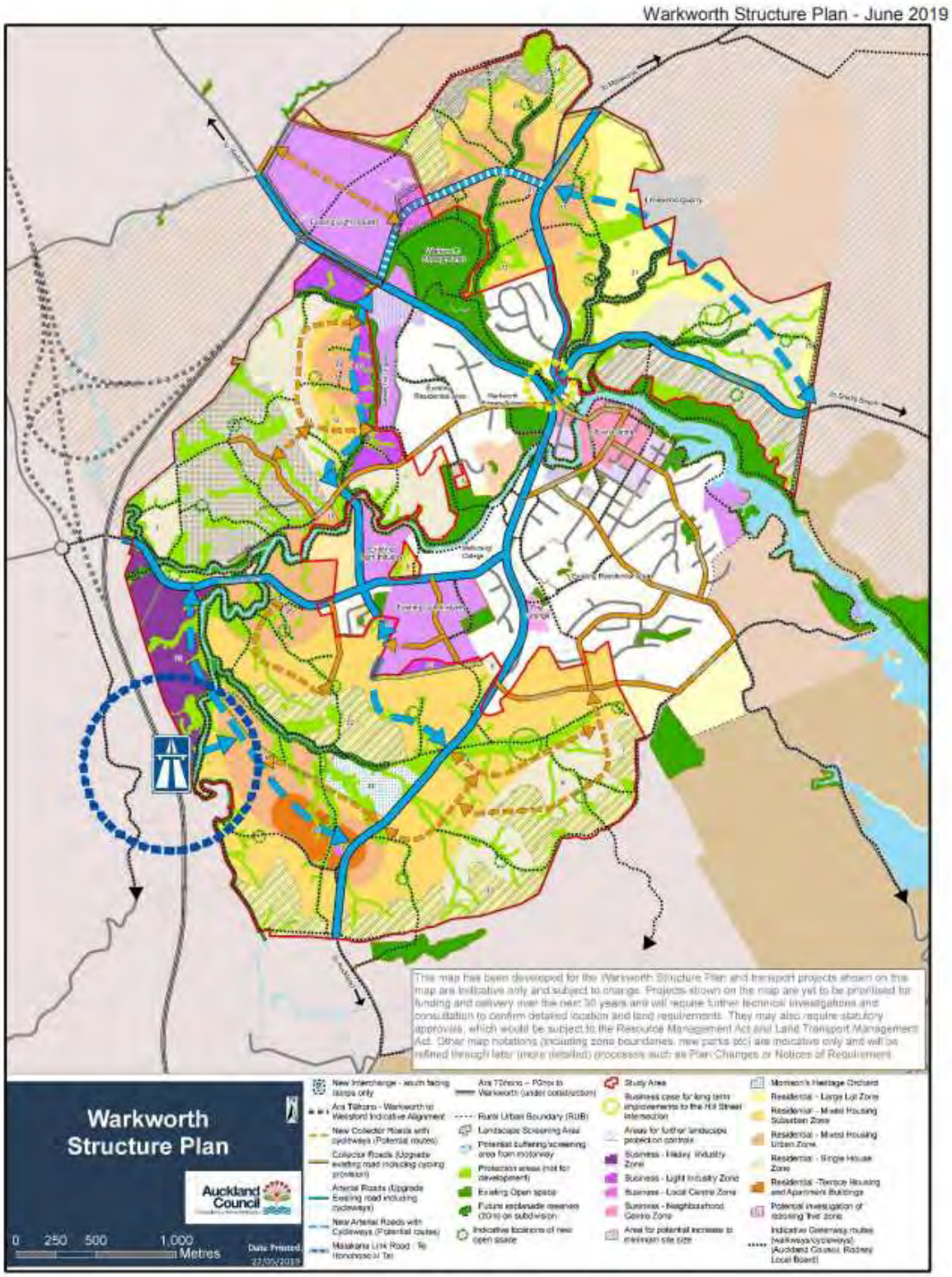


Figure 1: Warkworth Structure Plan – Land use plan

The diagram above shows the full Structure Plan for Warkworth. The key points to note from this diagram are:

(a) The Warkworth North area is the first identified phase for the additional growth of Warkworth.

(b) The construction of the MLR is a key element in providing access to the residential land in this location.

(c) There are a mix of zones with high, medium and low density.

(d) Special landscape features in the north are protected through additional density and landscaping controls.

(e) This land is well accessed from the new Pūhoi to Warkworth highway which will be completed in a similar time frame as the MLR, which will further open up this Warkworth North area.

(f) This is an integrated planned approach for the release of urban land in Warkworth North.

5 VISION AND PLANNING PRINCIPLES

5.1 The Council held a series of community consultation workshops on the Warkworth Structure Plan in mid-2018. From that, the Council distilled a vision and seven planning principles for Warkworth. These visions and principles have followed through into the final Structure Plan. The following is an outline of the Council derived vision and principles resulting from this community engagement as set out in the Structure Plan; and how the masterplan and this plan change responds to those principles.

5.2 The vision is:

"Warkworth is a satellite town that retains its rural and natural character. It is centred around the Mahurangi River and has easy walking and cycling access around the town. There are a variety of high-quality residential neighbourhoods. Warkworth is largely self-sufficient with plenty of employment, education, shopping and recreation opportunities. Transport and other infrastructure are sequenced to support Warkworth's planned growth".

The plan change responds to this vision by enabling the development of a high quality residential neighbourhood through:

- Utilising densities which provide for growth in an urban environment;
- Matching the density applied to various areas with the features of the site. For example, the highest densities are located around the MLR and the lowest density along the boundary with the rural land to the north;
- A layout and pattern of development which takes full account of the topography of the land and which achieves an interconnected and permeable pedestrian and road network;
- The protection of identified streams and areas of vegetation. These areas provide environmental protection whilst also providing amenity for residents of the neighbourhood.

In addition to creating a high quality residential neighbourhood, the rezoned land will also contribute to the vision by enabling a high number of people to live in close proximity to the town centre, the showgrounds and education opportunities.

The development of the site will also be sequenced with the development of the MLR.

5.3 The seven principles are:

The Mahurangi River is the jewel in Warkworth's crown

(i) *Protect the Mahurangi River from the effects of urbanisation as a matter of paramount importance in the development of the Future Urban zone.*

The subject land is removed from the Mahurangi River. However the plan change seeks to manage water quality entering the key tributaries of the river through adopting SMAF1 controls and implementing water quality measures.

(ii) Use the development of the Future Urban zone to improve the health and quality of the Mahurangi River wherever possible.

Under the plan change, water quality in the Mahurangi River will benefit from:

- The retirement of farmland which will reduce nutrients and sedimentation entering the tributaries and hence the river.
- A treatment train approach to stormwater to ensure water quality that eventually enters the streams and river. This includes on site retention and detention and the creation of wetlands to treat stormwater.
- The removal and reworking of artificial farm ponds to reflect original wetlands.

(iii) *Treat all the tributaries in the Future Urban zone as being vital to the health of the Mahurangi River.*

There are two main tributaries that traverse the land. Both tributaries are protected, although in the upper reaches both have been historically modified. These modified portions, which include farm ponds, are enhanced through returning the stream to its natural state with native planting to create wetlands.

Some other streams off the two main tributaries are fully protected. Some are modified and replanted. Some are reclaimed.

The main streams and minor tributaries to the extent possible are developed for ecological and amenity purposes. Any streams that are compromised will be subject to compensatory mitigation.

A portion of streams are lost. Here off-set mitigation will apply.

Character and identity

(iv) *Celebrate Warkworth's heritage, both Maori and European, and its relationship with mana whenua.*

The cultural impact assessment report for this land does not identify any wahi tapu or critical cultural elements.

The plan change is cognisant that when future consent applications are made, the Te Aranga principles will apply. The plan change therefore responds to the relevant principles in the following way:

(a) Whakapapa

In the development of the streams and parklands and in issues such as street names; appropriate naming and "story telling" will be used.

(b) Taiao

The landscaping to occur on the site will provide a specific range of native plant species that have a particular significance to the area.

(c) Mauri Tu

This principle relates to the protection of environmental health. This will be achieved by:

- Integration with the stream network;
- Protection of the bush and parkland area;
- ensuring that roofing materials are chosen to minimise heavy metal runoff into the stormwater system; and

(d) Mahi Toi

With the more detailed design stages coming up through resource consents, there are opportunities to respond to cultural aspects.

(v) Retain the current town centre as the focal point and 'beating heart' of Warkworth.

No large retail or commercial focus is proposed as part of the WLC proposal. Reinforcing the town centre is fully supported. The plan change does provide for a small neighbourhood centre of about six shops as envisaged in the Structure Plan. There will likely be a dairy and

café operation with possibly 2-4 shops to provide local servicing, but this will be at a very small scale and one that will not compete with the town centre.

(vi) Protect the views from the current town centre to the bush clad northern escarpment of the Mahurangi River and the rural views out from the Future Urban zone that contribute to Warkworth's rural character.

The views of the rural area are distant views west across the Warkworth North area to the rural land and Dome Valley ridge in the distance. The topography of this site effectively protects that outlook. Particular views of the knoll immediately north of the site when viewed from the showgrounds are recognised in the Structure Plan. This plan change protects those views through zoning and height control.

(vii) Apply lower density residential zones to areas valued for their landscape and character.

The proposal provides for a number of measures to protect the character of the interface between the urban and the Rural/Countryside Living zone. This includes requiring larger lots on the northern boundary with large lot residential zoning and 1,000m² lot in the single house zone.

The landscape amenity buffer targets some areas of 'no buildings or structures' and enhanced landscape yards.

Medium and higher densities are kept off the ridge.

The report by LA4 sets out a review of the landscape impact on this land including the lower portion.

(viii) Use the Future Urban zone efficiently to protect against the need for further urban expansion into Warkworth's valued rural hinterland.

The plan change provides approximately 1,000-1,100 residential lots. This development potential achieves the balance between setting the lower density interface with the rural zone, while providing sufficient density to create efficient use of the land and prevent further urban expansion of Warkworth beyond the Future Urban zone (FUZ). This is consistent with the Structure Plan.

A place to live and work

(ix) Provide a range of housing options in Warkworth so that it is a place for people to live at all stages of life.

The masterplan creates different section sizes in a band of high, medium and low density homes. This creates an opportunity for a range of different housing options which in turn will help create a diverse community.

(x) *Provide new local employment areas (e.g. small centres, industrial areas) so people can work locally in Warkworth.*

The subject land benefits from being adjacent to the significant light industrial zoned area of Goatley Holdings. This is currently being developed for industry as Warkworth growth proceeds. Current applications are before the Council for the creation of industrial lots.

This proposal does seek to rezone 3.6ha net area of existing Light Industrial zoned land to Residential. There are sound planning reasons for this and these are set out in this report.

Sustainability and natural heritage

(xi) *Plan to enable development of the Future Urban zone to be sustainable, including having a compact urban form, providing local employment options, enabling extensive active and public transport routes, and minimising discharges to air and water bodies.*

This plan change adopts the compact urban form, with the exception of the buffer land to the rural properties on the northern boundary of the block.

The MLR has both walking and cycling on both sides of the road. It provides for public transport. This walking and cycling network is extended into and throughout the subject block. In particular, the green fingers provide multiple functions including ecological, amenity, and connectivity functions.

While there is no local employment within the block itself (other than work from home occupations), the major adjacent industrial land does provide employment opportunities within a walkable catchment of the land.

Walking and cycling networks are provided.

The provision of a stormwater treatment train process and onsite detention and retention, together with protection of a number of streams, means that discharges to water are appropriately managed. There will be discharges, but consistent with best practice subdivision management.

(xii) *Design the Future Urban zone to be able to adapt to the effects of climate change.*

Overland flow paths and the retention of much of the natural drainage within the land responds appropriately to climate change and the likely increase of severe weather events. The Precinct Plan provides for stormwater management overland flow based on a 100 year event.

(xiii) *Protect and enhance existing bush/natural areas and create ecological corridors linking the Future Urban zone to other ecological areas.*

The plan change protects a number of permanent streams. Some streams run through open grazed farmland and are currently impacted. They are natural but they are grazed by stock. As a result of this proposal, stock will be excluded from these stream areas and the stream edges will be revegetated. These main two streams will be heavily planted and will form an ecological corridor north to south on the site and running right up from the Mahurangi River.

A well-connected town

(xiv) *Use the development of Warkworth's growth areas to help address Warkworth's existing road congestion through integrated land use and transport planning and new infrastructure.*

The key initiative impacting the land is the MLR. This new road was overwhelmingly supported through the community consultation days, and in the hearings on the Notice of Requirement. The masterplan assumes the MLR will occur in the alignment identified through the designation (which is still subject to appeal).

(xv) *Provide 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.*

The MLR will provide walking and cycling possibly only initially on the southern side of the road, but eventually on both sides of the road. This walkway network is extended up the stream corridors to provide a network of walking trails. Street designs will be set to ensure slow vehicle speeds so as to create a safe cycling environment. However, this will form part of future resource consents.

(xvi) Provide convenient, high quality public transport routes through the Future Urban zone (connecting to the rest of Warkworth, the surrounding rural settlements, and Auckland).

The proposed roading network provides direct and relatively easy connections from all parts of the development to the MLR or Matakana Road. This is the envisaged primary public transport route. Auckland Transport has stated bus services need not be future proofed on local or district roads within the precinct.

Quality built urban environment

(xvii) Design the Future Urban zone to enable high-quality and integrated urban development that reinforces the town's identity.

The plan change is intended to deliver this objective. The assessment criteria between the zone and Auckland wide provisions criteria complimented by the Precinct provisions will achieve this objective and create good neighbourhood amenity.

(xviii) Locate higher density residential areas around appropriate amenities.

Consistent with the principles of the Unitary Plan, high density development is focused along the MLR with its integrated walking and cycling network and the potential for future public transport Many sites have extensive outlook across the Warkworth Domain and adjacent native bush. The stream network provides recreational open space and amenity.

(xix) Provide well located and accessible areas of open space linked by a green network of walking and cycling trails along the streams.

This development provides extensive open space through the stream network. This green network has extensive walking and cycling trails that follow the main streams on the land.

Infrastructure

(xx) Plan for infrastructure (transport, water, etc) to be ready before new houses and businesses are built in the Future Urban zone.

The landowners accept that the staging of development within Warkworth North will be related to the provision of key infrastructure, particularly the completion of Stage 1 of the MLR and the upgrade to the wastewater network. The landowners intend that the development will be staged so that new homes coming on stream coincide with completion of these two infrastructure projects.

The MLR is a committed project with a programmed immediate start on obtaining the necessary regulatory approvals. Watercare have confirmed that their upgrade to the wastewater treatment network for Warkworth and Mahurangi takes account of the anticipated growth within the Warkworth North area.

The other key infrastructure element is stormwater. Stormwater does not rely on any major off site infrastructure works. Stormwater is managed through a 'treatment train' process, on site detention and retention and management of water entering the streams within the land.

Watercare have confirmed that their infrastructure rollout of potable water for Warkworth takes account of the level of development in Warkworth North envisaged within the masterplan.

(xxi) *Provide for social and cultural infrastructure (i.e. libraries, halls, schools, community meeting places) to support the needs of the community as it grows.*

The plan change provides enough critical mass within the neighbourhood north of the MLR to provide for the type of social infrastructure important to a community. This includes a dairy, café and preschool. The land adjoins or is close to the Warkworth Domain and therefore provides very significant recreational opportunities for residents.

The community consultation process identified the desire for the Northern Arena development in this location. The plan change provides the opportunity for the Northern Area complex on the WLC land. This keeps the option open for future decision and certainly futureproofs this site, seen as important by the community in the consultation process on the Structure Plan.

These principles have been carried forward into the plan change as appropriate.

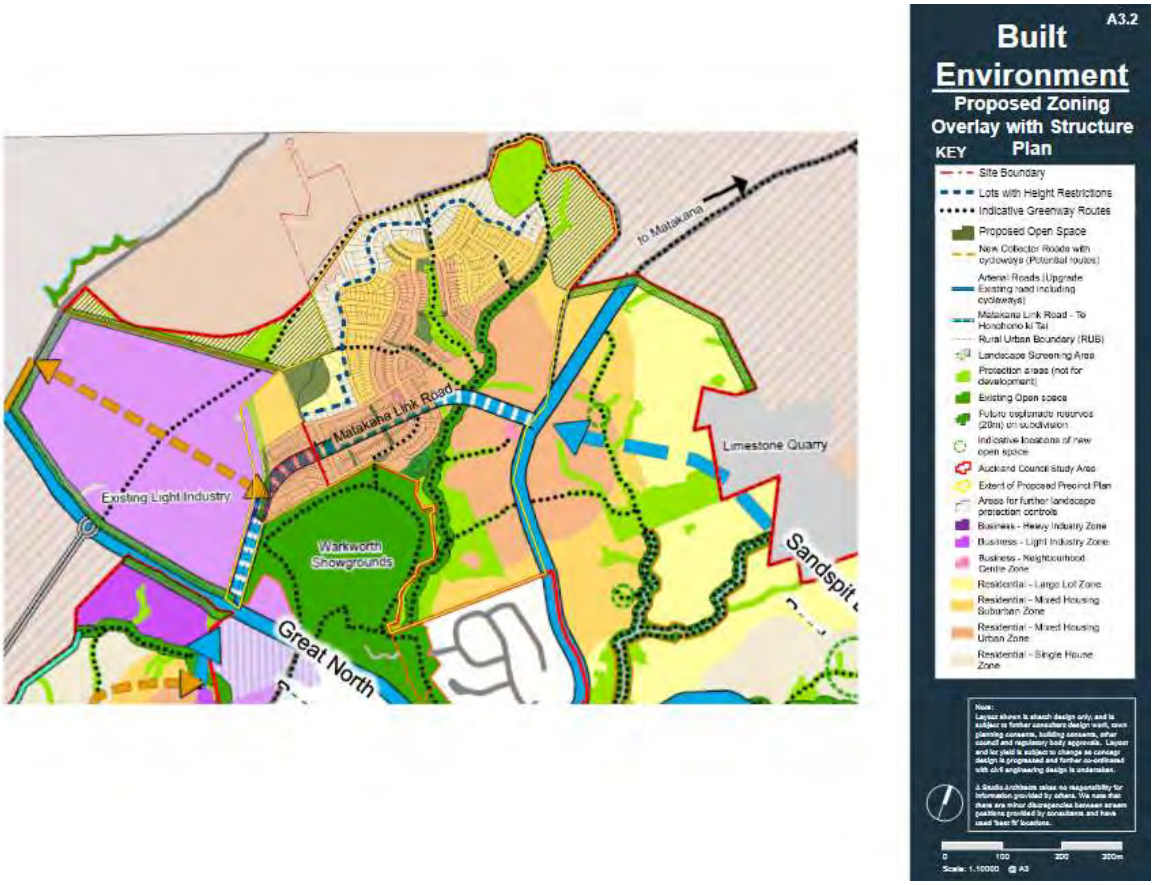
6 PLANNING APPROACH

6.1 Overview

This plan change request is generally aligned to the Warkworth Structure Plan.

Diagram 8 shows this plan change request superimposed on the Structure Plan. It is only intended to give a comparison between the adopted structure plan duplicated from Diagram 7 and this request. This plan change follows a detailed analysis of the land, the vision and key principles for the Structure Plan area. This analysis is summarised in this report and the technical reports forming part of this request.

Diagram 8: Requested Structure Plan: Warkworth North



The key points of alignment between the Structure Plan and this requested plan change are:

(a) Application of the Mixed Housing Urban zone along the MLR and north along the primary stream network.

(b) A special height limit applied at the western end of the MLR to protect views of the knoll.

(c) Introduction of site specific features along the RUB boundary to set a minimum site area of 1,000m² (rather than the 600m²) within the Single House zone, and to introduce a special 6m landscape yard. This has the effect of creating housing building platforms on the lower parts of the site with a large yard and landscaping on the upper portion of the site.

(d) Large Lot Residential zoning of any key landscape features.

(e) Protection of the MLR alignment.

(f) Creation of key walking and cycling connections.

The key differences between the Structure Plan and this requested plan change are:

(i) Expansion of the Mixed Housing Suburban zone in the middle portion of the block north of the MLR.

(ii) Introduction of Countryside Living zoning on the knoll at the western end of the WLC land. This responds to the view that this knoll has landscape character. If there are issues for the Council with this 'Country side living' zone being within the RUB, the co-operating landowners are open to either rezoning this land 'large lot residential', or amending the RUB to move this site outside the RUB.

(iii) Relocating the notional park within the Warkworth area by 250m to position the park within the key walkway and cycleway network and in an area where it can form a multiple function integrating the bush, stream and informal recreation opportunities. The protected land below the knoll is a potential passive open space park area.

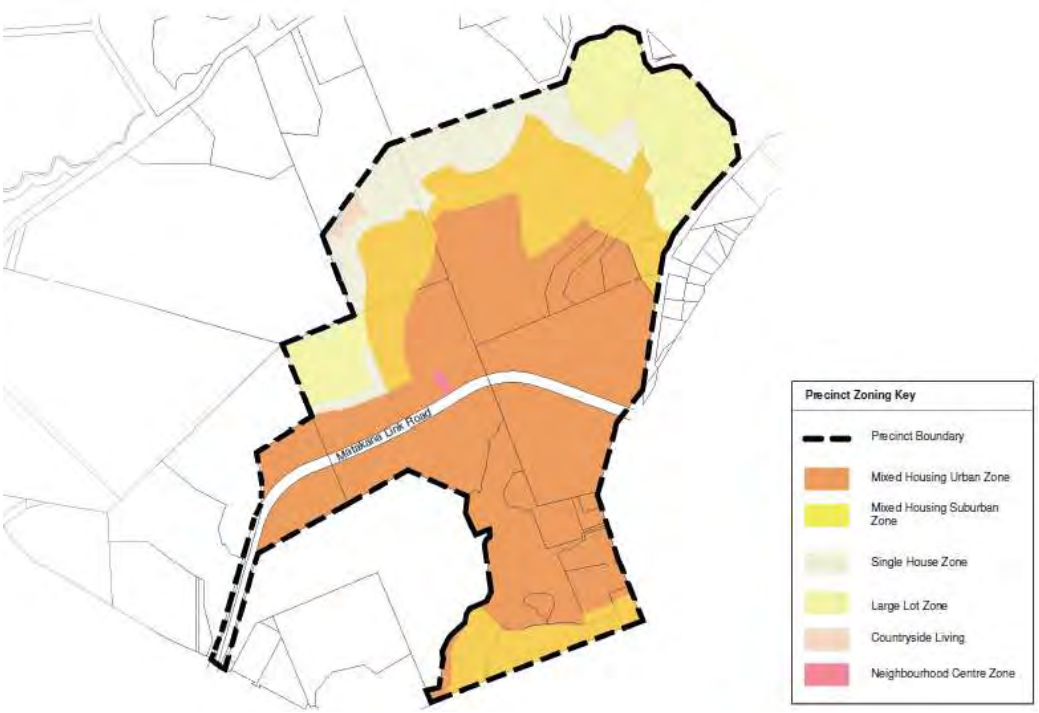
(iv) Rezoning of the Light Industrial land at the western end of the land from Light Industrial to Mixed Housing Urban.

(v) Protection of some but not all streams.

6.2 Zoning

Diagram 9 below shows the zoning proposed for the area.

Diagram 9: Zoning



The extent of zones is shown in Diagram 9. The rationale for this requested rezoning is set out within the following paragraphs.

6.3 Mixed Housing Urban

The Structure Plan identifies key elements which are characteristic of high density zoning, namely:

(i) proximity to the Warkworth town centre;

(ii) improved roading infrastructure;

(iii) access to potential future public transport;

(iv) access to major public open space.

These elements are consistent with the Unitary Plan approach which focuses growth down major transport corridors and around town centres.

The analysis of the Warkworth Clayden Road area has identified that:

(v) the land around the Warkworth town centre is already developed and is not factored into the need for key growth within the Structure Plan area;

(vi) the Warkworth North area is some 2.5km (direct line) at its longest point from the town centre;

(vii) the MLR and the Pūhoi to Warkworth motorway will transform the roading network and accessibility issues in the Warkworth North area;

(viii) the MLR is being futureproofed for public transport. The land take from WLC fully recognises this futureproofing and WLC has supported that;

(ix) the open space network within the subject land provides for walking and cycling and enhancement of some streams within the site for core open space purposes, as well as their ecological benefit;

(x) the subject land adjoins the largest recreational space in Warkworth, being the Warkworth showgrounds, and the significant amenity benefit this brings in overlooking this large open space area.

The land zoned Mixed Housing Urban on Diagram 9 exhibits all the characteristics of Mixed Housing Urban land. In terms of roading connections, future public transport connections, walking and cycleway networks, access to open space; high amenity and location within a growth corridor, this is among the land that most exhibits these characteristics within the entire Warkworth Structure Plan area. It is also within reasonable distance of the town centre and is well placed to reinforce the town centre.

It is also within the land which is in the first tranche of release of land at Warkworth for urban growth. It is being set up so that it is well serviced by all forms of infrastructure.

Demonstrably this land should be zoned Mixed Housing Urban as is contemplated in the Warkworth Structure Plan.

6.4 Mixed Housing Suburban

The middle portion of the subject land is requested to be zoned Mixed Housing Suburban. This plan change proposes to extend the Mixed Housing Suburban zone further north than that contemplated in the Structure Plan.

The Mixed Housing Suburban zone is the standard residential zone providing for growth. In terms of the Warkworth North area:

(i) The WLC land has a good westerly aspect and high amenity with great views and outlook.
(ii) When the MLR is complete it is well serviced in terms of roading infrastructure with good access to future public transport routes.
(iii) It has good access to open space and to local parks and recreational facilities.
(iv) It is to be serviced with the upgraded infrastructure within the MLR and surrounding area.

In terms of the landscape character, as identified previously:

(i) The dominant landscape is the significant ridgelines of the Dome Valley which are of high landscape value, but sit outside and beyond the subject land. The elevation of this ridgeline rises well above the minor knoll north and ridgeline along the RUB. You look over the precinct land to this landscape feature.
(ii) There are no landscape features within the subject land.
(iii) There is a knoll described as having landscape character on the Countryside Living portion of the current site. This area and the lower part of the knoll is to be protected.
(iv) The knoll at RL105-115 and the highest portion of the Mixed Housing Suburban zone which generally follows RL 95.
(v) The grove of bush at the eastern end on the site is protected through the precinct provisions.
(vi) The land at 43 Clayden Road adopts the large lot residential zone with the lower densities intended to contribute to the landscape character.

The requested Mixed Housing Suburban zoning closely aligns to the Warkworth Structure Plan.

6.5 Single House

The majority of the northern portion of the subject land which interfaces with the RUB and Countryside Living to the north is requested as Single House zoning.

The description of the Single House zone includes:

> "*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.*"

This is the low density zoning.

The Single House zone complemented by the density and landscape yard controls addressed below, is the appropriate balance between creating efficient use of land, and not squandering the scarce resource of 'Future Urban' zoned land; while at the same time creating an appropriate interface between rural and residential land. The larger section size and lower coverage provides a more spacious environment for landscaping which will complement the 'Countryside Living' zone on the upper slopes. This still allows reasonable development potential for the land. It also creates sufficient yield for land developers to be able to fund high quality infrastructure services.

This Single House zone creates the interface to the protected bush areas in the north-east of the site, the knolls to the west and east of the site, and the saddle between the two knolls.

The Single House zone is the appropriate zoning for this portion of the land. It follows the zoning contemplated in the Warkworth Structure Plan, but with the additional landscaping and yield controls at the northern boundary of the site.

6.6 Rezoning the Light Industrial land to Mixed Housing Urban

This plan change rezones 5.17ha of land from Light Industry to Residential. However 1.5ha is committed to the MLR regardless of the zoning. Thus the net effect in terms of usable industrial land being rezoned to residential is 3.67ha.

The MLR has effectively severed the Light Industrial land from the rest of the industrial estate in this part of Warkworth, or required difficult and protracted access to the industrial land. The northern block of Light Industrial land is not accessible from the MLR because of the alignment of the MLR and the retaining walls as it passes around the bend within the Light Industrial zoned portion of the precinct. For access to this site, industrial traffic needs to travel further east along the MLR into the

residential neighbourhood, turn north at that point and then travel back through the residential neighbourhood to gain access to a small pocket of Light Industrial land. Clearly this is a poor planning outcome. Truck and trailer vehicles servicing Light Industrial properties are not suitable vehicles on local roads. It is poor planning practice to have Light Industrial land at the end of the cul-de-sac roads on new residential development.

The land south of the MLR could theoretically get access from the MLR in a new intersection being created to serve the industrial land to the north. However, this site is small and constrained and would require very substantial intersection upgrades to enable truck and trailer units to sit on the MLR in a right hand turn pocket. This would mean that WLC would be expected to fund significant widening and upgrade to the MLR to access a small pocket of Light Industrial land. This area is also targeted for the 'Northern Arena' site being an important recreational complex for the Warkworth community. That complex is a suitable and compatible use located adjacent to the Warkworth showgrounds.

The method to make provision for the arena site, is appropriately through a precinct control. A site specific issue can provide for the northern arena.

The analysis elsewhere in this report indicates there is no shortage of Light Industrial land. This is not a scarce resource needed for employment purposes. Rather this is an inappropriately zoned nodule of Light Industrial land severely compromised by the MLR, and demonstrably the wrong zoning. The Warkworth Structure Plan identifies that this zoning should be 'investigated'. The land should be zoned Mixed Housing Urban and Mixed Housing Suburban.

6.7 Large Lot Residential zone

This plan change identifies large lot residential development in the north-eastern corner of the precinct and in the north-western area. This zoning allows for residential development on sites of 4,000m². These areas are identified for large lot residential development in the Structure Plan.

6.8 Neighbourhood Centre zone

The Warkworth Structure Plan envisaged a neighbourhood centre being located at the corner of Matakana Road and MLR. This plan change provides for a neighbourhood centre but shifts it to part way along the MLR on the northern side. In terms of the cooperating landowners, the owners of 245

Matakana Road do not see a neighbourhood centre as being an economically feasible development on their site, fundamentally because of the severe transport access restrictions imposed through the MLR. There can be no full intersection access to this site. Left-in and left-out only turns are provided.

By contrast, WLC is a willing provider of the neighbourhood centre and will work with commercial operators to create this centre as housing progresses. The site chosen for the neighbourhood centre is on the northern side of MLR at the primary intersection. This will be a light controlled full access intersection.

6.9 Overlay: SMAF 1

It is normal practice for the Council to apply the SMAF 1 overlay to the rollout of new development within greenfields area. SMAF 1 effectively requires appropriate on site detention and retention of stormwater prior to entering the public system.

The cooperating landowners support and acknowledge the need for good quality stormwater management within the site. This is embodied in other aspects associated with this plan change.

By applying the SMAF 1 classification to this land, it embodies the standard Auckland-wide provisions for stormwater management to this land.

6.10 Precinct provisions

It is proposed that the area be subject to special precinct provisions. This mechanism enables the Council to bring down area specific controls in this part of Warkworth.

Diagram 10 shows the proposed precinct boundary. Effectively it follows the relevant boundary of the Structure Plan. The main difference is it includes part of the established light industrial zones which are either proposed for rezoning or impacted by the MLR. This industrial zoned land was not formally part of the Warkworth Structure Plan.

Diagram 10: Precinct Plan boundary

Diagrams 11-13 shows the Precinct Plan which would be included within the plan change. There are three plans. Plan 1 highlights a number of key features including:

(a) special subdivision and special landscape controls to protect particularly the upper knoll and ridgeline behind the precinct;

(b) special height limits;

(c) special yard controls;

(d) location of parks and key open space;

(e) the creation of a site for the northern arena;

(f) MLR connections;

(g) Noise management areas and related controls;

(h) Walkway/cycleway network.

Diagram 11: Precinct Plan

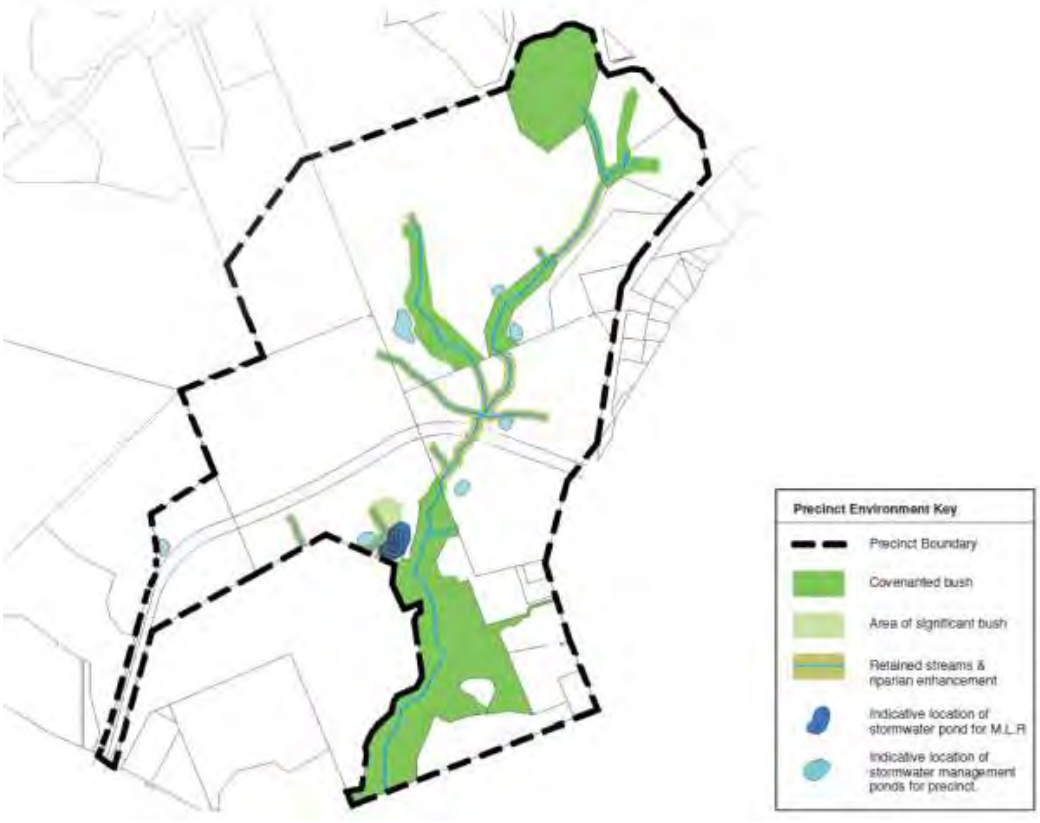
Precinct Plan 2 highlights the key environmental features, namely:

a. covenanted bush;

b. retained streams with riparian enhancement;

c. stormwater management ponds.

Diagram 12: Precinct Plan 2



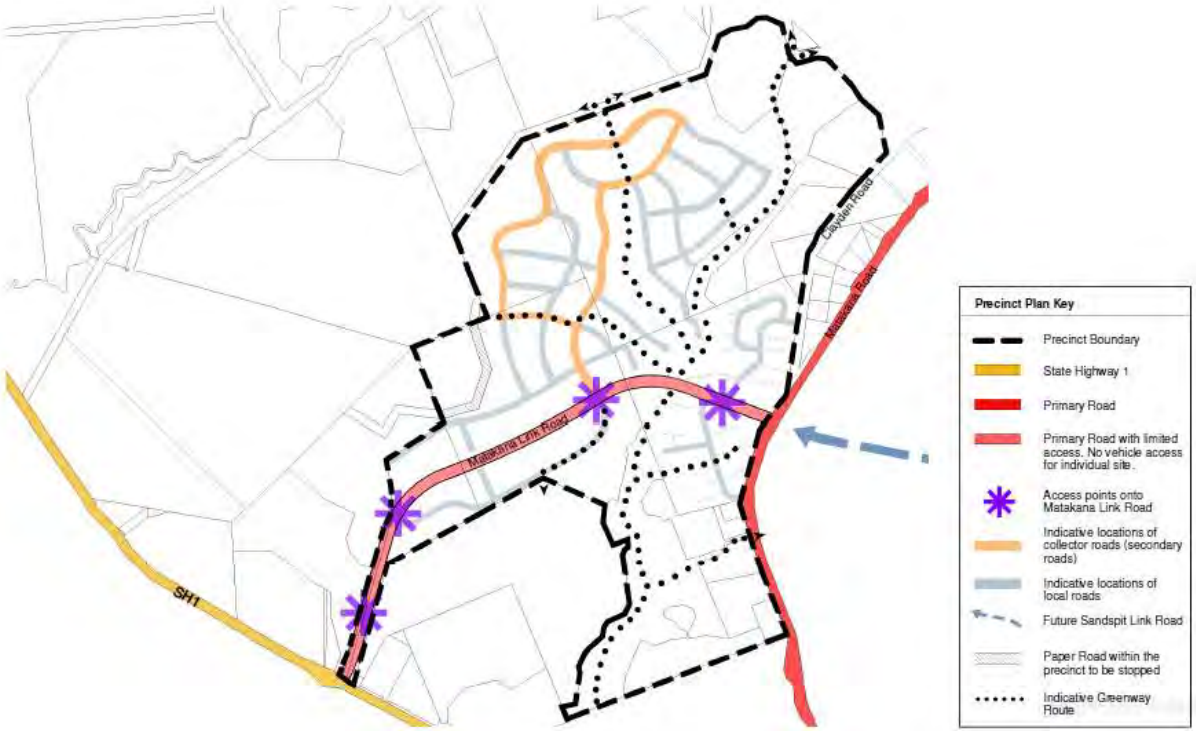
Precinct Plan 3 sets out the transport information relevant to the precinct. It covers the key elements including:

(a) The Matakana Link Road and approved access points.

(b) The local road network.

(c) The walkway network.

Diagram 13: Precinct Plan 3



6.11 Special density and landscaping controls at the interface between residential and rural land

The Warkworth Structure Plan seeks to impose controls on density and landscapes at the RUB interface. This technique is adopted in this plan change.

To complement the Single House provisions for a range of sites which are at the interface, special density, yard, height and landscape provisions are proposed.

These provisions:

a. Set a minimum subdivision size of 1,000m² net site area.

b. Require a larger 6m landscaped rear yard (compared to the standard 600m² net site area).

c. Set a maximum height limit of one storey (5m) for buildings within 10m of the RUB (effectively meaning no building within 6m of the RUB then only one storey buildings between 6m and 10m of the RUB). This pushes any two storey buildings off the ridge.

d. Requires 50% of the yard to be planted in native bush attaining a height of at least 5m on maturity.

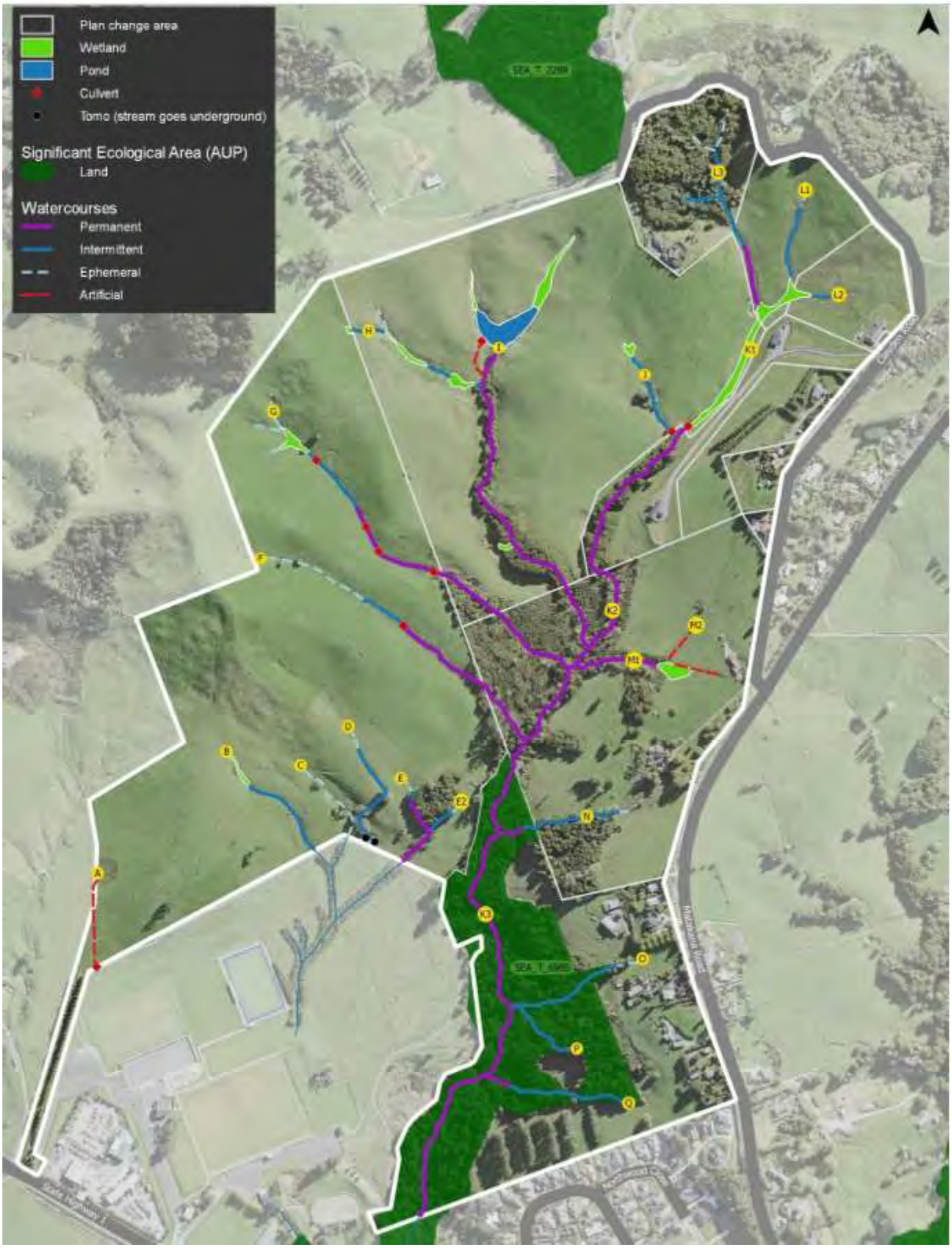
These provisions will set a higher degree of spaciousness on the sites in this location and will ensure significant landscaping opportunity on the northern boundary at the interface. This concept of how these controls combine to protect this character is shown on Diagram 14.

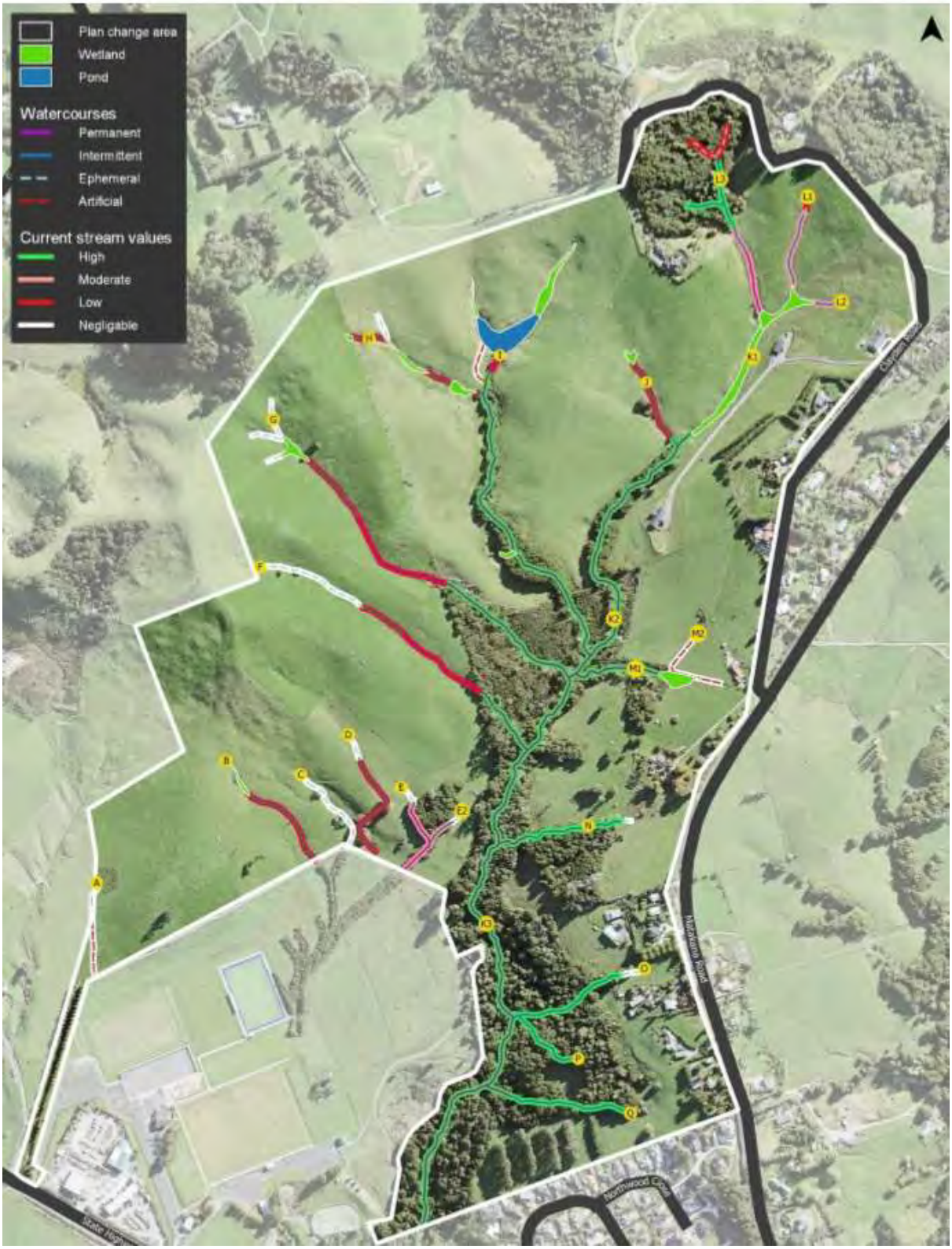
Diagram 14: Ridgeline View Protection Measures

6.12 Stream and Terrestrial Ecology

Diagram 15 is an extract from the Freshwater Solutions report identifying the status of different streams on the site.

Diagram 15: Streams





Source: Figure 12 "Stream classifications (AUDOP), ponds and wetlands within the site, prepared by Freshwater Solutions

Diagram 16 shows the terrestrial ecology within the Precinct.

Diagram 16 Terrestrial Ecology

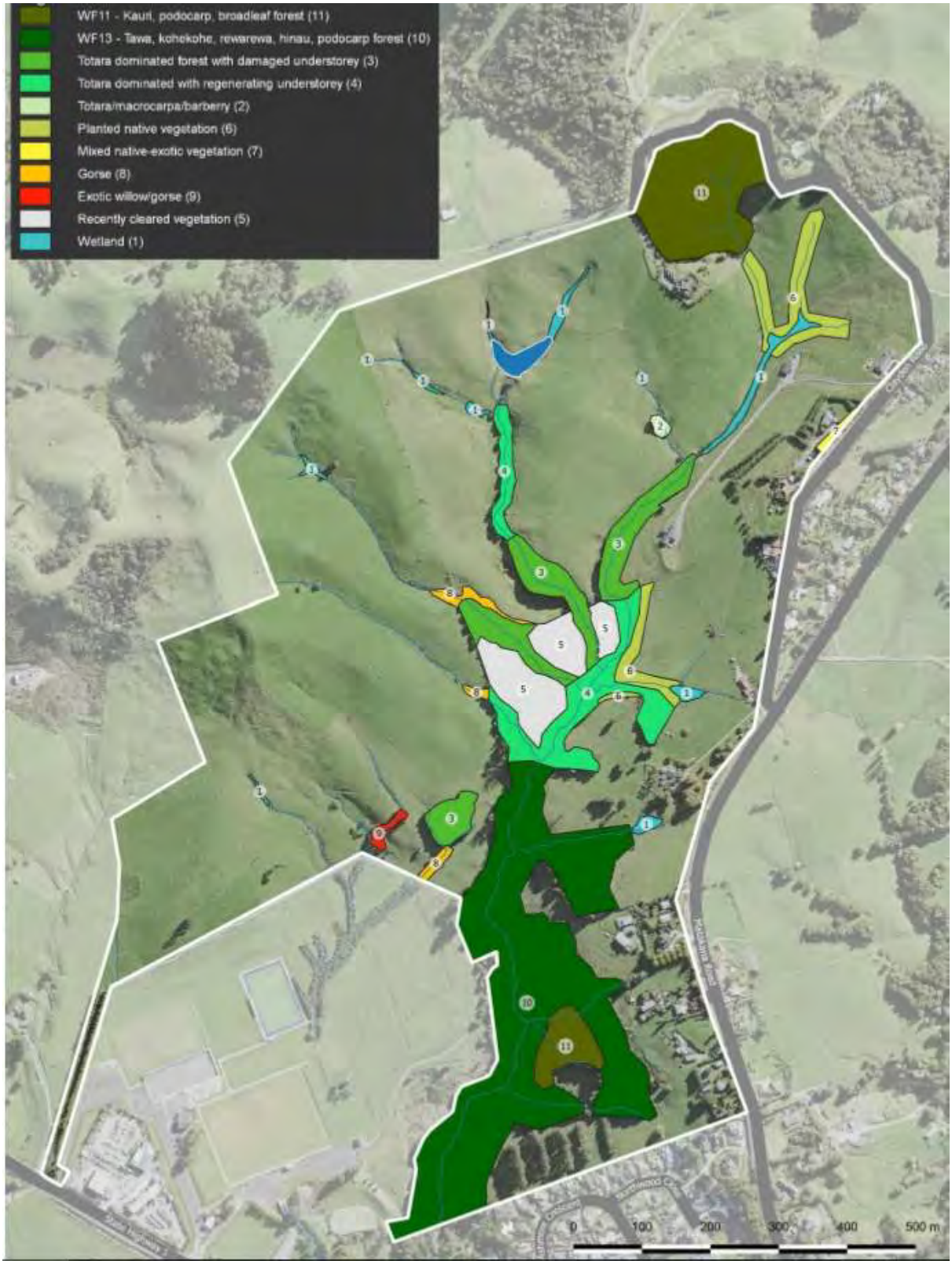
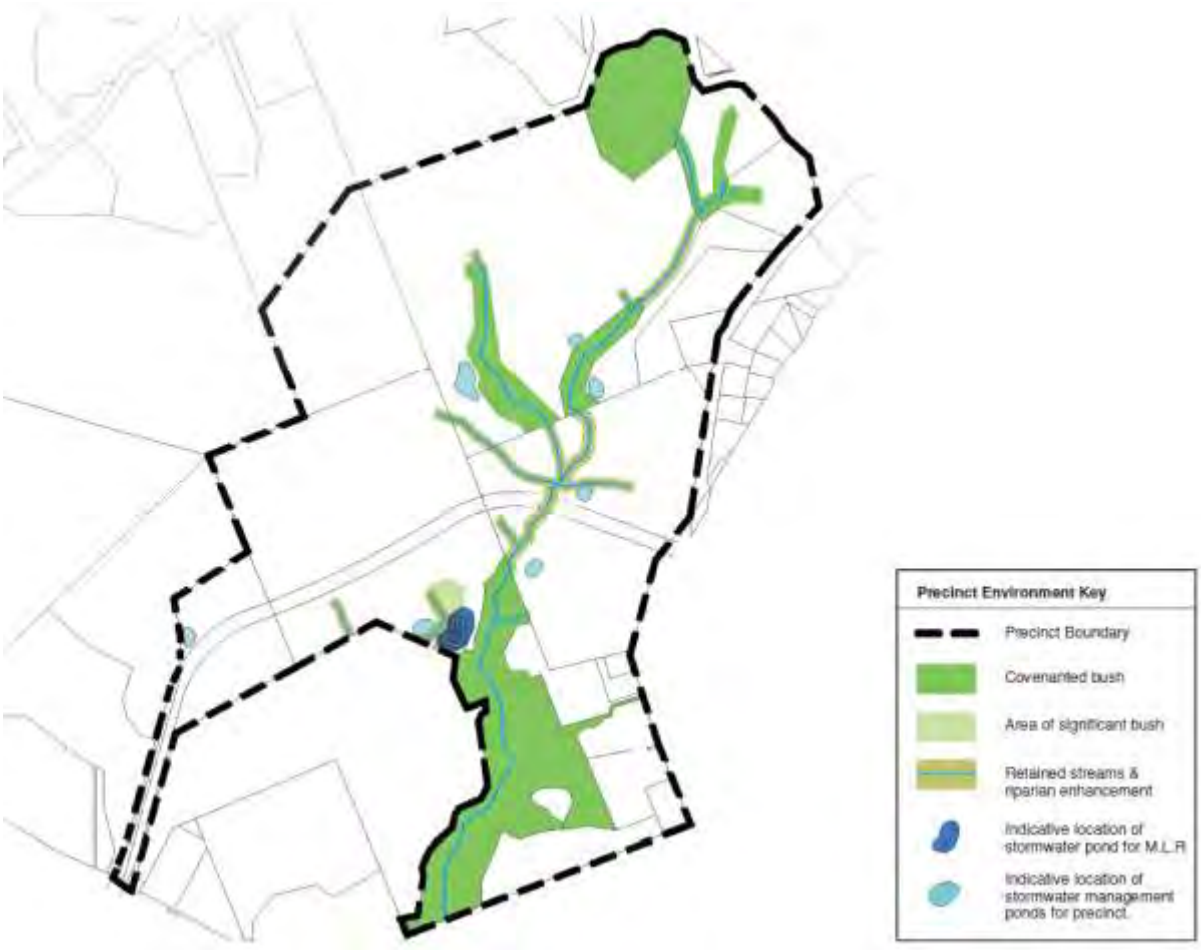


Diagram 17 shows the key streams to be protected within the precinct.

Diagram 17: Streams to be protected



The work by Freshwater Solutions has identified:

- Key terrestrial ecology located within the precinct. Some of this is already protected by way of covenanted bush areas. Others are currently unprotected.
- Streams classified as to being permanent, intermittent or ephemeral.
- Classifying streams as high, medium or low value.

The precinct provisions identify the key terrestrial ecology and stream areas to be protected. These are shown within Precinct Plan IXXX.9.2. These provisions apply in addition to the standard Auckland-wide provisions. Reclamation of these identified streams is set as a non-complying activity in this plan change (otherwise they would default to a discretionary activity under the Auckland-wide Rules).

Some ephemeral streams, intermittent or low value permanent streams are not identified on the Precinct Plan. These streams will be assessed in terms of the criteria outlined in the Precinct Plan.

Essentially, and for reasons outlined later in this report, there is a balance to be achieved between providing for growth and stream protection. High values permanent streams are protected. Low and medium value streams may be subject to assessment to identify the balance with growth. Initial indications are that some of these streams will be reclaimed but reinstated at a different stream bed level or different alignment. Others will be reclaimed altogether.

The provisions provide for full assessment of these matters as a restricted discretionary activity. The same objectives and policies apply as to stream management under the Auckland-wide Rules. Matters of discretion are inserted including:

- steam ecology;
- base flow;
- management of water flow;
- offset mitigation;
- stream bed level;
- riparian planting;
- overland flow;
- providing for growth and development.

A detailed set of assessment criteria are inserted.

Precinct Plan IXXX.9.2 also shows the key terrestrial ecology areas to be protected. This goes beyond the current covenanted protection.

6.13 Park relocation

The indicative neighbourhood park location shown on the Structure Plan is relocated to a key part of the site which enables it to integrate with the walkway, cycleways and pleasance areas that forms the stream network at the lower end of the WLC land. The protection of this land is part of the core principle of protecting the tributaries of the Mahurangi. The location is also chosen because it will enable the creation of a children's playground and informal recreation areas. The benefits of a park in this location will:

- give ecological advantage,
- create a significant pleasance area located alongside protected stream and bush,
- connect to a walkway/cycleway network,
- connect via the walkway back down into the Warkworth reserve
- have sufficient usable space for playgrounds, seating, barbeque etc.

This is a location which will offer a high amenity for a park location.

Diagram 11 (Precinct Plan) shows the existing proposed park and new proposed park.

6.14 MLR connections

The MLR is a limited access road. The co-operating landowners have in principle supported the limitation on access on to the MLR, as has the other directly impacted owner Goatley Holdings. In the case of Goatley Holdings, WLC and White Light Trust, these properties will need intersection access to the MLR. In one case this is the only legal access to formed roads (once built) and in the other two cases is an essential and fundamental part of gaining access to the land. In each case the landowners currently have legal access. Under the MLR there is no or significantly reduced access entitlement. This plan change corrects that anomaly.

There have been extensive discussions and agreement with Auckland Transport over the location of the access points. Diagram 11 (Precinct Plan) shows the proposed access points within the Precinct Plan as proposed by AT and agreed by the effected landowners. While at the time of writing this report, the Notice of Requirement for the MLR was still subject to appeal, the access issues now appear to be settled and all parties expect this to be reflected in the final appeal settlement. The detailed design of intersections will occur at the time of subdivision.

The plan change adopts these agreed access points. It also confirms there is no vehicle access from individual sites to the MLR.

6.15 Northern Arena

The public consultation identified the strong desire for a major indoor recreational facility focused on a swimming pool. The Northern Arena has aspirations to provide this service similar to their existing facility at Silverdale.

The Northern Arena has long targeted a site on the WLC land immediately adjacent to the Warkworth Domain. This is a logical collocation of active sport facilities. It creates a suitable site with good access to the MLR (if the connections referred to above are agreed).

This is a site specific provision. It is logical to make explicit provision for this within the Precinct Plan provisions.

6.16 Reverse Sensitivity controls

Reverse sensitivity associated with the industrial estate to the north-west is a key component of this plan change.

Three measures are put in place.

(a) A no-complaints noise covenant is imposed on the properties rezoned from Industrial to Residential. This "no complaints covenant" will acknowledge that these properties are adjacent to industrial zoned land. It will also acknowledge the approved helicopter landing facility within this industrial block. The no complaints covenant will mean that residents both acknowledge the industrial and helicopter usage and are prevented from lodging complaints against helicopter operations complying with the issued consents and against industrial activity which complies with the zonal and Auckland-wide standards.

(b) A noise measurement line is imposed on the original boundary between Light Industry and Residential land, i.e. slightly east of the current boundary. This noise measurement line creates the location applicable to the measurement of noise levels for the helicopter facility. The current consent sets noise limits at the nearest residential boundary. Effectively by rezoning a portion of the industrial land as residential that boundary has been brought closer to the helicopter operation. This control establishes the status quo location as the point at which these noise levels are measured. This will also require a section 127 application on the resource consent to formalise this measurement point.

(c) A special landscape yard is set within the residentially zoned land within the precinct. This will complement the setback within the industrial land in accordance with the standard zonal rules.

The cumulative effect of these three measures will successfully address matters of reverse sensitivity.

6.17 Precinct objectives and policies

This plan change sets up distinct objectives and policies for the precinct. These are structured in the normal way where they are in addition to the underlying zone and 'Auckland wide' objectives and policies. These area specific provisions are drawn heavily from the Structure Plan. They include issues around:

- providing for growth;
- setting an intensity of development which will lead to the efficient use of land;
- providing for a range of housing typologies and therefore lifestyle choice;
- focusing higher density around the MLR and Warkworth Showgrounds;
- protecting key landscape features and setting policies relating to the character of the rural urban interface;
- managing reverse sensitivity at the industrial/residential face;
- managing the effects of stormwater;
- providing for the walking and cycling network;
- setting in place controls on buildings in sensitive areas.

6.18 Precinct rules and assessment criteria

The underlying zone and Auckland wide rules apply within the precinct. However there are some specific rules generated by the particular features of Warkworth Clayden Road. These include:

- special yard and landscaping controls along the northern boundary;
- special subdivision standards within the Single House zone on land adjoining the northern boundary;
- special height limits relating to the northern boundary;
- special height requirements for buildings adjacent to the Warkworth Showgrounds;
- limited access on to the MLR.
- reverse sensitivity control relating to noise.
- provision for the Northern Arena;
- controls on the use of high contaminant yielding materials.

The activity table and rules in turn generate uses or rules which benefit from assessment criteria being included within the precinct plan.

6.19 Notable trees

There are no notable trees on the land either identified in the AUP or through the structure plan process

The co-operating land owners have had an ecological assessment and an arborist assessment undertaken. Certain groves of trees are to be protected (or are currently protected) as outlined earlier in this report.

The report by Craig Webb Consultant Arborist identifies that with one exception, there are no 'notable' trees that warrant protection within the plan changes area. This follows a detailed assessment of the cooperating landowner sites and an appropriate assessment of all other land within the plan change area from public roads or cooperating landowners' property. The possible exception for consideration are three potential notable trees on the site at 245 Matakana Road. These are two Pin Oaks (Quercus palustris) and an Oriental Sweet Gum (Liquidambar orientalis).

Mr Webb's report includes an assessment of the trees. He has undertaken that assessment using the Auckland Council's scoring system. Under that system each tree has scored 26. The Oriental Sweet Gum is identified as having health integrity issues and is not seen as contributing to the character of the area.

Notwithstanding that the trees meet the Auckland Council scoring system, Mr Webb concludes that the trees are not worthy of protection. His reasons are set out within this report.

All three of these trees are in close proximity to the new designated land for the Matakana Link Road. Part of the enabling works appear to come within the dripline of one of the trees. The White Light Trust's understanding is that this tree may need to be removed as part of the MLR. The other two would be immediately alongside the effected land area.

The landowner believes that it is unreasonable for them to schedule the trees for the following reasons:

- They have recently signed agreements with Auckland Transport over impact on their property for the MLR. In this they have acknowledged the work is in close proximity to the trees and one of these may in fact need to be removed. They would not want an

implication that in a plan change request they are trying to in some way compromise this agreement.

- It is unreasonable for them to have to accept the impact of the MLR, restricted property access and on top of that notable trees all in this one location for public good reasons.
- Notwithstanding the Council's scoring system, the cooperating landowners' arborist actually believes the trees are not worthy of protection.

Consequently this plan change is advanced on the basis there are no notable trees to be scheduled in the plan. These matters can be addressed through the plan change process.

6.20 Conclusion

The changes set out above deliver a zoning pattern which is consistent with the Warkworth Structure Plan and also the objectives of the Unitary Plan as it appropriately locates:

- The Mixed Housing Urban zone around the MLR, and where the land is in close proximity to future public transport, and key open space land;
- The Mixed Housing Suburban in the mid portion of the block. This reflects the growth potential of this land whilst also recognising that there is slightly reduced accessibility to public transport as compared to the Mixed Housing Urban land.
- The Single House zone where the site adjoins the RUB and applies additional controls. This zoning achieves an appropriate balance between providing for growth and the location of this land on the interface with the RUB.
- The Large Lot Residential zone in that part of the land where the knoll or bush area supports a lower density of development.

It can be seen that the above approach creates a sliding scale where the higher density living is located in the lower portion of the site and the density decreases the closer it gets to the RUB boundary. This is sound planning practice and achieves good planning, design, and environmental outcomes.

7 PURPOSE AND REASONS FOR THE PLAN CHANGE

7.1 Purpose of the plan change

The purpose of the plan change is to rezone the land in Warkworth Clayden Road to enable development to proceed in accordance with the timetable set out in the Future Urban Land Strategy and generally in accordance with the outcomes sought through the Warkworth Structure Plan.

The plan change is targeted at those elements which are essential to enable the redevelopment of the land, and shift it from rural activity to urban activity.

The plan change follows the normal approach for development of greenfields and for Future Urban zoned land under the AUP.

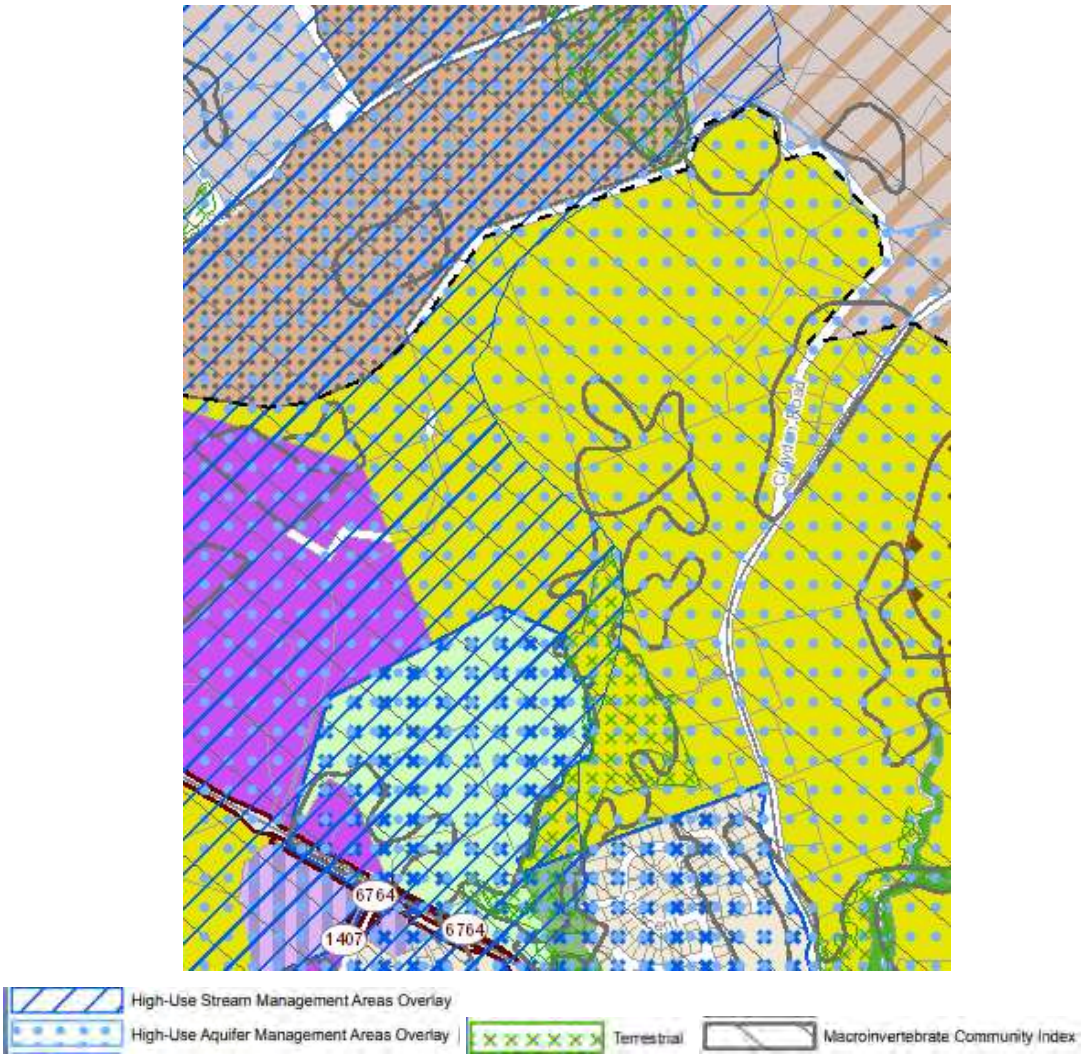
7.2 Unitary Plan provisions

The Unitary Plan is structured into Auckland-wide provisions, zone provisions and precinct provisions. The Auckland-wide provisions apply across the region and are the underpinning planning framework of the Unitary Plan. These provisions supersede zoning and precinct provisions where there is a contradiction between the two mechanisms.

In this case there are no changes sought to the zone and the Auckland-wide provisions applying to the site. There is one additional 'control' added, namely the SMAF1. This is consistent with the Council approach when rezoning greenfields land for residential development. The SMAF rules set a high but appropriate approach to stormwater management. Additional precinct provisions particular to the Warkworth location apply.

Diagram 18 below shows the current overlays applying to the land. It also shows the current designations. (Note: As the MLR is still subject to appeal, it is not yet shown on the AUP).

Diagram 18 Current Overlays and Controls



To these 'controls' will be added the SMAF1.

This plan change outlines the rezoning of the land from Future Urban and Light Industry to a range of suitable, and predominantly residential, zoning.

A Precinct Plan is introduced with the location specific planning controls.

As is normal practice, the standard underlying zone objectives, policies, activities, standards and assessment criteria apply unless otherwise stated within the precinct provisions, i.e. the precinct provisions are exceptions or additions to the underlying provisions.

7.3 Proposed precinct provisions

(a) Objectives and policies

The objectives and policies complement the underlying zoning objectives and policies. These objectives and policies focus on that which is specific to the Warkworth North area. They are drawn heavily from the Structure Plan. They are intended to create the policy framework to drive the form and quality of development within the precinct. The objectives and policies particularly deal with:

- growth;
- housing typology and diversity;
- the concept of focusing higher densities closer to the MLR and the Warkworth Showgrounds;
- treatment of the rural urban interface;
- reverse sensitivity issues between the residential and industrial land;
- creating the extensive walkway network;
- creating the opportunity for the indoor recreation facility;
- stormwater management;
- limiting vehicle access from individual sites to the MLR.

(b) Activity

The underlying zoning provides extensively for a broad range of suitable activities. The precinct provisions provide for only a limited number of additional activities. The purpose is to:

(i) Make provision for the northern arena development or other indoor recreation facility on the site specific location.

(ii) Make any development within the special density area that does not meet the density control a discretionary activity.

(iii) Make any development within the special density area that does not meet the yard or landscape control a non-complying activity.

(iv) Better control and removal of native bush in identified protected areas by making their use a “non-complying activity”.

(v) Make subdivision within the area a restricted discretionary activity. Superlot subdivision for vacant sites is generally a discretionary activity. However, because this land has been through extensive review through the Structure Plan process and then through this plan change, it is more appropriately dealt with as a restricted discretionary activity.

(vi) Subdivision that exceeds the minimum site size along the rural interface (the Single House zone with a minimum net site area of 1,000m^2) is a non-complying activity. The purpose of this control is to set a very high expectation that all sites will fully comply. The non-complying activity test is retained recognising that, because there is unusual topography, shape or size, it is possible there could be some minor non-compliance. That would need to be fully tested through the resource consent process.

(c) Notification

The notification provisions state that restricted discretionary activities will normally be dealt with without public or limited notification, unless special circumstances apply.

(d) Standards

The normal underlying zone standards apply. The following standards are introduced in addition to or in substitution for the underlying standards:

(i) The special 6m yard along the Rural Urban Boundary applies. This is in substitution for the standard 1m rear or side yard. It is intended to push buildings further off the top ridgeline.

(ii) A landscaping control applies within the special yard. It is intended to provide a higher level of landscape within this facility. This is an additional rule.

(iii) A special height limit applies along the northern boundary. This sets a maximum height of 5m (one storey) for a setback distance between 6m and 10m from the northern boundary (RUB). The special yard effectively prevents buildings or structures within the first 6m. There is then the step up to one storey development between 6m and 10m. After 10m then the zonal height of 8m with a 1m bonus for sloping roof applies. Effectively what this is doing is ensuring there are no buildings at the top end of the site and then the building height steps down the contour so as to keep buildings off the ridgeline. A special height

limit of 8m plus 1m sloping roof applies to the Mixed Housing Urban zone adjacent to the Warkworth Showgrounds. Effectively this imports the two storey height limit to this location rather than the standard three storey height limit of the Mixed Housing Urban zone. The purpose is to manage taller buildings in the foreground of views from the showgrounds to the ridgeline behind.

(iv) A limited access control is introduced along the MLR. It prevents individual properties having vehicular access off the MLR. There is provision for a defined number of intersections as identified on the Precinct Plan. However this would be by way of an assessment criteria under the subdivision standards.

(v) A rule is introduced requiring the use of inert materials in the roofing and cladding on buildings within the precinct. This is targeted at stopping heavy metals, particularly zinc and copper, entering the stormwater system.

(vi) Addressing reverse sensitivity for the industrial land to the north-west through a rule dealing with noise measurement, a no complaints covenant and a landscape set back rule.

7.4 Assessment criteria

The assessment criteria are in addition to those which would apply in the normal underlying zone.

These relate to both subdivision standards and the particular activities provided within the development. Their intention is to reinforce the objectives and policies of the precinct and the provisions of the Precinct Plan. Three Precinct Plans are included (to ease understanding). Precinct Plan 1 addresses development controls. Precinct Plan 2 addresses environmental considerations. Precinct Plan 3 addresses transport.

Matters the assessment criteria deal with include:

(a) Vacant lot subdivision including:

(i) The subdivision standards for the Single House zone and in particular the 1,000m² minimum net site area requirements for land in the northern part of the precinct adjacent to the Rural Urban Boundary.

(ii) Assessment criteria about the protection and enhancement of landscape features.

(iii) Transport network including the interface with the MLR.

(iv) Noise related 'no complaints' covenants.

(b) The Northern Arena.

Matters the assessment criteria deal with include:

(i) building height;

(ii) landscaping;

(iii) transport related matters including parking;

(iv) interface with the showgrounds.

(c) Stream modification or reclamation.

Matters the assessment criteria deal with include:

- stream alignment;
- application of the effects management hierarchy (avoidance from mediation, mitigation, offset);
- riparian planting;
- water flow management;
- base flow management;
- ecological classification;
- mitigation;
- the balance between loss of development potential and loss of stream values.

7.5 Precinct Plan

The precinct plan is introduced to ensure the development proceeds in accordance with the Precinct Plan which is fundamentally giving effect to the Structure Plan.

The key issued identified on the Precinct Plan are:

Precinct Plan 1

(i) The identification of land is subject to the special density control on subdivision size. This identifies the minimum requirement of net site area of 1:1,000 within the Single House zone.

(ii) The location of the special yard. This relates to the rules on special yard setback and yard landscaping at the northern boundary which is the interface with rural land.

(iii) The location of the recreational facility (northern arena site).

(iv) The walkway and cycleway network which is a key part of the Structure Plan. The assessment criteria on subdivision and development encourage the creation of this walkway network. It is an indicative network and hence appropriately dealt with as assessment criteria.

(v) The noise related reverse sensitivity measures.

(vi) Special height limits applying along the northern boundary of the property to control building height on this upper portion of the site.

(vii) Special height limit in the southern portion of the boundary to control the height of buildings as perceived in foreground views from the Warkworth Showgrounds.

(viii) A landscape screening area applies along the interface between the industrial properties and the residential development. This is to deal with amenity issues at this residential industrial interface.

Precinct Plan 2

(i) The primary stream network for protection. This relates back to the Auckland-wide provisions on streams.

(ii) The general location of stormwater management ponds.

Precinct Plan 3

(i) The MLR and the acceptable intersections along this road. This is important in laying out the subdivision patterns within the precinct. It gives certainty as to roading access. The assessment criteria on subdivision address matters related to design responses to this limited access road.

(ii) The indicative road layout distinguishing between collector roads and local roads. This is intended to demonstrate how the roading network provides an integrated connected roading pattern which respects the restriction on access to the MLR and works with the contour of the land.

(iii) The walkway network through the precinct. It should be recognised that on the northern portion of the site is the existing paper road of Clayden Road. The Council indicates that it may in the future wish to develop a walkway along this area. However, that is outside the precinct boundary.

(iv) Certain paper roads within the precinct are shown as to be stopped.

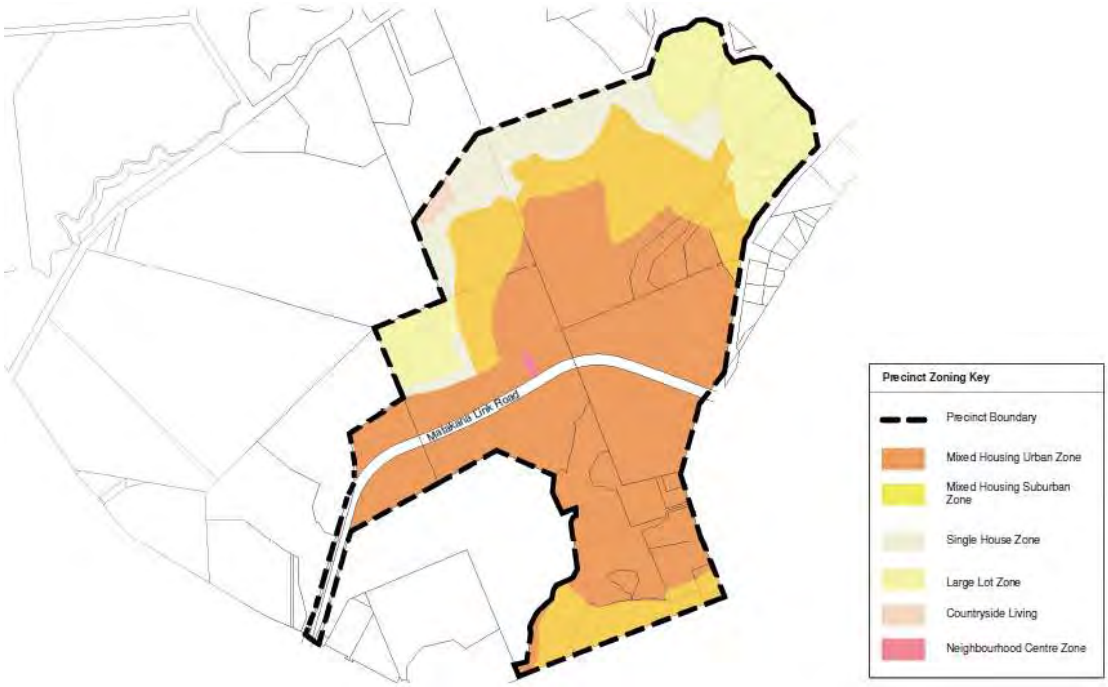
8 REQUESTED PLAN CHANGE PROVISIONS

This section sets out the requested plan change. The full plan change is attached as Appendix 2 to this report.

8.1 Zoning

Requested rezoning of the subject land: The land identified below to be rezoned from Future Urban zone and Light Industry to the zones identified in the map below.

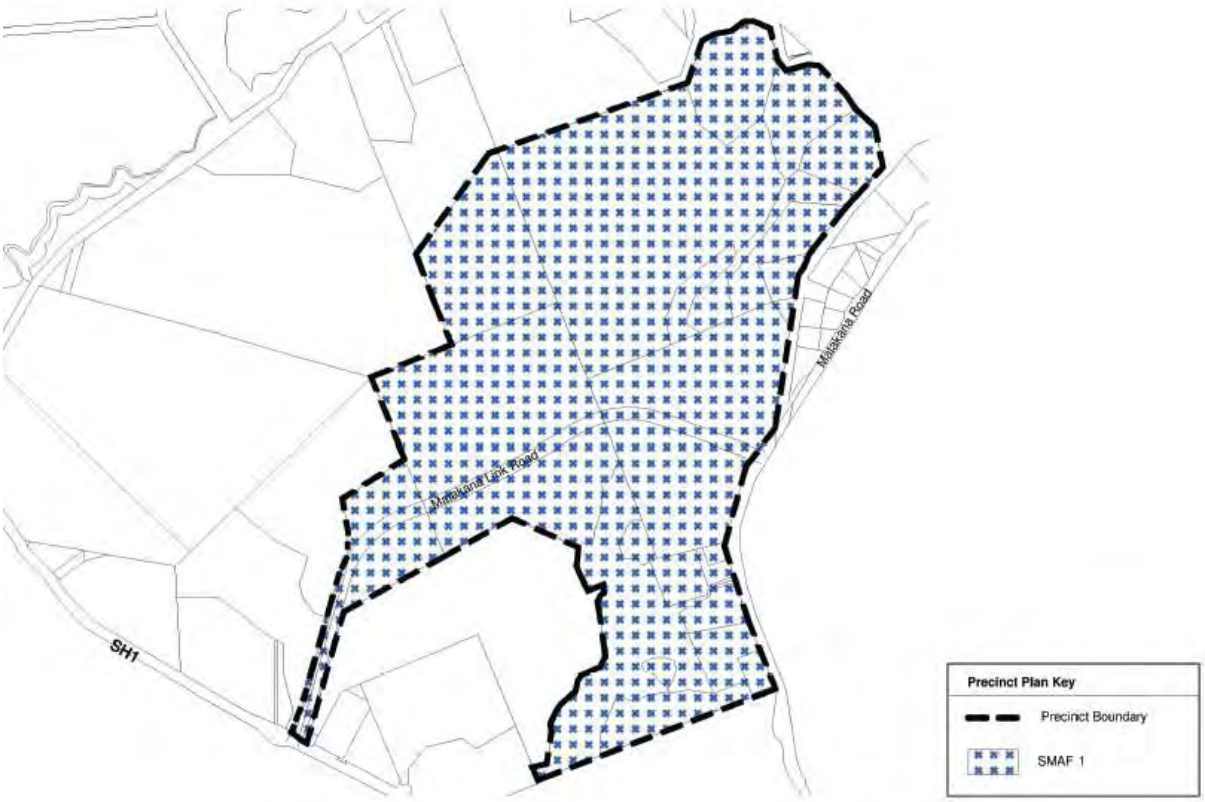
Map 1: Zoning Requested through the Plan Change



8.2 Controls

Requested Additional Control: The land identified below have the SMAF1 control applies.

Map 2: SMAF control



8.3 Precinct

Requested Precinct Boundary: The planning maps be amended to identify a new precinct to be known as Warkworth Clayden Road.

Map 3 – Proposed Precinct Boundary of I552 Warkworth: Clayden Road Precinct

8.4 Precinct provisions

Insert the following new provisions into Chapter I of the Auckland Unitary Plan text.

PART B AMENDMENT TO IXXX CLAYDEN ROAD PRECINCT

Insert the following new precinct provisions:

IXXX Warkworth Clayden Road

IXXX.1 Precinct description

The Warkworth Clayden Road Precinct is located between State Highway 1 and Matakana Road north of the Warkworth Showgrounds. It is intended to assist in providing for growth within the Warkworth area. The planned Sandspit Link Road creates good connectivity to this part of Warkworth with direct connections to State Highway 1 and the new Highway to the south.

A range of zonings apply within the Precinct. Employment opportunities are retained in the Light Industrial zone to the west. More intensive residential opportunity is created around the Sandspit Link Road and the future public transport options this offers with direct access to and views across the Warkworth Showgrounds. Medium density housing is provided in the northern area of the Precinct. Low density 'Single House' zoning is provided on the Rural Urban Boundary fringe with particular controls applying along the interface between the Countryside Living zone and the Single

House zone. A small area of land is zoned 'Country side Living'. These controls are designed to create a lower density interface and a landscape buffer between the urban and rural areas.

Provision is made for a local centre designed to provide services to the Warkworth North community and yet be complementary to the Warkworth town centre.

Special provision is made for the northern arena, a planned indoor recreational facility.

IXXX.2 Objectives

The following objectives apply in addition to the relevant overlay, Auckland-wide, and zone objectives.

(1) Provide for residential urban growth within the northern Warkworth area.
(2) Apply urban zoning efficiently to protect against future urban expansion into Warkworth's valued rural hinterland.
(3) Enhance the character of the rural – urban interface through limitations on housing density and enhanced landscaping.
(4) Create an accessible residential development with vehicle and cycleway connections.
(5) Manage reverse sensitivity issues at the interface between the residential and light industrial land.

IXXX.3 Policies

The following policies apply in addition to the relevant overlay, Auckland-wide, and zone policies.

(1) Provide a range of diverse zones and therefore housing options to help meet community needs.
(2) Locate high density housing adjacent to the Sandspit Link Road and overlooking the Warkworth showgrounds and Mahurangi tributaries and supporting public transport.
(3) Create low density housing along the urban-rural boundary to form a transition from urban to rural uses.
(4) Create the opportunity for local shops to service the neighbourhood, by zoning a suitable area of land for a "neighbourhood centre".
(5) Create an intensively landscaped interface along the rural urban boundary.
(6) Prevent building development on the special landscape areas shown on Precinct Plan 1 and incentivise the planting of these landscape elements.
(7) Enable extensive active walking and cycling network and futureproof key walkway/cycleway routes and vest these key routes in the Council.
(8) Create the opportunity for a major indoor recreation facility adjacent to the Warkworth showgrounds.
(9) Create a landscaped buffer and require "no complaints covenants" on the properties adjacent to the industrial zoned land so as to manage reverse sensitivity issues.
(10) Limit direct access from individual sites on to the Sandspit Link Road to pedestrian and cycle access only.
(11) Manage the effects of stormwater on water quality in streams through riparian margin planting, on site detention and retention and protection of streams shown on Precinct Plan IXXX.9.1 by way of land covenant at the time of subdivision.

IXXX.4 Activity table

The provisions in any relevant overlays, Auckland-wide provisions and zone apply in this precinct unless otherwise specified below.

Table IXXX.4 Activity tables specify the activity status of land use, development and subdivision activities in the Warkworth North 1 Precinct pursuant to sections 9(2),9(3) and 11 of the Resource Management Act 1991 or any combination of all of these sections where relevant.

Table IXXX.4.1 Mixed Housing Urban

Activity		**Activity status**
Use		
Community		
(A1)	Recreation Facility in the location shown on Precinct Plan 1 as "Special Use Overlay – Sporting Facility"	RD
Development		
(A2)	Buildings within the "Special Subdivision Control Area" that do not comply with standard IXXX.9.1.	D
(A3)	Any building or structure (excluding fencing less than 2m in height) within the Special Landscape Area.	NC
(A4)	Reclamation of streams other than those shown on Precinct Plan IXXX.9.2	RD
(A5)	Reclamation of streams shown on Precinct Plan IXXX.9.2	NC
(A6)	Removal of any native vegetation shown as "Covenanted Area" or "significant bush" on Precinct Plan IXXX9.2, except this shall not preclude: (i) removal of deceased or damaged limbs or trees that could create a fall hazard; (ii) clearing of bush up to 2m wide to create public tracks.	NC
Subdivision		
(A7)	Vacant site subdivision sites (either less than 1ha or 1ha and greater) complying with standard E38.8.2.3 and generally in accordance with Precinct Plan I1XXX.4.1	RD

(A8)	Any subdivision in the special density area shown in Precinct Plan 1 that does not meet the minimum site size requirements in Rule IXXX.4.1.	NC
(A9)	Any subdivision that is not in general accordance with Precinct Plan 1 Rule I1XXX.4.1.	NC

IXXX.5 Notification

(1) Any application for resource consent for a restricted discretionary activity listed under IXXX.4 will be considered without public or limited notification or the need to obtain written approval from affected parties unless the Council decides that special circumstances exist under sections 95A(9) or 95B(10) of the Resource Management Act 1991.

IXXX.6 Standards

The overlay, Auckland-wide, and zone standards apply in this precinct unless otherwise specified below:

IXXX.6.1 Special Height Limit

(1) The maximum height limit in the Mixed Housing Urban zone in the area shown as "special height limit 1" on Precinct Plan 1 (IXXX.9.1) shall be the same as rule H.4.6.4 'Building Height' in the Mixed Housing Suburban zone.
(2) The maximum height limit in the Single House zone in the area shown as "special height limit 2" on Precinct Plan 1 (IXXX.9.1) shall be 5m for any building that is within 10m but further than 6m from the Rural Urban Boundary.

IXXX.6.2 Special Yard

(1) All buildings on sites subject to the "special yard" control shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1 must be set back from the Rural Urban Boundary for a minimum distance of 6m. This rule replaces any other yard applying within 6m of the Rural Urban Boundary.
(2) All land within the "special yard" shown on Precinct Plan 1 shall be landscaped. A minimum of 50% of the area shall be planted in native trees that will attain a height of at least 5m when mature.

IXXX.6.3 Special Landscape Yard

(1) No building or structure shall be built within the 'Special Landscape Yard shown on Precinct Plan 1. This rule does not apply to fencing less than 2m in height.
(2) Fifty percent of the 'Special Landscape Yard shall be planted with native trees that achieve a height of 5m or more on maturity.

IXXX.6.4 Limited Access

(1) Road junctions with the Sandspit Link Road servicing the precinct, shall be limited to three, to be located in the general location identified as Access Points onto Sandspit Link Road on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1

(2) No vehicular access from any property shall be allowed directly onto the Sandspit Link Road for the frontage shown indicatively on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1

IXXX.6.5 Subdivision Standards

(1) The minimum net site area in the area shown as "Special Subdivision Control" on Precinct Plan 1 shall be 1,000m² net site area.

IXXX.6.6 Noise measurement line

(1) For the purposes of measuring consented noise levels for the Warkworth Heliport on 38 Goatley Road, the "nearest residential boundary for noise measurement within the precinct shall be taken as the "noise measurement line" shown on Precinct Plan 1. The condition shall not apply to the residential sites west of the noise measurement line.

IXXX.6.7 Landscape Screening Area

(1) A 6m landscaped screening area in the location shown on Precinct Plan 1 shall be provided. This area shall be intensively planted and maintained with native trees and shrubs. The 6m distance shall be measured from the zone boundary. This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m^2.

IXXX6.8 High Contaminant Yielding Materials

The total area of high contaminant roofing, spouting, cladding or external architectural features must not exceed 5m².

IXXX.7 Assessment – restricted discretionary activities

IXXX.7.1 Matters of discretion

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary activity resource consent application, in addition to the matters specified for the relevant restricted discretionary activities in the overlay, Auckland wide or zone provisions:

(1) Vacant lot subdivision
- (a) The matters of discretion listed at E38.12.1(7)
- (b) The location of the facility
- (c) Building scale
- (d) Landscaping
- (e) Transport including Access and Parking

(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1:

- (a) Building scale
- (b) Landscaping
- (c) Parking
- (d) Interface with residential development
- (e) Interface with Warkworth Showgrounds

(3) Modification or reclamation of streams

(a) Stream ecology
(b) Base flow
(c) Management of water flow
(d) Offset mitigation
(e) Stream bed level
(f) Riparian planting
(g) Overland flow.
(h) Providing for growth and development

IXXX.7.2 Assessment criteria

The Council will consider the relevant policies identified below for controlled activities, in addition to the assessment criteria or policies specified for assessment of the relevant controlled activities in the zone, Auckland wide or overlay provisions:

(1) Vacant Lot Subdivision

(a) In addition to the matters of discretion listed at E38.12.2(7), the extent to which:

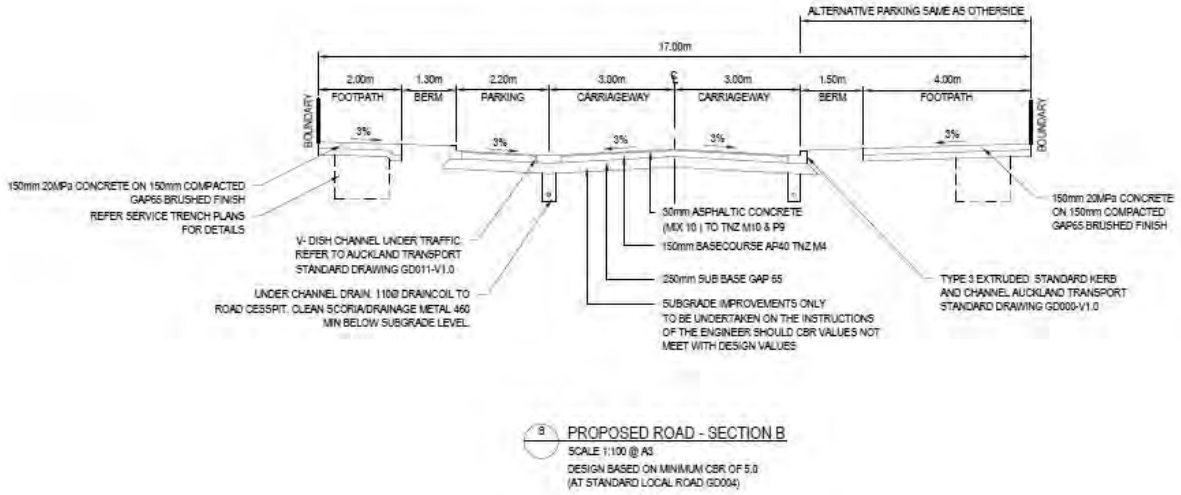
(i) The proposal contributes to the implementation of policies IXXX.3(1)-(5).
(ii) Subdivision layout is consistent with Precinct Plans 2 and 3.
(iii) Intersections to local roads accessing the Matakana Link Road are limited to the locations identified on Precinct Plan 1.
(iv) The eastern access to Matakana Link Road is confined to a 'left-in/left-out' only road connection.
(v) Subdivision layout meets the minimum lot sizes of Rule I1XXX.6.5 (special subdivision control).
(vi) Subdivision layout is designed to ensure that no sites require vehicular access from the Matakana Link Road. Sites shall be serviced from local roads, laneways JOAL's, or other suitable mechanisms.
(vii) Sites that include streams shown on Precinct Plan 2, have complying practical building platforms clear of identified stream areas.
(viii) Earthworks are managed in such a way as to provide high quality erosion and sediment control measures.
(ix) For the area identified on Precinct Plan 1 as "no complaints covenant area" a no complaints covenant is registered against any title acknowledging the location is adjacent to an industrial area and a consented heliport and that the resident will not complain about permitted activity meeting the Auckland wide standards, or helicopter activity operating under and complying with the conditions of consent of Resource Consent XXXX.
(x) All sites that contain a special yard under rule IXXX.6.1 provide a covenant which requires 50% of the yard area to be planted in native trees that will attain a height of at least 5m when mature, and the covenant provides for the maintenance and protection of this planting in perpetuity.
(xi) The erosion and sediment control measures shall provide for and include use of the stormwater management pond and establishment of the wetland, shown in Precinct Plan 1.
(xii) The greenways shown on Precinct Plan IXXX.9.1 are vested in the Council at the time of subdivision.
(xiii) The staging of any part of the precinct relying on access to the MLR is such that completed homes are not occupied prior to the MLR becoming operational

(xiv) A walkway network, generally in accordance with Precinct Plan 3 IXXX9.3 including roads and open space area, is created to ensure an interconnected neighbourhood. This includes connections to the footpaths and known bus stops on Matakana Link Road.

(xv) Cycling facilities are provided on collector roads to integrate with cycling facilities on the MLR, and to generally meet the typical road cross-section shown in the diagram.

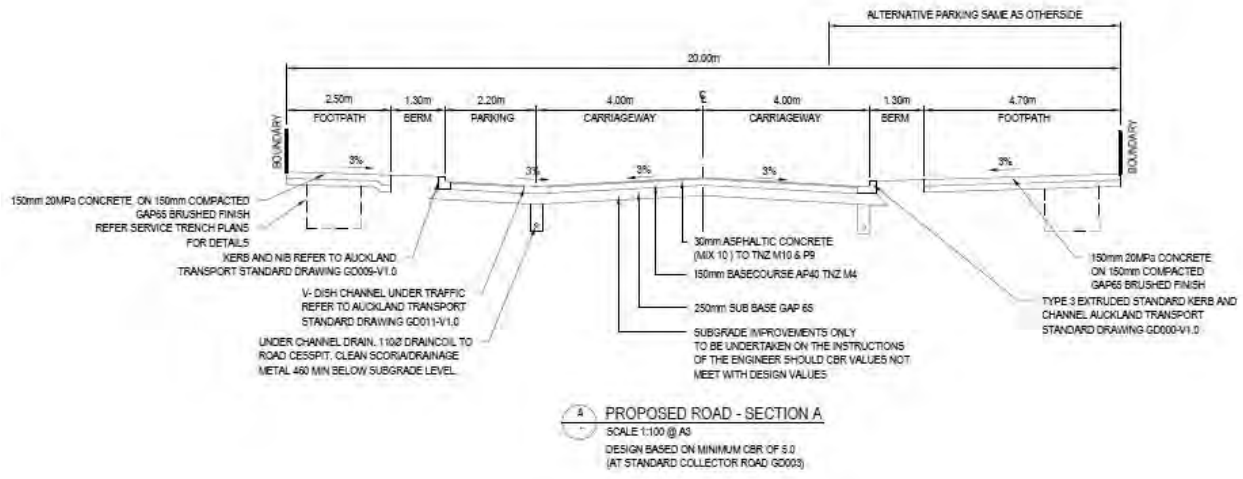
(xvi) Local and collector roads shown on Precinct Plan IXXX9.3 are designed to generally meet the typical cross-sections shown below.

Typical road cross-section: Local road



B PROPOSED ROAD - SECTION B
SCALE 1:100 @ A3
DESIGN BASED ON MINIMUM CBR OF 5.0
(AT STANDARD LOCAL ROAD GD004)

Typical road cross-section: Collector road



A PROPOSED ROAD - SECTION A
SCALE 1:100 @ A3
DESIGN BASED ON MINIMUM CBR OF 5.0
(AT STANDARD COLLECTOR ROAD GD003)

(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan

The extent to which:

(a) The indoor recreation facility is located within the land area identified on Precinct Plan 1.
(b) The height of the building complies with zonal height.
(c) Landscaping, particularly front yard and the yard adjoining residential zoned land provides a reasonable amenity to the neighbourhood.
(d) Provision is made for transport related matters including access and adequate parking to service the facility, and hours of operation.
(e) The interface with the Warkworth Showgrounds provides a good built and landscaped amenity, and a degree of visual overlooking of the showgrounds.

(3) Stream modification or reclamation

The extent to which:

(a) Streams can be retained through re-alignment and raising of stream beds to integrate with land contouring;
(b) Ten metre riparian native planting will be provided along each side of any re-aligned stream;
(c) Where streams are proposed to be reclaimed with no vertical or horizontal re-alignment, the degree and extent of off-setting, and compensation;
(d) Management of water flow is achieved to prevent flooding of residential sites;
(e) Base flows to the head of retained streams affected by any reclamation of a permanent stream are maintained;
(f) Reclamation is required to achieve the minimum road grade requirements.
(g) Development potential will be lost without reclamation works, balanced against the ecological value of the stream to be reclaimed.
(h) The ecological classification of the underlying stream is maintained.
(i) The 'effects management hierarchy' (avoidance, remediation, mitigation, offset) has been applied.
(j) The degree of mitigation or offset where changes to the vertical and horizontal alignment are proposed.

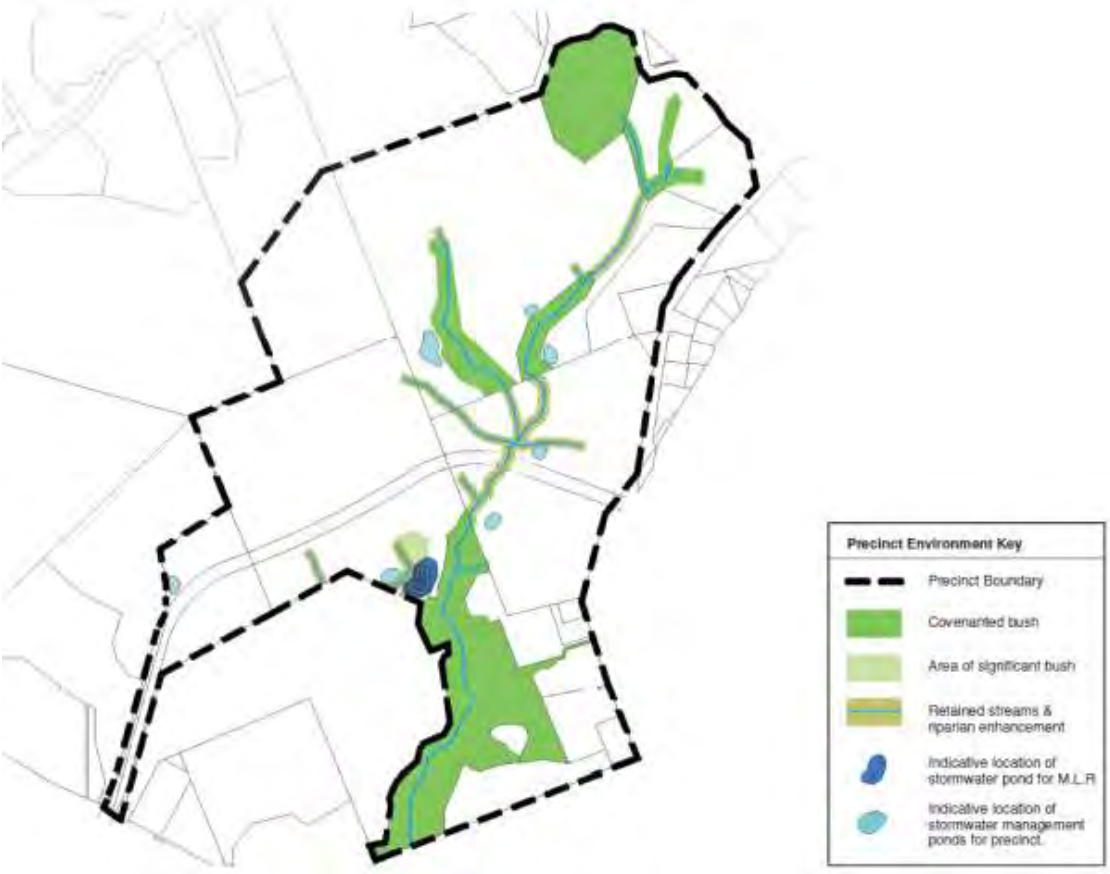
IXXX.8 Special information requirements

The special information requirements in the underlying zone and Auckland-wide provisions apply in this precinct, together with the following:

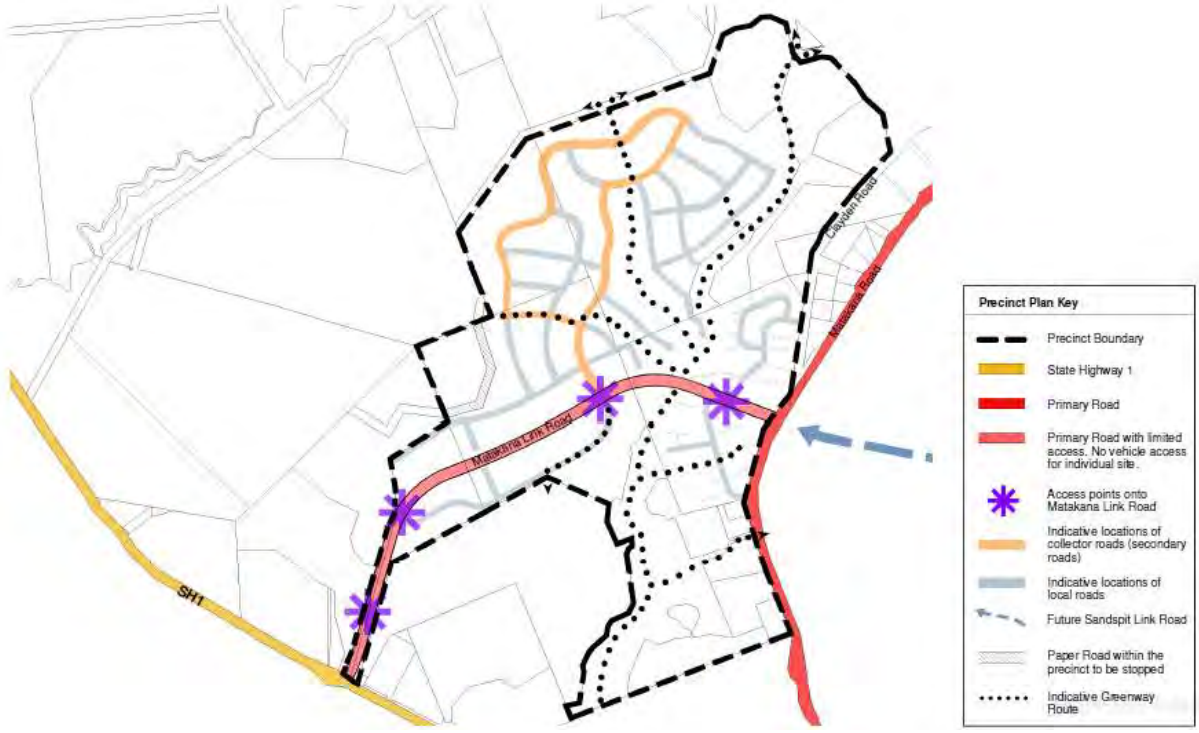
There are no special information requirements

IXXX.9.1 Precinct Plan 1:

IXXX.9.2 Precinct Plan 2



IXXX9.3 Precinct Plan 3



9 STATUTORY REQUIREMENTS

9.1 Statutory Context

The Resource Management Act (1991) ("RMA") sets out the statutory framework, within which resources are managed in New Zealand. The following section analyses the relevant statutory provisions that apply to private plan change requests changes to district plans.

Section 74 of the RMA sets out the matters to be considered by a territorial authority in preparing or changing its district plan. These matters include considering the purpose of the Act under Part 2 and the evaluation of the proposal in accordance with Section 32.

Section 75 of the Act outlines the relevant matters to be considered for the preparation of a private plan change request. Section 75 of the RMA, in addressing the contents of district plans, requires that a district plan must give effect to any national policy statement, any New Zealand Coastal Policy Statement, any regional policy statement and must not be inconsistent with a regional plan. Section 75 states that:

"75 Contents of district plans

(1) A district plan must state—

(a) the objectives for the district; and

(b) the policies to implement the objectives; and

(c) The rules (if any) to implement the policies.

(2) A district plan may state—

(a) the significant resource management issues for the district; and

(b) the methods, other than rules, for implementing the policies for the district; and

(c) the principal reasons for adopting the policies and methods; and

(d) the environmental results expected from the policies and methods; and

(e) the procedures for monitoring the efficiency and effectiveness of the policies and methods; and

(f) the processes for dealing with issues that cross territorial authority boundaries; and

(g) the information to be included with an application for a resource consent; and

(h) any other information required for the purpose of the territorial authority's functions, powers, and duties under this Act.

(3) A district plan must give effect to—

(a) any national policy statement; and

(b) any New Zealand coastal policy statement; and

(ba) a national planning standard; and

(c) any regional policy statement.

(4) A district plan must not be inconsistent with—

(a) a water conservation order; or

(b) a regional plan for any matter specified in section 30(1).

(5) A district plan may incorporate material by reference under Part 3 of Schedule 1.

This is a private plan change to modify an already established Operative Unitary Plan. The section that is the subject of this change is an operative District Plan zoning. The Warkworth Structure Plan heralds the need and readiness to rezone this Future Urban Zoned area. This plan change generally delivers that Structure Plan.

The Auckland Unitary Plan states the significant resource management issues, methods for implementing the policies, principal reasons for adopting the proper policies, environmental results expected and the process for monitoring the efficiency and effect of policy.

With reference to Warkworth there are no cross-territorial authority boundary issues.

There is no other relevant information to this particular application.

There are relevant National Policy Statements relating to urban growth capacity, freshwater management, and the New Zealand Coastal Policy Statement. There are relevant Regional Policy Statement matters and regional plans. These are addressed below.

There are no water conservation orders applying to the area.

This private plan change request complements the existing provisions and satisfies the requirements of section 75 of the RMA.

9.2 Contents of a Private Plan Change Request

Clause 22 of Schedule 1 of the Act identifies the assessment requirements of a proposed plan change. Clause 22 states that:

> *"(1) A request made under Clause 21 shall be made to the appropriate local authority in writing and shall explain the purpose of, and reason for, the proposed plan or change to a policy statement or plan and contain an evaluation report prepared in accordance with Section 32 for the proposed plan or change.*
> *(2) Where environmental effects are anticipated, the request shall describe those effects, taking into account clauses 6 and 7 of Schedule 4, in such detail as corresponds with the scale and significance of the actual or potential environmental effects anticipated from the implementation of the change, policy statement, or plan."*

In terms of the requirements of clause 21:

(i) the purpose and reason for the proposed plan change is set out in this planning report;
(ii) this report includes an evaluation in accordance with section 32;
(iii) this report and the other technical assessments forming part of this application provide a detailed assessment of effects;

9.3 Part 2 of the Resource Management Act

Section 5 is about promoting "sustainable management of the natural and physical resources". Section 5(2) states:

> *"In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—*
>
> *(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
>
> *(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment."*

This section is about finding the appropriate balance to achieve key outcomes of the Act covering social, cultural, environmental and economic considerations. The core thrust of this plan change is to provide for the identified growth within Warkworth. That is the purpose of the Future Urban Zoning and the subsequent structure plan process. It provides a range of different housing typologies to reflect the different social needs within the community and different family economics around housing affordability. This in turn contributes to ensuring a diverse community within Warkworth.

This is balanced with the important environmental features around streams and landscape qualities.

These issues are fully addressed in the section 32 analysis.

Section 6 sets out the matters of national importance. Section 6 states:

> *"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*
>
> *(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
>
> *(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*
>
> *(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
>
> *(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
>
> *(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*
>
> *(f) the protection of historic heritage from inappropriate subdivision, use, and development:*
>
> *(g) the protection of protected customary rights:*
>
> *(h) the management of significant risks from natural hazards."*

Of particular relevance at Warkworth are:

- The protection of the primary streams within the area and mitigation or offseting for streams that are reclaimed or modified.
- Protection of the core knoll. This is not considered an outstanding natural feature in terms of section 6(b) but nevertheless is a local feature worthy of protection.
- The public walkway network provided through the site.

These matters are fully addressed in the section 32 analysis.

Section 7 sets out "other matters" that need to be considered as part of this plan change. This includes:

(a) kaitiakitanga:
(aa) the ethic of stewardship:
(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(h) the protection of the habitat of trout and salmon:
(i) the effects of climate change:
(j) the benefits to be derived from the use and development of renewable energy."

In this case:

(i) There is a significantly increased focus on the precinct and the appropriate uses within the 102ha.

(ii) This plan change provides for the efficient use of currently Future Urban zoned land. It achieves the right balance between ensuring sufficient yield to provide a reasonable degree of housing. This in turn reduces the pressure for further expansion. Extensive low density housing only creates further pressure on greenfields development. By contrast this plan change provides efficient use of land with a combination of high and medium density housing and, in the sensitive periphery of the site, low density housing.

(iii) High amenity is created in neighbourhoods both in terms of the standard underlying development controls but also in terms of the stream network, protected bush areas, and walkway system.

These matters are fully addressed in the section 32 analysis.

Section 8 requires all persons exercising functions and powers under the Act to take into account the principles of the Treaty of Waitangi.

In this case, the very significant focus on sediment minimisation, stormwater management, land runoff, natural ecosystem protection, and native revegetation are all core aspects of value to mana whenua and embodied in the principles of protecting the environment. The plan change is consistent with the relevant Te Aranga principles (as explained in paragraph 5.3 above) and highlights the cultural focus of this plan change.

The conclusion of this analysis is that this plan change is the most appropriate way to achieve the purpose and principles of the Act. This land is already identified for future urban development. The future land strategy requires this land to be released now for urban development to meet Auckland's growth targets. The Warkworth Structure Plan has been through an extensive process to identify the form and nature of development appropriate to this land area and necessary to manage growth within Warkworth. It also sets out the Council's commitment to provide infrastructure to this area. The plan change provides for this necessary growth while protecting the key landscape features signalled through the Warkworth Structure Plan.

9.4 National Policy Statement – Urban growth capacity

The National Policy Statement on urban growth capacity is about ensuring that Auckland has sufficient growth capacity based on three years, ten years and 30 years.

The Council's future urban land strategy is in a large part a response to and an outline of how the Council is meeting its obligations under the National Policy Statement on Urban Growth Capacity. It sets out a comprehensive approach for the staged release of land and the corresponding rollout of public infrastructure.

Auckland has developed a 30 year strategy for land release. This is embodied within the Council's Future Urban Land Strategy 2017 document. The Warkworth North area is a key element of this strategy and is shown as available for residential development by 2022. The cooperating landowners' properties included within this plan change fall within that Future Urban Land Strategy and this 2022 release.

This plan change is fully consistent with that strategy and by inference fully consistent with, and gives effect to, the National Policy Statement. The precinct is fully within land currently zoned Future Urban (and in one case rezoned from Light Industry to Residential). It is in the location identified for release between 2018 and 2022 and needs this plan change to be enabled.

9.5 National Policy Statement – Freshwater management

This proposal is consistent with the National Policy Statement on Freshwater Management. In particular:

(a) The National Policy Statement on fresh water primarily directs regional councils to provide for the integrated management of freshwater and the use and development of land in whole catchments, including the interactions between freshwater land, associated ecosystems and the coastal environment. It directs regional councils to set up a planning structure including objectives and policies which will provide for this integrated management.

These provisions have been carried forward into the AUP. They are set out particularly in chapters E1 and E3. This plan change operates in terms of those objectives and policies. Any change put forward in this plan change relates to the activity status and therefore the process through which applications are dealt with. Very broad matters of discretion and wide assessment criteria are introduced to enable adequate and appropriate control.

(b) The primary streams are identified within the Precinct Plan. The streams themselves and the riparian areas are protected and enhanced. While there are some permanent and intermittent streams which may be reclaimed or modified as part of a future development, those streams would be subject to assessment under the Precinct Plan and Auckland wide provisions. The Precinct provisions looks at issues including ecology, base flows, management of water flow, riparian planting and balancing out ecological values and matters related to growth. Off-site mitigation will apply at the time of resource consent.

(c) Stormwater management procedures are put in place to ensure treatment of runoff from this area, particularly recognising the streams are the upper tributaries of the Mahurangi River. This treatment train approach will ensure the water quality objectives of A1 and A2.

(d) The change of use from rural pastoral purposes with stock traversing unfenced streams to urban residential development, where the streams are revegetated and not subject to constant stock movement, will have environmental benefits.

(e) No water use allocation is sought.

(f) High quality environments are protected.

(g) The regional provisions of the AUP will apply. This plan change does not seek to amend any regional provisions.

Objective A1 addresses safeguarding the life supporting capacity of eco systems and species and the health of people and communities in terms of "sustainably managing the use and development of the land, and of discharges of contaminants". The AUP addresses this through adopting a series of objectives and policies and assessment under the Auckland-wide provisions, particularly chapters E1-E4 and E7-E10.

In this case all the objectives and policies of these chapters apply. The objectives and policies of the precinct reinforce stormwater management. Particular provisions are adopted around stormwater in Precinct Plan 2.

The only real difference is the process by which applications are considered. The process to be applied is not addressed in the National Policy Statement either in objective A1 or other objectives. This is left to individual plans to determine. Furthermore, by setting the 'matters of discretion particularly wide and the keeping the assessment criteria broad, the Council is able to address all matters within this objective.

Objective A2 deals with the overall quality of freshwater being maintained or improved while protecting the values of the wetland. In this case, by adopting the full police regime of the Auckland wide provisions in the consideration of any development in the precinct that impacts streams, taking farm stock out of the streams, recognising the prime stream network and giving this added protection; this key objective is achieved. These methods and objectives go beyond the Auckland-wide provisions. At no point are the Auckland-wide objectives and policies diluted. These objectives and policies are said by the Council to meet the requirements of the National Policy Statement on Freshwater. That is agreed. This plan change adopts those objectives.

Objective A3 talks about water quality being improved so it is suitable for primary contact. The implementation of the stormwater management plan prepared by Maven, and the destocking of the streams will significantly improve water quality.

Objective A4 instructions regional councils to set in place a series of objectives and policies within their regional plans relating to freshwater management, stormwater and discharges. These are done through the Auckland-wide provisions. These provisions are adopted within this plan change.

9.6 Regional Policy Statement

This proposal also gives effect to the Regional Policy Statement, as required by s75(3). In particular, the following objectives are relevant:

(i) Objective B2.2.1(1):

> *"A quality compact urban form that enables all of the following:*
>
> *(a) a higher-quality urban environment;*
>
> *(b) greater productivity and economic growth;*
>
> *(c) better use of existing infrastructure and efficient provision of new infrastructure;*
>
> *(d) improved and more effective public transport;*
>
> *(e) greater social and cultural vitality;*
>
> *(f) better maintenance of rural character and rural productivity; and*
>
> *(g) reduced adverse environmental effects."*

This proposal meets this objective by:

- providing for a high quality, diverse urban environment within this portion of northern Warkworth;
- it leads to an efficient use of land which is outlined in the report of Property Economics and brings economic benefit;
- making an efficient use of key public infrastructure, particularly the MLR but also upgrades to the wastewater and potable water supply;
- futureproofing for the public transport route along the MLR, and focuses growth on this route;
- providing social vitality through a broad range of housing choice and living environments;

- keeping a compact form, it helps manage pressure on the spread of urban growth into the rural area therefore affecting rural character and productivity;
- managing adverse effects on the environment as outlined in the rest of this section 32 analysis.

(ii) Objective B2.2.1(3):

"Sufficient development capacity and land supply is provided to accommodate residential, commercial, industrial growth and social facilities to support growth."

- This development is consistent with the Council's Future Urban Land Strategy which is in turn driven off the National Policy Statement on Urban Growth Capacity.
- The timing of this plan change coincides with the timing outlined in the Council's Future Urban Land Strategy.
- This development provides for an appropriate mix of residential opportunity with a zone which provide for local neighbourhood commercial needs and social facilities.

(iii) Objective B2.2.1(4)"

"Urbanisation is contained within the Rural Urban Boundary, towns, and rural and coastal towns and villages."

- This development is fully contained within the Rural Urban Boundary.

(i) Objective B2.2.1(5):

"The development of land within the Rural Urban Boundary, towns, and rural and coastal towns and villages is integrated with the provision of appropriate infrastructure."

- This development is integrated in with the provision of core public infrastructure. In particular this includes the MLR.

(ii) Objective B3.2.1(1):

"*Infrastructure is resilient, efficient and effective."*

- This plan change recognises the need to integrate growth and infrastructure. Key transport and stormwater infrastructure is provided within the precinct provisions. The standard provisions and the Council's programme for growth within Warkworth, aligns the provision of other infrastructure consistent with growth.

(iii) Objective B3.2.1(4) and (5):

"*(4) The functional and operational needs of infrastructure are recognised.*

(5) Infrastructure planning and land use planning are integrated to service growth efficiently."

- The key issue here is the MLR which has a significant impact within this precinct.
- This plan change recognises the importance of the MLR and provides for that through the precinct.
- Key measures necessary for assessment of the MLR, including limited access road status and a limited number of intersections are embodied within the Precinct Plan.

(iv) Objective B7.2.1(1):

"*Areas of significant indigenous biodiversity value in terrestrial, freshwater, and coastal marine areas are protected from the adverse effects of subdivision use and development."*

- The prime existing high quality environmental areas relating to streams, bush and landscape features are recognised and protected through this precinct. (Some areas are currently protected through conservation covenants). This is reflected in the precinct.

(v) Objective B7.3.1

"Degraded freshwater streams are enhanced."

"Loss of freshwater systems is minimised."

"The adverse effects of changes in land use on freshwater are avoided, remedied or mitigated."

The objectives then go on to set policies relating to integrated management of land use and freshwater systems (Policy B7.3.2(1), and the management of freshwater generally (Policy B7.3.2(2)-(6)).

In terms of these matters:

- The full Auckland-wide objectives and policies apply to the precinct.
- Full infrastructure / services are provided in terms of water supply, stormwater and wastewater.
- A stormwater management plan has been prepared.
- The stormwater catchment management plan sets out a treatment train process for stormwater to ensure that discharge of contaminants are appropriately controlled.
- The assessment process for any works that impact streams is addressed in the matters of discretion and assessment criteria.
- Primary streams are identified for protection and enhancement.
- The same methods relating to the protection of the other streams as set out in the Auckland-wide provisions apply.
- One primary stream is proposed to be crossed by a road within the plan change area. This is in response to feedback from the Council's urban design and transport team. It is intended that this be crossed with complying structures (either complying culverts or bridged). However that is a matter to be addressed in future resource consents. The normal controls on subdivision and the impact on streams and water courses apply.

Policy B7.4

This policy deals with coastal water, freshwater and geothermal water. This deals with both water quality and water allocation. It identifies the Maharangi River as a degraded area.

The same comments as above equally apply in this circumstance. Through the detailed treatment train process for stormwater and through application of the National Policy Statement on Freshwater Management through the Auckland-wide provisions, this plan change is consistent with Objective B7.4 for these and the reasons outlined under B7.3.

10 SECTION 32 EVALUATION

10.1 Legislative tests

Section 32 of the Act requires any proposed plan change to provide an assessment of the appropriateness, effectiveness, efficiency, costs, benefits and risks of the requested plan change including alternative options. Section 32 states:

"32 Requirements for preparing and publishing 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—

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

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

(viii) 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.

*(3) If the proposal (an **amending proposal**) will amend a standard, statement, national planning standard, regulation, plan, or change that is already proposed or that already exists (and **existing proposal**) the examination under subsection (1)(b) must relate to –*

(a) The provisions and objectives of the amending proposal; and

(b) The objectives of the existing proposal to the extent that those objectives –

(i) Are relevant to the objectives of the amending proposal; and

(ii) Would remain if the amending proposal were to take effect."

This will be an amendment to an existing Unitary Plan. The provisions of section 32(3) apply.

This entire planning report and the different technical reports forming part of this application are all part of the section 32 analysis in support of this plan change request.

10.2 Objectives the Most Appropriate Way to Achieve Part 2 of the RMA

The inclusion of the Precinct specific objectives is the most appropriate way to meet the purpose and principles of the Act set out in Part 2 of the RMA:

This plan change significantly benefits from the extensive work done by Auckland Council and the Warkworth community in the development of the Warkworth Structure Plan. The contributing landowners have been a full participant in that process and have provided detailed feedback at the consultation and draft Structure Plan stage. In many ways the Structure Plan process is about identifying what are the key elements that for this part of Warkworth will deliver social and economic wellbeing while protecting important environmental factors and respecting the key cultural elements of this part of Warkworth. The Structure Plan is intended to provide a framework for Warkworth which will facilitate sustainable management of the land. It finds the right balance between enabling development while protecting the natural and physical resources.

This is reflected in the objectives which:

(a) Provide for this critical growth. The requirement for growth is identified in the Future Urban Land Strategy, the Regional Policy Statement provisions of the AUP, and in the Warkworth Structure Plan.

(b) Similarly the objectives reflect a broad range of zones ranging from Large Lot Residential through Single House, Mixed Housing Suburban and Mixed Housing Urban. This spread will in turn deliver a broad range of housing typologies. This will lead to the improved social wellbeing for this part of Warkworth. Social wellbeing is enhanced by diverse communities. Diverse communities reflect a range of different lifestyles which rely on different housing choice. The objectives relating to this diversity will "enable people and communities to provide for their social wellbeing" as referred to in s5.

(c) The objective on the landscape enhancement will provide for the maintenance and enhancement of the quality of the environment.

(d) The landscape and streams within this area are not outstanding natural environments that would fall within Section 6 being matters of national importance. Rather, that would be the dominant native vegetated ridgelines of Dome Valley. However, this is of local amenity and would fall within other matters of advancing the enhancement of amenity values of this area.

(e) The balance between providing for development and protecting the landscape and streams is part of addressing section 7(b) dealing with the efficient use and development of the natural and physical resources, while balancing this against section 7(f) maintenance and enhancement of the quality of the environment.

(f) The reverse sensitivity objective addresses the issue of the interface between industrial land and residential.

A net 3.6ha of currently industrial zoned land is being rezoned residential. This obviously shifts the residential boundary closer to the existing industrial area.

These policies and the development rules which flow from the objective is intended to ensure that issues of reverse sensitivity are appropriately managed and that the industrial land can continue to potentially perform its function of providing employment and economic activity within this northern Warkworth area. Reference to 'potentially' reflects the fact that the land is largely vacant and undeveloped including the properties immediately adjoining the plan change area.

The objectives are carefully crafted to achieve this appropriate balance.

These objectives are those additional to the underlying objectives of the relevant zones and Auckland-wide provisions which also apply. Those objectives have been well tested under section 32 as part of their inclusion within the AUP. That analysis is not repeated here but it is still relevant to this plan change.

10.3 Provisions Most Appropriate Way to Meet the Objectives

Section 32(1)(b) requires this analysis to "examine whether the provisions in the proposal are the most appropriate way to achieve the objective" and then sets out the matters that must be addressed in this analysis. This is elaborated on by section 32(2).

The following sections set out the analysis undertaken. The first step is to examine the policies followed by the examination of rules and assessment criteria.

Interrelated policies, rules and assessment criteria are assessed as a group. The following paragraphs 10.4-10.16set out this analysis.

10.4 Providing for Growth Including Zoning

(a) Proposed amendment

The proposed amendment is to introduce suitable zoning to the land as set out within Diagram 9. The precinct then relies on the underlying zone provisions to promote and manage the appropriate level of growth.

On the northern periphery, certain density controls are introduced. These are for landscape reasons and are addressed elsewhere in this report.

(b) Provisions most appropriate way to achieve the objective

The Council's growth strategy has been long established through the Auckland Plan, Regional Policy Statement components of the AUP (as outlined in section 9.6 above), the Future Urban Land Strategy, and the Warkworth Structure Plan. This section 32 analysis has taken full account of those strategies.

Cumulatively they demonstrate that the zoning pattern set out in this private plan change request is the most appropriate way to achieve the wider regional and precinct objectives of managing and providing for growth in Warkworth.

The key components are:

(i) The growth strategy relies on the combination of urban intensification, appropriate greenfields development, and expansion of satellite towns. Warkworth is an identified satellite town.

(ii) The Future Urban Land Strategy identifies Warkworth North as a future growth area for release by 2022. Diagram 6 and section 4.2 outline this policy. This plan change area is clearly shown as a growth area to be ready for development by 2022. This plan change gives full effect to that strategy east of State Highway 1, and is consistent with the timing stated in the strategy, given the timeframes to produce a plan change, undertake the necessary masterplanning, provide the infrastructure and then build the homes ready for new residents.

(iii) The AUP's objectives are focused on growth adjacent to good transport facilities with an emphasis on public transport, around or in good proximity to town centres, and adjacent to major public open space. A key prerequisite is adequate infrastructure.

For the reasons outlined in the effects section of this report, Warkworth North meets all these criteria. The provisions of this plan change are therefore the most appropriate way to achieve these objectives. The Matakana Link Road is a major link within the Warkworth transport network. It is designed for cycling and walking. It is futureproofed for public transport both in terms of the Matakana Link Road and in the design of the subdivision itself. Warkworth is not currently serviced by public transport, although there is a public service bus linking from Warkworth central down to the North Shore. What this development will do is help build the critical population mass that will help justify a local bus service.

(iv) The entire requested precinct area is currently zoned "Future Urban". This zoning heralds and fully contemplates rezoning to urban uses. This plan change gives effect to the policy and the intention that such rezoning would follow a structure plan exercise.

(v) The Structure Plan itself has been through an extensive technical review and public consultative process over the right way to provide for growth within Warkworth. The subject land is identified as a core growth node. The Structure Plan identifies the key growth zones of Mixed Housing Urban and Mixed Housing Suburban. All

land identified as Mixed Housing Urban and Mixed Housing Suburban in the Structure Plan is so zoned within this private plan change. There is a slight increase in the degree of Mixed Housing Suburban.

This private plan change package is the most appropriate way to achieve the objectives of providing for growth balanced against other objectives of addressing landscape and other environmental factors.

(vi) The variety in the zoning pattern with different housing typologies enabled, will create a range of different lifestyle choices which will help promote a diverse community.

(c) Options considered

The Warkworth Draft Structure Plan promoted a different indicative set of zonings with a lower intensity level.

WLC and others in the cooperating landowners spent some considerable time analysing the options for providing for growth within Warkworth. This formed a direct part of the submissions on the Draft Structure Plan.

The Council then undertook a detailed analysis of all these matters and other public feedback. The Final Structure Plan rejected that option and settled instead on the zoning pattern in the Final Structure Plan.

The zoning pattern proposed in the Plan Change is the most appropriate option for achieving the regional and Precinct objectives on managing Auckland's growth. Where there are particular site specific issues that need to be addressed, such as at the western end of the site where the Mixed Housing Urban has a special height zone of two storeys instead of the standard three storeys, then this is best addressed through precinct controls rather than arbitrarily going for a medium intensity zoning when a high intensity zoning gives the better environmental outcome.

Options were considered of:

- Fewer range of zones focused on mixed housing suburban
- Retaining the light industrial zoning

- More extensive medium density zoning in the north

The key reasons why the zonings under the plan change are most appropriate way to deliver the growth objective are:

(i) The Future Urban Zone is a recognised "holding "zone until the area has been structured planned and ready for development. This has now occurred.

(ii) Medium and higher intensity residential use around public transport corridors and key open space areas reduces the pressure on further peripheral growth into the rural area. By contrast, a protracted use of low density zoning only puts further pressure on greenfields expansion.

(iii) Key community factors such as public transport and the social and community services that make up quality neighbourhoods rely on a concentration of people to make them economically sustainable. It is much easier to create a bus network servicing a high and medium density area, than it is to service it over a low density area. A high density area will better provide the economic sustainability for dairies, cafes, preschools, etc than will a sparse low density area.

(iv) The effective area of industrial land rezoned to residential is 3.6747ha. This is a net area recognising that a portion of this current industrial zoned land is taken for the MLR regardless of whether it is zoned industrial or residential. The impact of the MLR is that the land north of the MLR is highly problematic to get access to because of the retaining walls required to support the road cutting, and hence the grade separation between access from the MLR on to the industrial land. Put simplistically, there is no opportunity for vehicles servicing the industrial area to get access off the MLR. Heavy vehicles and other industrial traffic would have to travel through existing residential suburbs to gain this access. For reasons outlined elsewhere in this report, this is a poor planning outcome. South of the MLR it is technically possible to get access but it is a small isolated block of industrial land which would require expensive upgrades to the MLR to create elongated right-hand turn pockets to enable large industrial trade vehicles to access the block. The report by Property Economics demonstrates that the loss of 3.67ha of industrial land in this part of Warkworth, given the very significant undeveloped portion

of industrial land immediately adjoining to the north, and the proposed expansion of industrial land in central and southern Warkworth, has no effect.

(d) **Efficiency and effectiveness**

Higher and medium density development significantly improves the efficiency and therefore effectiveness of the provision of infrastructure. It is problematic and costly to service infrastructure, particularly roading, wastewater, potable water, community facilities, public transport, and schools in sparse low density areas.

There is better land efficiency from high density development rather than a low density scenario which inevitably results in sprawl and has a marked impact in terms of rural production land.

(e) **Effects**

Strategic effects

Warkworth: Clayden Road is a core part of the Council's growth strategy. This strategy is outlined within its future urban land release strategy as summarised in section 4 of this report and in the Warkworth Structure Plan.

Warkworth Clayden Road is within the next land release which the Council is proposing for Warkworth. Clearly this area is a strategic part of meeting the Council's required growth targets.

Additionally, the Council is investing significant money in the MLR and in the infrastructure necessary to support urban growth in this area. That includes upgrades to the wastewater infrastructure and potable water supply. It also impacts the stormwater management system.

The significant investment in public infrastructure (roads, transport, wastewater, potable water), this area being a key feature of the Council's growth strategy, and being part of Auckland meeting its requirements under the National Policy Statement on urban growth; make this a strategic growth area for Auckland- one that needs to be rezoned in the short term to meet Council growth targets..

This plan change delivers on that strategic objective.

It will enable this land to be rezoned largely in accordance with the approved Warkworth Structure Plan, and to be rezoned concurrent with the completion of the key infrastructure works, particularly roading and wastewater.

This plan change will deliver strategic benefits to the broader Auckland growth strategy and in particular to Warkworth. The strategic effects of this plan change are significantly beneficial.

Residential effects

This proposal will deliver 102ha of land currently zoned Future Urban and obviously targeted for release for urban development before 2022.

This zoning package is largely consistent with the Warkworth Structure Plan. Where there are differences is in the low density zones, not the high density zones.

The scale and form of development envisaged within the Structure Plan will be delivered by this plan change.

The WLC masterplan identifies that the land could be developed for some 730 homes. The White Light Trust land could probably be developed for 250 -280 homes. The three northern properties in Clayden Road for 68 homes. These assessments are indicative only. They assume between 60 and 65% land efficiency i.e land that is available for housing, and then a density consistent with the proposed zoning.

This could give a total of some 1,100 homes.

Equally critical is the variety of zoning across the plan change area. This in turn will drive a range of different typologies which will offer a range of different lifestyle choices and price points.

This flexibility and range is seen as an important element in creating diversity in the community.

The residential effects of this development are significantly beneficial, particularly when considered concurrently with the strategic benefits where this land is identified as being important in Auckland's growth strategy and among the first blocks of land targeted for rezoning and release.

Urban design effects

AStudios has undertaken a significant masterplan analysis of the northern sector of Auckland, Warkworth generally and Warkworth North specifically in developing this masterplan. This is set out in their report at Attachment D.

Ian Munro has also undertaken an urban design review of the project (refer to Attachment C). His review has led to a number of design changes through the evolution of the masterplan.

The key urban design drivers for this proposal include:

(a) Working with Auckland Transport to get an agreed vertical and horizontal alignment to the MLR which significantly reduces the number of retaining walls and enables this road to function as a high-volume traffic street within an urban environment (as opposed to a bypass road) while protecting existing watercourses and their margins, and the land's natural contours and form. The MLR then becomes a core part of access to this new neighbourhood, although it will not be suitable for direct property access.

(b) Recognising and protecting the tributaries of the Mahurangi in terms of the stream network and adjacent bush and the opportunity to provide environmental enhancement.

(c) Creating a zoning pattern that will allow a street and park network which avoids cul-de-sacs and provides an integrated network of collector and local roads to provide a highly connected community.

(d) The introduction of laneways will be key to enabling homes to face on to the MLR and thus provide CPTED and urban design benefits to this street, while acknowledging that

the function of the road must be a limited access road and therefore vehicle access to sites must be from rear lanes.

(e) Introducing a variety of section sizes and housing typologies. This assists in encouraging a diverse community responding to people's different lifestyle choices, and also to affordability matters.

(f) Providing a level of intensity that will enable high quality landscape and streetscape and robust infrastructure, but enabling the cost of development to be spread across sufficient properties so as to retain relative affordability.

(g) Introduction of the Mixed Housing Urban zone on the primary park edge road to create a greater diversity of housing opportunity on the flatter, high-amenity part of the land. The Mixed Housing Suburban zone is proposed mid-slope towards the north to provide a transition between the Mixed Housing Urban zone and Single House zone proposed on the site's upper northern slopes.

(h) Zone assessment criteria limit the number of rear sites. Some existing land holding shape factors and the nature of stream location may inevitably create some rear sites, but these are limited. The underlying subdivision criteria will ensure this outcome at resource consent stage.

(i) The development of a network of walkways/cycleways through the block as signalled in the Warkworth Structure Plan.

(j) The introduction of a building line restricting housing on the upper slopes of sites adjacent to the character ridgeline that runs just beyond the site (to the north and north-west) to maintain that feature and the legibility of the township's 'bowl' feature.

(k) The introduction of through sites with double frontage. These sites are created by the protection of some of the minor streams within the area. While these areas might technically vest as road or could vest as park, their location and the desire to create park edge roads is what gives rise to the technical through site. Again, these are aspects of detail to be worked through at consideration of resource consents associated with subdivision applications.

Mr Munro supports the integration of landform and environmental features, and the provision of higher density areas with amenity spaces. With specific regard to the proposal for higher-density housing through the Mixed Housing Urban zone in the area immediately north of the show grounds, Mr Munro notes:

> *"…the slope has no urban design significance and does not form part of any logical or observable patterns of low-density transitions at the Warkworth perimeter. Its proximity to employment, open space and transport facilities suggest that it should be developed for higher rather than lower density outcomes."*

Mr Munro makes the following conclusions:

> *"a. The site has been identified as suitable for urban purposes through the Future Urban zone that applies to the land. The proposed combination of residential zones are appropriate given the site's opportunities and constraints, and adjacent land's characteristics including the Warkworth Showgrounds.*
>
> *b. The proposal provides for an identified strategic road link (The Matakana Link Road), protection of existing watercourses and their margins, and the land's natural contours and form (through management of building height and residential zone extent).*
>
> *c. A concept master plan for the 55ha of PPC land directly controlled by Warkworth Land Company Ltd prepared by A-Studio, and which is intended to form a high-level guide to subsequent subdivision, demonstrates that the land is capable of delivering an integrated, well-connected and spatially coherent urban form outcome.*
>
> *d. The proposed precinct provisions, including key road links and the green corridors, are sufficient to ensure the site-specific opportunities presented by the site's urbanisation can be safeguarded.*
>
> *e. The mix of densities proposed will accommodate a variety of house and household types, serving housing choice in a way that concentrates density where it will be most effectively located (close to green or open spaces and key transport links).*

f. The proposal is compatible with, but is different from, the Council's Structure Plan for Warkworth. It is understood that the Council's largely staff-drawn Structure Plan is non-statutory and is not intended to supersede or predetermine the formal and contestable plan-making process. The proposal is considered to have benefitted from a more substantial technical investigation than has been possible through the Council Structure Plan and this is considered to explain (and justify) the differences between the two.

g. The proposal is compatible with the proposed re-zoning being advanced through Private Plan Change 25, on land west of the site, and the two areas together provide a logical northern edge to Warkworth.

h. The proposal is compatible with the built form characteristics of Warkworth, and presents nothing out of the ordinary or remarkable that could be regarded as being out of step or conflicting.

i. The proposal will result in a number of adverse urban design effects, although none are considered to be unusual or severe in the context of rural-to-urban land re-zoning. Positive urban design effects will also occur or be enabled through future subdivision. Overall, the proposal is consistent with the quality compact urban form sought by the AUP: OP and the specific matters set out in Chapter B2: Urban Form."

As a result of this urban design analysis by Mr Munro:

(i) The land has been rezoned in accordance with the zoning application as identified in Mr Munro's report.

(ii) The strategic road alignment and stream protection has been put in place in the Precinct Plan as per Mr Munro's report.

(iii) The green corridors as identified in Mr Munro's report referencing the AStudios plan have been protected through the Precinct Plans.

(iv) The combination of the underlying zoning and the special density controls, particularly on the periphery, applying through the precinct provisions delivers the mix of densities identified in Mr Munro's report.

(v) Particular provisions around access to the MLR and landscape protection, are provided.

(f) Benefit and cost

The benefits of the approach of this plan change are that:

(i) It gives effect to the Auckland Plan, Future Urban Land Strategy, AUP (including the Regional Policy Statement) and Warkworth Structure Plan for the reasons set out earlier in this section.

(ii) It provides for the efficient use of land leading to reduced future pressure on rural land from urban development.

(iii) It gives enough critical mass to support future public transport and the desirable community services which a neighbourhood benefits from.

(iv) It targets growth in the area where the community has already committed significant public investment. It enables the community to realise the benefits from this investment.

(v) The variety in the zoning pattern will create a range of different lifestyle choices which will help promote a diverse community.

(vi) The lower density in the northern area delivers the environmental outcomes and achieves the appropriate balance for growth and landscape amenity.

(vii) The rezoning of industrial land to residential better aligns the zone boundary on the now logical interface between industrial land and residential land. It takes land that is now problematic for industrial activity as a result of the MLR and gives it an efficient use.

The costs are:

(i) The cost of servicing infrastructure into the area. Much of the core trunk infrastructure is identified for expenditure anyway. If Warkworth Clayden Road did not proceed, this would only result in a reallocation of infrastructure funding to another location – not a saving in infrastructure costs.

(ii) Loss of some rural production land. However this land has been identified as Future Urban zone for some time. It has also been identified for growth through the Future Urban Land Strategy. This is a planned loss.

(iii) Loss of some employment land. However, as explained above, the MLR has made access to this land for industrial uses difficult and in any event, there is not a shortage of Light Industrial zoned land.

(g) Risk

The key risks are:

(i) The impact of urban growth on the environment, particularly the streams leading into the Mahurangi River. This will require successful mitigation of the effects of urban development, which the proposed objectives and policies seek to achieve

(ii) Delay in core infrastructure. The core infrastructure is committed. If there is a risk, it only relates to the timing of development. This is a resource consent issue rather than a plan change issue, i.e. subdivision consents would only proceed if the required servicing infrastructure is guaranteed.

(h) Reasons for proposal

This plan change and the growth it will secure are advanced on the basis that:

- It is consistent with, and a key part of delivering, the Council's core strategy documents including the Warkworth Structure Plan.
- The land is identified in the Future Urban Land Strategy for development in the current planning period with housing on stream by 2022.
- The land is eminently suitable for urban development as identified through the Future Urban zoning process, the Structure Plan, and this plan change analysis.

- The zoning pattern and level of growth is consistent with the Structure Plan and provides the appropriate balance between achieving good environmental outcomes, efficient use of infrastructure, creating critical mass to support key community facilities and public transport, and providing for growth.
- The variety in the zoning pattern will create a range of different lifestyle choices which will help promote a diverse community.

10.5 Precinct Provisions

(a) Proposed amendment

This plan change introduces a special precinct to this portion of Warkworth. It identifies a series of site specific controls relating to:

- Limited access on to the MLR.
- Identified intersections to be provided on to the MLR and other transport matters.
- A special yard along the Rural Urban Boundary.
- A limitation on density adjacent to rural land.
- Areas to be protected for landscape purposes.
- Stream protection.
- Provision for an indoor sports facility, namely the Northern Arena or similar indoor recreation facility.

The specific provisions and the section 32 analysis relating to these provisions is addressed in the following paragraphs. This aspect of section 32 is simply an analysis of whether a special precinct for this area of land is appropriate having taken into account the tests of section 32.

(b) Provisions most appropriate way to achieve the objective

The proposed precinct introduces a number of site specific provisions that are unique to this area of land within Warkworth. The method in the AUP to manage area specific controls is the Precinct Plan.

The controls reflect the approach identified through the Warkworth Structure Plan or the designation for the MLR.

They act as a package. It gives an integrated and appropriate planning and environmental outcome for Warkworth that cannot be guaranteed if reliance was simply placed on resource consents under the underlying zoning and Auckland wide provisions.

Consequently the conclusion of this section 32 analysis is that creating a precinct to deal in an integrated way with these area specific provisions is the most appropriate way to achieve the objectives of the AUP

.

(c) Options considered

There are essentially two options. The first is to create a precinct. The second is to rely on the underlying zoning and Auckland wide provisions.

(d) Efficiency and effectiveness

A precinct provision is an effective and efficient way to deal with area based controls. It is a well tested technique used extensively in the AUP. It is the preferred method of the Council to deal with new comprehensive greenfields developments and means any targeted issues/effects can be effectively managed where the general provisions would not address them.

(e) Benefit, cost and effects

The benefits of a precinct are:

(i) It identifies and delivers area specific planning outcomes for Warkworth.

(ii) It places a particular emphasis on land which will shortly be released for urban development.

(iii) It better gives effect to the Warkworth Structure Plan than simply relying on the general provisions.

(iv) It introduces a higher level of control into the plan appropriate to this particular location.

The benefits of simply relying on the underlying zoning and Auckland-wide provisions is that:

- These provisions are well known and tested.
- It offers a more simple regulatory process.

The costs of simply relying on the underlying zoning and Auckland wide rules is:

- The lack of sophistication in the provisions. Area specific matters are reduced to generic assessment criteria under the general provisions.
- It fails to give full effect to the key outcomes identified in the Warkworth Structure Plan.
- It leads to uncertainty in the future as to the form and nature of appropriate development.

(f) Risk

There is little risk with introducing the precinct. Rather the risk is with not having a precinct and relying on the underlying plan provisions. That introduces the risk of uncertainty and a lack of certainty over the planning and environmental outcomes which underpin this plan change. These are the outcomes the community has ascribed to through support of the Structure Plan.

(g) Reasons for proposal

The precinct technique is advanced because:

- This is the most appropriate method to deliver the area specific provisions which are warranted for Warkworth North.
- There is an expectation by the community of key outcomes as part of the growth expansion of Warkworth. The only way to deliver this is through the precinct methodology.

- The planning importance of these area provisions warrant unique controls managed through the precinct methodology.

10.6 Landscape Provisions

(a) Proposed amendments

The identified landscape feature for this precinct is the knoll and ridgeline which straddles the RUB along the northern boundary of the precinct. There are six interrelated provisions which give effect to the landscape objectives for the precinct as follows:

(i) The Large Lot Residential and Single House zoning ensures low intensity of use on the northern boundary of the precinct.

(ii) For Single House zoned sites adjoining the RUB, a lower density unique to this precinct is created. This creates a minimum net site area of 1,000m² (compared to the standard 600m²). The limitation of one house per site remains.

(iii) A 6m special landscape yard is created along the northern boundary with no vehicle access. 60% of the yard is required to be landscaped.

(iv) A special height limit of 5m (one storey) between the 6m yard and within 10m of the RUB.

(v) Two areas adjacent to existing established native bush and including the dominant view from the showgrounds to the knoll have special controls which prevent buildings being constructed in this location.

(vi) A special height limit adjacent to the MLR to limit the height of buildings in the foreground of views from the Warkworth Showgrounds.

Cumulatively, the controls have the effect of placing high recognition and high protection of the identified landscape character identified in the Structure Plan for this precinct.

(b) Provisions most appropriate way to achieve the objective

The Warkworth Structure Plan identifies the key outcome the Council is trying to achieve along this area. This is reflected in the precinct objective. It is to recognise the transition between urban Warkworth and the rural area at the RUB. It has several components, namely:

- Creating areas of no development.
- Pushing building platforms on the ridgeline properties to the southern and lower end of the portion leaving the upper end for landscaping.
- All sites are capable of being serviced from the MLR and do not rely on the paper road. Because there is no requirement to form the paper road to give vehicle access to the precinct, this has the effect of leaving much of the paper road available for landscaping and as a cycleway / walkway. This is the proposed use under the Warkworth Structure Plan.
- The landscaped yard complemented by the planted paper road creates a significant vegetated backdrop along the ridgeline.
- Creating a suite of controls specifically targeted to the different elements which cumulatively achieve the desired objective is the most appropriate way to deliver the environmental outcome.

(c) Options considered

The options considered were:

(i) Not proceed with a lower density control in the Single House zone on the northern boundary.

(ii) Not proceed with the landscaping requirement but retain the yard.

(iii) Increase the size of the yard.

(iv) Not allow development in this part of the precinct.

These options were run through a cost benefit analysis, which is explained in greater detail below. The conclusion of that analysis was that the current package of controls was the

most appropriate way to achieve the balance between protecting the landscape character and providing for reasonable levels of growth.

(d) **Efficiency and effectiveness**

Because the controls are specifically targeted at those aspects that will have the greatest impact in terms of delivering the environmental outcome, they are the most effective way to achieve the objective. The controls break down the component parts into controlling the location and intensity of development along the ridgeline and in creating a landscaped backdrop along the ridge. The controls provide a highly efficient mechanism to achieve this. Because they are targeted, they are precise and understandable. The controls apply to that part of the precinct which is of the critical landscape character.

(e) **Effects**

Natural character effects

A landscape assessment by LA4 is set out at Attachment E to this report. As part of the Landscape Assessment, Mr Pryor has made comment on the natural character effects of the proposed plan change. He notes that natural character relates to the degree of 'naturalness' of a landscape and is primarily determined by the nature and extent of any modification to a landscape and can be expressed in relation to natural processes, patterns and elements in a landscape.

The Council through the Structure Plan process has identified two key views of the knoll at the north-western end of the subject land which sits just outside the plan change area. Slightly further east is an area of protected native bush. Again, the bush is outside the Structure Plan area and outside this plan change. Nevertheless, the foreground is within the plan change area. Thirdly there is a grove of native bush in the north-eastern corner of this precinct, again protected bush.

This plan change:

(a) Identifies the land in front of the knoll for revegetation. An exclusion of building development on this property is proposed, meaning that the visual corridors the

Council is seeking from the Warkworth Showgrounds is protected at the knoll and the area immediately downhill of the knoll.

(b) Lower density housing is provided around this knoll at either a Single House zone with a special density of 1: 1,000m^2 or Large Lot Residential at a density of 1:4,000m^2.

(c) The foreground in front of the western bush area is identified on a specific site of just over half a hectare and is clear of development. Effectively the development right for this site is transferred into the Countryside Living zone to the north. This is simply done through the normal zonal and subdivision rules.

(d) The eastern bush is surrounded by low density residential zones; either Large Lot Residential or Single House but at the residential density of 1:1,000m^2.

The Council's analysis is focused on the knoll rather than the two bush areas. Mr Pryor makes the following analysis of natural character effects derived from the proposed plan change:

"While the vegetated stream corridor and indigenous bush stand at the end of Clayden Road retain a moderate level of natural character the site itself is not high in natural character values and has been highly modified through past pastoral activities. The area has previously undergone extensive agricultural activities and is modified by vegetation clearance, artificial farm drains, storage ponds and dwellings. The site is a component of the wider modified rural environment and located within an area zoned for future urban intensification.

"The primary stream corridor and the indigenous bush stand are to be retained, protected and enhanced. Several reserves are proposed and connected through a green-network based on the enhanced stream network and stormwater management area which will enhance the natural character values of the site. Overall, the adverse effects of the plan change on the natural character values of the site and surrounding area would be low."

The core visual protection which the Council is seeking over the knoll is extensively addressed in the report of LA4. The conclusion of that report is that:

"I concur with the WSP's planning principle to apply a lower density residential zone to areas valued for their landscape, character, or heritage significance. I do not however agree that the plan change area contains high landscape values or landscape character to warrant the proposed RLL zone overlay and associated development and landscape protection controls.

"In my opinion, a distinctive and locally derived urban character is influenced by the qualities and characteristics of the underlying landscape character and the elements and attributes of the form. I do not consider however that the areas for further protection controls (the ridgeline and knoll) comprise major landscape elements and features capable of defining a unique sense of place for the northern WSP area. The modest changes in topography, while locally pleasant, are not distinctive landscape features. The dominant landscape features, the vegetated stream gullies, are to be retained where practicable, and enhanced through additional native plantings."

"The primary stream corridor and the indigenous bush stand are to be retained, protected and enhanced. Several reserves are proposed and connected through a green-network based on the enhanced stream network and stormwater management area which will enhance the natural character values of the site. Overall, the adverse effects of the plan change on the natural character values of the site and surrounding area would be low."

"I consider that if the northern ridge, knoll and spurs has been valued and considered distinct and significant enough in landscape and visual terms, in the context of the surrounding landscape to warrant protection, then this would have occurred as part of the AUP zoning process, precluding any form of development on them.

"The visual integrity of the knoll, spurs and ridgeline is resultant from the current pastoral slopes rising gently from the lower surrounds, the dissecting vegetated stream gullies and contrasting characteristics to the adjoining stands of native forest and backdrop hills of the Dome Forest. This contrast will be lost with the construction of the MLR, industrialisation of the land to the west and future urbanisation of the land as part of development enabled by the WSP provisions."

Landscape effects

My Pryor described landscape character as being derived from a combination of landscape attributes that give an area its identity, including landform, land cover and land use. Landscape character effects relate to the effects of change and development on the landscape resource, the key being *"…how the proposed development will affect the patterns and elements that make up the landscape, the aesthetic and perceptual aspects of the landscape, its distinctive character and the key characteristics that contribute to it as well as the value attached to the landscape."*

The early consultation process with the Council identified an area of landscape buffer within the Stevenson block and a lesser area within the Claydon block as being important landscape elements within the area. This is reflected in the Warkworth Structure Plan. LA4 make the following comments regarding the existing landscape character and its sensitivity to change:

> *"Based on the preceding description and analysis of the site and surrounds it is clear that there are relatively low landscape values and sensitivity associated with the area. The plan change area is a highly modified rural environment lacking any significant landscape features and natural character values (other than the vegetated stream corridors and indigenous bush stand). Therefore, the only negative outcomes in landscape terms will be the loss of the remaining rural character, which is anticipated by the relevant planning strategies for the area.*
>
> *"The key methods of mitigating for this loss are to retain and enhance where possible existing landscape features and create a quality urban development. Although the proposal will result in the loss of rural character there are a number of positive landscape outcomes associated with the development.*
>
> *"The establishment and enhancement of the green network, including the provision for associated open space with extensive planting, will have beneficial landscape effects including the enhancement of amenity and habitat values, and the establishment of ecological linkages."*
>
> *"…Development enabled by the plan change will result in a change in landscape character, but will ensure a suitable level of amenity, albeit an urban, rather than a rural character is achieved."*

The Structure Plan is seeking to achieve low density development along the northern boundary of the block to accentuate the landscape feature of the knoll and ridgeline. It sets out to achieve this in two ways:

- to introduce areas of large lot residential housing;
- on the rest of the northern interface to set a lower density Single House zone of 1:1,000m².

This plan change:

(a) Creates two key areas where controls prevent buildings being constructed. One of these is located adjacent to an important bush area and one adjacent to the knoll.

(b) Retains Large Lot Residential in two key parts of the northern portion adjacent to the knoll and ridgeline in the vicinity of Clayden Road.

(c) Introduces the low-density Single House 1:1,000m² along the northern boundary.

(d) Sets a special 6m landscape yard at the interface with the ridgeline. This will complement the opportunity for the Council on its land to landscape the paper road along the northern boundary.

The cumulative effect of these measures is to protect the landscape qualities the Structure Plan identifies.

LA4 have undertaken an assessment of the plan change provisions and how these will impact the landscape character of the area and have reached the following conclusions:

"The pattern of the primary ridge forming the discrete topographic feature in the northern part of the WSP area will still be apparent, albeit with a built form of development reinforcing the changes in landform and topography. Landscape comprises the interaction of landform, land cover and land use and is the result of the cumulative impacts of natural and human processes."

"Based on the preceding description and analysis of the site and surrounds it is clear that there are relatively low landscape values and sensitivity associated with the area. The

plan change area is a highly modified rural environment lacking any significant landscape features and natural character values (other than the vegetated stream corridors and indigenous bush stand). Therefore, the only negative outcomes in landscape terms will be the loss of the remaining rural character, which is anticipated by the relevant planning strategies for the area."

"In conclusion, the plan change will fulfil the need for a greenfield housing area and provide an opportunity for an innovative and environmentally sustainable urban development in keeping with the vision and principles established within the masterplan. The plan change proposal is consistent with regional growth strategies for the area and will result in a high quality urban development with a range of positive landscape and environmental outcomes."

(f) Benefit and cost

Benefits of the current plan change:

- This plan change best provides an integrated package that achieves the objectives.
- The core of the knoll itself plus the foreground to the middle bush area are protected from any buildings. In the case of the knoll, this best protects views of the knoll from the showgrounds.
- The lower density ensures a spaciousness of sites along the rural urban fringe.
- The special yard pushes the building platforms down the slope to the south. This ensures no buildings along the ridgeline.
- Special landscape controls, when added to the planting within the paper road, give a very substantive vegetated barrier which accentuates the ridgeline and creates a foreground to the dominant background views of Dome Valley.
- It achieves the greatest yield taking into account landscape effects.

The costs of the integrated plan change provisions are:

- Key land is lost to residential development which reduces the overall yield within the precinct.
- The opportunity for substantial vehicle access from the unformed portion of Clayden Road is lost which reduces flexibility for residential development.

- Pushing buildings south down the slope and substantial planting behind them will lead to shading within winter months.

The benefits of the option of enabling residential development on all of the upper slopes, i.e. the two locations where new build is not provided for, are:

- Yield is increased.
- More efficient use of land is enabled.

The costs of this approach are:

- Housing is built on the foreground to the knoll as viewed from the showgrounds.
- The integrity of the bush foreground is reduced.

The benefits of not proceeding with the special yard control are:

- Housing flexibility is retained.
- Homes can be pushed to the north to improve views to the south and west and to reduce the impact of loss of winter sun.

The costs of not proceeding with the special yard are:

- To allow homes on the ridgeline which, on distant views, will obscure the land formation of the ridge and saddle.
- It will place more substantial buildings when perceived from distant views in the foreground of the knoll and bush area.

The benefits of not having a special density control on the RUB boundary are:

- The standard provisions apply which will give simpler administration of the plan.
- High yield can be achieved.
- There is an increased catchment at the upper reach of the futureproofed public transport loop.

The costs of retaining a standard density control are:

- More housing along what is considered a landscape sensitive ridge.
- Inconsistency with the Warkworth Structure Plan which signalled a review of density controls in this location.
- Reduced spaciousness.

The benefit of an increased yard is:

- Buildings are pulled further down off the ridgeline.

The costs of an increased yard are:

- The flexibility for building platform is significantly reduced for marginal landscape gain.
- There are issues with buildings being shaded by trees within the vegetated yard. This is because the trees would be closer to what would be the only remaining building platforms on these northern sites.

(g) Risk

If there are no controls then there is a risk that the landscape character of the foreground ridgeline at Warkworth North is diminished.

In other aspects there is little risk from this package of controls. They have been carefully refined as a package to deliver the outcomes without unduly compromising the growth objectives of the precinct.

(h) Reasons for proposal

This package of landscape character protecting provisions will best ensure:

(i) The key landscape area, being the foreground to the knoll and the foreground to the bush, are protected through a control preventing buildings being constructed in this area.

(ii) The special density controls create the right balance between ensuring reasonable yield to meet the growth objectives balanced against spaciousness to meet the character objectives.

(iii) The landscaping control ensures the vegetated development of this ridgeline. This is particularly so when complemented by the likely Council planting of the paper road.

10.7 Ecological Provisions

(a) Proposed amendment

This plan change introduces particular provisions relating to terrestrial and stream ecology. A Precinct Plan 2 is introduced which identifies key streams and ecological areas to be protected. Assessment criteria on subdivision within the plan examine the extent to which these ecological areas are protected through any subdivision process and vested in the Council.

Reclamation of streams identified on Precinct Plan IXXX.9.2 are a non-complying activity. Reclamation of other streams are a restricted discretionary activity. Assessment criteria are introduced relating to any modification or reclamation application.

The precinct provisions identify those parts of the ecology (stream and terrestrial) within the precinct area which are identified as being of high value. In this case particular provisions are applied to enhance the level of protection for these areas beyond those set out in the Auckland-wide provisions.

For areas considered to be of medium or low value, then the standard Auckland-wide provisions apply.

(b) Provisions most appropriate way to achieve the objective

The AUP has extensive provisions relating to the identification and protection of streams. The structure of this plan change is that these objectives, policies, provisions and assessment criteria apply, unless specifically modified within the precinct. In this case all the objectives and policies of the AUP apply including chapters E1, E3 and the relevant objectives and policies of B7. These general AUP provisions have already been through a section 32 analysis and found to be appropriate and will deliver the desired environmental outcomes.

This plan change adopts these provisions for Warkworth. The only changes are to the process for assessing streams, and not to environmental outcome or considerations.

The two process changes are:

- for identified critical permanent streams, any modification or reclamation of these streams is a non-complying activity;
- for modification or reclamation of other permanent or intermittent streams not so identified, is a restricted discretionary activity.

Under the AUP the default provision in both cases would be a discretionary activity.

The plan change signals that the identified areas are expected to be retained in their natural state, and hence the non-complying activity status. In terms of the other streams, the matters of discretion and the assessment criteria give the Council full powers to assess any application under the precinct. The matters of discretion and the assessment criteria are very broad. However, given that there is a good understanding of the ecology of the area and it is a confined precinct, it is appropriate that the process of restricted discretionary activity is applied.

It is considered that this method best achieves the objectives. Key environmental features and locations are identified within the Precinct Plan. These are seen as particularly important, and are protected. Other portions of the ecology of the area are subject to assessment under the precinct including considering factors of ecology, growth, base flows and offset mitigation. In these other areas it leaves open the debate as to the balance between providing for a range of factors that must be weighed in enabling the development of an area.

The core environmental policy regime and rules as applies within the AUP, are retained. Primary streams within the precinct are identified. Appropriate activity classification, and the statutory process these trigger, are applied as either non-complying or restricted discretionary activity consents.

(c) Options considered

There are three basic options:

(d) totally rely on the Auckland-wide provisions;

(e) provide particular and additional protection for high value stream and ecological areas;

(f) protect all streams and terrestrial ecology.

(d) Efficiency and effectiveness

This is an area identified for future urban zoning and identified for residential growth as part of the first stage of growth management within Warkworth.

It is also an area of land substantially impacted by the MLR which has had key impacts in terms of how future residential development will need to relate to new road levels and approaches.

The combination of the MLR setting effectively the level at which the road network must operate, the maximum grades that Auckland Transport will accept within a road network, the topography of the site, and the fact that a number of the streams are already impacted by the MLR; means that this proposal finds an appropriate balance in dealing with the ecology. It is effective in protecting the most highly valued areas. It leaves other areas to be worked out through the normal resource consent process where a range of competing planning attributes are assessed and an appropriate development balancing these issues derived.

(e) Benefit and cost

The benefits of this approach are:

- High value stream ecology is identified and protected.
- High value terrestrial ecology is protected.
- There is clear understanding for the planning and development of the land as to which areas need to be protected.

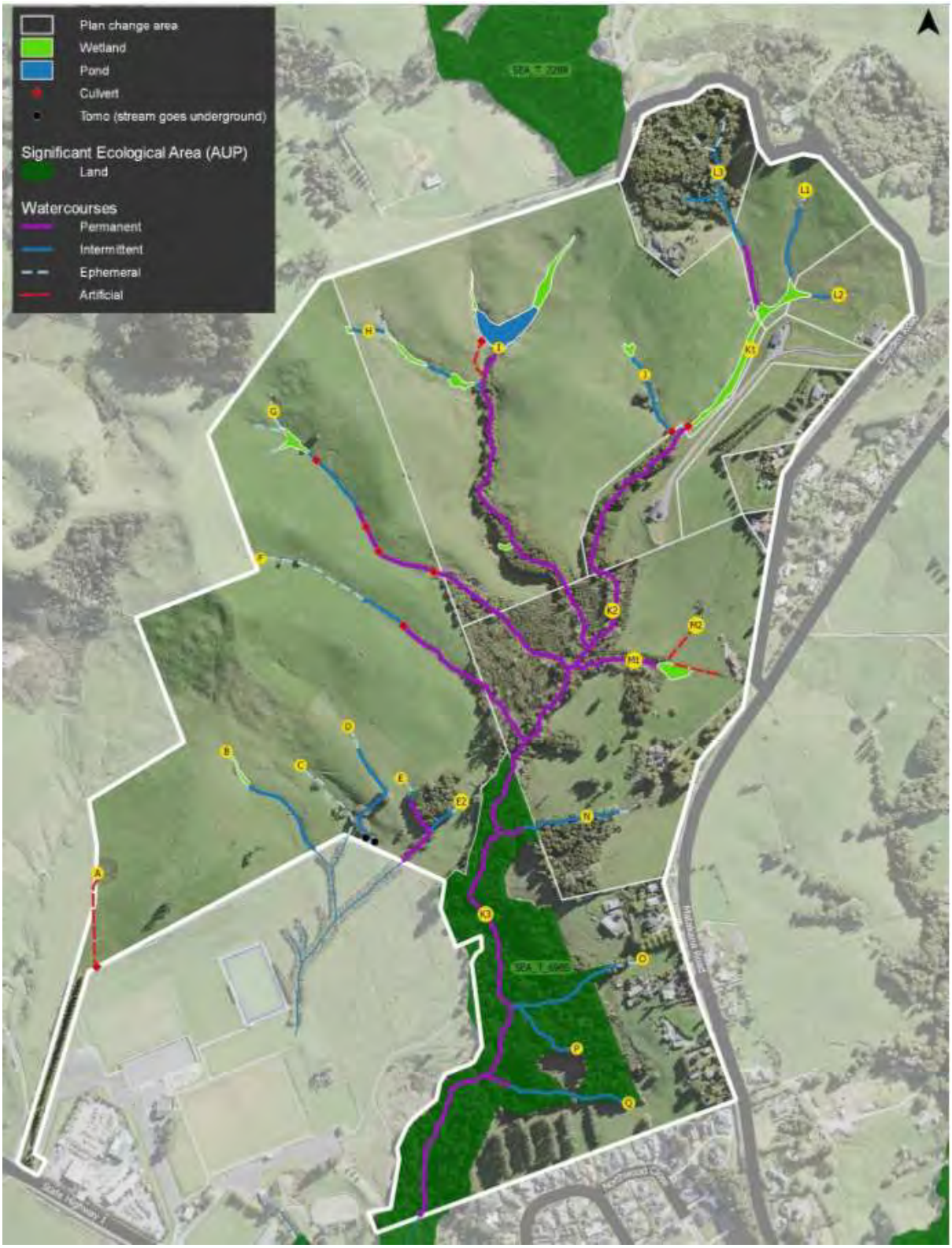
- Other medium and low value ecological areas are subject to resource consent assessment under the precinct provisions. This gives future flexibility as the appropriate balance is worked through as to the level of development.

(f) Effects

The ecological assessment of Freshwater Solutions is set out in Attachment F of this feedback. This covers the streams which traverse the site and the terrestrial ecology including established native bush in pockets within the site.

Diagram 19 is an extract from the Freshwater Solutions report showing the existing streams and status of those streams.

Diagram 19: Streams



Ms Bodley of Freshwater Solutions has undertaken a detailed onsite survey of the streams and bush areas. She has identified existing streams and classified them to permanent, intermittent and ephemeral and has also identified wetland or boggy habitat and some

substantial areas of bush, a small portion of which is already covenanted. She has also assessed them in terms of their current value as high medium or low.

A number of the streams are impacted by the MLR. Others are identified in the Warkworth Structure Plan. Some streams are protected by existing covenants. The two primary streams were also identified in the community consultation process as key ecological elements by the community. These are to be protected and enhanced. What is currently grazed paddocks will be retired from farming and significant revegetation of these corridors will occur.

Precinct plan 2 shows the stream overlay and how the ecological corridors or green fingers within the precinct are protected.

Terrestrial vegetation within the precinct falls into two categories. The first is native bush areas. The second pasture. The pasture land is characterised by grazed sheep, cattle and horses. Occasional exotic trees are located within the pasture, and small areas within the site include remnant and regenerating native vegetation associated with watercourses. A significant area of SEA in the south remains and is already largely protected. This area is unchanged. Elsewhere there are pockets of native vegetation within the site that are to be retained. A key stand of Totara is to be protected.

The historic and present use of much of the precinct for grazing has resulted in the clearance of riparian vegetation, disturbance of channels and damage to streambanks and streambeds. A number of l watercourses within the site have been modified to varying degrees and Freshwater Solutions consider that they have limited natural character. The Freshwater Solutions report sets out a detailed analysis of each individual stream. The report then goes on to give an overview of the Precinct Plan. On this matter the report states:

> *"The green network (i.e., covenanted bush/retained streams and enhancement) proposed within the precinct plan for the site, is somewhat reduced from that illustrated on the green network plan in the Warkworth Structure Plan. The key driver for the reduction in retained streams/wetlands and green corridors is the steepness of the site, which requires the need for extensive earthworks to ensure the minimum road grade requirements can be met, in balance with unlocking the site for development and maintaining existing covenant areas and high value stream areas.*

The Matakana Link Road also dissects a number of watercourses along the western bounds of the site (B, D, F and K2) which will result in culverting of sections of permanent, intermittent and ephemeral streams in its proposed alignment (1x 45 m culvert and 2x 70 m culverts). These sections of stream are also excluded from the proposed precinct plan green network.

The sections of stream located outside the proposed green network are typically those located within the upper reaches of the catchment which have low current ecological values, being located in highly modified areas of grazed pasture. These sections of stream have moderate potential restorative value due to their damaged state and naturally water short nature. The loss of stream sections with high current values in the lower catchment has been mostly avoided and many of these sections of stream fall within the green network to be retained. Much of these stream and wetlands areas are vegetated with native trees and some are protected by existing covenants.

One of the key considerations with regard to the reduction in green network (and thus streams and wetlands) in the proposed precinct plan is the maintenance of base flows in retained streams. The following summarises feedback from Maven Associates Ltd (Lucan Campbell pers. comm. 8 October 2019) on how stream baseflows will be retained following the earthworks anticipated in order to develop the site.

Where the upper reaches of streams and wetlands are to be reclaimed, gully drains and counterfort drains will intercept groundwater flows, directing these to downstream sections of retained channel. Generally, the ridges, gullies and shape of the post development site are to be maintained and stormwater catchments will be localised to existing catchments where possible to ensure runoff captured up to a 10% AEP storm event is directed to similar pre-development discharge points. Further, AUP SMAF zone controls are proposed for the site, so 90thpercentile rainfall events will be attenuated and capture volume released over 24 hrs. This extended detention will help to maintain regular stream flows post rainfall and reduce scour and sedimentation associated with flashy peaks and drops.

With the above design in place it would appear that the level of development/stream and wetland loss proposed can be managed to ensure stream baseflows in the lower catchment are maintained.

The proposed green network retains most of the key vegetation within the site which is not currently covenanted. Indicative areas of open space shown on the precinct plan and potential site masterplan represent additional areas where new terrestrial planting can occur and will increase the total amount of native vegetation within the site.

(g) **Risk**

(a) That low value streams capable of being upgraded to high value streams are likely lost. That is a factor common across the region. The methods the Council has used with mitigation and offsetting creates a structured basis in which these matters can be evaluated and, if streams are lost, appropriate offsets provided.

(b) That other urban objectives cannot be achieved due to the degree of ecological protection. In this case this plan change sets the appropriate balance. High value ecology is protected. The future development has been worked through to ensure it can fully accommodate this level of protection. This is embodied within the precinct.

(c) The protected areas will subsequently be damaged. The plan change makes it clear that these areas will be protected through the subdivision process. The presumption is that these areas will vest in the Council on subdivision once the necessary mechanisms such as noxious weed removal and any necessary stabilisation is put in place along particularly the streams.

(h) **Reasons for proposal**

This approach identifies and protects the key ecological features of streams and terrestrial ecology, namely bush. It provides a clear framework for future development of the land.

10.8 Open space and walkway/cycleway network

(a) **Proposed amendment**

Precinct Plan 1 shows the greenway network which includes a walkway network within the precinct.

The MLR will be built with footpath and cycleway connections but this is covered under the Notice of Requirement for the MLR.

(b) Provisions most appropriate way to achieve the objective

These provisions show the core network. It is more extensive than shown in the Warkworth Structure Plan but does include those parts of the walkway network that are shown within the Structure Plan and are within the precinct.

Including this sort of information within the precinct makes it clear to all property owners and the community where (indicatively) the network that will be created.

(c) Options considered

There are basically two options.

(i) To not identify the walkways within the precinct and rely on the standard Auckland-wide provisions and assessment at the time of resource consent; or

(ii) To show the core network within the Precinct Plan.

(d) Efficiency and effectiveness

The option of showing the walkway network within the Precinct Plan is seen as the most efficient and effective method. It is clear to all developers and future property owners as to the network implications. It also is helpful to the community to understand this approach, and to the Council in securing the broader network.

(e) Benefit and cost

The benefits are:

- the walkways are clearly identified;
- this brings certainty to development.

The costs are simply those associated with developing the walkway network.

(f) **Effects**

The effects of this development are:

(i) To create a walkway network which will complement and add to the broader Council walkway programme for Warkworth. This will assist in both recreational leisure time activity and in connectivity between communities.

(ii) The walkways are targeted for the stream corridors. This adds significant amenity and pleasance. It does however impact the practicality of the formation of the walkways. Not all areas will have full mobility accessibility. There will always be alternate mobility locations particularly on street footpaths. However some of the areas will run up in stream bed where a level of mobility will be necessary. The alternative is to take the walkways out of the stream location where a better topography can be created. This gives greater mobility opportunity, but it does detract from the amenity of walking through the stream areas.

(g) **Risk**

The most significant risk is how these walkways are protected. A disaggregated land ownership is problematic and has the definite risk of variable maintenance approach.

The cooperating landowners' commitment and the requirements of this plan change is that these walkways and the associated streams be vested in the Council to form part of the broader Council network. That would happen on subdivision once all the physical works had been put in place.

(h) **Reasons for proposal**

This approach is the best way to ensure the future extension of the Warkworth walkway network.

10.9 Stormwater management

This plan change embodies all the Auckland-wide provisions of the Unitary Plan plus introduces two additional provisions.

The first is to apply the Stormwater Management Area Flow 1 (SMAF1) to the entire precinct. This will mean that the onsite full detention and retention controls of the Unitary Plan will apply to all new development within the precinct. The second is to identify the indicative location of key stormwater management ponds.

(a) Proposed amendment

The Auckland-wide overlays are amended to include the plan change area within the SMAF1 controls.

Precinct Plan 2 outlines the indicative locations of a series of stormwater management ponds which form part of the treatment train process.

In this context it must be recognised that the Auckland-wide rules provide extensive objectives, policies, standards and assessment criteria relating to stormwater management. This is in terms of both quality, the quantum of stormwater particularly managing it at peak times, and sophisticated erosion and sediment control. All these provisions apply to the precinct.

(b) Provisions most appropriate way to achieve the objective

The SMAF1 provisions have been well tested as a methodology for managing stormwater in greenfields development. The objective and policy regime and the approach of the Auckland-wide provisions significant benefit from applying the SMAF1 controls. Detention and retention is a key part of managing stormwater quality.

The treatment train process set out in the Stormwater management plan relies on a series of initiatives, most of which are addressed appropriately under the Auckland-wide provisions. However, the stormwater management pond system is a key part of the treatment train. It is appropriate to provide indicative location for these facilities which reinforces the broader stormwater treatment train approach.

The analysis by Maven demonstrates this development can meet the conditions of consent for the Auckland Council global stormwater network discharge consent.

(c) Options considered

Essentially there are three options:

(i) to rely solely on the Auckland-wide provisions;

(ii) the approach set out within this plan change;

(iii) to have full customised provisions.

The Auckland-wide provisions effectively, for greenfields development, work best if the SMAF1 controls apply. These provisions generally do not apply to the Future Urban zone but are rather assessed and applied at the time of rezoning. It would be possible to control all stormwater in communal facilities such as stormwater ponds. However the volume of water coming off land and its adjacent location to the Mahurangi River tributaries means that the SMAF1 provisions and the location of the stormwater management ponds provide a much more certain outcome to the treatment train process.

The third option of customising all rules simply introduces a repetition into the document. It also means that the reliance and understandings which have been built upon the Auckland-wide provisions would not necessarily apply. It introduces an inherent inefficiency.

(d) Efficiency and effectiveness

The proposal put forward is the most effective and efficient way to manage stormwater. The introduction of the SMAF1 provisions incorporates the sophisticated control mechanisms on stormwater within the Unitary Plan intro this precinct.

This is complemented by the identification of the stormwater management ponds within the treatment train process.

This finds the right balance between the integrity of relying on the underlying Auckland-wide provisions, while at the same time ensuring the full range of provisions apply over the precinct and that the important location of the stormwater management ponds are shown indicatively.

(e) **Effects**

Maven have provided advice on stormwater management (overland flow, flooding, riparian margins, stormwater reticulation and stormwater quality) which is set out within the Infrastructure Report included as Attachment G to this plan change request.

Overland flow paths

The site is affected by numerous overland flow paths, many of which will be modified or redirected as part of the future bulk earthworks to establish roads and building platforms. Resource consent will be required where the entry or exit point of an overland flow path is to be modified, however Maven has noted that for the most part, the overland flow paths commence within the land meaning there will be no upstream flooding effects. Where possible, overland flow paths will be accommodated within the proposed road network.

Flooding

Maven has identified that there are known flooding issues downstream of the site, and as a result, stormwater attenuation will be required to restrict post-development runoff flow rates to pre-development levels in accordance with the Stormwater Management Flow – Flow 1 (SMAF 1) controls of the Unitary Plan. This requires hydrology mitigation in the form of retention and detention. Maven confirms that *"In our opinion, the urbanisation of the site can occur without creating any downstream flooding effects, subject to the maintenance of the pre-development runoff levels."* All future building platforms will be located outside the 100-year ARI modified floodplain.

Riparian margins and setbacks

The Unitary Plan requires that a 10m riparian yard be provided from the edge of permanent and intermittent streams, and resource consent is required to construct a building within a riparian yard. For streams with an average streambed width of 3m or more, the provisions of s230 of the RMA is triggered upon subdivision, where proposed lots less than 4ha are

being created. In such cases, a 20m wide esplanade reserve is required to be vested, unless resource consent is sought from Auckland Council.

Riparian margins carry the dual function of enhancing the amenity of an area while providing a stormwater function and addressing flood risk associated with the corridor.

The plan change does not propose to alter the Unitary Plan provisions as they relate to the streams on site, and it is anticipated that future development applications will need to address the relevant stream reclamation and riparian margin matters.

Stormwater reticulation

There is no existing reticulated stormwater network within the site. Stormwater disposal is to be provided via a new public stormwater network (to be vested to Council) with discharge points into the Mahurangi North tributaries on-site. The networks will be designed to convey the 10-year ARI event in accordance with Auckland Council's Stormwater Code of Practice.

The future network (including discharge or stormwater to the stream) will be subject to resource consent and engineering plan approval applications. It is envisaged that the stormwater discharge will align with the Auckland Council Comprehensive Network Discharge Consent.

Stormwater quality

Stormwater quality treatment is required for certain land uses as set out in Chapter E19(Stormwater Quality – High contaminant generating car parks and high use roads). Treatment is required for high-use roads that see 5,000 vehicles per day, and for car parks that support 30+ parking spaces.

A range of initiatives and devices are available to both manage stormwater quality and quantity, including:

(a) A rule preventing high-contaminant roofing and cladding products, particularly untreated copper and zincalume. Only inert materials are allowed.

(b) On site detention and retention for stormwater on all residential properties through the use of rain gardens, swales or proprietary filter systems.

(c) Maximisation of natural or daylighted streams.

(d) Planting in the streams to add secondary stormwater treatment.

Consideration of additional treatments and the inclusion of water sensitive design parameters will be incorporated into the detailed design for future development of the land and be undertaken in accordance with GD01 and GD04.

The conclusions of the Maven report are:

"Existing overland flow and flood plains have been modelled to determine the extents of flooding and flow as a baseline for the pre-development situation. Design checks of finished levels ensure minimum freeboard levels can be achieved for all future buildings and the overland flow can be safely conveyed within the road network, drainage reserves or natural watercourses where applicable.

"The SMP indicates that there is localised downstream flooding. As such, stormwater attenuation for new impervious areas is required. The Maven SMP details onsite detention of 10yr events and attenuation on a sub-catchment level in accordance with the Maven Precinct SMP for up to a 100yr event."

"Stormwater drainage can be provided for the proposed development. Discharge from the public network will be to the Mahurangi North tributaries. Final stormwater details will require further approvals and consultation with Healthy Waters but will otherwise be in accordance with Auckland Council standards."

(f) Benefit and cost

The benefits are significant. A sophisticated stormwater management system is enabled. This is critical given the location in the headwaters of the Mahurangi River. However the SMAF1 rules have equally proved effective in other sensitive environments. SMAF is the primary control the Council relies on.

The costs do impose significant financial costs and site utilisation costs by requiring onsite detention and retention. However this is warranted given the environmental benefits of a sophisticated stormwater management process.

(f) **Risk**

The risk of not importing the SMAF1 provisions is that water volumes during peak storm events could overwhelm the system. This in turn can lead to compromises in water quality through increased flows and greater issues with erosion and sediment control.

(g) **Reasons for proposal**

This proposal effectively imports and standard SMAF1 controls which are the proven method for managing stormwater in greenfields development. This is seen as the preferred approach for managing stormwater within the precinct.

10.10 Transport Provisions

(a) **Proposed amendment**

The Precinct Plan introduces three specific provisions. The first is to identify the Matakana Link Road as a limited access road. The second is to identify the locations for new intersections. The third is to identify typical road cross-sections to be provided.

(b) **Provisions most appropriate way to achieve the objective**

The future of this road has been extensively canvassed through the requirement process leading to the MLR. The Independent Hearing Commissioners have considered all submissions on the requirement and issued the decision on regional consent matters and recommendation to Auckland Transport (AT) on the Notice of Requirement. AT have in turn issued the decision on the Requirement.

That decision has identified that the MLR will be a limited access road. While there are appeals to the MLR, all affected landowners have accepted the limited access nature of this road. Appeals are in advanced stage of discussions with a reasonable prospect of a settlement. Certainly the co-operating land owners have signalled that the alignment of the MLR and intersections shown in the precinct are agreed between the parties. AT and parties to the appeal have already agreed the location of intersections on the MLR and that these will be light controlled intersections. The detailed design of the intersections is

agreed in principle, but needs to be worked through as part of future resource consent applications.

The primary source document for people seeking to develop their sites will be the Auckland Unitary Plan. It is unreasonable to expect future residents and developers to trawl through other documentation when clear provisions can be stated in the Precinct Plan referring to the limited access road nature. It is appropriate that this be made explicit within the Precinct Plan.

The MLR must serve the adjacent residential neighbourhoods identified through the Future Urban zoning. Consequently there needs to be identified intersections.

Through the work leading up to this plan change request, the cooperating landowners have had various individual discussions with Auckland Transport over the location of these intersections. These intersections are now largely settled.

Identifying these within the Precinct Plan removes uncertainty as to where they will be and enables landowners to plan the development of their properties in the knowledge that certain forms of intersections can be constructed in identified locations.

(c) Options considered

There are essentially two options. The first is to show the limited access road and the intersections on the Precinct Plan. The second is not to show these provisions and rely on the underlying plan provisions to control the limited access nature, and the requirement to control access.

(d) Efficiency and effectiveness

The conclusion Tattico has reached is that it is far more efficient and effective to stipulate within the precinct the limited access nature of the MLR and the location of the intersections.

This gives very clear knowledge to all parties of the transport constraints both landowners, developers and future residents. It is clear and easy to find. Having reached

agreement with Auckland Transport over the nature and operation of this road, it is logical to express this through the precinct provisions.

(e) Effects

The transport assessment by TPC is set out in Attachment K of this report, and focuses on:

- the MLR;
- the ability for connections on to the MLR in terms of the capacity of the road and trip generation from the development; and
- the local road network within the neighbourhood and the improved connectivity to other modes such as public transport, walking and cycling.

The co-operating landowners acknowledge that the MLR:

- is a limited access road;
- may initially be built as a two-lane road on the southern side, although land procurement and bulk earthworks will be established for the final four-lane road;
- will require connecting landowners to agree the vesting of a four-lane road but design any connections on to the MLR as either a two-lane road or four lane road;
- will need to design for the access points, as identified on the Precinct Plan. This is shown on Diagram 20;
- the access to the 245 Matakana Link Road will be left-in/left-out only.

In response to this the Precinct Plan:

- Identifies the two main intersection connections to the MLR from the precinct and other secondary intersections (refer Diagram 20 below – Diagram 20 is an Auckland Transport plan provided to the cooperating landowners). Both main intersections are agreed to be light controlled.
- Provides that all properties fronting the MLR have access from local roads within the adjacent land or rear laneways, i.e. no property has vehicle access across the MLR.
- Ensures properties front the MLR for urban design reasons so they provide passive surveillance of the walkways and cycleways on the MLR.

Diagram 20: Approximate intersection locations

Source: Auckland Transport (Note: North is to the bottom of the diagram)

Mr Langwell particularly focuses on the WLC block because the traffic analysis of this aspect is further advanced.

WLC, White Light Trust and Goatley Holdings each gave transport evidence to the hearing on the MLR designation. This evidence clearly outlined the key connections on to the MLR and the appropriate location for these connections. In each case the limited access road requirement of Auckland Transport is respected but key connections are necessary.

In the case of the White Light Trust, access is compounded because of the roundabout at Matakana Road and MLR. The land take of the roundabout and the requirement for limited access on the periphery of Matakana Road either side of the roundabout further constrains access to this land.

Diagram 13 (Precinct Plan 3) above shows the MLR and the access points identified through the settlement discussions on the MLR appeals. These are the intersection points advanced through this plan change request and agreed by Auckland Transport and the parties. Detailed design will come at subdivision consent stage.

Mr Langwell in his report has analysed the capacity of the road in terms of both the yield for Warkworth Clayden Road as well as the design and capacity of intersections. The conclusions of his analysis are set out below:

Mr Langwell also comments on the local road network. This is designed to futureproof public transport along the MLR. The design was originally futureproofed for local bus services to circulate within the residential neighbourhood. However, Auckland Transport have advised that these services will not be offered. Any public transport will be confined to the MLR only.

The main spine road within the WLC block for urban design reasons is created as a park edge road. It follows the stream north almost to the boundary with Clayden Road.

The WLC land is fully serviced from the MLR and does not need any other external road connections.

Diagram 21 shows the roading hierarchy. It creates a core network of roads; the MLR is the primary road connection into the area, with the core secondary road running north into the development. A network of local roads connects to these primary/secondary roads both north and south of the MLR. It also shows some park edge roads designed to deliver amenity and urban design outcomes. While the road immediately north of the MLR is shown as a "park edge road", this is effectively a laneway recognising that these properties cannot get vehicle access of the MLR. It is envisaged that the embankment of the MLR will be heavily planted to form a high-quality amenity area.

Diagram 21: Proposed masterplan transport

The overall conclusion of Mr Langwell's report is that:

- *"The potential residential development for the site is feasible in terms of the transportation perspective and has been anticipated in the future planning for the MLR and the Warkworth Structure Plan;*
- *Stage 1 of the MLR is anticipated to be completed in September 2021, with a future Stage 2 to be completed by 2036 (or as traffic flows dictate);*
- *As part of planning for the MLR, new intersections are anticipated to facilitate access to the site which will be required to be controlled by either a roundabout, traffic signal or priority control intersections with limited to left turns. These types of intersection are expected to be determined at the time of any subsequent resource consent applications;*
- *Developers will be required to vest additional land to create these intersections and provide the necessary turning lanes and supporting infrastructure;*
- *Final approval of each intersection form and location will be subject to Auckland Transport agreement in consultation with NZTA;*
- *Following the completion of the MLR, the site is considered to have a high level of accessibility to public transportation, walking, and cycling;*

- *The estimated traffic generation of the proposal is likely to be about 8,000 traffic movements per day with peak hour traffic generation of about 780 traffic movements per hour based on 1,071 residential lots within the subject site; and*
- *The estimated traffic generated by the proposal can be accommodated on the nearby road network."*

(f) Benefit and cost

The benefits of including these transport provisions in the Precinct Plan are:

- There is certainty to landowners, developers and future residents as to the lack of access to the MLR for individual homes/properties and the identified location and nature of intersections.
- Given there is agreement as to the location of intersections, it is appropriate that these be identified within the Precinct Plan.
- The precinct provisions are written in such a way as to create a degree of flexibility so in the detailed design the matters can be worked through between the applicant and Auckland Transport.
- The requirement decision left open the specific location on the basis that the future zonings had not yet been determined. Effectively the commissioners were signalling that these matters should be addressed through the Precinct Plan. They are.

The costs of doing this are:

- In the unexpected circumstance where the Auckland Transport wishes to relocate the intersections or allow access on to the MLR, then there would be additional regulatory constraint and process to follow. However, this is an extremely low probability.
- There is a significant cost to developers in laying out a local roading pattern that will service all sections and mean none get access to the MLR. However, this cost is incurred effectively through the decision of Auckland Transport on the MLR coupled with the planning controls relating to access on to arterial roads.

(g) Risk

The main risks is that the appeals on the MLR cannot be settled, or that they are settled in a different form to that shown on this Precinct Plan. This risk is seen as low probability.

There have been extensive discussions between AT and WLC/White Light Trust. As a result of those discussions matters have been agreed but not yet document as follows:

- The horizontal and vertical alignment of the MLR .
- The location of intersections and the nature of those intersections. In the case of White Light Trust, this is a left-in/left-out only.
- The form of control at the intersections (light controls at the main intersections).

The outstanding appeal matter appears to be the precise alignment of the MLR at State Highway 1, and the subsequent stormwater solution. However, that only affects the first part from State Highway 1 and not the core alignment of the MLR through the precinct. There are also matters of intersection location and design at issue with other parties which are also agreed but at the time of writing this report not documented.

Regardless these matters will be resolved in an Environment Court process concurrent with the processing of this plan change request.

(h) **Reasons for proposal**

These transport provisions are included to create certainty as to where the intersections will be located in the development of this area of Warkworth North and the nature of these intersections (particularly the available turning movements). Essentially this gives effect to the various discussions between the cooperating landowners and Auckland Transport. It reflects the evidence presented on the MLR requirement.

The explicit identification of the MLR as a limited access road reflects the decision on the MLR requirement. It makes this explicit within the Precinct Plan. It is appropriate that with site area specific controls, these particular transport measures should be contained within the precinct provisions.

10.11 Light Industry Land Rezoning

(a) **Proposed amendment**

The Light Industry zoned land within the WLC (western end) is rezoned from Light Industry to Residential: Mixed Housing Urban and Residential: Mixed Housing Suburban.

(b) Provisions most appropriate way to achieve the objective

The Warkworth North area is designed to provide for planned growth within Warkworth, generally in accordance with the Structure Plan. This includes a range of activities including residential, employment and recreational.

Achieving this balance of residential and employment land is a key component of the growth strategy. The issue becomes the most appropriate location for the boundary between the two areas.

Efficiency of land use is a key component of the AUP. Employment land needs to exhibit the characteristics which enables it to be used for light industry activity. Key to this is large reasonably flat sites with good heavy vehicle access and the ability to put up large industrial buildings.

The Goatley Holdings Limited land to the north-east of the precinct exhibits these characteristics and provides the critical and significant employment area for northern Warkworth. It is complemented by industrial land in the west and new planned land in the south as part of the Structure Plan.

The issue is that the small block of industrial land on the WLC land is not suitable for industrial development for reasons set out earlier in this report. The land is however suitable for residential development.

Rezoning this land residential is the most appropriate way to give effect to the growth requirements for Warkworth North.

(c) Options considered

There are two key options with this proposal.

(i) To retain the Light Industry zoning.

(ii) To rezone the land residential.

(d) Efficiency and effectiveness

The core of the Council's urban growth strategy is to provide for development in a manner that balances the need for growth including housing and employment with environmental outcomes. The efficient use of land identified for urban growth is a critical component recognising that inefficient use of land only puts additional pressure on further greenfields expansion.

The subject Light Industry land has a number of characteristics which make it unsuitable for industrial development because it is inherently impractical and therefore ineffective or inefficient to develop it for light industry. By contrast the land is eminently suitable for residential development. Furthermore, residential development will deliver better environmental outcomes than will industrial development.

(e) Effects

An economic assessment has been undertaken by Property Economics on the potential loss of industrial land which this plan change will entail (refer Attachment M). Colliers have also prepared a land supply assessment (Attachment L). That report was prepared for the Warkworth Structure Plan process. While some of the context mapping diagrams may be out of date, the analysis remains relevant to the current proposal.

The precinct will facilitate development of additional housing in Warkworth consistent with the Council's growth management strategy. Obviously that growth will bring significant economic spin-off and benefit to the region both in terms of employment during construction but also in terms of ongoing provision of housing and a population base to strengthen the Warkworth local economy.

Growth is also aligned to the future park and ride facilities and will help create sufficient critical mass to provide public transport connections between Warkworth and the major employment centres to the south within other parts of Auckland.

This plan change seeks a relatively small portion of the northern industrial estate be rezoned residential. Mr Heath has carried out an analysis of the impact of such a rezoning. That analysis demonstrates that there is a very substantial amount of vacant industrial land immediately to the north, and there is very little take up of industrial land anywhere in the

Warkworth area. That is not to say that there won't be more land required as employment growth occurs but it is considered that there is adequate available land outside the subject property.

It is also noteworthy that the Warkworth Structure Plan provides an increased amount of industrial land within Warkworth. This increased amount of industrial land will add to the supply of vacant industrial land identified by Mr Heath and will offset the land WLC seeks to rezone. It is also noted that the community consultation feedback identified a desire to spread employment opportunities around the Warkworth area consistent with the roll-out of new zonings. This included new industrial expansion to the south. Not all employment needs to be in the north.

The conclusion of Mr Heath is that:

> *"In respect of the industrial land loss, it is Property Economics' view that the net loss of 3.6747ha of employment land would not give rise to any significant RMA economic issues.*
>
> *This loss of feasible to be developed for light industrial activity, represents only 7% of this vacant net developable area (3.7ha/53ha) and a 4% reduction in total current industrial zoned land in Warkworth (3.7ha/88ha). In terms of proportional loss this is not considered material.*
>
> *In addition to the current vacant provision, Warkworth has close to 1,000ha of Future Urban Zone land identified. In the most recent Structure Plan of Warkworth, an additional 27ha of Light Industrial Zone and 37ha of Heavy Industry Zoned land has bene proposed (refer previous table). At present, the analysis indicates a total of 117ha of vacant industrial land (including proposed in the FUZ areas) in Warkworth. This provides further contextual basis of the loss of 3.7ha from the PPC."*

The conclusion of Mr McMahon is that:

- There is strong demand for residential development, with Warkworth's population projected to grow by 79% by 2038;

- To meet demand there needs to be a variety of different housing typologies to meet different household needs;
- There are significant locational benefits in Warkworth, particularly with the completion of the Pūhoi to Warkworth Motorway;
- The development stimulated by the Warkworth development is conservatively estimated to trigger some $727 million worth of economic activity, including $220 million within the local economy; and
- The on-going population will add further economic stimulation to the local economy.

(f) Benefit and cost

The benefits of zoning this land residential are that:

- The land will make a meaningful contribution to providing for residential growth in the Warkworth North area which is a key objective of the Future Urban Land Strategy and of the Structure Plan. It is the prime objective of this plan change.
- The form of residential development limiting height to two storeys instead of the equivalent of four or five storey development under the Light Industry zone will significantly complement the landscape objectives of this plan change. The knoll area sought to be protected through the Structure Plan in terms of views from the showgrounds are better protected through this residential package.
- The zoning approach based on the stream on the north-western boundary of the precinct area better protects the ecological features of this stream than would an industrial subdivision spanning the stream.
- The land is easier served in terms of roading and infrastructure through a residential network from the east than through an industrial network from the west.

The cost of rezoning this land residential is the loss of employment opportunity. However, as identified in the economic analysis by Colliers, the loss of this impractical industrial land will have minimal impact on the overall availability of employment land at Warkworth.

The benefits of retaining Light Industrial land is that when the rest of the northern industrial block is fully developed, that there would be the opportunity for further expansion to the east. 49.2ha of industrial land representing 87% of this industrial block would be retained.

The costs of retaining this land Industrial are as follows:

- In the case of the WLC property, the physical road access to the light industrial area is severed by the MLR. Access to the WLC industrial land north-west of the MLR can only occur through residential development. Access to the southern site can occur from one of the identified intersections but would need a major redesign of the intersection to provide for large truck and trailer units.
- The earthwork associated with the MLR negatively impact the ability to create sensible contours on the light industrial land. It creates a significant retaining wall between the MLR and the industrial properties.
- The large bulk of buildings in the foreground have a significant impact on the views the Council is trying to protect from the Warkworth Showgrounds to the "knoll" on the northern boundary of the precinct.
- There is a highly inefficient use of land by the time that special access is provided to the site from public streets and then an internal layout of roading within the site is provided. Shape factors, topography and access constraints significantly limit sensible Light Industry section size layout.

(g) Risk

(i) Loss of employment land. This risk is seen as particularly low given the significant amount of vacant land in the north and the Structure Plan intending to expand industrial land in the west and south.

(ii) Inefficient use of land. There is a risk that if the Light Industrial zoning is retained, the land will not be developed. In terms of the market availability of suitable light industrial land, this area would significantly suffer because it has very poor access and in the case of one block no access. Where it does have access it is expensive requiring bridging of streams or significant widening of the MLR, and the contouring of the land and arrangement and site development is significantly impacted by the MLR; i.e. the MLR dictates certain contour lines. Land development cannot take place on the most logical and sensible contouring of land. It must take the horizontal and vertical alignment of the MLR as a given and bench sites based on this road corridor through what is currently the middle of these Light Industry blocks.

(h) **Reasons for proposal**

The rationale for the rezoning of this land is:

1. The land is inherently no longer suitable for light industrial development due to the impact of the MLR. The MLR cuts the block in two, significantly negatively impacts accessibility to the land, and constrains the flexibility in how the land can be contoured.

2. The land is eminently suitable for residential development. It can integrate with and feed off the local road network and infrastructure of the adjacent residential areas. It means that the stream to the east can retain its current form and not need to be culverted or bridged to bring heavy industrial traffic across the stream to a small block of light industrial land.

3. The form of residential development to a far greater extent protects the visual sightlines the Council is wanting to protect from the Warkworth Domain to the adjacent knoll. This is a better landscape outcome.

10.12 Reverse sensitivity: Industrial/residential interface

Three initiatives are proposed to deal with reverse sensitivity issues at the residential/industrial interface.

(a) **Proposed amendment**

- A 'noise measurement line' is included within Precinct Plan 1 and an associated standard acknowledges that the line is to be the reference point for the measurement of noise relating to the existing operation of helicopters from the adjacent land (38 Goatley Road).
- The land shown on Precinct Plan 1 including land rezoned from industrial to residential is subject to a No Complaints Covenant which acknowledges the existing helicopter activities being undertaken on the adjacent land as well as the industrial activity.
- A special 6m landscaped yard applies.

(b) Provisions most appropriate way to achieve the objective

The Warkworth North area is designed to provide for planned growth within Warkworth, generally in accordance with the Structure Plan. This includes a range of activities including residential, employment and recreational.

Achieving this balance of residential and employment land is a key component of the growth strategy. The issue becomes how best to provide for this growth while also acknowledging and providing for those existing activities being undertaken nearby.

To this end, an existing land use adjacent to the western portion of the plan change area needs to be specifically considered. The landowners at 38 Goatley Road have an existing resource consent for the operation of a commercial helicopter facility from their site. The resource consent requirements that they measure noise from the nearest residential boundary. Under the proposal to rezone land within the western part of the Precinct from Light Industry to Residential (as discussed in Section 12.8 above), the plan change is effectively moving the nearest residential boundary closer to the helicopter operation. WLC and the cooperating land owners accept that the helicopter operation is an important function in this area and that the status quo should be protected.

(c) Options considered

There are three key options with this proposal.

1. Incorporate a noise measurement line and no complaints covenant as a means of acknowledging the existing, adjacent land use

2. No provisions acknowledging the existing, adjacent land use

3. Do not rezone the land from Light Industry to Residential

(d) Efficiency and effectiveness

As described above, the subject Light Industry land has a number of characteristics which make it unsuitable for industrial development because it is inherently impractical and therefore ineffective or inefficient to develop it for light industry. By contrast the land is

eminently suitable for residential development. It is appropriate to provide certainty to the neighbouring landowner that their current commercial helicopter operation will not be jeopardised by the location of residential zoned land in close proximity to that operation, and appropriate planning mechanisms exist to provide that certainty.

In terms of the noise measurement line, this will only be effective if there is a 127 variation of conditions consent to the helicopter landing facility granted. . This consent would change the location of the noise measurement location for residential sites within the precinct from the nearest residential boundary to the noise measurement line shown on the precinct plan. WLC is the only affected landowner among the cooperating landowners and has given clear commitments to Goatley Holdings Limited that it will support and give its written consent to any such 127 application.

(e) Effects

This plan change has been set up to manage the effects at the interface between the industrial and residential property. It is also cognisant of the fact that the zone boundary has moved further north-west. This is particularly impactful on the helicopter operation as it will shift the noise measurement line.

Reverse sensitivity controls are put in place for noise through a noise measurement line for the helicopter operations and a no complaints covenant for helicopter and general industrial activity. In addition, a special amenity yard is created.

The cumulative effects of these provisions is to successfully manage reverse sensitivity.

It must be recognised that none of the industrial land adjacent to the precinct area has been developed. It has however planned for a broad range of light industrial activity. This plan change and the associated development will successfully manage reverse sensitivity.

(f) Benefit and cost

The benefits of applying a noise measurement line and no complaints covenant are that:

- The land will make a meaningful contribution to providing for residential growth in the Warkworth North area which is a key objective of the Future Urban Land Strategy and of the Structure Plan. It is the prime objective of this plan change.

- The planning mechanisms will protect the existing commercial helicopter operation on the property at 38 Goatley Road from potential reverse sensitivity effects associated with the location of residential zoned land in closer proximity to it than is currently the case. Specifically, the noise measurement line will retain the existing measurement point referenced within the conditions of consent for the helicopter operation, while the no complaint covenant will clearly acknowledge the helicopter operations as having been present first, and will make prospective purchasers aware of that activity as well as limiting their ability to make formal objections to the activity.

The costs associated with this action are limited to prospective purchasers potentially choosing not to buy in that location because of the noise of the helicopter operations.

There are no clear benefits associated with not incorporating planning provisions within the Warkworth Clayden Road Precinct that acknowledge the adjacent land use. The costs of this option include:

- The existing helicopter operation is jeopardised and would likely have to reduce in scale and / or intensity given the resource consent decision for the activity sets a noise measurement line at the nearest residential boundary, which is being moved closer to them
- The potential need for the adjacent landowner to look to protect their existing operations through other means, including opposing the plan change request
- Increase in complaints to the Council that would increase the Council's monitoring workload and could lead to formal action against the adjacent landowner
- Provision of an inaccurate representation of the existing environment to prospective purchasers of the residential land

The benefits and costs of retaining the Light Industrial land have been discussed in section 12.8 above and are not repeated here.

(f) Risk

In addition to the risks identified in section 12.8 above, a risk associated with rezoning the land for residential activity and not including planning mechanisms to acknowledge the existing helicopter operation is that the relationship between the adjacent landowner and future residential landowners may be fractured by the tensions associated with the lack of

clarify around the interface between these differing land uses. This could manifest itself in a number of forms, including potential legal processes initiated by either side and / or the Council

(g) **Reasons for proposal**

The rationale for the inclusion of the noise measurement line and no complaints covenant is:

1. As set out in section 12.8, the land is inherently no longer suitable for light industrial development due to the impact of the MLR and is considered suitable for residential development.

2. The proposed residential activity and the existing helicopter operation on the adjacent site do compete to an extent, however not to the point that it is inappropriate to locate residential activity in this location. The most likely outcome of not clarifying the relationship between the two activities is complaints / disputes, and potential legal processes by either party as they seek to establish clarity.

3. The helicopter operation was in existence first, the opportunity exists to acknowledge that through the precinct provisions, and appropriate planning mechanisms exist to clarify the relationship between the different activities for prospective purchasers.

10.13 Neighbourhood Centre

(a) **Proposed amendment**

This proposal is to rezone a small block of land (1,690m²) as a "neighbourhood centre". This is envisaged to provide local retail and servicing functions to the Warkworth: Clayden community. It will also provide a level of service to passing traffic on the MLR.

(b) **Provisions most appropriate way to achieve the objective**

Objective B2.2.1(3) states "*Sufficient development capacity and land supply is provided to accommodate residential, **commercial**, industrial growth, and social facilities to support growth."* [emphasis added]

The Warkworth Structure Plan identified the desirability for a neighbourhood centre in this general location to service this neighbourhood. It was positioned as a neighbourhood centre so that it provides retail, food and beverage and local office support to the immediate community, but is not of such a scale as to undermine or compete with the Warkworth Town Centre. This zoning delivers on that objective. Given the relatively small scale of the centre, it is appropriate to rely on the standard zoning provisions and associated objectives, policies and development controls of the neighbourhood centre.

(c) Options considered

There were three basic options.

(i) Create a neighbourhood centre but in the location shown on the Warkworth Structure Plan.

(ii) Create a neighbourhood centre in the position shown on this plan change request.

(iii) Rely on the underlying provisions of the THAB zone which provides for dairies and food and beverage up to 100m² gross floor area.

(d) Efficiency and effectiveness

To service the community, the neighbourhood centre needs to be viable. Therefore it must be in a location where it can operate efficiently and effectively. Option (i) of locating the centre where the Council originally envisaged, has a fundamental flaw in terms of access. Under this scenario, it would be located in a position where there is limited traffic access with left-in and left-out turning traffic only. It would be located on a roundabout. The consequence of this is that:

- Traffic coming to the centre would have an elongated path to either enter or exit the centre. Vehicles would need to travel one leg of the journey via local roads through residential areas. This has a negative impact on potential customers who would either not know the extended road network they would need to follow, or be frustrated at the delay of having to go through a protracted access route.

- It has a negative impact on the residential community who would have additional extraneous traffic passing through their community.
- Roundabouts are inherently problematic for pedestrians to cross. It means the pedestrian catchment for this centre effectively becomes the south-eastern area of the precinct. Pedestrian access from the north or west is far more problematic.

By contrast, the proposed location:

- Is based on a light controlled intersection giving good direct access to and from the centre for both pedestrians and vehicles.
- Vehicles who are passing through on the MLR have a direct entry and exit point without having to drive through residential neighbourhoods.
- The pedestrian crossing phase at the intersection gives good access to north and south.
- The centre is reasonably centrally located within the precinct area, therefore better servicing the residential catchment.

The third alternative of relying on the THAB rules does not give certainty that this service will be provided.

(e) Benefit and cost

The benefit of this centre are:

- It provides a committed neighbourhood centre with retail and food and beverage functions to service the community.
- The scale is such that it will not compete with the Warkworth Town Centre.
- The location is well placed in terms of traffic accessibility.
- Its location at a light controlled intersection gives good pedestrian connections from the south.
- It is centrally located within the community.

The costs of this development are:

- There is a loss of housing. However that is appropriate given the need to create an integrated community with a range of services including commercial services.

- The location of the centre is further away from the opportunity to service north-east Warkworth should at some stage that area be rezoned and redeveloped. However the neighbourhood centre is small enough that it does not need a catchment that includes the north east area to be economically feasible. A second neighbourhood centre could be feasible in the north-eastern area when that progressed.

(f) Effects

The relatively confined extent of zoning will limit the development to approximately six retail units. Effectively this is seen as dairies, cafes and some local top-up shopping with perhaps professional offices (healthcare or professional services at first floor level).

The Warkworth Structure Plan identified the importance of this neighbourhood centre to serve the community. The preliminary feedback from the Council identified the importance of the centre for the same reason.

The effects of this proposal are therefore significantly beneficial. It provides a neighbourhood centre of the scale proposed and acknowledged as being appropriate to service the community and yet not compete with the Warkworth Town Centre itself.

The effects of putting the centre in this location are also beneficial for the reasons outlined under the effective and efficiency section, i.e. there are far less detrimental effects on the surrounding neighbourhood from traffic passing through residential areas and there are beneficial effects and ease of pedestrian access to the centre which do not exist in the alternate location.

(g) Risk

There is a risk that the centre may not be viable and therefore not proceed.

The risk has been successfully managed. Getting the location correct where it can benefit and better service the community and passing traffic, increases the prospect of economic feasibility.

The second underpinning factor will be to ensure there is sufficient population within the catchment to service the centre. This precinct proposes a yield which would make this viable.

(h) **Reasons for proposal**

The neighbourhood centre:

- Responds to the Warkworth Structure Plan's intention for there to be a neighbourhood centre servicing this portion of Warkworth.
- Provides important services and support for the residential community.
- It is in a location which will maximise the prospect of economic feasibility.

10.14 Northern Arena development

(a) **Proposed amendment**

This plan change makes specific provision in the precinct provisions for an indoor recreation facility on a specific site adjacent to the Warkworth Showgrounds. The proposal is to build an integrated sports complex based around an indoor swimming pool.

(b) **Provisions most appropriate way to achieve the objective**

Objective B2.2.1(3) of the regional policy statement states "*Sufficient development capacity and land supply is provided to accommodate residential, commercial, industrial growth, and* ***social facilities*** *to support growth."* [emphasis added]

Providing for an indoor recreation facility was identified in the Warkworth Structure Plan as a key objective for the Warkworth area. In the public consultation process, locating this facility adjacent to the Warkworth Showgrounds was identified by the community as a core outcome to the Warkworth Growth Strategy.

This is a major indoor recreation facility. It does not fit well within any zone other than the Open Space Sport and Recreation zone.

In these circumstances there needs to be flexibility. If the Northern Arena does not proceed, the land needs to revert to the surrounding activity, namely high intensity two storey residential development. If the Northern Arena is to proceed, a site collocated with the Warkworth Showground has been identified. Therefore, the precinct technique of identifying site specific provisions is the most appropriate way to achieve the objective.

(c) Options considered

Three options were considered:

(i) to zone the area Active Sport and Recreation;

(ii) to not make provision for the Northern Arena on this site in the precinct provisions and rely on applications under the underlying Mixed Housing Urban zone; or

(iii) to provide a specific use activity within the Precinct Plan.

(d) Efficiency and effectiveness

The proposal is the most efficient and effective way to make provision for the Northern Arena. It leaves the flexibility that if the arena does not proceed, then normal development in terms of the underlying zoning can occur without a further plan change. It also means that there is certainty over the ability to build the arena on the site if it does proceed.

In terms of efficiency and effectiveness, it means that flexibility is retained but if the arena is to proceed then the appropriate planning provisions apply and consents can be obtained within reasonable timeframes.

(e) Benefit and cost

The benefit of the proposed approach is that:

- Enabling provisions for the Northern Arena are put in place. If this project proceeds then there is a known predetermined planning framework in which the arena can be developed.

- Surrounding neighbours have a clear understanding and expectation that an indoor sports facility based around a swimming pool can be built on this site. That is far preferable to people purchasing land thinking they will be surrounded by housing only to find that a sports facility is constructed on the site.
- The development controls and assessment criteria can be set up to take account of the arena.

The costs of this proposed approach are:

- A reduction in the amount of residential land by committing appropriate residential land for indoor recreational facilities.

The benefit of an Open Space Sport and Active Recreation zone is that:

- It gives a clear indication that some form of active sport will take place here which could include an arena.
- It provides for alternate forms of active sport.

The costs of that zoning are:

- If the arena does not eventually proceed, then there are time delays and costs with rezoning the land.
- There is long-established case law that it is not appropriate to zone land Open Space where the land is privately owned and the landowner does not want or require the land for open space uses. The presumption is that some form of appropriate economic use should be provided. There are exceptions if there are particular matters under Part 2 of the RMA that would apply to the site. That is not relevant in this case.

The benefits of keeping a residential zoning without special precinct provisions are:

- It retains future flexibility should the Northern Arena not proceed.

The costs are:

- The Northern Arena site would have to go through protracted and difficult resource consenting processes.

- Property owners would not unnecessarily understand that the site was targeted for the Northern Arena and could purchase residential land expecting to have residential neighbours only to find a different typology of building being approved.
- It would add significant cost and delay to what could be an important community facility.

(f) Risk

There is little risk with this approach. There is a risk that the Northern Arena may not proceed. However, that is fully contemplated with the flexible zoning arrangement.

(g) Reasons for proposal

Specific provision is made for the Northern Arena site being an indoor recreational facility based around a swimming pool. This is the most appropriate way to provide for this important community facility which is likely but not yet fully committed to proceed on the site. The technique facilitates an appropriate consenting process. It ensures everybody understands the likely location of the indoor arena and sets appropriate assessment criteria. However, it provides the flexibility that, should the arena not proceed, then the land can be developed for suitable residential activity.

10.15 Auckland-wide provisions relied on

(a) Other potential provisions

As part of the preparation for this plan change, WLC commissioned a range of additional technical assessments relating to:

- earthworks;
- geotechnical considerations;
- land contamination;
- infrastructure.

A planning analysis was then undertaken to identify whether the effects and planning issues identified through the technical assessment are appropriately managed under the Auckland-wide provisions, or would require precinct specific provisions.

In the case of earthworks, geotechnical, land contamination and infrastructure, the conclusion reached is that the current Auckland-wide provisions fully address the relevant planning matters for the subject land.

Consequently no amendments are proposed for these particular matters. However the precinct provisions import in full the Auckland-wide provisions. This means that the standard controls relating to:

- regional land disturbance;
- district land disturbance;
- subdivision;
- land contamination;
- wastewater,

apply.

(b) Provisions most appropriate way to achieve the objective

The Council has carried out a detailed section 32 assessment as part of the Unitary Plan process. This has identified that the Auckland-wide provisions are the best method to achieve the objectives of the plan. There are no precinct specific objectives or other planning factors which would lead to a different conclusion or warrant different provisions.

(c) Efficiency and effectiveness

The Auckland-wide provisions have proved an efficient and effective method to control land development since 2015. Simple consistent application of provisions is the most efficient way to achieve the environmental outcomes.

(d) Benefit and cost

The benefits are:

(i) a consistent approach across the region;

(ii) a proven set of provisions which have been effective in managing the effects of development and delivering the desired environmental outcomes;

(iii) proven tested provisions.

The costs are minimal in that these provisions would apply regardless and would not be overruled by precinct provisions. As no additional provisions are warranted, there is no additional cost.

(e) **Effects**

The attached reports by Maven, CMW and Focus address issues of:

- earthworks;
- infrastructure;
- geotechnical matters;
- land contamination.

Key relevant planning factors are summarised below.

Earthworks effects

The report by Maven identifies that much of the land will be subject to significant bulk earthworks due to the size of the land and topography. However, the final land contour has been carefully managed so that:

(i) The key streams on the site are fully protected and no earthworks occurs within these identified streams (note, there will be some of the lesser streams that are impacted by earthworks).

(ii) The contour of the land is graded to ensure that all roads meet the maximum gradient of 8% required by Auckland Transport.

(iii) The bulk earthworks retain the westerly slope of the land so as to manage the impact on the land and to keep a similar form while enabling the delivery of housing.

(iv) Earthworks have been integrated with the work of Auckland Transport on the MLR.

Full best practice erosion and sediment control procedures will be followed as part of any development. These measures include:

- Managing the disturbance area due to earthwork activities while satisfying all requirements for development of the site.
- Where possible, stage earthworks and progressively stabilise exposed areas following completion.
- Divert all clean water runoff away from the site, minimising the catchment to the exposed earthwork areas.
- Intercept and divert sediment-laden runoff from exposed areas to specifically designed treatment devices prior to discharging into the downstream environment.
- Implement measures to prevent construction traffic exiting the construction area onto public roads.
- Regularly inspect the erosion and sediment control measures and undertake any maintenance necessary to maximise the potential retention of sediment on the site.
- In the event of forecast heavy rain, stabilise the site as far as practically possible and close works down.
- Ongoing assessment of the erosion and sediment control measures and, if required, amend the ESCP as works progresses.
- Ensure site staff are aware of the requirements of the ESCP and the relevant resource consent conditions prior to the works commencing.

The Auckland wide rules set this regulatory framework already.

The conclusions of the Maven report are:

> *"Bulk recontouring is required to enable the construction of a complying roading network and to ensure suitable building platforms can be provided. Initial design plans demonstrate finished levels of 1:8 grade, considered suitable for the density proposed. The earthworks will be supported by engineered retaining walls. Initial locations are indicated, and geotechnical input confirms these walls can be constructed."*

Wastewater effects

A public wastewater reticulation network will be constructed to service the development. Due to the site topography, the network will be gravity within the subject land. Further investigation is, however, required and a combination of gravity and pressure systems may be required to extend the existing public network to the indicative pumping station or the Showgrounds Pumping Station.

Wastewater drainage will be provided through an extension of the existing network, in-line with the draft Warkworth Wastewater Servicing Plan. The intended network would remove the potential risks around onsite wastewater disposal, given the proximity to streams and OLFPs within the proposed Large Lot zone.

Subject to the completion of the North East Wastewater Servicing Scheme in 2021, there will be sufficient capacity to service the proposed development.

The conclusion of the Maven report is:

> *"Wastewater drainage will be provided through an extension of the existing network, in-line with the draft Warkworth Wastewater Servicing Plan or as a result of proposed layouts to be considered with WSL. The intended network would remove the potential risks around on-site wastewater disposal, given the proximity to streams and OLFPs within the proposed large Lot zone."*

Potable water effects

Maven have water reticulation advice as part of their Infrastructure Report. They confirm that reticulated water supply can be provided for the precinct area through an extension of the existing network, in-line with the intended upgrades for Warkworth North. The conclusion of the Maven report is that:

> *"Water reticulation can be provided for the proposed development, through an extension of the existing network, in-line with the intended upgrades for Warkworth North. Subject to these upgrade works being completed, there will be sufficient supply for potable and firefighting requirements."*

Infrastructure effects

The Warkworth Structure Plan sets two objectives relating to infrastructure.

Plan for infrastructure (transport, water, etc) to be ready before new houses and businesses are built in the Future Urban zone.

The co-operating landowners accept that the staging of development within Warkworth North will be related to the provision of key infrastructure, particularly the completion of Stage 1 of the MLR and the upgrade to the wastewater network. WLC intends that the development will be staged so that new homes coming on stream coincide with completion of these two infrastructure projects.

The MLR is a committed project with a programmed immediate start on obtaining the necessary regulatory approvals. Watercare have confirmed that their upgrade to the wastewater treatment network for Warkworth and Mahurangi takes account of the anticipated growth within the Warkworth North area.

The other key infrastructure element is stormwater but through the 'treatment train' process, 'on site' detention and retention and management of water entering the streams within the precinct, stormwater does not rely on any major off-site infrastructure works.

Watercare have confirmed that their infrastructure rollout of potable water for Warkworth takes account of the level of development in Warkworth North envisaged within the masterplan.

Power and Telecommunications networks are present in the greater Warkworth area, details of upgrades and extensions from existing network services are to be confirmed and agreed with relevant utility providers.

Provide for social and cultural infrastructure (i.e. libraries, halls, schools, community meeting places) to support the needs of the community as it grows.

The precinct and associated zonings will provide enough critical mass within the neighbourhood north of the MLR to provide for the type of social infrastructure important to a community. This includes a dairy, café, preschool. It immediately adjoins the Warkworth Domain and therefore provides very significant recreational opportunities for residents.

The community consultation process identified the desire for the Northern Arena development in this location. The Precinct provides the opportunity for the Northern Area complex on the WLC land. This keeps the option open for future decision but certainly futureproofs the site identified as important in the community consultation.

These principles have been carried forward into the masterplan for the development.

Geotechnical effects

The geotechnical assessment by CMW is set out in Attachment I of this feedback.

There are geotechnical issues on the site which will need the construction of shear keys in critical locations. Some of this stabilisation will be undertaken by Auckland Transport as part of the MLR. WLC is committed to work with Auckland Transport to coordinate physical works and gain efficiencies for both parties.

The majority of the precinct has sound manageable ground conditions. This is on land which has a reasonable contour and therefore sound engineering practices will need to be employed.

At the western end of the precinct is a particular area with a history of land slippage. This area is particularly addressed in the report by CMW. The upper portion of this area is left in its natural state, while the engineering of the lower slopes will hold the toe of this embankment and bring stability.

The key aspect identified from the CMW report is that, while there are geotechnical matters that will have to be properly managed, there are no matters which would prevent development across the land or parts of the land.

The concluding summary provided by Ms Gill is that:

> "*Consideration should be given to the points above when undertaking further scheme design. Significant retaining works will be required to achieve the required site contours and portions of the land and geotechnical stability challenges still need to be investigated and remedial designs developed.*
>
> *However, based on a review of the data available it is considered that the proposed residential subdivision is geotechnically feasible assuming a full range of remedial earthworks solutions such as development*

earthwork contouring, shear keys, buttress fills, ground water drainage and similar are available for use on the site."

Land contamination effects

Focus Environmental Services Limited were commissioned to undertake a preliminary site investigation of the precinct land. The purpose of the investigation was to assess current and historical HAIL activities at the precinct and assess the potential for ground contamination to exist and its potential implications for the proposed works.

The report included an historical desktop review and a site walkover, which indicated that the site has historically been pastures used for livestock farming. Farming is not considered an activity that has the potential to cause ground contamination and is not included on the HAIL. However, a potential dumpsite on the WLC land (a car and truck have been dumped) was identified approximately 250m south of the pond. The land was raised around the dumpsite, indicating the potential for further waste to be buried in that location.

Part of the site at 245 Matakana Road has been used for horticulture. There are also buildings on site which could give rise to asbestos and lead paint.

A possibility of uncertified fill material at 43 Clayden Road was identified.

The level of contamination is typical of historic farming areas. A PSI will be required in key locations at the time of development. This is all able to be successfully managed through the Auckland-wide provisions. There is nothing special or unique about this precinct which warrant different or additional controls to those within the Auckland-wide provisions.

Cultural effects

Ngati Manuhiri have prepared a cultural impact assessment for the broader Warkworth Structure Plan area. WLC has asked Ngati Manuhiri to identify any particular elements relating to the WLC land.

Ngati Manuhiri have advised that the cultural impact assessment report provided as part of the Warkworth Structure Plan is the relevant and appropriate CIA for this land and the precinct.

This report identifies that there are no wahi tapu or other cultural or spiritually sensitive sites within the precinct.

However, the appropriate environmental and ecological treatment is important to mana whenua and is discussed within the assessment.

Archaeological effects

Clough and Associates were commissioned to undertake a historical are archaeological review of the cooperating landowners' land. This review identified that that during the 19th and 20th century the land was predominantly used as farmland.

While WWII US Army camps were located in close proximity to the land there is no evidence of use of the properties by camps during the field survey.

The review and field survey identified that any modifications to the landform are as a result of farming and possibly horticultural activities. Therefore, the proposed residential development will not affect any recorded archaeological sites.

The overall conclusion of the Clough report is:

> *"No archaeological or historic heritage sites have been previously recorded within the proposed residential development area at Goatley and Clayden Roads, Warkworth, and no sites were identified as a result of the field survey. During the 19th century the land was used for agricultural and likely orcharding in places, with a focus then on pasture. In addition, while there were WWII U S Army camps located nearby, they were not located within the proposed development area".*

Rural production effects

For completeness, it is recorded that this plan change will result in 102ha of rural land passing from rural production into urban development.

The land has largely been used for grazing, particularly sheep and beef or dairy grazing (but not dairy farming). It is not high production land and is not identified as high production soils.

This land has been long identified as Future Urban zoning and targeted for urban development. It will result in some loss of rural production, but no more than what is

contemplated in the Operative Auckland Unitary Plan and what has long been signalled as a future urban area to manage Warkworth's growth.

(g) **Risk**

There are no or minimal risks with this approach given that the Auckland-wide provisions fully apply and have proved to be effective in delivering the environmental outcomes.

(h) **Reasons for proposal**

The existing provisions addressing land disturbance, land contamination, land stability and infrastructure related to subdivision will deliver the necessary planning and environmental outcomes. No additional provisions are required.

10.16 Notification

(a) **Proposed amendment**

The proposal includes a rule stating that restricted discretionary resource consents will normally be treated on a non-notified basis, unless 'special circumstances' apply.

(b) **Provisions most appropriate**

This plan change, by the time it is effective, will have been through extensive consultation process involving the Warkworth Structure Plan, and then this plan change. Aspects subject to restricted discretionary activity control will have been well defined and the effects and implications clearly identified and appropriate assessment criteria introduced.

Ensuring the planning process is efficient for this class of activity is the best way to meet the objectives of the plan.

(c) **Options considered**

There are essentially two options. The first is the approach proposed within the plan change. The second is to default to the standard notification provisions of the Resource Management Act.

(d) Efficiency and effectiveness

The standard practice in the Unitary Plan for precinct provisions is that restricted discretionary activities are made without notification. The safeguard of the 'special circumstance' exception provides a method by which if there is something unique about the proposal or site, then the Council has the right to notify any application.

By the time these plan change provisions have been through the statutory process, the restricted discretionary activity elements will have been well tested in the context of the specific location of the precinct.

This process provides the most effective way to deal with notification matters.

(e) Benefits

The benefits of this approach is a more straightforward process. This has time and cost benefits to all parties.

There is a theoretical cost to the community if something abnormal comes up which would warrant a wider scrutiny through notification of a proposal. However, that would almost inevitably trigger 'special circumstances' where the Council has the right to publicly notify.

(f) Effects

The effects of this proposal relate to process. Essentially identifying the appropriate controls through the plan change means that the effects are all subject to controls or appropriate assessment criteria. The effects are therefore all managed.

(g) Risk

There is minimal risk through this process. The 'special circumstances' provisions provides the safeguard for any abnormal circumstances or application.

(h) Reasons for proposal

This is the standard approach to dealing with notifications within precincts. It provides the most effective and efficient way to deal with the consenting process.

11 CONSULTATION

The co-operating landowners have undertaken extensive consultation with key stakeholders throughout the evolution of the Warkworth development and precinct. This consultation has followed on from and been part of the very broad programme of consultation the Council has had as it has developed the Warkworth Structure Plan. This has been a three stage process starting with preliminary community workshops and general feedback, through to workshops around a draft Structure Plan and then workshops and feedback leading up to the final Structure Plan. While this initiative has been fully a Council managed, run and initiated programme, the co-operating landowners have been full participants in this programme and the feedback and analysis coming out of that community process has been built into this private plan change.

This analysis summarises the consultation undertaken by the applicants for their private plan change request.

11.1 Auckland Council: Planning & Urban Design staff

The co-operating landowners have worked with the various Council officers over the development of this plan change. This has taken place in the more general settings of participation in workshops and the provision of detailed feedback through the Structure Plan process. It has also been more specific pre-application sessions with Council officers on this plan change. This has included extensive discussion over the appropriate zonings and extent of zonings and over the key landscape features and draft plan change provisions. Significant changes have been made to the original proposal to take on board this community and officer feedback. Effectively the feedback is reflected in this lodged plan change request.

11.2 Auckland Transport

The co-operating landowners affected by the MLR (WLC and White Light Trust) have had extensive discussions with Auckland Transport. This has revolved around the MLR and the walkway/cycleway network. There have been extensive discussions and participation in the Warkworth workshops and the MLR notice of requirement and hearing process. More recently this has included various forums attempting to settle appeals on the MLR. Goatley Holdings have been part of this process and the intersection they desire on to the MLR included in the transport aspects of this plan change.

Issues around limited access and the nature and location of access on to the MLR and the desire to preserve the walkway and cycleway network have all been incorporated within the plan change.

A consensus has emerged between Auckland Transport and the cooperating landowners over resolution of the MLR. This has included:

- Agreement as to the location and form of intersections.
- Agreement to the signalisation of at least the two main intersections along the MLR.
- Confirmation that future public transport routes will be confined to the MLR itself. There is no requirement or need to futureproof for public transport within the individual developments proposed by the cooperating landowners.
- Agreement that the MLR will be a limited access road and that provision will be made for vehicular access to sites within the developments undertaken by the cooperating landowners.
- Three new intersections are agreed to facilitate access to land adjacent to the MLR. These will be controlled by traffic signal. The detailed design is expected to be determined at the time of any subsequent resource consent applications.
- Developers will be required to vest any additional land to create these intersections.
- The MLR will make provision for transportation, walking and cycling.
- The estimated traffic generation of the proposal is likely to be about 5,600 traffic movements per day with peak hour traffic generation of about 540 traffic movements per hour based on 703 residential lots within the subject site.
- The estimated traffic generated by the proposal is likely to be accommodated on the road network.

11.3 Watercare

Watercare are in the process of a significant upgrade to the Snells Beach Treatment Plant and the development of the regional trunk lines through to Warkworth. This is an integral part of the Warkworth Structure Plan and Future Growth Strategy.

Maven have worked through with Watercare to identify how best this development will connect into the upgraded Watercare system and the timing.

11.4 Auckland Council: Healthy Waters

Maven have met with the Healthy Waters department to work through the overall stormwater treatment train for Warkworth Clayden Road. This was focused on the WLC land but included the catchment generally which encompasses all co-operating landowners. The Council is requiring high standards in stormwater both in terms of managing water quality and managing volume and overland

flow. This plan change adopts the Auckland-wide provisions to ensure best practice stormwater practices.

11.5 Mana whenua

Ngāti Manuhiri have produced a cultural impact assessment report for Warkworth as part of the Structure Plan process.

WLC approached Ngāti Manuhiri to see whether particular additional cultural aspects were required for Warkworth Clayden Road. Ngāti Manuhiri advised that the general Warkworth cultural impact assessment was the appropriate analysis and could be relied on as part of this plan change preparation.

11.6 Goatley Holdings

While not part of the cooperating landowners, there has been extensive discussions with Goatley Holdings over this development. In particular over matters of:

- Access to the MLR.
- Reverse sensitivity for helicopter and industrial operations on the Goatley Holdings Land.

The intersections shown on the Precinct Plan align with the aspirations of the landowner as outlined in the negotiated settlements on the MLR notice of requirement.

In terms of reverse sensitivity, this plan change puts in place:

- A no complaints covenant over the land that is rezoned from industrial to residential.
- Sets in place the measurement line at which noise will be measured in terms of the heliport consent held by Goatley Holdings.
- Sets a landscape interface between the residential and industrial land for amenity purposes.

11.7 Rodney Local Board

The Local Board feedback on the Warkworth Clayden Road area has been a key part of the Structure Plan process. The co-operating landowners' participation has been through this community consultation workshops and through the written feedback.

11.8 Community

It was the consultation between the various landowners over their individual aspirations that led to the proposition of the landowners collaborating to advance this private plan change.

The primary community consultation has been the extensive discussions through the Structure Plan process. The landowners have participated in the workshops and provided feedback on the Structure Plan.

12 NOTIFICATION

12.1 The RMA allows private plan change requests to be either non-notified, limited notified or fully notified depending on the circumstances.

12.2 The co-operating landowners are requesting this plan change be publicly notified. It is fully accepted that the Warkworth Structure Plan evolution has involved extensive public consultation. The whole Warkworth community has an interest and a stake in how Warkworth growth is managed and the environment and character enhanced.

12.3 Consequently the co-operating landowners are requesting full notification.

12.4 In one sense, because the plan change is so closely aligned to the Structure Plan, there is an argument for limited notification to those property owners surrounding the Warkworth: Clayden Road Precinct to the east of Matakana Road, to the north of the RUB and to the west of State Highway 1. This would still be an extensive notification. However, in all the circumstances and history of the Warkworth Structure Plan, the landowners are requesting it be fully notified.

13 CONCLUSION

13.1 This private plan change request essentially gives effect to the recently adopted Warkworth Structure Plan as it relates to the Warkworth North area.

13.2 This plan change fully accords with the key principles and planning framework adopted in the Structure Plan. In some elements of detail, different methods are put forward, but they will achieve the same environmental outcome.

13.3 This development:

(a) Provides an appropriate opportunity for growth within this Warkworth North area which is important to the overall growth management strategy for Auckland.

(b) Creates a range of zones consistent with the Structure Plan which in turn creates a diversity of housing choice.

(c) Protects the high value streams which are tributaries into the upper Mahurangi River.

(d) Identifies and protects the landscape features with special controls to ensure lower density along the RUB and more intensive landscaping. This is intended to create an appropriate buffer and amenity at the Rural Urban Boundary.

(e) Confirms the location and operation of the MLR and this important link within the regional network. It also makes appropriate provision for local access in controlled locations.

(f) Addresses the issue of reverse sensitivity for adjacent industrial land.

(g) Makes special provision for a planned indoor recreational facility, namely the Northern Arena swimming pool and other recreation complex.

(h) Takes advantage of the unique location of this land being well serviced by the new MLR and with significant south-westerly aspect across the Warkworth Showgrounds.

13.4 The section 32 analysis undertaken as part of this plan change demonstrates that the objectives are the most appropriate way to achieve the purpose of the RMA. The provisions are the most appropriate way to achieve the objectives.

13.5 The precinct approach is consistent with the methodology the Council adopts within the AUP for dealing with area specific planning outcomes.

14 APPENDICES

APPENDIX 1: MASTERPLAN

Each of the co-operating landowners are at different stages of development. Undoubtedly WLC is the most advanced in their development proposals but others are progressing.

The single largest ownership block is WLC. Consequently, to assist the Council in the assessment of this plan change request, the masterplan for WLC has been outlined in this report. The purpose of this work is to demonstrate the type of activity that would be provided under the plan change. The masterplan does not form part of the plan change itself. Nor is it the only possible solution. Rather it is intended to give context as to the type and form of development enabled through this plan change.

14.1 WLC masterplan

Diagram 22 shows the masterplan proposed for WLC. The design is being developed by AStudios with significant input from the broader consultant team.

Diagram 22: Masterplan

This masterplan is an example of the type of development this plan change will enable. It is not necessarily the final detailed form of development, but rather represents likely development of the WLC land.

The process that has led to this masterplan has included:

(a) The evaluation by Freshwater Solutions to identify the streams that traverse the site, their classification and how to protect or reflect critical streams within the masterplan. The two major streams form ecological corridors that define the residential neighbourhood pattern, particularly on the Clayden block.

(b) The confluence of these streams and the grove of native bush in this area, both on the subject land on the immediately adjoining site, creates an obvious parkland setting for the site with

multiple functions of the primary stream including protection, bush conservation, and the opportunity for walkways and informal recreation.

(c) The MLR is taken as a "given" including the alignment following the decision by AT on the NOR , and the agreements on settlement discussions. TPC identified the logical access locations to/from the MLR. This is partly determined by topography (given that a large part of the MLR is a cutting through the site and there are limited areas of relatively flat and therefore accessible connections), but also the appropriate location and form of intersections to gain safe access from the MLR to service the residential community both north and south of the MLR.

(d) The landscape analysis by LA4, identifies key landscape character where development should be managed, and the upper portions of the ridge where only low density housing should be provided.

(e) No buildings are proposed on the two knolls adjacent to the site. In fact, the ridge is generally at RL 115 above the site and largely located within the Countryside Living area. The upper road essentially follows the RL95 contour. Any housing to the north of this road are large sites with typical site size of about 1,000m².

This reflects the principle of a 'landscape buffer'. The rationale for this is outlined in the report by Mr Pryor.

(f) The masterplan provides for approx. 730 residential lots. It provides these in a mix of:

(i) higher intensity development which is located close to the MLR and on the two major green corridors through the development;

(ii) medium density through the bulk of the northern portion of the land; and

(iii) low density along the rural interface.

In this way the appropriate balance is achieved between:

(i) efficient use of the FUZ land to ensure that scarce residential development is not squandered leading to further greenfields expansion into rural land;
(ii) creating a lower density buffer and interface to the rural fringe;

(iii) creating a variety of different housing typologies to encourage a diverse community from terrace homes, zero lot line development, standalone dwellings, and large scale housing opportunities;

(iv) creating public spaces in a variety of parkland, conservation area, pocket parks or streets that create high amenity and foster quality neighbourhoods;

(v) creating site sizes that will enable on site detention and retention which becomes critical in the stormwater management of the site.

Diagram 23 illustrates the distribution of density development within the area. It shows higher density adjacent to the MLR and the parklands, low density buffering the rural area, and medium density in the middle of the block area.

This is more fully set out in the urban design analysis but is summarised in the diagram below.

Diagram 23: Design approach

Diagram 24 shows a distribution of how these sites may be laid out and the different densities.

Diagram 24: Approximate lot sizes

The key points to note are:

(i) Low density 'Large Lot Residential' zoning on the key landscape features.

(ii) The low intensity lots along the rural interface.

(iii) A mix of lots designed to promote a mix of housing typologies and thus lead a diverse community.

(iv) The focus of higher density lots along the MLR and primary park edge road.

(v) The diversity of section sizes in the medium density area. This reflects that all buildings will take place on sloping land. Site sizes 300-600m² provide wide opportunity for different housing forms. It also provides good spaciousness around properties for future development.

The section layout on the masterplan is only indicative to illustrate how the overall yield can be achieved within the property while still keeping the spacious character and creating a quality neighbourhood which is built around the ecological corridors within the site.

14.2 245 Matakana Road

The land at 245 Matakana Road is also being masterplanned. This masterplanning has been deferred pending greater certainty over the land take for the roundabout at the intersection of Matakana Road and the MLR, and the nature of access to the land both north and south of the MLR.

This land is all zoned Mixed Housing Urban both in this plan change and as proposed in the Warkworth Structure Plan. The nature, form and typologies of development are therefore relatively settled. This land in terms of topography, character and to an extent vegetation is more homogenous than the WLC block.

14.3 Application of these masterplans

The purpose of the masterplan is to illustrate the type of development that could occur in terms of the plan change. It is not necessarily the final development proposal, although in the case of WLC it will be close to the subsequent development resource consents when the time comes. Rather, the purpose of the masterplan is to test the planning provisions and to ensure that the nature of the planning development will deliver the outcomes sought through the objectives and policies for the precinct. It must be recognised that the objectives and policies for the precinct also import the objectives and policies of the underlying zones.

APPENDIX 2: WARKWORTH STRUCTURE PLAN

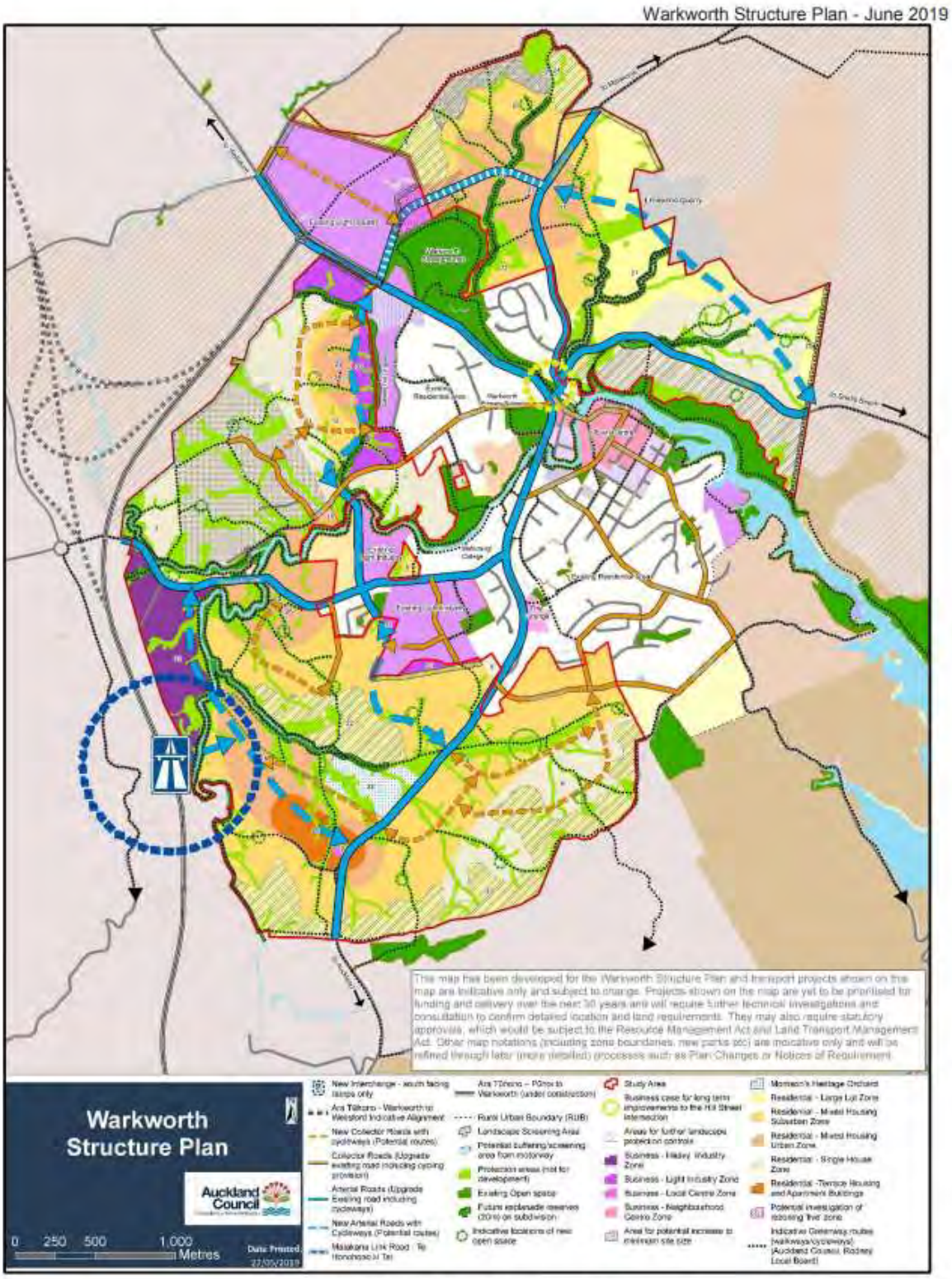


Figure 1: Warkworth Structure Plan – Land use plan

PART A – AMENDMENT TO AUCKLAND UNITARY PLAN GIS VIEWER (MAPS)

Map 1 – Proposed Rezoning of IXXX Warkworth Clayden Road Precinct

Notes:

1. The proposed change to the viewer (maps) has not been made.
2. The map is shown to place the changes in context.

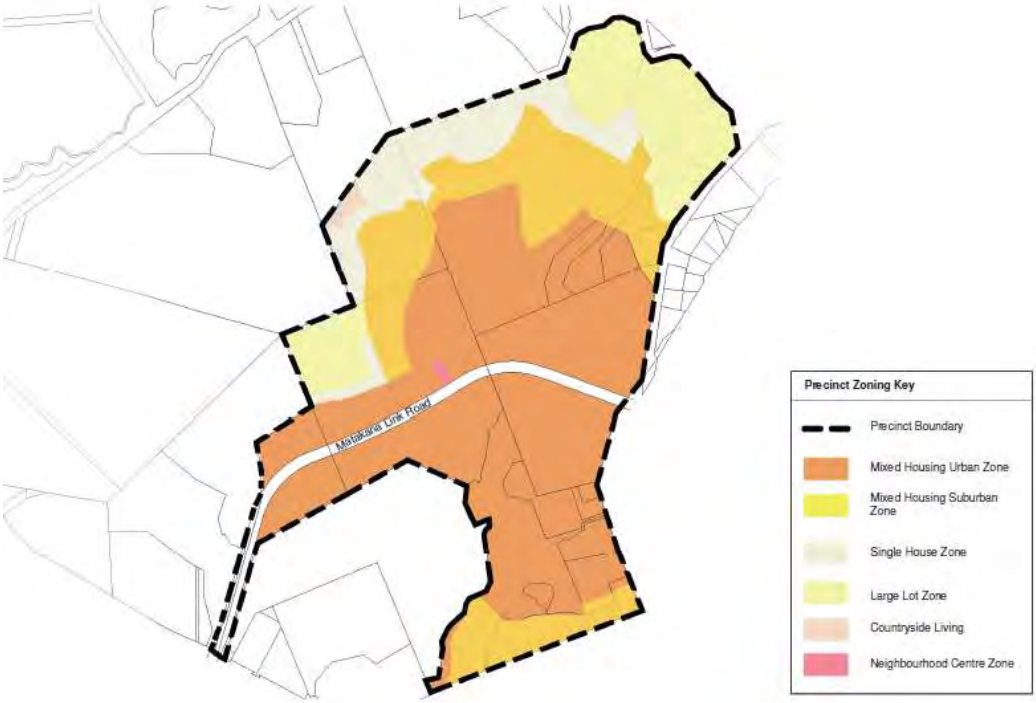
Map number:	1
Geographic area:	North
Current zones:	Future Urban zone and Light Industry zone
Proposed zones:	Residential – Mixed Housing: Urban
	Residential – Mixed Housing: Suburban
	Residential – Single House
	Rural Countryside Living

PART A AMENDMENT TO THE MAPS

ZONING

That the land currently zoned Future Urban be rezoned Mixed housing Urban, Mixed Housing Suburban, Single House and Large Lot residential as shown on the following zoning plan

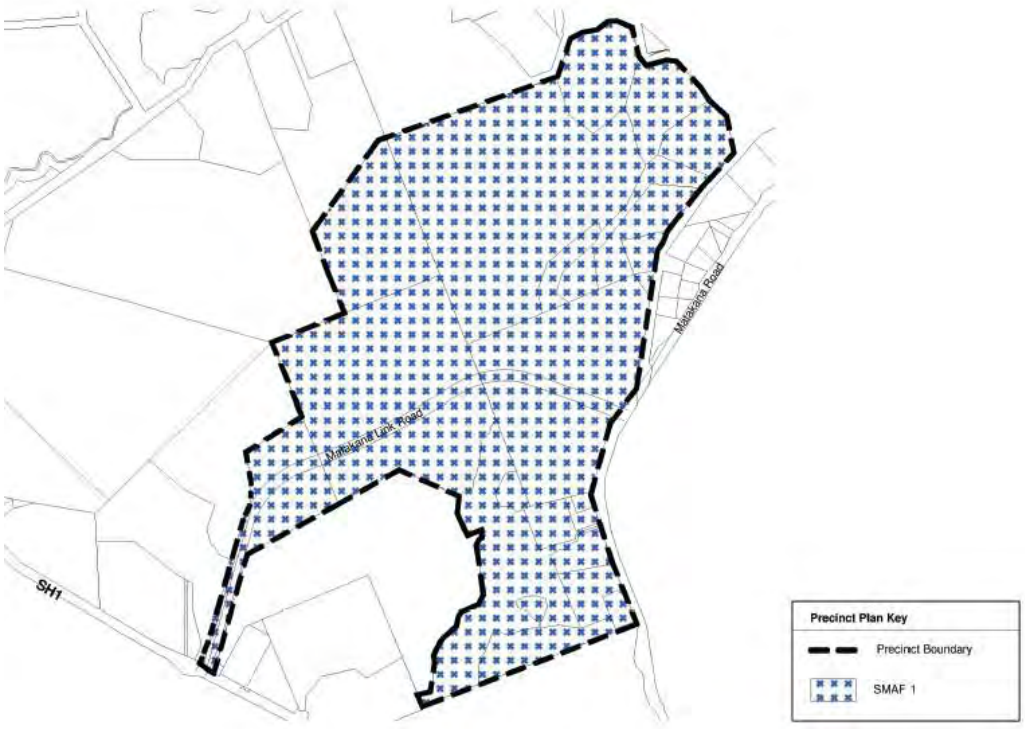
Map 1 - Zoning



CONTROLS

The land shown below be identified as "SMAF1" in the 'Controls' map.

May 2 – Control: SMAF1



PRECINCTS

The land shown below be identified as 'Warkworth: Clayden Rise' in the 'Precinct' Map.

Map 3 –Precinct Boundary of IXXX Warkworth Clayden Road Precinct

PART B AMENDMENT TO IXXX CLAYDEN ROAD PRECINCT

Insert the following new precinct provisions:

IXXX Warkworth Clayden Road

IXXX.1 Precinct description

The Warkworth Clayden Road Precinct is located between State Highway 1 and Matakana Road north of the Warkworth Showgrounds. It is intended to assist in providing for growth within the Warkworth area. The planned Sandspit Link Road creates good connectivity to this part of Warkworth with direct connections to State Highway 1 and the new Highway to the south.

A range of zonings apply within the Precinct. Employment opportunities are retained in the Light Industrial zone to the west. More intensive residential opportunity is created around the Sandspit Link Road and the future public transport options this offers with direct access to and views across the Warkworth Showgrounds. Medium density housing is provided in the northern area of the Precinct. Low density 'Single House' zoning is provided on the Rural Urban Boundary fringe with particular controls applying along the interface between the Countryside Living zone and the Single House zone. A small area of land is zoned 'Country side Living'. These controls are designed to create a lower density interface and a landscape buffer between the urban and rural areas.

Provision is made for a local centre designed to provide services to the Warkworth North community and yet be complementary to the Warkworth town centre.

Special provision is made for the northern arena, a planned indoor recreational facility.

IXXX.2 Objectives

The following objectives apply in addition to the relevant overlay, Auckland-wide, and zone objectives.

(1) Provide for residential urban growth within the northern Warkworth area.
(2) Apply urban zoning efficiently to protect against future urban expansion into Warkworth's valued rural hinterland.
(3) Enhance the character of the rural – urban interface through limitations on housing density and enhanced landscaping.
(4) Create an accessible residential development with vehicle and cycleway connections.
(5) Manage reverse sensitivity issues at the interface between the residential and light industrial land.

IXXX.3 Policies

The following policies apply in addition to the relevant overlay, Auckland-wide, and zone policies.

(1) Provide a range of diverse zones and therefore housing options to help meet community needs.
(2) Locate high density housing adjacent to the Sandspit Link Road and overlooking the Warkworth showgrounds and Mahurangi tributaries and supporting public transport.

(3) Create low density housing along the urban-rural boundary to form a transition from urban to rural uses.
(4) Create the opportunity for local shops to service the neighbourhood, by zoning a suitable area of land for a "neighbourhood centre".
(5) Create an intensively landscaped interface along the rural urban boundary.
(6) Prevent building development on the special landscape areas shown on Precinct Plan 1 and incentivise the planting of these landscape elements.
(7) Enable extensive active walking and cycling network and futureproof key walkway/cycleway routes and vest these key routes in the Council.
(8) Create the opportunity for a major indoor recreation facility adjacent to the Warkworth showgrounds.
(9) Create a landscaped buffer and require "no complaints covenants" on the properties adjacent to the industrial zoned land so as to manage reverse sensitivity issues.
(10) Limit direct access from individual sites on to the Sandspit Link Road to pedestrian and cycle access only.
(11) Manage the effects of stormwater on water quality in streams through riparian margin planting, on site detention and retention and protection of streams shown on Precinct Plan IXXX.9.1 by way of land covenant at the time of subdivision.

IXXX.4 Activity table

The provisions in any relevant overlays, Auckland-wide provisions and zone apply in this precinct unless otherwise specified below.

Table IXXX.4 Activity tables specify the activity status of land use, development and subdivision activities in the Warkworth North 1 Precinct pursuant to sections 9(2),9(3) and 11 of the Resource Management Act 1991 or any combination of all of these sections where relevant.

Table IXXX.4.1 Mixed Housing Urban

Activity		**Activity status**
Use		
Community		
(A1)	Recreation Facility in the location shown on Precinct Plan 1 as "Special Use Overlay – Sporting Facility"	RD
Development		
(A2)	Buildings within the "Special Subdivision Control Area" that do not comply with standard IXXX.9.1.	D
(A3)	Any building or structure (excluding fencing less than 2m in height) within the Special Landscape Area.	NC

(A4)	Reclamation of streams other than those shown on Precinct Plan IXXX.9.2	RD
(A5)	Reclamation of streams shown on Precinct Plan IXXX.9.2	NC
(A6)	Removal of any native vegetation shown as "Covenanted Area" or "significant bush" on Precinct Plan IXXX9.2, except this shall not preclude: (i) removal of deceased or damaged limbs or trees that could create a fall hazard; (ii) clearing of bush up to 2m wide to create public tracks.	NC
Subdivision		
(A7)	Vacant site subdivision sites (either less than 1ha or 1ha and greater) complying with standard E38.8.2.3 and generally in accordance with Precinct Plan I1XXX.4.1	RD
(A8)	Any subdivision in the special density area shown in Precinct Plan 1 that does not meet the minimum site size requirements in Rule IXXX.4.1.	NC
(A9)	Any subdivision that is not in general accordance with Precinct Plan 1 Rule I1XXX.4.1.	NC

IXXX.5 Notification

(1) Any application for resource consent for a restricted discretionary activity listed under IXXX.4 will be considered without public or limited notification or the need to obtain written approval from affected parties unless the Council decides that special circumstances exist under sections 95A(9) or 95B(10) of the Resource Management Act 1991.

IXXX.6 Standards

The overlay, Auckland-wide, and zone standards apply in this precinct unless otherwise specified below:

IXXX.6.1 Special Height Limit

(1) The maximum height limit in the Mixed Housing Urban zone in the area shown as "special height limit 1" on Precinct Plan 1 (IXXX.9.1) shall be the same as rule H.4.6.4 'Building Height' in the Mixed Housing Suburban zone.

(2) The maximum height limit in the Single House zone in the area shown as "special height limit 2" on Precinct Plan 1 (IXXX.9.1) shall be 5m for any building that is within 10m but further than 6m from the Rural Urban Boundary.

IXXX.6.2 Special Yard

(1) All buildings on sites subject to the "special yard" control shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1 must be set back from the Rural Urban Boundary for a minimum distance of 6m. This rule replaces any other yard applying within 6m of the Rural Urban Boundary.
(2) All land within the "special yard" shown on Precinct Plan 1 shall be landscaped. A minimum of 50% of the area shall be planted in native trees that will attain a height of at least 5m when mature.

IXXX.6.3 Special Landscape Yard

(1) No building or structure shall be built within the 'Special Landscape Yard shown on Precinct Plan 1. This rule does not apply to fencing less than 2m in height.
(2) Fifty percent of the 'Special Landscape Yard shall be planted with native trees that achieve a height of 5m or more on maturity.

IXXX.6.4 Limited Access

(1) Road junctions with the Sandspit Link Road servicing the precinct, shall be limited to three, to be located in the general location identified as Access Points onto Sandspit Link Road on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1
(2) No vehicular access from any property shall be allowed directly onto the Sandspit Link Road for the frontage shown indicatively on I1554.9.1 Warkworth Clayden Road: Precinct Plan 1

IXXX.6.5 Subdivision Standards

(1) The minimum net site area in the area shown as "Special Subdivision Control" on Precinct Plan 1 shall be 1,000m² net site area.

IXXX.6.6 Noise measurement line

(1) For the purposes of measuring consented noise levels for the Warkworth Heliport on 38 Goatley Road, the "nearest residential boundary for noise measurement within the precinct shall be taken as the "noise measurement line" shown on Precinct Plan 1. The condition shall not apply to the residential sites west of the noise measurement line.

IXXX.6.7 Landscape Screening Area

(1) A 6m landscaped screening area in the location shown on Precinct Plan 1 shall be provided. This area shall be intensively planted and maintained with native trees and shrubs. The 6m distance shall be measured from the zone boundary. This planting shall occur at the time of subdivision of the land to create any title or titles less than 5,000m^2.

IXXX6.8 High Contaminant Yielding Materials

The total area of high contaminant roofing, spouting, cladding or external architectural features must not exceed 5m².

IXXX.7 Assessment – restricted discretionary activities

IXXX.7.1 Matters of discretion

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary activity resource consent application, in addition to the matters specified for the relevant restricted discretionary activities in the overlay, Auckland wide or zone provisions:

(1) Vacant lot subdivision
- (a) The matters of discretion listed at E38.12.1(7)
- (b) The location of the facility
- (c) Building scale
- (d) Landscaping
- (e) Transport including Access and Parking

(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan 1:

- (a) Building scale
- (b) Landscaping
- (c) Parking
- (d) Interface with residential development
- (e) Interface with Warkworth Showgrounds

(3) Modification or reclamation of streams

- (a) Stream ecology
- (b) Base flow
- (c) Management of water flow
- (d) Offset mitigation
- (e) Stream bed level
- (f) Riparian planting
- (g) Overland flow.
- (h) Providing for growth and development

IXXX.7.2 Assessment criteria

The Council will consider the relevant policies identified below for controlled activities, in addition to the assessment criteria or policies specified for assessment of the relevant controlled activities in the zone, Auckland wide or overlay provisions:

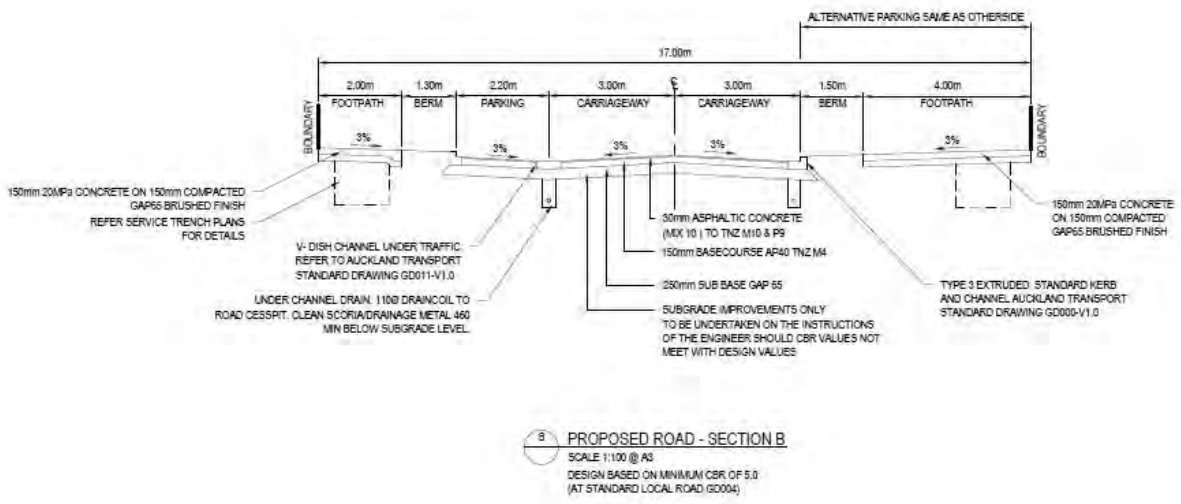
(1) Vacant Lot Subdivision

(a) In addition to the matters of discretion listed at E38.12.2(7), the extent to which:

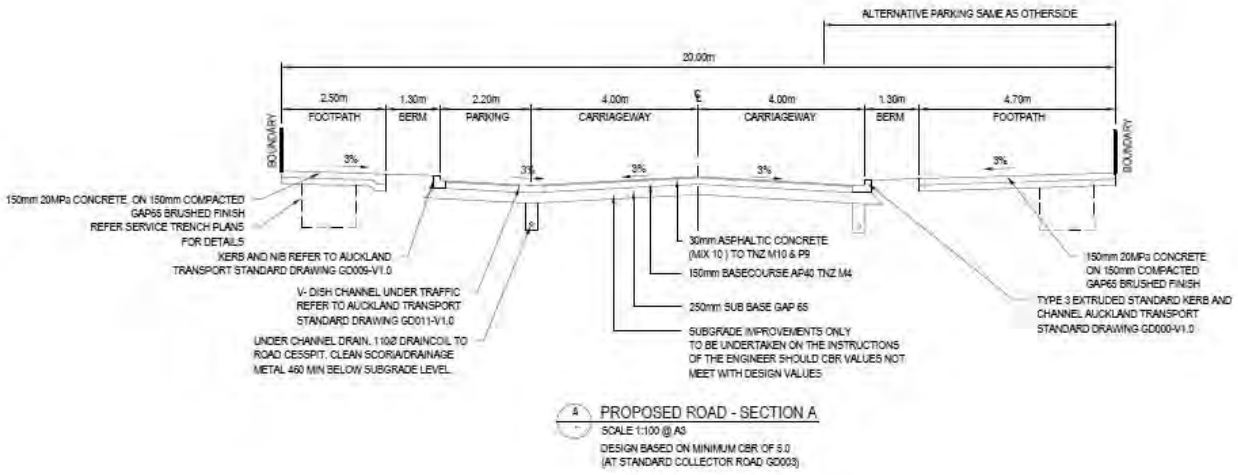
- (i) The proposal contributes to the implementation of policies IXXX.3(1)-(5).
- (ii) Subdivision layout is consistent with Precinct Plans 2 and 3.
- (iii) Intersections to local roads accessing the Matakana Link Road are limited to the locations identified on Precinct Plan 1.
- (iv) The eastern access to Matakana Link Road is confined to a 'left-in/left-out' only road connection.

(v) Subdivision layout meets the minimum lot sizes of Rule I1XXX.6.5 (special subdivision control).
(vi) Subdivision layout is designed to ensure that no sites require vehicular access from the Matakana Link Road. Sites shall be serviced from local roads, laneways JOAL's, or other suitable mechanisms.
(vii) Sites that include streams shown on Precinct Plan 2, have complying practical building platforms clear of identified stream areas.
(viii) Earthworks are managed in such a way as to provide high quality erosion and sediment control measures.
(ix) For the area identified on Precinct Plan 1 as "no complaints covenant area" a no complaints covenant is registered against any title acknowledging the location is adjacent to an industrial area and a consented heliport and that the resident will not complain about permitted activity meeting the Auckland wide standards, or helicopter activity operating under and complying with the conditions of consent of Resource Consent XXXX.
(x) All sites that contain a special yard under rule IXXX.6.1 provide a covenant which requires 50% of the yard area to be planted in native trees that will attain a height of at least 5m when mature, and the covenant provides for the maintenance and protection of this planting in perpetuity.
(xi) The erosion and sediment control measures shall provide for and include use of the stormwater management pond and establishment of the wetland, shown in Precinct Plan 1.
(xii) The greenways shown on Precinct Plan IXXX.9.1 are vested in the Council at the time of subdivision.
(xiii) The staging of any part of the precinct relying on access to the MLR is such that completed homes are not occupied prior to the MLR becoming operational
(xiv) A walkway network, generally in accordance with Precinct Plan 3 IXXX9.3 including roads and open space area, is created to ensure an interconnected neighbourhood. This includes connections to the footpaths and known bus stops on Matakana Link Road.
(xv) Cycling facilities are provided on collector roads to integrate with cycling facilities on the MLR, and to generally meet the typical road cross-section shown in the diagram.
(xvi) Local and collector roads shown on Precinct Plan IXXX9.3 are designed to generally meet the typical cross-sections shown below.

Typical road cross-section: Local road



Typical road cross-section: Collector road



(2) Indoor Recreation Facility in the location shown on I1XXX.9.1 Warkworth Clayden Road: Precinct Plan

The extent to which:

(a) The indoor recreation facility is located within the land area identified on Precinct Plan 1.
(b) The height of the building complies with zonal height.
(c) Landscaping, particularly front yard and the yard adjoining residential zoned land provides a reasonable amenity to the neighbourhood.
(d) Provision is made for transport related matters including access and adequate parking to service the facility, and hours of operation.
(e) The interface with the Warkworth Showgrounds provides a good built and landscaped amenity, and a degree of visual overlooking of the showgrounds.

(3) Stream modification or reclamation

The extent to which:

(a) Streams can be retained through re-alignment and raising of stream beds to integrate with land contouring;
(b) Ten metre riparian native planting will be provided along each side of any re-aligned stream;
(c) Where streams are proposed to be reclaimed with no vertical or horizontal re-alignment, the degree and extent of off-setting, and compensation;
(d) Management of water flow is achieved to prevent flooding of residential sites;
(e) Base flows to the head of retained streams affected by any reclamation of a permanent stream are maintained;
(f) Reclamation is required to achieve the minimum road grade requirements.
(g) Development potential will be lost without reclamation works, balanced against the ecological value of the stream to be reclaimed.
(h) The ecological classification of the underlying stream is maintained.

(i) The 'effects management hierarchy' (avoidance, remediation, mitigation, offset) has been applied.
(j) The degree of mitigation or offset where changes to the vertical and horizontal alignment are proposed.

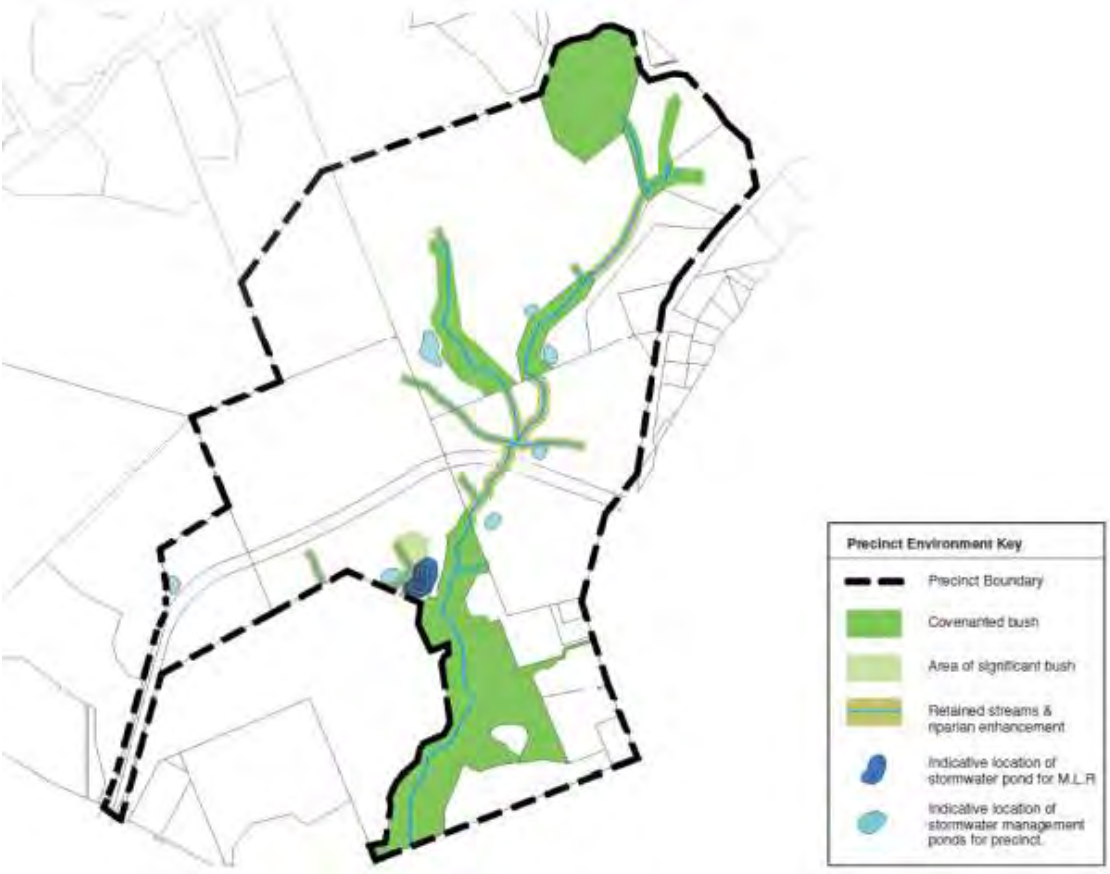
IXXX.8 Special information requirements

The special information requirements in the underlying zone and Auckland-wide provisions apply in this precinct, together with the following:

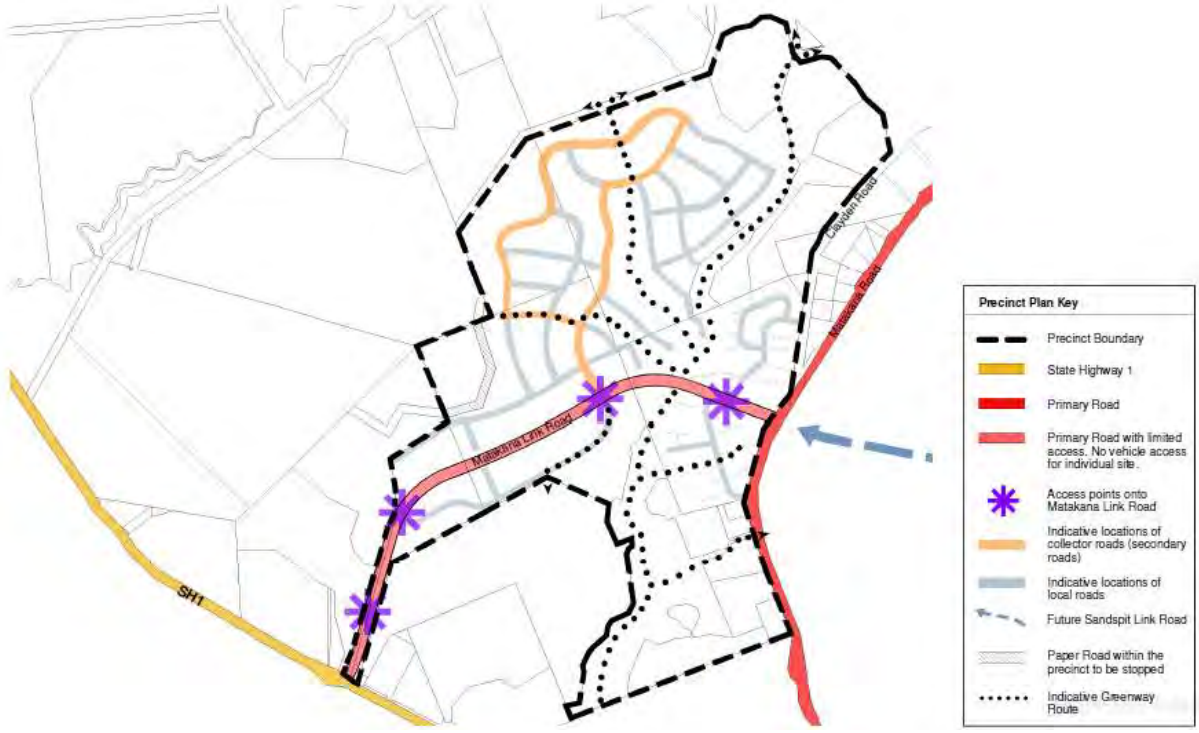
There are no special information requirements

IXXX.9.1 Precinct Plan 1:

IXXX.9.2 Precinct Plan 2



IXXX9.3 Precinct Plan 3



ATTACHMENT C

URBAN DESIGN REPORT BY IAN MUNRO

urban design assessment and neighbourhood design statement

WARKWORTH: CLAYDEN

for

WARKWORTH LAND COMPANY LTD

by

IAN MUNRO + A STUDIO ARCHITECTS

July 2019
Updated September 2019

executive summary

This report documents an independent analysis of an application for a Private Plan Change to re-zone approximately 102ha of land currently zoned Future Urban Zone, for Warkworth Land Company Ltd. The application has been made to Auckland Council under the Resource Management Act 1991 ("RMA") in terms of the Auckland Unitary Plan (Operative in Part) "AUP: OP". The key conclusions of this report are that:

a. The site has been identified as suitable for urban purposes through the Future Urban zone that applies to the land. The proposed combination of residential zones are appropriate given the site's opportunities and constraints, and adjacent land's characteristics including the Warkworth Showgrounds.

b. The proposal provides for an identified strategic road link (The Matakana Link Road), protection of existing watercourses and their margins, and the land's natural contours and form (through management of building height and residential zone extent).

c. A concept master plan for the 55ha of PPC land directly controlled by Warkworth Land Company Ltd prepared by A-Studio, and which is intended to form a high-level guide to subsequent subdivision, demonstrates that the land is capable of delivering an integrated, well-connected and spatially coherent urban form outcome. We consider that this conclusion can be extrapolated to the balance of the PPC land due to the high-level direction given in the PPC provisions and Precinct Plans.

d. The proposed precinct provisions, including key road links and the green corridors, are sufficient to ensure the site-specific opportunities presented by the site's urbanisation can be safeguarded.

e. The mix of densities proposed will accommodate a variety of house and household types, serving housing choice in a way that concentrates density where it will be most effectively located (close to green or open spaces and key transport links).

f. The proposal is compatible with, but is different from, the Council's Structure Plan for Warkworth. It is understood that the Council's largely staff-drawn Structure Plan is non-statutory and is not intended to supersede or predetermine the formal and contestable plan-making process. The proposal is considered to have benefitted from a more substantial technical investigation than has been possible through the Council Structure Plan and this is considered to explain (and justify) the differences between the two.

g. The proposal is compatible with the proposed re-zoning being advanced through Private Plan Change 25, on land west of the site, and the two areas together provide a logical northern edge to Warkworth.

h. The proposal is compatible with the built form characteristics of Warkworth, and presents nothing out of the ordinary or remarkable that could be regarded as being out of step or conflicting.

i. The proposal will result in a number of adverse urban design effects, although none are considered to be unusual or severe in the context of rural-to-urban land re-zoning. Positive urban design effects will also occur or be enabled through future subdivision. Overall, the proposal is consistent with the quality compact urban form sought by the AUP: OP and the specific matters set out in Chapter B2: Urban Form.

The private plan change application could be accepted on urban design grounds.

contents

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1. introduction

1.1 This report documents an independent analysis of an application for a Private Plan Change to re-zone approximately 102ha of land (of which 54.7ha is under the direct control of the applicant), currently zoned Future Urban Zone, for Warkworth Land Company Ltd, Warkworth. The application has been made to Auckland Council under the Resource Management Act 1991 ("RMA") in terms of the Auckland Unitary Plan (Operative in Part) "AUP: OP".

1.2 For full details of the proposal, the application and planning analysis (s.32 report) is referred to.

2. scope and involvement

2.1 Ian Munro and Jennifer Hanson (A Studio Architects) have been engaged by Warkworth Land Company Ltd to provide master planning and urban design services related to a Private Plan Change application. Jennifer Hanson has been engaged since project inception and has led the spatial design exercise for the site including concept master planning and potential house design tests. Ian Munro was engaged later in the process to provide specific urban design support including an independent peer review and to assist coordination of urban design materials for the Plan Change application.

2.2 Ian Munro's original brief was to focus on the Warkworth Land Company Ltd part of the PPC, over which A Studio Architects have prepared specific master plan tests. Based on Council staff feedback on the draft PPC material, this brief has been expanded to include the entire PPC area.

2.2 The process followed to undertake this urban design assessment is as follows:

a. Provisions of the AUP: OP were read and considered, as well as the Proposed Plan Change 25 for Warkworth North, on the western side of SH1 from the subject site, and the Council's Structure Plan for Warkworth.

b. Briefing meetings with the applicant's expert team were held.

c. The proposal and various design / urban structure iterations were considered and recommendations were made regarding these.

d. Preliminary consultation meetings were held with Auckland Council planning officers and landscape architect.

e. A site visit was undertaken. This took in the existing Warkworth township and its surrounds. The site visit involved the core technical team of consultants so as to allow an informed and rounded discussion to occur.

f. An updated concept was provided and this was assessed.

g. An urban design assessment report was prepared in July 2019.

h. Council staff provided comprehensive feedback and commentary on the application including the urban design report.

i. The entire PPC area was assessed and the urban design report was updated in September 2019 on the basis of an updated proposal provided by the applicant's team.

3. urban design framework

3.1 Although historically focused on the way in which private space and development impacted on public space, 'urban design' now encompasses a wide range of potential considerations. This is best evidenced by the breadth of matters included in MfE's 2005 New Zealand Urban Design Protocol. As a result of this breadth urban design analyses, when based only on preferred or 'ideal' urban design prerogatives, do not always match well with the specific matters relevant to Resource Management Act proceedings. Practical challenges faced by urban designers working under the RMA, and which have been factored into this assessment, include that:

a. urban design outcomes only apply to the extent that they are relevant to the specific resource management issues relevant to each specific application;

b. RMA plans need to be interpreted in light of what the specific objectives and policies mean and with reference to the methods used by each Plan to implement those provisions – not against what outcomes an urban designer might consider to be preferred or ideal in pure urban design terms;

c. the RMA provides for positive environmental effects but does not require them (unless a NPS or Plan requires them);

3.2 For this assessment it is not considered necessary to identify urban design outcomes or precedents beyond the provisions of the AUP: OP. However, based on direction at AUP: OP Appendix 1.3, the Auckland Plan, Auckland Design Manual, and the Rodney Local Board Plan (2017) have been reviewed and considered. We also considered the Council's Warkworth Structure Plan 2019.

3.3 'Structure Plans' come in a variety of types and forms. The most effective are considered to be those that are prepared as part of, and which sit within, District Plans. This makes them properly consultative and transparent, and gives them statutory weight. Auckland Council has determined to undertake structure plans as non-statutory, out-of-RMA documents. There are many examples of this form of structure plan across the country as well. While they reflect a significant amount of technical work, their preparation is largely based on staff-preferences. Public 'feedback' is received rather than submissions, and no formal evaluation or hearings on feedback occurs. The Council adopts its preferred structure plan as a high-level preference-position of the Council under the LGA. This is very different from the decisions made by the Council as a Consent Authority under the RMA, and which are community rather than the Council's own corporate decisions. But it is understood that the resultant non-statutory Structure Plan product is indicative and more of an RMA guideline than an attempt to predetermine or side-step the fully contestable and transparent RMA plan making process. In this respect, the Council's structure plan has been treated as indicative of what may be a logical and appropriate outcome, but does not represent a decision on the most appropriate or necessarily correct outcome for any particular part of Warkworth. It is understood that the Environment Court has consistently interpreted and weighted non-statutory Structure Plans in this way.

3.3 The key provisions of the AUP: OP relevant to the proposal in urban design terms are Appendix 1 (structure plan guidelines); B2 RPS (urban growth and form); E38 (urban subdivision); H1 (large lot residential zone) H3 (single house zone); and H4 Mixed Housing Suburban zone.

3.4 Having considered the relevant provisions of AUP: OP and related documents identified above, the planning outcomes and environmental effects to be addressed can by synthesised (for simplicity) into the following topic headings:

a. The development should contribute to a quality compact urban form that supports and enhances the Warkworth township.

b. The development should achieve a well-connected, integrated built form outcome, with residential areas having high amenity, and being healthy, attractive and safe.

c. Non-residential activities support the needs of people and the local community.

d. The development should maintain or enhance the character of Warkworth township and the area, and provide adequately for infrastructure.

e. Open spaces should be well integrated and physically connected where possible.

f. Reverse sensitivity effects with adjacent land uses are managed.

g. The proposal should demonstrate how the site's opportunities and constraints have been positively responded to

h. Overall urban design merit.

4. Warkworth character analysis

4.1 The following are Warkworth's key urban design characteristics:

a. Warkworth is a relatively small township that has in the past twenty years become a very popular destination and subject to quite rapid and substantial growth. At the 2013 census it had 3,909 occupants, an almost 20% increase since the 2006 census. The town has a strong association with the Mahurangi River and sits at its navigable head.

b. Warkworth has an interesting urban design history, being effectively led by a private developer (the Brown family) whom purchased the land from the Government in the 1850s and set about planning and selling allotments. As was the case prior to 1900, being close to water was essential to economic activities such as logging, milling and boat building.

c. The focal point of the township is the Town Centre zone, which occupies a curve in the Mahurangi River and is laid out in a grid notable for its small, square-shaped block sizes. It is unclear whether some of those square blocks were amalgamated over time through road closures, or were simply not formed from the start.

d. Up until approximately 2001, the town was contained in three ways. The first was a relatively rectilinear and conventional residential block structure south of the town centre and east of SH1. The second was a medium-sized area of development (employment and residential) north-west of the town centre on the western side of SH1. The third was a relatively limited number of ribbons along key roads including Woodcocks Road. These areas are unremarkable in the context of New Zealand small down development, and can be described as representing the most connected and developable (generally the flattest) land.

e. Between 2001 – 2019, quite substantial expansion has occurred south, west and north-west of the town centre. More recent development has been characterised by using undulating / sloping land and based on a generally more curvilinear road network. Notable has been the retention of a well-connected block structure. Possibly because the township did not expand substantially between 1950-1990, it does not exhibit the pattern of disconnected cul-de-sacs that is a hallmark of that era.

f. As has been seen in many other small towns, as it has grown the established Town Centre has been unable to accommodate new commercial and employment growth. Although a ring of Mixed Use zone has been provided around the Town Centre zone in the current AUP: OP, it is predominantly occupied by detached residential dwellings at this time. Commercial growth was planned by the former Rodney District Council (which undertook a Structure Plan in 2004) centred around Woodcocks Road. Amongst other things, this was planned to provide for larger-footprint commercial uses that could not spatially fit in the town centre, and which would have also not sat comfortably with the finer-grained and distinctive built form character of the Town Centre. Most recently, a large-scale public open space facility has been developed north of the town centre and adjacent to the subject site, the Warkworth showgrounds. This now includes a number of formed and floodlit playing fields / courts.

g. The township is contained within a natural bowl of local medium-sized ridges, which can be seen around the north, west and south of the township. This characteristic is not as dramatic as can be seen in some Central Otago towns (such as Wanaka) but is a distinctive character element. It is noted that the subject site to this Plan Change application forms part of that (northern) bowl. The ridges are also of a generally consistent height, around 75m-100m elevation (although behind these, more prominent ridges rise up well above this and over 200m elevation (Dome Forest to the north and Smythe Bush to the west). Within the bowl, a number of streams and watercourses meander towards the head of the Mahurangi river. These are in many instances well-catered to in terms of existing riparian vegetation, and they also add importantly to Warkworth's urban character and amenity values.

h. There remains a relatively coherent sense of 'Warkworth' being contained within that natural bowl, although it is neither tall enough or steep enough to act as a firm natural edge to the township. Future planning and development needs could result in development overtopping the bowl, and as discussed later one opportunity for this north of the subject site could see the ultimate northern boundary of the town sitting at Goatley Road.

i. Warkworth is subject to well-known transportation challenges, mostly centred on the intersection of SH1, Matakana Road and Sandspit Road that gives access to a number of smaller coastal settlements including Matakana, Leigh, Omaha, Snells Beach and Algies Bay. Warkworth acts as a service-centre inasmuch as it acts as the primary centre serving all of those smaller settlements. But in response to these transportation challenges, a number of strategic transport upgrades have been identified and are underway. The most notable is a SH1 bypass around the western side of Warkworth. This will connect to the existing SH1 north of the Warkworth showgrounds and adjacent to the subject site.

j. Today Warkworth is quite spread out, with a number of social and employment nodes scattered across the urban footprint. While the Town Centre remains the obvious focal point, there is a risk that rival commercial nodes may in time come to compete with it. Again, Wanaka serves as a useful example of this phenomenon in a different context. Community facilities and industrial areas are also scattered across the area, and in this respect the township does not functionally operate as a single-node settlement.

k. In terms of the way that the township interfaces with its hinterland, and based on examination of historical photographs and the Council's aerial photography database, it is evident that Warkworth has never been planned as an intentional concentrically laid-out node, with highest densities in the centre and a steady density transition down to its edge. On the contrary, urban Warkworth has consisted of a relatively even, mostly 1-2 storey building height of detached, residential dwelling-scaled buildings through its centre-to-edge cross section.

l. The AUP: OP does provide for building heights of up to 18m in the Town Centre zone (13m in the Mixed Use zone). This will help promote a more obvious intensity at the core of the settlement. But this will be balanced by the 20m height enabled for the numerous Industrial zoned areas of land around the town. Overall therefore, it is likely that the AUP: OP will not substantially change the lack of obvious built-form density transition from centre to edge in Warkworth.

m. Turning specifically to the existing township's zone edges (including with the Future Urban zoned land), there is no obvious pattern or planned character sought. There is no history of density tapering downwards (such as larger lot sizes) at the edge, and no particular recognition given to the 'bowl' ridges where these have been built to on the southern side of the town. Land use zones simply proceed across urban land and stop when a natural or zone barrier is reached. This pattern of obvious and clear delineation is referred to generally as a "hard" edge. It can be seen consistently across the township, such as Mansell Drive, Mason Heights, McKinney Road, Alnwick Street, Northwood Close and Hudson Road.

n. The existing built form of Warkworth is predominantly detached residential houses and larger-footprint industrial / commercial buildings. Almost all buildings are currently only 1-2 storeys in height. More recent residential development (such as Mason Heights and Mansell Drive) has introduced the higher density housing that is becoming more common in Auckland as property prices continue to increase. This has introduced to Warkworth the phenomenon seen elsewhere in Auckland where higher densities at the 'edge' occur more frequently than in the 'centre'. While the Town Centre has a rich and distinctive visual character, and many older residential dwellings also exhibit a historic / 'traditional' villa-type character, the majority of the township cannot be distinguished from fairly general 'suburban' type development patterns, including architectural styles, cladding materials and house colours.

o. Warkworth has been identified for significant and inevitably transformative additional growth in the AUP: OP through the FUZ zoning. The existing 'live' zones cover approximately 550ha; the FUZ zone includes a further (approximately) 300ha (eastern side) and 695ha (western side). This will increase the total urban footprint of the township from 550ha to 1,545ha or an almost tripling in size. In terms of the extent of the township's future urban footprint, from the outer edge of the Town Centre zone it spans distances of 3km (west), 1.8km (south), 2.3km (north) and 1.4km (east). Once barriers such as rivers and streams, and real-world transport routes and road alignments are included, a substantial amount of the township would not be within what could be considered a convenient walk of the Town Centre. In that respect it is likely that Warkworth will take on some characteristics of a suburban area including commuter traffic (already a major contributor to traffic challenges) and increased importance on some form of passenger transport (bus) service in the future.

p. The site forms the top edge of Warkworth in terms of the current AUP: OP planning horizon (30 years), following Clayden Road and a natural ridge. Land north of the site is zoned Rural Countryside Living zone. That zone is a form of urban-rural 'buffer' separating urban areas from rural production land. The Countryside Living zone sits between the Warkworth FUZ and Goatley Road. Goatley Road runs parallel to a stream and from there the topography rises steeply into native forest. It is considered that Goatley Road forms something of the practical, real-world northern limit of any urban growth beyond the current AUP: OP timeframe.

q. Private Plan Change 25 has been accepted for processing by the Council and recently notified for public submissions. That plan change applies to Future Urban zoned land west of SH1 and west of the subject site. It proposes a variety of residential zones and an area of business zone.

5. site and context analysis

site analysis

5.1 The following are the site's key urban design characteristics:

a. That part of the site controlled directly by Warkworth Land Company Ltd is approximately 54.7ha. It is on the eastern side of State Highway 1 immediately north of the Warkworth show grounds. The site as a whole is 102ha, and 'wraps around' the show grounds to include land north

and east of it. The site's eastern boundary is Matakana Road and Clayden Road.

b. The site sits at the northern 'top' of Warkworth and is zoned Future Urban zone in the AUP: OP. This zoning denotes that the land is suitable for urban zoning, with a Plan Change process needed to enable 'live' zoning.

c. The dominant feature of the site is a continuous, north-east to south-west orientated steam and gully feature. It crosses the entire site. In the southern part of the site, it runs adjacent to the eastern boundary of the show grounds, and has an area of protected bush to its west. Topographically, the land on the south-eastern side of the central gully has a smoother and more even gradient downwards; on the north-western side the contour is more jagged / serrated in plan.

d. The site has an undulating to steep contour, with over 60m fall across the 800m wide (approx.) site. Roading patterns should be carefully considered to achieve reasonable gradients and, wherever possible, to reduce the need for large retaining walls between lots. In practical terms, the central stream and gully will create a degree of severance through the site, with few crossings likely to be viable. This is of itself unremarkable in the context of urban stream corridors, and can be seen across Warkworth such as at Blue Gum Drive / Hauiti Drive, or Pound Street / Whittaker Road.

e. The ridgeline to the north and north-west of the site, just beyond the site boundary visually contains the site. House platform levels, heights, and landscape remediation planting need to be considered to help maintain views of the ridgeline from within the site and from its surrounds.

f. The ground conditions are varied across the site. The applicant's Geotechnical engineer has identified the mid north-west corner of the site as being unstable ground. Stabilization will be required for residential development to take place.

g. There are a number of streams running through the site, ranging from ephemeral watercourses to permanent watercourses and areas of wetland/boggy habitat. The streams with the highest amenity and ecological value have been identified and should, where possible, be maintained or enhanced.

h. There are areas of substantial vegetation on the site, that are protected through a covenant on the title. Development should integrate positively with and otherwise recognise the amenity value of the bush areas.

i. The site interfaces directly with the showgrounds along its southern and western boundary. The boundary is located midway up a steep landform that encloses the showgrounds to the north. There is a

pedestrian walkway part way up the rise of this landform, located within the showgrounds.

j. The site's southern boundary is with an existing suburban residential area (Northwood Close / Ashwood Crescent). The boundary is defined by a row of houses 'backing onto' the boundary. These lots are typically 750m2 – 1000m2 in area. The Kowhai Park reserve is a long, crescent-shaped and bushed reserve. It continues the central stream from the site and conveys it to the Mahurangi River very close to the Warkworth town centre.

k. The majority of the land east of the site is rural / undeveloped at this time, although a small pocket of housing sits between Clayden Road and Matakana Road. These houses (approximately 15) have a typical lot size of 2,000m2.

l. Primary views from the site are south-east from the site back towards Warkworth township, with secondary views towards the northwest ridge and beyond to the Dome Valley forest.

site opportunities

5.2 On the basis of the above analysis, the following are the site's key urban design opportunities:

a. The site is in close proximity to existing State Highway 1 and the under-construction Warkworth bypass (future SH1). The site has very convenient access to an interchange between the current and future SH1s.

b. The site is close to a zoned industrial area and this offers very convenient employment opportunities for the site. The industrial area also provides for larger-scale buildings and this will inherently soften the visual impact of urban development on the site, including from the Warkworth show grounds.

c. The site is very close to the Warkworth show grounds, providing recreational opportunity for new residents. If possible, it would be desirable to provide direct access from the site to the show grounds.

d. On the basis of the above proximity of transport links, employment land and a large public open space, and also the site's undulating topography, it is considered to be best suited for predominantly residential activities ranging from standard (400m2 – 600m2 lots) to medium (150m2 – 350m2 lots) densities.

e. The site has been identified as the route for a planned transport upgrade, the "Matakana Link Road". This offers itself as a logical means of integrating the site into north Warkworth.

f. The site's undulations and slopes are also constraints to be considered, but they also offer opportunities for outlook and views across the Warkworth basin and to the show grounds as a local focal point.

g. Streams through the site (draining to the south) are also constraints but they offer opportunity for natural amenity and a site-specific character to be developed that could differentiate the site from a generic suburban expansion.

h. Being predominantly in pasture and clear of any areas of important vegetation (other than the stream gullies), the site contains no historic heritage, ecological areas or other constraints on development.

i. The site is large enough that it can accommodate a comprehensively planned residential outcome. Such approaches are considered most likely to result in high quality and well-coordinated built form outcomes.

site constraints

5.3 On the basis of the above analysis, the following are the site's key urban design constraints:

a. The site's undulations and streams will set in train fundamental landform modification (engineering) limits when considered in terms of maximum plausible road gradients and maximum plausible lot gradients. This will in turn dictate maximum densities achievable. The central stream and gully will also limit the extent of east-west connectivity that is possible.

b. In urban design terms, and in terms of the Council's Structure Plan preference for a Large Lot Residential / low-density outcome on the slope immediately north of the show grounds, the slope has no urban design significance and does not form part of any logical or observable pattern of low-density transitions at the Warkworth perimeter. Its proximity to employment, open space and transport facilities suggest that it should be developed for higher rather than lower density outcomes.

c. Although in urban design terms 'park edge roads' are the preferred response to public open space edges, the site's stream corridors are understood to generally be less than required to trigger a public esplanade reserve response. In conjunction with this, the gradient of some of the steeply-incised stream edges raises practical questions of whether a public road edge would be practicably achieved. The upshot of this is that park edge roads along the stream corridor edges may not be consistently achievable.

d. Being at Warkworth's current northern planning boundary, consideration of how to manage that urban – rural edge is important. In that respect,

the Countryside Living zone to the immediate north is considered to provide an urban-rural transition, and in real-world terms development could occur in the future to Goatley Road (as the more 'natural' growth boundary). The most consistent 'edge' condition around Warkworth to date has also tended to be of 'hard' edges with waterways and rural zones. As a result, some recognition of minimising clutter along the ridgeline (such as managing building heights) would be appropriate. In a general sense, highest density housing is suitable at the lower southern 'base' of the site and around the stream corridors. The northern 'top' of the site does lend itself to lower density housing in recognition of the 'edge' issue as well as the increased physical separation at the top of the site from amenities, services and transport options.

e. The Matakana Link Road will not be suitable for direct property access, and this does imply a density sufficiently high so as to justify the additional space and cost of providing rear lane access along that road. That the road would also be the one most likely to accommodate cycle and bus facilities in the future does also reinforce its compatibility with higher density housing.

6. the proposal

6.1 The proposal has been fully described in the application documents prepared by Tattico Ltd. Of note are the proposed Precinct Plans (sheets SK-001 to SK-004, rev. D) and A Studio's concept master plan for the Warkworth Land Company Ltd land. However, specifically in terms of urban design its key characteristics are:

a. The site is proposed to be re-zoned to a combination of Mixed Housing Urban ("MHUZ" 52.2ha), Mixed Housing Suburban ("MHSZ", 20.3ha), Single House ("SHZ", 10.4ha), and Large Lot Residential ("LLRZ", 13.9ha) zones. A thin, 0.78ha sliver of Business: Light Industry zone ("LIZ") is proposed along the western edge of the zone, to adjoin an existing area of that zone, and a small, 0.17ha area of Neighbourhood Centre zone ("NCZ") is also proposed. The proposed zone boundaries have been derived from a combination of considering logical future road links, land topography, and (for the Warkworth Land Company Ltd land) a concept master plan to help identify logical block dimensions and widths.

b. There is an area of Countryside Living Zone ("CLZ", 0.54ha) proposed adjacent to the northern boundary, along the ridge line, intended to be incorporated with the adjoining northern lot.

c. The proposed NCZ is located at the intersection of Matakana Link Road and the principal 'internal' road identified on the proposed Precinct Plan. This small area of local shops and services would take its access from

the secondary road, and would accommodate a likely 900m2 GFA of single-storey commercial use.

d. On the 'northern' part of the site, the MHUZ has been proposed along the lower, flatter part of the site and adjacent to the major stream and vegetation corridor. The MHSZ has been proposed mid slope towards the north, to transition between MHUZ density and the SHZ that has been proposed on the site's upper northern slopes. The LLRZ has been proposed around a knoll feature at the site's north-western corner.

e. On the 'southern' part of the site, the MHUZ has been proposed for the majority of the land and wrapping around the show grounds. MUSZ has been proposed adjacent to the southern boundary so as to act as a compatible interface with the existing suburban development immediately south of the site.

f. Complementing the land use zones, it is proposed to identify through a Precinct Plan (sheet SK-004) the major stream corridors to be protected (although it is understood none of those on the subject site would be wide enough to trigger a 20m Esplanade Reserve), and Matakana Link Road. A potential local purpose (neighbourhood) reserve adjoining the major stream corridor and the knoll feature have also been identified, although that would be subject to the formal subdivision process to be confirmed.

g. Across the site, areas of protected bush and streams are proposed to be zoned urban rather than as open space zone. That is not intended to remove any existing bush protections or indicate that esplanade reserves may not happen; it is to give all land an underlying zone and is in that respect unremarkable.

h. It is also proposed to impose additional restrictions on landscaping and the placement of buildings relative to Clayden Road / the site's northern ridge so as to help maintain that feature and the legibility of the township's 'bowl' feature. (sheet SK-003).

i. Specific Precinct provisions proposed that go beyond the 'normal' AUP: OP zone controls, and which will help to implement the Precinct Plan maps, include of note:

    i. A special yard setback of 6m that must be landscaped with at least 50% native specimens. This will help to keep buildings clear of the site's northern boundary and ridgeline.

    ii. A special landscaped area to be kept clear of buildings (excluding boundary fences). This reflects key landscape features within the site identified with input from the Council's staff.

    iii. A special subdivision control requiring a minimum 1,000m2 net site area. This will ensure that land along the northern top of the

site will transition to a lower density, and generally visually soften the 'top' of the development line.

iv. A landscaping buffer area between the residential zones and the LIZ at the western end of the site.

v. Restrictions on building height near the northern top of the site so as to help retain key landscape features identified with input from the Council's staff.

vi. The Precinct Plan also contains key road corridors and pedestrian / cycle linkages. Although these are indicative, requirements in the proposed resource consent assessment process would require them to be specifically addressed.

vii. Resource consent assessment matters requiring specific urban design issues to be addressed including the preference for park-edge roads where that is practicable and to maximise opportunities for passive surveillance from future dwellings across public open spaces.

j. Future built form is otherwise proposed to be managed by the standard provisions and consent requirements of the MHUZ, MHSZ, SHZ and LLRZ respectively.

k. The proposal is accompanied by a concept master plan for the Warkworth Land Company Ltd land prepared by A Studio Architects, which shows an indicative subdivision layout for the site. It is not proposed to insert the concept master plan into the AUP: OP or use it as the "final" subdivision plan for development of the site. It is instead intended to help test and analyse the suitability of the site for the land use zones and planning methods proposed. Given that it applies to the most challenging land within the site, it has also been used as a basis to extrapolate the kind and type of urban form outcomes possible on the remainder of the site.

l. The south-west corner of the site has been identified as possible location for a sporting facility, or other similar activity complementary to the adjoining showgrounds.

m. The concept masterplan for the Warkworth Land Company Ltd land illustrates a possible subdivision layout that maintains the area of protected bush identified on the Council Structure Plan for Warkworth.

n. The concept masterplan illustrates roading connections to neighbouring lots identified within the precinct boundary to enable development of density consistent with the precinct plan.

o. The concept master plan and precinct plans demonstrate the inclusion of the pedestrian walkway network (albeit slightly modified in places), that was identified in the Auckland Council Structure plan.

7. assessment

the development should contribute to a quality compact urban form that supports and enhances Warkworth township

7.1 This topic is primarily derived from B2.2.1(1), B2.2.2(4), B2.6.1(1), B2.6.2(1), and Appendix 1 in the AUP: OP.

7.2 In our opinion the proposal will successfully contribute to the quality compact urban form sought for Auckland, and also both support and enhance Warkworth Township. Our key reasons for this are:

a. The site is within an area of Future Urban zone, and as such has been previously identified by the Council as broadly suitable for urbanisation in line with the quality compact urban form sought. Proposed Precinct objectives I552.2(1) and (2) complement this by promoting efficient use of that land so as to reduce pressure on further future expansion of Warkworth.

b. The site is proximate to industrial-zoned land, a major community recreation facility, and open space amenity by way of the green network corridors to be protected and enhanced through subdivision. It is also proximate to strategic transport networks. Because of these factors, the site is compatible with standard to medium-density residential developments in terms of facilitating walkable access to several daily need activities and promoting the efficient use of land. However, the site is still at the northern edge of Warkworth and a degree of cycling, driving or (future) bus use will also be necessary. When considered in conjunction with the site's slope, the combination of MHSZ and SHZ proposed are considered to strike a good balance between all of these. Proposed precinct policies I552.3(1), (2) and (3) provide for an appropriate distribution of housing densities.

c. The site is approximately 1.5km from the Town Centre (as the crow flies). It is likely to exceed 2km once real-world routes and road crossings are factored in. On that basis we consider that pedestrian trips from the site to the Town Centre would be infrequent. The distance would however be convenient from the point of view of a cycle (or e-cycle) or e-scooter, and it is likely that a number of non-vehicular trips to the town centre from the site would occur once the FUZ and necessary transport routes have all been constructed. Proposed Precinct policies I552.3(6) and (7) are desirable in that respect.

d. The LLRZ is not of itself considered efficient or desirable in urban design terms, but we are advised that it is being proposed in recognition of landscape-based preferences of Council staff involved in the Warkworth Structure Plan. It is acknowledged that the knoll feature can be discerned from the Warkworth showgrounds. While we do not consider there is a valid urban design case to protect the knoll from urban development, we also do not consider that any urban design concerns are likely to arise from its protection from a more efficient type of development. This is largely because the knoll feature is relatively small in the context of the site as a whole. Proposed Precinct policies I552.3(4) and (5) will also complement this strategy.

e. A small neighbourhood centre, included based on feedback from the Council's staff, will not detract from the Warkworth Town Centre, but will provide daily-need goods and services to locals.

f. Provision of the Matakana Link Road is an important means of integrating the site with the urban area to its south, and linking the site into the town other than via the SH1 connection. Matakana Link Road is also a very important project in the scheme of unlocking Warkworth's existing traffic problems, and its inclusion in the proposal is seen as a positive urban design outcome.

g. The master plan tests undertaken by A Studio Architects for the Warkworth Land Company Ltd land have had input from the applicant's traffic and civil engineers, particularly in terms of road alignments and gradients. This gives us confidence that despite the site's slope, a logical and well-connected street network that is convenient and safety for pedestrians and cyclists will be possible.

h. The concept masterplan demonstrates how direct access from the site to the Warkworth show grounds could be achieved from a park edge road located on the south boundary.

i. The combination of MHUZ, MHSZ, SHZ, and LLRZ proposed for the site is consistent with the distribution of zones and densities identified in the Council's Warkworth Structure Plan on sites adjacent to the subject site. This gives us confidence that the proposal is not seeking a disproportionate or inappropriately high density at the township's edge.

j. That the land to be re-zoned sits entirely within the sloping 'bowl' that encircles Warkworth, and which can be seen to have been urbanised to the south and (in part) west. In this respect we consider the proposal, when developed, would appear to be a logical, contiguous and coherent part of Warkworth.

k. In terms of the Rural - Countryside Living zone north of the subject site, we consider that this is inherently a form of urban-rural buffer zone and that through the AUP: OP the land was zoned with the future urbanisation

of the Future Urban zone to its immediate south (the subject site) in mind. We do not consider that the proposal will create any particular urban design effects of concern on that land. We also note that the proposed distribution of density near the site's norther ridge will limit visual and other effects from the proposal on that land to the north. Proposed Precinct policies I552.3(3) and (4) will also help to ensure an appropriate interface is achieved.

l. The small NCZ proposed will provide for a small range of basic daily-need conveniences (typified by a dairy or takeaway bar) that will contribute to local residents' wellbeing without substituting the majority of services and activities available in Warkworth town centre.

7.3 On the basis of the above, we consider that:

a. In terms of the relevant AUP: OP provisions, we consider the proposal is consistent with the built-form outcomes sought including the circumstances where re-zoning Future Urban zoned land. We consider the proposal will maintain the coherence and compact qualities of Warkworth.

b. The proposal will result in a number of adverse effects in relation to a quality compact urban form. These notably include likely landform modification and loss of what is a pleasant green backdrop to the Warkworth showgrounds. The proposal will also generate additional vehicular trips including commuter trips using the new SH1. We consider that in urban design terms these effects are in line with what is typically observed in new green field developments, and the proximity of open spaces and employment land to the site means it is better positioned than many Future Urban zoned sites across Auckland to accommodate non-vehicular transport. The proposal will also provide positive urban design effects, including a provision of housing in a way that will promote better use and integration of the existing show grounds. A key positive effect is in our opinion the provision of housing that will use the Warkworth Town Centre. Once the SH1 bypass is constructed, the Town Centre will be more reliant on its own local catchment as through traffic is diverted away from it. Overall and on balance, the proposal's urban design effects are unremarkable for green field development, and in terms of adverse effects these are not considered problematic or inappropriate.

c. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported. It will reinforce and support the Town Centre and enable housing in a location and on a site that is well suited to it.

the development should achieve a well-connected, integrated built form outcome, with residential areas having high amenity, and being healthy, attractive and safe

7.4 This topic is primarily derived from B2.3.1(1), B2.3.1(3), B2.3.2(1), B2.3.2(2), B2.4.1(2), B2.4.2(8), B2.4.2(9), B2.6.1(1), B2.6.2(1) and Appendix 1 in the AUP: OP.

7.5 In our opinion the proposal will achieve this outcome. Our key reasons for this conclusion are:

a. The default approach within the AUP: OP for urban development is that either subdivision is required before multiple dwellings can be constructed, or resource consent for an integrated residential development / multiple units on a site must be obtained. Following either pathway, the standard E38 (urban subdivision) or residential zone provisions (H3 - SHZ; H4 - MHSZ; and H5 - MHUZ) require high quality, well-connected, and well-integrated built form outcomes to be achieved. The Proposal is premised on adopting / continuing that approach, with additional site-specific requirements added to that 'standard' matrix. These include policies I552.3(2) – (5), and rules I552.6.1 – 5.

b. Based on the A Studio master plan test for the Warkworth Land Company Ltd land, an outcome that includes almost no rear lots is possible. This makes it more certain that most future residents will enjoy the spacious outlook depth of a street (approximately 20m+ in total between buildings). This would considerably exceed the AUP: OP minimum outlook space requirement. Once the site's sloping aspect is also considered, many units will have views either to the site's central stream / gully feature, to the show grounds, or across the Warkworth basin.

c. The green network / stream corridors on the site, and which connect to a larger network immediately off-site to the south, will provide a spacious green visual amenity within the site. This will add amenity and interest, accommodate birdlife, and also help to visually separate streets and houses. In our opinion this will be a key and positive urban amenity feature of the development. Based on the concept master plan and our analysis of Precinct Plan sheets SK-002 and SK-003, it is very likely that all units on the site would be within a 400m walk of either the Warkworth showgrounds or an on-site open space (including areas of protected bush). Our analysis is that most units would in fact be within 200m of such open spaces whether it be for direct physical access / use or visual amenity.

d. Provision of an indicative / future recreation reserve associated with the principal green network is a logical co-location and will help make it a focal point on the site. This is also a very legible and prominent location, and would be convenient for residents to access and use. This will contribute to public health outcomes. This location differs to one shown on the Council structure plan, but we consider this irrelevant; there are a number of locations along the central stream corridor that could accommodate a recreation reserve that serves the community's needs and it is the subdivision process that allows such a location to be finalised.

In terms of the location shown on the Precinct Plan, we consider that this is appropriate compared to the Structure Plan location, which while arguably providing a more equitable placement of reserves (in conjunction with the Warkworth showgrounds) across the land, does not account for the lower density (less users) likely to be living in the eastern and northern parts of the site on account of the MHSZ, SHZ and LLRZ proposed. The location proposed on the Precinct Plan better serves a likely denser immediate local population (MHUZ, MHSZ and SHZ) and reflects that the show grounds will not always be available for casual use by local residents (for instance at peak organised sports team use).

e. Strategically, inclusion of the planned Matakana Link Road will serve connectivity. In terms of on-site development, the A Studio master plan tests show that a well-connected series of blocks that are conveniently walkable will be possible, in line with the AUP: OP urban subdivision policy framework. The indicative network shown on the A Studio master plans has been subject to engineering review and reflects a realistic / possible solution rather than an exercise in purely blue-sky thinking. In our opinion once the green network and Matakana Link Road are in place, the remainder of the network delivered in the Warkworth Land Company land is likely to be very similar to that shown on the concept master plan.

f. It is understood that Auckland Transport intends to require Matakana Link Road to be a limited access road, and hence no residential properties front it are envisaged as being able to have direct vehicle access. This is reflected in proposed Precinct rule I552.6.3. The A Studio concept master plan indicates one solution showing how this could be achieved (hither density housing served by a rear laneway), but there are a variety of techniques that can be used to access lots other than from Matakana Link Road. We considered whether there was a need for any Precinct provisions to further manage this, however determined that the issue was so generic and commonplace across Auckland that it could be managed through the AUP: OP's standard subdivision process (which Auckland Transport would be part of).

g. We consider that the concept master plan and the AUP: OP urban subdivision provisions will ensure that a walkable and safe (well overlooked) street network will eventuate. Proposed Precinct policy I552.3(7) in conjunction with subdivision restriction of discretion E38.12.1(7) will in our opinion ensure that a high-quality walking and cycling outcome will be achieved. Specifically, we note the following that we consider make it particularly improbable that a low-quality walking or cycling outcome could occur (our emphasis added):

    - The proposed Precinct Plan SK-003 shows an extensive network of indicative greenway (pedestrian / cycle routes based on or near public open space, which could be along roads or through a public reserve) along the central stream / gully feature and that in total provides five connections to land beyond the site.

- E38.12.1(7)(a): *the effect of the design and layout of sites to achieve the purposes of the zone or zones and to provide safe legible and convenient access to a legal road*

- E38.12.1.7(e): *the effect of the layout, design and pattern of blocks and roads in so far as they contribute to enabling a liveable, walkable and connected neighbourhood*

h. Specific E38 policies that relate to the matter, and which would need to be considered at the time of subdivision, include: (our emphasis added):

- *E38.3(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) is easy and safe to use for pedestrians and cyclists;*
    - *(ii) is connected with a variety of routes within the immediate neighbourhood and between adjacent land areas; and*
    - *(iii) is connected to public transport, shops, schools, employment, open spaces and other amenities; and*
  - *(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.*

- *E38.3(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.*

i. On the basis of the above, we do not consider it is necessary to add any further regulations to the Precinct provisions so as to ensure a well-connected and high-quality network of walking and cycling routes eventuates. We also note that in practical terms, it is difficult to identify explicit route requirements when the final road network and extent of public open space (what portion of stream margins will be public esplanade reserves and what will be privately owned, and in turn what proportion of publicly owned land will be suitable for pathways and tracks) is unknown. Similarly, although the A Studio Ltd concept master plan indicates potential for a number of east-west linkages across the central stream / gully feature, these cannot be confirmed until the time of subdivision, including whether or not the Council would actually support

or accept structures in an esplanade reserve or stream depending on the ground conditions and real-world requirements of a given crossing point (including maintenance costs). We are familiar with a number of examples across Auckland where the Council has itself sought to not require assets or outcomes it has imposed on Precinct Plans to benefit pedestrians and cyclists, because it does not wish to incur the capital or maintenance costs of these once they have been identified at the time of a resource consent application (including Flat Bush and Clevedon). These examples are in our view indicative of planning provisions drafted with inadequate understanding of real-world ground conditions.

j. On the basis that the AUP: OP has adopted more of an assessment-based framework for resource consents than a compliance or conformance-based one, we see that the proposal's indicative approach to road alignments, pedestrian / cycle path routes and locations, and public reserves as being unremarkable.

k. The proposal will rely largely on the AUP: OP zone rules in terms of built form character and visual quality, and it is noted that for the MHSZ part of the subject site, multi-unit housing would in almost all cases trigger a land use consent requirement, where design quality is a key restriction of discretion / assessment matter. We considered whether there was any particular 'Warkworth' built form character that could be discerned and meaningfully provided for such as via site-specific design guidelines or assessment matters. In our opinion there is no specific or relevant residential character precedents or character considerations in Warkworth that would warrant this. We do not foresee any problematic adverse urban design effects likely in this respect.

l. As noted previously, a direct transport connection from the site to the show grounds would be very desirable, however on the basis of topography only a pedestrian / cycle linkage may be likely. In any event such a connection would be investigated through a future subdivision process with the benefit of a specific proposal and detailed plans and cross sections. We considered whether a specific assessment matter should be added to the Precinct however concluded that the general subdivision policies and assessment matters are already sufficient to ensure such an opportunity is considered properly.

m. Overall, the pattern of zones proposed and their sizes is logical, responds suitably to the site's landform characteristics and opportunities to promote density where it will have the least adverse effects and enable the most convenient access to open space and transport facilities. We consider it is well-integrated with both the landform context and also the urban context of Warkworth and the likely growth pattern identified in the Council's Structure Plan.

7.6 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal would result in subdivision and development outcomes that are in line with the outcomes sought by the AUP: OP. The design process followed, Precinct Plan and associated Precinct provisions proposed will be successful at avoiding, remedying or mitigating potential urban design effects. The proposal will also result in positive urban design effects, including provision of on-site open space amenity and integrated built form outcome.

b. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

non-residential activities support the needs of people and the local community

7.7 This topic is primarily derived from B2.3.1(1), B2.4.1(5), B2.4.2(10), B2.5.1(3), B2.5.2(7) and Appendix 1 in the AUP: OP.

7.8 The proposal in our opinion will support non-residential activities in Warkworth. It will also do so in a way that will not result in problematic amenity effects between employment and residential activities. Our key reasons for this conclusion are:

a. The PPC provides for 1,700m2 of NCZ land (likely to deliver approximately 900m2 maximum of GFA across a single level) and, adjacent to the show grounds, opportunity for a special recreational use overlay. That overlay sits on top of MHUZ land, and in conjunction with Precinct policy I552.3(8), rule I552.4.1(A1), and assessment matters at I552.7.2(2) we understand that this would enable an indoor-sport facility in a residentially compatible way. We consider that this would complement the show grounds, is efficiently and logically located between the show grounds and the future Matakana Link Road, and would maintain the amenity values of the new neighbourhood.

b. In terms of the NCZ, this is located centrally and conveniently within the development. Having a corner on the Matakana Link Road will be important to help improve its legibility and expose it to passing traffic. Parking and vehicle access would be from a side street and not from Matakana Link Road. Its dimensions are approximately 55m x 30m. The A-Studio master plan indicates a relatively intensive outcome where buildings front most of the NCZ's three road frontages, but a more likely scenario is a 'southern' building fronting Matakana Link Road and the internal north-south road, with a car parking area in the northern half of the site. In any event, a resource consent process would resolve a specific design for that in time. It is noted that our expectation is that the NCZ would be developed relatively late in the piece; it would require most of the houses enabled by the PPC to be built to create the necessary market needed for shop trading.

c. The proposal will support local employment areas and the Warkworth Town Centre, largely by providing local employee / residents that will service those areas. The NCZ centre will be of a very small scale, and provide basic daily-need conveniences only. The centre was not originally proposed in the PPC but was added at the request of the Council staff. We do not regard it as essential as the relatively isolated context of Warkworth means that residents would have instead spent more time and money in Warkworth town centre rather than not all. However, we also do not oppose the small centre now proposed and consider that it will provide more convenient access to basic goods and services than the Warkworth town centre.

d. There is a small stream at the interface between the residential zones proposed in this PPC and the industrial zoned land to the west. The PPC includes a narrow strip of Business: Light Industry zone along this edge of the site. It is insufficient to accommodate any actual buildings or development, and it likely to remain undeveloped open space associated with the stream. This in conjunction with the applicable land use zone frameworks (and of note proposed Precinct rule I552.6.5 and assessment matter I552.7.2(1)(a)(x) requiring no complaints covenants in respect of the industrial zoned area and a heliport operation) will be sufficient to manage direct reverse sensitivity or other effects along the zone boundary.

e. In terms of the interface between the Light Industrial Zoned land and the proposed residential zone land, we have considered whether this is appropriate. Given how frequently the Council has zoned LIZ land directly abutting residential zoned land throughout Auckland in the AUP: OP, we have concluded that there is no resource management basis to suggest there is an inherent problem with the proposed arrangement but in any event the proposed landscaping requirement in the Special Landscape Area will ensure no interface-related adverse effects arise. We do however note that the presence of the stream along that interface is likely to result in a real-world edge to industrial activities west of the Site, and it in conjunction with the Special Landscape Area will deliver a more spacious and landscaped interface than will occur in many if not most cases across Auckland.

f. The proposal will not result in any problematic adverse or reverse sensitivity effects on the Warkworth show grounds. It is however noted that floodlighting of the playing fields could be regarded as a nuisance by future residents. On the whole however we consider that the abutment of residential activities and large parks (often with floodlighting) is quite common across urban Auckland and is of itself unremarkable.

7.9 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal would result in positive effects in terms of supporting existing non-

residential activities by way of increased customers or users in Warkworth, including the Town Centre, industrial zoned land, and the Warkworth show grounds.

c. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

the development should maintain or enhance the character of Warkworth township and the area, and provide adequately for infrastructure

7.10 This topic is primarily derived from B2.3.1(1), B2.3.2(1), B2.4.1(2), B2.4.2(8), B2.4.2(9), B2.6.1(1), B2.6.2(1), and Appendix 1 in the AUP: OP.

7.11 In our opinion the proposal will maintain and otherwise positively contribute to Warkworth's urban character values and does provide for infrastructure. Our key reasons for this conclusion are:

a. In terms of infrastructure, and in deference to the applicant's engineering reports, the PPC area would benefit from the new SH1 upgrade that is under construction. This will limit the generation of traffic from the site seeking to travel south of Warkworth seeking to travel directly through the township.

b. We understand that network infrastructure solutions and storm water solutions are viable and can be coordinated through the subdivision process. This would also coordinate on-site subdivision with the provision of the Matakana Link Road through the site.

c. The protection of the green network features on the site will also form part of a storm water management system that will slow and clean water before it exists the site and eventually enters the Mahurangi River.

d. In terms of the character of Warkworth:

i. As discussed previously, Warkworth has a mixed built form character, although it is composed or almost entirely 1-2 storey buildings. A wide variety of architectural and design styles are evident, and in recent times provision of more contemporary, compact dwellings on smaller lots (medium density housing) has occurred within the township. The proposal will be consistent and compatible with this.

ii. The block structure in Warkworth was historically rectilinear but in recent times as development has spread up onto the slopes of the encircling bowl around the town centre, a more curvilinear (but still well connected) block structure has developed. Based on the A

Studio concept master plan, it is likely that a compatible deformed grid based on curvilinear streets will occur on the site. We consider that this would be appropriate.

iii. In terms of the stream networks that criss-cross the Warkworth basin, these can be seen in serval instances to be protected with riparian planting and have development built adjacent to that. In some instances, a public road edge has been provided along these but for the most part these are 'backed onto' by development. While we would prefer that, where possible, a public road edge be provided along the site's green network, we do not consider that a failure to provide this consistently would result in any character-related urban design effect of concern. Overall, and particularly if viewed from the air, the site's green network will integrate with and form part of a visually interesting network of green fingers spreading across the basin and coalescing at the head of the Mahurangi River. We note that proposed Precinct assessment matter I552.7.2(1)(a)(vii) will help to ensure that where a park-edge road is not possible, proposed lots will be designed to accommodate stream retention.

iv. From within Warkworth, the medium-height 'bowl' wrapping around it can be seen, and (particularly the southern and parts of the western sides) residential development can be seen along and effectively to the top of it at Clayden Road. We consider that the proposal will continue this in a compatible manner, and that the distribution of zones (and the landscape and subdivision control overlays) will soften the 'top' of the development. Over the long term, the Warkworth 'bowl' will come to have urban development (predominantly housing) around it.

v. From the Warkworth show grounds, we consider that the most visually dominant view will be of the existing industrial zone, which provides for low visual quality, quite large buildings up to 20m in height. Against that backdrop the proposed residential subdivision will be the more attractive view. We consider that the site's rising slopes give the Warkworth show grounds a semi-amphitheatre quality, and will allow for views out across the show grounds that will be appropriate. Residents will be able to see activity at the showgrounds and may be inclined to visit it. We consider that this is desirable in an urban environment and as such the proposal will overall not result in problematic adverse urban design effects on the show grounds. We also note that protection of the small knoll feature is understood to be based on views of it from the show grounds.

vi. While the current view of a vacant rural hill visible from the show grounds will be lost, it should be kept in mind that the Future Urban zone that applies to the land does signal that the view will be lost in favour of urban development. We therefore do not

consider, in urban design terms, that development of the site itself undermines the character or amenity values of the show grounds; the facility was planned to sit within an urban environment, not sit at the edge of one. Because of this, and acknowledging that the change in visual character will be adverse to some in the community, overall we do not consider those adverse effects to be inappropriate.

vii. Currently access to the site is via SH1 close to an access point for the show grounds. A long driveway is lined by a characteristically rural long row of trees. It would be desirable to replicate this along the Matakana Link Road if possible in the future, in terms of the highest possible frequency of evenly spaced trees. This is however considered a matter that would be primarily for Auckland Transport to undertake and it may not wish to provide this. Our expectation is that the Link Road will not allow for direct property access along it, requiring rear lanes or similar. The avoidance of driveways interrupting the road edge will allow for a greater provision of street trees than is often seen along the sides of roads.

7.12 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal would result in an overall maintenance of the character and amenity of Warkworth as a (planned) medium-to-large stand-alone township. The design process followed, Precinct Plan and associated Precinct provisions proposed will be successful at avoiding, remedying or mitigating potential urban design effects.

b. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

open spaces should be well integrated and physically connected where possible

7.13 This topic is primarily derived from B2.2.1(1), B2.3.1(1), B2.3.1(3), B2.7.1(1), B2.7.2(1), B2.7.2(2), and Appendix 1 in the AUP: OP.

7.14 In our opinion the proposal will appropriately integrate open spaces together. Our key reasons for this conclusion are:

a. The PPC provides for the retention and protection of the permanent and intermittent streams on the site, and their margins. The steep and in places deeply incised banks of the streams also means that in many places a width of riparian area much wider than 10m either side of the stream will occur. The A Studio concept master plan for the Warkworth

Land Company Ltd land suggests that in places a total green corridor width of up to 80m could be achieved on the site. This is in our opinion generous and visually very spacious.

b. The streams form part of an obvious and quite large-scale network of streams and continuous riparian vegetation cover that connect to the Mahurangi River. The component of this that is on the subject site will be protected, and it will connect seamlessly with the Kowhai Park reserve.

c. A potential local purpose (neighbourhood) reserve has been identified centrally within the site and connected to the principal green corridor. We consider this to be an ideal placement in terms of integration of the park within the site as a whole, and integration between the park and the green corridor. This park would be determined at the subdivision stage and would only occur if the Council supported it. We refer to earlier comments made in terms of the Council's structure plan and that it identifies a different location for such a park.

d. The proposal will relate suitably with the Warkworth showgrounds although the question of direct access has been raised earlier and would need to be addressed at the time of subdivision. We support such connection being made with the subject site, even if only by pedestrian / cycle link.

e. The A Studio master plan concept shows that a relatively direct link could be achievable, through the subdivision process, from the show grounds to Matakana Link Road, and then north along the site's principal internal spine road (a realignment of Clayden Road) along the western side of the principal green corridor and to the potential neighbourhood reserve. We consider that this is a logical and very intuitive route, as it uses the key roads. In our opinion, such a means of connection would be appropriate. Although the potential neighbourhood reserve is not proposed to physically connect with the show grounds, it is proposed to connect directly with the stream corridor.

f. As noted earlier, our preference would be for park-edge roads around all or at least a majority of the green corridors, as this is the optimal means of integrating these features into a new development. However, this will be dependent on the detailed engineering at subdivision stage and whether it is possible to align roads abutting these features (we would not support park-edge roads if they required substantial engineered structures such as retaining walls to hold them up). We considered whether a site-specific assessment matter might be appropriate for inclusion within the Precinct, but concluded that the existing AUP: OP urban subdivision provisions are sufficient to ensure this matter is properly addressed.

g. In terms of that part of the site east of the show grounds, much of this land is subject to a protected bush. East of that, there is an approximately 135m depth of land between the bush and Matakana Road. Based on a

typical road width of approximately 15m, and a typical (compact) lot depth of approximately 25m within each of the MHSZ and MHUZ, there would be sufficient space to accommodate a park-edge road along the edge of the bush, then a block, another local road, a second block, and then Matakana Road. This would be a preferred solution but would be validated through a subdivision consent application.

h. We understand that the proposal would only generate demand for one neighbourhood reserve, and that in any event the proximity of the Warkworth showgrounds (when it is not in use for organised sports) will meet the needs of many site residents anyway. On that basis, we have no concern that more open space than has been indicated would be required.

7.15 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal would result in an enhanced and better-connected open space network and land use integration than is currently the case. The design process followed, Precinct Plan and associated Precinct provisions proposed will be successful at avoiding, remedying or mitigating potential urban design effects.

c. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

reverse sensitivity effects with adjacent land uses are managed

7.16 This topic is primarily derived from B2.5.1(3), B2.5.2(10), B2.7.1(3), and Appendix 1 in the AUP: OP.

7.17 In our opinion, the proposal will successfully manage reverse sensitivity effects on adjacent activities. Our key reasons for this conclusion are:

a. As discussed earlier, the intensity and activity mix proposed is compatible with the characteristics of the land and in line with the site's Future Urban zoning.

b. As discussed earlier, the residential use of the land will not undermine the Rural – Countryside Living zone that sits north of the site, and that the Countryside Living zone was very likely put in place with the anticipation of urban zoning occurring on the subject site in mind. However, the provision of LLRZ on the subject site's knoll, and limitations on building height at the northern top of the subject site, will also limit visual or other effects from the proposal on the land to the north, and overall not compromise its ability to be put to Countryside Living use.

c. As discussed earlier, the residential use proposed will be compatible with the Warkworth show grounds and provide local users for it. The potential for nuisance effects caused by the show grounds flood lights was identified earlier as something that is relatively commonplace across Auckland between residential properties and larger sports parks, and overall not something that is likely to result in problematic reverse sensitivity effects. Management of the potential such as via a "no complaints" covenant were identified, and could be further considered at the time of subdivision if necessary.

d. As discussed earlier, the industrial-zoned land to the west is separated from the site by a stream and a thin sliver of LIZ proposed in the Precinct Plan, and the depth of its riparian planting buffer in addition to the underlying zone controls in each zone will be sufficient to ensure the industrial land is not undermined by the residential zones proposed. We also note that we have identified a number of instances in the AUP: OP where residential zoned land abuts the Business – Light Industry zone and we do not see that interface of itself being repugnant to the outcomes sought by the AUP: OP. The proposed no complaints covenant area will further safeguard this.

e. It is also noted that the A-Studio concept plaster plan shows a possible conversion of a small part of the industrial-zoned land into residential use (the portion on the eastern side of the stream that otherwise acts as a logical boundary between zones). We support such an outcome and see it as superior to retaining an isolated corner of industrial zone separated by a stream from the remainder of that zoned land.

f. We lastly note that a small part of the site does extend into the Countryside Living zone and is not proposed to change that zoning or applicable provisions, nor is it intended to be used to provide access into the re-zoned area of land. We also note that Future Urban zoned land sits outside of the site for a small area of land to the north-west of the site, and also to the east. In respect of these areas of land, we do not consider any reverse sensitivity effects of concern are likely; our analysis is that these areas of land will be zoned and developed for residential activity in due course.

7.18 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal would result in successfully planned mix of uses that will not give rise to any reverse sensitivity effects of concern. The design process followed, Precinct Plan and associated Precinct provisions proposed will be successful at avoiding, remedying or mitigating potential urban design effects.

d. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

the proposal should demonstrate how the site's opportunities and constraints have been positively responded to

7.19 At the fundamental design and layout level, the way in which a proposal responds to its site characteristics, opportunities and constraints is regarded by urban designers as one of the key ways that potential adverse effects can be avoided, remedied or mitigated (and that potential positive effects can be maximised). In this respect, this topic relates to all of the AUP: OP RPS provisions relevant to the PPC.

7.20 In our opinion, the proposal represents a logical and successful urban design response to its context. Our key reasons for this conclusion are:

a. The proposal is on land identified as suitable for urban development and zoned Future Urban.

b. The use of the site for residential activity is logical and will complement both the Warkworth Town centre and adjacent industrial zoned land.

c. The provision of higher density at the lower part of the site that is also the most connected to adjacent uses, and lower density land at the upper and more visually exposed part of the site, and also the use of the LLRZ to recognise an existing knoll feature, is an appropriate response to the site's landform and visual characteristics. It will also promote greater housing variety and choice in a future subdivision.

d. Provision for the planned Matakana Link Road and protection of existing green corridors (stream networks) will ensure the site is well integrated into its immediate neighbours and connect the site into Warkworth.

e. Subject to detailed subdivision consenting, the proposal will be able to integrate appropriately with the Warkworth show grounds and the site's green corridor, as well as a potential new neighbourhood reserve.

f. The A Studio concept master plan demonstrates that a high-quality subdivision exhibiting the qualities sought by chapters E38, H1, H3, and H4 of the AUP: OP can be achieved on the Warkworth Land Company Ltd land, and extrapolating from that, the balance of the PPC area. It also demonstrates that a well-connected street network and blocks of suitable dimensions can be accommodated on the site despite its sloping and undulating nature.

g. The intensity of residential activity proposed is considered compatible with that shown on the Council's Structure Plan for the site and sites adjacent to the subject site. In this respect, the proposed plan change will compatibly 'plug in' to that Plan.

h. The proposal is of a consistent type and intensity of activity to that proposed west of the subject site in the Warkworth North / Plan Change 25 proposal that is currently open for submissions.

7.21 On the basis of the above, we consider that:

a. In terms of any adverse urban design effects, we consider the proposal responds logically and appropriately to the site's opportunities and constraints. The design process followed, Precinct Plan and associated Precinct provisions proposed will be successful at avoiding, remedying or mitigating potential urban design effects.

b. In overall consideration of the above, we consider that the proposal represents the most appropriate urban design outcome for the PPC land and it is supported.

overall urban design merit

7.22 In light of the above analyses, we have turned our minds to a cumulative and overall assessment of urban design merit.

7.23 The proposal has followed a design-led process that has considered plausible alternatives and identified a well-designed and, in our opinion, the most-appropriate framework for the site. In our opinion the design process was comprehensive and of a depth that is commensurate to the scale and potential environmental effects that the PPC could give rise to.

7.24 We consider the proposal has been strengthened by inclusion of a concept master plan for the Warkworth Land Company Ltd part of it, to substantiate the land use zone outcomes that could be achieved. In our experience generally as well as with this specific proposal, the use of an indicative plan has allowed for a much deeper level of analytical scrutiny and gives us higher confidence as to what outcomes are likely to result from the proposed zones.

7.25 The proposed zone framework, provisions and Precinct Plan will ensure subdivision and development maintains the character of Warkworth. The concept master plan gives us confidence that the zones proposed will be of a sufficient size and design that the 'downstream' resource consent provisions triggered in AUP: OP chapters E38 (urban subdivision), H1 (large lot residential), H3 (single house), H4 (mixed housing suburban) can be comfortably met. Specifically:

a. A subdivision pattern that responds positively to the land's character is likely, based in part on the distribution of zones proposed.

b. A well-connected street pattern is possible, that limits or even avoids rear lots. This will maximise public space benefits while also providing private outdoor spaces behind houses.

c. A variety of lot sizes is very likely.

d. Open spaces will be provided for and can be suitably integrated into the subdivision (although as noted it is unlikely that an “ideal” provision of park edge roads will prove possible).

e. Streets are very likely to be well-overlooked and visually interesting spaces.

f. Residents will enjoy spacious outlook areas, often much deeper than the minimums provided for in the AUP: OP (the width of roads).

g. The development will promote walking trips to local employment and public open spaces, and while the Warkworth Town Centre is beyond a convenient walk, it would be conveniently cycled or e-scootered.

h. There are no reasons why the high-quality built form characters sought in the various residential zones cannot be achieved based on the information we have available to us.

7.26 On balance, we consider the proposal to adequately reflect the outcomes sought by the AUP: OP for land rezoning Future Urban zoned land, and that any adverse effects arising from subdivision and development of the land will be appropriate in urban design terms. Numerous positive effects are also likely, including for the existing community through provision of much greater housing and lifestyle choice than seems available under the existing zone framework, better integration and protection of the site’s green corridors, and provision of local catchment for the Warkworth show grounds and adjacent industrial zoned land.

8. conclusions

8.1 This report documents an independent analysis of an application for a Private Plan Change to re-zone approximately 102ha of land currently zoned Future Urban Zone, for Warkworth Land Company Ltd. The application has been made to Auckland Council under the Resource Management Act 1991 (“RMA”) in terms of the Auckland Unitary Plan (Operative in Part) “AUP: OP”. The key conclusions of this report are that:

a. The site has been identified as suitable for urban purposes through the Future Urban zone that applies to the land. The proposed combination of residential zones are appropriate given the site’s opportunities and constraints, and adjacent land’s characteristics including the Warkworth Showgrounds.

b. The proposal provides for an identified strategic road link (The Matakana Link Road), protection of existing watercourses and their margins, and

the land's natural contours and form (through management of building height and residential zone extent).

c. A concept master plan for the land directly controlled by Warkworth Land Company Ltd prepared by A-Studio, and which is intended to form a high-level guide to subsequent subdivision, demonstrates that the land is capable of delivering an integrated, well-connected and spatially coherent urban form outcome. We consider that this conclusion can be extrapolated to the balance of the PPC land due to the high-level direction given in the PPC provisions and Precinct Plans.

d. The proposed precinct provisions, including key road links and the green corridors, are sufficient to ensure the site-specific opportunities presented by the site's urbanisation can be safeguarded.

e. The mix of densities proposed will accommodate a variety of house and household types, serving housing choice in a way that concentrates density where it will be most effectively located (close to green or open spaces and key transport links).

f. The proposal is compatible with, but is different from, the Council's Structure Plan for Warkworth. It is understood that the Council's largely staff-drawn Structure Plan is non-statutory and is not intended to supersede or predetermine the formal and contestable plan-making process. The proposal is considered to have benefitted from a more substantial technical investigation than has been possible through the Council Structure Plan and this is considered to explain (and justify) the differences between the two.

g. The proposal is compatible with the proposed re-zoning being advanced through Private Plan Change 25, on land west of the site, and the two areas together provide a logical northern edge to Warkworth.

h. The proposal is compatible with the built form characteristics of Warkworth, and presents nothing out of the ordinary or remarkable that could be regarded as being out of step or conflicting.

i. The proposal will result in a number of adverse urban design effects, although none are considered to be unusual or severe in the context of rural-to-urban land re-zoning. Positive urban design effects will also occur or be enabled through future subdivision. Overall, the proposal is consistent with the quality compact urban form sought by the AUP: OP and the specific matters set out in Chapter B2: Urban Form.

8.2 The private plan change application could be accepted on urban design grounds and represents the most appropriate urban design solution for the site based on the information available to us.

ATTACHMENT D1

MASTERPLAN & PLAN SET BY ASTUDIOS

Warkworth: Clayden Road

A4 Concept Masterplan

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Concept Masterplan

Note:
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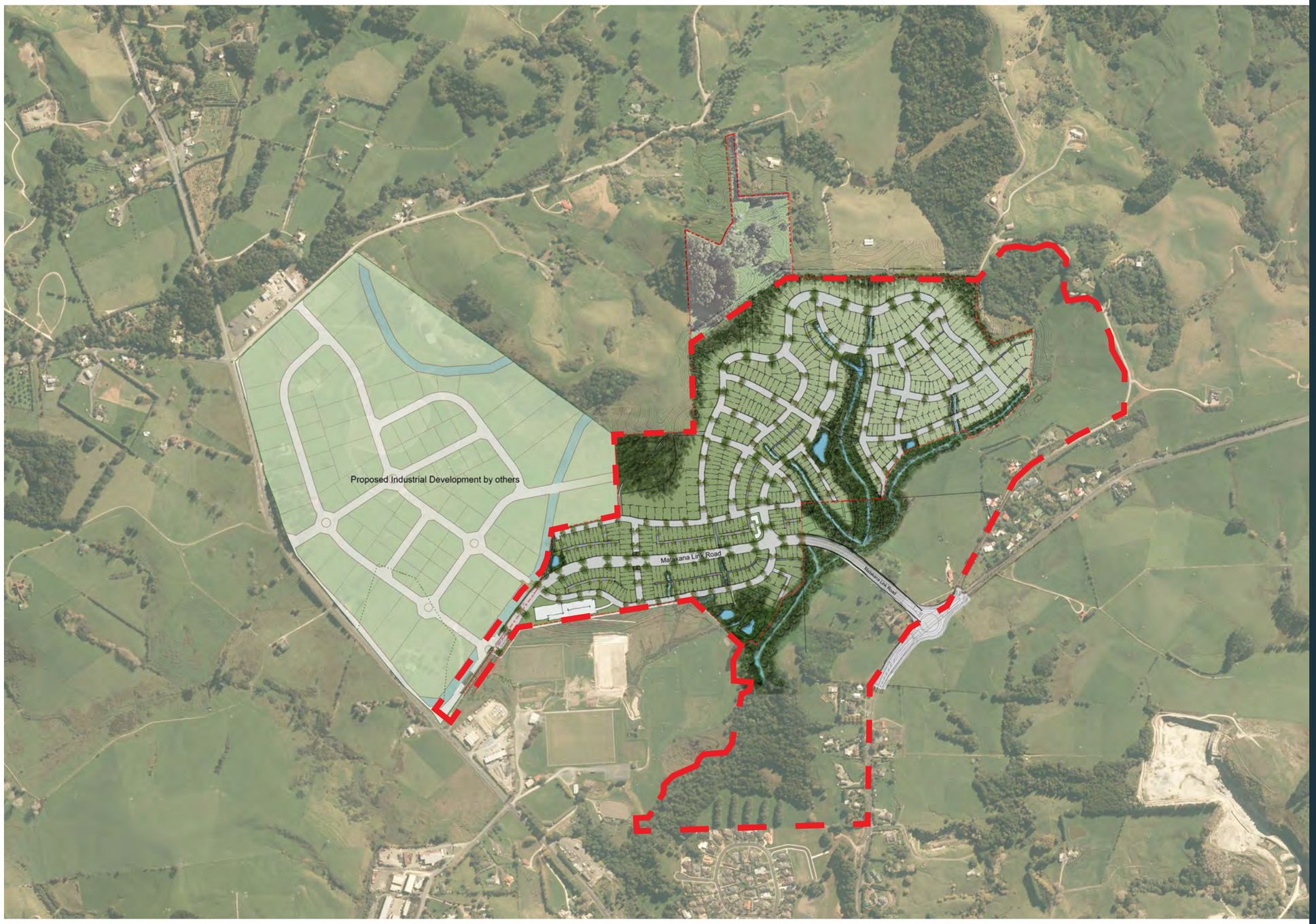
A Studio Architects takes no responsibility for information provided by others. We note that there are minor discrepancies between stream positions provided by consultants and have locations.

0 100 200 300m
Scale: 1.5000 @ A3

Proposed Context Plan



Note:
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0 2000 4000 6000m
Scale: 1.10000 @ A3

Warkworth: Clayden Road

A5 Concept Masterplan - Built Environment

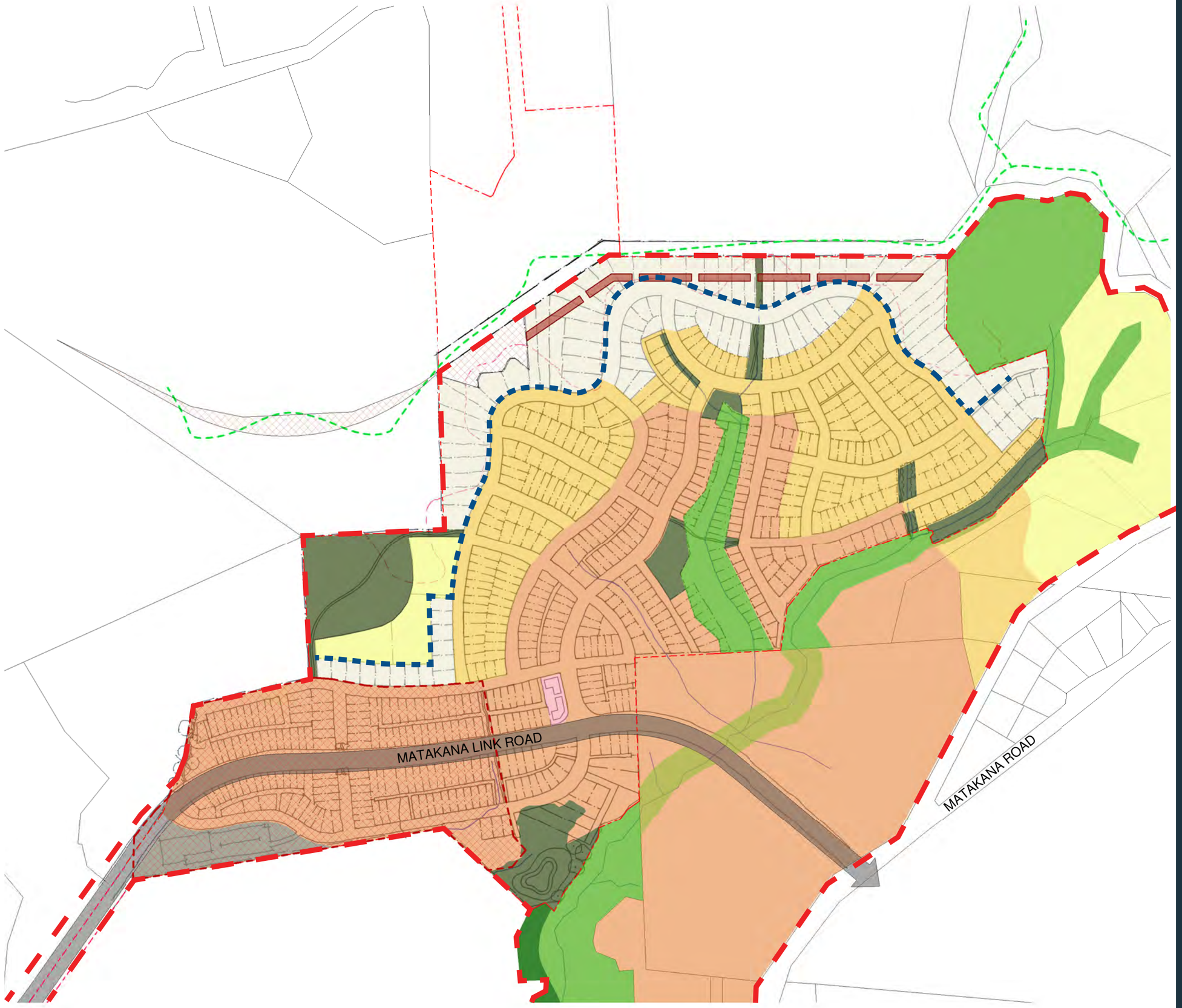
A STUDIO ARCHITECTS

DEVELOPMENT ADVISORY SERVICES

A5.1

Built Environment

Density Diagram



KEY

- WLC Site Boundary
- Precinct Boundary
- Lots with Height Restrictions
- Protected Bush Areas
- Open Space
- Recreational Open Space
- Esplanade Reserve
- Higher Density (Urban Zone)
- Medium Density (Suburban Zone)
- Standard Density (Single House Zone with additional restrictions.)
- Low Density (Large Lot Zone)
- Business - Neighbourhood Centre Zone
- Neighbourhood Centre Zone
- Sporting Facility or High Density Housing
- Special height limit 1
- Special height limit 2

Note:
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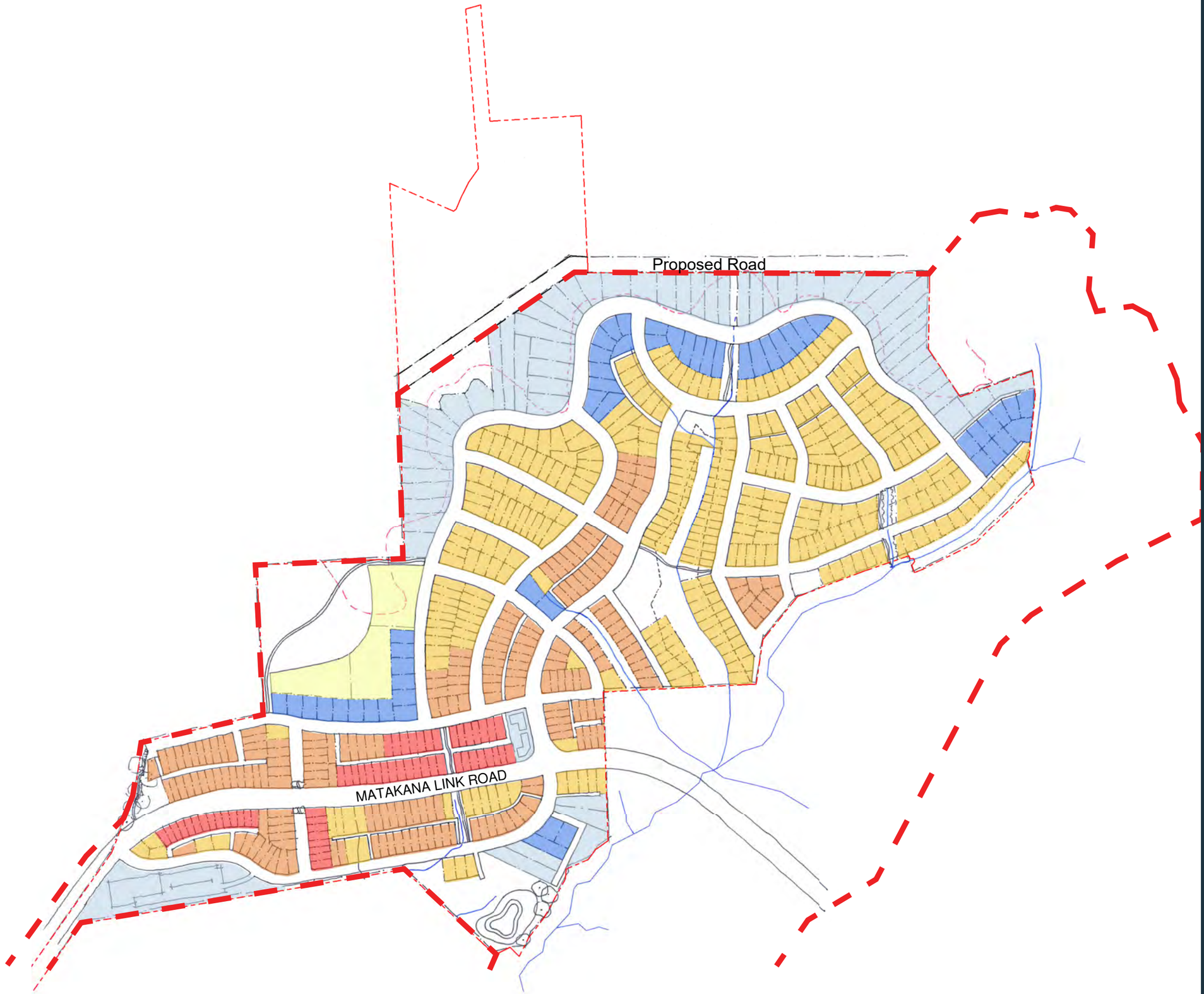
0 100 200 300m

Scale: 1.5000 @ A3

A5.2

Built Environment

Indicative Lot Sizes



KEY

- WLC Site Boundary
- Precinct Boundary

Lot Sizes	Numbers
200 - 299m ²	58
300 - 399m ²	207
400 - 599m ²	300
600 - 999m ²	52
1000m ² and over	56
4000m ² and over	3
TOTAL	676

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0 100 200 300m

Scale: 1.5000 @ A3

Built Environment

Transport

Key

- WLC Site Boundary
- Precinct Boundary
- Primary Road
- Secondary Road
- Local Road
- Park Edge Road
- COALS
- Possible Future Link

Note:
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0 100 200 300m

Scale: 1.5000 @ A3

A5.4

Built Environment

Pedestrian Linkage

KEY

- WLC Site Boundary
- Precinct Boundary
- Possible Greenway Routes
- Proposed Pedestrian Links
- Possible Pedestrian Links
- Indicative connections to neighbouring lots
- Recreation Area
- Possible public walkway and/or cycleway
- Public transport route

Note:
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0 100 200 300m

Scale: 1.5000 @ A3

Warkworth: Clayden Road

A6 Concept Masterplan - Natural Environment

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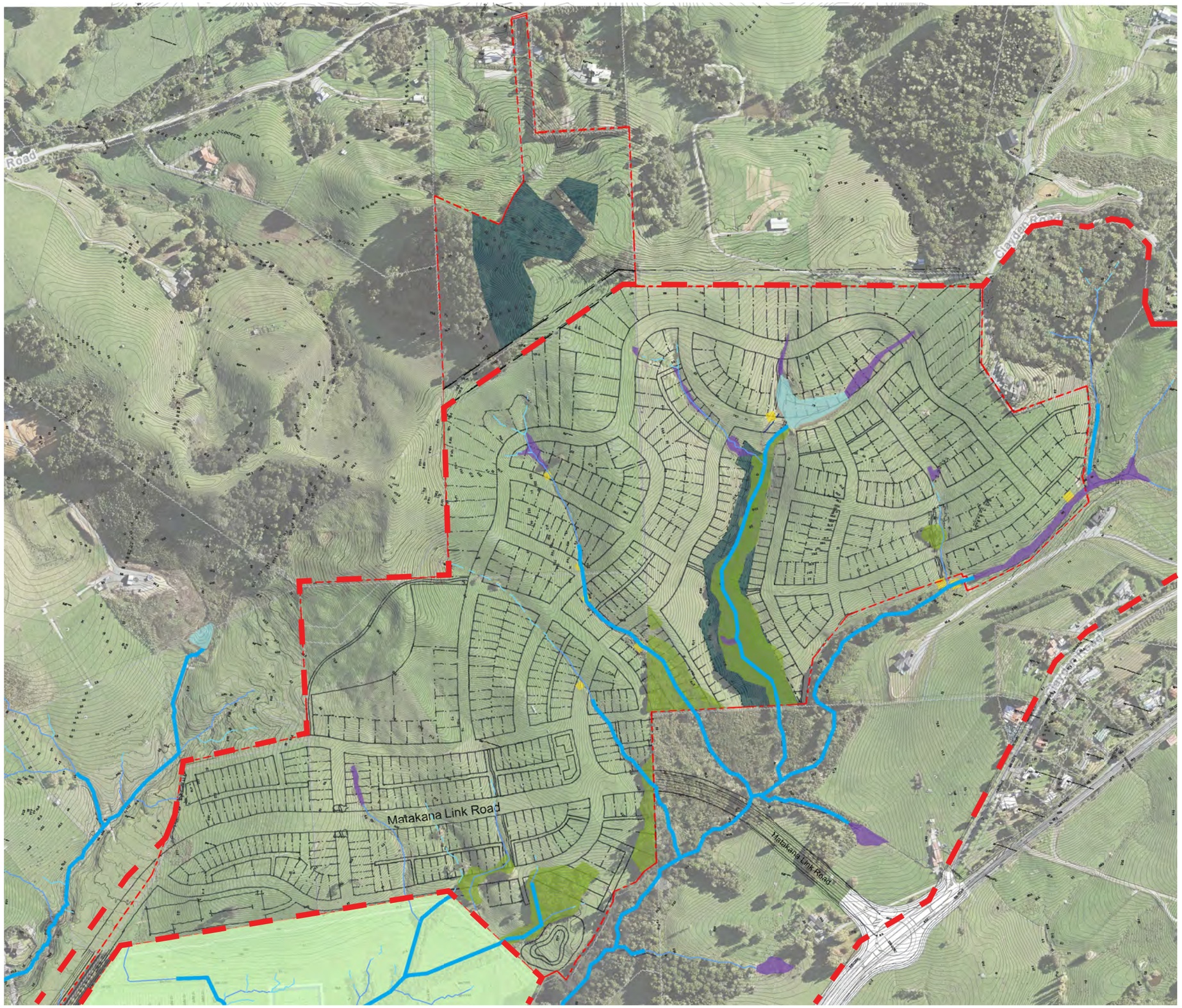
A6.1

Natural Environment

Concept Plan Overlay with Existing Features



KEY

- WLC Site Boundary
- Precinct Boundary
- Permanent Watercourse
- Intermittent Watercourse
- Ephemeral Watercourse
- Wetland
- Pond
- Existing Farm Crossings
- Extent of covenanted bush
- Substantial areas of Existing Bush
- Open Space - Sport and Active Recreation Zone

Note:
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0 100 200 300m

Scale: 1.5000 @ A3

A6.2

Natural Environment

Landscape Features

KEY

- WLC Site Boundary
- Precinct Boundary
- Stream Network to be incoporated into Masterplan.
- Proposed stormwater pond.
- Key areas of native restoration to connect with adjoining established bush and streams.
- Proposed native regenerative planting.
- Proposed open space.

Note:
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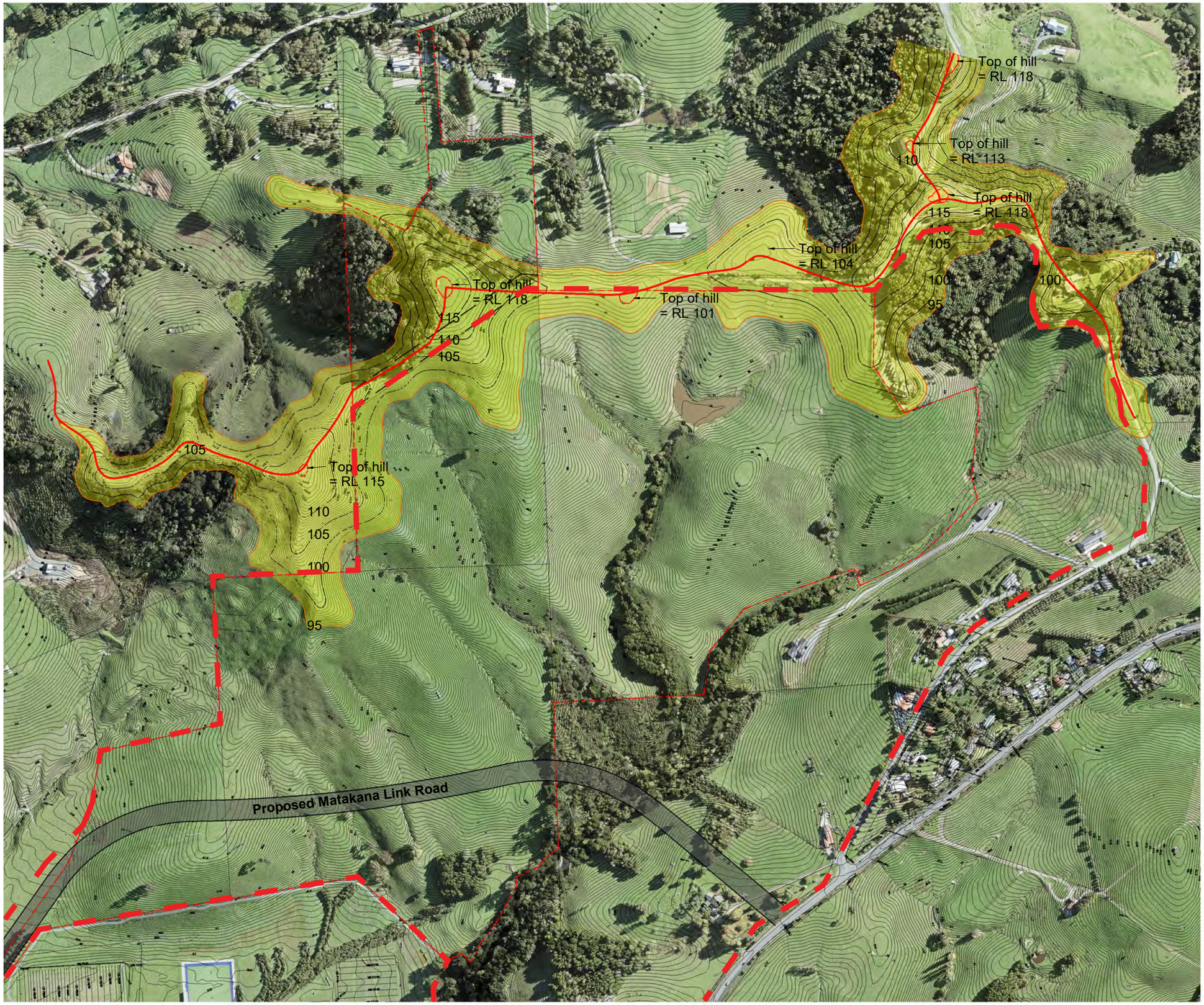
0 100 200 300m

Scale: 1.5000 @ A3

Natural Environment

Ridgeline Location



KEY

- WLC Site Boundary
- Precinct Boundary
- Ridgeline
- Area Above RL 95
- Proposed Matakana Link Road

Note:
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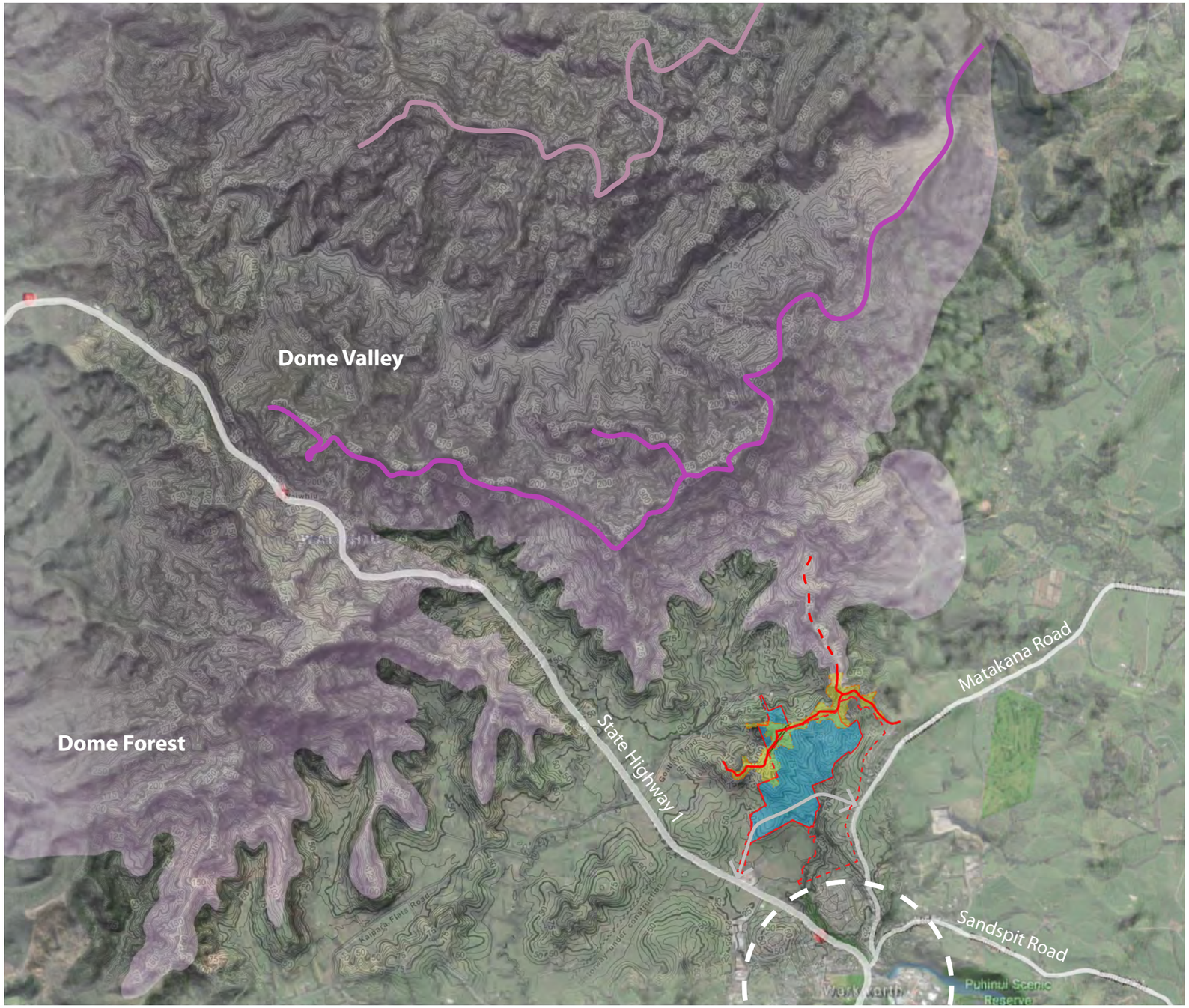
0 100 200 300m

Scale: 1.5000 @ A3

Natural Environment

Existing Ridgeline Context



KEY

- WLC Site Boundary
- Precinct Boundary
- Site
- Ridgeline adjacent to site (“Site Ridgeline”). Top of ridge RL118
- Outter extents of site ridgeline.
- Area adjacent to site, above RL 95
- Matakana Link Road
- Warkworth Town Centre

Contextual Ridgeline

Dome Valley ridgelines forming a visual backdrop to the ridgeline adjacent to the

- Ridgeline with RL 250-300. (Over twice height of site ridge)
- Ridgeline with RL 300-375. (Over 3 times height of site ridge)
- Area beyond site above RL95

Note:
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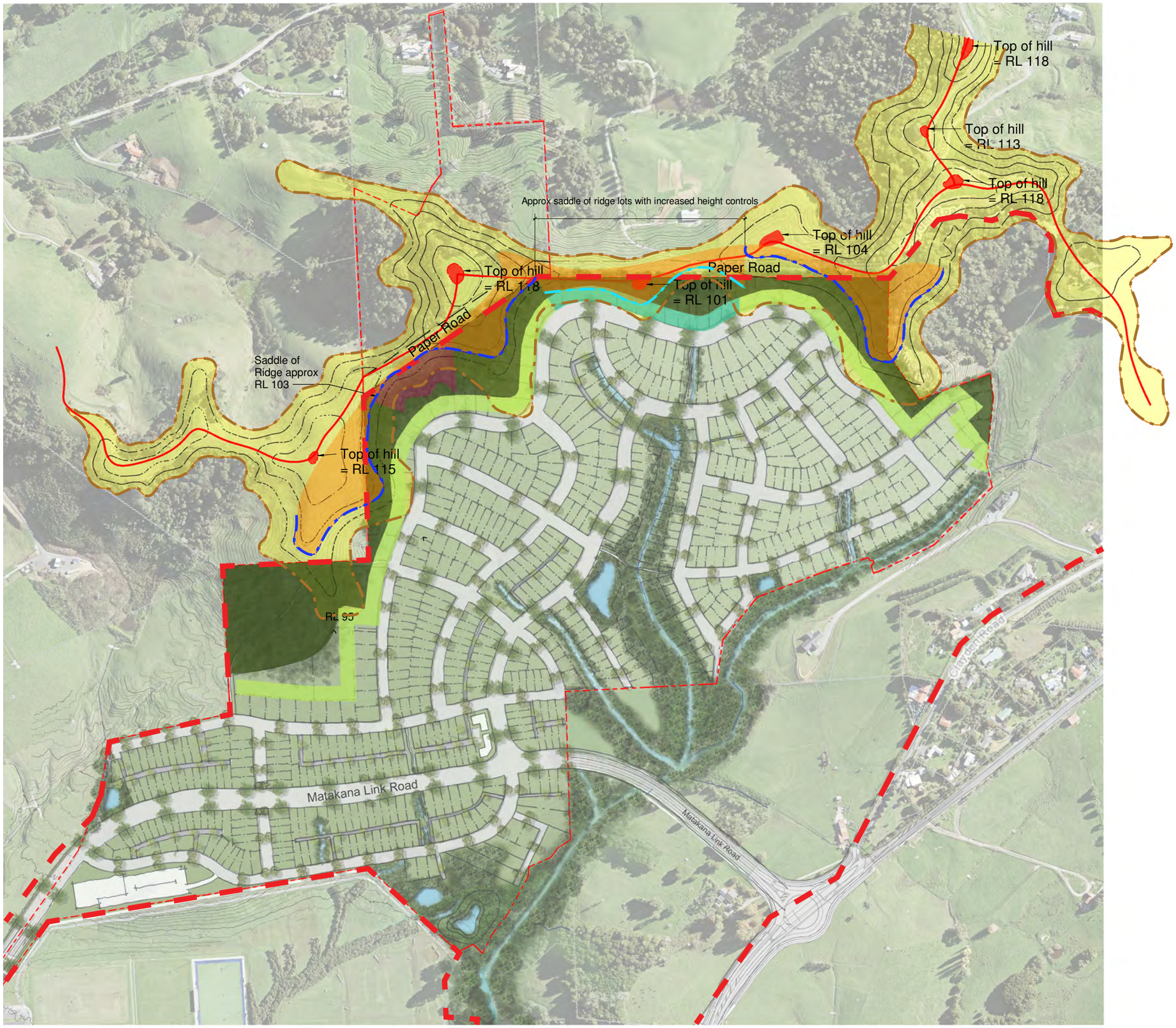
0 100 200 300m

Scale: 1.20000 @

Natural Environment

Ridgeline View Protection Measures Proposed



KEY

- WLC Site Boundary
- Precinct Boundary
- Extent of ridge above RL95
- Extent of ridge uninterupted by roofs
- Lots proposed to have Max of RL95. With a 8m Max building height control. This keeps roof line below RL103
- Indicate position of RL103
- Indicate position of RL98
- Ridgeline
- RL95 Existing minimal land modifcation above this line
- Additional height control at saddle of ridge. Roof line to be below RL98
- Native bush regeneration between the house plat-forms and ridgeline
- Area of land proposed to amalgamate with adjacent country site living site

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0 100 200 300m

Scale: 1.5000 @ A3

ATTACHMENT D2

DESIGN STATEMENT BY ASTUDIOS

Warkworth: Clayden Road

A1 Context Information

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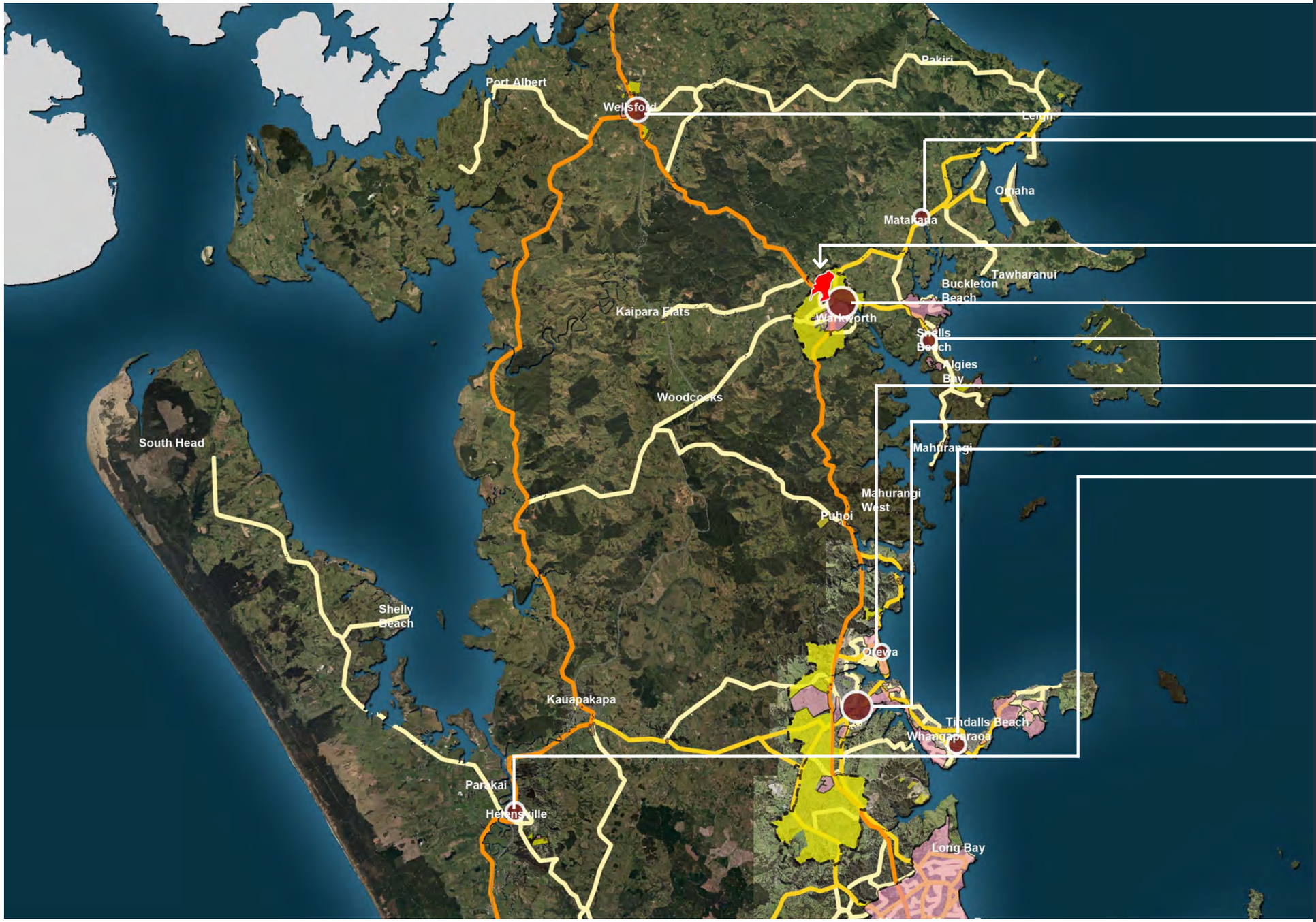
Context Plan

Built Enviroment



Wellsford

Matakana

Subject Site
Clayden Rise, Warkworth

Warkworth

Snells Beach

Orewa

Sliverdale

Whangaparaoa

Helensville

KEY

- RUB Boundary
- Main Roads
- Arterial Roads
- Medium Roads
- Urban Zones
- Future Urban Zones
- Core Centres

Context Plan

Natural Environment

KEY

- Plan Change Precinct
- Native Parks
- Body of water the Auckland Council Unitary Plan
- Open Space - Conservation Zone
- Open Space - Sport and Active Recreation Zone
- RUB Boundary
- Minor streams, as Service

Note:
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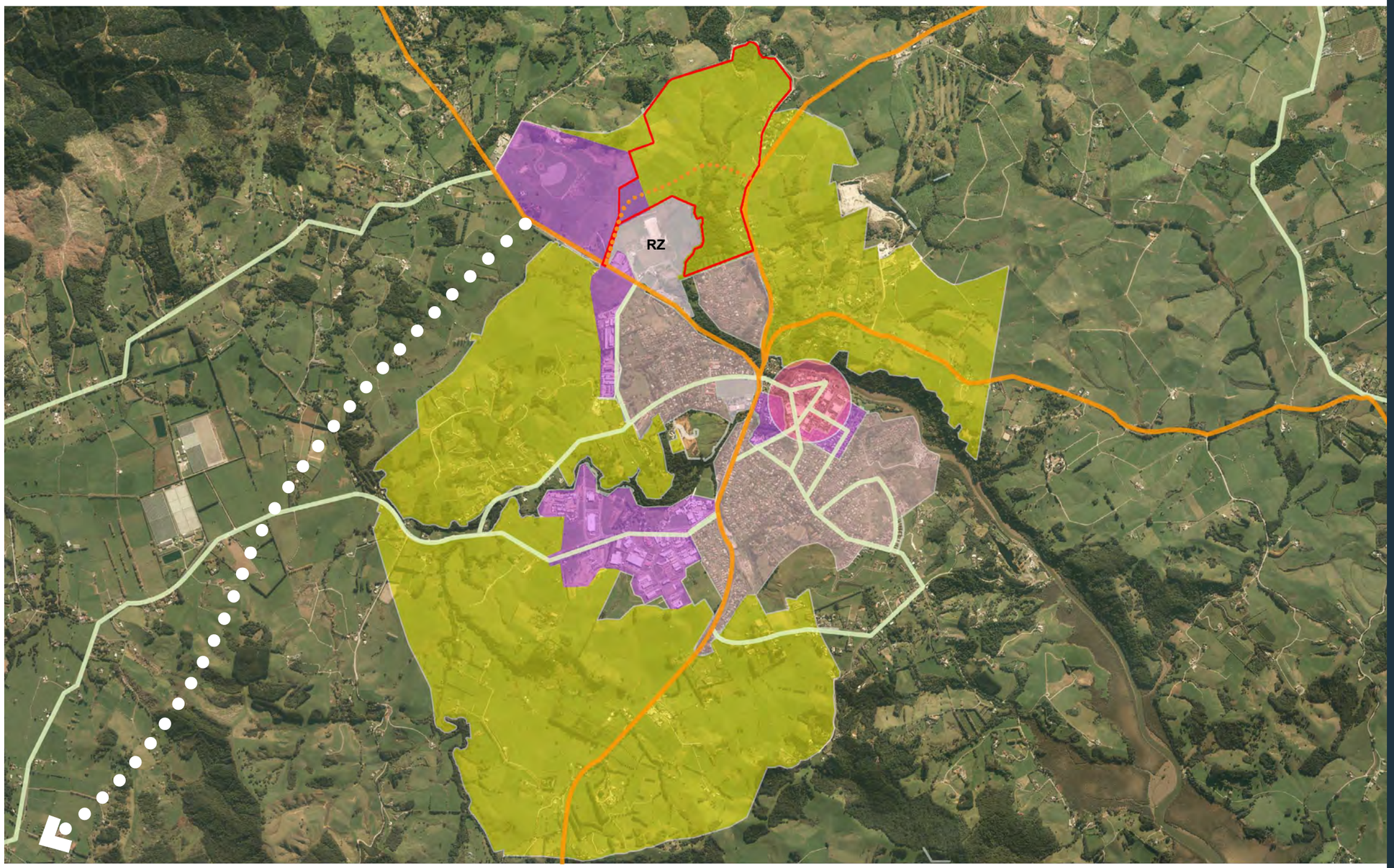
Context Plan

Built Enviroment Warkworth Area



KEY

- Employment Areas
- Future Urban Zone
- Existing Urban Area
- RZ — Open Space - Sport and Active Recreation Zone
- Town Centre
- Plan Change Precinct
- Main Road
- Matakana Link Road
- Medium Roads
- Future roading network connection from Puhoi to Warkworth

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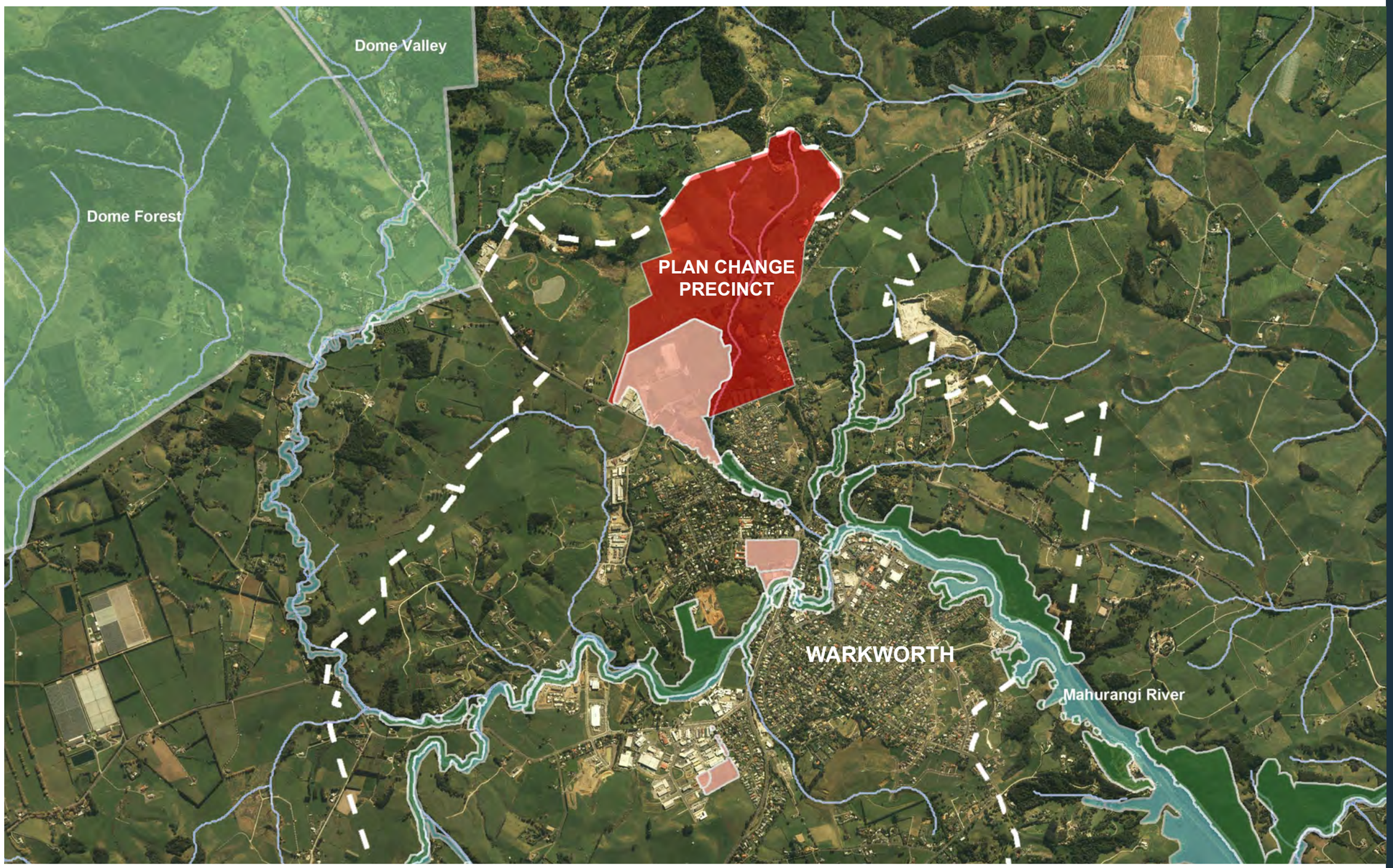
Context Plan

Natural Environment Warkworth Area



KEY

- Plan Change Precinct
- Native Parks
- Body of water the Auckland Council Unitary Plan
- Open Space - Conservation Zone
- Open Space - Sport and Active Recreation Zone
- RUB Boundary
- Minor streams, as Service

Note:
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Warkworth: Clayden Road

A2 Site

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Site Location

Site Location
LOT 4 DP 492431 22.7678ha LOT 4 DP 199755 7.3350ha PART ALLOTMENT 97 PARISH OF MAHURANGI SO 27C 19.4029ha LIMITED AS TO PARCELS PT LOT DP 61693 5.1776ha
TOTAL SITE AREA 54.6833ha

Note:
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A2.2

Existing Site Plan

Features

KEY

- Permanent Watercourse
- Intermittent Watercourse
- Ephemeral Watercourse
- Wetland
- Pond
- Existing Farm Crossings
- Extent of covenanted bush
- Substantial areas of Existing Bush
- Open Space - Sport and Active Recreation Zone

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0 100 200 300m

Scale: 1.5000 @ A3

Warkworth: Clayden Road

A3 Density & Amenity

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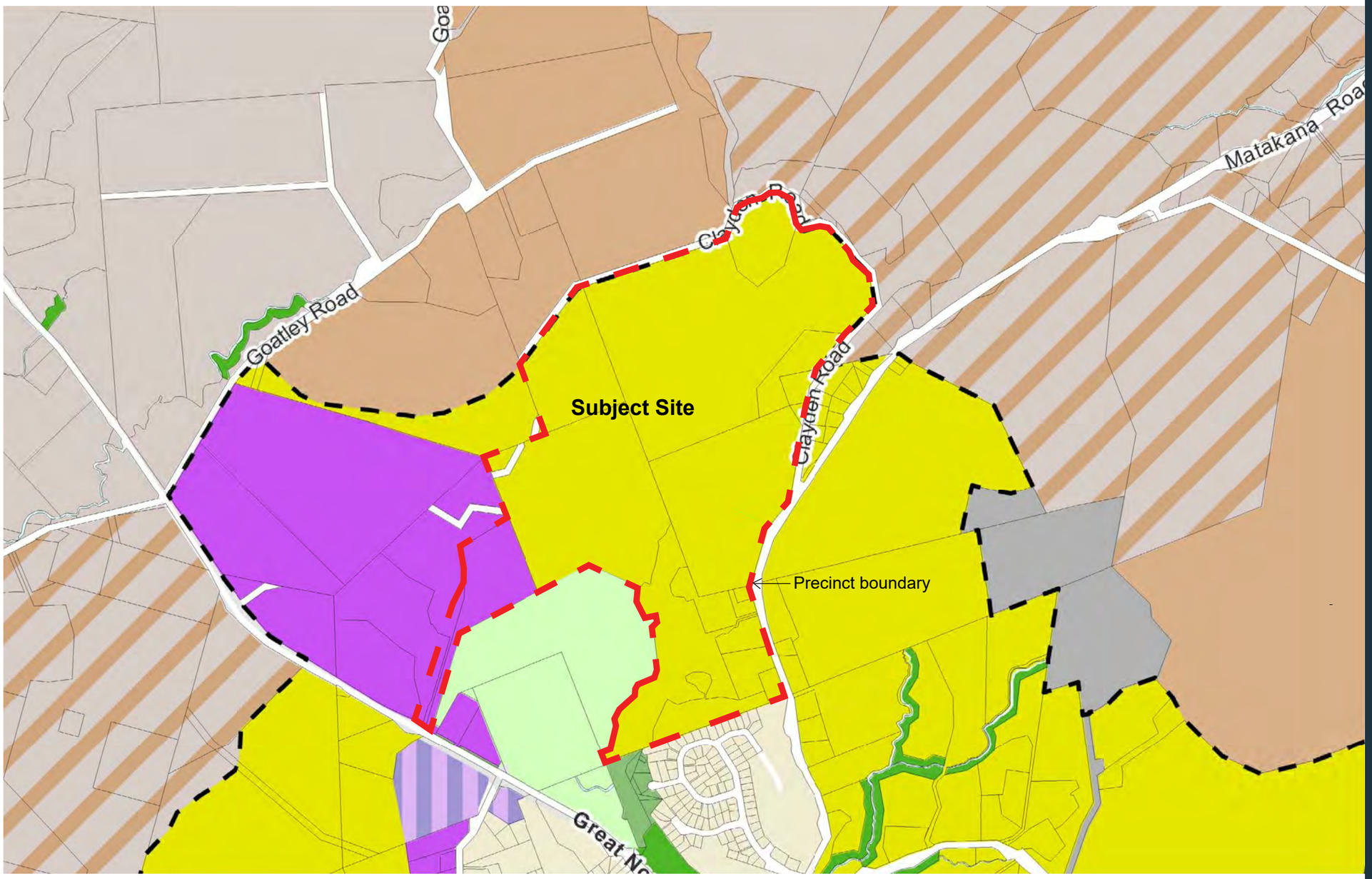
Zoning Plan

Current Context



Zoning Key

- Country Side Living
- Business - Light Industry Zone
- Future Urban Zone
- Rural - Rural Production Zone
- Rural - Mixed Rural Zone
- Business - General Business Zone
- Special Purpose Zone
- Open Space - Sport and Active Recreation Zone
- Open Space - Informal Recreation Zone
- Open Space - Conservation Zone

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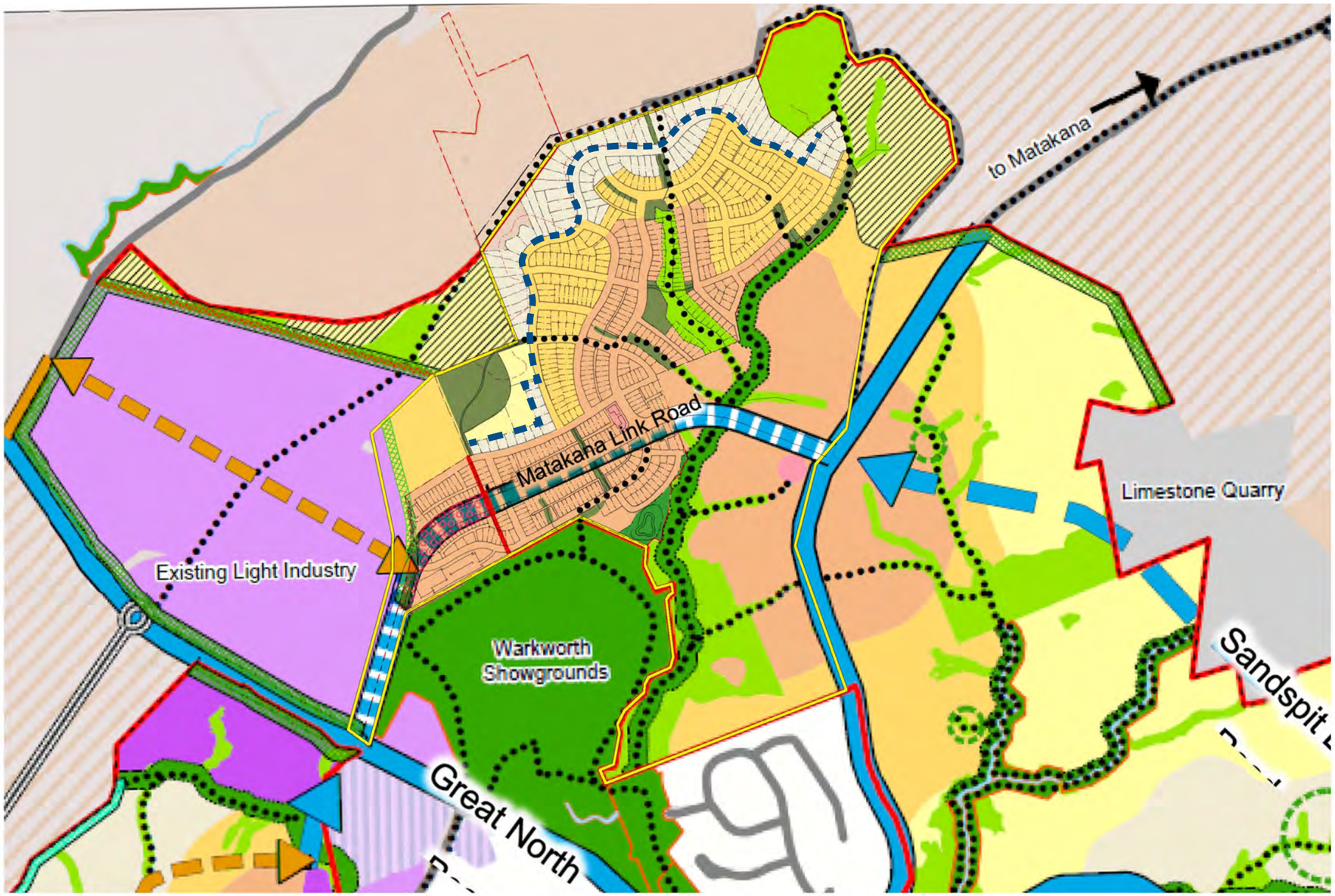
Built Environment

Proposed Zoning Overlay with Structure Plan



KEY

- Site Boundary
- Lots with Height Restrictions
- Indicative Greenway Routes
- Proposed Open Space
- New Collector Roads with cycleways (Potential routes)
- Arterial Roads (Upgrade Existing road including cycleways)
- Matakana Link Road - Te Honohono ki Tai
- Rural Urban Boundary (RUB)
- Landscape Screening Area
- Protection areas (not for development)
- Existing Open space
- Future esplanade reserves (20m) on subdivision
- Indicative locations of new open space
- Auckland Council Study Area
- Extent of Proposed Precinct Plan
- Areas for further landscape protection controls
- Business - Heavy Industry Zone
- Business - Light Industry Zone
- Business - Neighbourhood Centre Zone
- Residential - Large Lot Zone
- Residential - Mixed Housing Suburban Zone
- Residential - Mixed Housing Urban Zone
- Residential - Single House Zone

Note:
Layout shown is sketch design only, and is subject to further consultant design work, town planning consents, building consents, other council and regulatory body approvals. Layout and lot yield is subject to change as concept design is progressed and further co-ordinated with civil engineering design is undertaken.

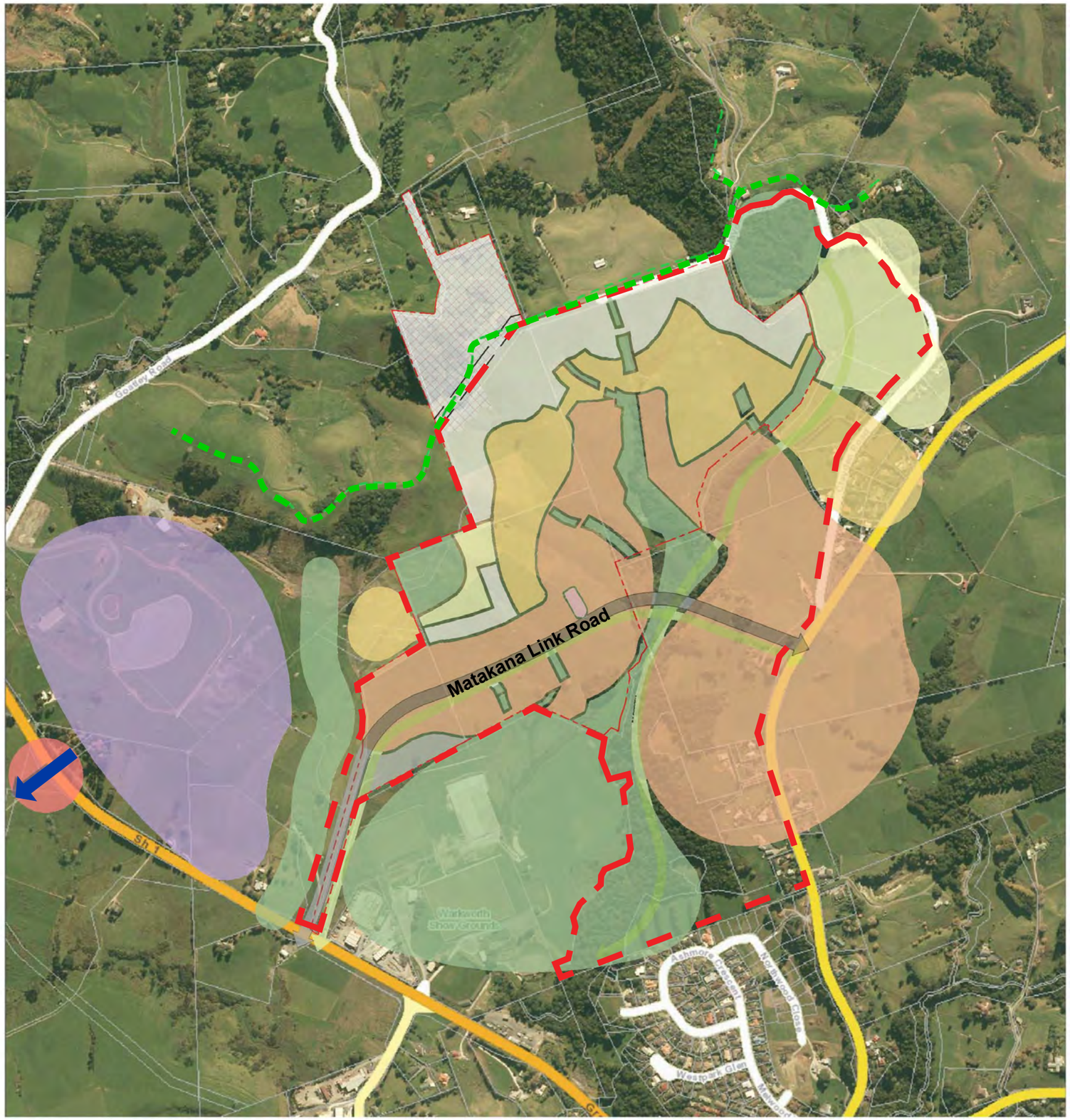
A Studio Architects takes no responsibility for information provided by others. We note that there are minor discrepancies between stream positions provided by consultants and have locations.

0 100 200 300m

Scale: 1.10000 @ A3

Proposed Site Diagram

Design Approach



KEY

- Precinct Boundary
- Ridgeline
- Matakana link road
- Possible Walkway / and/or Cycle
- Open Space / Stream / Revegetation / Recreation
- Future Roading Network
- Neighbourhood Centre Zone
- Higher Density (Urban Zone)
- Medium Density (Suburban Zone)
- Standard Density (Single House Zone with additional restrictions)
- Low Density (Large Lot Zone)
- Employment Area
- Countryside Living
- Sporting Facility or High Density Housing
- Possible park and ride public transport node

Note:
Layout shown is sketch design only, and is subject to further consultant design work, town planning consents, building consents, other council and regulatory body approvals. Layout and lot yield is subject to change as concept design is progressed and further co-ordinated with civil engineering design is undertaken.

A Studio Architects takes no responsibility for information provided by others. We note that there are minor discrepancies between stream positions provided by consultants and have locations.

ATTACHMENT E

LANDSCAPE ASSESSMENT BY L4

Warkworth Land Company Limited

Warkworth: Clayden Road – Private Plan Change Request

Assessment of Landscape and Visual Effects

LA4 Landscape Architects
PO Box 5669, Wellesley Street
Auckland

Assessment of Landscape and Visual Effects
Quality Assurance Statement

Prepared by:

Director

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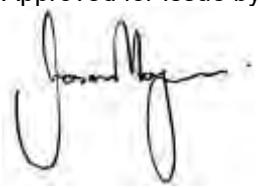
Reviewed by:

Director

_____

Approved for Issue by:



Director

_____

Status: **Final**

Date: 14 October 2019

File Number/Name	18707 LVA01
Author	Rob Pryor, Director | NZILA Registered Landscape Architect
Client	Warkworth Land Company Limited

Table of Contents

Annexures

Warkworth: Clayden Road – Private Plan Change Request

Assessment of Landscape and Visual Effects

1. Introduction

1.1 LA4 Landscape Architects have been requested by Warkworth Land Company Limited ("**WLC**") to undertake an assessment of landscape and visual effects ("**ALVE**") to inform and support the proposed Private Plan Change Request ("**PC**") for the site at Warkworth North.

1.2 This assessment investigates the existing character of the plan change area and surrounding environment, identifies the key landscape and visual features of the area and describes the visual and landscape implications of the plan change on the site and surrounding Warkworth environs. In particular the assessment focusses on the landscape and visual implications of development enabled by the plan change compared to that enabled by the zoning provisions within the Warkworth Structure Plan ("**WSP**").

1.3 Investigations of the plan change area and surrounding environment were carried out between February and July 2019.

2. Project Overview

2.1 The Private Plan Change proposes to re-zone approximately 75 hectares of Future Urban ("**FUZ**") and Light Industry ("**LIZ**") zoned land for a mix of residential zones. The plan change request includes the creation of a new precinct to be called "Warkworth: Clayden Road". This plan change and the precinct provisions closely align to the final WSP.

*Refer to **Figure 1** – Warkworth Structure Plan.*
*Refer to **Figure 2** – Zoning Map (Auckland Unitary Plan)*

2.2 This plan change request proposes a mix of high, medium and low residential density zoning signalled in the Warkworth Structure Plan. Of primary relevance to this assessment is the inclusion of Residential – Single House ("**RSHZ**") zoning along the northern interface with the countryside living areas but at densities of 1,000m².

2.3 The key elements of the plan change request are:

(a) Supporting the MLR including its alignment, as a vital link in the transport network for Warkworth and Mahurangi.
(b) Recognising the fundamental importance of the Mahurangi River and its tributaries by identifying and protecting the primary streams which traverse the land and feed the river. A number of other minor streams are also protected or reinstated.
(c) Providing quality connected residential neighbourhoods to support the growth of Warkworth, help deliver on the key planning principles identified in the Structure Plan and provide a range of housing typologies to encourage a diverse community.
(d) Managing stormwater in such a way as to ensure high water quality entering the Mahurangi River from this development.
(e) Creating a landscaped environment immediately around the streams with revegetation enhancement and the creation of public access.

(f) Identifying the key landscape features of the knoll at the north-western part of the site and creating lower density sites on the upper flanks of the ridgeline area.
(g) Creating an interface of low density properties adjacent to the countryside living boundary.
(h) Creating a range of densities and housing typologies.
(i) Focusing higher densities in the vicinity of the MLR and high amenity areas, such as land overlooking the Warkworth Domain and protected streams.
(j) Managing the height of buildings in sensitive parts of the land to manage sightlines towards key landscapes.
(k) Rezone a small area of light industry land to residential recognising the unsuitability of this land for industrial activity given access constraints resulting from the MLR.
(l) Creating a network of walkways and cycleways through the site.
(m) Identifying key connections to the Matakana Link Road ("**MLR**").

2.4 This plan change request is consistent with the Structure Plan for the following reasons:

- the MLR is provided in its agreed alignment;
- the Mixed Housing Urban zone follows the proposed plan;
- the Mixed Housing Suburban zone is generally across the middle slope between the MLR and the northern boundary;
- the northern area is zoned a combination of Single House and Large Lot Residential, albeit that the extent of zoning differs;
- special landscape protection as signaled in the Structure Plan is provided with special density controls and landscaping;
- a number of the streams are protected including the primary stream;
- the walkway network is provided;
- yield is consistent with the provision of infrastructure;
- staging is consistent with the timing of the development.

2.5 The plan change request varies from the Structure Plan in:

- the inclusion of Residential – Single House zoning along the northern interface with the countryside living zone but at densities of 1,000m²;
- the extent of Mixed Housing Suburban zoning is slightly expanded along the northern perimeter with a consequential reduction in the Single House zone;
- a portion of the central Large Lot Residential zone is committed to undeveloped open space with a consequent concentration of housing in a portion of this area with a Single House zoning;
- some streams identified on the Structure Plan are impacted by development.

*Refer to **Figure 3**: Proposed Warkworth: Clayden Road Structure Plan*

2.6 To complement the Single House provisions for the sites which sit at the interface with the Countryside Living zone ("**CLZ**"), special provisions are proposed. This sets a minimum subdivision size of 1,000m² net site area. It also sets a larger 6m landscaped rear yard. This will set a higher degree of spaciousness on the sites in this location and will ensure significant landscaping opportunity on the northern boundary at the interface with the CLZ. All land within the "special yard" shall be landscaped. A minimum of 50% of the area shall be planted in native trees that will attain a height of at least 5m when mature which will provide a vegetated backdrop to the dwellings.

2.7 In addition, a special height limit control is to be applied at the western end of the MLR to protect views of the knoll.

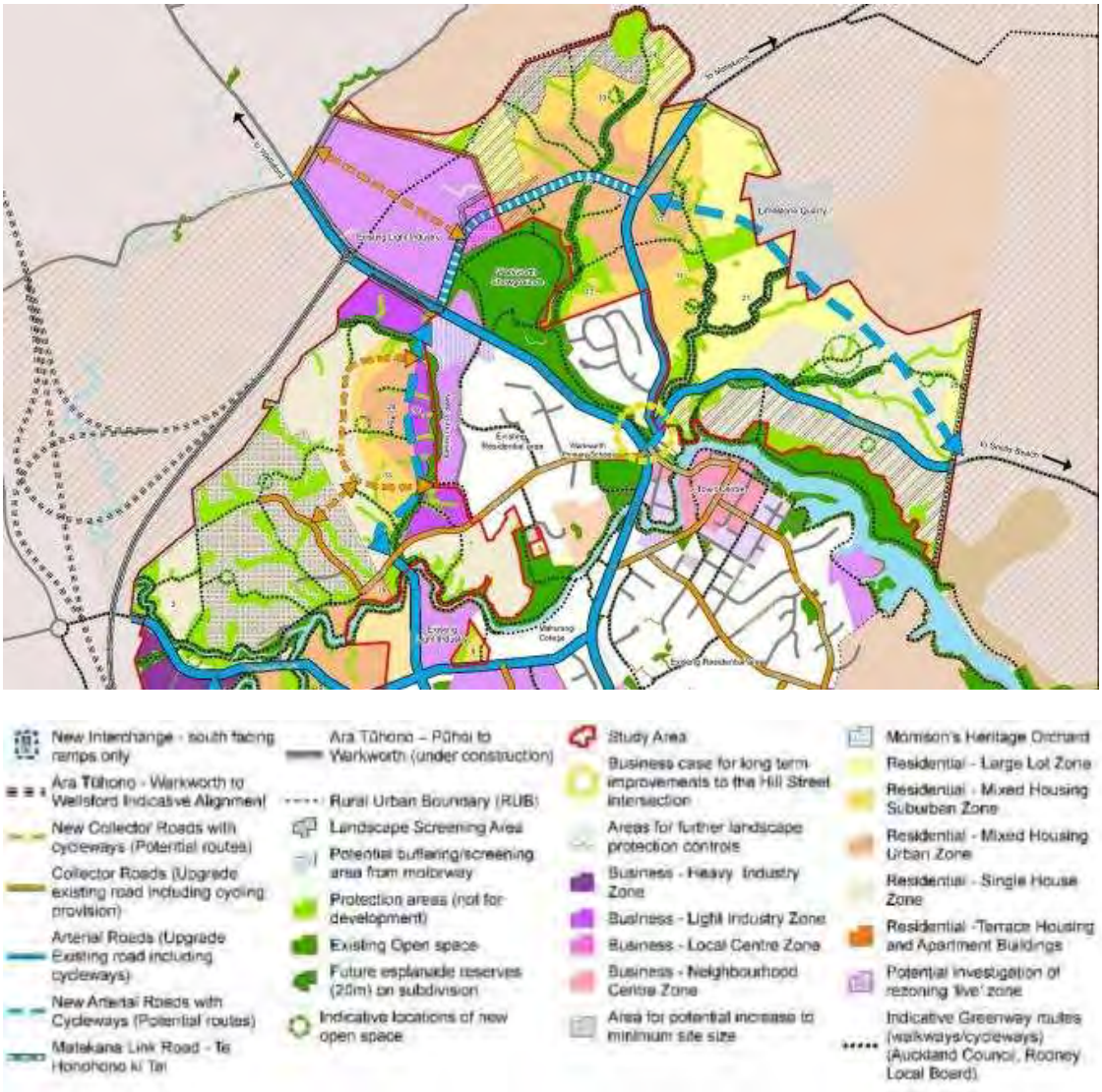


Figure 1: Warkworth Structure Plan 2019

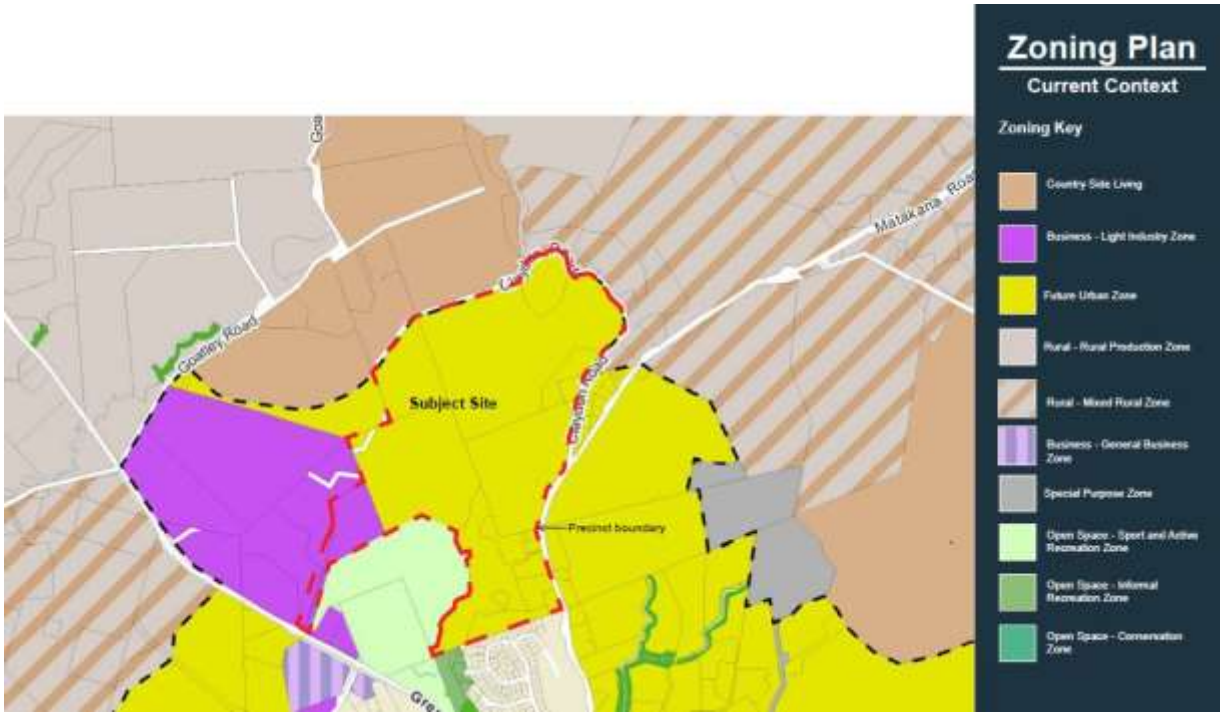


Figure 2: Zoning Map (Auckland Unitary Plan)

Figure 3: Proposed Warkworth: Clayden Road Zoning Overlay

2.8 The plan change has been prepared following best-practice urban design principles and has included a master plan-based design process. The master plan has demonstrated that the land can be subdivided in a way that will support a high-quality neighbourhood, and also remain compatible with the Council's Structure Plan.

*Refer to **Figure 4** – Proposed Warkworth: Clayden Road Masterplan*

The Applicants

2.9 The plan change request is an application by a group of landowners in the Warkworth: Clayden Road area. These landowners comprise:

- Warkworth Land Company being the owner of two blocks of land known as the Stevenson and Clayden blocks. The Stevenson block is in the ownership of WLC. The Clayden block has an unconditional sale with settlement in March 2020 (51.745ha).
- White Light Trust Limited at 245 Matakana Road (14.749ha).
- Kaurilands Trustee Limited at 21 Clayden Road (2.388ha).
- Rob Mills at 35 Clayden Road (3.153ha).
- Laura and Patrick Richards (2.1ha).

2.10 Each landowner is to develop their property independently however, all co-operating landowners see the benefit of this joint plan change request.

Figure 4: Proposed Warkworth: Clayden Road Concept Masterplan

3. The Subject Site and Surrounding Environment

Site Context

3.1 The Warkworth: Clayden Road plan change area comprises a broad catch basin with a primary ridgeline that runs generally in a west-east direction from Goatley Road to Clayden Road with several spurs extending off it in south-southeasterly orientations. Another ridge extends centrally from here in a northerly direction to a high point of 170m ASL prior to the Dome Forest hills. The ridge extends to a high point of 115m ASL falling to approximately 55m ASL towards Goatley Road and 40m ASL towards Matakana Road.

3.2 The area is characterised by its pastoral activities with grazing. The pastoral spurs are dissected by a number of stream gullies with totara dominated native bush. The land extends down towards the Warkworth Showgrounds and the existing industrial area to the south, the proposed industrial area to the southwest, rural residential land to the east and rises to the countryside living area to the north.

Figure 5: The WLC Site and Surrounding Landscape Context

3.3 A small stand of native bush at the end of Clayden Road comprises an amalgam of forest species including kahikatea, kauri, totara, puriri and rimu and forms a dominant natural feature on the skyline. The MLR traverses the southern part of the site. Land to the west of the plan change area is zoned Light Industrial and is to be developed into a new light industrial park. It is currently proposed that up to 100 light industrial lots will be created, with the development of associated infrastructure by way of roading and utilities to service the new lots. The proposal involves extensive earthworks to re-contour the project site, to enable grades to accommodate both large footplate buildings and land uses, and heavy vehicle access and safe manoeuvring.

3.4 Land to the west is zoned for light industrial uses and the northern part of the land is occupied by the Warkworth base for Skyworks Helicopters with a large hangar and

associated maintenance and storage buildings, large recently constructed earth worked landing area, water storage tanks and a residential dwelling and access drive. Several other residential buildings and haybarn are located towards the southern part of the site accessed off SH1.

3.5 Further to the north west, land is occupied by light industrial uses including the Keith Hay Homes construction yard, Warkworth Tanks and Rodney Marine and storage yards. Rural lifestyle activities prevail beyond here with lifestyle blocks, orcharding, hospitality, and hobby farming. The Puhoi to Warkworth motorway alignment currently under construction terminates on the southern side of SH1.

3.6 Rural residential land is located to the east of the site accessed off Matakana Road and Clayden Road. Countryside living activities dominate the land further to the north. Rural activities prevail on the western side of SH1 towards Kaipara Flats.. The Rodney Co-op Lime Quarry is located off Sandspit Road to the east of Matakana Road.

3.7 The Warkworth Showgrounds are located to the south of the site with extensive open space areas and sports fields. Industrial activities are located further to the south on the northern side of SH1 and on the western side of Hudson Road. Residential activities prevail to the southeast of the site merging into the Warkworth town centre.

The Wider Landscape Context

3.8 Warkworth sits at the edge of the Mahurangi River and lies within a large topographic basin, framed to the north and south by the hill country and a mixture of both native and exotic production forests. The outer edges of this 'basin' culminate in the peaks of The Dome, Conical Peak and Mt Tamahunga to the north, and Moirs Hill to the south, separating Warkworth from the valley system around Puhoi. Inland, valley of the Kaipara Flats extends towards the small peak of Clements Hill, and beyond to the elevated sequence of hills and ridges that denote the Kaipara Hills and further west to Mt Auckland, Atuanui.

3.9 Surrounding Warkworth's settlement, a number of localised stream valleys and basins are intermixed with a mix of ridges and hills north, south and west of the Mahurangi River and the town centre. Areas of remnant bush are scattered throughout, while larger tracts of regenerating bush, dominated by totara and kahikatea, follow the alignment of the main streams that feed into the left and right branches of the upper Mahurangi River and their various tributaries. These culminate in several major stands of coastal forest and bush.

3.10 In the south west of Warkworth, in the vicinity of Viv Davie-Martin Drive, large lot and rural-residential development lies across the rolling to steep slopes that frame the Falls catchment. Smaller pockets of both rural-residential development and more conventional residential lots extend along both sides of Matakana Road as it exits the township.

3.11 A small cluster of suburban housing is located within the apex of Matakana Road and Clayden Road, with most of the remaining land within the catchments north to north-east of the town centre dominated by pastoral activities. The Warkworth Golf Club and Course and the Rodney Co-op Lime Quarry are located off Matakana Road.

***Refer to LP01** – The Site and Viewpoint Location Map.*

4. Assessment of the Warkworth Structure Plan

4.1 The Warkworth Structure Plan identifies that in order to retain the rural and natural character of Warkworth it is important to retain the more natural and spacious elements around the edge of the basin that Warkworth sits. The Residential – Large Lot zone ("**RLLZ**") at the northern edge of Warkworth (west of Matakana Road) rises to a ridgeline on which the Rural Urban Boundary is located.

4.2 The use of the LLZ around the edge of Warkworth aligns with the WSP Planning Principle to "apply lower density residential zones to areas valued for their landscape, character, or heritage significance."

4.3 The landscape assessments and graphic material prepared to inform the Warkworth Structure Plan illustrated the key landscape features. Of particular note applicable to the plan change area that have been incorporated into the WSP are:

- *Landscape protection areas (not for development)*
- *Areas for potential increase to minimum site size*
- *Areas for future landscape protection controls*
- *Stream corridors to the northeast of the Warkworth Showgrounds.*

4.4 While the ridgeline extending in a westerly direction from Matakana Road / Clayden Road sitting at approximately 100-115m ASL is a prominent local landscape feature, the knoll and spurs extending down from it are not prominent features from the surrounding area and are viewed as an integral component of the gently rolling northern landscape. They spurs are not significant enough to command attention from a distance and are not the natural focus of view.

4.5 The WSP has focussed on intensification on the lower areas, with the lower density RLLZ located over higher contours, including a landscape protection control overlay. In terms of the northern structure plan area, the RLLZ boundary appears to have arbitrarily followed contour lines ranging from 66m in the west to 75m in the west before dissecting the underlying topography perpendicular to the natural contours before traversing the residential settlement on the eastern side of Clayden Road and then crossing Matakana Road at 90m ASL.

4.6 I concur with the WSP's planning principle to apply a lower density residential zone to areas valued for their landscape, character, or heritage significance. I do not however agree that the plan change area contains high landscape values or landscape character to warrant the proposed RLLZ, areas for potential increase to minimum site size, and areas for further landscape protection control overlays.

4.7 The knoll directly north of the Warkworth Showgrounds that merges with the ridgeline that extends towards Clayden Road and Matakana Road is not a significant landscape feature within the local landscape or wider Warkworth context and is typical of surrounding Warkworth landform.

4.8 While the ridgeline is a prominent local landscape feature, the knoll and spurs are not prominent features from the surrounding area and are viewed as an integral component of the gently rolling northern landscape. They are not significant enough to command attention from a distance and are not the natural focus of view.

4.9 The knoll rises to a maximum height of approximately 100m ASL from the lower slopes ranging between 30-40m ASL in the south to 60-70m ASL in the east towards Matakana Road. This height and characteristic of the landscape feature cannot be considered locally significant by any degree. Given the low elevation of the slopes extending down

from the ridgeline, typical residential development on the lower slopes is likely to obstruct views to the underlying landform in any case.

4.10 In order to assess the significance of the landscape characteristics of the plan change area in relation to those identified within the WSP a number of viewpoint locations from the surrounding area have been selected and a visual analysis undertaken from them.

4.11 **Viewpoint 1** is the view looking in a northerly direction towards the plan change land and northern WSP area. The site boundary of the site with the adjoining land to the northeast is characterised by the contrast in pasture cover to the right of the vegetated slope.

4.12 This is one of the few close locations from the surrounding roads where clear views are gained towards the knoll and ridgeline identified in the WSP for further landscape protection controls and potential increase to minimum site size. Neither the knoll or ridgeline are visually distinctive, they are not the focus of view and do not command the viewer's attention. The viewer's eye is drawn to the extensively vegetated slopes and skyline of the Dome Forest ranging from The Dome at 336m ASL to Conical Peak at 385m ASL.

4.13 The land in the foreground on the southern side of SH1 is zoned Business – General Business in the Auckland Unitary Plan ("**AUP**"), and once developed is likely to entirely screen views towards the ridge from here. Additionally, the land to the west of the site through to Goatley Road is zoned Business – Light Industry for industrial uses which will entirely transform the visual characteristics of the view.

4.14 Future urbanisation of the Residential – Mixed Housing Suburban ("**RMHS**") zoned land on the slopes surrounding the knoll is likely to block out views of the landscape feature. The adjoining land to the north is zoned for Countryside Living and will retain a sense of spaciousness at the highest point of the ridgeline.

4.15 **Viewpoint 2** is a more elevated view taken further south along Hudson Road in the vicinity of No. 21 looking in a northerly direction towards the Site. The site boundary is again demarcated by the contrast in pasture cover to the right of the vegetated slope. The south-eastern boundary with the Warkworth Showgrounds is delineated by the track traversing the lower slopes. As illustrated, the existing vegetation in the foreground and within the private properties screens large parts of the site from here. Similar views may be gained from the properties along the eastern side of Hudson Road. Industrial activities are located on the western side of the road.

4.16 While the east-west ridgeline is in the focus of the view (where visible) the knoll is not legible as a significant landscape feature due to its low elevation and the diversity of elements within the view including vegetation, roading and associated infrastructure, the industrial area and the backdrop of the Dome Forest.

4.17 Similarly, from this viewing angle, development enabled by future urbanisation of the land will entirely transform the currently pastoral slopes in the foreseeable future. Of particular note, the Matakana Link Road will form a dominant built element traversing the spur to the north of the showgrounds access track. The MLR proposal is initially for two lanes with four proposed for the future which will create a visible scar across the landscape flanked by residential and industrial development.

4.18 From this viewing location, the landscape protection area on the western knoll is unlikely to be perceived as a legible natural feature following construction of the MLR, future industrialisation of the land to the west and future urbanisation of the RMHS zoned slopes.

4.19 **Viewpoint 3** is taken from Viv Davie-Martin Drive looking in a north-easterly direction towards the site and northern WSP area. The knoll extends in a south-easterly direction from the boundary. The unformed portion of Clayden Road is visible behind, in front of the vegetated gully. The significant area of native bush is visible behind the farmhouse to the right of the view.

4.20 From this more elevated location, neither the ridgeline, knoll and spurs are visually distinctive or diverse, both compositionally and geo-physically. They do not display a continuity of key statements, patterns themes and accents that give the landscape character and a sense of unity. They do not demonstrate their formative processes and are typical of landforms within the surrounding area and wider Warkworth environment.

4.21 The view from these elevated locations is panoramic and the viewer's eye is drawn to the dominant backdrop hills of the Dome Forest and beyond to the Omaha Forest at elevations of between 336m ASL to 439m ASL. From here development within the Light Industrial zone will be prominent to the west of the site. Future urbanisation of the slopes will sit comfortably into the landscape, set well below these significant natural landscape features.

4.22 **Viewpoints 4 and 5** are taken from Falls Road looking in northerly directions towards the site in the vicinity of No. 220. The views extend across the Hudson Road industrial area and the residential area accessed off Hudson and Albert Roads.

4.23 The view from here is focussed on the dramatic backdrop of the vegetated Dome Forest slopes contrasting strongly with the pastoral fields. The ridgeline, knoll and spurs are not dominant landscape features from this elevation and viewing distance.

4.24 This view will change significantly with the future industrialisation of the land to the south of Goatley Road resulting in large built development extending from the left of the view beyond SH1 to the Site boundary to the right of the double chimney stacks. The MLR will also be prominent from here traversing the lower slope.

4.25 The landscape protection area on the knoll would not be highly legible from these viewing locations. Industrialisation of the land to the west and construction of the MLR will significantly change the visual amenity values from here. The Dome Forest backdrop will remain the dominant landscape feature, below which urban development within the Site will sit comfortably into this landscape.

4.26 **Viewpoint 6** is taken from the intersection of SH1 and Hudson Road looking in a northerly direction towards the site. Prominent in the view is Conical Peak, rising to a height of 385m ASL and the vegetated slopes extending down from it.

4.27 As illustrated, the existing industrial area largely screens views towards the site, sitting behind the built development. The land adjoining the industrial area is also zoned for industrial activities which will reinforce the industrial characteristics of the environs along the State Highway in the vicinity. Urbanisation of the slopes will be viewed from here above the industrial area and the viewer's eye will be drawn to the skyline forested slopes. The western landscape protection area would not be legible from here.

4.28 **Viewpoint 7** is taken from the Warkworth Showgrounds looking north-east towards the Site. The view extends across the playing fields towards the gently undulating slopes extending up the ridge. The visual integrity of the knoll, spurs and ridgeline is resultant from the pastoral slopes rising gently from the playing fields, the vegetated stream gullies and prominent backdrop hills of the Dome Forest.

4.29 The visual intactness of the view will be lost with the future urbanisation of the land as part of the WSP process. Construction of the MLR traversing across the lower spur will

further add to the modification of the surrounding area. The legibility of the western landscape protection area would be lost through future development within the RMHS zone on the slopes from this lower viewing location.

4.30 **Viewpoint 8** is taken from Clayden Road in the vicinity of No. 43 looking west towards the site. The white post and rail fence is located on the northern boundary of the Mills property at 35 Clayden Road. The knoll identified as a landscape buffer area is not visible from here, being screened behind the furthermost spur. The stand of significant vegetation along Clayden Road is to the right of the view and the density controls of WLC's concept plan in the vicinity will ensure the visual amenity values of this identified natural feature are protected.

5. Assessment of Development Enabled by the WSP Zoning Provisions

5.1 In order to assess the visual amenity implications of development enabled by the WSP zoning provisions visual simulations have been prepared by Greenwood Associates to illustrate potential development enabled by the WSP's Residential – Mixed Housing Suburban zone and the resulting visual impact of this development on the visual characteristics of the RLL zoned land and landscape protection areas. Commentary is also made on the visual implications of development enabled by the plan change and in particular the impact of development within the proposed RSH zone on the upper slopes.

5.2 **Viewpoint 01** is taken from the Warkworth Showgrounds looking in a northerly direction. The view extends across the playing fields towards the undulating slopes extending up towards the ridge. The visual integrity of the knoll, spurs and ridgeline is resultant from the pastoral slopes rising up from the playing fields, the vegetated stream gullies and prominent backdrop hills of the Dome Forest.

5.3 As illustrated in Viewpoint 01 Visualisation, the visual intactness of the view will be entirely transformed with the future urbanisation of the land as part of the WSP process. Construction of the MLR traversing across the lower spur will further add to the modification of the surrounding area. The legibility of the western landscape protection area would be lost through future development within the LIZ zone (purple) RMHS zone (orange) and RLL zone (yellow) on the slopes from this lower viewing location.

5.4 While development enabled by the plan change within the RSHZ would result in a greater intensity of development on the upper slopes, the Precinct Plan's special density and landscaping controls will ensure a higher degree of spaciousness and will provide greater landscape opportunities within the rear yards with the CLZ interface.

5.5 **Viewpoint 02** is taken from the intersection of SH1 and Hudson Road looking in a northerly direction. The view extends across SH1 and over the industrial land in the foreground towards the Site. The western landscape protection area is visible on the upper slopes to the left of the sign.

5.6 As illustrated in Viewpoint 02 – Visualisation, development enabled by the zoning within the WSP will have significant implications on the quality of the view currently experienced. The visual integrity of the skyline ridge will inevitably be lost through development within the RLL zone protruding into the skyline. While part of the western landscape protection area may be visible above the light industrial area, it would not be visually distinctive nor command the viewer's attention.

5.7 Development enabled by the plan change would not be markedly different from this lower viewing location due to the screening effect of existing vegetation within the Warkworth Showgrounds and development within the MHSZ and LIZ.

5.8 **Viewpoint 03** is taken from Falls Road looking in a northerly direction. The views extend across the Hudson Road industrial area. The view from here is dominated by the backdrop of the vegetated Dome Forest slopes contrasting strongly with the pastoral fields. From here, the protected landscape areas (ridgeline, knoll and spurs) are not dominant landscape features from this elevation and viewing distance.

5.9 As illustrated in Viewpoint 03 – Visualisation, this view will change significantly with the future industrialisation of the land to the south of Goatley Road, and urbanisation of the land enabled within the WSP area. The landscape protection area on the knoll would not be highly legible from here with the Dome Forest backdrop will remain the dominant landscape feature, below which urban development will sit comfortably into this landscape.

5.10 While development enabled by the plan change within the RSHZ would result in a greater intensity of development on the upper slopes it would be viewed extending up to the ridge but sitting well below the vegetated skyline of the Dome Forest. Again, from here, the Precinct Plan's special density and landscaping controls will ensure a higher degree of spaciousness and the requirement for landscaping within the rear yard with the CLZ interface will provide a vegetated backdrop.

5.11 **Viewpoint 04** is taken from Matakana Road looking in a westerly direction towards the plan change area. From here, the protected landscape areas (ridgeline, knoll and spurs) are not dominant landscape features from this elevation and viewing distance.

5.12 Similarly, from here the outlook will change significantly through the urbanisation of the land. The visual amenity effects however would not be markedly different between development enabled by the plan change in comparison to that enabled by the WSP, particularly in relation to effects generated by the RSHZ.

6. Assessment of Natural Character and Landscape Effects

6.1 The effects of the plan change on the natural character and landscape character values of the site and surrounding environment have been assessed as follows.

Natural Character

6.2 Natural character relates to the degree of 'naturalness' of a landscape. It is primarily determined by the nature and extent of modification to a landscape and can be expressed in relation to natural processes, patterns and elements in the landscape. The highest levels of natural character are where there is the least modification. Natural character effects relate to the degree to which a proposal alters the biophysical and / or perceived naturalness of a landscape.

Natural Character Effects Analysis

6.3 While the vegetated stream corridor and indigenous bush stand at the end of Clayden Road retain a moderate level of natural character the site itself is not high in natural character values and has been highly modified through past pastoral activities. The area has previously undergone extensive agricultural activities and is modified by vegetation clearance, artificial farm drains, storage ponds and dwellings. The site is a component of the wider modified rural environment and located within an area zoned for future urban intensification.

6.4 The primary stream corridor and the indigenous bush stand are to be retained, protected and enhanced. Several reserves are proposed and connected through a green-network based on the enhanced stream network and stormwater management area which will enhance the natural character values of the site. Overall, the adverse

effects of the plan change on the natural character values of the site and surrounding area would be low.

Landscape Effects

6.5 Landscape character derives from a combination of landscape attributes that give an area its identity – landform, land cover and land use. Landscape character effects relate to the effects of change and development on the landscape as a resource. The key here is how the proposed development will affect the patterns and elements that make up the landscape, the aesthetic and perceptual aspects of the landscape, its distinctive character and the key characteristics that contribute to it as well as the value attached to the landscape.

6.6 The nature and extent of landscape effects has been determined by an analysis of the specific implications of the proposal in relation to the landscape values and the sensitivity of the landscape to change. The proposal's likely contribution to wider cumulative effects has also been assessed. The key issue is to determine whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.

6.7 Landscape effects take into consideration physical effects to the land resource. Assessments of landscape effects therefore investigate the likely nature and scale of change to landscape elements and characteristics. Landscape effects are primarily dependent on the landscape sensitivity of a site and its surrounds to accommodate change and development.

6.8 Landscape sensitivity is influenced by landscape quality and vulnerability, or the extent to which landscape character, elements/features and values are at risk to change. Landscape character results from a combination of physical elements together with aesthetic and perceptual aspects that combine to make an area distinct.

Landscape Effects Analysis

6.9 Development enabled by the plan change will inevitably transform the local mixed rural character to that of mixed urban which will also have an influence on the surrounding area. The attributes that contribute to the rural character of the area will become progressively less pervasive as the surrounding area develops with the Puhoi to Warkworth motorway and Matakana Link Road activities. It is important to note however that this type of development has been advanced by the planning strategies and the AUP identifies the site within the Warkworth Structure Plan as an area to accommodate future urban growth requirements in the area.

6.10 It is also important to note that although the site and local area currently exhibit rural characteristics, neither display a high degree of 'ruralness' due to a combination of the size of landholdings, the patterns of rural-residential settlement, existing infrastructure, the surrounding roading network, proximity to the SH1, future MLR and the Goatley Road and Hudson Road industrial areas.

6.11 Based on the preceding description and analysis of the site and surrounds it is clear that there are relatively low landscape values and sensitivity associated with the area. The plan change area is a highly modified rural environment lacking any significant landscape features and natural character values (other than the vegetated stream corridors and indigenous bush stand). Therefore, the only negative outcomes in landscape terms will be the loss of the remaining rural character, which is anticipated by the relevant planning strategies for the area.

6.12 The key methods of mitigating for this loss are to retain and enhance where possible existing landscape features and create a quality urban development. Although the

proposal will result in the loss of rural character there are number of positive landscape outcomes associated with the development.

6.13 The establishment and enhancement of the green network, including the provision for associated open space with extensive planting, will have beneficial landscape effects including the enhancement of amenity and habitat values, and the establishment of ecological linkages.

6.14 The Warkworth: Clayden Road masterplan has been designed in accordance with best practice and established urban design principles, which will ensure a high level of green open space and be comprehensively planted to enhance its overall amenity and assist in its integration with the surrounding rural area over time. These are addressed in more detail in the Urban Design assessment prepared by Ian Munro and architectural report prepared by A Studio Architects. Development enabled by the plan change will result in a change in landscape character, but will ensure a suitable level of amenity, albeit an urban, rather than a rural character is achieved.

7. Conclusions

7.1 The imposition of the Residential Large Lot zone arbitrarily across the Site with associated development controls to provide for lower density based around a minimum lot size of 4000m^2 will not in my opinion reinforce the key qualities and characteristics of the underlying landscape to any greater degree than higher density development as envisaged by the Residential Single House zone and provisions for the sites which sit at the interface with the Countryside Living zone.

7.2 I concur with the WSP's planning principle to apply a lower density residential zone to areas valued for their landscape, character, or heritage significance. I do not however agree that the plan change area contains high landscape values or landscape character to warrant the proposed RLL zone overlay and associated development and landscape protection controls.

7.3 In my opinion, a distinctive and locally derived urban character is influenced by the qualities and characteristics of the underlying landscape character and the elements and attributes of the form. I do not consider however that the areas for further protection controls (the ridgeline and knoll) comprise major landscape elements and features capable of defining a unique sense of place for the northern WSP area. The modest changes in topography, while locally pleasant, are not distinctive landscape features. The dominant landscape features, the vegetated stream gullies, are to be retained where practicable, and enhanced through additional native plantings.

7.4 I concur that ridgeline protection is an important mechanism to ensure the visual landscape qualities and integrity of significant ridgelines or spurs are protected and maintained in accordance with their particular context. The northern WSP ridgeline and spurs do not constitute significant landscape elements or features capable of defining a unique sense of place or identity to the WSP area. While they provide a pleasant variation in landform they cannot be considered worthy of protection afforded by the RLL zone and associated development and landscape protection controls.

7.5 I consider that if the northern ridge, knoll and spurs had been valued and considered distinct and significant enough in landscape and visual terms, in the context of the surrounding landscape to warrant protection, then this would have occurred as part of the AUP zoning process, precluding any form of built development on them.

7.6 The visual integrity of the knoll, spurs and ridgeline is resultant from the current pastoral slopes rising gently from the lower surrounds, the dissecting vegetated stream gullies and contrasting characteristics to the adjoining stands of native forest and backdrop

hills of the Dome Forest. This contrast will be lost with the construction of the MLR, industrialisation of the land to the west and future urbanisation of the land as part of development enabled by the WSP provisions.

7.7 The pattern of the primary ridge forming the discrete topographic feature in the northern part of the WSP area will still be apparent, albeit with a built form of development reinforcing the changes in landform and topography. Landscape comprises the interaction of landform, land cover and land use and is the result of the cumulative impacts of natural and human processes.

7.8 In my opinion, the most effective means to protect the landscape characteristics of the northern WSP area, is through defining and reinforcing the stream corridors through the protection and enhancement of the existing native stands of vegetation that will preserve the legibility of these landscape features in views from both within and outlying areas, provide a physical and visual buffer to future dwellings and heighten awareness of the underlying landform for future residents.

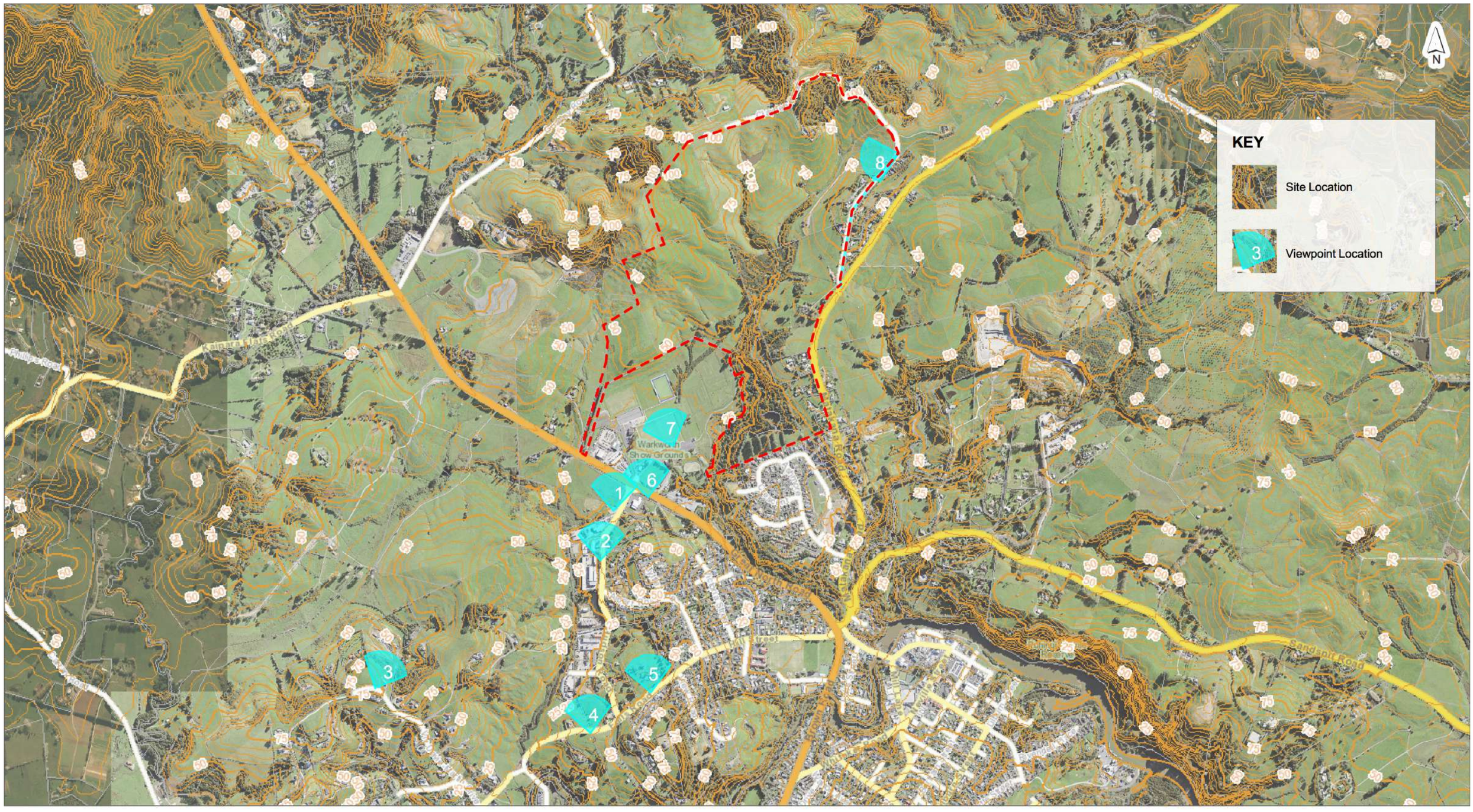
7.9 I therefore do not consider that the imposition of the RLL zone with associated development and landscape protection controls is required. Larger lots are proposed in the more sensitive elevated parts of the plan change area in proximity to the primary ridge. The Residential Single House provisions for the sites which sit at the interface with the Countryside Living zone set a minimum subdivision size of 1,000m² net site area with a 6m landscaped rear yard. A minimum of 50% of the rear yard is to be planted with indigenous vegetation that will attain a height of at least 5m when mature which will provide a vegetated backdrop to the dwellings. This will provide an appropriate transition to the CLZ land to the north.

7.10 Building platforms have been identified to keep future dwellings below the skyline ridge. The small stand of native bush at the end of Clayden Road is to be protected through larger lot development in the vicinity to protect the visual amenity values of the natural feature on the skyline.

7.11 In my opinion a distinct and locally derived urban character will result more from high quality urban design initiatives proposed by the Warkworth: Clayden Road masterplan, responsive to the underlying landform patterns and through the establishment of a high quality open space network and linkages throughout the area than the zoning provisions within the Warkworth Structure Plan.

7.12 In conclusion, the plan change will fulfil the need for a greenfield housing area and provide an opportunity for an innovative and environmentally sustainable urban development in keeping with the vision and principles established within the masterplan. The plan change proposal is consistent with regional growth strategies for the area and will result in a high quality urban development with a range of positive landscape and environmental outcomes.

Rob Pryor
Director | Registered NZILA Landscape Architect
LA4 Landscape Architects
October 2019



No.	Revision	By	Chk	Appd	Date
D	Layout Update	JC	RP	RP	18.09.19
C	Layout Update	JC	RP	RP	18.07.19
B	Layout Update	JC	RP	RP	16.07.19
A	Layout Update	JC	RP	RP	05.07.19
-	Preliminary	JC	RP	RP	28.06.18

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ORIGINAL 1:15000 @ A3

Design	RP
Drafting	JC
Drafting Checked	RP
Approval	RP

Client: WARKWORTH LAND COMPANY

Project: WARKWORTH: CLAYDEN ROAD PLAN CHANGE

Title: THE SITE + VIEWPOINT LOCATION MAP

Project No: 18707

Drawing No: LP01

Rev: D

Viewpoint 1: Hudson Road

Viewpoint 2: Hudson Road

Viewpoint 3: Viv Davie - Martin Drive

Viewpoint 4: Falls Road

Viewpoint 5: Falls Road

Viewpoint 6: SH1 / Hudson Road

Viewpoint 7: Warkworth Showgrounds

Viewpoint 8: Clayden Road

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Visual Simulation Plan Set For:

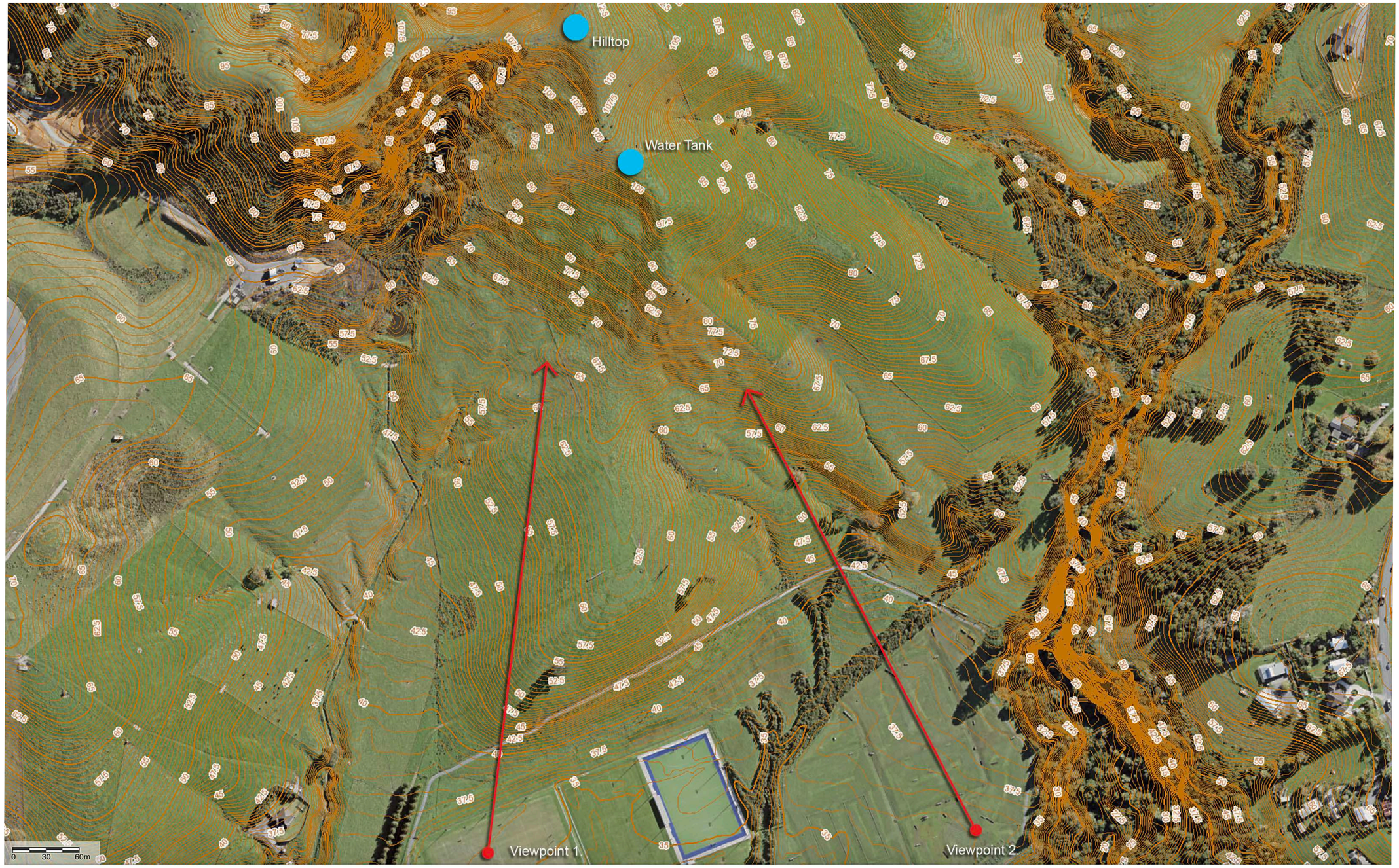
Development Advisory Services Ltd

Goatly Road
Warkworth, Auckland

Drawing Number:	Drawing Description:	Drawing Issue Date:
9076/1	- Viewpoint Locations	22/08/19
9076/2	- Viewpoint 1	22/08/19
9076/3	- Current Warkworth Structure Plan - Viewpoint 1	22/08/19
9076/4	- Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 1	22/08/19
9076/5	- Viewpoint 2	22/08/19
9076/6	- Current Warkworth Structure Plan - Viewpoint 2	22/08/19
9076/7	- Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 2	22/08/19

https://greenwoodassociates.co.nz

File: /Volumes/GA-DATA-1/00 PROJECTS/Goatly Road Official 3D Warkworth/01 Drawing Files/11 Goatly Road 3D WLC Structure Plan + Plan Set 20Aug.pln Issued: 12:52 PM, 22/08/19



Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

greenwood associates
Landscape Architecture

Client	Project	Drawing	Scale	N	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/1 Viewpoint Locations	1:2000@A1 1:4000@A3		22/08/19	AG	MB
					Telephone 09 309 3600	Website greenwoodassociates.co.nz	

Viewpoint 1

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

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Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/2 Viewpoint 1	22/08/19	AG	MB

Telephone 09 309 3600
Website greenwoodassociates.co.nz

Current Warkworth Structure Plan - Viewpoint 1

Residential - Large Lot Zone

Residential - Mixed Housing Urban Zone

Business - Light Industry Zone

Northern Arena - Sporting Facility

Residential - Single House Zone

Residential - Mixed Housing Suburban Zone

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

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Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/3 Current Warkworth Structure Plan - Viewpoint 1	22/08/19	AG	MB

Telephone 09 309 3600
Website greenwoodassociates.co.nz

Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 1

Residential - Large Lot Zone

Residential - Mixed Housing Urban Zone

Business - Light Industry Zone

Northern Arena - Sporting Facility

Residential - Single House Zone

Residential - Mixed Housing Suburban Zone

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

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Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/4 Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 1	22/08/19	AG	MB

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Website greenwoodassociates.co.nz

Viewpoint 2

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

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Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/5 Viewpoint 2	22/08/19	AG	MB

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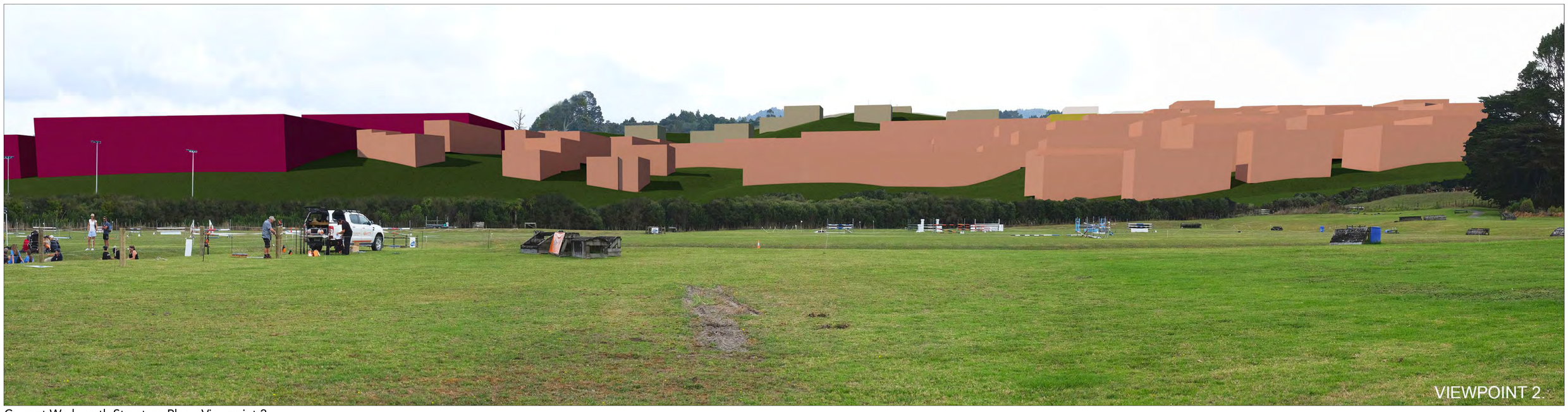
Website greenwoodassociates.co.nz



Current Warkworth Structure Plan - Viewpoint 2

Residential - Large Lot Zone

Residential - Mixed Housing Urban Zone

Business - Light Industry Zone

Northern Arena - Sporting Facility

Residential - Single House Zone

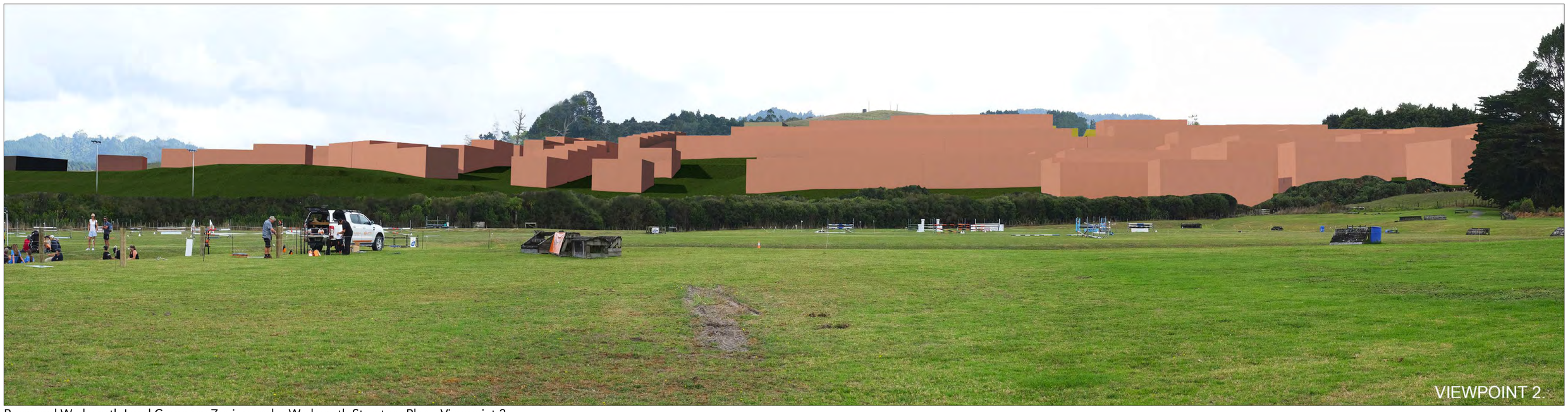
Residential - Mixed Housing Suburban Zone

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

greenwood associates
Landscape Architecture

Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/6 Current Warkworth Structure Plan - Viewpoint 2	22/08/19	AG	MB

Telephone 09 309 3600
Website greenwoodassociates.co.nz



Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 2

Residential - Large Lot Zone

Residential - Mixed Housing Urban Zone

Business - Light Industry Zone

Northern Arena - Sporting Facility

Residential - Single House Zone

Residential - Mixed Housing Suburban Zone

Viewpoints as per Brown NZ Ltd Urban Design Report. Visual simulations have been carried out to NZILA Best Practice Guide 10.2 where possible with the field of view of the supplied view point photography.

greenwood associates
Landscape Architecture

Client	Project	Drawing	Date	Drawn	Checked
Development Advisory Services Ltd	Goatly Road, Warkworth, Auckland	9076/7 Proposed Warkworth Land Company Zoning under Warkworth Structure Plan - Viewpoint 2	22/08/19	AG	MB

Telephone 09 309 3600
Website greenwoodassociates.co.nz

Memo

To: Mr Cormac Tague
Land Development Project Manager
Development Advisory Services Limited

From: Rob Pryor
Director / Registered Landscape Architect
LA4 Landscape Architects Ltd

Date: 16 December 2019

Warkworth: Clayden Road Plan Change Request
Further Information Assessment

Further to Auckland Council's request for further information I would provide the following response in relation to landscape matters.

- *In order to more accurately gauge the visual implications of the proposed roading and housing, at least one photomontage should be submitted by the applicant which accurately shows the location and extent of development on the slopes both above and below the Matakana Link Road. The outlook from Victoria St (off Hill St) appears to offer a view that would be very useful in this regard.*

Response

It is not considered necessary to provide an additional photomontage from this location. The development of the Matakana Link Road was a separate application to this and underwent a rigorous scrutiny through the Council hearing process.

It is considered that the eight viewpoint location assessed in the Assessment of Landscape and Visual Effects along with the photomontages prepared by Greenwood Associates from two locations within the Warkworth Showgrounds (which were highlighted as being key viewing locations) provides a good indication of the visual implications of the proposal.

- *It appears that the proposed stream corridors terminate below the natural extent of some current stream courses on more elevated parts of the site – near the ridge extending westwards from Clayton Rd. There is some concern about the proposed in-filling of those existing stream corridors, as they offer potential linkages (for pedestrians and wildlife), as well as points of focus within the proposed subdivision, that should not be covered over. Explain the rationale for this approach, as it is not clear from reading the current documentation.*

Response

The extents of the stream corridors have been driven through a combination of slope stability and the ecological values of the streams. The Concept Masterplan illustrates an extensive ecological and open space linkage system throughout the plan change area and the intent is to provide a pedestrian network through the open space system once developed.

I trust this addresses the concerns of Council.

Rob J Pryor
Director | NZILA Registered Landscape Architect
December 2019

ATTACHMENT F

ECOLOGICAL ASSESSMENT

report

February 2020

Warkworth: Clayden Road Ecology Plan Change

Submitted to:
Warkworth Land Company Ltd

Northland Ecology
lisette@northlandecology.com
www.northlandecology.com

freshsolutions water
environmental consultants

Quality Assurance

This report has been prepared and reviewed by the following:

Prepared by:	Rebecca Bodley Ecologist	
	Lisette Collins Principal Ecologist Northland Ecology	
	Nick Carter Freshwater Ecologist	
Reviewed by:	Richard Montgomerie Director	

Status:	Final – V2	**Issued:**	10 February 2020

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Appendices

1.0 Introduction

This report describes freshwater and terrestrial ecological characteristics and values for a private plan change request for an area referred to as Warkworth: Clayden Road, Warkworth (Figure 1 and Figure 2). The plan change seeks rezoning of ~105 ha of land between State Highway 1 and Clayden Road from Future Urban/Light Industry to a mix of residential zones. The site is bound by rural farmland to the north and west and Warkworth township to the south with intensification and development to the south and east (Figure 1). Desktop and field data were used to characterise the environment and determine overall ecological values which was used to outline potential ecological constraints and opportunities for ensuring beneficial ecological outcomes for the site.

2.0 Plan Change Area

The proposed Warkworth: Claydon Road plan change area covers the following properties:

- Warkworth Land Company (Stevenson and Clayden blocks).
- 245 Matakana Road (White Light Trust Limited).
- 21 Clayden Road (Shore).
- 35 Clayden Road (Mills).
- 43 Clayden Road (Richards).
- 139 Clayden Road.
- 17–19 Clayden Road.
- Lot 3 DP 492431 Clayden Road.
- 157, 165, 171, 185, 207, 211, 223 Matakana Road.

3.0 Study Methods

3.1 Terrestrial Ecology Method

Surveys on land owned by Warkworth Land Company (Stevenson and Clayden) were completed on 17 April and 7 May 2019 (Figure 2). Surveys were carried out on 245 Matakana Road (White Light Trust), 21 Clayden Road (Rod Shore), 35 Clayden Road (Rob Mills) and 43 Clayden Road (Richards) by Lisette Collins (Principal Ecologist at Northland Ecology) whom also contributed to terrestrial reporting on these properties. Assessments of 139 Clayden Road, Lot 3 DP 492431 Clayden Road, 17–19 Clayden Road and 157, 165, 171, 185, 207, 211, 223 Matakana Road were carried out by desktop (Figure 2).

Surveys involved identifying plant and fauna species encountered and describing and mapping vegetation and habitat types. Birds identified visually and audibly were recorded across the site. Objects such as fallen timber were turned over to search for lizards but a comprehensive lizard survey was not undertaken. Field data was supplemented with herpetofauna records (Department of Conservation Bioweb database), bat records (Naturespace NZ), and bird records (New Zealand eBird) and a desktop review of existing literature for the site and wider Warkworth area. Significant Ecological Area (SEA) information was obtained from Auckland Council Geomaps, while covenant information was obtained from Land Information New Zealand (LINZ) and the QEII National Trust.

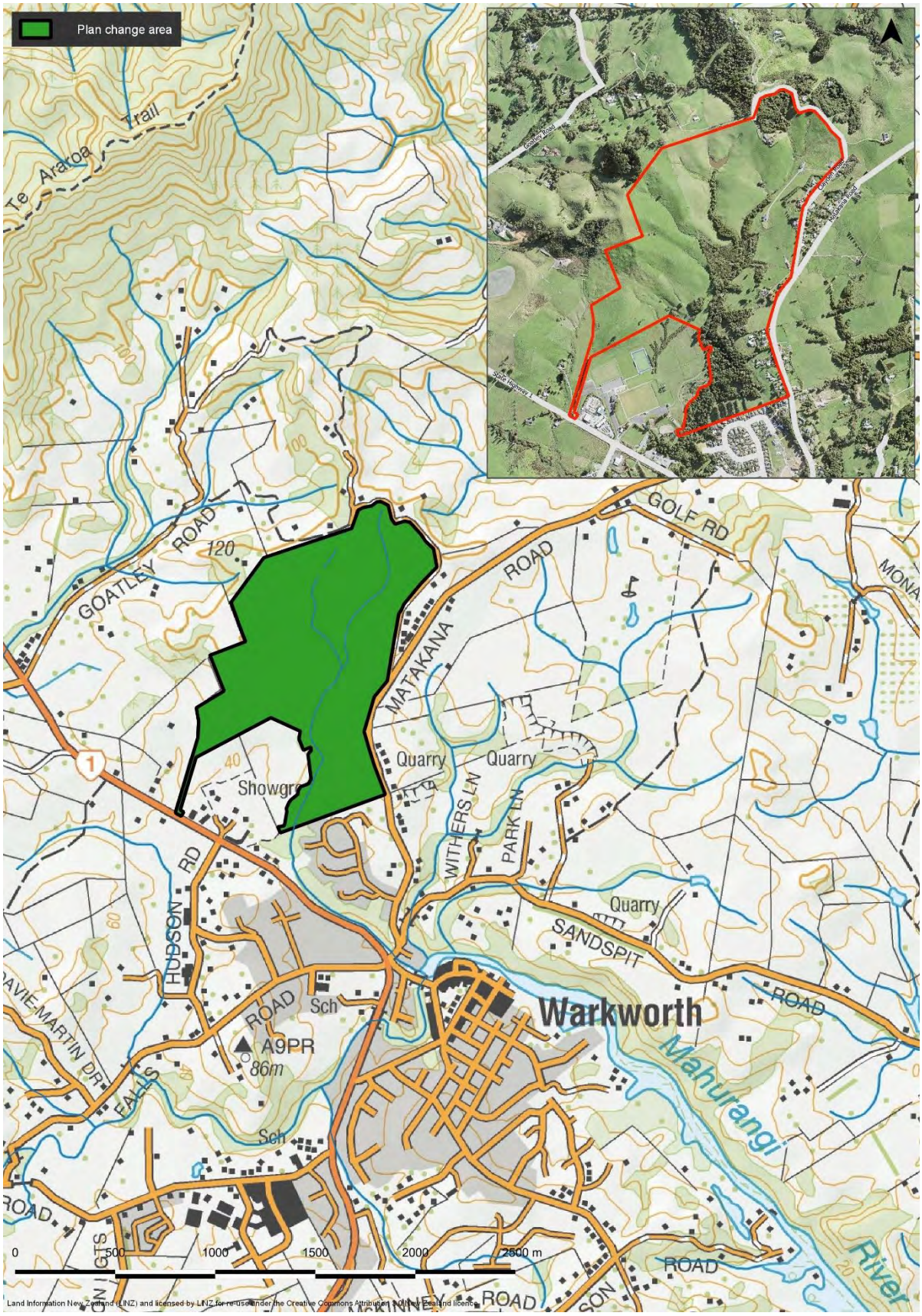

Figure 1: Location of proposed Warkworth: Clayden Road plan change site.

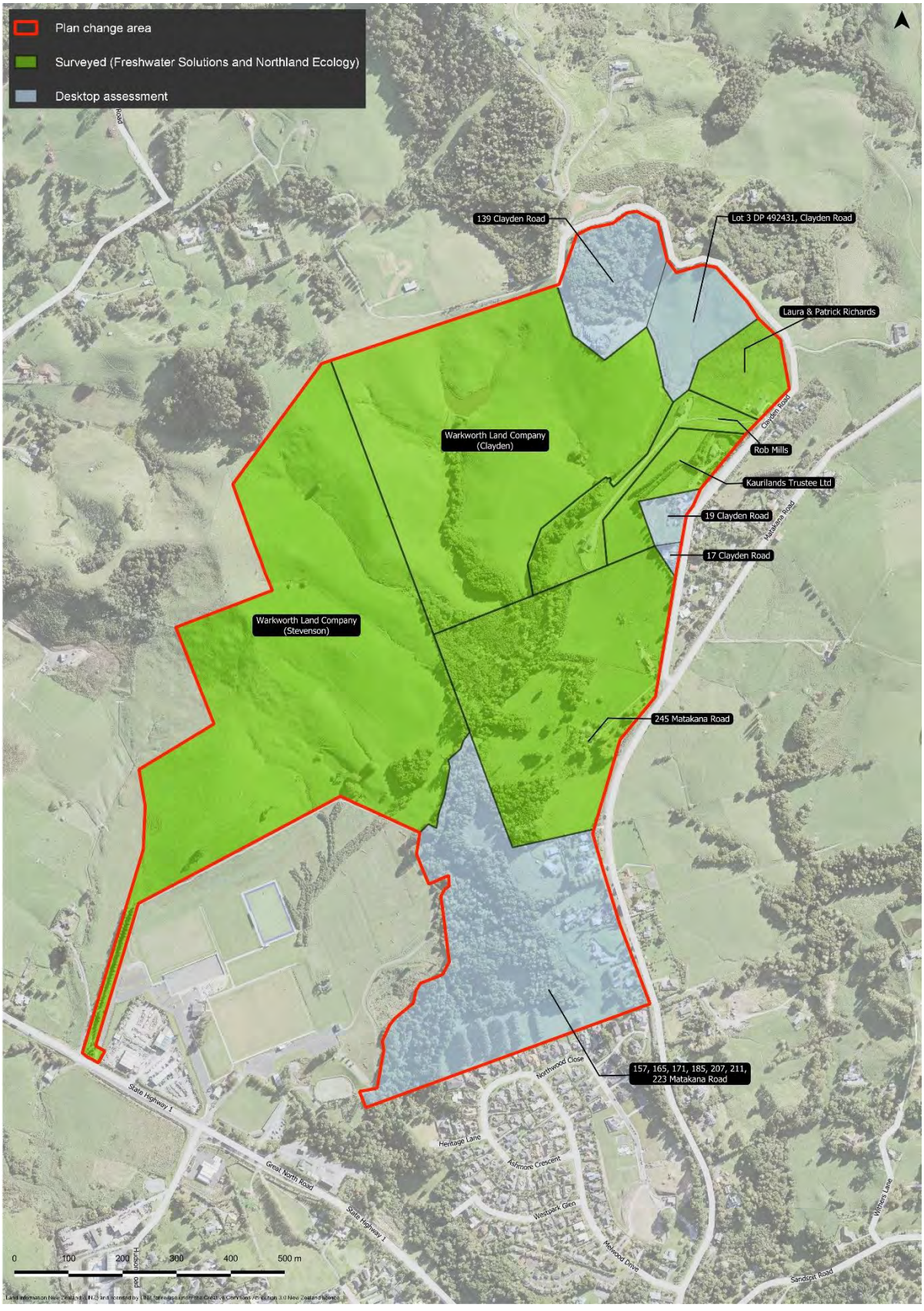

Figure 2: Plan change area showing properties and areas surveyed.

3.2 Freshwater Ecology Method

Survey timing – the plan change area is located in the Mahurangi River catchment. The overland flow path layer in Auckland Council Geomaps was inspected prior to field work and provided an indication of where streams occurred and their status. Freshwater Solutions carried out aquatic surveys on 17 April, 7 May and 19 September 2019 within the green shaded areas on Figure 2. Watercourses within the areas shaded light blue on Figure 2 were not surveyed so information for these is based on desk top information.

Watercourses, ponds and wetlands – watercourses within the plan change area were assigned a letter between A and R. Watercourse K is the mainstem watercourse draining through the plan change area and has been divided into upper, middle and lower reaches (K1, K2, K3). Some tributaries with multiple branches have been assigned letters (e.g., a, b, c). Two artificial ponds occur in the headwaters of Watercourse I and R and wetlands were identified based on vegetation.

Stream classification – watercourses within the green shaded area were classified in accordance with criteria outlined in the Auckland Unitary Plan Operative in Part (AUP). Stream surveys were carried out within the site on 17 April 2019 and 7 May 2019. The surveys were outside the recommended Auckland Council window for classifying intermittent and ephemeral watercourses (i.e., July–October). There was zero rainfall within the 48 hours prior to the 17 April and 7 May 2019 surveys and 7.4 mm and 6.2 mm of rainfall respectively over the previous 7 days at the Warkworth EWS monitoring station (National Climate Database).

A conservative approach was applied to stream classifications within the WLC blocks (Stevenson and Clayden) given the surveys were undertaken outside the July-October window. Stream classifications carried out on 245 Matakana Road (White Light Trust Limited), 21 Clayden Road (Shore), 35 Clayden Road (Mills) and 43 Clayden Road (Richards) were undertaken on 19 September 2019 and within the recommended window. Stream classifications carried out by Bioresearches (2018b) in May 2018 were reviewed and taken into account.

Stream Ecological Valuation – Stream Ecological Valuation (SEV) surveys were carried out on representative watercourses within the WLC blocks (Watercourses I, E, G, F, J, D, B) and 245 Matakana Road property (Watercourses K2, M1).

A conservative approach was taken when collecting SEV data from intermittent Watercourses D and B in the WLC block due to the time of year the surveys were carried out (i.e., limited surface water or flow). Depth and widths were estimated if required based on channel shape and visual observations (e.g., debris, rooted terrestrial vegetation). Flow velocity was estimated if required based on data from other streams.

SEV surveys on watercourses within 245 Matakana Road were carried out on 19 September 2019 and there were no issues with surface water and flow.

Physicochemical and Biological sampling – macroinvertebrate samples were collected from sites on Watercourse I, J, G, F, M1 and K2 using a kick-net (mesh 0.5 mm) and following the semi-quantitative Protocol C2 (Stark et al. 2001). Water physicochemistry (temperature and dissolved oxygen) was measured in Watercourses I, J, G, F, M1, K1 and K2 using calibrated YSI meters. Fish were surveyed in Watercourse G, I (upper, lower), M1 and K2 using an electric fishing machine with field data supplemented with records held in the New Zealand Freshwater Fish Database (NZFFD).

4.0 Ecological Setting

The site is located within the Rodney Ecological District. The Rodney Ecological District is located immediately north of metropolitan Auckland between the Kaipara Harbour in the west and the Hauraki Gulf in the east. As drawn by McEwen (1987) the Rodney Ecological District extends from Mangawhai Heads in the north, to Okura in the southeast and Riverhead and Swanson in the southwest, and extends west from the east coast as far as State Highway 1 north of Wellsford and State Highway 16 further south.

The district comprises mostly lowland hill country and is one of eight ecological districts within the Auckland Ecological Region (McEwen 1987). The district was originally extensively forested, but by the time of European arrival most of the primary forest had been removed and the district was covered in regenerating shrubland and areas of bracken (Lindsay et al. 2004). As a result, most of the district is currently highly modified and the remaining native vegetation is fragmented (Mitchell et al. 1992, Lindsay et al. 2004). Approximately 15% of the remaining vegetation is located within protected areas and there are sizeable areas of regenerating forest dominated by kānuka as well as three large areas of podocarp/broadleaf forest at Mt Auckland/Atuanui, Waiwhiu Forest/Conical Peak (Dome Valley) and Mt Tamahunga (Mitchell et al. 1992, Lindsay et al. 2004).

In 1983–1984 the Rodney Ecological District as mapped by McEwen (1987) was surveyed as part of the Protected Natural Areas Programme (Mitchell et al. 1992). At that time approximately 31,582 ha of indigenous vegetation occurred within the district, approximately 18.6% of the total area available. Most (72%) of this vegetation was successional in nature and generally consisted of small fragments ranging from 3–57 ha in size (Mitchell et al. 1992). Existing protected areas comprised 2.1% of the land area and protected 15.8% of the indigenous vegetation remaining in the district (Mitchell et al. 1992). Mitchell et al. (1992) recommended 27 'Priority Places for Protection' (PPP).

Rodney Ecological District spans the boundaries of the Northland and Auckland Conservancies of the Department of Conservation. In 1996 the boundaries of the ecological districts within Northland Conservancy were redrawn (Brook 1996). This included reducing the extent of the Rodney Ecological District to exclude areas south of approximately Pakiri and Wayby. The boundaries of ecological districts in the Auckland Conservancy have not yet been redrawn to accommodate the changes Brook proposed for Northland, but Brook's (1996) redrawn boundaries have been adopted and Protected Natural Area surveys of all of the ecological districts he proposed in Northland have now been completed (Goldwater et al. 2012). In 2012 the ecological values within the part of the Rodney Ecological District located within the Northland Conservancy were assessed as part of the protected natural area programme (Goldwater et al. 2012), but any more recent assessment of the values in the southern parts of the District have not been made available.

McEwen (1987) noted that the Rodney Ecological District described, delineated on the basis of topography, experiences warm humid summers, mild winters, high sunshine hours and an annual rainfall of 1,200–1,600 mm. Soils in the district form a complex pattern related to rock type and vegetation but are generally fertile, particularly in the south where they are of volcanic origin (McEwen 1987). McEwen (1987) noted that the district marks the northern limit of striped skink (*Oligosoma striatum*) and that kauri snail (*Paryphanta busbyi busbyi*) are found there.

Auckland Council lists areas of Significant Ecological Value (SEA) under Schedule 3, 4 and 5 of the AUP. SEAs and covenanted land within the plan change area and vicinity are shown on Figure 3. There are additional covenants within the plan change are and vicinity that were not publicly available and were not able to be obtained from Auckland Council within the reporting time frame (e.g., vegetation on 139 Clayden Road).

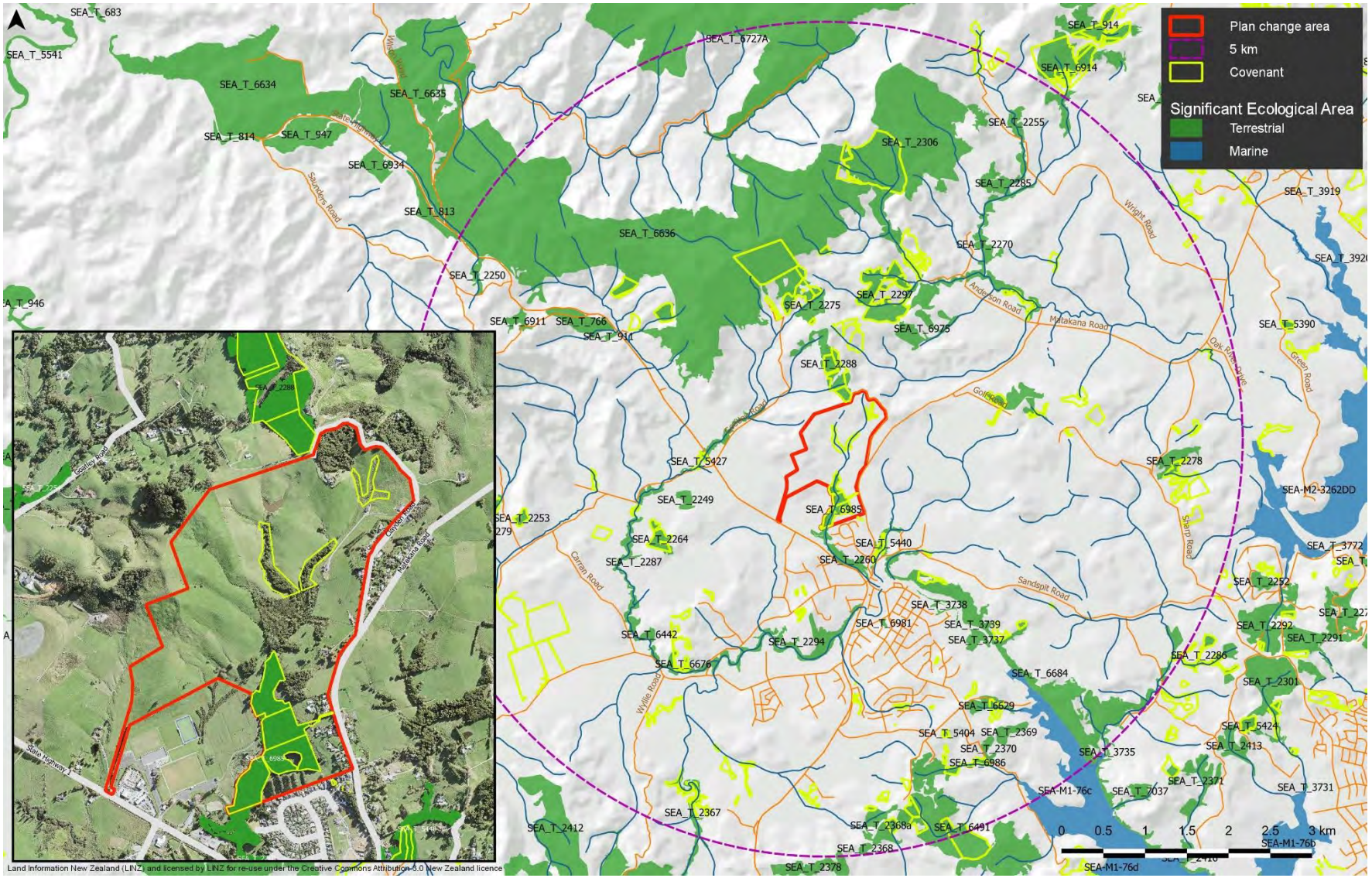

Figure 3: Significant Ecological Areas (AUP) and covenanted land areas within area and local vicinity.

SEAs are areas of significant indigenous vegetation or significant habitats of indigenous fauna located either on land or in freshwater environments. In order to maintain indigenous biodiversity these areas are protected from the adverse effects of subdivision and development. To be identified as 'significant' a natural area must meet one of the criteria (factors) set out in Schedule 3 of the Auckland Unitary Plan. The indigenous vegetation on 157, 185, 207 Matakana Road in the southern portion of the plan change area is identified as a SEA (SEA_T_6985) and identified as meeting Factor 4 in Schedule 3 of the Unitary Plan (i.e., stepping-stones, migration pathways and buffers). SEA_T_6985 is contiguous with an area of indigenous vegetation on 245 Matakana Road.

Areas of indigenous vegetation subject to covenant are also shown on Figure 3 and occur on 35 Clayden Road (Mills), 43 Clayden Road (Richards) and on the SEA on 157, 185, 207 Matakana Road.

5.0 Terrestrial Vegetation

5.1 Introduction

Key areas of vegetation within the plan change area are listed below, mapped on Figure 4 and described in the following sections:

- Tōtara dominated forest with damaged understorey.
- Tōtara dominated forest with regenerating understorey.
- Podocarp and broadleaf forest (WF11 and WF13).
- Planted native vegetation.
- Mixed native-exotic vegetation
- Recently cleared vegetation.
- Exotic habitats (etc., pasture, dwellings, gardens).
- Wetlands.

5.2 Tōtara Dominated Forest with Damaged Understorey

Tōtara (*Podocarpus totara*) dominated forest occurs in the headwaters of Watercourse E2, lower reaches of Watercourses F, G and I and along an upper reach of Watercourse K across the WLC, 35 Clayden Road (Mills) and 245 Matakana Road (White Light Trust) properties. The block of mature tōtara extending up Watercourse I and headwaters of E2 on the WLC property was damaged by stock grazing and lacked understory and groundcover layers (Figure 5). The understorey was also largely absent from the tōtara forest along Watercourse K on 35 Clayden Road but there were scattered treeferns, kiekie (*Freycinetia banksii*), kiokio (*Parablechnum novae-zelandiae*) and maidenhair (*Adiantum cunninghamii*) on streambanks and occasional māpou (*Myrsine australis*) and māhoe (*Melicytus ramiflorus*) on the terrace above the channel and kānuka along the edges.

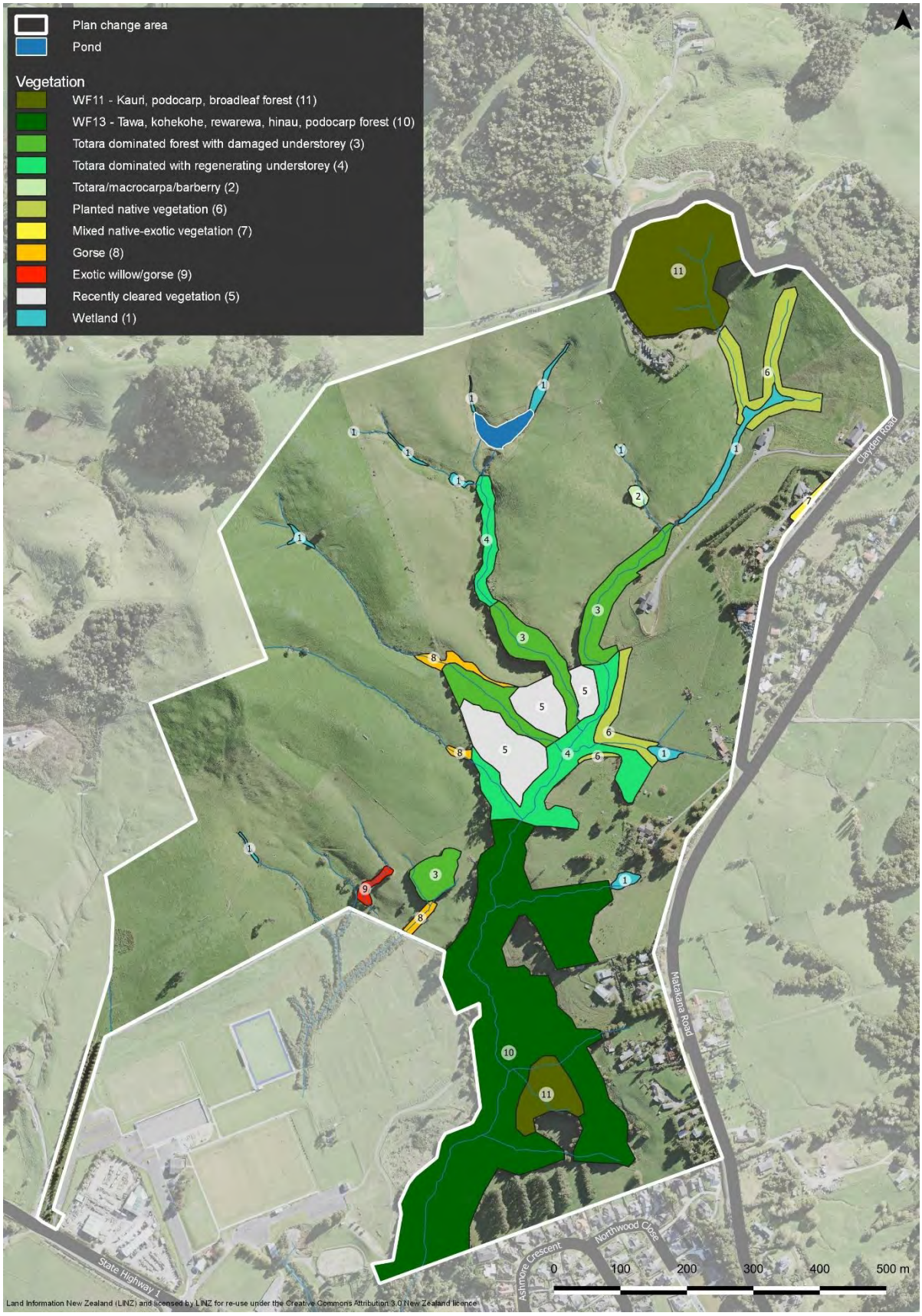

Figure 4: Types of vegetation within the plan change area.

Figure 5: Tōtara in upper Watercourse E2 with absent understory and groundcover.

5.3 Tōtara Dominated Forest with Regenerating Understorey

Tōtara dominated the forest canopy at 245 Matakana Road but other species within the canopy, or emerging above it, were kauri (*Agathis australis*), rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*), tanekaha (*Phyllocladus trichomanoides*) and kānuka (*Kunzea robusta*). With the exception of kānuka, the largest trees of the canopy species reach diameters of *c.*0.8 m at approx. 1.4 m above the ground but most of the tōtara were of smaller diameter. There were also several large radiata pines (*Pinus radiata*) near the southern and western boundaries of 245 Matakana Road.

The most abundant understorey species within the tōtara forest on 245 Matakana Road were māpou, hangehange (*Geniostoma ligustrifolium*), ponga (silver fern, *Cyathea dealbata*), māhoe and *Coprosma* species (e.g., *C. arborea*, *C. lucida*, *C. robusta* (karamu) and *C. grandifolia* (kanono)). Broadleaved tree species that were present only as saplings or seedlings in the understorey included tawa (*Beilschmiedia tawa*), taraire (*B. taraire*), kohekohe (*Dysoxylum spectabile*), karaka (*Corynocarpus laevigatus*), pūriri (*Vitex lucens*), rewarewa (*Knightia excelsa*) and porokaiwhiri (pigeonwood, *Hedycarya arborea*). In the medium to long-term, some of these species could reach the canopy. Other woody species in the understorey were tī kōuka (cabbage tree, *Cordyline australis*), tarata (*Pittosporum eugenioides*), nīkau (*Rhopalostylis sapida*), kawakawa (*Piper excelsum*), pate (*Schefflera digitata*), and putaputawētā (*Carpodetus serratus*). Understorey vegetation along the well-shaded and damp streambanks of deeply incised watercourses draining the tōtara forest comprised a different suite of species including taurepo (*Rhabdothamnus solandri*),

parataniwha (*Elatostema rugosum*), pikopiko (hen and chicken fern, *Asplenium bulbiferum*), filmy ferns (*Hymenophyllum* spp.), thread fern (*Icarus filiformis*) and mamaku (*Cyathea medullaris*).

The forest in 245 Matakana Road was not heavily infested with weeds, which mainly occurred on the forest margins where light levels were higher. Some shade-tolerant species also occur beneath the canopy. Weeds that are scattered on the margins of the forest include gorse *(Ulex europaeus),* cotoneaster (*Cotoneaster* sp.) and tobacco weed (woolly nightshade, *Solanum mauritianum*). Shade-tolerant species present at low densities within the forest included loquat *(Eriobotrya japonica),* climbing asparagus *(Asparagus scandens)*, smilax (A. *asparagoides)*, ginger (*Hedychium* sp.), Chinese privet *(Ligustrum lucidum)* and monkey apple (lilly pilly*, Syzygium* sp.). Three species of exotic trees also reached the canopy: radiata pine, she oak (*Casuarina* sp.) and a single *Eucalyptus*.

The understory of regenerating totara forest in the WLC property comprised a less diverse community of species as that within 245 Matakana Road including such as mingimingi *(Leucopogon fasciculatus)*, karamū, silver fern (*Cyathea dealbata)*, māpou *(Myrsine australis)*, and five-finger *(Pseudopanax arboreus)* with small leaved Coprosma species. Weedy species were present along margins and included gorse, woolly nightshade, and Chinese privet. In the arms of forest that extended eastwards, into pasture, light levels beneath the canopy were higher and allowed exotic grasses to establish in some areas on the forest floor. In the south-eastern corner of the forest it appeared that the understorey had been cleared (presumably for firewood). However, throughout most of the forest the understorey was relatively diverse and dense (Figure 6).

Figure 6: Tōtara dominated area with dense treeferns, kiekie and shrubs.

5.4 Podocarp and Broadleaf Forest (WF11 and WF13)

Field surveys were not carried out on 139 Clayden Road in the northernmost portion of the plan change area or 157, 185, 207 Matakana Road in the southernmost portion of the plan change area where there are areas of indigenous vegetation, as no site access could be arranged. However, it should be noted that these areas of native vegetation are protected by land covenants so will not be directly impacted (i.e., clearance) by any future development.

The area of indigenous vegetation on 139 Clayden Road occurs in the headwaters of Watercourse K and is immediately adjacent to an area of vegetation identified as 'Kauri, podocarp, broadleaf forest' (WF11, Singers et al. 2017) in Auckland Council Geomaps. WF11 vegetation is a diverse forest ecosystem that is commonly derived from logged kauri forest, occurring in warm and sub-humid–humid areas and predominantly on hill-slopes with acidic leached soils. WF11 vegetation has a Regional IUCN threat status of 'Endangered'. Because the vegetation on 139 Clayden Road is immediately adjacent to WF11 vegetation to the immediate north (bisected by Clayden Road) it is shown on Figure 4 as WF11 given its proximity to this vegetation type and is considered significant. A survey would need to be carried out to describe the species and habitats within this area on 139 Clayden Road. The vegetation located within 139 Clayden Road is understood to be protected via covenant.

The area of indigenous vegetation on 157, 185, 207 Matakana Road has been assigned SEA status, is subject to a covenant and is contiguous with the tōtara forest that occurs on 245 Matakana Road and 35 Clayden Road. The vegetation on 157, 185, 207 Matakana Road is identified as 'Tawa, kohekohe, rewarewa, hinau, podocarp forest' (WF13, Singers et al. 2017) on Auckland Council Geomaps (Figure 4). The WF13 vegetation originates in the southwest portion of 245 Matakana Road and extends southwards along the incised gorge (of lower Watercourse K) on properties 157, 185, 207 Matakana Road down to the southern boundary of the plan change area. WF13 is a broadleaved–podocarp forest type that occurs across a wide geographic area and altitudinal range, in warm and sub-humid to humid climates, on a wide range of moderately fertile soil types and has a Regional IUCN threat status of 'Vulnerable'. A survey would need to be carried out to describe the species and habitats within this area.

5.5 Planted Native Vegetation

Planted native vegetation occurs on 245 Matakana Road and on 43 Clayden Road (Richards) and Lot 3 DP 492431 Clayden Road. Plantings comprise mānuka (*Leptospermum scoparium* agg.), harakeke (flax, *Phormium tenax*), tī kōuka, umbrella sedge (*Cyperus ustulatus*) and karamū. On 43 Clayden Road and Lot 3 DP 492431 Clayden Road, bulk planting has taken place along Watercourses K1, L1 and L2 with the planted areas subject to covenant (Figure 7). The plantings along Watercourse K1 extend up to the area of indigenous vegetation identified as probable WF11 in Section 5.4. On the Matakana Road property, the plantings have been established around the edges of the tōtara dominated forest and in a wetland associated with Watercourse M1 (Figure 8). In both cases, the plantings are fenced from the surrounding pasture and stock are excluded. Occasional weed species including pampas (*Cortaderia selloana*) and tobacco weed were noted in these areas.

Figure 7: Planting along Watercourse L2 and wetland on 43 Clayden Road.

Figure 8: Planting along edges of tōtara forest and wetland at 245 Matakana Road.

5.6 Recently Cleared Vegetation

Three areas of vegetation on 245 Matakana Road adjacent to the lower reaches of Watercourses F, G, I and K (Figure 4 and Figure 9). Prior to clearance the vegetation most likely comprised gorse, mānuka and seedlings of other native species. These areas now comprise dead vegetation, bare ground, re-establishing pasture grasses and weeds such as pampas, inkweed (*Phytolacca octandra*), foxglove (*Digitalis purpurea*), tobacco weed and thistles (*Cirsium* spp.). Native species recorded within the cleared areas include toatoa (*Haloragis erecta*) and seedlings of kūmarahou (*Pomaderris kumeraho*).

Figure 9: Cleared vegetation on 245 Matakana Road.

5.7 Mixed Native-exotic Vegetation

Mixed native/exotic vegetation occurs in the Kauri Trustees property bounding the road reserve. Vegetation comprises scattered kauri *(Agathis australis),* totara, karamu, tanekaha *(Phyllocladus trichomanoides)* and tī kōuka above a swathe of the square sedge *(Lepidosperma australe)* and exotic grasses and weeds (e.g. gorse, ivy *(Hedera helix),* Chinese privet and *Cotoneaster* sp.).

A pocket of mature tōtara and macrocarpa *(Cuppress macrocarpa)* individuals are present along Watercourse J. Barberry *(Berberis glaucocarpa)* and arum lily *(Zantedeschia aethiopica)* are common around the margins of mature trees.

5.8 Predominantly Exotic Habitats

Terrestrial vegetation in the area is characterised by a high proportion of pasture used for grazing sheep, cattle and horses (Figure 10). Pasture comprises exotic grasses and herbs e.g. ryegrass (*Lolium perenne*) Yorkshire fog (*Holcus lanatus*), kikuyu grass (*Cenchrus*

clandestinus), clover (*Trifolium* spp.), lotus (*Lotus pedunculatus*), dock (*Rumex* spp.), and buttercup (*Ranunculus* spp.). There is a stand of bamboo (*Bambusa* sp.) and specimen trees (tōtara and kauri) within pasture on 245 Matakana Road.

Figure 10: Typical grazed pasture vegetation within the plan change area.

Figure 11: Mature willow trees.

In wet areas, there are clumps of rushes (*Juncus* spp.) and occasional arum lily (*Zantedeschia aethiopica*). Areas of gorse and willow/gorse also contained occasional woolly nightshade (Figure 11). A London plane tree *(Planatus x acerifolia)* also featured at the uppermost extent of willow/gorse vegetation along Watercourse E.

5.9 Wetland Habitats

Riparian and wetland vegetation outside of pockets of vegetation described above typically comprised pasture with macrophytes such as willow weed (*Perscacaria* spp.), watercress *(Nasturtium offinale)* and rushes (*Juncus* spp.) (Figure 12). Wetland areas were heavily degraded but contained some native species (e.g., *Isolepis pro*lifer). Wetland habitat associated with Watercourse L2 on 49 Clayden Road has been restored (Figure 13).

Figure 12: Wetland habitat and exotic rush vegetation in upper Watercourse K.

Figure 13: Restored wetland habitat in Wetland L2.

5.10 Flora

Eighty-one (81) indigenous vascular taxa were recorded within vegetation and habitat types in the areas surveyed within the plan change area (see Appendix A). There are additional, un-recorded species in cultivation in gardens and around dwellings and within unsurveyed properties. Of the recorded taxa, most are relatively common and are typical of forest in the Rodney Ecological District. However, four species are included in the New Zealand Threat Classification Lists. Mānuka, kānuka, kauri and white rata *(Metrosideros diffusa)* are classified 'Threatened - Nationally Vulnerable' (de Lange et al. 2018). These species were added to the most recent revision of the list in acknowledgement of the threat they each face from diseases (i.e., kauri dieback disease and myrtle rust).

6.0 Terrestrial Fauna

6.1 Avifauna

All birds are protected under the Wildlife Act except those listed in Schedule 5 of the Act. The presence of 'Threatened' and 'At Risk' species would be considered significant if identified within the site. The bird life observed during surveys within the plan change area are presented in Table 1 and generally reflects the modified state of the rural environment. Nine of the nineteen species recorded were native and all species except New Zealand pipit are considered common species typical of urban and rural environments.

Table 1: Bird species identified within the site.

Common name	Scientific name	NZ Status	Conservation status
Australian magpie	*Gymnorhina tibicen*	Introduced	-
Blackbird	*Turdus merula*	Introduced	-
Canada goose	*Branta canadensis*	Introduced	-
Chaffinch	*Fringilla coelebs*	Introduced	-
Common myna	*Acridotheres tristis*	Introduced	-
Eastern rosella	*Platycercus eximius*	Introduced	-
Eurasian blackbird	*Turdus merula*	Introduced	-
Fantail (piwakawaka)	*Rhipidura fuliginosa*	Endemic	Not Threatened
Grey warbler (riroriro)	*Gerygone igata*	Endemic	Not Threatened
Kingfisher (kotare)	*Todiramphus sanctus*	Endemic	Not Threatened
Myna	*Acridotheres tristis*	Introduced	-
New Zealand pipit	*Anthus novaeseelandiae*	Endemic	At Risk (Declining)
Pheasant	*Phasianus colchicus*	Introduced	-
Pūkeko	*Porphyrio melanotus*	Native	Not Threatened
Silvereye (tauhou)	*Zosterops lateralis*	Native	Not Threatened
Tūī	*Prosthemadera novaeseelandiae*	Endemic	Not Threatened
Welcome swallow	*Hirundo neoxena*	Native	Not Threatened
White-faced heron (matuku moana)	*Egretta novaehollandiae*	Native	Not Threatened
Yellowhammer	*Emberiza citrinella*	Introduced	-

The New Zealand pipit is included in the New Zealand Threat Classification Lists in the category 'At Risk – Declining' (Robertson et al. 2017). A pair of New Zealand pipit were observed in wet pasture on the property at 245 Matakana Road. The New Zealand pipit is a ground nesting species, with nests generally being well hidden in clumps of tussock or grass and/ or partially covered with vegetation. Heavily grazed pasture and well drained wetlands tend to hold fewer pipits than rough pasture with patches of fern, marshes or bogs. Before European colonisation, the New Zealand pipit was likely confined to alpine and lowland tussock areas, riverbeds and coastal zones, but the subsequent extensive conversion of forests to pasture undoubtedly benefited New Zealand pipit by providing more of the open habitat to which it appears best-adapted (Garrick 1981).

Tūī is a keystone species and was the most commonly observed species within the native vegetation in the lower reaches of Watercourse I draining the WLC Clayden Block and 245 Matakana Road. Other native bird species that were not observed, but are likely to occur include Kereru (pigeon, *Hemiphaga novaeseelandiae*). In the totara forest there are seedlings of large-fruited trees that aren't represented in the forest canopy (e.g. taraire, karaka, tawa). The fruit of these species may have been dispersed to the site by kereru. Kāhu (Australasian harrier, *Circus approximans*), ruru (morepork, *Ninox novaeseelandiae*) and paradise shelduck *(Tadorna variegata)* are all relatively common native species are probably present within the study area.

eBird Database Records

A total of 2,272 records of birds are listed on the eBird database[1] within 10 km of the site over the period between 1990 to 2018. One hundred species have been recorded, the most common include the native fantail, kākā, wood pigeon, red billed gull, tūī, silvereye, pied shag and sacred kingfisher and the introduced common myna, Eurasian blackbird, house sparrow, laughing kookaburra and mallard. A number of species of conservation interest have been identified. However, with the exception of a few, they are coastal/river species which are generally distributed around the coast and also within the Mahurangi River mouth and are unlikely to be found as far inland as the site. The red billed gull is common in Warkworth township where they are likely to be scavenging.

Freshwater wetland birds within 10 km of the site include the Australasian bittern *(Botaurus poiciloptilus*) which has been recorded twice near Matakana. Australasian bittern typically inhabit wetlands with dense vegetation and cover. Wetland habitat within the plan change area does not appear to be suitable habitat for bittern in its current condition, however it is likely to improve in suitability in some locations as restoration efforts are realised and vegetation establishes.

Land birds of conservation interest identified within 10 km of the site include the New Zealand pipit and kākā. The New Zealand pipit and kākā have a conservation status of 'At Risk' (Declining) and 'At Risk' (Recovering) respectively (Robertson et al. 2017).

The New Zealand pipit has been recorded a total of three times within e Bird records in 2005, 2008 and 2016 and were identified at 245 Matakana Road property during the survey. The extensively grazed pasture habitat within the site is not of particularly high value to pipit and especially for breeding as they seek cover. Despite extensive grazing, there is potential for occasional pipit to occur within the site as evidenced by the pair observed during the survey.

The New Zealand kākā is particularly common within eBird records, with sightings of over 121 individuals recorded. Most have been recorded either flying overhead or

[1] eBird Basic Dataset. Version: EBD_relNov-2017. Cornell Lab of Ornithology, Ithaca, New York. Nov 2017.

roosting/feeding in gardens including on flowering cherry, kōwhai, kahikatea, magnolia, loquats, native bush and apples. Kākā are obligate forest birds that obtain all their food from trees and require large expanses of forested habitat. They can cover long distances (+25 km) and occasionally congregate at localised food sources such as flowering rata, but more often forage alone. Kākā may frequent forest remnants within the site and especially the tōtara and broadleaf, podocarp forest extends along Watercourse K through the middle of the plan change area.

6.2 Herpetofauna

No lizards were encountered during the site visit although a specific search was not conducted. All lizards, except for the introduced rainbow skink are legally protected under an amendment to the Wildlife Act 1953 and their habitats by the Resource Management Act 1991 (Anderson et al. 2012). A significant component of our lizard fauna (~85%) are recognised as 'Threatened' or 'At Risk' in Threat Ranking Lists (Hitchmough et al. 2015).

Herpetofauna records held in the DOC Bioweb Herpetofauna Database within 5 km of the site are shown on Figure 14 and includes the native lizards; copper skink *(Oligosoma aeneum)*, forest geko *(Hoplodactylus granulatus*) and the elegant geko (Auckland green gecko) *(Naultinus elegans*). Hochstetters frog has also been commonly recorded within 5 km of the plan change area in Dome Forest.

Lizard surveys completed as part of the Puhoi to Wellsford motorway upgrade identified copper skink and forest gecko in native forest and mixed native and exotic scrub using a combination of visual searches, artificial lizard retreats, manual searches and nocturnal visual surveys (Wedding et al. 2013). Other lizard species known to the Auckland Region include ornate skink *(Oligosoma ornatum),* moko skink *(Oligosoma moco)* and pacific gecko *(Dactylocnemis pacificus).* Strictly coastal skinks such as shore skink *(Oligosoma smithii)* are also present in the Auckland Region, but are not applicable to the site.

Both the native copper skink and ornate skink are adaptable ground dwelling skinks that prefer habitat such as wood and debris piles, vegetated bush/shrub areas and their interfaces (i.e., adjacent ranks grass). Ornate skink are regarded as 'At Risk' (Declining) by Hitchmough et al. (2015). Grazed pasture and areas of vegetation with heavily damaged understorey do not provide suitable habitat for copper skink or ornate skink.

The tōtara, podocarp and broadleaf forest and adjacent areas of rank grass and also the areas of planted indigenous vegetation may provide habitat for copper skink or ornate skink. Arboreal (forest dwelling) gecko species (i.e., pacific gecko, forest gecko, elegant gecko) may occur within the site in areas of remnant tōtara forest and regenerating scrub/forest. Bioresearches (2018) undertook a lizard survey within the tōtara vegetation on 245 Matakana Road using a combination of opportunistic searching, pitfall traps and nocturnal searches. No skinks or gecko were recorded; however, it could not be discounted that native skinks nor gecko were present at low or less than detectable levels

6.3 Bats

Long-tailed bats in the North Island are regarded as 'Threatened' (nationally vulnerable) by O'Donnell et al. (2013). Short tailed bats are only known to be found on Little Barrier Island making their presence at the site unlikely.

The plan change area is within the ranging distance of known populations of long-tailed bat *(Chalinolobus tuberculatus)* within the Brynderwyn Ranges. Auckland Council complete bat monitoring regularly across the Auckland Region.

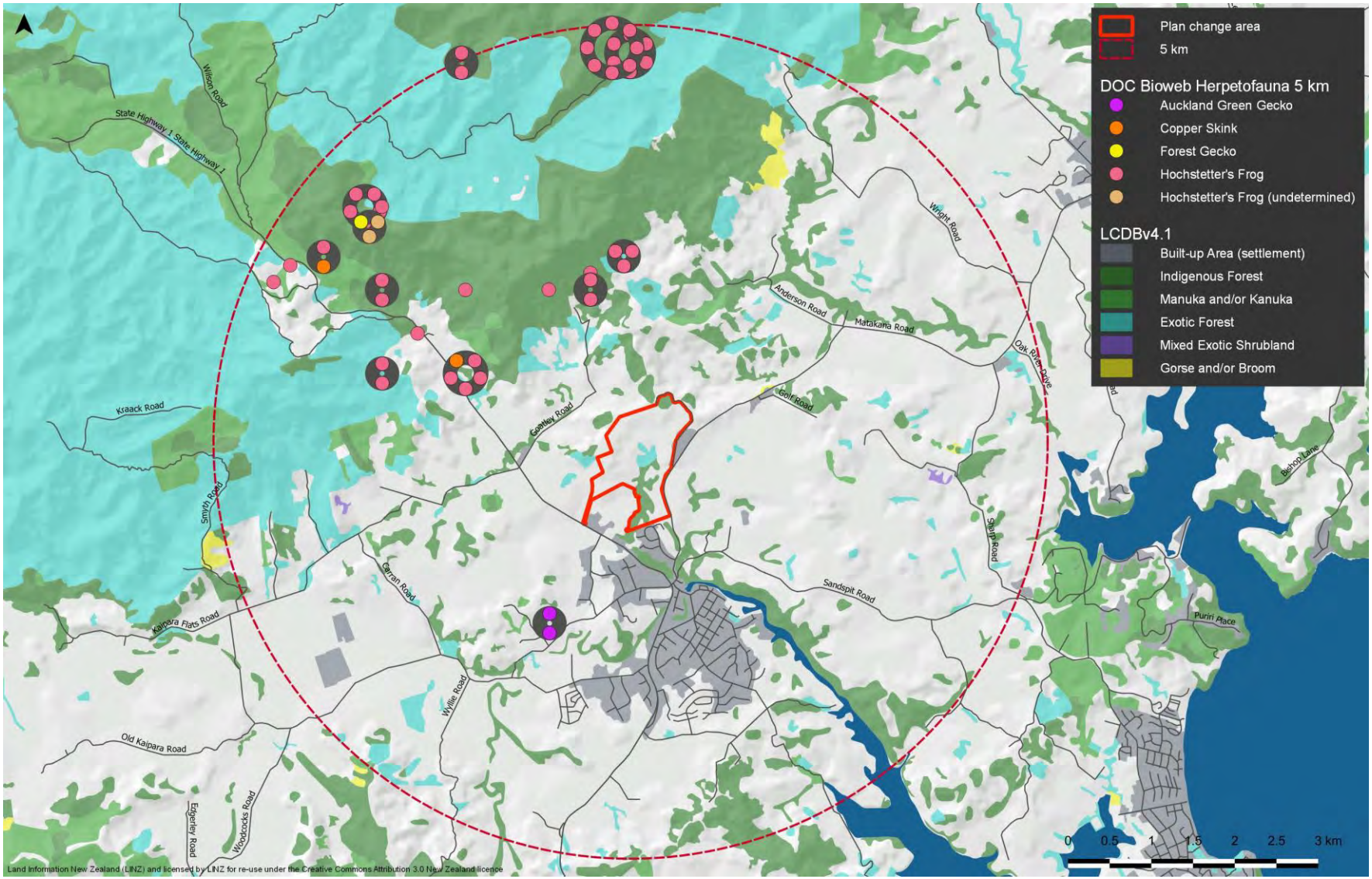

Figure 14: DOC Bioweb Herpetofauna records within 5 km of the site.

Monitoring completed in nearby Tamahunga East and Rodney Road (head of Coxhead Creek) to the northeast of the site has detected bats in 2012 and 2015 respectively. Bats have also been detected to the South west of the site along Ahuroa Road and the Te Araroa Trail in 2014.

Long-tailed bats forage over farmland and urban areas favouring forest edge and riparian habitats where they feed on aquatic insects. Long-tailed bats can cover 50 km in a single night and have ranges extending up to 100 km^2. A study of long-tailed bats within the highly fragmented landscape of South Canterbury found they preferred roosting habitat that included indigenous forest, shrubland remnants and riparian zones (Sedgeley and O'Donnell 2004). Long-tailed bats usually find roosts in large old native canopy trees either beneath the bark or in cavities where they rest during the day and breed. However, they also find suitable roosts in mature exotic trees such as pine and macrocarpa. It is possible bats are present within the site in low numbers, suitable roosts may occur within remnant native vegetation within the site within mature native and exotic trees containing cavities.

Bats were surveyed on 245 Matakana Road using one fixed location automatic bat detector ran for a duration of 14 nights and the use of one handheld recorder used over two nights as part of the Matakana Link Project (Bioresearches 2018). No bats were recorded in mature tōtara or exotic pine which supported cavities and/or epiphytes within which bats could roost. Results indicated that the site was not important habitat to bats at the time of the survey and that although the site may provide some intermittent habitat for bats these potential habitats were of low value (Bioresearches 2018).

7.0 Freshwater Habitats

7.1 Introduction

Freshwater habitats within the plan change area including Watercourses A–Q, ponds and wetlands are shown on Figure 15. The status of watercourses in accordance with AUP criteria (refer to Appendix B) are indicated. An aerial photograph from 1966 and the present-day stream alignments, ponds and wetlands are shown on Figure 16. The following describes each of the watercourses and wetlands based on survey and desktop data, the AUP stream status and SEV data if collected. Watercourses L1, upper K1, K3, O, P and Q were not surveyed directly so the descriptions presented are based on desktop data. Freshwater habitats are described within each of the various land owners' properties.

7.2 Watercourse A, B, C, D, E, E2, F, G (Warkworth Land Company: Stevenson)

Watercourse A (Artificial)

Watercourse A within the site has been highly modified through straightening and deepening (Figure 17) which is evident in historical imagery dating back to 1962. The watercourse originates from a low lying/ boggy area of pasture and crosses through the western bounds of the site below a small farm bridge/crossing. Watercourse A leaves the site on the southern boundary to the north of the show grounds. Below the site, Watercourse A flows through a short culvert below a walkway, before entering a network of swales and concrete lined drainage channels associated with the Warkworth Showgrounds.

Watercourse A was classified as an artificial channel with ephemeral characteristics. There is no natural depression indicating a watercourse in this area of the landscape with any surface water occurring in the wetter seasons likely to be due to the bed being dug below the water table. The classification of ephemeral is consistent with the classification of Watercourse A by Bioresearches (2018) completed in April 2017 and 13 August 2018.

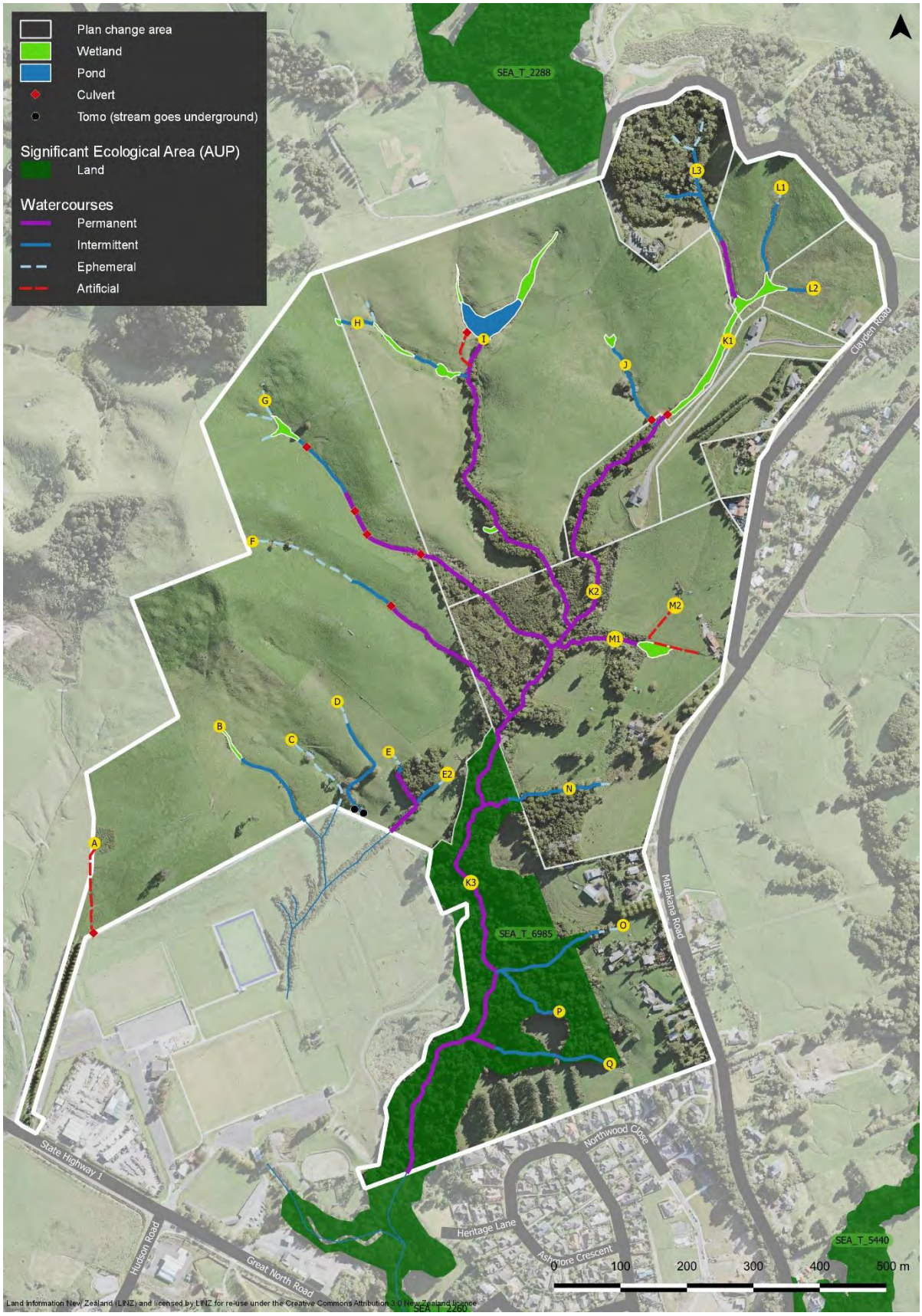

Figure 15: Stream classifications, ponds and wetlands within plan change area.

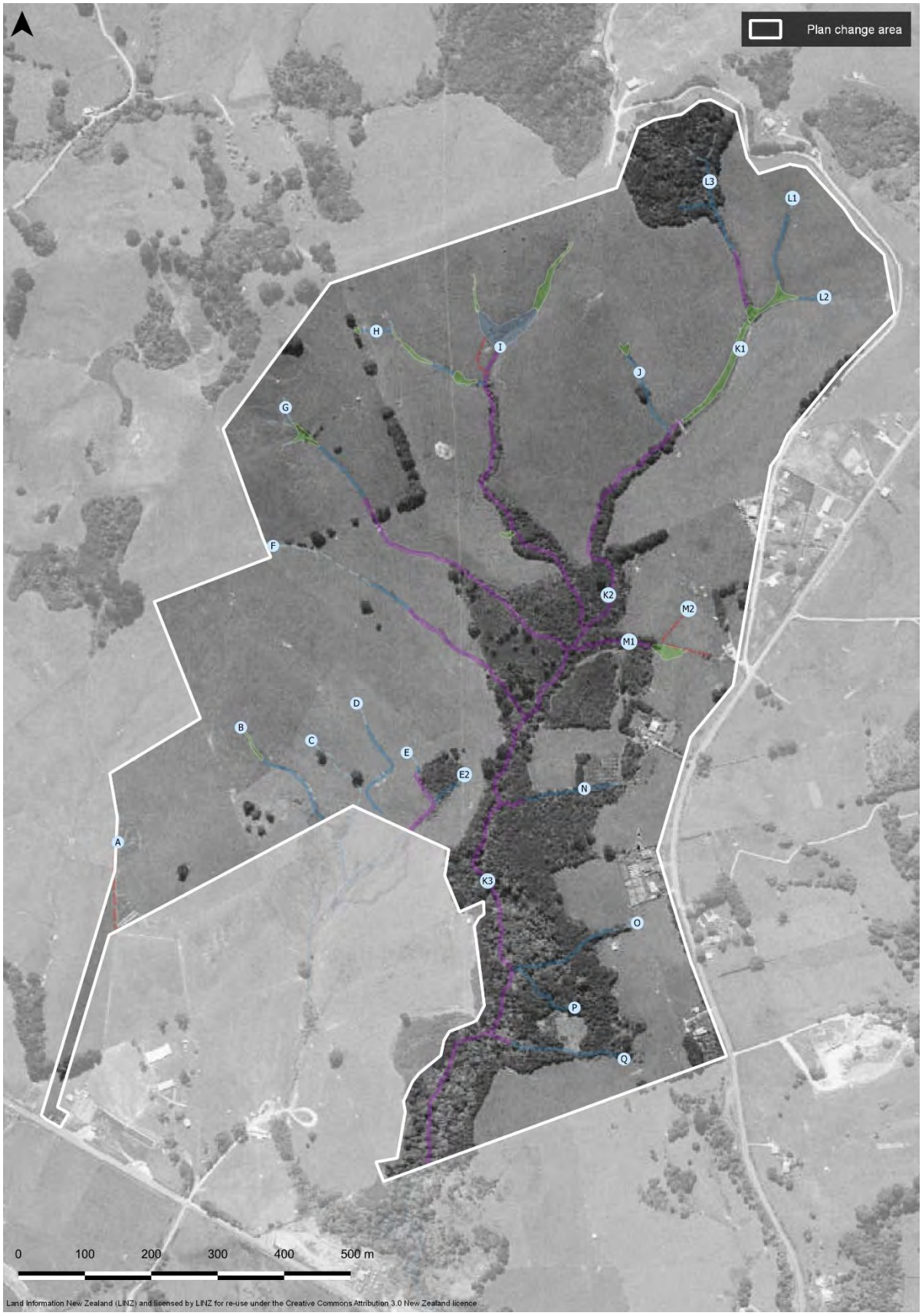

Figure 16: Historical aerial (1966) with existing streams, ponds and wetlands.

Watercourse A had an average dry channel width of 0.6 m, with a uniform straight alignment. No surface water was present in Watercourse A at the time of the survey. Riparian vegetation along Watercourse A was entirely in pasture and was open to grazing stock which has resulted in trampling and pugging. The channel (comprised of silt/mud) was lined with mercer grass *(Paspalum distichum)*.

Figure 17: Watercourse A showing straightened channel.

Watercourse B (Wetland / Intermittent)

Watercourse B originates as a degraded headwater wetland seep (Figure 18) and flows for approximately 200 m within the plan change area before exiting on the southern boundary. Below the site, Watercourse B flows below a wooden footbridge before joining with a tributary that flows through the Warkworth Showgrounds. The lower section of this watercourse within the showgrounds has been planted with a selection of native species.

Riparian vegetation along Watercourse B within the site comprised entirely pasture with occasional gorse and was open to grazing stock (Figure 19). Cattle damage and pugging was evident, particularly in the lower reaches where the channel was widened and undefined. The streambed substrate comprised silt/mud and was lined with grasses including kikuyu. There were very limited occasional areas of surface water <0.01 m deep at the time of the survey. Willow weed (*Persicaria* sp.) was present in small isolated areas at the lower extent of the reach.

The SEV assessment for Watercourse B calculated an overall low score of 0.407 which is indicative of low ecological values. This indicates the stream has been modified, which in this instance is due to farming practices such as vegetation clearance. The lowest function scores were for biodiversity, biogeochemical (water temperature, organic matter input, decontamination of pollutants) and habitat provision. Note, water depths and flow for some cross sections in Watercourse B were estimated due to an absence of surface water.

Figure 18: Headwater seep that Watercourse B originates from.

Figure 19: Watercourse B showing grazing damaged intermittent channel.

Watercourse C (Ephemeral)

Watercourse C is a ~115 m long ephemeral flow path that originates within a shallow gully (Figure 20) and disappears into flat pasture at its lower extent (Figure 21). There was no evidence of surface water in Watercourse C, evidence of streambed sorting processes and there was rooted terrestrial vegetation throughout the channel. There was a poorly defined gully depression in the upper extent, but no distinguishable watercourse or channel in the lower extent. Watercourse C had minimal riparian vegetation aside from a willow in the upper extent and was in pasture open to grazing stock.

Figure 20: Upper extent of Watercourse C (shallow gully).

Figure 21: Lower extent of Watercourse C (flat pasture).

Watercourse D (Ephemeral / Intermittent)

Watercourse D originates within pasture from a grazing damaged 19 m long ephemeral reach. It flows in a southerly direction within a mixture of deeply incised channel and poorly defined channel for approximately 80 m (Figure 22) before changing direction to southwest and heading into a steep, deeply incised and well-defined channel section with large drops in channel height (Figure 23). The open channel intermittent section of Watercourse D is 176 m and terminates at a sinkhole (on-site) then flows underground offsite.

Riparian vegetation along Watercourse D is limited to stock grazed pasture, with some mature London plane trees and willow within the lower extent which provide low shading and heavy leaf litter inputs. Aquatic habitat at the time of the survey was marginal and limited to isolated pools (<0.07–1.0 m deep) with no flow at the time of the survey. The channel lacked shade along most of the reach due to lack of riparian vegetation. Both the steep drops within the hill section and the base of the watercourse where the stream becomes subterranean may present natural partial barriers to fish migration.

The SEV score for Watercourse D was 0.409 and indicative of low ecological values. The stream has been modified through farming practices (e.g., vegetation clearance, tile drains). The lowest function scores were for biodiversity, biogeochemical (water temperature) and habitat provision. Watercourse D also scored low comparative to the other intermittent streams within the WLC block with regard to connectivity to natural species migration due to the presence of barriers to fish migration.

Figure 22: Watercourse D upper reach.

Figure 23: Watercourse D lower reach.

Watercourse E (Ephemeral / Intermittent / Permanent)

Watercourse E originates above a stand of tōtara in grazed pasture as an 18 m long ephemeral flow path and transitions into a short (11 m) intermittent section near the bush line (Figure 24) before transitioning into a 115 m long permanent section (Figure 25).

The streambed comprised silt/ mud, with occasional gravel and woody debris and was well defined in the bush section, transitioning to open and pugged in the lower reaches where riparian vegetation was dominated by pasture and gorse. The permanent section had a narrow channel (0.2–0.7 m wide), was shallow (0.01–0.17 m) and slow flowing (<0.01 m/s). Channel shading was moderate within the bush section and was provided by steep streambanks of the incision channel and vegetation (e.g., mature tōtara and streamside ferns). Channel shading in the lower reaches was lower and macrophytes such as watercress *(Nasturtium officinale)* and *Ludwigia palustris* were common.

The SEV score for Watercourse E was 0.522 and indicative of low-moderate ecological values and function. Watercourse E has been modified through vegetation clearance. The lowest function scores for Watercourse E was for biodiversity and habitat provision.

Watercourse E2 (Ephemeral / Intermittent)

Watercourse E2 originates in a short (17 m) ephemeral flow path that transitions into a 46 m long intermittent section that flows along the edge of a stand of mature tōtara before draining into Watercourse E (Figure 26). Riparian vegetation comprises tōtara on the true-right bank and gorse and pasture on the true-left bank.

The stream channel was poorly defined, lined with rank grasses and buttercup and heavily pugged in the lower extent. Streambank erosion and slumping was common. Small areas of surface water were present on the silt/mud substrate at the time of the survey.

Figure 24: Watercourse E showing intermittent section.

Figure 25: Watercourse E showing lower permanent section.

Figure 26: Watercourse E2.

Watercourse F (Ephemeral / Intermittent / Permanent)

Watercourse F originates as a 173 m long ephemeral flow path in open pasture and transitions into a 71 m long intermittent section (Figure 27). The intermittent section becomes permanent below a culvert where it flows for a further 147 m over pasture down to the boundary with 245 Matakana Road. Watercourse F flows from the WLC block into the tōtara forest on 245 Matakana Road and continues for a further 105 m within a deeply incised, moderately steep gully before discharging to the mainstem Watercourse K that flows through the plan change area.

The mid-upper section contains minimal riparian vegetation on the WLC block and comprises a small cluster of gorse and grazed pasture. The upper section has a silt/mud bed, is poorly defined and cattle pugged in the upper reaches and deeply incised in the lower reaches. Aquatic habitat comprised shallow run/pool habitat and willow weed was common throughout the upper section. The lower section within the tōtara forest has a well-defined channel, drains a steep and deeply incised gully, well-shaded, has a streambed comprising bedrock, gravels and silt.

The SEV assessment for the upper section of Watercourse F draining pasture on the WLC bloc was 0.350 and indicative of low ecological value. An SEV survey was not carried out on the lower section of Watercourse F draining tōtara forest on 245 Matakana Road but a nearby stream draining the same vegetation (i.e., Watercourse M1) had an SEV of 0.691 and indicative of high ecological values and function. The lower section of Watercourse F is likely to have a moderate-high SEV score but will be lower than Watercourse M1 due to recent vegetation clearance in the area (see Figure 4 for cleared areas).

Figure 27: Upper intermittent section of Watercourse F on WLC block.

Figure 28: Lower permanent section of Watercourse F on 245 Matakana Road.

Watercourse G (Ephemeral / Wetland / Intermittent / Permanent)

Watercourse G originates as ephemeral flow path branches that converge to form a wetland seep in the headwaters of the catchment. The seep discharges into a 106 m long intermittent section within a broad gully (Figure 29) that transitions into a 173 m long permanent section within a steeper V-shaped gully in grazed pasture. Riparian vegetation for the majority of this mid-upper section comprises grazed pasture down to where it discharges into the tōtara forested area that extends into 245 Matakana Road. The lower section within the tōtara forest is 98 m and discharges into the Watercourse K mainstem.

The mid-upper section of Watercourse G is generally poorly defined, heavily pugged and damaged from cattle trampling and grazing. The mid-section of Watercourse G becomes more deeply incised and defined as it flows into an increasingly steeper V-shaped gully before entering the tōtara forested area. Two mid-upper section is poorly shaded due to the lack of riparian vegetation and exotic emergent macrophytes including willow weed, starwort *(Callitriche stagnalis)* and *Ludwigia palustris* choke the channel. The lower section within the tōtara forest on 245 Matakana Road has a steeper channel gradient with the streambed comprising bedrock ramp/outcrops and silted pools. The channel is well shaded and habitat is diverse with a high proportion of woody debris and leaf litter (Figure 30).

The SEV score for the upper Watercourse G draining grazed pasture was 0.404 and indicative of low ecological value. The reach scored low for biodiversity, habitat provision and biogeochemical functions. The lower Watercourse G draining the tōtara forest is likely to have a high SEV score similar to that recorded for Watercourse M1 although it will be lower due to nearby vegetation clearance (see Figure 4 for cleared areas).

Figure 29: Upper section of Watercourse G showing grazing damaged channel.

Figure 30: Lower section of Watercourse G on 245 Matakana Road.

7.3 Watercourse H, I, J, K wetland (Warkworth Land Company: Clayden)

Watercourse H (Wetland / Ephemeral / Intermittent)

Watercourse H is a tributary of Watercourse I which originates from two short ephemeral flow paths and a wetland seep that alternates between intermittent stream and wetland habitat to its convergence with Watercourse I (Figure 31). Watercourse H lacks riparian vegetation and is poorly shaded. The stream channel alternates between wetland and slumping areas and is lined with grass (kikuyu), soft rush *(Juncus effusus)* and willow weed.

Figure 31: View of Watercourse H (looking upstream).

Watercourse I (Wetland / Pond / Permanent)

Watercourse I is a permanent stream that drains the WLC site (Clayden block) and flows into Watercourse K mainstem via 245 Matakana Road. The watercourse receives inflows from spring seeps and an online pond and flows in a southerly direction converging with Watercourse K, which is the mainstem watercourse draining the plan change area. The length of permanent stream habitat below the pond is approximately 526 m.

The upper section immediately below the pond (approx. 40 m) was highly modified with stock access, an undefined pugged channel, slumped banks and poor shading due to the lack of riparian vegetation (Figure 32). Below this, Watercourse I is well shaded by native regenerating riparian vegetation approximately 10 m wide on each streambank, comprised of mānuka, kanuka, tōtara and māhoe, with a sparse understory and groundcover layer for approximately 210 m. The lower 200 m within the site is well shaded by a stand of mature tōtara, with absent understory and groundcover layer. Vegetation is fenced on the true left bank, but open to stock grazing on the true right bank and this has resulted in vegetation with a damaged understory and groundcover through browsing and trampling damage.

The channel was deeply incised for much of its length with a U-shaped profile and limited connection with the floodplain during baseflow conditions (Figure 33 and Figure 34). Channel widths and depths were variable with widths ranging between 0.9–2.1 m and depths between 0.02–0.4 m. The streambed comprises weathered clay, bedrock and silt/sand with occasional woody debris and leaves. Aquatic habitat comprised slow flowing shallow run, pools and chutes.

The SEV score for the upper Watercourse I draining the mid-reaches was 0.615 and indicative of moderate ecological values. The score reflects the native riparian vegetation along the surveyed section. The lower reaches on 245 Matakana Road had denser riparian vegetation and is likely to have a higher SEV score.

Figure 32: View of pond draining into upper permanent section of Watercourse I.

Figure 33: View of mid Watercourse I showing slow moving run habitat.

Figure 34: View of lower Watercourse I showing incised channel.

Watercourse I Pond

One artificial pond occurs in the upper reaches of Watercourse I (Figure 35). The pond had a narrow band of *Juncus* sp. and lacked a vegetated riparian margin. The poorly shaded pond provides poor quality still water habitat of low ecological value to the catchment. The pond is likely to be adversely affecting downstream water quality (i.e., dissolved oxygen and temperature) and particularly during summer months after rainfall when temperatures will be elevated and the pond in discharging into the downstream environment.

Figure 35: View of Pond above Watercourse I.

Watercourse J (Wetland/ Intermittent)

Watercourse J is approximately 128 m in length and originates in a shallow gully within a grazed paddock. The upper and lower sections had a wide and poorly defined channel due to stock grazing. The channel was choked with exotic grasses and supported emergent macrophytes including willow weed and starwort (Figure 36). Periphyton was also recorded in the upper reaches. The mid-section was protected from stock by a sprawling macrocarpa tree and had a defined channel (with small amounts of channel incision) and moderate channel shading (Figure 37).

Watercourse J represents a highly modified environment and provides marginal aquatic habitat of poor quality for aquatic fauna due to grazing damage and the limited amount of surface water at the time of the survey. The SEV score for Watercourse J was 0.423 and indicative of low ecological value.

Figure 36: Watercourse J showing macrophyte and periphyton growth.

Figure 37: Mid-section of Watercourse J showing defined and incised channel.

Wetland K

Wetland K originates in the vicinity of the convergence between the headwater tributaries Watercourses L1, L2 and L3 that originate on 139 Clayden Road and Lot 3 DP492431 Clayden Road. Wetland K has been planted, fenced and subject to a covenant in the upper extent on 139 Clayden Road and Lot 3 DP492431 Clayden Road but drains grazed pasture on the WLC (Clayden) block. Wetland K represents the uppermost reaches of Watercourse K which is the mainstem watercourse that drains the plan change area. Wetland K is heavily degraded through grazing and cattle damage and retains very little natural character (Figure 38). The most commonly occurring native species is *Isolepis prolifer* but the majority of the wetland is dominated by exotic grasses bordered by rushes (*Juncus* spp.). Wetland K grades into the defined channel and tōtara lined section of Watercourse K that extends downstream from the boundary with 35 Clayden Road.

Figure 38: Poorly vegetated and open section of Wetland K in upper catchment.

7.4 Watercourse L1, L2, L3 (43, 139, Lot 3 DP 492431 Clayden Road)

Watercourses L1 and L2

Watercourses L1, L2 and L3 are the uppermost headwater reaches of the mainstem Watercourse K that drains through the plan change area. These headwater branches converge to form Wetland K that becomes the single mainstem branch of Watercourse K. Watercourses L1, L2 and L3 have been recently planted, fenced from grazing and subject to a covenant. Watercourses L1 and L2 have poorly defined intermittent channels with

shorter upper ephemeral sections and are more wetland-like in character than flowing streams (Figure 39). Watercourse L3 originates in an area of indigenous vegetation and has a more defied channel with intermittent and permanent stream characteristics. Although recently planted, Watercourses L1 and L2 still have habitat characteristics that reflect a long history of grazing pressure but will benefit from the planting/fencing over time.

Figure 39: Wetland habitat along Watercourse L2.

7.5 Watercourse K (upper), M1, M2, N (35 Clayden Road)

Watercourses K

Watercourse K discharges from the degraded wetland on the WLC (Clayden) site into an incised and well-defined permanent stream channel at the boundary with 35 Clayden Road. The length of Watercourse K on 35 Clayden Road is 278 m and is lined with mature tōtara trees that provide shade but has a sparse understorey and groundcover. The streambed comprises solid bedrock that forms ramped sections that discharge into moderately deep pools that contain a higher proportion of silt on the bed. Streambanks were steep, undercut in places and provided good overhead cover for native fish. There was however evidence of streambank erosion, slumping and blockage of the channel. Water was flowing at the time of the survey, and in combination with an abundance of woody debris and leaf litter, instream habitat was assessed as being of moderate-high quality for invertebrates and fish.

Figure 40: Habitat along upper reaches of Watercourse K on 35 Clayden Road.

7.6 Watercourse K (mid), M1, M2, N (245 Matakana Road)

Watercourse K (mid-section)

The mid-section of Watercourse A drains 245 Matakana Road and is a permanent stream that extends for approximately 362 m down to the boundary with neighbouring property (157–223 Matakana Road). The channel has variable widths (1.0–6.0 m), water depths (0.02 to >1 m), range of flow velocities (0.1–0.7 m/s) and provides diverse aquatic habitat of high quality for invertebrates and fish (i.e., riffles, run, pool, ramps) (Figure 41, Figure 42).

The streambed is coarse and made up by small/large cobbles, gravels and sand/silt with woody debris and leaf litter recorded as abundant. Streambanks are well vegetated by trees, shrubs and groundcover species and are stable with no evidence of erosion or accelerated sedimentation. The mid-section of Watercourse K drains inside an incised gorge with steep well-vegetated sides. The channel meanders naturally through the surrounding tōtara forest with the channel becoming progressively wider and the number of large bedrock outcrops increasing in size and height with distance downstream.

The SEV score for the mid-section of Watercourse K was 0.799 and indicative of high ecological values and function. Watercourse K has wide riparian margins (typically >20 m on each bank) and drains a steep sided gorge so is mostly unmodified. Watercourse K is likely to provide moderate-good quality spawning habitat for banded kōkopu.

Figure 41: Habitat along mid-section of Watercourse K on 245 Matakana Road.

Figure 42: Bedrock outcrop and deep pool on Watercourse K.

Watercourse M1 and M2

Watercourse M1 originates as a wetland area with an artificial channel dug alongside it and surrounded by grazed pasture (Figure 43). The wetland was highly degraded through grazing damage and retains very little natural character with the majority of the wetland being dominated by exotic grasses and rushes (*Juncus* spp.). The grazed wetland discharged into a fenced off area that has been planted with native species including sedges, flax and cabbage trees (see Figure 8 in Section 5.5). The sedge wetland changes into a permanent mid-lower section that drains a narrow steep sided gully surrounded by native vegetation with occasional weed encroachment before discharging into Watercourse K. The mid-section has a stable well-defined channel, high proportion of woody debris and leaf litter and provides habitat of high quality for invertebrates (Figure 44). The SEV score for Watercourse M1 was 0.691 and indicative of moderate-high ecological values.

Figure 43: Degraded grazed wetland in headwaters of Watercourse M1.

Figure 44: Mid-lower section of Watercourse M1 within narrow gully.

Watercourse N2 is an artificial channel of very low ecological value that discharges into the grazed and degraded wetland in the headwaters of Watercourse M1

Watercourse N

Watercourse N originates as a short ephemeral section on grazed pasture and transitions abruptly into a permanent channel section at the fence line around an area of indigenous vegetation. The permanent section of Watercourse N is deeply incised, has a silt dominated streambed with some bedrock outcrops, is well shaded, has an abundance of woody debris, undercut banks and comprises mostly pool/run and chute habitat (Figure 45).

Figure 45: Watercourse N within area of indigenous vegetation.

7.7 Watercourse K (lower), O, P, Q (157–223 Matakana Road)

Watercourse K (lower section), O, P and Q

Surveys were not carried out on the lower section of Watercourse K, O, P and Q on 157–223 Matakana Road. The lower section of Watercourse K will have characteristics similar to that which occurs along the mid-section near the western boundary of 245 Matakana Road. The lower section has a wide (3–8 m) and deep (>1 m) channel with habitat characterised by large bedrock outcrops and deep pools (Figure 46). The streambed is diverse and comprises bedrock, boulders, cobbles, gravel and sand/silt. The channel is well shaded by dense native vegetation of high quality that extends for >20 m on each bank. The lower section of Watercourse K drains an SEA, an area subject to a covenant, and although an SEV was not carried out, is likely to have high ecological values (i.e., >0.800).

Figure 46: Lower section of Watercourse K showing bedrock outcrops and pools.

8.0 Water Quality and Aquatic Biota

8.1 Water Physiochemistry

Water temperatures ranged between 14.3–18.4°C in Watercourses I and G respectively during the April 2019 survey and between 13.1–16.5°C in Watercourse K (upper and mid sections) during the September 2019 survey (Table 2). Naturally, streams with poorer shade had higher water temperatures, and in the case of upper Watercourse K2, was measured in a shaded section immediately below an open wetland section in the upper reaches of the catchment.

Dissolved oxygen (DO) levels ranged between 36–94% and 3.4–9.6 g/m³ in Watercourses F, G, I and J in April 2019 and between 92–99% and 9.0–10.4 g/m^3 in Watercourses K (upper and mid) and M1 in September 2019. The open channel reaches draining grazed pasture had poor DO levels compared with the well-shaded mainstem Watercourse K and M1 draining tōtara forest on 245 Matakana Road.

Conductivity ranged between 47 and 127.9 µS/cm in Watercourse G and F during the April 2019 survey and between 86 and 97 µS/cm in Watercourses K2 and M1 during the September 2019 survey and indicative of low concentrations of dissolved ions on both occasions and minimal evidence of potential nutrient enrichment.

Overall, dissolved oxygen may have been limiting invertebrate and fish communities in sections of Watercourse J, G and F draining open grazed pasture during the April 2019 survey. Water physicochemistry was understandably of higher quality in Watercourses K and M1, which drain the tōtara forest on 245 Matakana Road.

Table 2: Water physicochemistry measured at sampling sites.

Site	Date	Time	Temperature (°C)	Conductivity (µS/cm)	Dissolved oxygen	
					(%)	(g/m^3)
I	17 April 2019	11.00 a.m.	14.3	71	94	9.6
J	17 April 2019	12.45 p.m.	16.7	71	70	6.8
G	17 April 2019	3.45 p.m.	18.4	47	36	3.4
F	17 April 2019	4.15 p.m.	14.9	128	62	6.2
M1	19 September 2019	11.00 a.m.	13.5	97	94	9.8
K2 (Mills)	19 September 2019	2:30 p.m.	16.5	86	92	9.0
K2 (Matakana)	19 September 2019	12:15 p.m.	13.1	87	99	10.4

Water quality parameters were measured by Bioresearches (2018) in Watercourses A, B and D. Results presented in Bioresearches (2018) are summarised in Table 3. Water temperatures recorded by Bioresearches (2018) ranged between 16.1–18.1°C and comparable with those measured in the present study in streams with open channels draining grazed pasture (e.g., Watercourse J, upper G). Conductivity results from Bioresearches (2018) was similar to the present study and indicating low dissolved ion concentrations. Dissolved oxygen levels measured by Bioresearches (2018) were low and likely to have been limiting sensitive aquatic invertebrates at the time of their survey (particularly Watercourses A and B) as was similar recorded in the present survey in poorly shaded watercourses draining grazed pasture.

Table 3: Water physicochemistry measured by Bioresearches (2018).

Watercourse	Time	Temperature (°C)	Conductivity (µS/cm)	Dissolved oxygen	
				(%)	(g/m^3)
A	10:30 a.m.	17.6	112	48	4.97
B	12:30 p.m.	18.1	88	57	5.23
D	11:00 a.m.	17.5	65	79	7.57
F	10:45 a.m.	16.1	81	82	7.88

8.2 Benthic Invertebrates

Invertebrates were sampled from six streams within the plan change area and over a range of different habitat types and instream habitat quality (F, G, I, J, K, M1). The relative abundance of the main taxonomic groups recorded from streams within the site is presented in Figure 47. Raw invertebrate data is presented in full in Appendix C. Bioresearches (2018) surveyed Watercourses B, D and F within the site (known as B, D and E in Bioresearches respectively). A summary of macroinvertebrate characteristics from both Freshwater Solutions sampling and Bioresearches (2018) is presented in Table 4.

Table 4: Invertebrate indices in present study and in Bioresearches (2018).

Site	Data	Habitat sampled	Taxa	Abundance	EPT taxa	%EPT	MCI-sb	Dominant taxon
B	Bio	Int	13	-	-	-	87	Ostracoda
D	Bio	Int	16	-	2	1	74	Culicidae (*Culex* sp.)
F	Bio	Perm	14	-	2	44	119	*Polyplectropus*
F	FSL	Perm	17	1,810	1	-	71	Acarina
G	FSL	Perm	18	790	1	-	85	Diptera *(Culicidae)*
I	FSL	Perm	24	673	2	2	71	Oligochaeta
J	FSL	Int	8	790	-	-	73	Diptera (*Chironomus*)
K (mid)	FSL	Perm	23	94	5	7	102	*Austrosimulium*
M1	FSL	Perm	12	186	2	5	123	*Paraleptamphopus*

Note: Bio = Bioresearches; FSL = Freshwater Solutions.

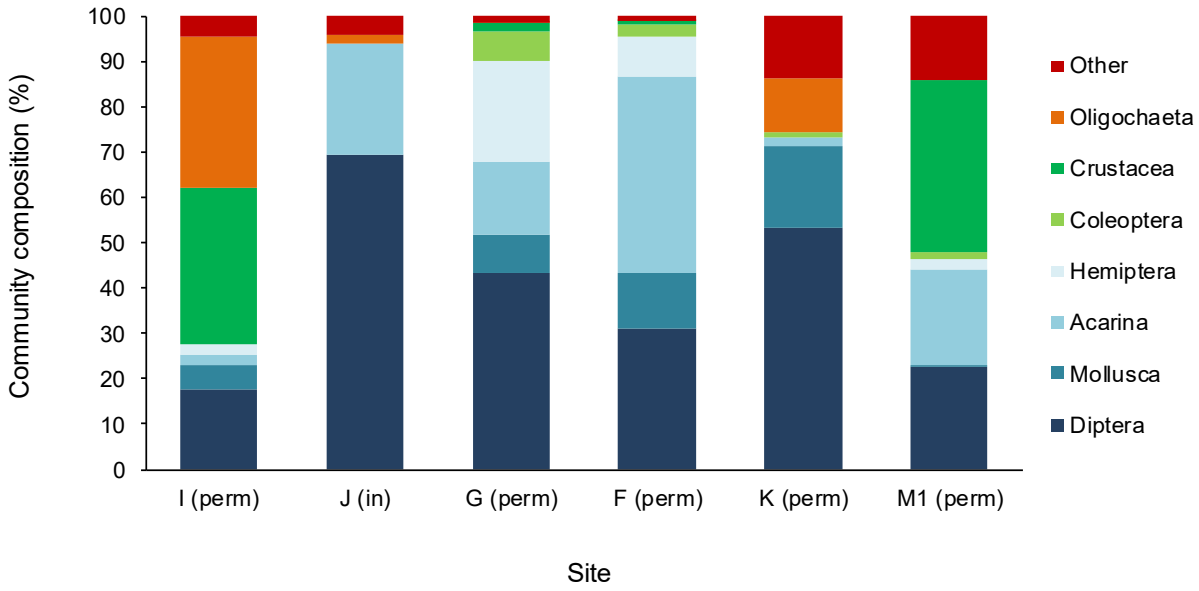

Figure 47: Relative abundance of the main invertebrate taxonomic groups recorded from watercourses within the plan change area.

Taxa richness ranged between 8 taxa from the intermittent Watercourse J and 23–24 taxa from Watercourses K2 and I. Invertebrate abundance was highly variable between streams and ranged between 94 individuals/m² in Watercourse K and 1,810 individuals/m² in Watercourse F. The most common taxonomic groups recorded across sites were Diptera and Crustacea (Figure 47). Mayflies and stoneflies were rare and were only recorded from the streams draining the tōtara forest (i.e., Watercourses K, M1) where *Austroclima*, *Zephlebia* and *Acroperla* were present in low numbers. Caddisflies were recorded in low diversity and abundance with taxa recorded including *Hydrobiosis*, *Polyplectropus*, *Psilochorema* and *Triplectides*. Kōura were common in the mainstem Watercourse K and tributaries draining the tōtara forest. MCI-sb scores ranged between 68 and 105 for Watercourses J and M1 respectively and indicative of between 'poor' to 'good' health.

8.3 Freshwater Fish

Fish were surveyed in Watercourse G, I (upper, lower), M1 and K2. Four shortfin eel (200–400 mm length) were recorded from Watercourse I. A longfin eel (550 mm length) was recorded from Watercourse M1. Fish recorded from the mainstem Watercourse K included two banded kōkopu (110–160 mm length; Figure 49) and eight shortfin eel (120–620 mm length). Kōura were common in Watercourse K and the tributaries (lower F, G, I, M1) that drained the tōtara forest on 245 Matakana Road. Bioresearches (2018) did not record fish in Watercourses B, D and F during a backpack electric fishing machine survey.

The New Zealand Freshwater Fish Database (NZFFD) does not contain any records of freshwater fish within the plan change area. There are 92 records of fish and kōura (freshwater crayfish) between 1989 and 2018 within small tributaries draining into the lower reaches of the Mahurangi River and into the wider Mahurangi Harbour (Figure 48). Eight native fish species including shortfin eel, longfin eel, banded kōkopu, īnanga, giant bully, common bully, redfin bully and Cran's bully have been recorded from the catchment. There of these species are of conservation interest: longfin eel and īnanga which are 'At Risk' (Declining) and giant bully which are 'Naturally Uncommon' (Dunn et al. 2017). The most commonly recorded species in the catchment are banded kōkopu.

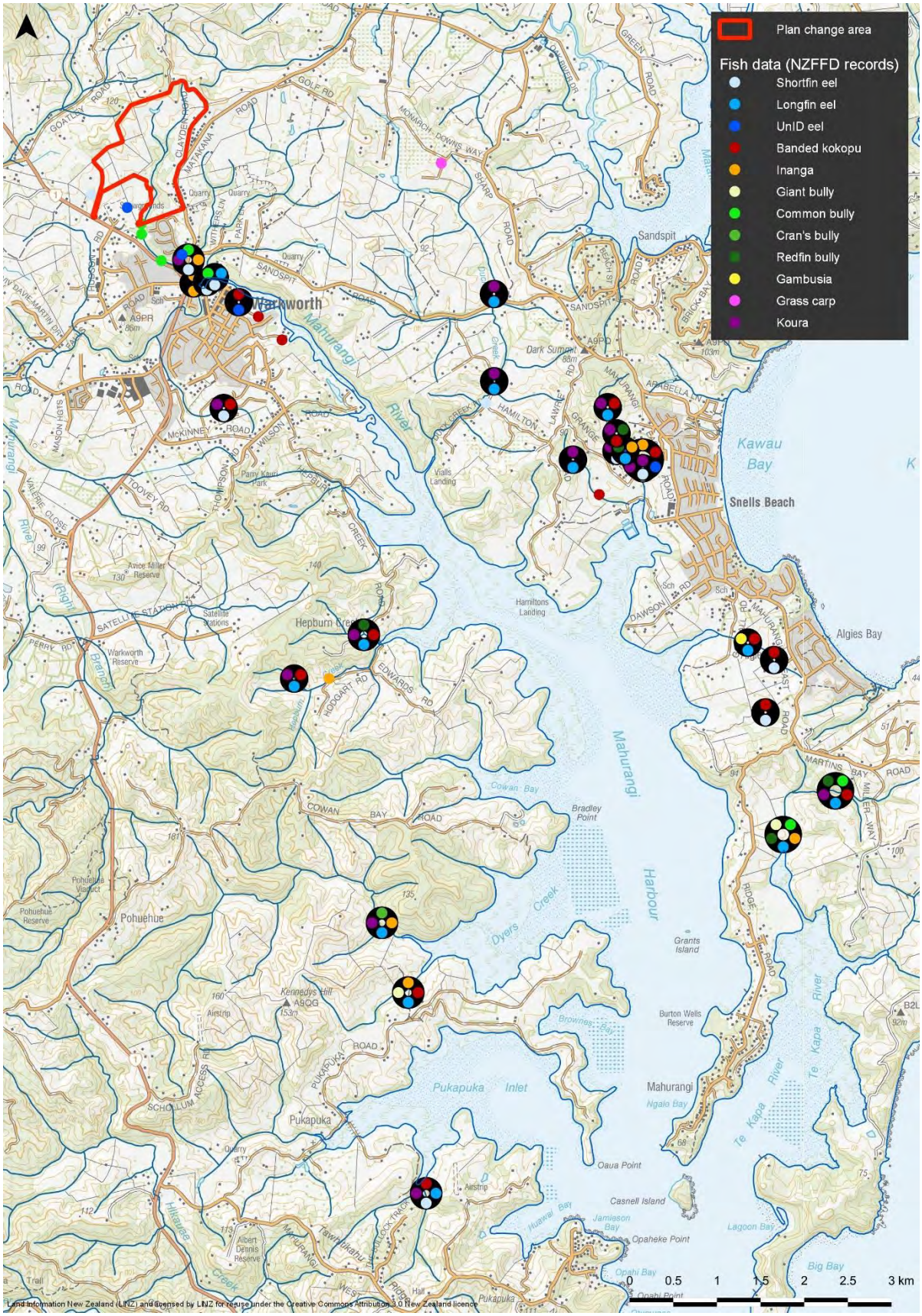

Figure 48: NZFFD fish records for the lower Mahurangi River catchment.

Overall, there is limited habitat for freshwater fish within the site with the exception of the mainstem of Watercourse K and the lower reaches of tributaries that flow into it and drain areas of indigenous vegetation (e.g., lower Watercourse F, G, I, M1, N, O, P). Most of the watercourses draining grazed pasture are highly modified water short intermittent or ephemeral streams that lack defined channels, hold shallow surface water, lack vegetated riparian margins and have poor overhead cover so provide poor habitat for native fish with the possible exception of shortfin eels.

Figure 49: Banded kōkopu recorded from Watercourse K within tōtara forest.

9.0 Ecological Values and Constraints

9.1 Terrestrial Environment

Significant Ecological Areas and Covenants

The area of indigenous vegetation on 157–223 Matakana Road in the southern portion of the plan change area is mostly identified as a SEA (SEA_T_6985 and forest type WF13) in the AUP. No other SEA areas have been recognised in the plan change area. A number of covenants legally protect the SEA area and the vegetation values within 139 Clayden Road (Forest type WF11), the WLC (Clayden) and Mills blocks and native plantings within Lot 3 DP 492431, Clayden Road. The constraints/management requirements of these areas will be drafted in each individual covenant, and these areas are protected from future development (Figure 50).

Threatened Flora Species

Of the recorded taxa, most are relatively common and are typical of forest in the Rodney Ecological District. However, four species are included in the New Zealand Threat Classification Lists. Kauri and white rata are classified 'Threatened - Nationally Vulnerable' (de Lange et al. 2018). These species were added to the most recent revision of the list in acknowledgement of the threat they each face from diseases (i.e., kauri dieback disease and myrtle rust). Where these species occur within existing blocks of native vegetation they should be protected and where these species occur singularly in pasture they should be retained where possible.

Native Forested Areas

The native forested areas not already protected via land covenant (as indicated in pink on Figure 50) has a role in enhancing instream habitat and is habitat for a suite of native plants and animals. While most of the species associated with these habitats are relatively common, four 'threatened' plant species were recorded (manuka, kanuka, kauri and white rata) and it is almost certainly habitat for one 'At Risk' species (kaka). In addition, it may provide habitat for long-tailed bats (Threatened-Nationally Critical) and/or native lizards.

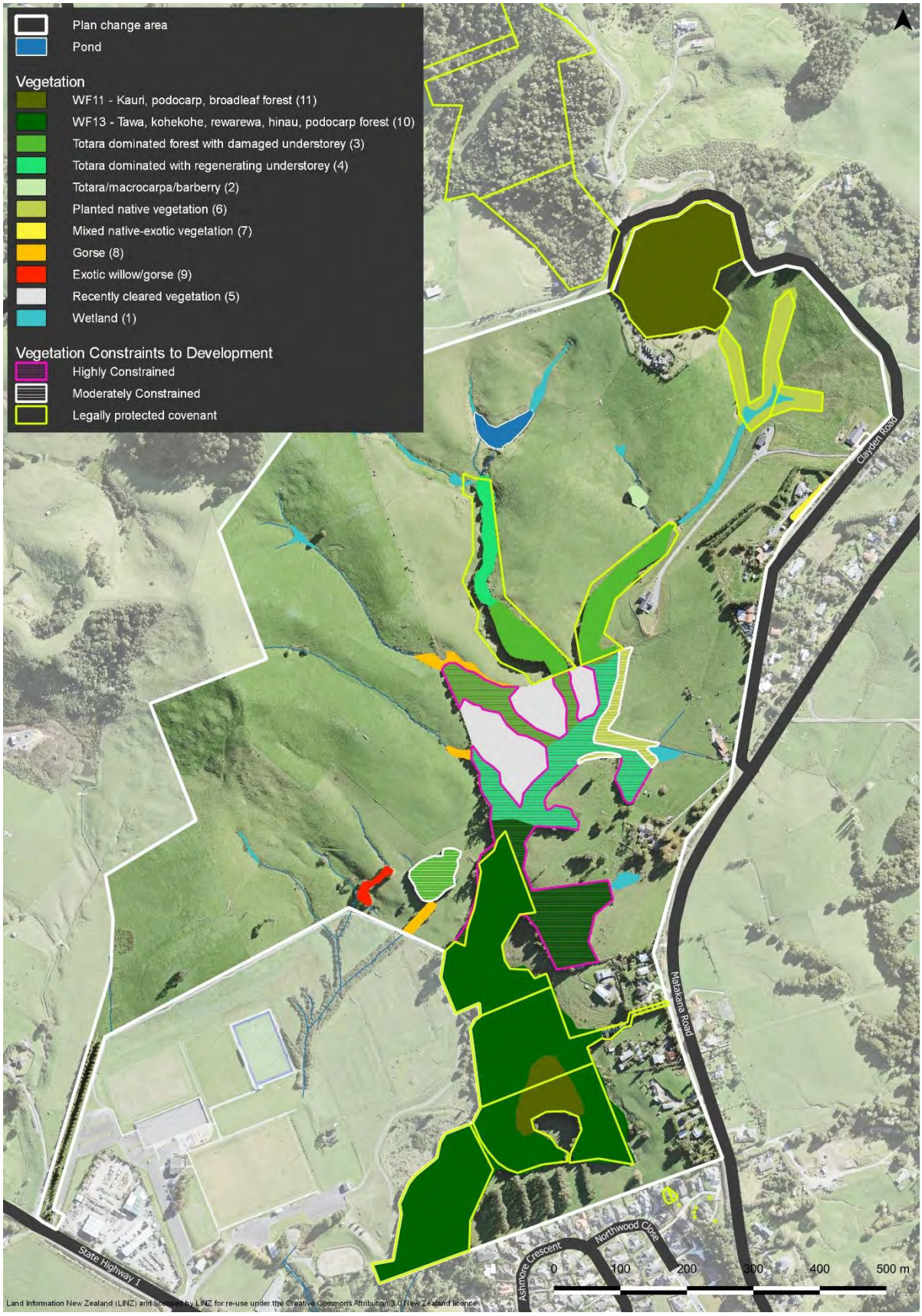

Figure 50: Areas of vegetation and constraints for future development.

This combined area of totara forest and WF13 is of a shape, size and condition that enables it to be ecologically viable, though it could be ecologically enhanced. It is also part of a larger natural area that extends to the south and which is recognised as a SEA in the AUP. As such, it is part of a corridor of indigenous vegetation. It may act as a 'stepping stone' to/from nearby natural areas for mobile species such as birds and bats. Due to these features, this combined area of combined tōtara and WF13 forest is of high ecological value and is, therefore, highly constrained for future development. This area of vegetation is considered to meet factors a, b, c and c in Schedule 3 of the AUP used for assessing significant ecological areas.

The isolated stand of tōtara within the WLC site associated with Watercourses E and E2 (bounded in white in Figure 51) is less diverse than areas noted above, and can be better described as a monocultural treeland, rather than intact native forest. The trees in this area should be retained where practicable, however this area is less constrained for development from a botanical perspective than that noted above given its lack of canopy diversity and supporting understory and groundcover vegetation. It should be noted that this stand of totara does however, have a role in enhancing stream habitat, and could be linked through planting to restored streams in the downstream catchment. This area of vegetation is not currently considered to meet any of the factors noted in Schedule 3 of the AUP used to assess significant ecological areas.

Planted Native Vegetation

The planted native vegetation is composed of a limited suite of species that have been established relatively recently. The areas on 245 Matakana Road are located on the margins of the tōtara forest and have a role in preventing weed invasion on the forest margins and reducing 'edge effects' associated with high light levels and the effect of wind on the micro-climate in the forest interior. On 43 Clayden Road, the plantings are within a stream valley and may have a role in maintaining water quality and providing habitat for native avifauna. The areas of planted vegetation within 43 Clayden road have moderate ecological value and are protected from development through covenants. The areas of planted vegetation on 245 Matakana Road are not understood to be covenanted and are moderately constrained for future development.

Mixed Native-exotic Vegetation

One small area of mixed native-exotic vegetation occurs on the east side of the study area, on the boundary between the Kaurilands property and Clayden Road includes kauri trees. Kauri is a 'Threatened' species so this area is moderately constrained for future development. It is recommended that these trees be retained, their roots protected from disturbance and measures be taken to prevent the spread of kauri dieback.

Recently cleared areas, pasture, dwellings and gardens

These are highly modified habitats that are dominated by exotic plant species and of low ecological value. Wetted pasture provides habitat for some common bird species (e.g. pūkeko, white-faced heron) and one 'At Risk' species (New Zealand pipit). However, they are mobile species and there are large areas of this habitat type adjacent to the study area.

There are kauri trees within the pasture on the property at 245 Matakana Road. It is desirable that these trees be retained, their roots protected from disturbance and measures be taken to prevent the spread of kauri dieback.

Terrestrial fauna

Bird species identified within the site and most historic records within the local area generally comprise common species typical of rural and urban areas. The New Zealand pipit was the only species of conservation interest detected within the site.

It is possible that native terrestrial skinks and tree dwelling gecko species known to the are present within the site, albeit in low numbers. Habitat for native lizards is restricted to areas of vegetation and their interface and piles of rubbish and debris, but not in grazed pasture. All native lizard species are legally protected under an amendment to the Wildlife Act 1953 and their habitats by the Resource Management Act 1991 (Anderson et al. 2012).

A search for bat roosts was not conducted as part of the study. However, with generally high confidence, it is likely the results of sampling completed by Bioresearches (2018) within 245 Matakana Road can be applied to the entire plan change area given the general similarity of vegetation present. Results of bat monitoring by Bioresearches indicated that the site was not important habitat for bats at the time of the survey and that although the site may provide some intermittent habitat for bats, the potential habitats were of low value (Bioresearches 2018).

Summary

In summary, the key terrestrial values and constraints within the site are:

- Covenant areas (including planted native vegetation and SEA_6989) which are legally protected from future development.
- Areas of tōtara dominated forest and WF13 associated with Watercourse I, K and lower F and G which are highly constrained for future development.
- The small area of Totara treeland within the WLC block and the planted vegetation within 245 Matakana Road which are moderately constrained by development.

All of which comprise the highest quality habitat for native birds, lizards and bats within the plan change area.

9.2 Freshwater Environment

The ecological and functional values of watercourses within the site was assessed using the Stream Ecological Valuation (SEV) method. SEV results are summarised in Table 5 (presented in full in Appendix D) and the current indicative values of watercourses are presented on Figure 51. Watercourses within the plan change area can be divided into those streams draining areas of indigenous vegetation (i.e., Watercourse K, lower F, mid-lower G, I, M1, N, O, P) and those that have been influenced by a long history of rural landuse practices associated with stock grazing and riparian vegetation clearance (e.g., Watercourses A, B, C, D, E, mid-upper F, mid-upper G, H, J, R). Watercourse L1, L2 and L3 have up until recently been grazed but have been planted so habitat conditions will improve over time.

Watercourses draining native vegetation

Watercourses K and tributaries (i.e., lower F, mid-lower G, I, M1, N, O, P, Q) that drain areas of indigenous vegetation are permanent streams, well shaded by mature native vegetation but with variable understory and groundcover, are fenced from grazing, have natural channels, common woody debris and leaf litter and provide diverse aquatic habitat for invertebrates and native fish. SEV surveys were carried out on the mid-section of Watercourse K and on I and M1 and had scores of 0.799, 0.615 and 0.691 respectively (Table 5).

Table 5: SEV scores for selected permanent and intermittent watercourses within the plan change area.

Function	Function	Permanent						Intermittent		
		E	Upper F	Upper G	I	K2	M1	B*	D*	J
Hydraulic	Natural flow regime	0.633	0.740	0.733	0.700	0.967	0.800	0.753	0.733	0.693
	Floodplain effectiveness	0.282	0.150	0.234	0.134	0.580	0.395	0.120	0.090	0.210
	Connectivity for species migrations	1.000	0.300	0.300	1.000	1.000	1.000	1.000	0.300	1.000
	Natural connectivity to groundwater	0.917	0.910	0.915	0.880	0.987	0.920	0.927	0.893	0.953
	Hydraulic function mean score	0.708	0.525	0.546	0.679	0.883	0.779	0.700	0.504	0.714
Biogeochemical	Water temperature control	0.540	0.260	0.320	0.860	0.580	0.680	0.000	0.220	0.240
	Dissolved oxygen levels maintained	0.503	0.400	0.400	1.000	1.000	1.000	0.600	0.600	0.600
	Organic matter input	0.450	0.000	0.250	0.700	1.000	1.000	0.000	0.073	0.050
	In-stream particle retention	0.500	0.670	0.660	0.820	0.980	0.880	0.740	0.840	0.480
	Decontamination of pollutants	0.322	0.267	0.287	0.416	0.623	0.580	0.217	0.482	0.381
	Biogeochemical function mean score	0.463	0.319	0.383	0.759	0.837	0.828	0.311	0.443	0.350
Habitat Provision	Fish spawning habitat	0.050	0.050	0.050	0.050	0.775	0.425	0.050	0.050	0.050
	Habitat for aquatic fauna	0.620	0.386	0.500	0.811	0.837	0.770	0.380	0.472	0.416
	Habitat provision function mean score	0.335	0.218	0.275	0.431	0.806	0.597	0.215	0.261	0.233
Biodiversity	Fish fauna intact	-	-	-	0.300	0.700	0.000	-	-	-
	Invertebrate fauna intact	-	0.327	0.361	0.418	0.625	0.644	-	-	0.259
	Riparian vegetation intact	0.445	0.095	0.242	0.520	0.530	0.580	0.100	0.160	0.160
	Biodiversity function mean score	0.445	0.211	0.302	0.413	0.618	0.408	0.100	0.160	0.210
	SEV score	**0.522**	**0.350**	**0.404**	**0.615**	**0.799**	**0.691**	**0.407**	**0.409**	**0.423**
Current Ecological Values		**Mod**	**Low**	**Low**	**High**	**High**	**High**	**Low**	**Low**	**Low**

Note: *Water depths were estimated in areas of no surface water.

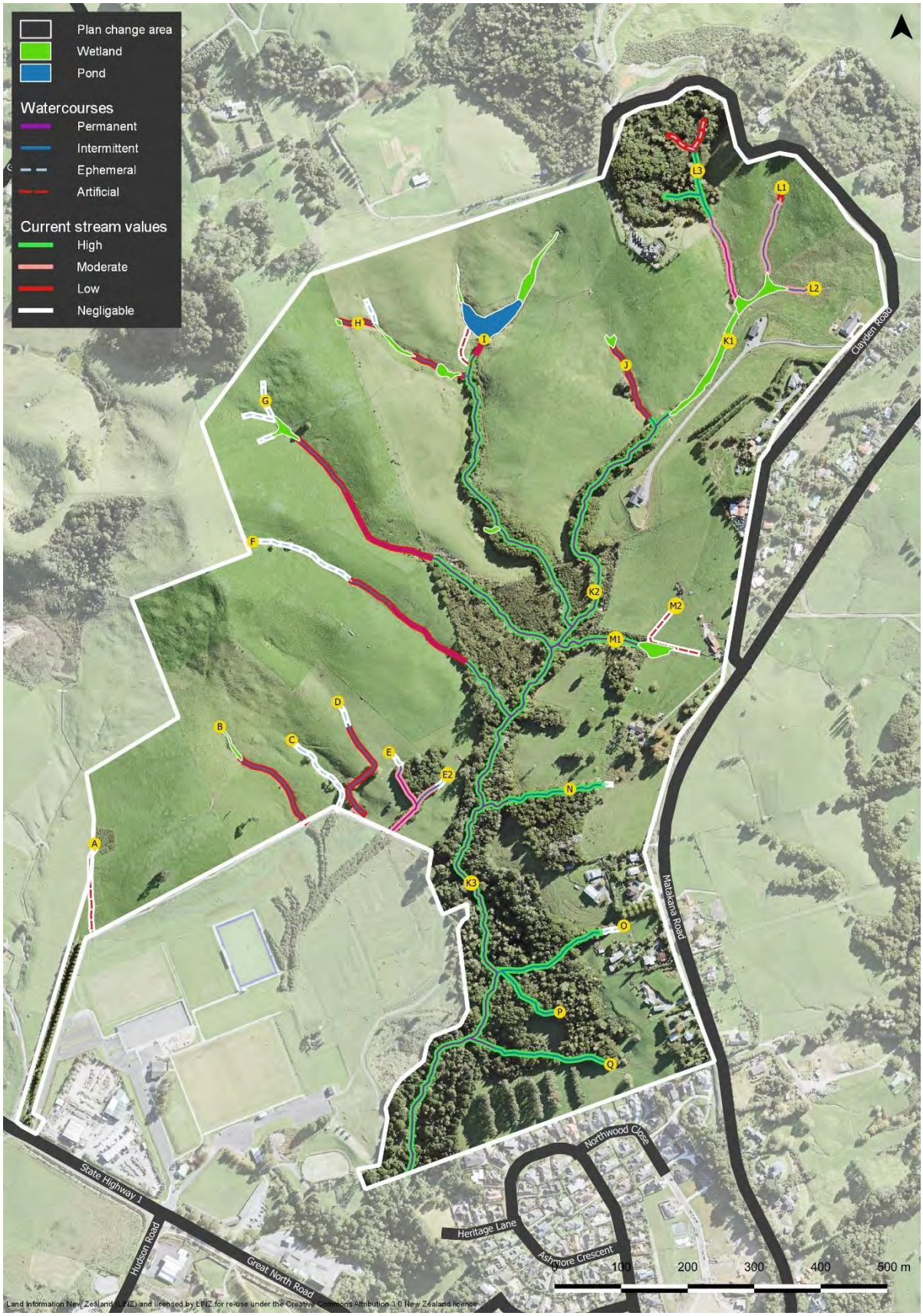

Figure 51: The current values of streams within the plan change area.

Samples collected from Watercourse K and M1 draining indigenous vegetation supported higher quality invertebrate communities containing EPT taxa, kōura but also robust taxa more associated with modified environments (e.g., Diptera), banded kōkopu, shortfin eel and longfin eel. Streams draining indigenous vegetation (i.e., K, lower F, mid-lower G, I, M1, N, O, P) are well-shaded, oxygenated and hold a high proportion of woody debris and leaf litter so provide highest quality habitat for invertebrates and fish within the site. These sections of stream have moderate-high ecological value and represent a significant constraint to development, stream loss and modification in these areas. Watercourses K and associated tributaries including Watercourse F (lower), mid-lower G, I, M1, N, O, P, Q have moderate-high ecological value and represent a significant constraint to development, stream loss and modification in these areas.

Watercourse E drains along the margins of an area of mature tōtara and has moderate ecological values (SEV = 0.522) so represents a moderate constraint to development, stream loss and modification

Modified watercourses draining grazed pasture

Streams within the plan change area draining grazed pasture (e.g., A, B, C, D, E, mid-upper F, mid-upper G, H, J, R) have low ecological value in their current state with SEV scores ranging between 0.350 and 0.423 (Table 5). The mid permanent sections of Watercourses G and F draining grazed pasture have low ecological value in their current state but have higher potential for restoration than grazing damaged intermittent reaches due to more stable base flow and vegetated lower reaches. Any loss or modification of watercourses will need to consider the objectives and policies in E3 of the AUP at the consenting phase.

Wetlands

Most of the freshwater wetlands within the plan change area are highly modified, degraded, dominated by exotic species, open to stock and have minimal indigenous values and character in their current state. Exceptions include the small portion of wetland on M1 and wetland on L1, L2 and L3 that have been fenced from grazing and undergone planting and so are recovering habitats. Nationally wetlands have been severely reduced in extent, the figure of 10% is often quoted for the area that now remains (Johnson and Gerbeaux 2004) and only 3% of the original area of native wetlands remains within Rodney ED, and they are a priority for protection both regionally and locally (Wedding 2013). Therefore, while the wetlands within the site are highly degraded and somewhat water short, they are still regarded as valuable for their potential to be restored and function within the catchment and their loss or modification is considered a potential constraint. Any loss of modification of wetlands will need to consider the objectives and policies in E3 of the AUP at the consenting phase.

Online ponds

Online ponds are modified aquatic environments that provide still water habitat of low quality and ecological value. There is one online pond within plan change in the headwaters of Watercourse I in the WLC block. The pond has the potential to adversely affect downstream water quality through the discharge of water with elevated temperatures and depressed dissolved oxygen. The removal of pond is not a constraint to development.

10.0 Development Effects and Opportunities

10.1 Introduction

This section describes the potential effects of development and ecological opportunities for the site to be considered as part of the proposed plan change.

10.2 Terrestrial Habitat Effects and Enhancement

Development of sites has the potential to increase fragmentation within the local landscape and within ecological sequences, through the removal of vegetation and through the provision of infrastructure such as roading and housing (which is potentially impassable for some species i.e., lizards). Fragmentation (depending on scale) can cause small populations to become non-viable or too disbursed, resulting in reduced breeding potential and increased exposure to predators and weed invasion.

It is recommended that totara dominated forest associated with Watercourse I, K and lower F and G and forest type WF13 (identified as a SEA) within the plan change area is retained and legally protected (where no covenants exist) (as bounded in pink and bright green in Figure 50). There is the potential to enhance these areas of vegetation further (including those already covenanted) consistent with the objectives in E15.2 (2) of the AUP through the implementation of fencing, a weed and animal pest control program and through enhancement planting where required. Dense buffer planting of a minimum 5 m wide around bush margins is also recommended to help to reduce light penetration and invasion and kickstart natural regeneration. If planting is undertaken, advice should be sought from a suitably qualified person to ensure that appropriate, eco sourced species are used and covenant documents should be reviewed to ensure compliance.

The stand of totara on the WLC block is heavily grazed and lacks canopy diversity, an understory and groundcover layer. However, it does represent a mature stand of trees that provides ecological values in the context of the wider surrounding landscape as habitat and food resources for native fauna (e.g. birds, lizards and terrestrial invertebrates). The vegetation also provides a partial buffer for Watercourses E and E2. If practicable, this area of vegetation should be retained and suitably enhanced.

It is recommended that all other native vegetation within the site (including singular native trees) is retained where practicable, and if possible weaved into landscaping plans and linked together through native planting, which should be protected in perpetuity through covenant or similar. The planting of watercourses in order to link existing habitat is also recommended as it provides an opportunity to create green corridors (facilitating the movement of flora and fauna) while also providing additional benefits for watercourses. It is also recommended that roading and pathways are situated where they surround vegetated areas rather than dissecting them.

The proposed change in land use to residential within the plan change area is likely to result in an increase in domestic predators such as cats, and potential weed species (through garden escapes) which may impact existing and potential vegetation and fauna values. The use of restrictive covenants on lot titles (i.e., those that prohibit certain plants and pets) may help to reduce the impacts on native wildlife. Situating roads on the edge of reserve/ native vegetation areas is also preferable to housing, as this reduces the likelihood of garden escapes negatively influencing native vegetation areas.

It is recommended that native planting is undertaken to offset any potential loss of native vegetation associated with the plan change and subsequent development, as it is a source of seed which will be contributing in a cumulative way to the habitat and food available to

native fauna.

10.3 Avifauna

Bird species identified within the site are common species typical of rural and urban areas, all of which readily habituate to disturbance so are unlikely to be especially affected by the change in land use and subsequent development of the site. It is possible that additional species of conservation interest occasionally frequent the site, despite not being identified during the various site visits.

Habitat for birds within the site (with the exception of the New Zealand pipit) is generally limited to areas of vegetation (i.e. totara dominated forest) and occasional trees and gardens surrounding dwellings. The New Zealand pipit (classified as 'At Risk – Declining') may occasionally visit the site. The nesting habitat of this species (pastoral) and the extent of which it occurs within the site, makes it impossible to avoid during any future development.

Any negative effects on habitat/ vegetation loss on birds proposed as part of the proposed plan change and subsequent development of the site can be minimised through the implementation of management techniques such as the avoidance and/or management of vegetation clearance during breeding season and maintaining short pasture unsuitable for nesting pipit.

10.4 Herpetofauna

Aside from retaining and expanding upon native vegetation within the site, other opportunities for enhancement that benefit lizards include creating habitat (i.e., installing log stacks), ensuring long rank grass areas (or dense low-growing native species) are retained along the margins of bush, scrub and planted riparian areas and implementing a long-term Animal Pest Control Plan to reduce predators.

A lizard management plan is recommended to accompany any removal of potential lizard habitat as part of subsequent development of the site.

10.5 Bats

Based on the outcome of bat surveys completed within the 245 Matakana Road site by Bioresearches (2018), it was determined that the site was not important habitat to bats at the time of the survey and that although the site may provide some intermittent habitat for bats these potential habitats were of low value. However, there is still the potential for them to use vegetation within the site intermittently in suitable trees with hollows and cavities.

It is recommended that any removal of vegetation (suitable for bats) sought as part of the site's development is accompanied by tree-felling protocols as agreed with the Department of Conservation through a Wildlife Act Authority.

10.6 Aquatic and Riparian Habitat Enhancement

There is significant potential to enhance streams and wetlands within the plan change area through weed control, riparian planting, assigning suitable legal protection (i.e., covenant) and through increasing habitat connectivity and restoration of ecological corridors by minimising piping and reclamation of watercourses. Watercourse I, upper K, lower K, L1, L2 and L3 and its surrounding vegetation are already under a land protection covenant.

Most of the streams within the WLC site are currently unfenced and lack riparian vegetation

(B, C, D, mid-upper F, upper G, H, J and K wetland). The removal of grazing stock along watercourses draining the WLC site and a programme of riparian planting would result in an increase in channel shade, woody debris inputs (e.g., potential instream habitat), improve streambank stability, encourage defined channel formation and improve overall ecological values.

It is recommended that the planting of second-generation diversity forest trees of the former forest type (i.e., WF11 – Kauri Podocarp broadleaved forest[2], Singers et al. 2017) is included amongst pioneer species (i.e., mānuka and kānuka) to help kick-start natural forest regeneration. This will also have the added benefit of diversifying food sources for current and future lizard and bird species within the site, and in the very long-term, provide potential suitable bat roosts.

Likewise, the restoration of wetland areas with suitable native plants and native terrestrial buffer vegetation will help to increase ecosystem diversity within the site and restore some of the valuable ecosystem functions that wetlands provide such as flood water attenuation, sustaining and balancing base flow rates and increase the filtration and removal of sediment, nutrients and other pollutants reaching watercourses.

10.7 Modification or Reclamation of Natural Watercourses and Wetlands

Any unavoidable reclamation or modification of natural permanent and intermittent stream habitat and wetlands would need to be assessed against the objectives and policies in E3 of the AUP. Any unavoidable reclamation or modification of intermittent or permanent streams or wetlands (including earthworks that will raise the height of the stream bed) will require offsetting on-site or at an off-site location through the enhancement of another section of stream or wetland to ensure 'no-net-loss' of overall ecological function and values. Stream offset assessments should follow recommended Auckland Council guidelines and methods (e.g., SEV and ECR) and adhere to best practice restoration guidelines (e.g., appropriate riparian widths, fish passage, etc.). Wetland offsets should be determined using an appropriate tool such as the Biodiversity Offset Accounting Model (Maseyk et al. 2015).

Works in watercourses during reclamation should adhere to strict sediment control and hygiene protocols to avoid the discharge of sediment to the downstream environment and spreading aquatic weed species.

Fish relocation plans will be required to accompany any permanent or intermittent stream or wetland loss.

10.8 Artificial Pond Reclamation

Artificial ponds at the head of Watercourse I and on R1 should be removed. It is recommended that an ecologist provides input into the methodology for removing the pond and preparation and implementation of a fish relocation plan to be approved by Auckland Council prior to works.

10.9 Modification of Ephemeral Flow Paths and Artificial Channels

Ephemeral flow paths occur within the site in areas of grazed pasture. Modification or infilling of ephemeral flow paths does not require offsetting under rules in the AUP. Ephemeral flow paths can have a functional role in catchments so their retention and enhancement would be of some benefit to the catchment.

[2] https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html

Artificial watercourses are not included in the definition of a river under the Resource Management Act and can be modified or infilled as a permitted activity under rules in the AUP. The AUP defines artificial watercourses as *'constructed watercourses that contain no natural portions from their confluence with a river or stream to their headwaters'*.

10.10 Development Construction Effects

Physical works associated with developing the site has the potential to result in fine sediment discharging to downstream watercourses. The addition of fine sediment to stream environments has the potential to alter water chemistry, increase turbidity and decrease light penetration that affects primary production and feeding for some fish species. The deposition of sediment can smother stream surfaces, decrease interstitial spaces and decrease the amount of suitable habitat available for benthic invertebrates

Physical works effects will be addressed at the Resource Consenting phase through adherence to best practise construction practises and implementation of sediment control measures within the site in accordance with Auckland Council guidelines should ensure sediment related effects on water quality and habitat in the downstream receiving environment will be minimal (i.e., minimal sediment mobilisation or reduced baseflow).

10.11 Stormwater Effects

The development of pasture into residential housing areas can result in alteration to natural drainage patterns and increased catchment imperviousness that can alter hydrology and water quality in the downstream environment.

The stormwater system for the site should be designed in accordance with best practice and refer to Auckland Council guidelines.

Key ecological considerations with regard to the site include groundwater recharge and water quality as the site is located in a high use aquifer management area and high-use stream management area. The maintenance of groundwater to maintain base flows is important with respect to watercourses within the site or they may become water short during various times of the year. Maintaining natural drainage and landform where possible will help to reduce a reduction in overland flow. Onsite detention and retention of stormwater should be considered as should the treatment of stormwater (i.e., swales, raingardens and offline wetlands). Stormwater treatment devices (i.e. stormwater wetlands or ponds) should be kept offline if possible.

11.0 Proposed Precinct Plan Discussion

This section discusses the proposed environmental precinct plans effects on the ecology of the site. The proposed precinct plan–environment is presented with site watercourses and wetlands overlain on Figure 52 while a possible masterplan for the WLC owned portion of site is shown on Figure 53.

The green network (i.e., covenanted bush/retained streams and enhancement) proposed within the precinct plan for the site, is somewhat reduced from that illustrated on the green network plan in the Warkworth Structure Plan. The key driver for the reduction in retained streams/wetlands and green corridors is the steepness of the site, which requires the need for extensive earthworks to ensure the minimum road grade requirements can be met, in balance with unlocking the site for development and maintaining existing covenant areas and high value stream areas.

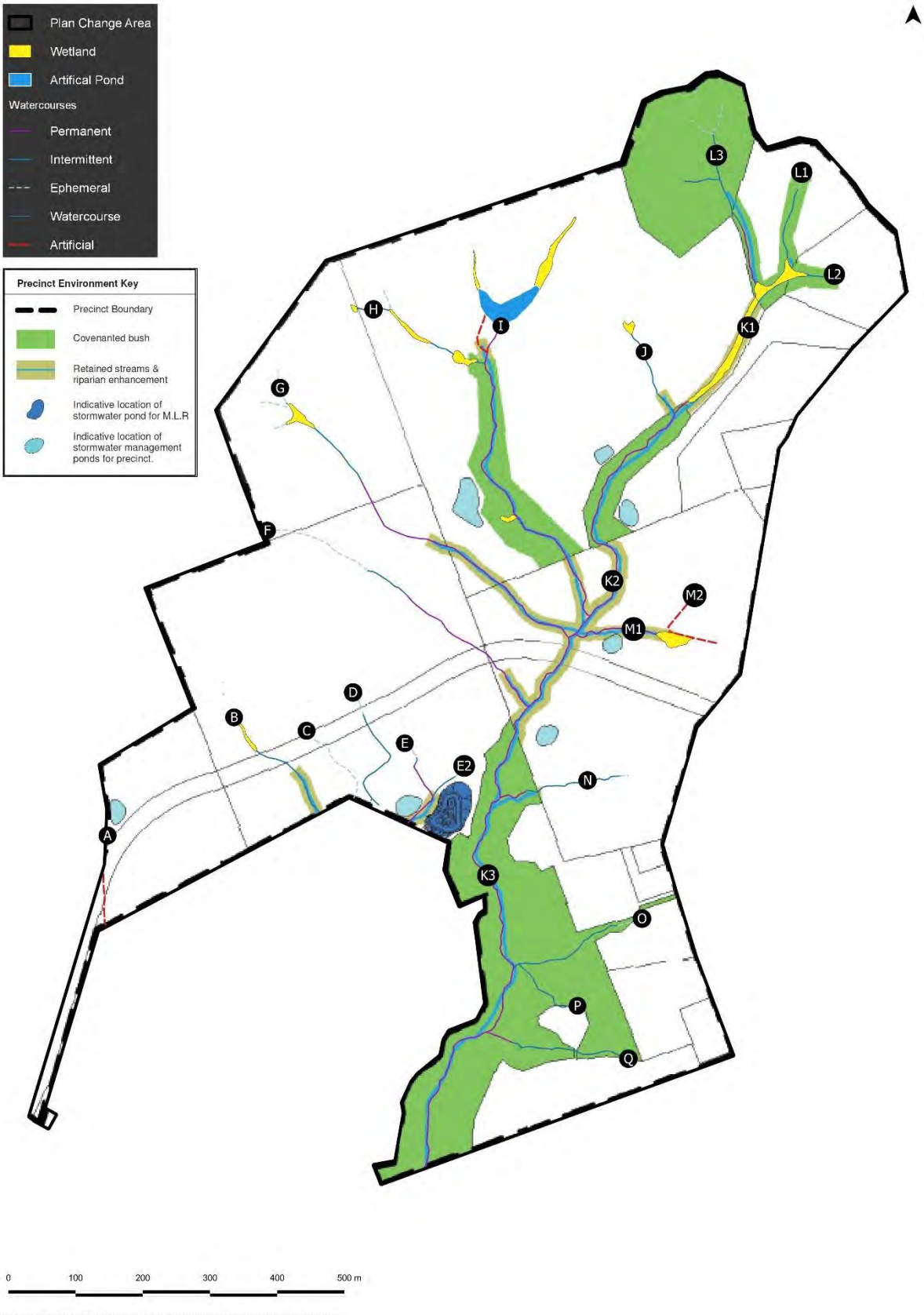

Figure 52: Precinct Plan 4 – Environment (A Studio Architects Revision E).

Figure 53: A potential masterplan for the WLC owned sections of the site (A Studio Architects A4.1).

The Matakana Link Road also dissects a number of watercourses along the western bounds of the site (B, D, F and K2) which will result in culverting of sections of permanent, intermittent and ephemeral streams in its proposed alignment (1 x 45 m culvert and 2 x 70 m culverts). These sections of stream are also excluded from the proposed precinct plan green network.

The sections of stream located outside the proposed green network are typically those located within the upper reaches of the catchment which have low current ecological values, being located in highly modified areas of grazed pasture. These sections of stream have moderate potential restorative value due to their damaged state and naturally water short nature. The loss of stream sections with high current values in the lower catchment has been mostly avoided and many of these sections of stream fall within the green network to be retained. Much of these stream and wetlands areas are vegetated with native trees and some are protected by existing covenants.

One of the key considerations with regard to the reduction in green network (and thus streams and wetlands) in the proposed precinct plan is the maintenance of base flows in retained streams. The following summarises feedback from Maven Associates Ltd (Lucan Campbell pers. comm. 8 October 2019) on how stream baseflows will be retained following the earthworks anticipated in order to develop the site.

Where the upper reaches of streams and wetlands are to be reclaimed, gully drains and counterfort drains will intercept groundwater flows, directing these to downstream sections of retained channel. Generally, the ridges, gullies and shape of the post development site are to be maintained and stormwater catchments will be localised to existing catchments where possible to ensure runoff captured up to a 10% AEP storm event is directed to similar pre-development discharge points. Further, AUP SMAF zone controls are proposed for the site, so 90th percentile rainfall events will be attenuated and capture volume released over 24 hrs. This extended detention will help to maintain regular stream flows post rainfall and reduce scour and sedimentation associated with flashy peaks and drops.

With the above design in place it would appear that the level of development/stream and wetland loss proposed can be managed to ensure stream baseflows in the lower catchment are maintained.

The proposed green network retains most of the key vegetation within the site which is not currently covenanted. Indicative areas of open space shown on the precinct plan and potential site masterplan represent additional areas where new terrestrial planting can occur and will increase the total amount of native vegetation within the site.

The proposed plan change seeks that the reclamation of streams not shown in the precinct plan be a restricted discretionary activity. Freshwater Solutions considers that whilst it is appropriate to follow the avoid, remedy, mitigate and offset hierarchy for managing the streams on the site, that some unavoidable loss of highly modified stream habitat can be mitigated on site be retaining and restoring other stream habitat or if required offset by restoring stream habitat off site.

The streams with higher ecological values and potential have been identified in the precinct plan and any loss of habitat in those streams would be a non-complying activity. The remaining streams that have lower ecological values and potential have also been identified and any loss of habitat in those streams would be a restricted discretionary activity. The activity status of the two categories of streams would not alter the level of avoidance, remedying and mitigation of effects or offsetting required to ensure no net loss of ecological values or function. Freshwater Solutions therefore considers that categorising the streams within the site into those that fall into a non-complying activity status and those that fall into

a restricted discretionary activity status is appropriate.

12.0 Summary

This report describes freshwater and terrestrial ecological characteristics and values for a private plan change request for an area referred to as Warkworth: Clayden Road, Warkworth. The plan change seeks rezoning of ~105 ha of land between State Highway 1 and Clayden Road from Future Urban/Light Industry to a mix of residential zones.

Terrestrial

The site is predominantly in pasture with occasional mature trees and blocks of remnant and regenerating native vegetation dominated by tōtara generally associated with watercourses. A SEA covers much of the vegetation located in the southern portion of the plan change area (noted as WF13, Podocarp forest), and land covenants protect vegetation within 139 Clayden Road, Lot 3 DP 492431 Clayden Road, the WLC Clayden block and the Rob Mills block. With the exception of a few areas, the native dominated vegetation within the site is considered to be of high value and is therefore highly constrained for future development. Areas of native vegetation had the highest value within the site in terms of habitat provision for birds, lizards and bats.

Most birds recorded within the site were typical of rural and urban areas and (with the exception of the New Zealand pipit) of no conservation interest. It is possible the site is occasionally frequented by species of conservation interest despite none being identified during the site visit. Native lizards (skinks and gecko) have the potential to be present within the site within blocks of native vegetation and in gardens surrounding dwellings, as does the New Zealand long-tailed bat which may intermittently roost within native vegetation.

There is an opportunity to protect and enhance key areas of native vegetation within the plan change area where it is not already covenanted (legally protected) through covenanting, fencing, animal and plant pest control and enhancement planting. There is also the potential to improve upon the existing ecological values within covenanted areas through fencing repairs and weed and animal pest control. Fragmentation of habitat can be a result of site development and consideration should be given to the location of roading and buildings as to reduce their effects on native flora and fauna, and it is recommended that areas of native vegetation are linked together through native planting where possible.

The change in land use from rural to residential can increase the occurrence of animal pest species and domestic predators and plant pest species (garden escapes) and options to minimise the effects of these should be considered as part of any future development.

Freshwater

Watercourses within the plan change area can be divided into those streams draining areas of indigenous vegetation and those draining pasture that have been influenced by a long history of rural landuse practices associated with stock grazing and riparian vegetation clearance.

Watercourses that drain areas of indigenous vegetation are generally permanent streams, well shaded by mature native vegetation but with variable understory and groundcover, are mostly fenced from grazing, have natural channels, common woody debris and leaf litter and provide diverse aquatic habitat for invertebrates and native fish. SEV scores ranged

between 0.615 and 0.799 and reflected moderate to high ecological values. Streams draining indigenous vegetation are well-shaded, oxygenated and hold a high proportion of woody debris and leaf litter so provide highest quality habitat for invertebrates and fish within the site. Watercourses K and associated tributaries including Watercourse F (lower), mid-lower G, I, M1, N, O, P, Q have moderate-high ecological value and represent a significant constraint to development, stream loss and modification in these areas.

Modified watercourses draining grazed pasture have low ecological value in their current state with SEV scores ranging between 0.350 and 0.423. The mid-upper sections of Watercourses G and F draining grazed pasture have low ecological value in their current state but have higher potential for restoration than the intermittent reaches due to more stable base flow and vegetated lower reaches. Any loss of modification of watercourses will need to consider the objectives and policies in E3 of the AUP.

Most of the freshwater wetlands within the plan change area are highly modified, degraded, dominated by exotic species, open to stock and have minimal indigenous values and character in their current state. Exceptions include the small portion of wetland on M1 and wetland on L1, L2 and L3 that have been fenced from grazing and undergone planting and so are recovering habitats. Nationally wetlands have been severely reduced in extent, the figure of 10% is often quoted for the area that now remains (Johnson and Gerbeaux 2004) and only 3% of the original area of native wetlands remains within Rodney ED, and they are a priority for protection both regionally and locally (Wedding 2013). Therefore, while most wetlands within the site are highly degraded and somewhat water short, they are still regarded as valuable for their potential to be restored and function within the catchment and their loss or modification is considered a potential constraint.

Online ponds within the site are modified aquatic environments that provide still water habitat of low quality and ecological value. Artificial ponds have the potential to adversely affect downstream water quality through the discharge of water with elevated temperatures and depressed dissolved oxygen. The removal of pond and reinstatement to stream channel is not a constraint to development, and would be considered an ecological benefit.

There is significant potential to enhance streams and wetlands within the plan change through weed control, riparian planting, assigning suitable legal protection (i.e., covenant) and through increasing habitat connectivity and restoration of ecological corridors by minimising piping and reclamation of watercourses. Any unavoidable reclamation or modification of intermittent or permanent streams or wetlands will require mitigation on-site and/or offsetting at an off-site location through the enhancement of another section of stream or wetland to ensure ‘no-net-loss’ of overall ecological function and values. The removal of existing farm culverts would increase the amount of natural stream habitat and improve fish passage for native diadromous fish.

During the development phase, earthworks and construction can have negative impacts on water quality through sediment discharge, however these impacts can be minimised by following best practice guidelines.

The development of pasture into residential housing areas can result in an alteration of natural drainage patterns and the increase in catchment imperviousness can alter hydrology and water quality in downstream environments. Stormwater management within the site should be designed in accordance with Auckland Council guidelines and ensure there is not a significant negative change in downstream base flows and water quality.

The development of the site has potential to result in adverse effects on terrestrial and freshwater environments but these should be able to be managed through a combination of design, mitigation and/or offsetting. Current AUP controls will adequately deliver the

environmental outcomes for the site and no additional provisions are warranted or recommended as part of the plan change process.

Proposed Precinct Plan

The proposed precinct plan depicts a green network that is somewhat reduced from that illustrated in the Warkworth Structure Plan. This reduction in green corridors has been triggered by the steep nature of the site, and thus the balance of the protection of covenants and high value natural areas with unlocking the site for development and maintaining minimum road grade requirements. Overall the proposed precinct plan does protect the majority of high value streams and vegetation within the proposed plan change area.

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APPENDIX A

Flora Encountered

Native plants recorded (excluding species cultivated in gardens)

* planted specimens only.

Ferns and fern allies	
Adiantum cunninghamii	common maidenhair
Asplenium oblongifolium	shining spleenwort, huruhuruwhenua
Asplenium bulbiferum	pikopiko, hen and chicken fern
Asplenium polyodont	sickle spleenwort, petako
Austroblechnum lanceolatum	nini, lance fern
Cyathea cunninghamii	
Cyathea dealbata	ponga, silver tree fern
Cyathea medullaris	mamaku
Cyathea smithii	katote, soft tree fern
Deparia petersenii	
Dicksonia squarrosa	wheki, rough tree fern
Doodia australis	rasp fern, pukupuku
Histiopteris incisa	waterfern, mata
Hymenophyllum spp.	filmy ferns
Icarus filiformis	thread fern
Leptolepia nocvae-zelandiae	lace fern
Microsorum pustulatum	hound's tongue, kowaowao
Notogrammitis billardierei	strap fern
Parablechnum novae-zelandiae	kiokio
Paesia scaberula	hard fern, matata
Pneumatopteris pennigera	gully fern
Pteridium esculentum	bracken
Pyrrosia eleagnifolia	leather-leaf fern
Gymnosperms	
Agathis australis	kauri
Dacrycarpus dacrydioides	kahikatea
Dacrydium cupressinum	rimu
Podocarpus totara	totara
Phyllocladus trichomanoides	tanekaha
Dicotyledons (including trees, shrubs and herbs)	
**Alectryon excelsus*	titoki
Beilschmiedia taraire	taraire
Beilschmiedia tawa	tawa
Carpodetus serratus	putaputaweta
Centella uniflora	centella
Clematis sp.	clematis
Coprosma arborea	mamangi, tree coprosma
Coprosma grandifolia	kanono
Coprosma lucida	
Coprosma rhamnoides	
Coprosma robusta	karamu

Coprosma rotundifolia	
Coprosma spathulata	
Corynocarpus laevigatus	karaka
Dysoxylum spectabile	kohekohe
Elatostema rugosum	parataniwha
Geniostoma ligustrifolium var. *ligustrifolium*	hangehange
Haloragis erecta	toatoa
Hedycarya arborea	pigeonwood, porokaiwhiri
Knightia excelsa	rewarewa
Kunzea robusta	kanuka
Leptospermum scoparium agg.	manuka
Leucopogon fasciculatus	mingimingi
Melicytus ramiflorus	mahoe
Metrosideros diffusa	white rata, aka
**Metrosideros excelsa*	pohutukawa
Myrsine australis	mapou
Nertera dichondrifolia	
Piper excelsum	kawakawa
Pittosporum eugenioides	tarata, lemonwood
Pomaderris kumeraho	kumarahou
Pseudopanax arboreus	fivefinger, puahou
Pseudopanax lessonii	houpara
Rhabdothamnus solandri	taurepo
Rubus australis	bush lawyer, tataramoa
Rubus cissoides	bush lawyer, tataramoa
Schefflera digitata	pate
Vitex lucens	puriri
Monocotyledons (including rushes sedges and grasses)	
Astelia hastata	perching lily
Carex sp.	
Cordyline australis	ti-kouka, cabbage tree
Cordyline banksii	ti-ngahere, forest cabbage tree
Cyperus ustulatus	umbrella sedge, toetoe upokotangata
Dianella nigra	turutu
Freycinetia banksii	kiekie
Juncus edgariae	
Juncus gregiflorus	
Lepidosperma australe	square sedge
Microlaena avenacea	bush rice grass
Oplismenis hirtellus var. *imbecillus*	
**Phormium tenax*	harakeke, flax
Uncinia sp.	hook grass
Rhopalostylis sapida	nikau

Introduced vascular plants within or on the edges of natural areas

Species found only in pasture or gardens are not listed.

Introduced vascular plants ("weeds")	
Asparagus asparigoides	smilax
Asparagus scandens	climbing asparagus
Casuarina sp.	sheoak
Cortaderiaa selloana	pampas
Cotoneaster sp.	cotoneaster
Eriobotrya japonica	loquat
Eucalyptus sp.	
Hedychium sp.	ginger
Leycesteria formosa	Himnalayan honeysuckle
Ligustrum lucidum	tree privet
Ligustrum sinense	Chinese privet
Pennisetum clandestinum	kikuyu grass
Phytolacca octandra	inkweed
Pinus radiata	radiata pine
Prunus sp.	flowering cherry, Taiwan cherry
Solanum mauritianum	tobacco weed, woolly nightshade
Syzygium sp.	lilly pilly, monkey apple
Ulex europaeus	gorse
Zantedeschia aethiopica	arum lily

APPENDIX B

Stream Classification Criteria (AUP)

River or stream

A continually or intermittently flowing body of fresh water, excluding ephemeral streams, and includes a stream or modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal except where it is a modified element of a natural drainage system).

Permanent river or stream

The continually flowing reaches of any river or stream.

Intermittent stream

Stream reaches that cease to flow for periods of the year because the bed is periodically above the water table. This category is defined by those stream reaches that do not meet the definition of permanent river or stream and meet at least three of the following criteria:

a) it has natural pools
b) it has a well-defined channel, such that the bed and banks can be distinguished;
c) it contains surface water more than 48 hours after a rain event which results in stream flow;
d) rooted terrestrial vegetation is not established across the entire cross-sectional width of the channel;
e) organic debris resulting from flood can be seen on the floodplain; or
f) there is evidence of substrate sorting process, including scour and deposition.

Ephemeral stream

Stream reaches with a bed above the water table at all times, with water only flowing during and shortly after rain events. This category is defined as those stream reaches that do not meet the definition of permanent river or stream or intermittent stream.

Artificial watercourse

Constructed watercourses that contain no natural portions from their confluence with a river or stream to their headwaters.

Includes:

- canals that supply water to electricity power generation plants;
- farm drainage canals;
- irrigation canals; and
- water supply races.

Excludes: naturally occurring watercourses

APPENDIX C

Raw Invertebrate Data

	MCI-sb	Watercourse I	Watercourse J	Watercourse G	Watercourse F
Trichoptera					
Polyplectropus	**8.1**	7	-	-	1
Triplectides	**5.7**	8	-	1	-
Odonata					
Xanthocnemis	**1.2**	-	-	-	4
Hemiptera					
Anisops	**2.2**	6	-	-	-
Microvelia	**4.6**	7	-	176	160
Sigara	**2.4**	2	-	-	-
Coleoptera					
Hydrophilidae	**8.0**	-	-	48	48
Liodessus	**4.9**	-	-	2	-
Diptera					
Ceratopogonidae	**6.2**	-	-	1	-
Chironomus	**3.4**	32	144	1	64
Corynoneura	**1.7**	3	-	-	64
Culicidae	**1.2**	7	21	336	256
Limonia	**6.3**	-	2	-	-
Muscidae	**1.6**	1	-	-	-
Orthocladiinae	**3.2**	-	16	4	-
Paradixa	**8.5**	29	-	2	176
Polypedilum	**8.0**	45	-	-	-
Tabanidae	**6.8**	2	-	-	-
COLLEMBOLA	**5.3**	2	1	5	6
Crustacea					
Cladocera	**0.7**	80	-	-	3
Copepoda	**2.4**	8	-	5	-
Isopoda	**4.5**	-	-	11	5
Ostracoda	**1.9**	144	-	-	5
ACARINA	**5.2**	17	64	128	784
ARACHNIDA					
Dolomedes	**6.2**	-	-	2	3
MOLLUSCA					
Ferrissia	**2.4**	2	-	-	-
Lymnaeidae	**1.2**	1	-	-	-
Physella (Physa)	**0.1**	-	-	64	-
Potamopyrgus	**2.1**	31	-	1	224
Sphaeriidae	**2.9**	1	-	-	-
OLIGOCHAETA	**3.8**	224	5	1	5
HIRUDINEA	**1.2**	-	-	2	-
PLATYHELMINTHES	**0.9**	1	10	-	-
NEMATODA	**3.1**	-	-	-	2
COELENTERATA					
Hydra	**1.6**	13	-	-	-

APPENDIX D

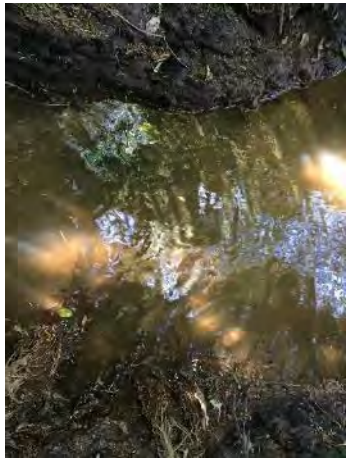
SEV Cross Section Photographs

Watercourse I

Cross section 1

Cross section 2

Cross section 3



Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse J

Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

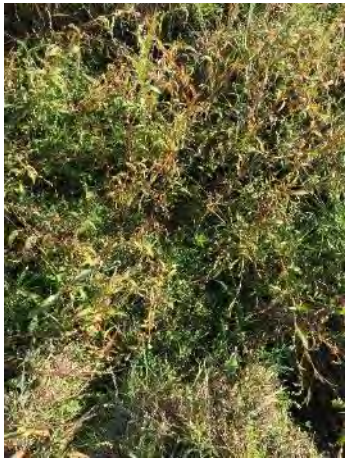
Cross section 9

Cross section 10

Watercourse G

Cross section 1

Cross section 2



Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse F

Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse B

Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse D

Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse E

Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5

Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

Watercourse K

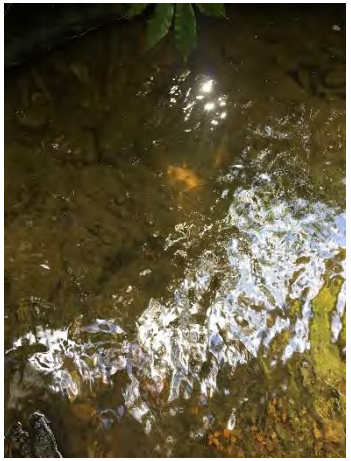
Cross section 1

Cross section 2

Cross section 3

Cross section 4

Cross section 5



Cross section 6

Cross section 7

Cross section 8

Cross section 9

Cross section 10

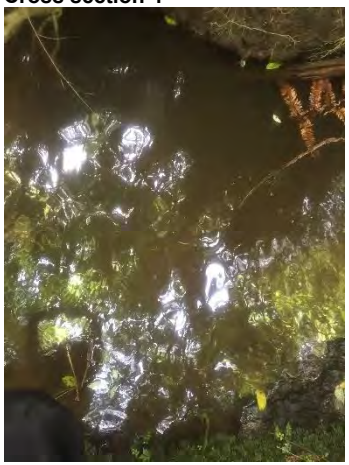
Watercourse M1

Cross section 1

Cross section 2

Cross section 3

Cross section 4



Cross section 5

Cross section 6

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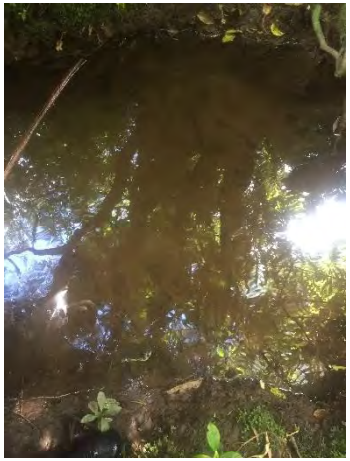
Cross section 8

Cross section 9

Cross section 10



Function	Variable (code)	E	F	G	I	K2	M1	B	D	J
	Vchann	0.45	0.64	0.63	0.55	0.95	0.70	0.63	0.60	0.54
	Vlining	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
	Vpipe	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NFR	=	0.63	0.74	0.73	0.70	0.97	0.80	0.75	0.73	0.69
	Vbank	0.60	0.75	0.71	0.28	0.92	0.52	0.60	0.36	0.84
	Vrough	0.47	0.20	0.33	0.48	0.63	0.76	0.20	0.25	0.25
FLE	=	0.28	0.15	0.23	0.13	0.58	0.40	0.12	0.09	0.21
	Vbarr	1.00	0.30	0.30	1.00	1.00	1.00	1.00	0.30	1.00
CSM	=	1.00	0.30	0.30	1.00	1.00	1.00	1.00	0.30	1.00
	Vchanshape	0.75	0.83	0.85	0.64	0.96	0.76	0.78	0.68	0.86
	Vlining	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
CGW	=	0.92	0.91	0.92	0.88	0.99	0.92	0.93	0.89	0.95
		0.71	0.53	0.55	0.68	0.88	0.78	0.70	0.50	0.71
	Vshade	0.54	0.26	0.32	0.86	0.58	0.68	0.00	0.22	0.24
WTC	=	0.54	0.26	0.32	0.86	0.58	0.68	0.00	0.22	0.24
	Vdod	0.50	0.40	0.40	1.00	1.00	1.00	0.60	0.60	0.60
DOM	=	0.50	0.40	0.40	1.00	1.00	1.00	0.60	0.60	0.60
	Vripar	0.45	0.00	0.25	0.70	1.00	1.00	0.00	0.10	0.05
	Vdecid	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45	1.00
OMI	=	0.45	0.00	0.25	0.70	1.00	1.00	0.00	0.07	0.05
	Vmacro	0.95	0.83	0.77	0.99	1.00	1.00	0.94	1.00	0.54
	Vretain	0.50	0.67	0.66	0.82	0.98	0.88	0.74	0.84	0.48
IPR	=	0.50	0.67	0.66	0.82	0.98	0.88	0.74	0.84	0.48
	Vsurf	0.34	0.34	0.36	0.47	0.63	0.54	0.23	0.76	0.55
	Vripfilt	0.30	0.19	0.21	0.36	0.62	0.62	0.20	0.20	0.21
DOP	=	0.32	0.27	0.29	0.42	0.62	0.58	0.22	0.48	0.38
		0.46	0.32	0.38	0.76	0.84	0.83	0.31	0.44	0.35
	Vgalspwn	1.00	0.75	1.00	0.00	1.00	1.00	1.00	0.42	1.00
	Vgalqual	0.00	0.00	0.00	0.00	0.75	0.75	0.00	0.00	0.00
	Vgobspwn	0.10	0.10	0.10	0.10	0.80	0.10	0.10	0.10	0.10
FSH	=	0.05	0.05	0.05	0.05	0.78	0.43	0.05	0.05	0.05
	Vphyshab	0.66	0.24	0.46	0.88	0.93	0.89	0.25	0.40	0.28
	Vwatqual	0.16	0.07	0.08	0.48	0.79	0.59	0.03	0.10	0.10
	Vimperv	1.00	1.00	1.00	1.00	0.70	0.70	1.00	1.00	1.00
HAF	=	0.62	0.39	0.50	0.81	0.84	0.77	0.38	0.47	0.42
		0.33	0.22	0.28	0.43	0.81	0.60	0.22	0.26	0.23
	Vfish				0.30	0.70	0.00			
FFI	=				0.30	0.70	0.00			
	Vmci		0.46	0.57	0.34	0.69	0.90			0.37
	Vept		0.17	0.17	0.33	0.83	0.33			0.00
	Vinvert		0.35	0.35	0.58	0.35	0.70			0.41
IFI	=		0.33	0.36	0.42	0.63	0.64			0.26
	Vripcond	0.45	0.10	0.26	0.52	0.53	0.58	0.10	0.16	0.16
	Vripconn	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
RVI	=	0.45	0.10	0.24	0.52	0.53	0.58	0.10	0.16	0.16
		0.45	0.21	0.30	0.41	0.62	0.41	0.10	0.16	0.21
	SEV FINAL	0.522	0.350	0.404	0.615	0.799	0.691	0.407	0.409	0.423

ATTACHMENT G

ENGINEERING & INFRASTRUCTURE ASSESSMENT BY MAVEN

INFRASTRUCTURE REPORT

Clayen Road
Warkworth

CIVIL ENGINEERING ▾ SURVEYING ▾ LAND DEVELOPMENT

PROJECT INFORMATION

CLIENT	Warkworth Land Company Ltd
PROJECT	102008

DOCUMENT CONTROL

DATE OF ISSUE	17/12/2019
REVISION	D
AUTHOR	Lucan Campbell
REVIEWED BY	Will Moore
APPROVED BY	Glen Bellingham

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CONTENTS

APPENDICES

1.0 INTRODUCTION

The purpose of this report is to provide an assessment of infrastructure associated with proposed residential development located north-west of the Warkworth Township located at properties between Goatley and Clayden roads. Specific sites referred to include Clayden Road, 245 Matakana Road but the Warkworth Clayden Road precinct captures many other smaller properties part of this private plan change application. The sites directly adjoin and are bisected by the proposed Matakana Link Road (MLR). The MLR project has a desired finish date of 2021.

The Clayden Road site is irregular in shape featuring a total land area of approximately 60ha and comprises Pt Lot 1 DP61693, Lot 4 DP492431, PT Allot 97 PSH of Mahurangi SO 27C, Lot 3 and Lot 4 DP199755. The location of the site (in respect to the existing Warkworth Township) is shown below, within Figure 1.

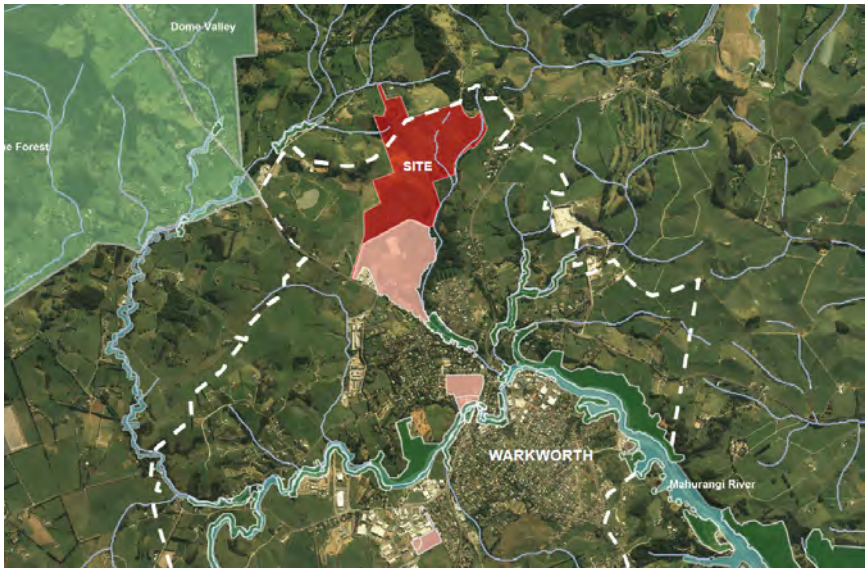


Figure 1: Site Location Plan

The 245 Matakana Road site is irregular in shape featuring a total land area of 14.7499ha and comprised in Lot 1 DP101758, as outlined in figure 2 below

Figure 2: Location Plan

The proposed precinct extents comprise of a total land area of 102.07Ha, a plan identifying owners or properties within the proposed precinct can be found appended to this report.

The majority of the precinct is in pasture, which typically slopes from the north-west down to the south-east west of the main tributary traversing the site, falling westwards to the central watercourse of the precinct on 245 Matakana Road and other eastern properties. Land gradients vary from gentle to steep. The site is characterised by prominent gullies, some of which support streams. These streams ultimately discharge into the unnamed stream dissecting the precinct. Bush is present along the alignment of some of these gully bases, and in the lower-lying parts of the precinct. Within the southern precinct a protected QEII trust exists and native bush covenants can be found running northwards of this area, generally over the tributary known as Watercourse K in this and other reports supporting the application.

The proposed residential development at Clayden Road is based upon a master plan developed by A-Studio architects. The master plan incorporates a combination of small, medium and larger lots which provide consideration of natural constraints (contour, streams etc), ease of servicing and connectivity to the proposed roading network. Figure 2 (Below) indicates the proposed development layout.

Figure 3: Clayden Road, Concept Development Plan

The information provided herein relates to the stormwater, wastewater, water supply and other service infrastructure and the potential capacity to service the proposed residential development within the precinct.

Development of the Clayden Road site also requires widespread recontouring of the site. Details of these earthworks inclusive of the proposed sediment and erosion controls and retaining walls are also provided within this Report. Although it is recognised that earthworks across the greater precinct will likely be required at a later stage, no concept of any other properties within the precinct have been developed to enable this exercise.

The calculations and assessments included in this report are a ‘desktop’ analysis and are preliminary in nature based on information available at time of issue. Final design plans and calculations appropriate for the application type will be provided at Resource, Subdivision, engineering approval and Building Consent stages as required.

2.0 EXECUTIVE SUMMARY

The information gathered to-date confirms the site is suitable for residential development.

Earthworks:

Within the Clayden Road site, bulk recontouring is required to enable the construction of the roading network and to ensure suitable building platforms can be provided. Initial design plans demonstrate finished levels with maximum 1:8 grade, considered suitable for the density proposed.

Roading:

A link road is proposed and has being designed in co-ordination with Auckland Transport and NZTA, referred to as the Matakana Link Road (MLR), which is to cross both the Clayden Road and 245 Matakana Road Sites and provide access directly to the adjacent developments. Road grades within the Clayden Road development are identified as the constraining design factor of the development but have been designed such that vertical alignment grades comply with ATCOP standards. Typical sections have been drafted for approval but are generally in accordance with design guidelines.

Overland Flow and Flooding:

Whilst there is known downstream flooding concerns, flooding within the site is contained to the streams and gullies. The urbanisation of the precinct can occur without creating any downstream flooding effects, with maintenance of the pre-development runoff levels, this is achievable through the introduction of the AUP – OP SMAF Flow 1 controls and further as hydrological controls outlined in the Proposed Stormwater Management Plan appended.

Stormwater:

The SMP indicates that there is localised downstream flooding. As such, stormwater attenuation for new impervious areas is required. The Maven SMP details onsite detention of 10yr events and attenuation on a sub-catchment level in accordance with the Maven Precinct SMP for up to a 100yr storm event.

Wastewater:

Wastewater drainage will be provided for both the Clayden Road Site and the precinct through an extension of the existing network, in-line with the draft Warkworth Wastewater Servicing Plan or as a result of proposed layouts to be considered with WSL. The intended network would remove the potential risks around on-site wastewater disposal, given the proximity to streams and OLFPs within the proposed Large Lot zone. Further consultation and detailed design will be undertaken in conjunction with Watercare Services limited. Subject to the completion of the North East Wastewater Servicing Scheme in 2021, there will be sufficient capacity to service the proposed development.

Water:

Water reticulation can be provided for the proposed precinct, through an extension of the existing rising main and recently constructed pump station to a proposed reservoir within or North of the Clayden Road site and the servicing network, in-line with the intended upgrades being completed by Watercare Services for Warkworth North. Subject to these upgrade works being completed, there will be sufficient supply for potable and fire fighting requirements within the precinct.

Other services:

Power and Telecommunications networks are present in the greater Warkworth area, details of upgrades and extensions from existing network services are to be confirmed and agreed with relevant utility providers (Vector and Chorus).

3.0 EARTHWORKS

This section of the report relates the Clayden Road site, which is the only site within the proposed precinct to have been masterplanned at this stage. As such, the proposed Clayden Road development requires bulk earthworks and widespread recontouring across the site to improve contours in order to satisfy the design and layout requirements for the development. The bulk earthworks are required for the construction of the proposed roading network and to provide suitable building platforms within the proposed lots.

A geotechnical assessment has been undertaken by CMW Geosciences in support of the design development. The geotechnical assessment investigates suitability of the site for residential development and details the site geology and subsurface conditions. Findings from the assessment are outlined in the CMW Report (Ref: AKL2018-0228AC Rev1). The earthworks have been designed in accordance with the recommendations of the CMW Geosciences Report.

The average gradient across the site is approximately 1V:5H, however, in some areas the site features grades up to 1V:3H. To demonstrate that the site can be developed for residential purposes, Maven Associates have developed a bulk earthwork design which features maximum finished gradients of 1V:8H. This design limit (1V:8H) ensures compliant public road gradients throughout the site, regardless of the horizontal orientation.

This design maximum also limits the height of required retaining walls, both in support of the public roading network and building platforms. The developed site contours have been designed, as far as practicable, to tie in with existing ground levels at the top of the site, reducing risk and increasing stability.

A decision (in part influenced by the Geotech Report) has been made to provide fill walls within the lower areas of the site. Retaining walls within the site will form a combination of mechanically stabilised earth (MSE) walls, shear keys or CFA piles and conventional wooden retaining walls. The final location(s) will be subject to further investigation and detailed design. The location of the principal retaining walls (MSE or shear keys) is provided on Drawing C200 appended. The design grade (1V:8H) will limit the height of retaining for building platforms within the acceptable maximum height of 2.5m for wooden retaining walls.

Anl ecological constraints survey has been undertaken by Freshwater Solutions Ltd. There are several streams, both permanent and intermittent, that are proposed to be either kept, reclaimed or lost to enable the development of the site. This has ecological and hydrological implications that will need to be mitigated via the compensation and offset methodology contained within the AUP – OP.

Permanent earthworks will need to be carried out in accordance with NZS 4404, and with Auckland Council's Standards of Engineering Design and Construction. Regional and District Land Use consents will need to be obtained from Auckland Council.

All earthworks within the site will be supported by measures for erosion and sediment control to ensure all adverse effects are mitigated. Proposed measures for erosion and sediment control will be designed in accordance with Auckland Council design manual GD05 Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region.

Due to the size of the development, earthworks will be staged, with exposed surfaces progressively stabilised. The general principles adopted during the earthworks phase will be detailed within an Erosion and Sediment Control Plan (ESCP) which will support any application for resource consent. The general principles adopted within the ESCP will include the following:

- Minimise the disturbance area, due to earthwork activities, as practically possible while satisfying all requirements for development of the site.

- Ensure site staff are aware of the requirements of the ESCP and the relevant resource consent conditions prior to commencing works.
- Where possible, stage earthworks and progressively stabilise exposed areas following completion.
- Divert all cleanwater runoff away from the site, minimising the catchment to the exposed earthwork areas.
- Intercept and divert sediment-laden runoff from exposed areas to specifically designed treatment devices prior to discharging into the downstream environment.
- Implement measures to prevent construction traffic exiting the construction area onto public roads.
- Regularly inspect the erosion and sediment control measures and undertake any maintenance necessary to maximise the potential retention of sediment on the site.
- In the event of forecast heavy rain, stabilise the site as far as practically possible and close works down.
- Ongoing assessment of the erosion and sediment control measures and, if required, amend the ESCP as works progresses.
- Ensure site staff are aware of the requirements of the ESCP and the relevant resource consent conditions prior to the works commencing.

4.0 ROADING

4.1 MATAKANA LINK ROAD

A new road is proposed to connect existing portions of State Highway 1 to Matakana Road, referred to as the Matakana Link Road (MLR), with a target completion of 2021, it is currently being designed in coordination with both Auckland Transport and NZTA. The new road is intended to address the existing issues with the Hill Street intersection but also unlock the Future Urban zone by providing direct access.

Maven Associates have recently confirmed both horizontal and vertical alignments in a co-ordinated effort with Auckland Transport. The design proposes retaining along the northern boundary of the MLR. A coordinated approach to construction with Auckland Transport could result in cost saving by removing the need for removing excess cut from site and stabilising, at least a portion, of the southern portion of the site split off from the main site above.

Otherwise Clayden Road and Matakana Road provide access to all properties within the proposed precinct. An existing section of Clayden Road, at the intersection of Matakana Road is also being upgraded as part of the MLR project.

4.2 ROAD NETWORK

New public roads will be constructed to provide access to development. The upper portion of the Clayden Road development is to be provided a single-entry point from the MLR as agreed with Auckland Transport, details of the intersection are being investigated currently but will be suitably designed for expected traffic movements for a development of this scale. The southern portion of the Clayden Road site is to receive two intersections off the MLR, one at the same location as the northern access and a second that provides for access to the MLR and potential thoroughfare across into neighbouring developments to the west.

Access from the MLR onto the 245 Matakana Road site have been confirmed throughout the Hearing process and is limited in nature, with exit and entry only access north and south of the MLR respectively being granted to this site.

All future public roads will need to be constructed to public standards, with allowance for stormwater management, services, landscaping and pedestrian movements.

The maximum longitudinal gradient of the public roads will be 1 in 8 (12.5%) in accordance with Auckland Council and ATCOP standards. New public roads will likely be formed as a flexible pavement. On-street parking will be provided, and roading cross sections will be developed as part of the Resource Consent process.

4.3 WARKWORTH STRUCTURE PLAN

We have reviewed the structure plan transport maps and Integrated Transport Assessment. We are concerned – from a feasibility point of view – with respect to the required roading network to service the proposed zoning, being part Business – Light Industry and Large Lot Residential. The combination of the natural topography, the maximum grades allowable under ATCOP standards and the restrictions on the number of vacant rear lots (5%) within the AUP – OP will result with the required roading network being cost prohibitive given the potential yield generated by the Auckland Council intended zoning rather than what has been proposed in the private plan change

We also note that the required local roading network will cross identified streams, both internment and permanent. This will have ecological effects which require consideration; however, it is our view that it is not reasonable nor practical to avoid these stream networks.

We have demonstrated that the site can support a higher density of residential development. It is in our view, given the proximity to the MLR and likely costs, increased density should be enabled to support and fund the required local roading network.

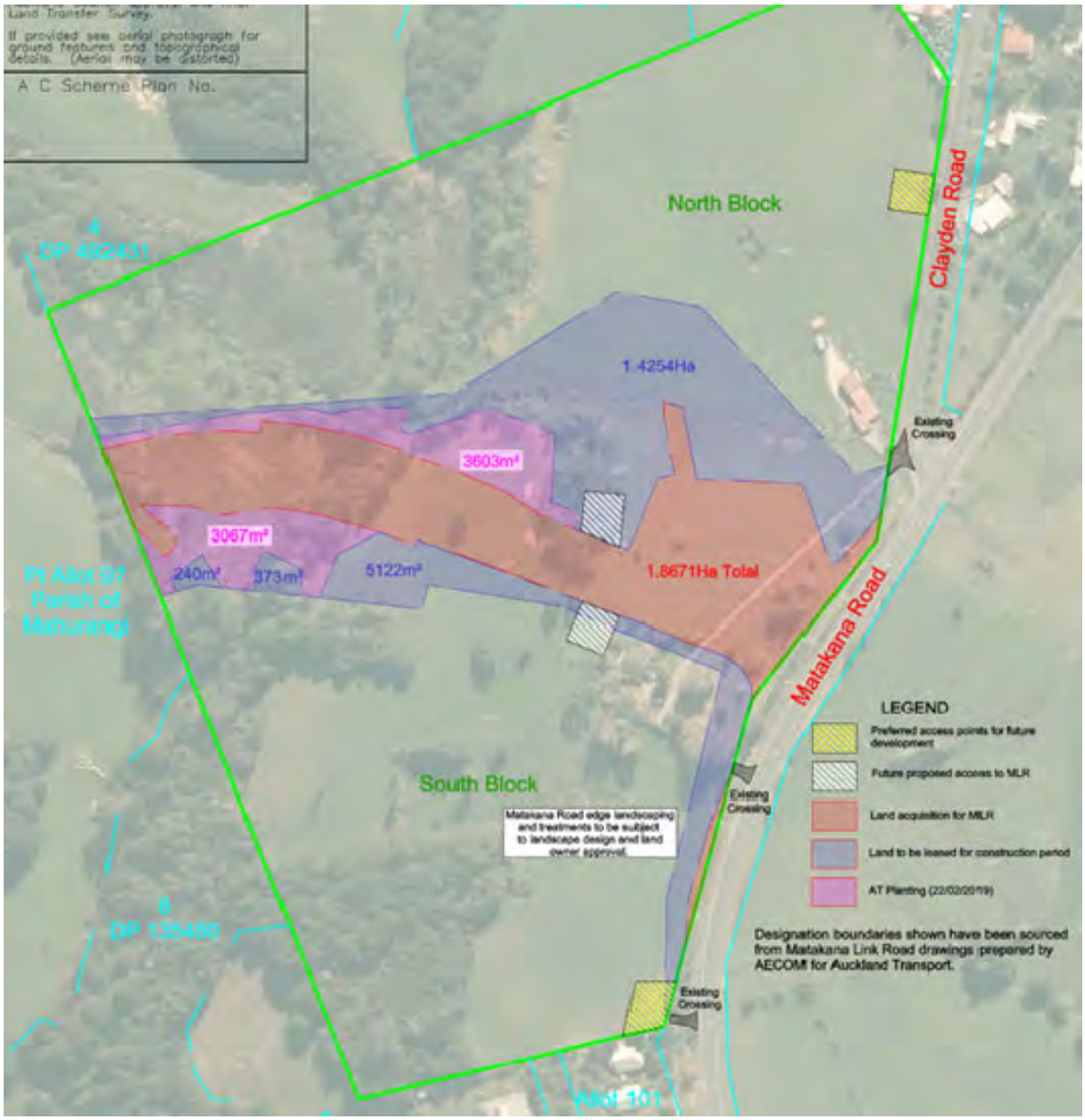


Figure 4: 245 Matakana Road, Access Points for North and South Lot

5.0 OVERLAND FLOW AND FLOODING

5.1 OVERLAND FLOW

The site is affected by numerous Overland Flowpaths (OLFPs) which for the most part follow the alignment of the natural gullies and streams within the site. The extent of OLFPs within the site are indicated within Figure 3, below:

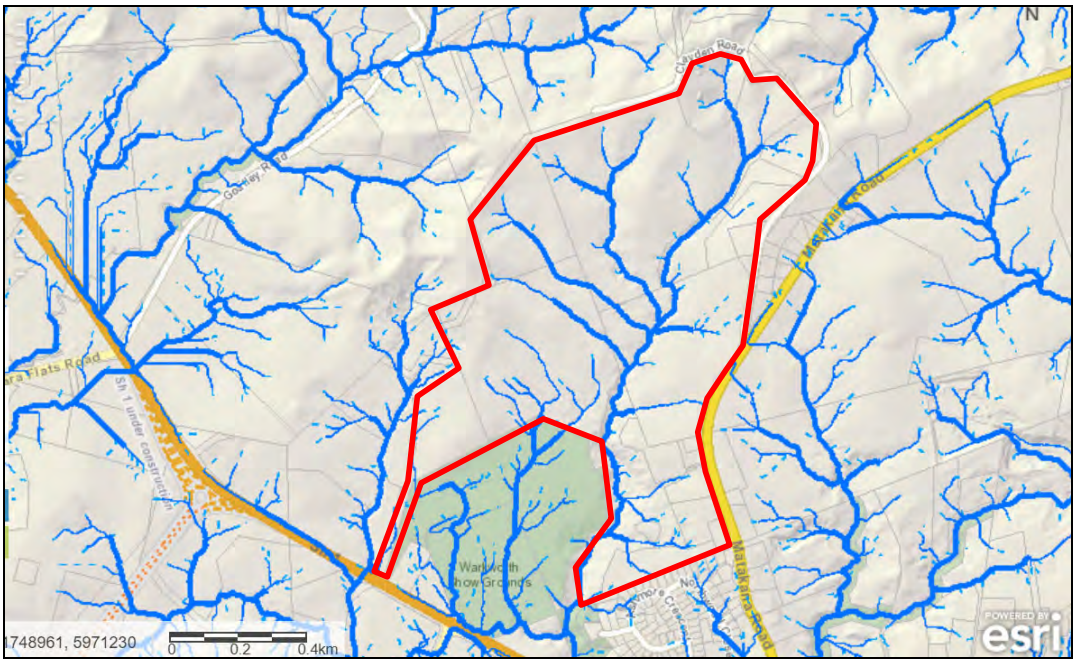


Figure 3: Existing OLFPs (precinct shown in red)

As part of the bulk earthworks proposed, a number of these OLFPs will be modified and/or redirected. Consents will be required for any reclamation and/or diversion of entry and exit points. The OLFPs commence – for the most part – within the site ensuring there will be no upstream flooding effects.

Any piping of the OLFPs will be done in accordance with the Stormwater Code of Practice, including allowances for blockages during a 100-year ARI event. All outfalls will be supported by a designed energy dissipating outlet structure.

Engineering OLFPs within the development will be contained to road reserves, as far as practicable, with overland flow conveyed away from building platforms. Minimum freeboard as required by in Auckland Councils Stormwater Code of Practice will be provided from all OLFPs. These requirments are summarised below:

- 500mm freeboard for OLFP flow rates above 2.0m3/s.
- 500mm freeboard for OLFP less than 2.0m3/s with average flow depths of 100mm when inundation is against the building.
- 150mm freeboard for OLFP less 2.0m3/s

5.2 FLOODING

The Warkworth Structure Plan Prelim Stormwater Management Plan ('SMP') is a high-level document prepared by Tonkin and Taylor that provides a framework for stormwater management specific to the Future Urban zoned land of Warkworth. This preliminary SMP is an information report to inform public consultation on future land use changes and initial discussion with other disciplines in the structure plan process on stormwater management issues and the high-level management approaches required in that area.

There are known flooding issues downstream of the site, as identified within the Mahurangi Catchment model. It should be noted that the model uses TP108 design rainfall depths and which are generally 20% higher than those from NIWA HIRDS V3. According to the SMP, flooding within the existing Warkworth urban area is limited to several pockets of buildings where flood depth exceeds 100 mm. These include the industrial area around Morrison Drive, the residential areas around Coquette Street and State Highway 1 and the commercial area around Queen Street.

As a result of this downstream flooding, stormwater attenuation will be required to restrict post-development runoff flow rates to pre-development levels. It is proposed that stormwater management of the site will be in accordance with the Stormwater Management Area Flow ('SMAF') Flow 1 controls of the AUP – OP. This requires hydrology mitigation in the form of retention and detention. The retention component requires runoff of a 5mm rainfall depth to be retained on-site, for all impervious areas (both within lots and public roads) although geotechnical advice is that this should not be disposed of to ground which limits retention use options, as per AUP E10 Table E10.6.3.1.1, (2) retention volume can be take up by the detention. The attenuation component of a Flow 1 category under the AUP – OP requires temporary storage of a 95th percentile 24-hour storm released over 24 hours, i.e. extended detention.

SMAF requirements and further attenuation of 10yr flows from increased impervious coverage for future development will be achieved through a combination of approved propriety devices (detention tanks, rain gardens, swales, tree pits etc) while 10 and 100 year events will be managed catchment wide, or sub-catchment wide via attenuation/detention basins. Further design development is required to identify the best solutions, whilst recognising the identified constraints (geotechnical issues, site stability ec). In our opinion, the urbanisation of the site can occur without creating any downstream flooding effects, subject to the maintenance of the pre-development runoff levels.

Maven Associates have completed preliminary flood modelling (TP108) of the existing site, the findings confirm that flood extent are confined to the streams and riparian margins within the subject site and immediately downstream.

Consistent with the recommendations of the SMP, all building platforms will be located outside of the 100-year ARI modified floodplain. All buildings within the site will be provided with freeboard clearances in accordance with the criteria as stipulated in Auckland Councils Stormwater Code of Practise. With the adoption of the appropriate critical freeboard, the flooding risk to the proposed future buildings will be sufficiently mitigated.

5.3 RIPIRIAN MARGINS AND SETBACKS

For the residential zones of the AUP – OP, there is a requirement for a 10m riparian yard required from the edge of any stream, regardless of width. Consent is required to construct a building within this yard. For streams over 3m in width, the provisions of s.230 of the RMA is triggered upon subdivision, where lots less than 4ha are being created. If the average stream is more than 3m in width, a 20m esplanade reserve is required to be vested, unless Resource Consent is sought from Auckland Council.

An assessment of flows from a 2.33year storm event (as requested by Heathy Waters) has been completed and included in the SMP appended stormwater modelling report.

The assessment has been completed to identify margin extents of the current landform, but as consent is being sought the reclaim a number of intermittent and permanent watercourses, the final assessment for subdivision consent will be directly affected by and alter final riparian margin and esplanade zones on all watercourses maintained.

The results of our preliminary assessment, which can be found appended to this report, detailed the extents of flow and the transition from watercourse flow widths above & below 3.0m flow width. Subsequently the stream alignments requiring either riparian or esplanade zones. This assessment has been completed with survey data at hand on the date of submission, further survey data collected as part of detailed design for subdivision consents may alter the boundaries of these zones (in combination with reclamation approvals sought) but in principal extents of each relevant zones have been indicated and will form the basis for further assessment required at subdivision consent stage.

6.0 STORMWATER

The Auckland Council Stormwater Code of Practice sets out design and construction standards for stormwater and requires all land development projects to be provided with a means of stormwater disposal.

6.1 STORMWATER RETICULATION

Auckland Council Geomaps and site investigation works completed to date do not identify any stormwater network within any of the precinct zone sites. Stormwater disposal from the precinct is to be provided via a new public stormwater network (to be vested to Council) with discharge points into to the Mahurangi North tributaries on site. The public network will be designed to convey the 10-year ARI (cc) event, as required by the Auckland Council Stormwater Code of Practice.

The piped network will be subject to detailed design for Resource Consent and will subsequently require Engineering Plan Approval. The discharge of stormwater to the stream will also require stormwater discharge consents. It is envisaged that the stormwater discharge will align with the requirements of the Auckland Council Network Discharge Consent.

6.2 STORMWATER QUALITY

Stormwater quality treatment is required for certain land uses as determined by Chapter E10 of the AUP – OP. Stormwater quality is required for all high use roads (5000 vehicles per day) and for car parks which support 30+ spaces.

Consideration of additional treatments and the inclusion of water sensitive urban design parameters will be considered as part of the detailed design phase as per the requirements of GD01 and GD04. Stormwater attenuation basins can serve a dual purpose, providing flood mitigation along with water quality improvements to the stormwater discharge. Alternatively, water quality can be provided via at source traditional methods and devices such as rain gardens, swales or proprietary filter systems. The details of which will need to be investigated and agreed with Auckland Council Healthy Waters. The proposed SMP details the proposed precincts water sensitive design approach.

6.3 DRAFT WARKWORTH STRUCTURE PLAN

The proposed Auckland Council Structure Plan provides little detail on the intended stormwater management of the large lot areas. The stormwater assessment does, however, identify possible issues around on-site stormwater management within steeper areas of the submissions area, noting that:

> *The proposed large lot zones are generally located on ridgelines and areas that contain steep slopes. The steep slopes may preclude the use of stormwater infiltration devices, especially for the large lot zone to the north.*

These issues have also been identified by CMW, within their Geotech Report. We consider it highly likely that these lots will need to be serviced by a public network, to ensure that there are no stability issues, which could occur from increased ground water retention. Again, due to the low overall yield, we are of the position that the associated costs may stifle the intended development.

The catchment of the Mahurangi Stream Tributary is, in comparison to neighbouring catchments, relatively confined - generally the subject site and a portion of the property to the north east define the upper extents of the catchment. The current urban downstream catchment in the current AUP is overlaid by a SMAF 1 control zone, although part of the contributing catchment to the north western area currently zoned for light industry zone are not.

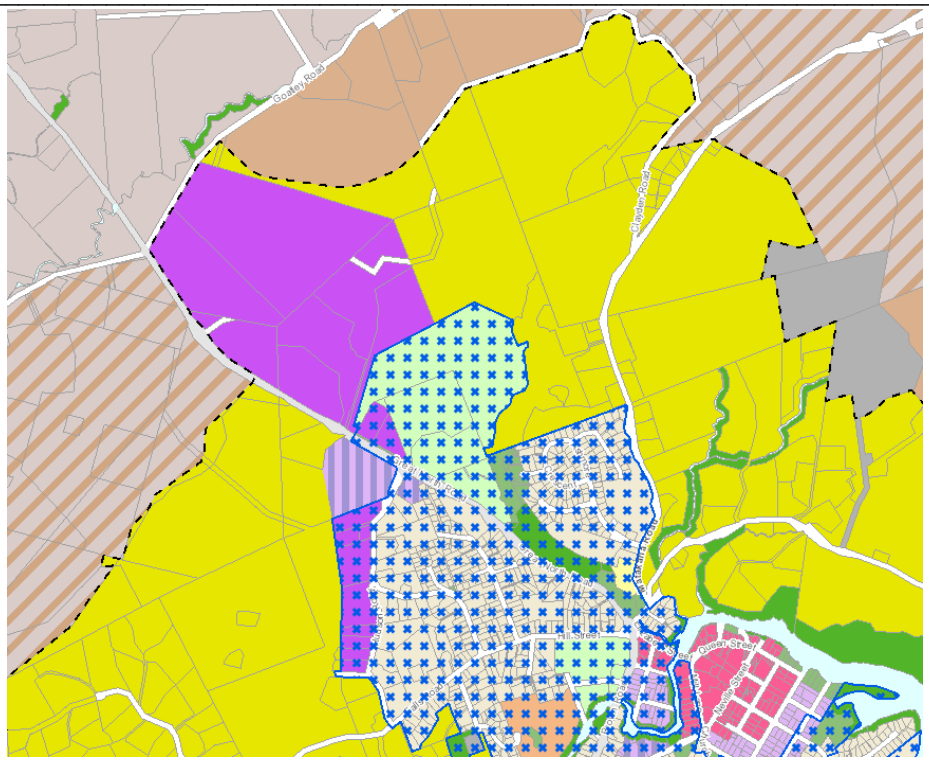


Figure 4: Current AUP Stormwater Control Zone.

The attached Stormwater management plan details the existing and proposed development extents and controls proposed are summarised below. Further investigation, modelling and details can be found within the proposed Stormwater Management Plan appended. As noted earlier, due to geological constraints and the elevation difference across existing boundaries, it is considered that retention stormwater control methods would be difficult to implement cost effectively. SMAF controls are seen as appropriate although re-use of water, if limited, should be included in the detention volume, rather than disposed of to ground as per recommendations found within the Prelim SMP by Tonkin Taylor and subsequently by CMW Geosciences.

The site is currently defined by a number of gullies than convey local catchments of the subject site, a majority of which accumulate and discharge into one of the permanent watercourses (noted as Watercourse K) a tributary of the Mahurangi Stream traversing the eastern boundary. The other less predominant watercourse on the neighbouring site to the west collects a portion of the western edge of the site and discharges immediately downstream at a culvert crossing SH1. Finally, a lower catchment of the site discharge via sheet flow on the fields and directly to ephemeral watercourses contributing to permanent streams within the Warkworth Showgrounds, 2 of the watercourses connected directly the development will serve as the major discharge points for piped networks and overland flows.

The mitigate the effect of additional flows to these watercourses the below stormwater controls are proposed:

- Urban SMAF 1 Zoning – retention (where applicable) and detention of runoff from Urban Development for the 90th Percentile Storm event in accordance with AUP E10.6.3.
- As there are known capacity issues directly downstream, further controls of 10 & 100 year events will be required in accordance with the precinct SMP.
- Public Road Rain Gardens or other proprietary devices – Sized in accordance with GD01, to provide both at source treatment of runoff from trafficable and contaminant generating areas and attenuation of flows from 90/95th percentile flows.

6.4 STORMWATER MANAGEMENT PLAN

A precinct specific stormwater management plan has been drafted for approval by Healthy Waters and is to be adopted into the Auckland Region-Wide NDC upon approval. The SMP details the precincts stormwater management approach and summarises the results of stormwater modelling and investigation works to ensure compliance Auckland Council guidance documents, required outcomes and mitigation strategies. Details and assessment of compliance of the proposed SMP against schedule 2 and 4 of the NDC can be found appended to this report for reference.

6.4.1 National Policy Statement for Freshwater Management 2014

National Policy Statements are issued by the government to provide guidance to local regulatory authorities about how they carry out their responsibilities under the Resource Management Act 1991 when it comes to matters of national significance.

The National Policy Statement for Fresh Water Management 2014 (Freshwater NPS) applies to the management of freshwater through a framework that considers and recognizes Te Mana o te Wai as an important part of management. This is considered a matter of national significance.

Auckland Council as the regulatory authority in developing and implementing the Unitary Plan had to comply with these policies and objectives. In order to ensure this compliance statutory requirements, engineering standards and guidelines have been implemented.

In this case Auckland Council applied for and gained consent of a Region Wide Stormwater Network Discharge consent, allowing both council and private developers to discharge stormwater provided the requirements of the NDC are followed. This is checked and approved by the development of a specific stormwater management plan for the subject site.

The NDC takes account of the objectives of the National Policy Statement for Freshwater Management 2014 as listed below:

AA - Te Mana o te Wai
A - Water quality
B - Water quantity
C - Integrated management
CA - National Objectives Framework
CB - Monitoring plans
CC - Accounting for freshwater takes and contaminants
D - Tangata whenua roles and interests
E - Progressive implementation programme

In summary, as the SMP objectives have been developed to comply with the current AUP, SWCoP and Auckland Council GD01/GD04 guidelines, and as no departures have been identified, no further assessment against the National Policy Statement is considered necessary.

6.5 CONCLUSION

The proposed precinct properties generally all have direct access to dispose of stormwater via a new public network with discharge into the Mahurangi North tributaries. Stormwater quality and Water Sensitive Urban Design principals will be adopted and incorporated into the future detailed design. Stormwater attenuation for new impervious areas is required. The Maven SMP details SMAF zone controls, onsite detention of 10yr events and attenuation on a sub-catchment level in accordance with the Maven Precinct SMP for up to a 100yr event.

7.0 WASTEWATER

The Watercare Code of Practice for Land Development and Subdivision sets out the design principles for wastewater and requires any development project to be provided with a means of wastewater disposal.

7.1 WASTEWATER RETICULATION

A public wastewater reticulation network will be constructed to service the development. Due to the site topography, initial design work indicates that the network and site connection should be gravity based (within the site). Further investigation is, however, required and a combination of gravity and pressure systems may be required to extend the existing public network to the indicative pumping station 'Location I' or the Showgrounds Pumping Station. The location of the proposed wastewater pumping stations are identified within Figure 4, below:

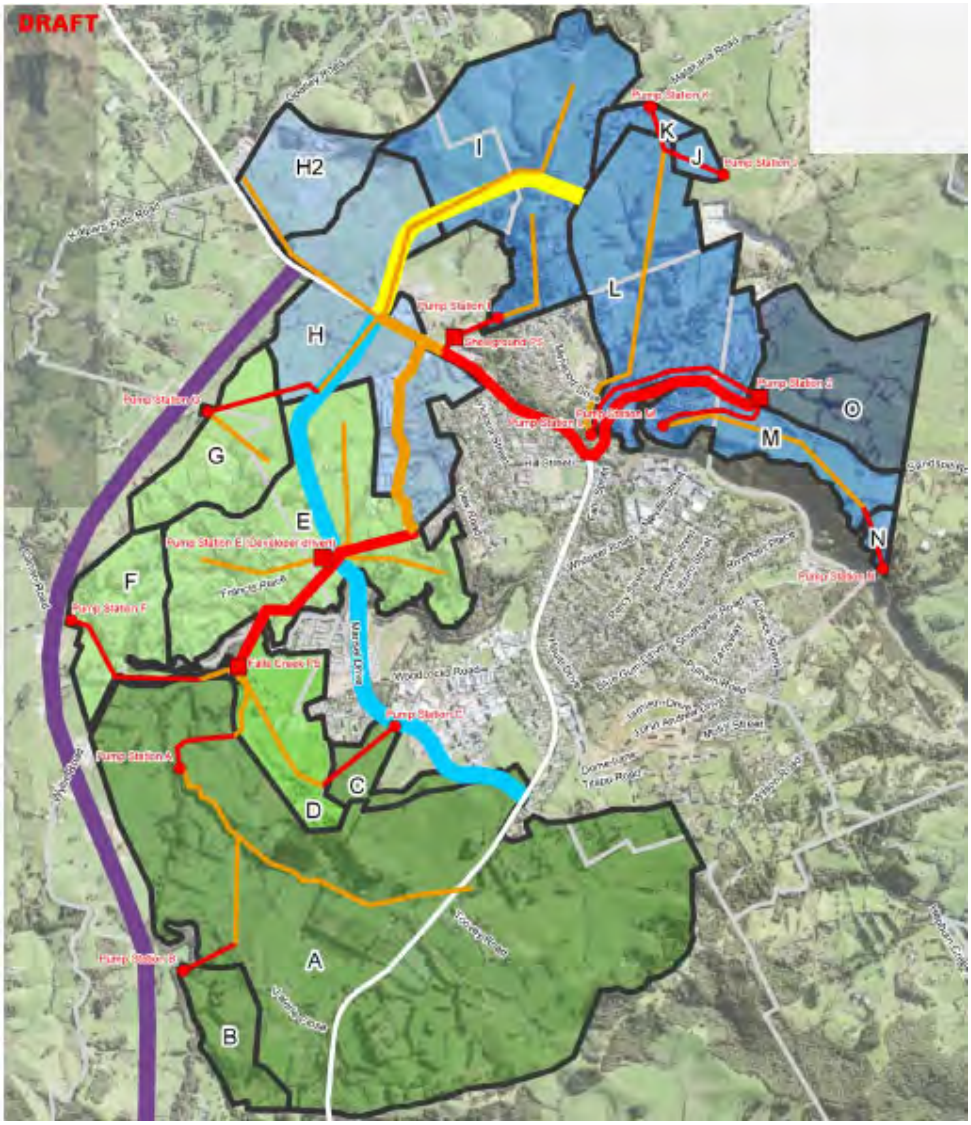


Figure 5: Extract from Indicative Warkworth Wastewater Servicing Plan

The proposed wastewater network will generally follow the road alignments in order to provide each lot with a connection. The ultimate connection point or points are being investigated with WSL currently to ensure the entire site is serviceable.

The proposed internal Wastewater reticulation will be designed to have capacity for the peak wet weather flow from the proposed development and will be subject to engineering consent approval from Auckland Council & Watercare Services.

7.2 WASTEWATER CAPACITY

As part of the Warkworth Structure Plan, provision for wastewater infrastructure to service the Future Urban Zone has been planned and is in the process of being implemented by Watercare Services, with a delivery date of 2021.

The scheme, called the 'North East Wastewater Servicing Scheme', provides a bulk wastewater connection point on Sandspit Road, called Pump Station No.2. The overall scheme includes:

- A new transfer pipeline between Warkworth and a new Snells Beach Wastewater Treatment Plan ('WWTP') consisting of approximately 10 km of pipeline and three pump stations.
- New Snells Beach WWTP with a capacity for a population of 18,000, expandable to 30,000 (future project).
- A new outfall from the Snells-Algies WWTP to the Hauraki Gulf consisting of a pump station, 9 km of pipeline and a marine outfall.

The proposed delivery of infrastructure is in line with the proposed completion date for the Matakana Link Road, where it is proposed for bulk services to be located.

7.3 WARKWORTH STRUCTURE PLAN

We note that the Large Lot development is based upon on-site treatment and disposal of wastewater. Upon review, Maven Associates have concerns around the increased risk of leaching in the water table, given that these larger lots are within the upper catchment and are also located within proximity to identified streams and OLFPs. In our view, to avoid any adverse effects, it would be advisable to ensure all lots are serviced by the new public network. Increased density to enable medium density housing would mitigate this potential risk.

Watercare Services Ltd have been open in discussing options with consultants representing the Warkworth North precinct land owners. Discussions to date indicate that there are a number of options available; being a combination of gravity and pumped rising main network extensions but also a number of restrictions to the most logical layout of those network layouts, 2 of those network extension combinations can be found appended within the Appendix. Ultimately both options discharge to a pump station on Sandspit Road North of the Warkworth township, which pumps proposed discharge to the treatment plant under construction at Snells Beach.

7.4 CONCLUSION

Wastewater drainage can be provided for the precinct, through an extension of the existing network, in-line with the draft Warkworth Wastewater Servicing Plan or as a result of proposed layouts to be considered with WSL. The piped network will be subject to detailed design for Resource Consent and will require Engineering Plan Approval. Further consultation and detailed design will be undertaken in conjunction with Watercare Services limited.

Subject to the completion of the North East Wastewater Servicing Scheme in 2021, there will be sufficient capacity to service the proposed development. It is considered that the proposed on-site wastewater for the large lot zoning could increase the risk of ground water contamination, and it is considered advisable for the residential development to be serviced by a public network, enabled through an increased yield of the site.

8.0 WATER SUPPLY

The Watercare Code of Practice for Land Development and Subdivision sets out the design principles for water supply and requires assessment against SNZPAS 4509:2008 NZ Fire Service Fire Fighting Water Supply Code of Practise

8.1 WATER RETICULATION

The proposed development will be serviced by a new public water network consistent with the intended upgrades identified within Watercare's scheme developed to support the Future Urban zoned land of Warkworth. The development requires a new servicing network from the existing water network which comprises primarily of a reservoir within or north of the Clayden Road development, watermain, fire hydrants and other fittings to comply with the Watercare Water Code of Practice and firefighting standards. All new pipelines will consider the upstream and downstream development potential when being designed and constructed.

All new infrastructure will be designed to have capacity to cater for the proposed development and will be subject to Engineering Approval from Auckland Council and Watercare Services. The existing and proposed network provide suitable water connection points for the proposed development.

8.2 POTABLE WATER AND FIRE FIGHTING SUPPLY

The minimum firefighting water supply classification for development in urban areas is FW2. Therefore, any future residential development must meet the following water supply requirements:

- A primary water flow of 12.5 litres/sec within a radial distance of 135m
- An additional secondary flow of 12.5 litres/sec within a radial distance of 270m
- The required flow must be achieved from a maximum of one or two hydrants operating simultaneously
- A minimum running pressure of 100kPa

Flow rates and pressures will need to be designed to ensure the minimum requirements for the water supply classification stipulated in SNZPAS 4509:2008 can be achieved.

New groundwater abstraction bores at Hudson Road and a new water treatment plant at Sanderson Road are operational. The plant is designed to treat the consented abstraction volume limit, which caters for approximately 16,000 people. As the development site is located within Warkworth North, the intended first stage upgrades will provide sufficient capacity for the potable and firefighting requirements.

8.3 CONCLUSION

Water reticulation can be provided for the proposed development, through an extension of the existing rising main and recently constructed pump station to a proposed reservoir within or North of the Clayden Road site and the servicing network, in-line with the intended upgrades being completed by Watercare Services for Warkworth North. Subject to these upgrade works being completed, there will be sufficient supply for potable and fire fighting requirements.

9.0 OTHER UTILITIES

It is anticipated that network upgrades/extensions will be required to support future residential development which will be undertaken in agreement with local utility providers.

Services will be connected to the proposed development as per respective service agreements. Telecommunications in the area are managed by Chorus, power is managed by Vector and there is no known Gas reticulation within the area.

Further investigation works will ben undertaken and works required to service the developments planned and implemented in co-ordination with both Chorus and Vector and their specified sub-contractors/consultants.

To date correspondence with Vector and Chorus has been positive:

Vector have indicated that there planning is based on the unitary plan zoning, although Vector already have large infrastructure in Warkworth – a 33kV zone sub station on Matakana Road and coverage for 11kV reticulation in the area north of Warkworth that the proposed precinct in located within. Extensions into any subdivision will be detailed as scheme plans are developed in coordination with Vector and North power.

Chorus have also preliminarily confirmed that they have infrastructure suitable in the general land area and road networks surrounding the proposed precinct, further detail, indicative lots numbers and staging of the development were requested to further the design and ensure serviceability to and beyond the precinct extents.

10.0 CONCLUSIONS

The information gathered to-date confirms the site suitable for residential development.

Bulk recontouring is required specifically, but not limited only to the Clayden Road Site, to enable the construction of a complying roading network and to ensure suitable building platforms can be provided. Initial design plans demonstrate finished levels of 1:8 grade, considered suitable for the density proposed. The earthworks will be supported by engineered retaining walls. Initial locations are indicated, and geotechnical input confirms these walls can be constructed.

The proposed road network and MLR are to provide access from both Matakana Road and State Highway 1, access into the site is generally confirmed, details of which are still being designed in coordination with Auckland Transport that will allow for levels of traffic expected in a development of this scale.

Existing overland flow and flood plains have been modelled to determine the extents of flooding and flow as a base-line for the pre-development situation. Design checks of finished levels ensure minimum freeboard levels can be achieved for all future buildings and the overland flow can be safely conveyed within the road network, drainage reserves or natural watercourses where applicable.

The SMP indicates that there is localised downstream flooding. As such, stormwater attenuation for new impervious areas is required. The Maven SMP details onsite detention of 10yr events and attenuation on a sub-catchment level in accordance with the Maven Precinct SMP for up to a 100yr event.

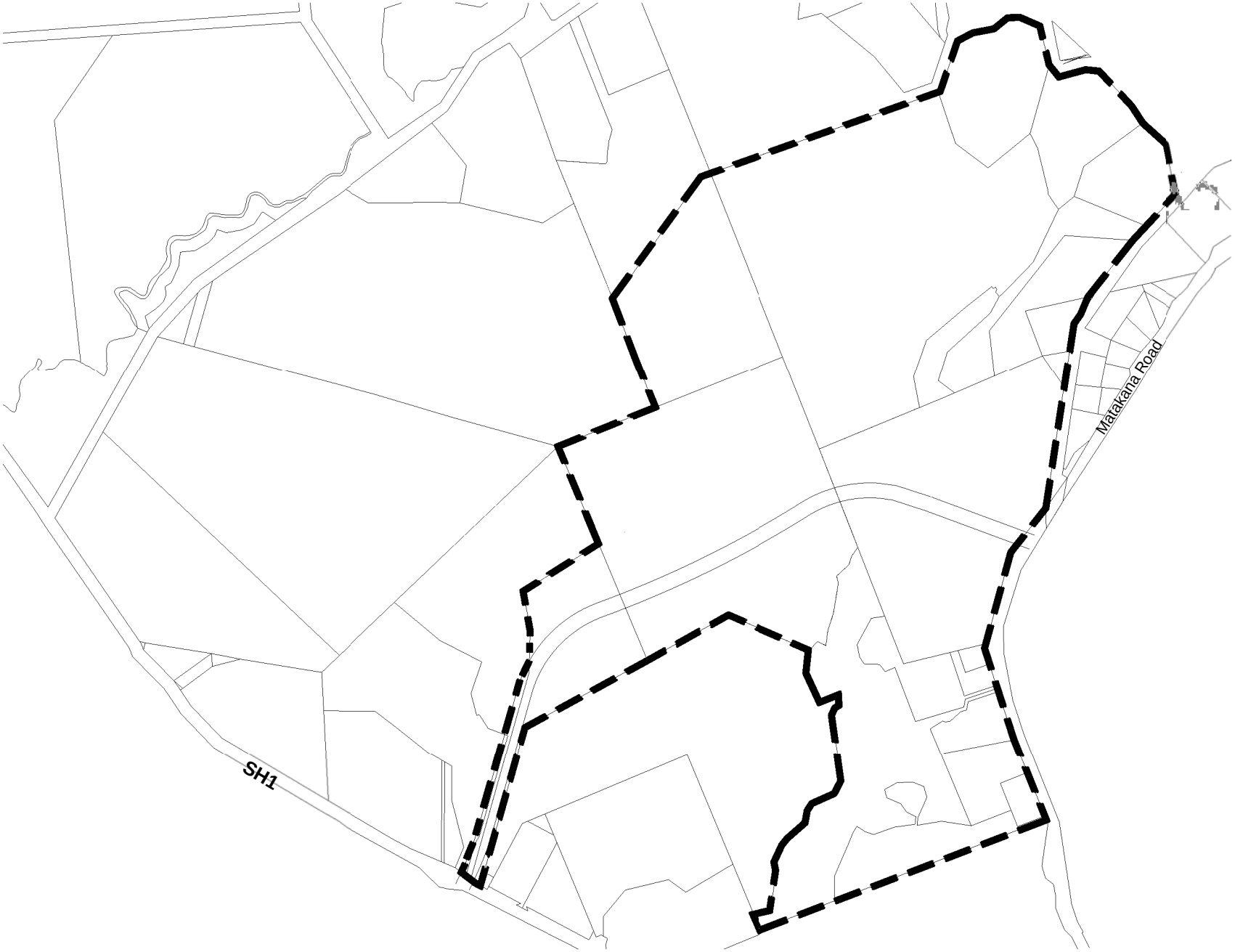
Stormwater drainage can be provided for the proposed development. Discharge from the public network will be to the Mahurangi North tributary. Final stormwater details will require further approvals and consultation with Healthy Waters but will otherwise be in accordance with Auckland Council standards.

Wastewater drainage will be provided through an extension of the existing network, in-line with the draft Warkworth Wastewater Servicing Plan or as a result of proposed layouts to be considered with WSL. The intended network would remove the potential risks around on-site wastewater disposal, given the proximity to streams and OLFPs within the proposed Large Lot zone. Further consultation and detailed design will be undertaken in conjunction with Watercare Services limited. Subject to the completion of the North East Wastewater Servicing Scheme in 2021, there will be sufficient capacity to service the proposed development.

Water reticulation can be provided for the proposed development, through an extension of the existing rising main and recently constructed pump station to a proposed reservoir within or North of the subject site and the servicing network, in-line with the intended upgrades being completed by Watercare Services for Warkworth North. Subject to these upgrade works being completed, there will be sufficient supply for potable and fire fighting requirements.

Power and Telecommunications networks and infrastructure already exists within the general vicinity of the proposed precinct extents, details of upgrades and extensions from existing network services are to be confirmed and agreed with relevant utility providers as the scheme plan and lots numbers are developed and confirmed.

APPENDIX A – PROPOSED PRECINCT PLANS



Precinct Boundary Key

Precinct Boundary

Drawing No.
SK-001

Warkworth : Clayden Road

Precinct Plan 1 - Boundary Location

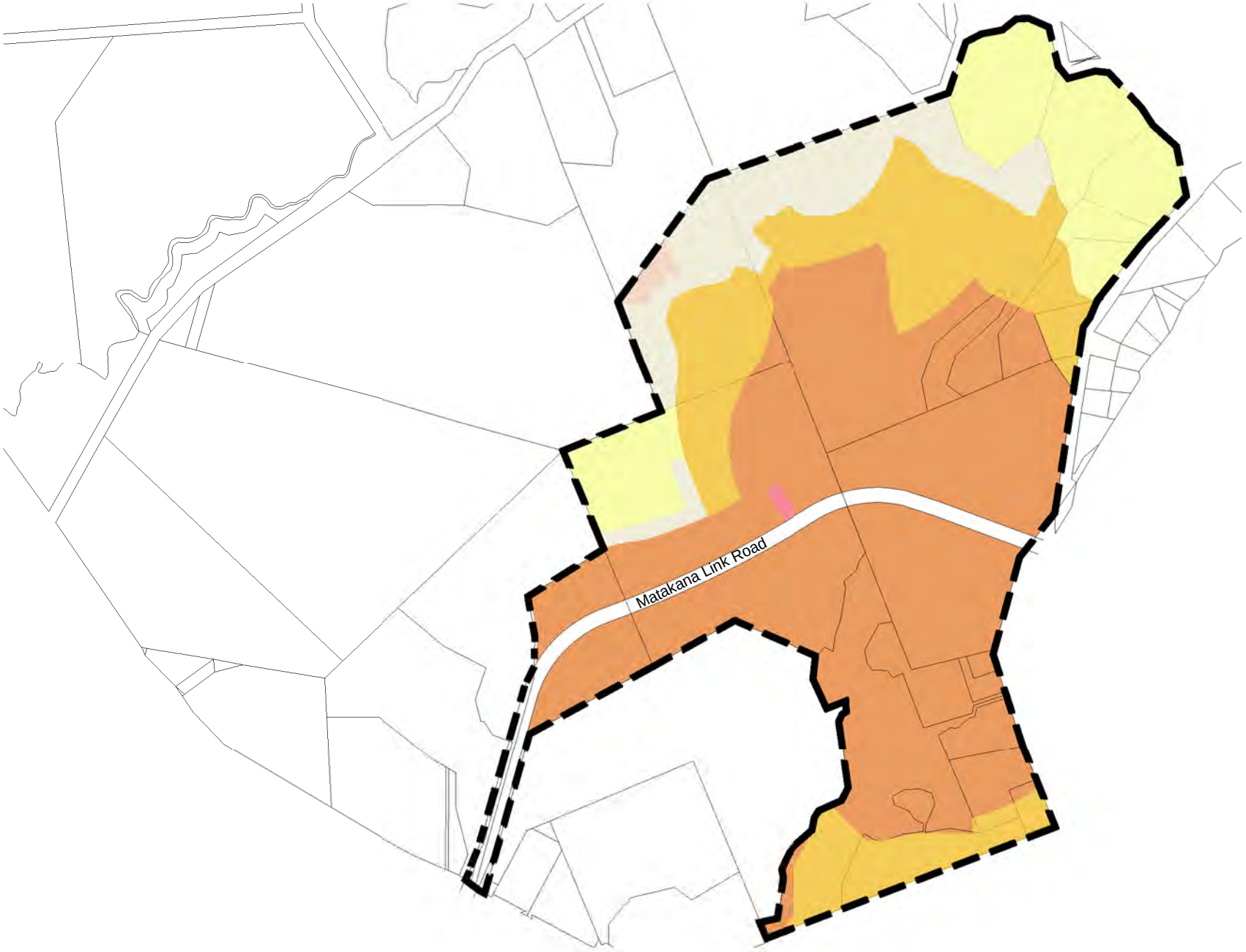
475

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019



Precinct Zoning Key

- Precinct Boundary
- Mixed Housing Urban Zone
- Mixed Housing Suburban Zone
- Single House Zone
- Large Lot Zone
- Countryside Living
- Neighbourhood Centre Zone

Drawing No.
SK-002

Warkworth : Clayden Road

Precinct Plan 2 - Zoning

476

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019

Precinct Plan Key

- Precinct Boundary
- Indicative Greenway Route
- State Highway 1
- Primary Road
- Local Roads
- Special Yard
- Special landscape yard
- Noise Measurement Line
- Noise management area
- Special height limit 1
- Special height limit 2
- Special Use Overlay - Recreation Facility
- Special Subdivision Control Area
- Special Landscape Area
- Retained streams & riparian enhancement
- Indicative Location of Open Space

Drawing No.
SK-003

Warkworth : Clayden Road

Precinct Plan 3 - Special Uses

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019

Precinct Environment Key

- Precinct Boundary
- Covenanted bush
- Area of significant bush
- Retained streams & riparian enhancement
- Indicative location of stormwater pond for M.L.R
- Indicative location of stormwater management ponds for precinct.

Drawing No.
SK-004

Warkworth : Clayden Road

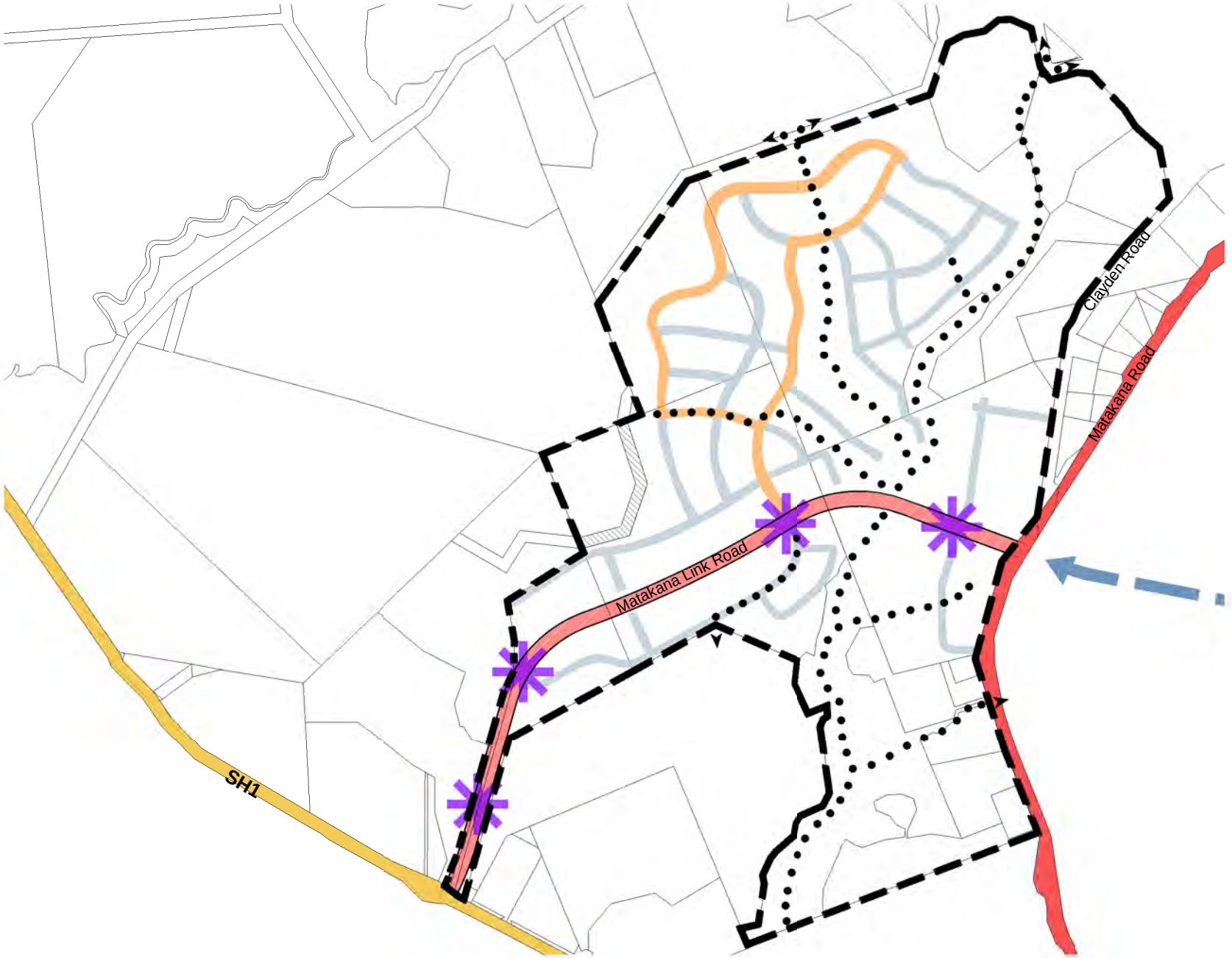
Precinct Plan 4- Environment

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019



Precinct Plan Key

- Precinct Boundary
- State Highway 1
- Primary Road
- Primary Road with limited access. No vehicle access for individual site.
- Access points onto Matakana Link Road
- Indicative locations of collector roads (secondary roads)
- Indicative locations of local roads
- Future Sandspit Link Road
- Paper Road within the precinct to be stopped
- Indicative Greenway Route

Drawing No.
SK-005

Warkworth : Clayden Road

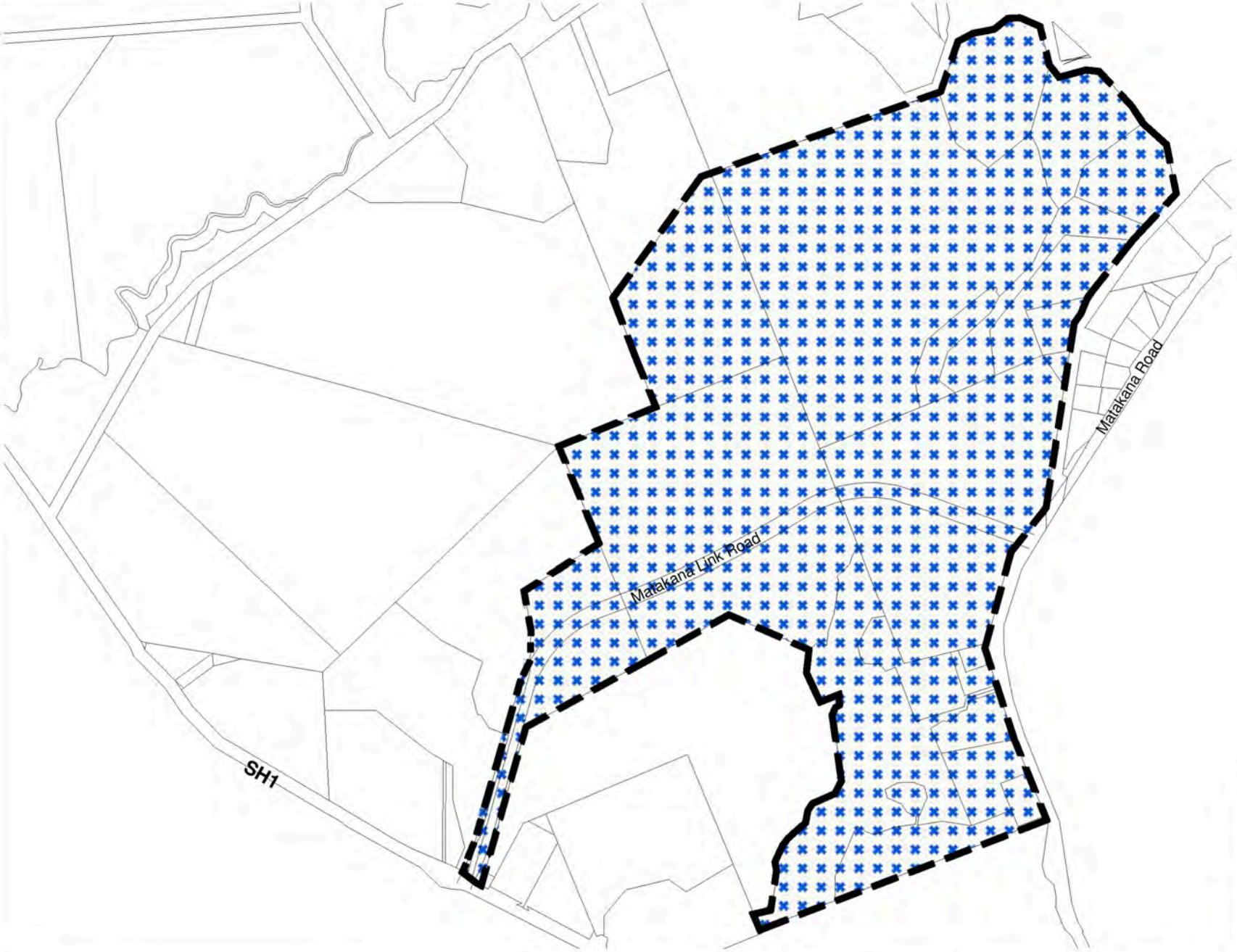
Precinct Plan 5- Transport

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019



Precinct Plan Key

- Precinct Boundary
- SMAF 1

Drawing No.
SK-006

Warkworth : Clayden Road

Precinct Plan 6 - SMAF Zone

0 100 200 300m
Scale: 1:10000 @ A4

Revision
F

A STUDIO
ARCHITECTS

October 2019

APPENDIX B – NDC ASSESSMENT

Schedule 2 ASSESSMENT: Auckland Stormwater NDC Strategic Objectives, Outcomes

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 1: ASSETS			
I1 The ability of the stormwater network to cost effectively meet the needs of current and future generations and achieve and maintain healthy receiving environments, is dependent on the design, quality, maintenance and renewal of built assets and their interaction with private networks and natural systems.	**Safe Communities:** Risk to our communities, including people, property and infrastructure is reduced - ensure that risk to people and property is managed to levels that have been established in consultation with the community, and reduce existing flood risk where it is above these levels. **Healthy and Connected Waterways that provide for te mauri o te wai:** Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them - utilise streams, aquifers and harbours as integral natural components of Auckland's stormwater system while reducing the adverse effects of stormwater runoff, restoring te mauri o te wai and enhancing our community's connection with, its waterways.	O1.1 Manage existing public stormwater assets to meet agreed levels of service. O1.2 Manage erosion effects caused by discharges from the public stormwater infrastructure. O1.3 Improve existing assets by taking the opportunities from redevelopment where they arise.	O1.1 – No existing stormwater assets existing within the development and precinct extents O1.2 – It is proposed that through riparian and esplanade implementation as part of the statutory RMA requirements, setback and enhancement of the existing watercourses will contribute to the hydrological mitigation controls proposed to manage effects of erosion on the downstream and site contained receiving environment. O1.3 – No existing assets can be found within the precinct extents, although the opportunity to enhance the existing watercourses within the development extents are proposed.

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 2: GROWTH			
I2 The way the region grows and develops, and our ability to address existing adverse effects, will determine the quality and health of our freshwater and marine environment.	**Support Growth:** Growth through water sensitive development and provision of quality stormwater infrastructure is enabled - new and re-developed areas are supported by effective stormwater management and good quality infrastructure and development is undertaken in a way that meets the needs of our communities and maintains and enhances natural water systems.	O2.1 Align stormwater infrastructure planning and provision to development and intensification priorities. O2.2 Integrate water sensitive design into new and major re-development. This can include promoting source control, at source treatment, bioretention, detention and attenuation, and protection and enhancement of streams. O2.3 Enable effective land use and stormwater management planning and co-operation between developers and infrastructure providers. O2.4 Establish clear standards and processes for the planning, and development of good quality public stormwater infrastructure, particularly in terms of minimising operational and renewal costs, as well as minimising community, environmental and cultural effects.	O2.1 – Stormwater infrastructure, including primary piped and secondary OLFPs are proposed to be constructed to service each individual lot within the proposed precinct. O2.2 – Both WSD aspects (Quality and attenuation) are proposed and details of which can be found surmised within the stormwater management principals and approach of the precinct SMP. O2.3 – As the site is a new greenfield development, coordination with other stakeholders of infrastructure will be undertaken as part of the design and approval processes. O2-4 – The SMP details that infrastructure built be in accordance with the Auckland Council SWCOP, GD01, GD04 and Technical reports as required. No departures from the code of practice of WSD approaches are noted that would be considered an issues in terms of maintenance or environmental effects.

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
		Q2.5 Develop a coordinated process for management of stormwater approvals including NDC approvals, Stormwater Bylaw, AUP and Engineering Plan Approvals. Q2.6 Develop, in conjunction with industry, a practice note or engineering guideline for stormwater management requirements in a Brownfield development.	O2.5 – The process for implementation is detailed within the proposed SMP. Due process is considered to be accordance with the process outlined in this outcome. No deviation from standard process is proposed. O2.6 – Not applicable as greenfield development, engineering guidelines would otherwise be considered to be well detailed in existing Auckland council guidance documents and standards.

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 3: FLOODING			
I3 A large number of buildings (residential and commercial) and critical infrastructure are at risk of flooding and the problem will increase if past land use and development practices continue.	**Safe Communities:** Risk to our communities, including people, property and infrastructure is reduced - ensure that risk to people and property is managed to levels that have been established in consultation with the community, and reduce existing flood risk where it is above these levels.	O3.1 Avoid the increase of existing flooding or creation of new flooding of habitable floors as a result of urban development and intensification. O3.2 Reduce existing flood risk by taking the opportunities from redevelopment where they arise. O3.3 Manage existing flood risk to meet levels of service agreed to keep people and property safe from significant harm from flooding, and minimize disruption to critical social and physical infrastructure connections across the city. O3.4 Improved community understanding of, and resilience to, flood hazards.	O3.1 – Intensification and increased impervious areas are proposed to be mitigated through hydrological mitigation and controls outlined in the SMP (10YR attenuation at source and catchment wide detention basins along certain watercourse alignments ensuring a net reduction in total peak flows. O3.2 –Final discharge from the precinct are to be equal to, if not less than, the pre-development runoff for both 10% and 1% storm events. Mitigation is proposed due to exiting known restrictions in the downstream network, other policy and BPO required to mitigate the effects of increased runoff including erosion. O3.3 – Proposed mitigation measures of the precinct have been designed to mitigate the effects of development of the downstream receiving environment through attenuation of peak flows and storage onsite. Flooding within the site is not considered as a current or future risk due to climate change or development. The area is fortunate in that there is significant gradient and no low points prone to flooding that need to be managed. O3.4 – The community within the precinct will likely be more aware of stormwater controls and the reasoning for it, more so than previously in that each property is proposed to require stormwater devices, maintenance of which will prompt landowners to become more educated .

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 4: STREAM HEALTH			
I4 Urbanisation and poor stormwater management adversely affects Auckland's urban streams and can cause a loss of aquatic habitat and biodiversity, resulting in biological degradation and impacts on ecological functioning of streams, on the community and on the mauri of freshwater and Maori customary uses of freshwater resources.	**Healthy and Connected Waterways that provide for te mauri o te wai:** Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them - utilise streams, aquifers and harbours as integral natural components of Auckland's stormwater system while reducing the adverse effects of stormwater runoff, restoring te mauri o te wai and enhancing our community's connection with, its waterways.	O4.1 Maintain, operate and develop Council's current and future public stormwater network to minimise and reduce adverse effects on streams, groundwater and coastal systems. O4.2 Enhance urban streams and waterways by working collaboratively with key stakeholders such as mana whenua, Local Boards, community groups and the development community to take opportunities where they arise. O4.3 Areas of significant indigenous biodiversity value in terrestrial, freshwater, and coastal marine areas are protected from the adverse effects of subdivision, use and development.	O4.1 – Stormwater quality is one of the key outcomes of WSD that is incorporated within the proposed SMP, compliance with the recommendations and standards of Auckland Councils SWCoP and Guidance Documents (GD/GD04) ensures that appropriate stormwater controls are implemented, devices are designed to comply with and by vesting the asset with Council, ensures regular maintenance to manage runoff and protect the downstream receiving environment from the effects of urbanization. O4.2 –Access to the current watercourses through the sites multiple green links is proposed to allow stakeholders the opportunity to connect with the waterways where this would not have previously been possible. O4.3 – See O4.1, noting that the precinct contains a portion of the QEII trust protected native bush this outcome aims to protect from the adverse effects of development.

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 5: COASTAL HEALTH			
I5 Stormwater contaminants, sourced from urban land use, stream erosion and transport activities, accumulate in low energy marine environments (such as estuaries and enclosed harbours) and in some areas, occur at levels that adversely affect marine life, community and Maori cultural values, and once diminished, affects Maori customary uses of coastal resources.	**Healthy and Connected Waterways that provide for te mauri o te wai:** Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them - utilise streams, aquifers and harbours as integral natural components of Auckland's stormwater system while reducing the adverse effects of stormwater runoff, restoring te mauri o te wai and enhancing our community's connection with, its waterways.	As for O4.1 above As for O4.2 above As for O4.3 above	*Assessed above.*

[1] The Mauri-model is a best practice tool that can be used to effectively measure and assess cultural impacts of stormwater operations and programmes as part of the project scoping, prioritisation and cost-benefit analysis process. See All Issues/Collaborative Outcomes below – this tool will be developed in conjunction with Mana Whenua

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 6: GROUNDWATER			
I6 Groundwater aquifers underlying urban areas can be adversely affected by land development and stormwater discharges to ground soakage.	**Healthy and Connected Waterways that provide for te mauri o te wai**: Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them - utilise streams, aquifers and harbours as integral natural components of Auckland's stormwater system while reducing the adverse effects of stormwater runoff, restoring te mauri o te wai and enhancing our community's connection with, its waterways	As for O4.1 above As for O4.2 above	*Assessed above.*

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 7: EFFECTS ON WASTEWATER SYSTEM			
I7 In parts of Auckland, particularly where there is a combined stormwater-wastewater network, flood waters are contaminated with wastewater which can cause a public health risk, especially in areas with high contact recreation, and affects the Mauri of the waterbody and thereby has an effect on social and Maori cultural values.	**Healthy and Connected Waterways that provide for te mauri o te wai:** Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them - utilise streams, aquifers and harbours as integral natural components of Auckland's stormwater system while reducing the adverse effects of stormwater runoff, restoring te mauri o te wai and enhancing our community's connection with, its waterways	As for O4.2 above	O7.1 - There are to be no combined storm & wastewater systems within the precinct.

ISSUE	OBJECTIVES	OUTCOMES	WARKWORTH NORTH 2 PROPOSED OUTCOMES/COMMENTS
ISSUE 8: COMMON TO ALL ISSUES			
	Collaborative Outcomes: Stakeholders are engaged to achieve the best stormwater outcomes including for te mauri o te wai for present and future generations.	O8.1 Collaborate with Council departments and CCOs that have a key role in delivering positive stormwater outcomes. O8.2 Build constructive, working relationships with key stakeholders to achieve integrated stormwater solutions and cost effective outcomes. O8.3 Establish effective mechanisms for mana whenua to be appropriately engaged in stormwater management. This includes recognising and actively working to operationalise and integrate the relationship and cultural values mana whenua have with their waterways O8.4 Work with the stormwater industry to continue to identify, refine and communicate best practice and increase industry capacity, resources and knowledge.	O8.1 – Council and Healthy Waters are being engaged with through the plans change review and processing procedures, comments addressed ensuring that positive stormwater outcomes will be achieved. O8.2 – Proposed stormwater controls will require approal by council and CCO's, and through that process be engineered to balance being cost effective while achieving the desired outcome in accordance with the relevant standards/codes to be complaint with the NDC. 08.3 – Engagement with Mana Whenua is an integral part of the consent and plan change process. The proposal and stormwater management principals will be publicly notified and Iwi consultation will be completed as part of due process. O8.4 – Incorporation of new or improved development of products and knowledge within the stormwater industry will be beneficial in achieving a positive and cost effective outcome. Ultimately this will rely on Council and relevant CCO's approving use of such development. O8.5 – Not applicable. O8.6-8.12 – Noted, not assessed.

	Prioritised Investment: Benefits from limited resources are maximised by targeting our priorities to achieve the best outcomes we can afford	O8.5 Undertake regional prioritisation that targets investment in the right areas, as agreed within Council, with mana whenua and our community and in accordance with the Auckland Plan vision and statutory requirements. O8.6 Establish levels of service that are relevant and affordable.	
	Efficient Business: Robust systems, processes, practices and management are implemented to support delivery of stormwater services	O8.7 Undertake efficient and effective network operational, renewals and maintenance programmes. O8.8 Regionalise stormwater management through harmonisation of standards, contracts and business processes. O8.9 Provide fit for purpose information systems and business tools. O8.10 Undertake efficient and effective response to customers and incidents. O8.11 Rationalise network consents and compliance requirements. O8.12 Monitor and report performance.	

NETWORK DISCHARGE CONSENT ASSESSMENT

Developers (and their professional team) who wish to have the stormwater diversion and discharge associated with their proposal authorised by the NDC will need to demonstrate in a Stormwater Management Plan that they meet the performance requirements in Schedule 4 of the NDC.

As the proposed precinct entails large scale Brownfield / Greenfield development, a Stormwater Management Plan is required and as the SMP is to be be adopted into the NDC which will authorise the discharges from a development as described in Schedule 8 of the NDC. An assessment confirming the proposed SMP meets the requirements of schedule 2 and schedule 4 of the NDC can be found below:

Schedule 2 (In original format – details of the proposed SMP replacing the six year targets column for reference) outlines objectives and outcomes of the Auckland Council NDC. An assessment of the proposed SMP can be fond on the following page.

NDC Schedule 4 outcomes and criteria are outlined and commentary on and reference to the proposed SMP can be found below:

1.0 CATCHMENTS/AREAS

The site currently lies within the upper catchment of the Warkworth Township stormwater network consent. It is considered due to the age preceding the AUP that the approval references historic requirements of TP10 in terms of water quality treatment and identifies known flooding issues that have been assessed in the preliminary SMP by Tonkin Taylor.

The proposed SMP is required to detail the Best Practical Option (in terms of the SWCoP and WSD principals) addressing the management approach including:

- Areas of development, including roads and reserves
- Location of vested infrastructure, including green infrastructure (note that assets located in the road corridor also require approval of Auckland Transport)
- Areas of on-site and communal (public) stormwater management
- Significant site features and hydrology
- How the connection/vesting requirements below are met or the alternative that is proposed.

An assessment, which includes such detail as corresponds with the scale and significance of the effects of the proposal, of how an Integrated Stormwater Management Approach has been adopted in the design and associated stormwater management in accordance with the policies in the AUP3 Sections E1.3, B7 and B8 to:

- Minimise the stormwater related effects of development;
- Retain/restore natural hydrology as far as practicable
- Minimise the generation and discharge of contaminants (including gross stormwater pollutants) and stormwater flows at source
- Minimise temperature related effects
- Enhance freshwater systems including streams and riparian margins
- Minimise the location of engineered structures in streams
- Protect the values of Significant Ecological Areas as identified in the Auckland Unitary Plan.

2.0 WATER QUALITY

The precinct is upstream of and contains in the lower potions a significant ecological area, that is also part of the QE2 trust protected native bush. This area surrounds the main watercourses collecting all runoff from the precinct.

- Treatment of all impervious areas by a water quality device designed in accordance with GD01/TP 10 for the relevant contaminants.

Or

- An alternative level of mitigation determined through a SMP that:
- applies an Integrated Stormwater Management Approach (as per above);
- meets the NDC Objectives and Outcomes in Schedule 2; and
- is the BPO

3.0 STREAM HYDROLOGY

Within a SMAF

- No additional requirements to those of the AUP.

Where discharge is to a stream via public stormwater network outside of SMAF

Achieve equivalent hydrology (infiltration, runoff volume, peak flow) to pre-development (grassed state) levels.

Or

An alternative level of mitigation determined through a SMP that:
- applies an Integrated Stormwater Management Approach (as per above);
- meets the NDC objectives and outcomes in Schedule 2;
- is the BPO for the given project

A method of achieving equivalent hydrology to pre-development (grassed state) levels is to:
- Provide retention (volume reduction) of a minimum of 5mm runoff depth for all impervious areas; and
- Provide detention (temporary storage) with a draindown period of 24 hours for the difference between the pre-development (grassed state) and post-development runoff volumes from the 95th percentile, 24 hour rainfall event minus the retention volume for all impervious areas.

4.0 FLOODING

Property/pipe capacity: 10% AEP event:

• Ensure that there is sufficient capacity within the pipe network downstream of the connection point to cater for the stormwater runoff associated with the development in a 10% AEP event including incorporating flows from contributing catchments at maximum probable development.

Methods of ensuring sufficient capacity in the downstream pipe network include any one of the following:

- Demonstrating sufficient capacity is available including flows from the catchment (at maximum probable development) draining to the relevant pipe network in the 10% AEP event);
- Attenuating and reducing stormwater flows and volume on-site such that there is no increase in peak flow in a 10% AEP event from the site compared to that prior to the new development. Note that any devices associated with this option will also require an operation and maintenance plan to ensure the long-term efficacy of such a system;
- Upgrading the relevant pipe network to a size that can cater for the additional flows from the development in the 10% AEP event (taking into account existing flows from the contributing catchment); or
- Upgrading the relevant pipe network to a size that is larger than would otherwise be required to cater for the 10% AEP event for the development, due to the need to cater for flows from the contributing catchment at maximum probable development, subject to a fair and proportionate funding agreement with Healthy Waters.

Buildings – 1% AEP event

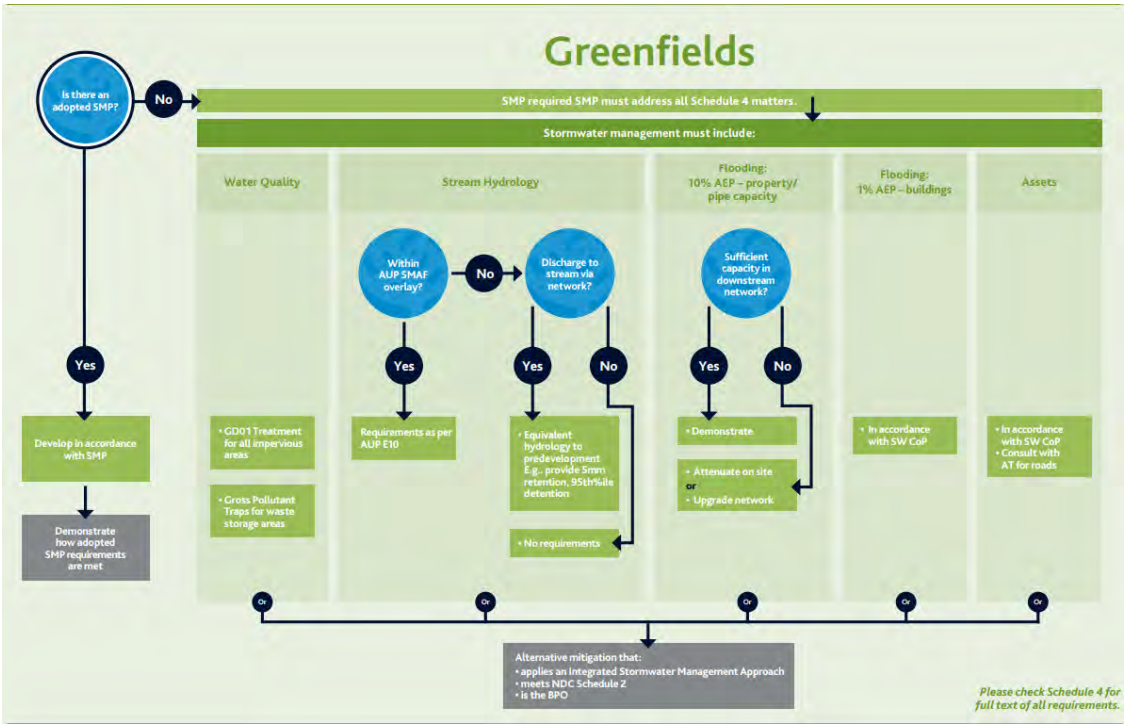
- Develop to Stormwater Code of Practice.
- Develop in accordance with SMP as above.

5.0 ASSETS

All new assets that are intended to become part of the public stormwater network are to be designed and constructed to be durable and perform to the required level of service for the life of the asset, subject to reasonable asset maintenance.

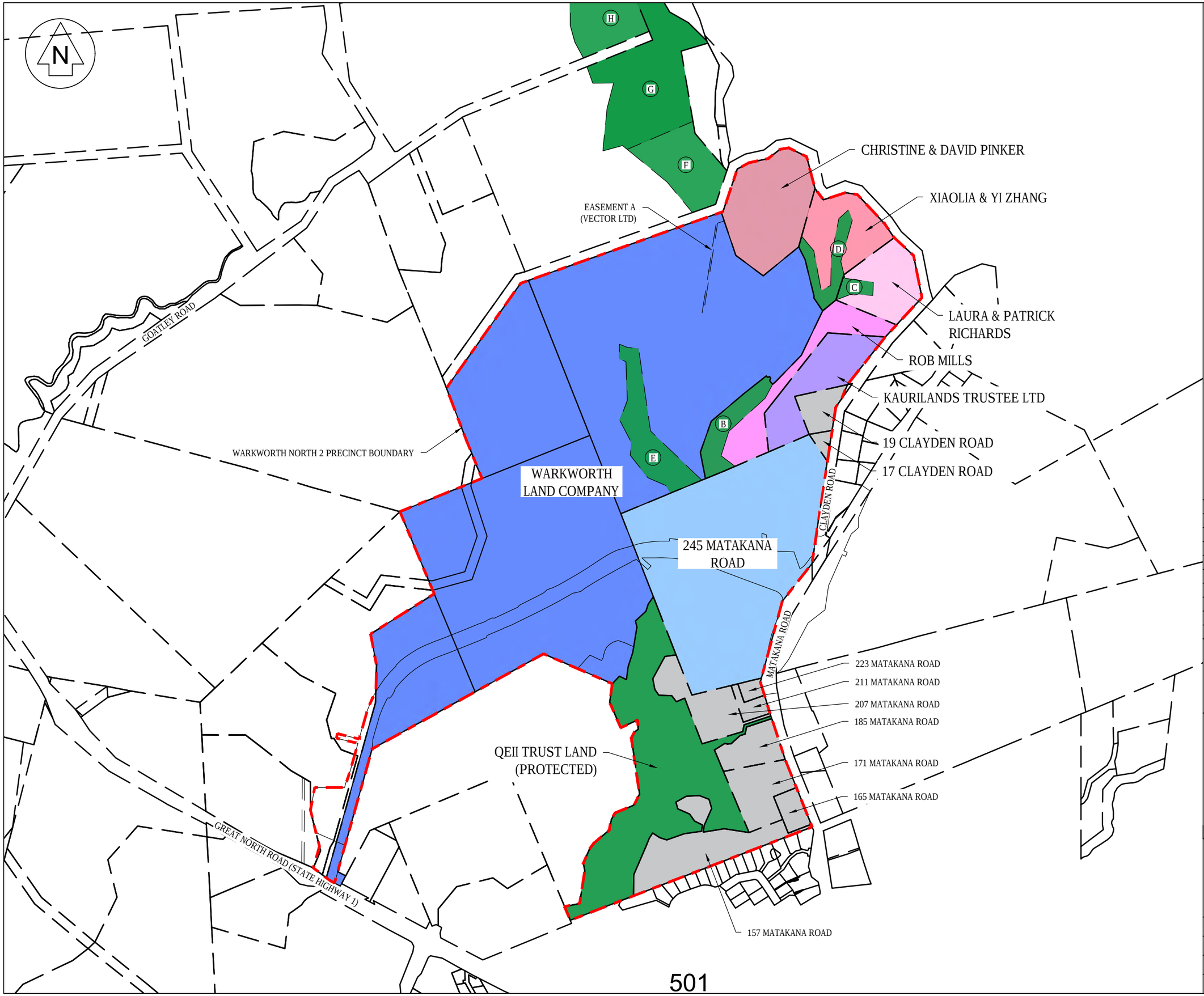
Note: The vesting of new stormwater assets to the council is subject to any required approvals including under the Stormwater Bylaw, and the Stormwater Code of Practice.

Stormwater management assets in the road corridor require approval from Auckland Transport prior to vesting.


Greenfields
Is there an adopted SMP?
No
SMP required SMP must address all Schedule 4 matters.
Stormwater management must include:
Water Quality
Stream Hydrology
Flooding: 10% AEP – property/ pipe capacity
Flooding: 1% AEP – buildings
Assets
Within AUP SMAF overlay?
No
Discharge to stream via network?
Sufficient capacity in downstream network?
Yes
No
Develop in accordance with SMP
Demonstrate how adopted SMP requirements are met
• GD01 Treatment for all impervious areas
• Gross Pollutant Traps for waste storage areas
Requirements as per AUP E10
• Equivalent hydrology to predevelopment E.g., provide 5mm retention, 95th%ile detention
• No requirements
• Demonstrate
• Attenuate on site or
• Upgrade network
• In accordance with SW CoP
• In accordance with SW CoP
• Consult with AT for roads
Or
Alternative mitigation that:
• applies an Integrated Stormwater Management Approach
• meets NDC Schedule 2
• is the BPO
Please check Schedule 4 for full text of all requirements.

APPENDIX C – PROPOSED STORMWATER MANAGEMENT PLAN

APPENDIX D – ENGINEERING PLANS



Notes

1. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000
2. Levels in terms of the Auckland Vertical Datum 1946.
3. Covenanted native bush areas B - H protected under Instrument No. 10244801.3

Legend

- EX BDY
- EX EASEMENT
- PRECINCT BDY

Rev	Description	By	Date
A	DRAFT	MA	2019

	By	Date
Survey	-	-
Design	-	-
Drawn	MR	13/09/2019
Checked	LC	13/09/2019

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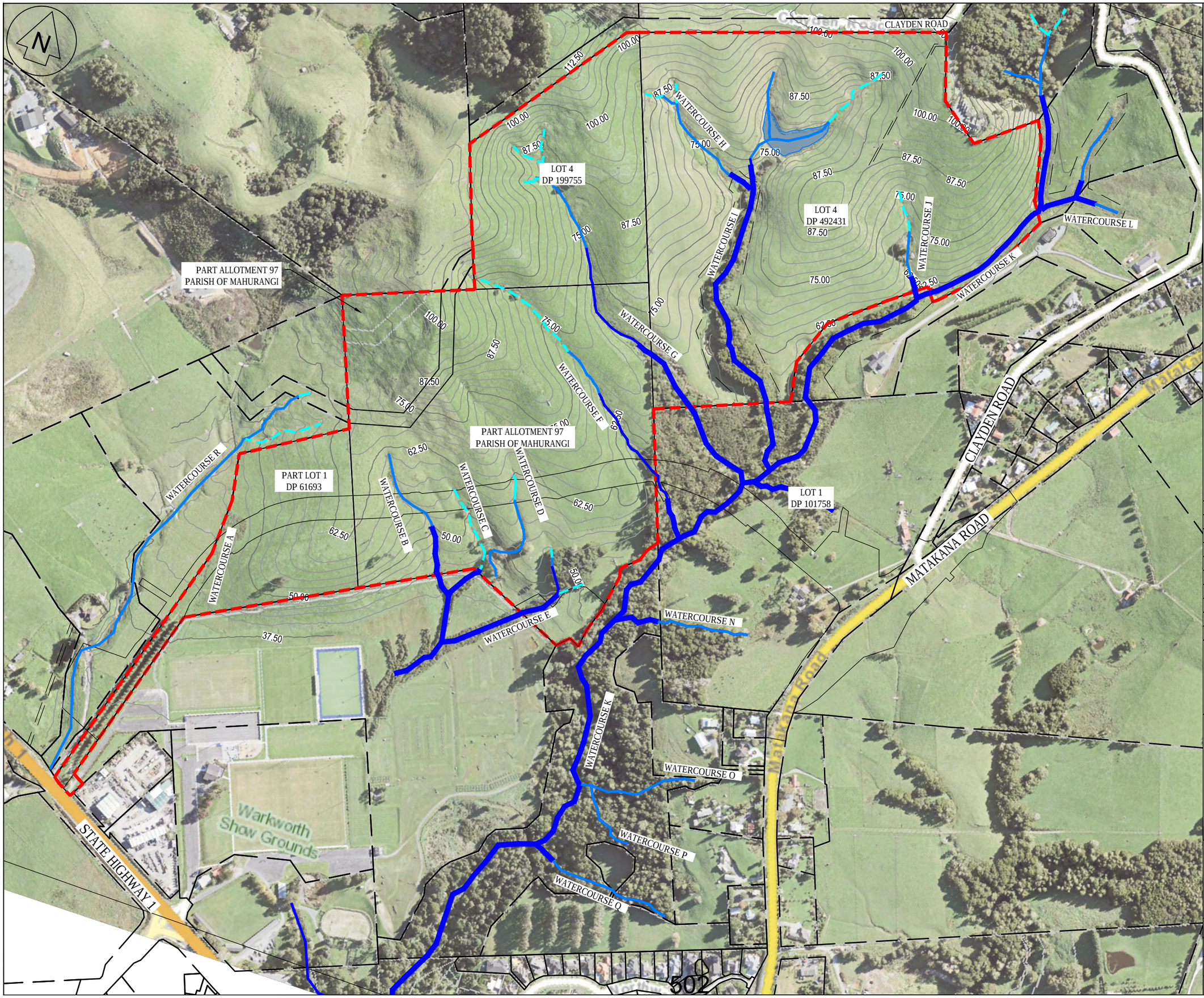
Project

CLAYDEN ROAD WARKWORTH PLAN CHANGE FOR WARKWORTH LAND LTD

Title

EXISTING OWNERS / INTERESTS PLAN

Project no.	102008		
Scale	1:7500 @ A3		
Cad file	102008 OWNERS PLAN.DWG		
Drawing no.	C050	Rev	A



Notes

1. All works to be in accordance with Auckland council standards.
2. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000
3. Levels in terms of the Auckland Vertical Datum 1946.
4. It is the contractors responsibility to locate all services that may be affected by his operations.
5. The contractor shall comply with all relevant OSH and Health and Safety requirements.
6. The contractor shall obtain all necessary approval from utility operators before commencing work under or near their services.
7. Sediment control shall be installed and operational before earthworks start onsite in accordance with council standards.
8. Contractor shall provide asbuilt of working sediment control devices and confirmation of pond/decent volumes to engineer.

Legend

- EX BDY
- SITE EXTENTS
- 12.50 EX MAJOR CONTOUR
- EX MINOR CONTOUR
- PERMANENT FLOW
- INTERMITTENT FLOW
- EPHEMERAL FLOW
- EX POND

Rev	Description	By	Date
B	PPC	LC	10/19
A	STRUCTURE PLAN	JK	03/19

	By	Date
Survey	-	-
Design	GB	01/19
Drawn	LC	01/19
Checked	BV	01/19

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Project
CLAYDEN ROAD
WARKWORTH
PLAN CHANGE
FOR
WARKWORTH LAND LTD

Title
EXISTING
WATERCOURSE
PLAN

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C060 SITE PLAN.DWG		
Drawing no.	C450	Rev	B

Legend

EX BDY

PROP BDY

B	PLAN CHANGE	LC	07/19
A	FOR MASTER PLAN	AO	06/19
Ref	Revisions	By	Date

	By	Date
Survey	SURVEYWORX	-
Design	AO/LC	06/19
Drawn	LC	06/19
Checked	GB	06/19

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Project

CLAYDEN ROAD
WARKWORTH
PLAN CHANGE
FOR
WARKWORTH LAND LTD

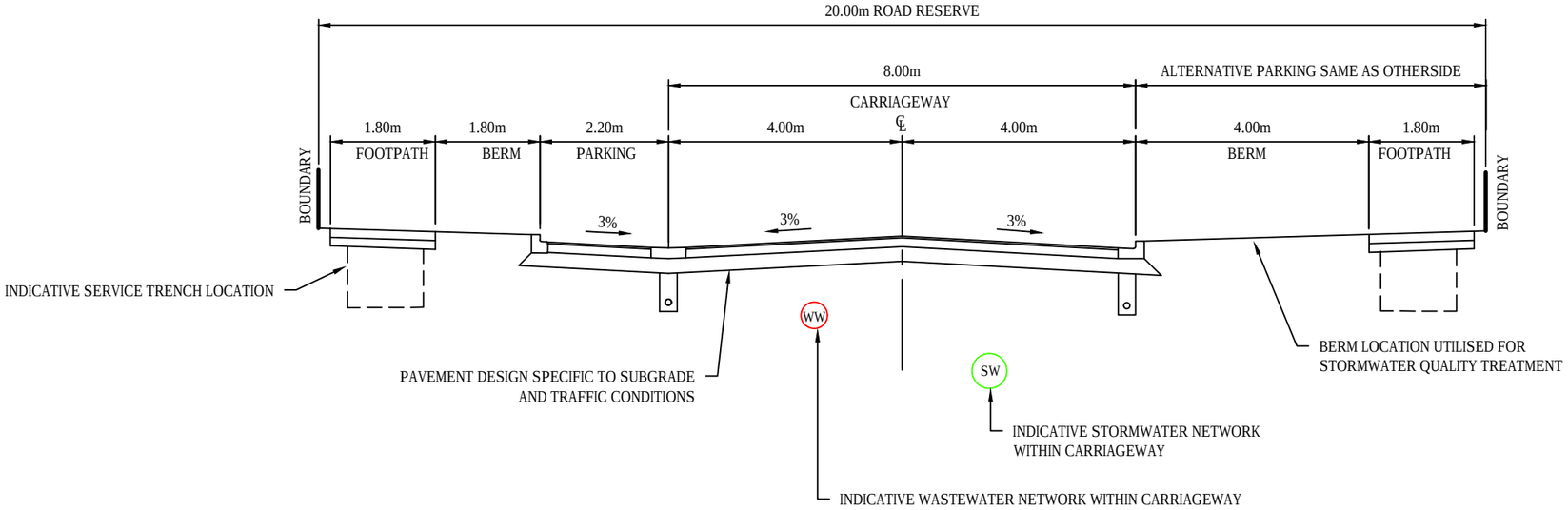
Title

PROPOSED
ROADING
OVERVIEW

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C300		
Drawing no.	C300	Rev	B

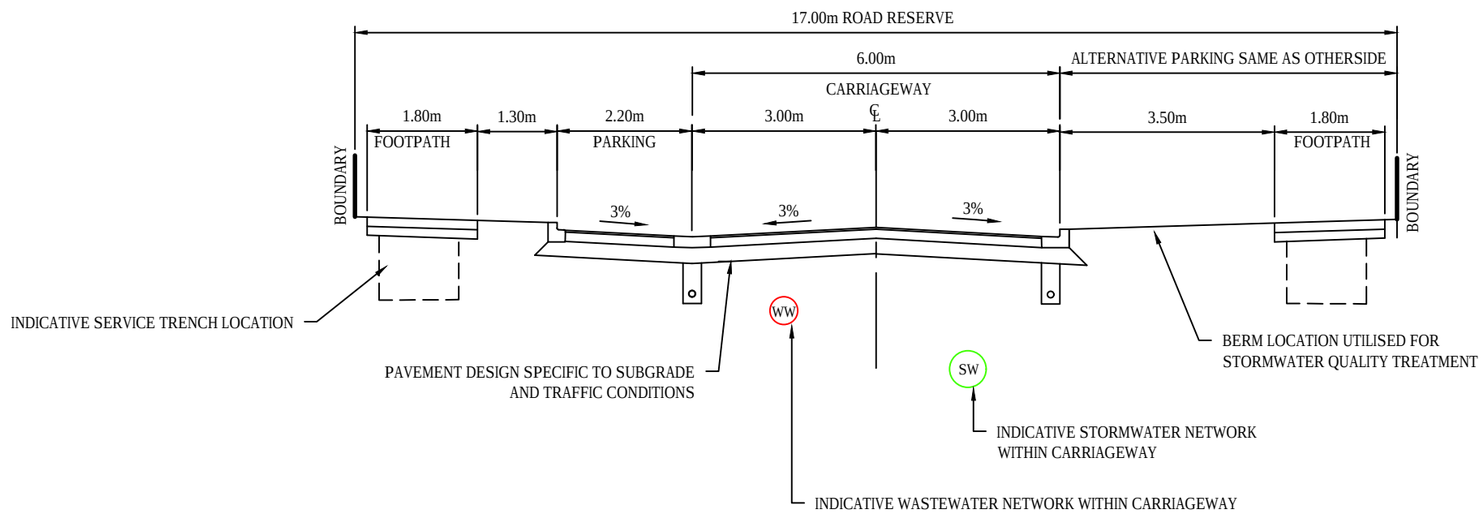
DATE: 10/9/19

FILE: 102008 C300.dwg



A / - PROPOSED ROAD - SECTION A

SCALE 1:100 @ A3



B PROPOSED ROAD - SECTION B

SCALE 1:100 @ A3

Ref	Revisions	By	Date
A	PLAN CHANGE	LC	07/19

	By	Date
Survey	-	-
Design	GB	12/18
Drawn	JW	12/18
Checked	GB	12/18

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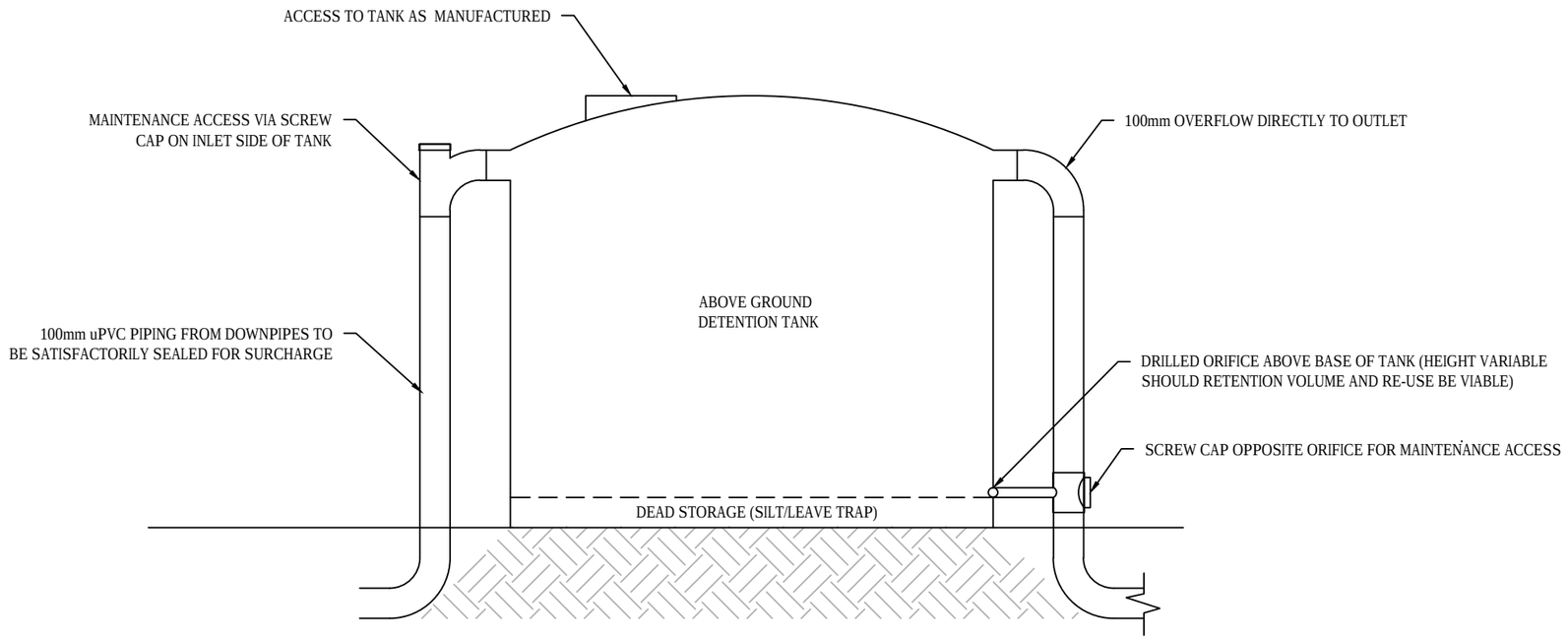
Project

CLAYDEN ROAD
WARKWORTH
PLAN CHANGE
FOR
WARKWORTH LAND LTD

Title

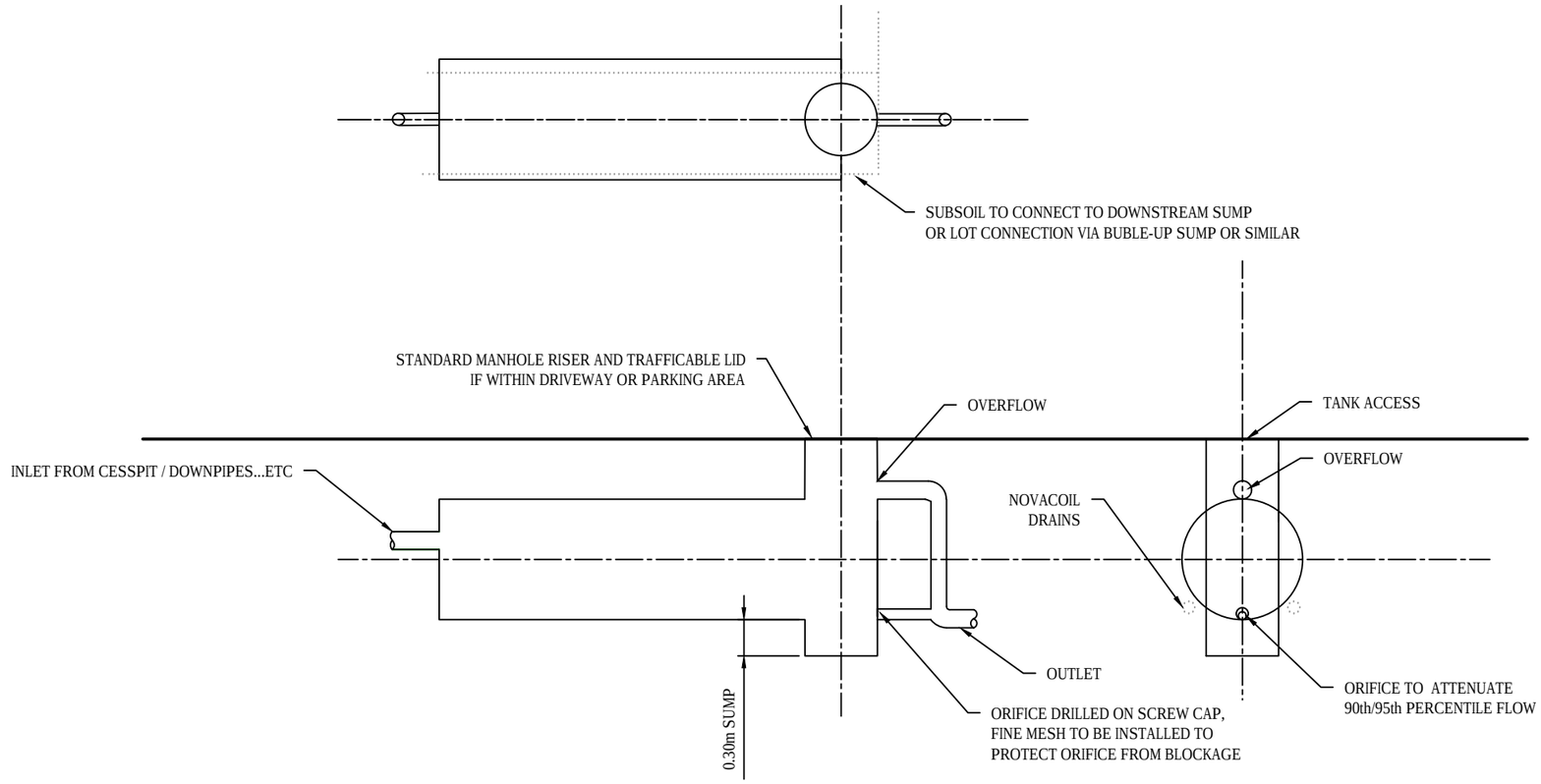
TYPICAL
ROAD
CROSS SECTIONS

Project no.	102008		
Scale	AS MENTIONED		
Cad file	ROAD SECTIONS		
Drawing no.	C310	Rev	A



ABOVE GROUND TANK STANDARD DETAIL

SCALE 1:20 @ A3



UNDER GROUND TANK STANDARD DETAIL

SCALE 1:50 @ A3

Rev	Description	By	Date
A	PLAN CHANGE	AS	2019

	By	Date
Survey	C420	-
Design	GB	01/19
Drawn	AS	01/19
Checked	BV	01/19

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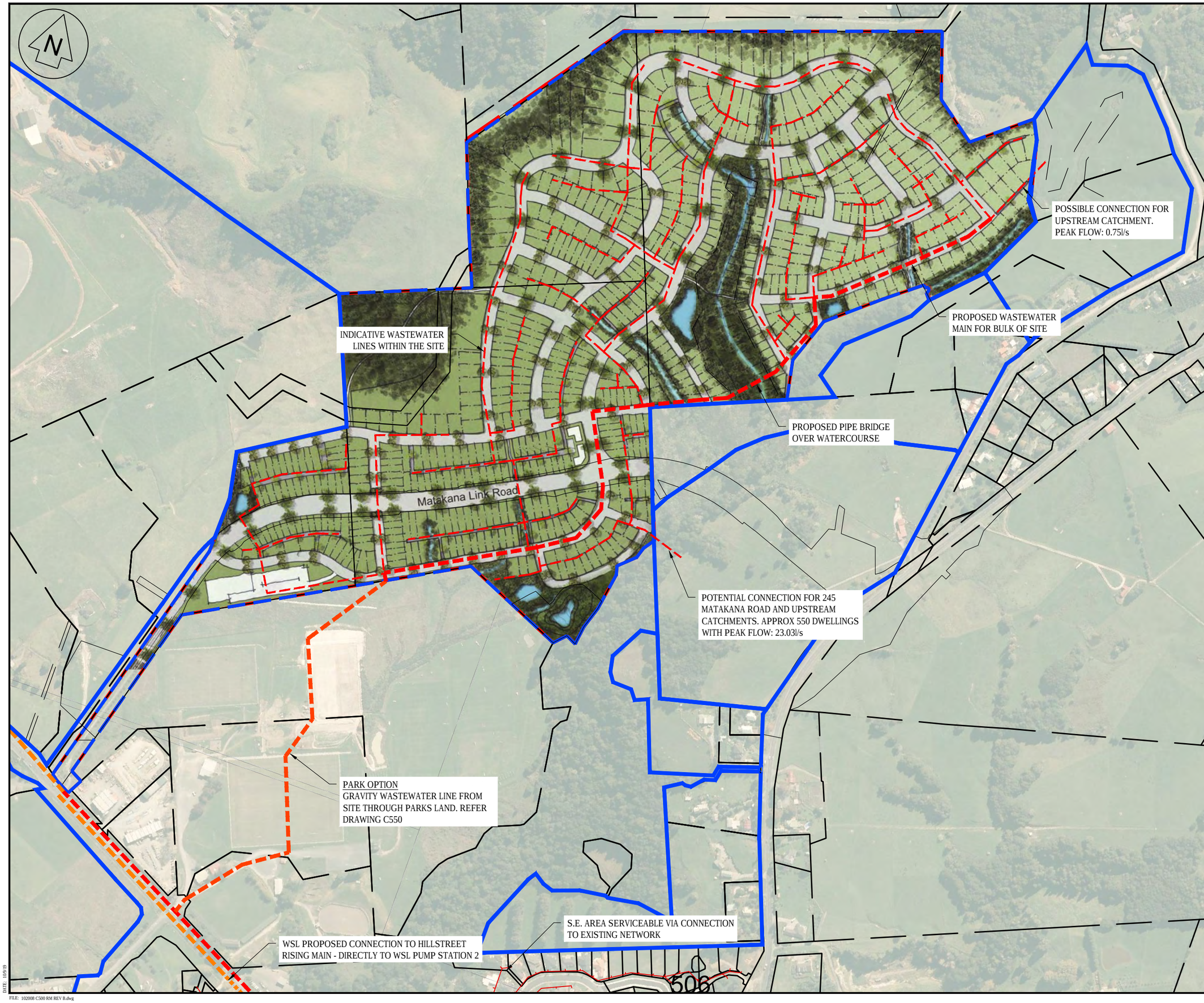
Project

CLAYDEN ROAD
WARKWORTH
PLAN CHANGE
FOR
WARKWORTH LAND LTD

Title

STORMWATER DETENTION TANK EXAMPLES

Project no.	102008		
Scale	-		
Cad file	102008 C430 TANKS.DWG		
Drawing no.	C430	Rev	A



Notes

1. All works to be in accordance with Auckland council standards.
2. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000. Levels in terms of the Auckland Vertical Datum 1946.
3. It is the contractors responsibility to locate all services that may be affected by his operations.
4. Pipe bedding: 0 - 10% granular bedding,10 - 20% weak concrete bedding.greater than 20% weak concrete bedding (7mpa plus anti scour blocks at 6m crs).
5. Each connection shall be marked by a 50mmx50mm treated pine stake extending 600mm above ground level with the top painted. This marker post shall be placed alongside a timber marker installed at the time of pipelaying and extending from the connection to 150mm below finished ground level. Connections shall be accurately indicated on "as built" plans.
6. Approved hardfill is to be used in backfilling of all road crossings and vehicle crossings to council standards.
7. Heavy duty manhole lids and frames to be used in trafficked areas, all manholes shall have stainless grates installed.
8. All lines are to be 150mmØ PVC Class SN16 unless shown otherwise.
9. 150mmØ pipes that do not terminate in a manhole must be terminated with a 100mmØ on a 150mmØ london junction and blank cap.
10. All lines to be abandoned shall be sealed at each end. timing of all sealing to be coordinated with council staff.

Legend

- EX BDY
- PROP BDY
- EX WW
- INDICATIVE WW LINES
- PROP WW TRUNK
- PARK OPTION-TO EXTN
- WATERCARE TRUNK
- EX/PROP WWMH

B	PLAN CHANGE	LC	09/19
A	PLAN CHANGE	LC	07/19
Ref	Revisions	By	Date

	By	Date
Survey	-	-
Design	GB	06/19
Drawn	SM	06/19
Checked	GB	06/19

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CLAYDEN ROAD DEVELOPMENT WARKWORTH FOR WARKWORTH LAND LTD

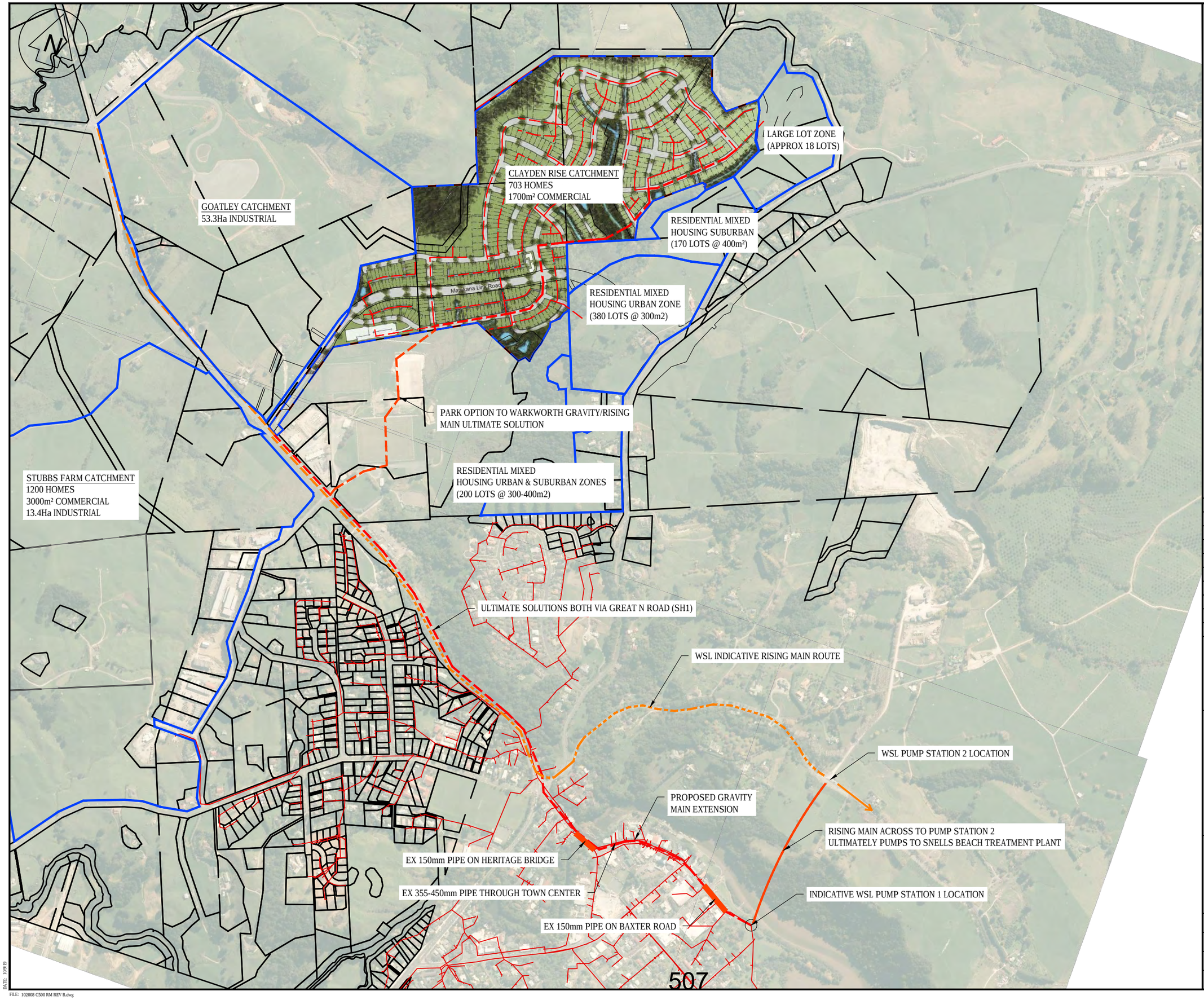
Title

PROPOSED WLC WASTEWATER OVERVIEW PLAN

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C500 RM REV B		
Drawing no.	C500	Rev	B

DATE: 10/9/19

FILE: 102008 C500 RM REV B.dwg



Legend

- EX BDY
- PROP BDY
- EX WW
- INDICATIVE WW LINES
- PROP WW TRUNK
- PARK OPTION-TO EXTN
- WATERCARE TRUNK
- EX/PROP WWMH

B	PLAN CHANGE	LC	09/19
A	PLAN CHANGE	-	07/19
Ref	Revisions	By	Date

	By	Date
Survey	-	-
Design	GB	06/19
Drawn	SM	06/19
Checked	GB	06/19

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Project

CLAYDEN ROAD
DEVELOPMENT
WARKWORTH
FOR
WARKWORTH LAND LTD

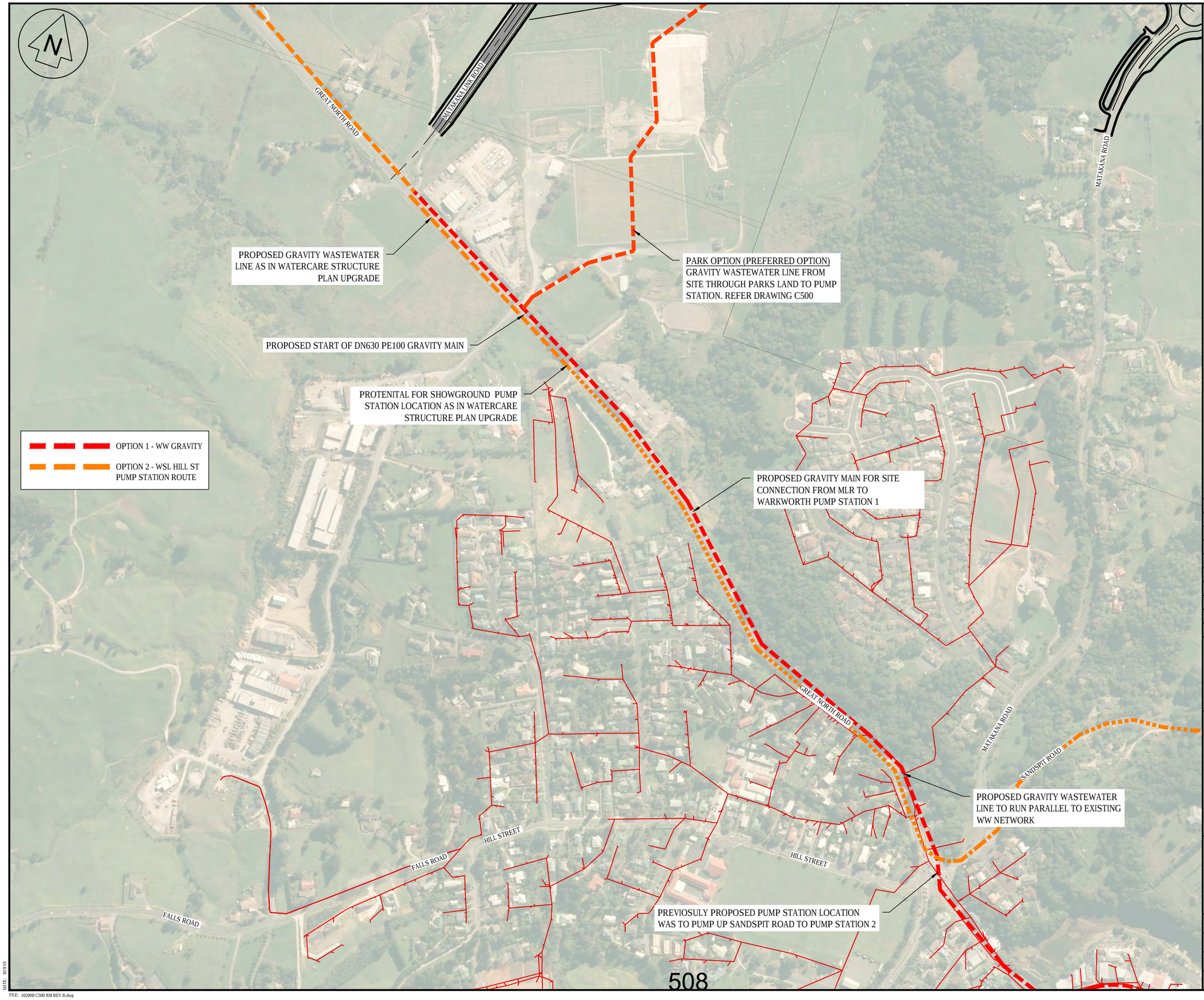
Title

WARKWORTH NORTH
WASTEWATER
CATCHMENT PLAN

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C500 RM REV B		
Drawing no.	C590	Rev	B

DATE: 10/9/19

FILE: 102008 C500 RM REV B.dwg



Notes

1. All works to be in accordance with Auckland council standards.
2. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000. Levels in terms of the Auckland Vertical Datum 1946.
3. Heavy duty manhole lids and frames to be used in trafficked areas, all manholes shall have stainless grates installed.

Legend

- EX BDY
- PROP BDY
- EX WW
- INDICATIVE WW LINES
- PROP WW MAIN LINE
- PROP WW/RISING MAIN
- EX/PROP WWMH

Ref	Revisions	By	Date
B	PLAN CHANGE	LC	09/19
A	PLAN CHANGE	LC	07/19

	By	Date
Survey	-	-
Design	GB	06/19
Drawn	SM	06/19
Checked	GB	06/19

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Project

CLAYDEN ROAD DEVELOPMENT WARKWORTH FOR WARKWORTH LAND LTD

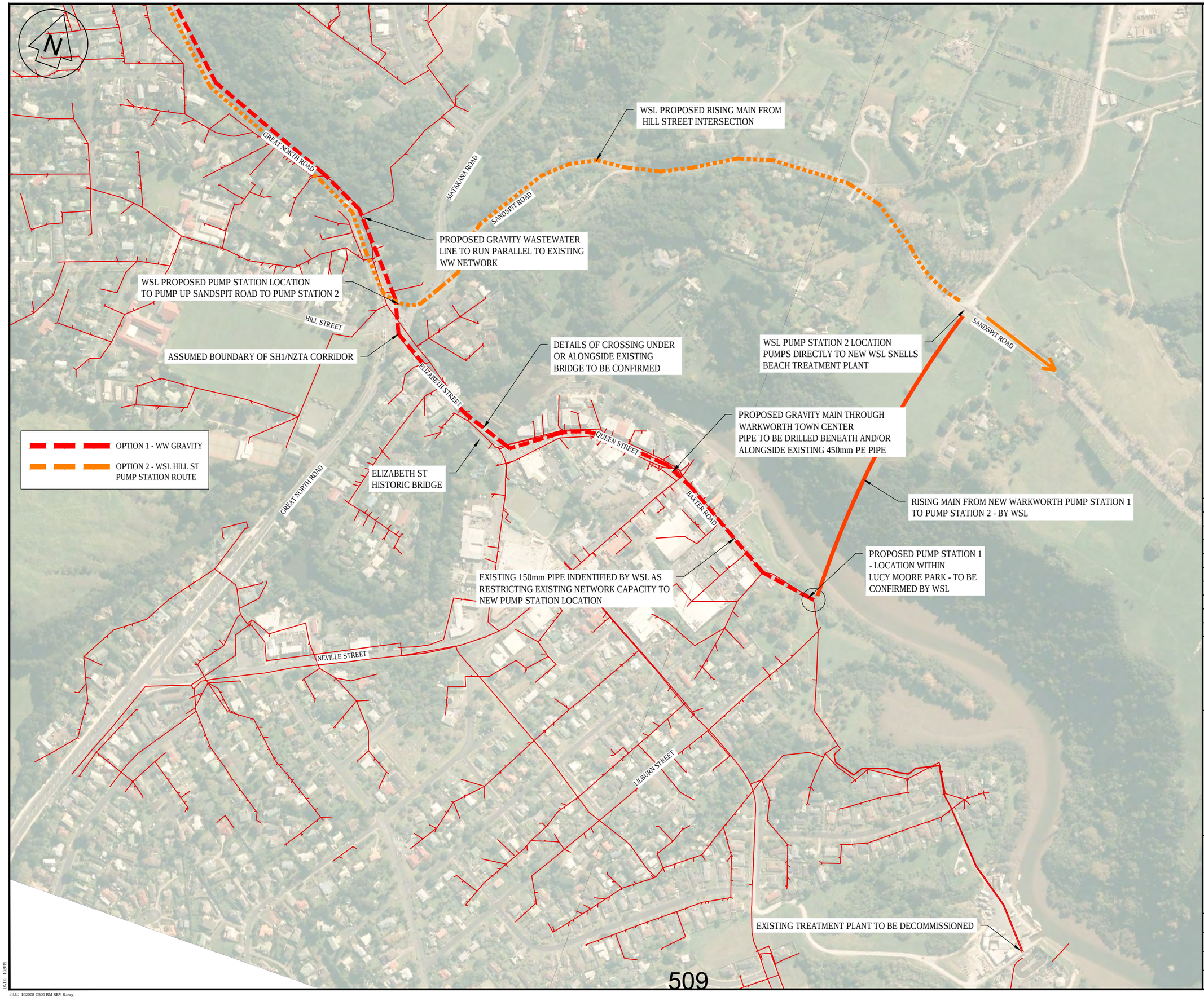
Title

PROPOSED WASTEWATER UPGRADE OPTIONS PLAN

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C500 RM REV B		
Drawing no.	C550	Rev	B

DATE: 06/9/19

FILE: 102008 C500 RM REV B.dwg



Notes

1. All works to be in accordance with Auckland council standards.
2. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000. Levels in terms of the Auckland Vertical Datum 1946.
3. Heavy duty manhole lids and frames to be used in trafficked areas, all manholes shall have stainless grates installed.

Legend

- EX BDY
- PROP BDY
- EX WW
- INDICATIVE WW LINES
- PROP WW MAIN LINE
- PROP WW/RISING MAIN
- EX/PROP WWMH

Ref	Revisions	By	Date
A	PLAN CHANGE	LC	07/19

	By	Date
Survey	-	-
Design	GB	06/19
Drawn	SM	06/19
Checked	GB	06/19

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Project

CLAYDEN ROAD DEVELOPMENT
WARKWORTH
FOR
WARKWORTH LAND LTD

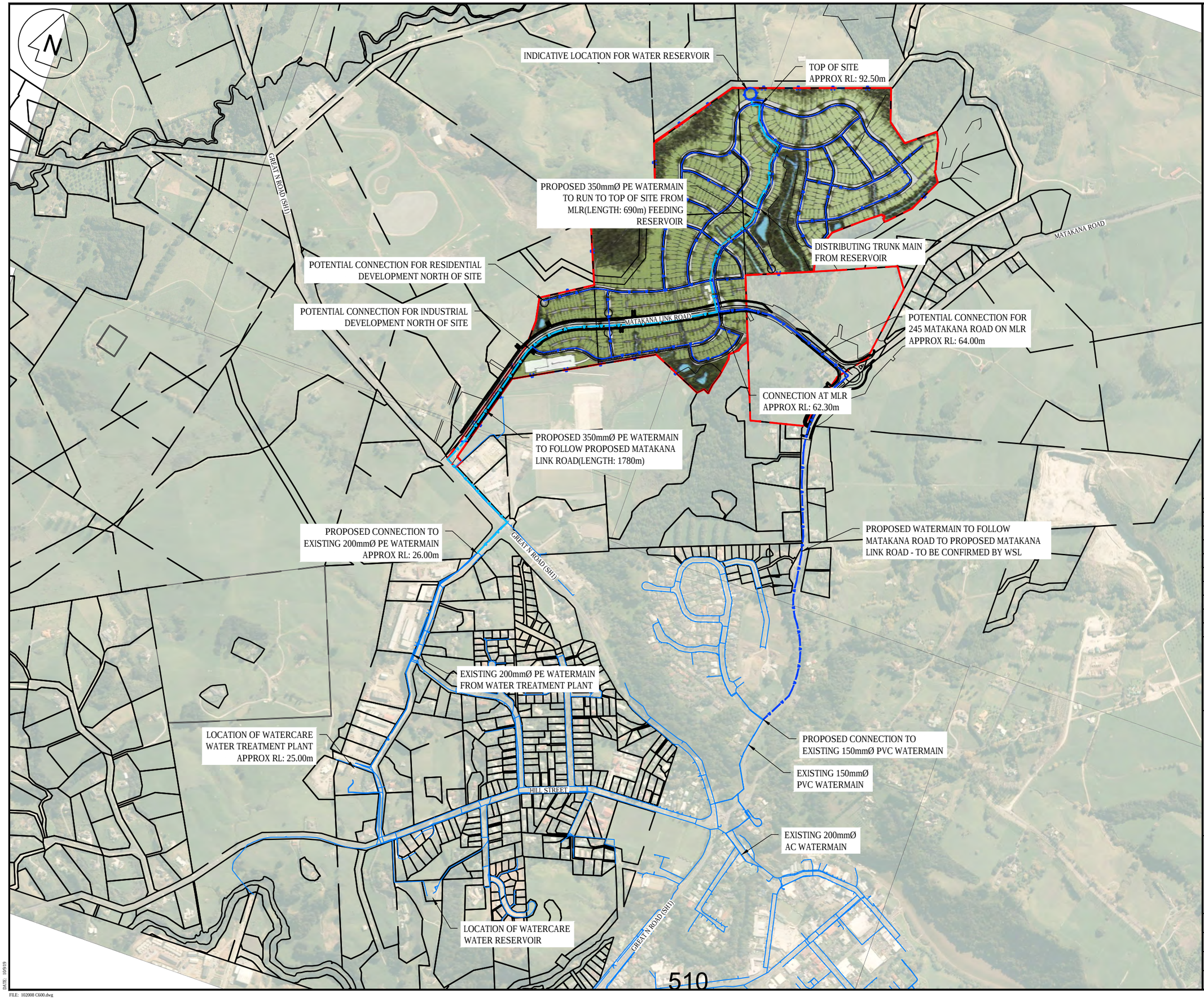
Title

PROPOSED WASTEWATER UPGRADE OPTIONS PLAN

Project no.	102008		
Scale	1:5000 @ A3		
Cad file	102008 C500 RM REV B		
Drawing no.	C551	Rev	A

DATE: 10/9/19

FILE: 102008 C500 RM REV B.dwg



Legend

- EX BDY
- PROP BDY
- EX WATERMAIN
- PROP RISING MAIN
- PROP WATERMAIN
- EX/PROP HYDRANT
- EX/PROP METER
- EX SLUICE VALVE
- EX PEAT VALVE
- PROP SLUICE VALVE
- PROP PEAT VALVE

Ref	Revisions	By	Date
C	PPC UPDATE	LC	10/19
B	GOATLEY PC	LC	07/19
A	PLAN CHANGE	LC	06/19

	By	Date
Survey	C	-
Design	SM	06/19
Drawn	SM	06/19
Checked	GB	06/19

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Project

CLAYDEN ROAD
WARKWORTH
PLAN CHANGE
FOR
WARKWORTH LAND LTD

Title

PROPOSED WARKWORTH
WATER SUPPLY
OVERVIEW

Project no.	102008		
Scale	1:10000 @ A3		
Cad file	102008 C600		
Drawing no.	C650	Rev	C

DATE: 10/9/19

FILE: 102008 C600.dwg

E – UTLITY PROVIDERS CORRESPONDANCE

Lucan Campbell

Subject: FW: Chorus | WW54044 | 42B SH 1 North, Warkworth

From: Chorus Property Developments <develop@chorus.co.nz>
Sent: Tuesday, 15 October 2019 6:25 PM
To: Lucan Campbell <lucanc@maven.co.nz>
Subject: RE: Chorus | WW54044 | 42B SH 1 North, Warkworth

Hi Lucan,

Thank you for providing an indication of your development plans in this area. I can confirm that we have infrastructure in the general land area that you are proposing to develop. Chorus will be able to extend our network to provide connection availability. However, please note that this undertaking would of course be subject to Chorus understanding the final total property connections that we would be providing, roll-out of property releases/dates and what investment may or may not be required from yourselves and Chorus to deliver the infrastructure to and throughout the site in as seamless and practical way as possible.

The cost involved would be a minimum of our current standard fee of $1600 per lot excluding GST. The 1st stage would also incur the cost of establishing the feeder fibre to the subdivision. This cost can only be finalised at the time that you are ready to proceed with the 1st stage.

Chorus is happy to work with you on this project as the network infrastructure provider of choice. What this ultimately means is that the end customers (business and home owners) will have their choice of any retail service providers to take their end use services from once we work with you to provide the physical infrastructure.

Please reapply with a detailed site plan when you are ready to proceed with stage 1.

Kind Regards,

Khalill Marsh
Property Development Coordinator

T 0800 782 386 (opt1)
E Develop@chorus.co.nz
PO Box 9405
Hamilton
www.chorus.co.nz

CHORUS

From: Chorus Property Developments <develop@chorus.co.nz>
Sent: Friday, 13 September 2019 9:58 AM
To: Lucan Campbell <lucanc@maven.co.nz>
Subject: RE: Chorus acknowledgment: WW54044. 42B SH 1 North, Warkworth

Hello Lucan,

Thanks for your email and development plans. We'll assess your application and will be back in touch to advise next steps.

Here's your development ref #: **WW54044**

We're here to help – so please let us know if you need any further information.

Lucan Campbell

Subject: FW: Warkworth - Servicing Plans?

FYI

From: Daniel Mason <Daniel.Mason@vector.co.nz>
Sent: Monday, 9 December 2019 10:09 AM
To: Lucan Campbell <lucanc@maven.co.nz>
Subject: RE: Warkworth - Servicing Plans?

Hi Lucan,

Thanks for your enquiry regarding serviceability of the Warkworth North area. Most of our forward planning is based on the unitary plan. I personally haven't received much detail but that doesn't meant the business hasn't.

We already have large infrastructure in place in Warkworth, there is a 33kV zone sub on the Matakana Road and good 11kV coverage for reticulation of the proposed sub-divisions.

Difficult to provide any other details as yet as this is very early stages. The load will not all be coming on all at once so we can plan & build around the development to suit as and when detailed planning has begun.

If you want more information than high level comment you will need to provide more detail and I can possibly put you on to one of the network planning team.

Regards

Daniel Mason | Customer Contracts Lead
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023
DDI: 09 213 1515 | Mob: +64 21 726 631 | Ph: 09 978 7833
Daniel.Mason@vector.co.nz | www.vector.co.nz