APPENDICES

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APPENDIX 1 REVISED PRIVATE PLAN CHANGE 53 – PROPOSED CHANGES TO CHAPTER 11 OF THE OPERATIVE DISTRICT PLAN

Note: The relevant provisions from the revised private plan change to chapter 11 are set out below, showing additions to the text in red underlining where changes have been made from the notified version. Additional changes proposed by the reporting officer in his s42A report and accepted by the applicant are shown as red double underlining or ~~red double strike through~~

11 Subdivision

(with proposed PC53 amendments – 17 August 2021)

Introduction

Subdivision is a process which enables title to be transferred. Nevertheless, it does impose constraints on the future use and development of land. In addition the engineering work often required to make land suitable for development must be managed as there can be adverse effects on the environment. It is therefore important these effects are addressed and managed in the Plan.

Except for boundary adjustments and the leasing of retail space within existing buildings in appropriate activity areas, all subdivisions require a resource consent as it may be necessary to impose engineering conditions, design allotment standards and financial contributions to ensure that adverse effects are managed and mitigated.

The provisions of this Chapter apply to all activity areas. Activities must also be assessed in terms of the requirements of each activity area, and the requirements of Chapters 12, 13 and 15, to determine whether or not a resource consent is required.

11.1 Issues, Objectives and Policies

11.1.1 Allotment Standards

Issue

Subdivision of land can impose a constraint on the future use or development of land. It is necessary to ensure land which is subdivided can be used for the proposed use or purpose.

Objective

To ensure that land which is subdivided can be used for the proposed use or development.

Policy

(a) To ensure that allotments in lower density residential areas and rural zones have minimum design standards such as, minimum size, shape and frontage, which are suitable for the proposed use or development.

(b) To provide flexibility in lot size, shape and frontage within Commercial, Mixed Use, General Residential and Medium Density Residential Activity Areas to enable diversity of commercial and residential development size and density.

Explanation and Reasons

While it is recognised that subdivision of land is essentially a process for enabling title of land to be transferred, it nevertheless imposes constraints on the future use and development of land by establishing boundaries of particular allotments. There is a need to ensure that land which is subdivided is suitable for the proposed use and development. Failure to do so can result in the future use or development being unable to comply with the required performance standards for the activity area.

Such non-compliance with specified performance standards can have adverse effects on the environment. In considering whether land which is subdivided is suitable for the proposed use or development such matters as design, size, building platform and shape of allotments are important matters that need to be considered by Council. The objectives, policies and rules of the activity areas need to be taken into account.

11.1.2 Engineering Standards

Issue

Subdivisions need to be serviced in a manner that adverse effects are avoided, remedied or mitigated and that adverse effects on the health, safety and wellbeing of residents are no more than minor.

Objective

To ensure that utilities provided to service the subdivision protect the environment and that there are no adverse effects on the health and safety of residents and occupiers.

Policy

(a) To ensure that utilities provided comply with specified performance standards relating to such matters as access, street lighting, stormwater, water supply, wastewater, gas, telephone, electricity and earthworks.

(b) Use engineering practices to maintain the ecological values of Speedy's Stream and the onsite wetland from stormwater runoff resulting from the subdivision of the land identified in Appendix Subdivision 7.

(c) The engineering practices maintain or improve the ecological values of the onsite streams and the downstream receiving environments from stormwater runoff resulting from the subdivision of the land identified in Appendix Subdivision 8.

(d) To restrict access and avoid increased traffic volumes from land identified in Appendix Subdivision 8 to Liverton Road, to maintain traffic safety and efficiency.

Explanation and Reasons

Utility services provided by the subdivider must be in accordance with specified engineering performance standards to ensure that the environment is protected and there are no adverse effects on the health, safety and wellbeing of residents and occupiers. Incompatible and inappropriate services can have adverse effects on the proper functioning of existing services and also lead to additional maintenance costs.

11.1.3 Natural Hazards

Issue

Subdivision of land subject to natural hazards can lead to allotments which are inappropriate if the adverse effects cannot be avoided, remedied or mitigated. There is a need to ensure that subdivision of land subject to natural hazards is managed and controlled.

Objective

To ensure that land subject to natural hazards is subdivided in a manner that the adverse effects are avoided, remedied or mitigated.

Policies

(a) Subdivision of land within the Wellington Fault Special Study Area should be managed to ensure that the allotments are of sufficient size and shape so that buildings and structures are not sited within twenty metres of a faultline.

(b) Subdivision of land subject to flooding is discouraged as this can lead to greater intensity of use and development and have adverse effects on the environment.

(c) Subdivision of land should be managed to ensure that within each allotment there is a suitable building platform so that buildings and associated structures will not be adversely affected by slope instability, including the deposition of debris.

Explanation and Reasons

Subdivision of land subject to natural hazards may lead to allotments which are inappropriate as the adverse effects cannot be controlled or mitigated. It is important that the subdivision is designed in a manner that the natural hazard can be avoided or mitigated. In this respect, it is important that allotments are of sufficient size and are of an appropriate shape so that the proposed use or development can be sited to avoid the natural hazard, or the necessary mitigation measures can be implemented, without affecting detrimentally the viability of the use or development.

11.1.4 Special Areas

Issue

Subdivision of land in the coastal environment and in areas of ecological value can have adverse effects that need to be controlled.

Objective

To ensure that land in the coastal environment, areas adjoining lakes and rivers and other environmentally sensitive areas are protected from inappropriate subdivision.

Policy

(a) To ensure that land in the coastal environment, areas adjoining rivers and lakes and other environmentally sensitive areas are not subdivided to an extent or manner where amenity values, ecological, social, cultural and recreational conditions are adversely affected.

Explanation and Reasons

The Act, the New Zealand Coastal Policy Statement and the Regional Policy Statement require the Plan to ensure that inappropriate subdivision of land does not occur in the coastal environment.

The Regional Policy Statement recognises that wetlands, lakes and rivers are important as they provide a habitat for a rich flora and fauna. These areas also have high social, cultural and recreational values. It is therefore important that lands adjoining such areas are managed and controlled to avoid and mitigate adverse effects.

11.1.5 General Rural and Rural Residential Activity Areas

Issue

Inappropriate subdivision of lands in the General Rural and Rural Residential Activity Area which leads to the use of lands for more intense urban purposes such as residential development, can have adverse effects on amenity values and to an inefficient land use pattern.

Objective

To ensure that the amenity values and the efficient use of land in General Rural and Rural Residential Activity Areas are maintained by restricting subdivision of lands which could lead to greater intensity of use and development for urban related purposes, such as more intense residential development.

Policy

(a) The minimum size of allotments should be large so as to ensure that rural amenity values and an efficient land use pattern are maintained.

Explanation and Reasons

Large sized allotments are required in General Rural and Rural Residential areas to maintain amenity values. It is therefore necessary to prevent the close subdivision of land in the General Rural and Rural Residential Activity Areas.

As there is adequate supply of urban land in the City it is an inefficient use of a valuable resource to allow rural and rural residential land to be subdivided into urban sized allotments.

11.1.6 Retail Leasing

Issue

The leasing of retail space within existing buildings, such as shopping centres, can give rise to a technical subdivision under the Resource Management Act 1991. Such subdivisions do not have effects warranting subdivision control under the provisions of the Plan. The imposition of unnecessary controls will result in inappropriate costs and barriers to the tailoring of retail spaces to the requirements of tenants. Unnecessary controls can therefore contribute to the number of vacant retail spaces which detract from the vitality and viability of commercial centres.

Objective

Ensure that the leasing of retail space within existing buildings and appropriate activity areas can proceed without the need for subdivision consent.

Policy

(a) Resource consent will not be required for subdivisions resulting from the leasing of retail space within existing buildings and in appropriate activity areas.

Explanation and Reasons

Under the Act the leasing of retail space within existing buildings can technically be considered to be a subdivision. Such subdivisions do not have any adverse effects which warrant control under the provisions of the Plan. It is therefore appropriate that the leasing of retail spaces within existing buildings is a Permitted Activity.

11.2 Rules

11.2.1 Permitted Activity

(a) In all activity areas, minor boundary adjustments.

(b) In all Commercial Activity Areas, subdivision of existing retail premises by way of leasing.

11.2.1.1 Permitted Activity - Conditions

Minor boundary adjustments must comply with the following conditions:

(a) Do not create additional building sites.

(b) Following subdivision does not increase any non-compliance with the rules specified for the activity area.

11.2.2 Controlled Activities

All subdivisions in the following activity areas are Controlled Activities except where provided for as Permitted or Discretionary Activities:

(a) General Residential Activity Area.

(b) Hill Residential Activity Area.

(c) Landscape Protection Residential Activity Area.

(d) Special Residential Activity Area.

(e) Medium Density Residential Activity Area.

(f) General Business Activity Area.

(g) Special Business Activity Area.

(h) Rural Residential Activity Area.

(i) General Rural Activity Area.

(j) Suburban Commercial Activity Area.

(k) Suburban Mixed Use Activity Area

(l) Central Commercial Activity Area.

(m) Petone Commercial Activity Area 1.

(n) Petone Commercial Activity Area 2.

(o) Community Iwi Activity Area 1 - Marae.

(p) Community Iwi Activity Area 3 - Kokiri Centres.

(q) In all activity areas, where a certificate of title has been issued for a site prior to 5 December 1995 or where a site has been created by a staged development whether under a staged unit plan or cross lease plan lodged with the District Land Registrar and where part of the development (or a building on one site on such plan exists) has been completed prior to 5 December 1995, then in such circumstances the allotment design standards and terms shall not apply.

Compliance with other standards and terms is necessary.

(r) In all Commercial, Business, Recreation, Community Health and Community Iwi Activity Areas the allotment design standards and terms shall not apply:

(i) where there are existing buildings on an allotment prior to December 1995; and

(ii) where the subdivision of that allotment does not create a vacant allotment (i.e. with no buildings).

Compliance with all other standards and terms is necessary.

(s) In all Residential and Rural Activity Areas the allotment design standards and terms shall not apply:

(i) where there are existing dwelling houses on an allotment prior to December 1995; and

(ii) where the subdivision of that allotment does not create an allotment with no dwelling house.

Compliance with all other standards and terms is necessary.

(t) Any subdivision located wholly within Avalon Business Activity Area (Sub-Area 2)

11.2.2.1 Standards and Terms

All Controlled Activity subdivisions shall comply with the following Standards and Terms:

(a) Allotment Design

The minimum size of an allotment shall exclude rights of way and access legs to a rear site.

General Residential Activity Area

Minimum size of allotment: 400m^2

No minimum size is required if:

(i) For every allotment where there is an existing dwelling:

There is no increase in the degree of non-compliance with the relevant General Residential Development Standards specified in 4A 4.2 and 4A 5. Where subdivision is proposed between dwellings that share a common wall, recession plane and yard requirements shall not apply along the length of the common wall.

(ii) For every allotment where there is no existing dwelling, or for which no existing land use consent for a dwelling has been granted, or is being concurrently granted (in the case of joint land use and subdivision applications):

It can be demonstrated that it is practicable to construct on all allotments, as a permitted activity, a dwelling which complies with all relevant General Residential Development Standards specified in 4A 4.2 and 4A 5.

Minimum frontage: 3m to ensure that there is drive-on access to the allotment. For rear allotments the 3m frontage may be satisfied through a registered Right of Way outside the title (outside legal boundaries of the allotment).

Shape factor: All allotments must be able to contain a rectangle measuring 10m by 15m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.

No shape factor is required if:

(i) For every allotment where there is no existing dwelling, or for which no existing land use consent

for a dwelling has been granted, or is being concurrently granted (in the case of joint land use and subdivision applications)

It can be demonstrated that it is practicable to construct on all allotments, as a permitted activity, a dwelling which complies with all relevant General Residential Development Standards specified in 4A 4.2 and 4A 5.

Medium Density Residential Activity Area

Minimum size of allotment: No minimum size required.

(i) For every allotment where there is an existing dwelling:

There shall be no increase in the degree of non-compliance with the relevant Medium Density Residential Development Standards specified in 4F 4.2. Where subdivision is proposed between dwellings that share a common wall, recession plane and yard requirements shall not apply along the length of the common wall.

(ii) For every allotment where there is no existing dwelling, or for which no existing land use consent for a dwelling has been granted, or is being concurrently granted (in the case of joint land use and subdivision applications):

It can be demonstrated that it is practicable to construct on all allotments, as a permitted activity, a dwelling which complies with all relevant Medium Density Residential Development Standards specified in 4F 4.2.

Minimum frontage: 3m to ensure that there is drive-on access to the allotment. For rear allotments the 3m frontage may be satisfied through a registered Right of Way outside the title (outside legal boundaries of the allotment).

Special Residential Activity Area

Minimum size of allotment: 700m^2

Minimum frontage: 15m, except for rear allotments which must have a minimum 3m frontage. For rear allotments the 3m frontage may be satisfied through a registered Right of Way outside the title (outside legal boundaries of the allotment).

Shape factor: All allotments must be able to contain a rectangle measuring 10m by 15m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.

Other: Compliance with the permitted activity conditions of the activity area.

Hill Residential Activity Area

Minimum size of allotment: 1000m^2

Minimum frontage: 20m, except for rear allotments which must have a minimum 3m frontage. For rear allotments the 3m

	frontage may be satisfied through a registered Right of Way outside the title (outside legal boundaries of the allotment).
Shape factor:	All allotments must be able to contain a rectangle measuring 10m by 15m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.
Other:	Compliance with the permitted activity conditions of the activity area.

Except

in Maungaraki Road, Pt Sec 30 and former Secs 31,32 and Pt Sec 33 Maungaraki Village, where a proposed allotment is in the area identified on Appendix Subdivision 1, the minimum subdivision requirements shall be -

Minimum size of allotment:	2000m^2
Minimum frontage:	30m

and

in Maungaraki Road, Lots 1 and 2 DP 90829 (formerly Lot 1 DP 71986 and Pt Sec 35 Maungaraki Village contained in C.T. 550/178), identified on Appendix Subdivision 1, the minimum subdivision requirements shall be -

Minimum size of allotment:	600m^2
Minimum frontage:	20m

Landscape Protection Residential Activity Area

Minimum size of allotment:	2000m^2
Minimum frontage:	20m, except for rear allotments, 3m frontage. For rear allotments the 3m frontage may be satisfied through a registered Right of Way outside the title (outside legal boundaries of the allotment).
Shape factor:	All allotments must be able to contain a rectangle measuring 10m by 15m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.
Other:	Compliance with the permitted activity conditions of the activity area

Central Commercial Activity Area, Suburban Commercial Activity Area, Suburban Mixed Use Activity Area and Petone Commercial Activity Area 1

Minimum size of allotment:	200m^2
Minimum frontage:	6m
Other:	Compliance with the permitted activity conditions of the activity area

Petone Commercial Activity Area 2

Minimum size of allotment:	1000m^2
Minimum frontage:	20m
Other:	Compliance with the permitted activity conditions of the activity area

General and Special Business Activity Area

Minimum size of allotment:	200m^2
Minimum frontage:	6m to enable drive on vehicular access to each allotment.
Other:	Compliance with the permitted activity conditions of the activity area

Avalon Business Activity Area (Sub-Area 2)

Minimum size of allotment:	400m^2
Minimum frontage:	3m to enable drive on access to the allotment.
Other:	Compliance with the permitted activity conditions of the activity area

Rural Residential Activity Area - Titiro Moana Road, Part Section 34 Maungaraki Village and Lots 6, 7, & 8 DP 81789 (formerly Pt Sec 35 Maungaraki Village) as shown in Appendix Subdivision 2.

- There shall be no allotment of lesser area than 8,000m^2.
- The average area of all allotments shall not be less than 1.5 ha.
- That the boundaries of allotments are chosen in relation to optimum house sites.
- The location of any proposed works for water storage purposes including any weir, piping and storage tanks, be shown.
- Areas of regenerating bush be identified and preserved.

AMENDMENT 1

Rural Residential Activity Area - 190 Stratton Street (SEC 43 Normandale Sett Blk VII D3/922), 236 Stratton Street (LOT 1 DP 50184 20B/82) and 268 Stratton Street (LOT 2 DP 50184 20B/83) as identified in Appendix Subdivision 9

Minimum size of allotment:	2 ha
Minimum Frontage:	100m for front allotments. 6m for rear allotments.
Shape Factor:	All allotments must be able to contain a rectangle measuring 30m by 20m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.
Number of Allotments:	The maximum number of allotments per site after subdivision shall be limited to: • 190 Stratton Street (SEC 43 Normandale Sett Blk VII D3/922) – no more than 6 rural residential allotments • 236 Stratton Street (LOT 1 DP 50184 20B/82) – no more than 3 rural residential allotments • 268 Stratton Street (LOT 2 DP 50184 20B/83) – no more than 4 rural residential allotments
Access:	Motor vehicle access to all new allotments must be from Stratton Street.
No-development Areas:	All new building platforms for dwellings and related main access ways must be located outside the no-development areas identified in Appendix Subdivision 9. The location of all building platforms for dwellings and related main access ways must be identified at the

	subdivision stage and registered on the certificate of title by way of consent notice.
Other:	Compliance with the permitted activity conditions of the activity area.

Other Rural Residential Activity Areas

Minimum size of allotment:	2 ha
Minimum Frontage:	100m for front allotments. 6m for rear allotments.
Shape Factor:	All allotments must be able to contain a rectangle measuring 30m by 20m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.
Other:	Compliance with the permitted activity conditions of the activity area

General Rural Activity Area

Minimum size of allotment:	15ha.
Minimum frontage:	150m for front allotments. 6m for rear allotments.
Shape Factor:	All allotments must be able to contain a rectangle measuring 30m by 20m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.
Other:	Compliance with the permitted activity conditions of the activity area Subdivision in Hebden Cres/Liverton Road, Pt Lot 2 DP 578 in accordance with Drawing No. 469SCH4^{C} by Lucas Surveys shown in Appendix Subdivision 3 and subject to an encumbrance being lodged against each new title as shown in Appendix Subdivision 4 regarding the neighbouring quarrying activities.

Community Iwi Activity Area 1 - Marae

Waiwhetu (Puketapu Grove), Te Mangungu (Rata Street), Koranui (Stokes Valley), Te Kakano O Te Aroha (Moera) and Pukeatua (Wainuiomata) - Minimum size of allotment and frontage the same as the General Residential Activity Area.

Te Tahau O Te Po (Puke Ariki, Hutt Road) - Minimum size of allotment and frontage the same as the General Business Activity Area.

Community Iwi Activity Area 3 - Kokiri Centres

Pukeatua (Wainuiomata) - Minimum size of allotment and frontage the same as the General Business Activity Area.

Ngau-matau (Seaview) - Minimum size of allotment and frontage same as the Special Business Activity Area.

All Activity Areas

Notwithstanding the subdivision standards for each respective activity area there shall be no specific allotment size in any activity area for allotments created solely for utilities. Where those allotments created for such purposes have a net site area of less than 200m^2 there shall be no minimum frontage or shape factor requirements.

(b) Engineering Design

(i) Access

Compliance with Chapter 14A – Transport.

(ii) Service Lanes, Private Ways, Pedestrian Accessways and Walkways

Compliance with Chapter 14A – Transport.

(iii) Street Lighting

Compliance with AS/NZS 1158:2005 Code of Practice for Road Lighting.

(iv) Stormwater

Compliance with the following standards:

Levels of Stormwater Protection to be provided by Services in New Areas

Minimum Standard				Subsidiary Standards			
	Primary SystemARI	Total System ARI	Freeboard (mm)	1.	Max.Depth and speed on roads and footpaths	Max Depth	Max. Speed
Parks & Reserves	2	5	-		Arterial Roads	0.1m	2.0m/s
Recreational Buildings	10	50	200		Local Roads	0.2m	2.0m/s
Non-Habitable Buildings	5	10	200		Hill Roads	0.1m	3.0m/s
Residential Houses	10	100	500		Walkways only	0.4m	1.0m/s
Commercial	20	100	100	2.	Depth Speed Product	< 0.4mm/s	
Industrial	10	50	100	3.	Channel/Pond Side Slopes	Maximum 1:5 Vertical : Horizontal	
Public Utilities	10	100	500	4.	Channel/Pond Free board	> 0.5 metre	
Culverts	20	100	-	5.	Detention Pond	< 1.2 metres depth of water unless access restricted	
Bridges	50	100	-	6.	Kerb Opening	< 150mm high unless screened	
Car Parks	5	10	-	7.	Pipe Diameter	> = 300mm for mains > = 225mm for sump leads	
Arterial Roads	20	50	-	8.	Watercourses	No scour or deposition in events < 5yrs ARI	
Local Roads	10	20	-				
Hill Roads (gradient >3%)	10	20	-				

Levels of Stormwater Protection to be Provided by New Drains in Existing Areas

Recommended Standard				Minimum Standard				Subsidiary Standards		
	Primary System ARI	Total System ARI	Freeboard (mm)		Primary System ARI	Total System ARI	Freeboard (mm)	1. Max. Depth & speed on roads and footpaths:	Max. Depth	Max. Speed
Parks & Reserves	2	5	-	Parks & Reserves	2	5	-	Arterial Roads	0.1m	2.0m/s
Recreational Buildings	10	50	200	Recreational Buildings	10	50	200	Local Roads	0.2m	2.0m/s
Non Habitable Buildings	5	10	200	Non Habitable Buildings	5	10	200	Hill Roads	0.1m	2.0m/s
Residential Houses	10	100	500	Residential Houses	10	50	200	Walkways only	0.4m	1.0m/s
Commercial	20	100	100	Commercial	10	50	50	2. Depth Speed	<0.4mm/s	
Industrial	10	50	100	Industrial	10	50	50	3. Channel/Pond Freeboard Side Slopes	Maximum 1:5 Vertical : Horizontal	
Public Utilities	10	100	500	Public Utilities	10	50	200	4. Channel/Pond Freeboard	>0.5 metres	
Culverts	20	100	-	Culverts	20	100	-	5. Detention Pond	< 1.2 metres depth of water unless access restricted	
Bridges	50	100	-	Bridges	50	100	-	6. Kerb Opening	< 150mm high unless screened	
Car parks	5	10	-	Car parks	5	10	-	7. Pipe Diameter	>=300mm for mains >=225mm for sump leads	
Arterial Roads	20	50	-	Arterial Roads	10	20	-	8. Watercourses	No scour or deposition in events <5yrs ARI	
Local Roads	10	20	-	Local Roads	10	20	-			
Hill Roads (gradient >3%)	10	20	-	Hill Roads (gradient >3%)	10	20	-			

(v) Wastewater

Compliance with the following standards:

Residential Areas

ADWF	(Average Dry Weather Flow)	270 l/h/d
PDWF	(Peak Dry Weather Flow)	540 l/h/d
MWWF	(Maximum Wet Weather Flow)	1080 l/h/d

where l/h/d = litres/head/day

Business Areas

Where the industrial domestic waste and trade waste flows are known, these shall be used as the basis for sewer design. When the above information is not available the following may be used as the design basis.

ADWF	(Average Dry Weather Flow)	0.52 l/ha/sec
PDWF	(Peak Dry Weather Flow)	1.56 l/ha/sec
MWWF	(Maximum Wet Weather Flow)	1.56 l/ha/sec

where l/ha/sec = litres/hectare/second

The design of sewage disposal systems for industries with very heavy water usage is to be based on the specific requirements for that industry.

Retail and Suburban Commercial Areas, Suburban Mixed Use Areas

ADWF	(Average Dry Weather Flow)	0.25 l/ha/sec
PDWF	(Peak Dry Weather Flow)	0.44 l/ha/sec
MWWF	(Maximum Wet Weather Flow)	0.44 l/ha/sec

where l/ha/sec = litres/hectare/second

Associated Compliance Standards

pipe diameter	>150mm for mains
pipe velocity	>0.6 metres/sec
minimum standby pump capacity	100% for 2 pump installation 50% for 3 pump installation
minimum storage in pumped system	4 hours ADWF (Average Dry Weather Flow)

(vi) Water Supply

Compliance with the following standards:

- NZS PAS 4509:2008 NZ Fire Service Code of Practice for Fire Fighting Water Supplies
- Hutt City Council Bylaw 1997 Part 17 Water Supply.
- Part 6 NZS 4404:2004 (Land Development and Subdivision Engineering).

subject to the following criteria and guideline values:

Criteria	**Guideline Values**
Minimum available flow at Point of Supply	15 litres per minute
Pressure at Point of Supply (static)	
Minimum (for highest level sites - nearing the supply reservoir elevation)	10 metres head
Minimum (for the majority of a supply zone)	30 metres head
Maximum	90 metres head
Minimum system flow capability	The system shall provide flows equivalent to the Fire Service Code of Practice flow requirements plus two thirds of the peak daily consumption flow; whichever is greater. Peak daily consumption flows shall be as follows: (i) Over 2,000 population - 1,400 litres per person per day (ii) Under 2,000 population - as in table below.
Minimum pumping capacity without using a standby unit	15 hours
Minimum pumping standby capacity	100% 2 pump installation

Peak Flow on Maximum Days

No. of Dwellings	Litres per second	No. of Dwellings	Litres per second	No. of Dwellings	Litres per second
1	0.6	16	3.2	90	8.8
2	0.9	18	3.4	100	9.3
3	1.2	20	3.6	120	10.4
4	1.4	25	4.1	140	11.4
5	1.6	30	4.6	160	12.4
6	1.8	35	5.1	180	13.4
7	1.9	40	5.5	200	14.1
8	2.1	45	5.9	250	16.1
9	2.2	50	6.2	300	18.0
10	2.4	60	6.9	350	19.8
11	2.7	70	7.6	400	21.3
12	2.9	80	8.2	500	24.2

(vii) Telecommunications and Electricity

Compliance with the requirements of the relevant network utility operator.

(viii) Earthworks

Compliance with the following:

- NZS 4431 1989 (Code of Practice for Earth Fill for Residential Development) and Part 2 NZS 4404:2004 (Land Development and Subdivision Engineering
- Erosion and Sediment Control Guidelines for the Wellington Region and Small Earthworks Erosion and Sediment Control for small sites, 2003, Greater Wellington Regional Council.

(c) Contamination

Compliance with the following:

- Ministry for the Environment, Contaminated Land Management Guidelines 1 - 5

(d) Esplanade Reserves, Strips and Access Strips

Compliance with the following:

(i) In all activity areas esplanade reserves or strips are not required for the following subdivision activities:

- Boundary adjustments in all activity areas.
- A minor adjustment to an existing cross lease or unit title due to the increase in the size of allotment by alterations to the building outline or the addition of an accessory building.
- A subdivision where the allotment is created solely for utilities and that allotment has a net site area of less than 200m^2 and is not within 20m of any river or lake.

(ii) In all activity areas, in respect of lots less than 4 hectares, an esplanade reserve of 20m shall be set aside for such lots along the bank of any river whose bed has an average width of 3m or more where the river flows through or adjoins the lot concerned, except that properties with access to Moores Valley Road or Crowther Road that this standard applies to shall have an esplanade reserve of 5m.

(iii) In respect of lots with areas of 4 hectares or greater, an esplanade reserve or strip of 20m width shall be set aside for such lots along the banks of the following rivers and lakes:

- Hutt River,
- Wainuiomata River,
- Orongorongo River,
- Waiwhetu Stream,
- Lake Kohangatera,
- Lake Kohangapiripiri.

(iv) In respect of lots with areas 4 hectares or greater, an esplanade reserve or strip of 20m width shall be set aside for lots adjoining the mean high water springs of the sea.

For the avoidance of doubt, non-compliance with the provisions (ii) to (iv) shall be considered as a Discretionary Activity and assessed in terms of sections 104 and 105, and Part II of the Act.

(e) Earthworks

Compliance with permitted activity conditions 14I 2.1.1.

Compliance with NZS 4431 1989 (Code of Practice for Earth Fill for Residential Development) and Part 2 NZS 4404:2004 (Land Development and Subdivision Engineering).

Erosion and Sediment Control Guidelines for the Wellington Regional 2003 and Small Earthworks Erosion and Sediment Control for small sites, Greater Wellington Regional Council.

Exception: The standards in Rules 14I 2.1.1 (a) and (b) shall not apply to trenching carried out as part of the subdivision.

(f) Other Provisions

Compliance with the following:

(i) Financial Contributions in Chapter 12 of this Plan.

(ii) General Rules in Chapter 14 of this Plan.

11.2.2.2 Matters in which Council Seeks to Control

The matters over which control is reserved are:

(a) The design and layout of the subdivision, including the size, shape and position of any lot, any roads or the diversion or alteration to any existing roads, access, passing bays, parking and manoeuvring standards, and any necessary easements;

(b) The provision of servicing, including water supply, waste water systems, stormwater control and disposal, roads, access, street lighting, telephone and electricity;

(c) Management of construction effects, including traffic movements, hours of operation and sediment control;

(d) Provision of esplanade reserves, esplanade strips and access strips;

(e) Site contamination remediation measures and works;

(f) Protection of significant sites, including natural, cultural and archaeological sites;

(g) Avoidance or mitigation of natural hazards; and

(h) The design and layout of the subdivision where any lot may affect the safe and effective operation and maintenance of and access to regionally significant network utilities (excluding the National Grid) located on or in proximity to the site;

(i) The outcome of consultation with the owner and operator of regionally significant network utilities (excluding the National Grid) located on or in proximity to the site; and

(j) Those matters described in Section 108 and 220 of the Resource Management Act 1991.

Note: Rule 11.2.3 (b) covers subdivision within the National Grid Corridor.

11.2.2.3 Assessment Criteria

The following assessment criteria will be used:

(a) Allotment Design:

- Allotments to have the appropriate net site area and dimensions to enable activities, buildings or structures to be sited to comply with the specified activity area requirements.
- Subdivisions should be designed so as to give areas a strong and positive identity by taking into account characteristics of the area and ensuring that roading patterns, public open space/reserves and community facilities are well integrated.
- Account must be taken of the future development potential of adjoining or adjacent land and any potential reverse sensitivity effects on regionally significant network utilities (excluding the National Grid).
- The roading pattern must take into account the future development pattern of adjacent land.
- Subdivisions should be designed in a manner which recognises and gives due regard to the natural and physical characteristics of the land and adverse effects are avoided, remedied or mitigated.

AMENDMENT 2

- For the land identified in Appendix Subdivision 9, in addition to the above, subdivisions should be designed to avoid or minimise the need for indigenous ~~native~~ vegetation clearance and earthworks within the identified no-development areas and to ensure that motor vehicle access to all new allotments is provided from Stratton Street only.

(b) Engineering Design

(i) Access

- The legal road must be of sufficient width to cater for all functions the road is expected to fulfil, including the safe and efficient movement of all users, provision for parked vehicles, the provision of public utilities, landscaping and public transport facilities.
- The carriageway width should allow vehicles to proceed safely at the operating speed intended for that type of road in the network, with acceptable minor delays in the peak period.
- The carriageway should be designed to discourage motorists from travelling above the intended speed by reflecting the functions of the road in the network. In particular, the width, the horizontal and vertical alignments and superelevation should not be conducive to excessive speed.
- Intersections or junctions should be designed to allow all desired movements to occur safely without undue delay. Projected traffic volumes should be used in designing all intersections or junctions on traffic routes.
- Footpaths shall be provided on both sides of roads and shall be designed and located taking into account pedestrian amenity and likely use patterns. Footpaths may be reduced to only one side where:

- there is no development fronting that part or side of the road,
- topography or vegetation precludes provision, or
- vehicle volumes and speeds are low and use of the carriageway is considered to be safe and comfortable for pedestrian use, and
- pedestrian use will not be deterred by the lack of a footpath.

- Materials used in the construction of roads must be durable, maintainable, cost effective and compatible with Council's engineering standards.
- Allotments must have drive on access, except those in the Suburban Mixed Use and Medium Density Residential Activity Areas, and those Comprehensive Residential Developments in the General Residential Activity Area provided with access to communal parking areas. In cases where it can be shown that it is physically not possible to provide drive on access, alternative arrangement for off-street parking must be provided.
- Where appropriate, when designing the roading network, account must be given to the provision of public transport facilities and the provision for safe, convenient and efficient access for cyclists and pedestrians.

(ii) Service Lanes, Private Ways, Pedestrian Accessways and Walkways

- Service lanes must be of sufficient width and of appropriate design to cater for vehicular traffic which services the allotments.
- All private ways and pedestrian accessways must be of sufficient width and of appropriate design for the use of land they serve.
- Walkways must be taken into account the existing topography, link open space network with community facilities and public services.

(iii) Street Lighting

- Public lighting to be provided to roads, footpaths, pedestrian accessways and to major pedestrian and bicycle links likely to be used at night to provide safe passage for pedestrians, cyclists and vehicles.

(iv) Stormwater

- The stormwater system to provide a level of protection defined in terms of Average Recurrence Interval (ARI) based on the type and intensity of development.
- The environment downstream of the proposed subdivision is not degraded by drainage flows or floodwaters.
- The roading system retains access to allotments and minimises the occurrence of traffic accidents during and after storm events.
- The stormwater system is designed to ensure that the land form of watercourses is stabilised and that erosion is minimised.
- Floodways and ponding areas to be restricted to areas where there is no damage to property, and to discharge or contain all gap flow (gap flow being the difference between the pipe flow and the total flow, i.e. the amount flowing on the surface for any given ARI).
- Materials used in stormwater systems to be durable, maintainable, cost-effective and compatible with Council's engineering performance standards.

(v) Wastewater

- The wastewater system is adequate for the maintenance of public health and the disposal of effluent in an environmentally appropriate manner.

- All wastewater systems shall be designed so that they have sufficient capacity for the ultimate design flow.
- All wastewater systems shall be designed so that they are self cleansing with the current or expected peak dry weather flow.
- Materials used in the wastewater system must be durable, maintainable, cost efficient and compatible with Council's engineering performance standards.
- Connection to a community sewerage system where one is available, and has the capacity to accept the additional sewerage load that the occupancy of the subdivision will create; or the installation of a sewerage system and community treatment plant when there is no community sewerage system available and the number of residential allotments and the soil/groundwater conditions indicate that the cumulative effects of the sewerage effluents have the potential to adversely affect public health.

(vi) Water Supply

- In urban areas reticulated water supply must be provided to each allotment for domestic, commercial or industrial consumption and provision for fire fighting purposes.
- Materials used in the water supply system must be durable, maintainable. cost-effective and compatible with Council's engineering performance standards.
- Reservoir storage, pumping and pipe flow capacity shall meet required volume, flow and pressure criteria according to Council's engineering performance standards.
- The provision and protection of access for maintenance of components of water supply system.
- All water supply mains shall be designed so they have sufficient capacity for the ultimate design flow.
- Adequate and suitable water supply shall be provided in the General Rural and Rural Residential Activity Areas.
- In all areas, the provision of a reticulated drinking water supply to all residential allotments if it is practicable to do so.

(vii) Telecommunication and Electricity

- Electricity supply must be provided to each allotment. The Council may exempt subdivisions or particular allotments from this requirement in appropriate circumstances but may require that provision, such as the registration of easements, be made for the provision of electricity supply in the future. In urban areas where practicable this should be by means of an underground system.
- Provision should be made to ensure that telephone connections can be made to each allotment. In urban areas where practicable, such provision should be made by means of an underground system.

(viii) Earthworks

- Before any earthworks are carried out a thorough investigation be undertaken to determine the suitability of the land. Particular attention must be given to drainage, slope and foundation stability matters, topography, significant existing natural, cultural and archaeological resources, post construction settlement, shrinkage and expansion of material plus compaction.

- Appropriate design and construction methods must be used to control and manage soil erosion, surface runoff and siltation.

AMENDMENT 3

- For the land identified in Appendix Subdivision 9, in addition to the above, a sediment and erosion control plan must be prepared to manage the potential effects of earthworks on streams and identified wetlands on the site.

(c) Contamination

Where a site for subdivision has been identified as a potential or confirmed contaminated site the applicant shall undertake an assessment of the site, which shall include:

- The nature of contamination and the extent to which the occupants of the site, the immediate neighbours, the wider community and the surrounding environment will be exposed to the contaminants.
- Any potential long-term or cumulative effects of discharges from the site.
- Any remedial action planned or required in relation to the site, and the potential adverse effects of any remedial action on the matters listed in the two matters above, whether at the site or at another location.
- Proposed validation to demonstrate that remediation has been carried out to an acceptable standard.
- The management of the decontamination risk and any risk due to residual contamination remaining on the site (eg. risks involved are maintenance of underground services, risks associated with earth working and soil disturbance, and compliance with management regimes).

The site assessment, proposed remediation, validation and future site management shall be to the satisfaction of the Hutt City Council, Wellington Regional Council, and the Medical Officer of Health.

(d) Esplanade Reserves, Strips and Access Strips

Whether provision has been made for esplanade reserves and/or strips along the margins of any water body.

If a reduction in the width or waiver of an esplanade reserve is sought, Council would have regard to the following:

- The purpose for the creation of the esplanade reserve set out in Section 229 of the Resource Management Act 1991;
- Whether the reduction in size or width of an esplanade reserve would adversely effect:
    - Natural character, amenity values, and ecological values of the adjacent waterbody;
    - Access to an existing or potential future reserve or feature of public significance;
    - The public's ability to gain access to and along the edge of the water body; and
    - The protection of significant sites, including natural, cultural and archaeological sites.
- Whether a waiver or reduction of the width of an esplanade reserve would ensure the security of private property or the safety of people; and
- Whether the land is within a natural hazard area or in an identified risk from one or more natural hazards.

11.2.3 Restricted Discretionary Activities

(a) Any subdivision that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (b) Engineering Design, (c) Contamination and (e) Earthworks.

(b) Any subdivision located within a National Grid Corridor that complies with the standards and terms under Rule 11.2.3.2.

(i) Non-notification

In respect of Rule 11.2.3 (b), public notification of applications for resource consent is precluded. Limited notification will be served on the National Grid Operator as the only affected party under section 95B of the Act.

Note: Rule 11.2.3 (b) (i) prevails over Rule 17.2.2.

(c) Any subdivision located within close proximity to consented and existing renewable energy generation activities.

(i) Non-notification

In respect of Rule 11.2.3 (c), public notification of applications for resource consent is precluded. Limited notification will be served on the renewable energy generation activities' operator as the only affected party under section 95B of the Act.

Note: Rule 11.2.3 (c) (i) prevails over Rule 17.2.2.

(d) Any subdivision of the land identified in Appendix Subdivision 7 or Appendix Subdivision 8.

11.2.3.1 Matters in which Council has restricted its discretion

(a) Any subdivision that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (b) Engineering Design, (c) Contamination and (e) Earthworks.

(i) Any actual or potential adverse effects arising from the proposed non-compliance, and measures to avoid, remedy or mitigate such effects.

(ii) Amenity Values:

The extent to which any earthworks proposal will affect adversely the visual amenity values of the area, and the extent to which the earthworks will result in unnecessary scarring and be visually prominent.

The effects on the amenity values of neighbouring properties including dust and noise.

The extent to which replanting, rehabilitation works or retaining structures are included as part of the proposal to mitigate adverse effects. Earthworks should not result in the permanent exposure of excavated areas or visually dominant retaining structures when viewed from adjoining properties or public areas, including roads.

(iii) Existing Natural Features and Topography:

The extent to which the proposed earthworks reflect natural landforms, and are sympathetic to the natural topography.

(iv) Historical or Cultural Significance:

The extent to which the proposed earthworks will affect adversely land and features which have historical and cultural significance.

(v) Natural Hazards:

Consideration should be given to those areas prone to erosion, landslip and flooding. Earthworks should not increase the vulnerability of people or their property to such natural hazards. In the Primary and Secondary River Corridors of the Hutt River, consideration should be given to the effects on the flood protection structures.

(vi) Construction Effects:

The extent to which the proposed earthworks have adverse short term and temporary effects on the local environment.

(vii) Engineering Requirements:

The extent of compliance with NZS 4431 1989 (Code of Practice for Earth Fill for Residential Development).

The extent of compliance with Part 2 NZS 4404:2004 (Land Development and Subdivision Engineering).

(viii) Erosion and Sediment Management:

The extent of compliance with the "Erosion and Sediment Control Guidelines for the Wellington Regional 2003" and "Small Earthworks – Erosion and Sediment Control for small sites" by Greater Wellington Regional Council.

(ix) Contaminated Land:

The extent to which works are consistent with the Ministry for the Environment, Contaminated Land Management Guidelines 1 – 5.

(x) Vegetation protection and presence:

The extent to which protection is given and how the safe, continuous presence of vegetation is provided for in the area as shown in Appendix Subdivision 5 by using an appropriate legal mechanism.

(xi) Visual effects of built development on the wider area (Appendix Subdivision 6):

Consideration shall be given to any actual and potential adverse effects of built development in the area identified on Appendix Subdivision 6 on visual amenity of the wider area (ie the valley floor and upper Holborn Drive). To assist, an expert assessment shall be undertaken, and the extent to which development controls are placed on identified individual lots as a result of the assessment's findings shall be taken into account.

For the purposes of this rule, built development includes but is not limited to structures of any height such as dwellings and ancillary buildings, decks, fences, walls and retaining walls.

(b) Any subdivision located within a National Grid Corridor that complies with the standards and terms under Rule 11.2.3.1.

(i) the extent to which the design, construction and layout of the subdivision demonstrates that a suitable building platform(s) can be located outside of the National Grid Yard for each new lot to ensure adverse effects on and from the National Grid and on public health and safety are appropriately avoided, remedied or mitigated;

(ii) The provision for the on-going operation, maintenance (including access) and planned upgrade of Transmission Lines;

(iii) The risk to the structural integrity of the National Grid;

(iv) The extent to which the subdivision design and consequential development will minimise the risk of injury and/or property damage from such lines;

(v) The extent to which the subdivision design and consequential development will minimise the potential reverse sensitivity on and amenity and nuisance effects of the transmission asset; and

(vi) The extent to which landscaping will impact on the operation, maintenance, upgrade and development (including access) of the National Grid.

Advice Note: Compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34:2001) is mandatory under the Electricity Act 1992. All activities regulated by NZECP34, including buildings, structures, earthworks and the operation of mobile plant, must comply with that regulation. Activities should be checked for compliance even if they are permitted by the District Plan.

Vegetation to be planted within proximity to Transmission Lines as shown on the planning maps should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003 or prevent access to support structures. To discuss works, including tree planting **near** any Transmission Line especially works within the transmission corridor; contact the National Grid operator.

(c) Any subdivision of the land identified in Appendix Subdivision 7 or Appendix Subdivision 8.

(i) Amenity Values:

The extent to which any earthworks proposal will affect adversely the visual amenity values of the area, and the extent to which the earthworks will result in unnecessary scarring and be visually prominent.

The effects on the amenity values of neighbouring properties including dust and noise.

The extent to which replanting, rehabilitation works or retaining structures are included as part of the proposal to mitigate adverse effects. Earthworks should not result in the permanent exposure of excavated areas or visually dominant retaining structures when viewed from adjoining properties or public areas, including roads.

(ii) Existing Natural Features and Topography:

The extent to which the proposed earthworks reflect natural landforms, and are sympathetic to the natural topography.

(iii) Historical or Cultural Significance:

The extent to which the proposed earthworks will affect adversely land and features which have historical and cultural significance.

(iv) Construction Effects:

The extent to which the proposed earthworks have adverse short term and temporary effects on the local environment.

(v) Engineering Requirements:

The extent of compliance with NZS 4431:1989 (Code of Practice for Earth Fill for Residential Development).

The extent of compliance with Part 2 NZS 4404:2004 (Land Development and Subdivision Engineering).

(vi) Erosion and Sediment Management:

The extent of compliance with the “Erosion and Sediment Control Guidelines for the Wellington Region 2002” and “Small Earthworks – Erosion and Sediment Control for small sites” by Greater Wellington Regional Council.

(vii) The design and layout of the subdivision, including the size, shape and position of any lot, any roads or the diversion or alteration to any existing roads, access, passing bays, parking and manoeuvring standards, and any necessary easements;

(viii) The provision of servicing, including water supply, waste water systems, stormwater control and disposal, roads, access, street lighting, telephone and electricity;

(ix) Management of construction effects, including traffic movements, hours of operation and sediment control;

(x) Avoidance or mitigation of natural hazards;

(xi) The design and layout of the subdivision where any lot may affect the safe and effective operation and maintenance of and access to regionally significant network utilities (excluding the National Grid) located on or in proximity to the site;

(xii) The outcome of consultation with the owner and operator of regionally significant network utilities (excluding the National Grid) located on or in proximity to the site;

(xiii) Those matters described in Section 108 and 220 of the Resource Management Act 1991;

(xiv) In regard to Appendix Subdivision 7 the engineering measures proposed to manage stormwater runoff to ensure the ecological health of Speedy's Stream and the onsite wetland. To assist, expert assessment shall be undertaken, and provided with any subdivision application. This report shall identify the following:

i. The existing ecological values of Speedy's Stream and the onsite wetland;

ii. The stormwater runoff rates for both the onsite wetland and Speedy's Stream to maintain these ecological values (including for smaller frequent events like the 1 in 1 year and 1 in 2 year rainfall events);

iii. The acceptable level of contaminants in the stormwater to maintain the ecological values of both the onsite wetland and Speedy's Stream;

iv. The engineering practices (for example, bio-retention devices and detention tanks) required to treat and control all stormwater runoff to ensure that the identified ecological values are at least maintained and the stormwater runoff rates and treatment identified in the points above are achieved. These engineering practices shall control all runoff generated by the 85-90th percentile rainfall depth. This is defined as treating the stormwater volume generated by the 27mm rainfall depth; and

v. Any potential conditions that may need to be imposed on the subdivision consent to ensure that these engineering measures are undertaken and appropriately maintained.

(xv) In regard to Appendix Subdivision 8, the engineering measures proposed to manage stormwater runoff to ensure the ecological health of any onsite streams and downstream receiving environments. To assist, expert assessment shall be undertaken, and provided with any subdivision application. This report shall identify the following:

i. The existing ecological values of the onsite streams (and their downstream receiving environments);

ii. The stormwater runoff rates for the onsite streams (and their downstream receiving environments) to maintain or improve ecological values (including for smaller frequent events like the 1 in 1 year and 1 in 2 year rainfall events);

iii. The acceptable level of contaminants in the stormwater to maintain or improve the ecological values of the onsite streams (and their downstream receiving environments);

iv. The engineering practices (for example, bio-retention devices and detention tanks) required to treat and control all stormwater runoff to ensure that the identified ecological values are appropriately protected, and the stormwater runoff rates and treatment identified in the points above are achieved; and

v. Any potential conditions that may need to be imposed on the subdivision consent to ensure that these engineering measures are undertaken and appropriately maintained.

(xvi) In regard to Appendix Subdivision 8, any measures to control reverse sensitivity effects in relation to noise on the adjoining properties within the Rural Residential Activity Area.

(xvii) For the site in Appendix Subdivision 8, the measures to maintain the ecological values of the indigenous vegetation contained within the General Recreation Activity Area portion of the site. This includes the protection of indigenous vegetation within the General Recreation Activity Area portion of the site through appropriate legal mechanism and on-site measures to manage edge effects during any adjacent development activities.

11.2.3.2 Standards and Terms

(a) Any Subdivision located within a National Grid Corridor shall:

(i) comply with the Standards and Terms for a Controlled Activity in Rule 11.2.2.1 and

(ii) demonstrate that each new residential allotment can provide a complying Shape Factor as required under Rule 11.2.2.1(a) or in the case of industrial and commercial activities, a suitable building platform which is fully located outside of the National Grid Yard.

11.2.4 Discretionary Activities

(a) Avalon Business Activity Area.

(b) Special Commercial Activity Areas 1 and 2.

(c) Rural Residential Activity Area - all subdivisions with direct access off Liverton Road.

(d) Historic Residential Activity Area.

(e) General, Special, River and Passive Recreation Activity Areas.

(f) Extraction Activity Area.

(g) Community Health Activity Area.

(h) Any subdivision within the identified coastal environment as shown in Map Appendices 2A, 2B, and 2C.

(i) Any subdivision which is not a Permitted, Controlled or Restricted Discretionary Activity.

(j) Any subdivision located wholly or partially within Avalon Business Activity Area (Sub-Area 1).

(k) On 2/76 Normandale Road, Pt Lot 1 DP 7984, any earthworks undertaken as part of a subdivision, in that part of the site identified to the north and east of the stream, as shown on Appendix Earthworks 3.

(l) Any subdivision of the land identified in Appendix Subdivision 7 or Appendix Subdivision 8 that do not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (a) Allotment Design.

AMENDMENT 4

(m) Any subdivision of the land identified in Appendix Subdivision 9 that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (a) Allotment Design relating to Minimum Size of Allotment, Minimum Frontage, Shape Factor, Number of Allotments, Access and Other but excluding No-development Areas.

11.2.4.1 Assessment Criteria for Discretionary Activities

(a) The matters contained in sections 104 and 105, and in Part II of the Act shall apply.

(b) Compliance with the engineering design standards.

(c) The degree of compliance or non-compliance with any relevant Permitted and Controlled Activity Standards and Terms.

(d) Those matters listed in the Assessment Criteria for Controlled Activities.

(e) For the sites identified in Appendix Subdivision 7 and Appendix Subdivision 8, those matters to which Council has restricted its discretion under Rule 11.2.3.1 (c).

AMENDMENT 5

(f) For the land identified in Appendix Subdivision 9, where the subdivision does not comply with the maximum Number of Allotments, the effects on the existing roading network.

11.2.5 Non-Complying Activities

(a) Any subdivision of land within the National Grid Corridor that does not comply with the standards and terms under Rule 11.2.3.2.

(b) Any subdivision of the land identified in Appendix Subdivision 8 which results in any new lots having vehicular access to Liverton Road.

AMENDMENT 6

(c) Any subdivision of the land identified in Appendix Subdivision 9 that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (a) Allotment Design relating to No-development Areas.

11.3 Anticipated Environmental Results

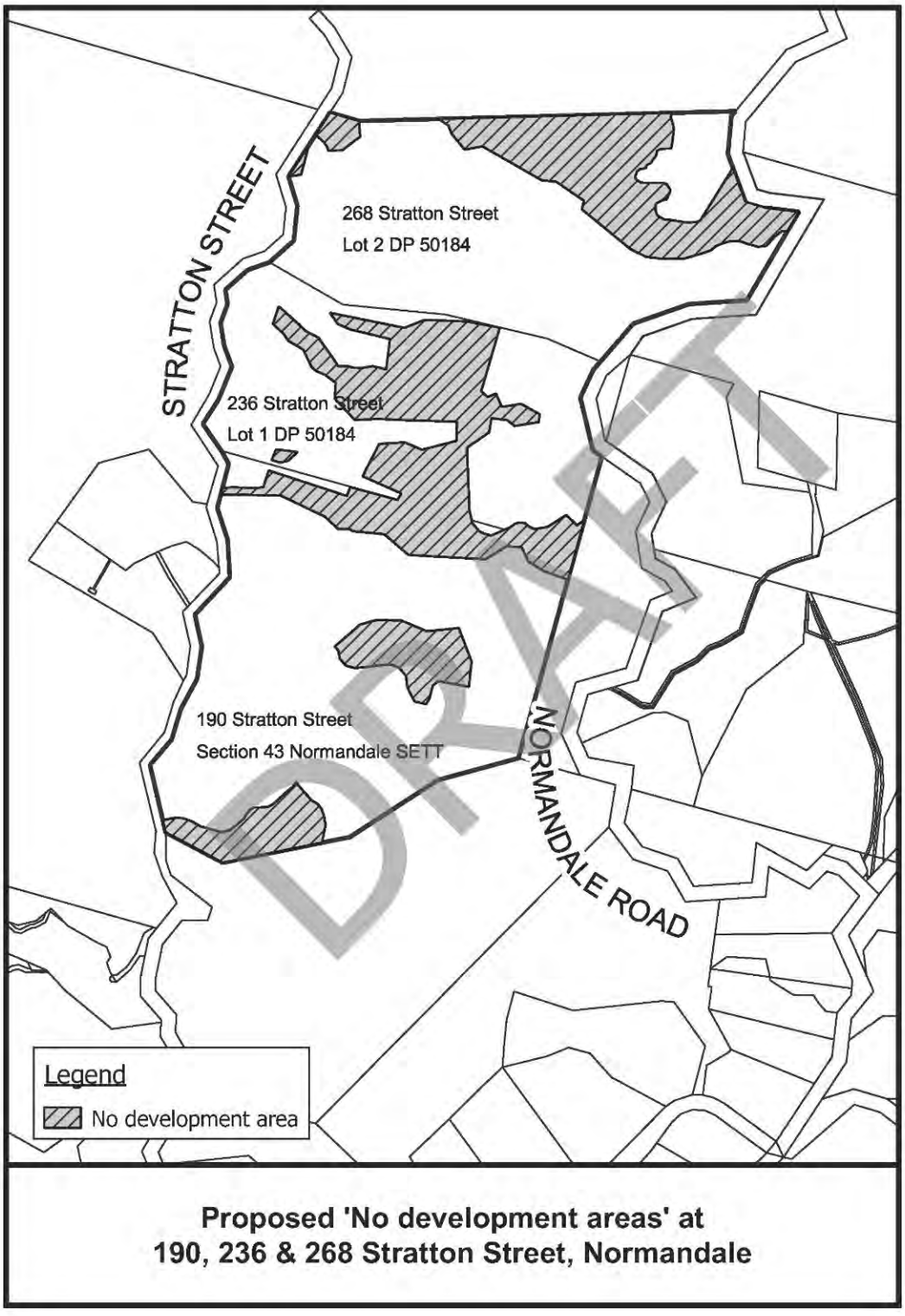
(a) That allotments created are suitable for the proposed use.

(b) That adverse effects arising from the subdivision of land will be managed and mitigated.

(c) That where appropriate and necessary there be improved public access to public areas

AMENDMENT 7

Appendix Subdivision 9



Proposed 'No development areas' at
190, 236 & 268 Stratton Street, Normandale

APPENDIX 2 SECTION 32AA EVALUATION OF ADDITIONAL CHANGES

PC 53 Stratton Street - Section 32AA Evaluation of Proposed Amendments

Section 32AA of the RMA requires a further evaluation of any changes that have been made to, or are proposed for, a proposed Plan Change since the original evaluation report for the proposed Plan Change was completed.

In response to submissions the applicant proposes the introduction of a set of additional site specific provisions to the Subdivision Chapter.

This evaluation must be undertaken in accordance with section 32(1) to (4) of the RMA. The section 32AA evaluation of the recommended changes to PPC53 is provided below:

#	REQUESTED CHANGE	REASONS AND EVALUATION
Chapter 11 - Subdivision		
1	**Introduce Site Specific Subdivision Provisions to 11.2.2.1 Standards and Terms** Add a new set of site specific standards and terms for controlled activities in relation to Allotment Design as follows: ***11.2.2.1 Standards and Terms*** *All Controlled Activity subdivisions shall comply with the following Standards and Terms:* *(a) Allotment Design* *…* ***Rural Residential Activity Area - 190 Stratton Street (SEC 43 Normandale Sett Blk VII D3/922), 236 Stratton Street (LOT 1 DP 50184 20B/82) and 268 Stratton Street (LOT 2 DP 50184 20B/83) as identified in Appendix Subdivision 9*** *Minimum Size of Allotment: 2 ha*	**Reason** It is proposed to introduce a new site specific standard to the Standards and Terms for Allotment Design to address issues raised in submissions regarding the potential adverse effects of future subdivision enabled by the rezoning of the sites, in particular on transport and ecology. The purpose of the site specific standards and terms is to provide certainty and control potential adverse effects of future subdivision. The starting point for subdivision of the rezoned sites remains a controlled activity status subject to compliance with standards and terms. This includes the existing general standards and terms relating to (b) Engineering Design, (c) Contamination, (d) Esplanade Reserves, Strips and Access Strips, (e) Earthworks and (f) Other Provisions as well as site specific Standards and Terms relating to (a) Allotment Design. The proposed amendment to create site specific provisions for Allotment Design for the plan change site cover the following issues: *Minimum Size of Allotment, Minimum Frontage, Shape Factor* and *Other* The proposed site specific subdivision standards relating to *Minimum Size of Allotment, Minimum Frontage, Shape Factor* and *Other* follow the established format of the Subdivision Chapter for Allotment Design provisions and are

#	REQUESTED CHANGE	REASONS AND EVALUATION
	Minimum Frontage: *100m for front allotments. 6m for rear allotments.* *Shape Factor:* *All allotments must be able to contain a rectangle measuring 30m by 20m. Such a rectangle must be clear of any yard or right of way and have a suitable building platform.* *Number of Allotments:* *The maximum number of allotments per site after subdivision shall be limited to:* • *190 Stratton Street (SEC 43 Normandale Sett Blk VII D3/922) – no more than 6 rural residential allotments* • *236 Stratton Street (LOT 1 DP 50184 20B/82) – no more than 3 rural residential allotments* • *268 Stratton Street (LOT 2 DP 50184 20B/83) – no more than 4 rural residential allotments* *Access:* *Motor vehicle access to all new allotments must be from Stratton Street.* *No-development Areas:* *All new building platforms for dwellings and related main access ways must be located outside the no-development areas identified in Appendix Subdivision 9.* *The location of all building platforms for dwellings and*	consistent with the operative standards for Rural Residential land. They ensure that any future subdivision of the sites will need to comply with the underlying subdivision standards for the Rural Residential Activity Area. *Number of Allotments* The proposed site specific subdivision standards relating to *Number of Allotments* restricts the number of lots that can be achieved as a controlled activity and thereby ensures that the potential adverse effects of future subdivision on the ecology values on the site and the existing roading network can be addressed appropriately. The proposed maximum lot numbers reflect the size of the underlying properties, the size and location of no-development areas on each site, the topography of the sites and the requirement for access to be from Stratton Street only. It also addresses the concerns raised by submitters regarding the amount of additional traffic that may be generated by future subdivision. *Access* The proposed site specific subdivision standard relating to *Access* acknowledges the fact that most of Normandale Road, where it abuts the plan change site, is an unformed gravel road that is used for recreational uses only. The limited number allotments means that, even with the proposed access restriction, the overall number of access points and travel movements generated by the additional allotments would be less than what would be provided for by the operative subdivision standards for the Rural Residential Activity Area. *No-development Areas* The proposed site specific subdivision standard relating to *No-development Areas* responds to concerns raised in submissions relating to the protection of indigenous biodiversity on the site from the effects of additional subdivision, use and development enabled by the rezoning. In response to submissions and reflecting the fact that Hutt City Council did not pursue the introduction of district wide provisions to protect significant indigenous biodiversity, the applicant commissioned Wildlands to prepare an Assessment of Ecological Effects. The assessment identifies vegetation and habitat types and their ecological values, discusses potential adverse effects of subdivision and development and undertakes an ecological significance assessment using the criteria of the RPS. The no-development areas identified in Appendix Subdivision 9 reflect these

#	REQUESTED CHANGE		REASONS AND EVALUATION
		related main access ways must be identified at the subdivision stage and registered on the certificate of title by way of consent notice.	findings. To provide ongoing protection for these identified areas of ecological significance all new building platforms and access ways need to be located outside of the no-development areas. (*Note: the proposed addition of Appendix Subdivision 9 is discussed under recommended change number 7 below*.) **How this change achieves the purpose of the RMA** The proposed site specific standards provide greater certainty that the potential adverse effects of future subdivision under the Rural Residential zoning can be managed appropriately. The proposed amendment recognises and provides for relevant section 6 matters, in particular: • s6(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna. The proposed amendment has particular regard to relevant section 7 matters, in particular: • s7(d) intrinsic values of ecosystems; and • s7(f) maintenance and enhancement of the quality of the environment. The proposed amendment also gives effect to: • the NPS-UD by providing for (limited) additional development capacity; • the NPS-FM by including streams and wetlands with significant biodiversity values in the identified no-development areas; and • the RPS by identifying and protecting significant indigenous biodiversity values (Objective 16 and Policies 23, 24 and 47) and managing development in rural areas (Objective 22 and Policy 56). The proposed amendment is not inconsistent with any operative regional plan or the PNRP. **Benefits including Opportunities for Economic Growth and Employment** The proposed amendment provides for future subdivision while introducing site specific standards that reflect the specific characteristics and constrains of the site,
		Other: Compliance with the permitted activity conditions of the activity area.	

#	REQUESTED CHANGE	REASONS AND EVALUATION
		address limitations and protect identified values. The provisions provide increased certainty when preparing and processing subdivision consents for the site. **Costs** There is a cost in the reduced subdivision potential by limiting the number of lots provided for as a controlled activity. There may also be additional compliance costs at the subdivision application stage. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs. The effectiveness of the recommended change is high because it provides certainty, helps to achieve the relevant objectives and policies of the District Plan and higher order documents and provides for the recognition and protection of identified ecological values on the site in the absence of district wide protection provisions. It does not change the objective of the proposed plan change, which is to provide for additional subdivision and development potential that is at a similar scale to and reflects the character of surrounding rural residential areas. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific provisions is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.
2	**Introduce site specific assessment criteria for allotment design to 11.2.2.3 Assessment Criteria** Add a new site specific assessment criteria relating to Allotment Design: ***11.2.2.3 Assessment Criteria*** *The following assessment criteria will be used:* *(a) Allotment Design:* *…* *- For the land identified in Appendix Subdivision 9, in addition to the above, subdivisions should be designed to avoid or minimise the need for indigenous ~~native~~ vegetation clearance and earthworks within the identified no-development areas and to ensure that motor vehicle access to all new allotments is provided from Stratton Street only.*	**Reason** It is proposed to add a site specific assessment criteria relating to allotment design. The purpose of the proposed assessment criteria is to provide additional guidance when preparing and processing a subdivision application for the site. **How this change achieves the purpose of the RMA** The proposed site specific assessment criteria provide greater certainty that the potential adverse effects of future subdivision under the Rural Residential zoning can be managed appropriately. **Benefits including Opportunities for Economic Growth and Employment** The proposed additional assessment criteria relating to the recognition and protection of biodiversity values in the identified no-development areas and the location of motor vehicle access to future allotments provides additional guidance and certainty. **Costs** The proposed change does not result in any additional costs. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		The effectiveness of the recommended change is high because it provides additional guidance and certainty for preparing and assessing a subdivision application and thereby helps to achieve the relevant objectives and policies. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific assessment criteria to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific provisions is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.
3	**Introduce site specific assessment criteria for Engineering Design in relation to Earthworks to 11.2.2.3 Assessment Criteria** Add a new site specific assessment criteria relating to Engineering Design: ***11.2.2.3 Assessment Criteria*** *The following assessment criteria will be used:* *(b) Engineering Design:* *(viii) Earthworks* *…* *- For the land identified in Appendix Subdivision 9, in addition to the above, a sediment and*	**Reason** It is proposed to add a site specific assessment criteria relating to engineering design for earthworks. The purpose of the proposed assessment criteria is to confirm the need for a sediment and erosion control plan to be provided at the subdivision stage. The intention of the sedimentation and erosion control plan is to manage the effects of earthwork on streams and wetlands on the site. The assessment of ecological effects prepared by Wildlands in response to issues raised by submitters recommends that a sediment and erosion control plan should be required at the subdivision stage to minimise any sediment entering streams and wetlands on site.

#	REQUESTED CHANGE	REASONS AND EVALUATION
	erosion control plan must be prepared to manage the potential effects of earthworks on streams and identified wetlands on the site.	**How this change achieves the purpose of the RMA** The proposed site specific assessment criteria provide greater certainty that the potential adverse effects of future subdivision under the Rural Residential zoning can be managed appropriately. **Benefits including Opportunities for Economic Growth and Employment** The proposed additional assessment criteria relating to engineering design (earthworks) provides additional guidance and certainty regarding management of sediment and erosion effects of earthworks on streams and wetlands. **Costs** There may be a small increase in costs for the applicant in having to prepare and provide sediment and erosion control plan. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs. The effectiveness of the recommended change is high because it provides additional guidance and certainty for preparing and assessing a subdivision application and thereby helps to achieve the relevant objectives and policies. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific assessment criteria is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.
4	**Introduce a new site specific discretionary activity to 11.2.4 Discretionary Activities** Add a new site specific discretionary activity: ***11.2.4 Discretionary Activities*** … *(m) Any subdivision of the land identified in Appendix Subdivision 9 that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (a) Allotment Design relating to Minimum Size of Allotment, Minimum Frontage, Shape Factor, Number of Allotments, Access and Other but excluding No-development Areas.*	**Reason** It is proposed to add a rule to 11.2.4 Discretionary Activities that identifies any subdivision on the plan change site that does not comply with the Allotment Design Standards relating to *Minimum Size of Allotment, Minimum Frontage, Shape Factor, Number of Allotments, Access* and *Other* as a discretionary activity. The purpose of the proposed rule is to elevate any subdivision of the plan change site that does not comply with the listed allotment design standards to become a discretionary activity. This approach is consistent with the existing provisions of the Subdivision Chapter. Under 11.2.4 (i) *Any subdivision which is not a Permitted, Controlled or Restricted Discretionary Activity* (which includes subdivision that does not comply with the standards and terms for controlled activities under Rule 11.2.2.1 (a)) becomes a discretionary activity. The discretionary activity status for non-compliance with the listed standards provides appropriate opportunity to assess any potential adverse effects of the application. **How this change achieves the purpose of the RMA** The proposed site specific rule that elevates subdivision which does not comply with the identified standards to fully discretionary provides Council with the opportunity to assess and address any adverse effects of the subdivision and to decline the application if the effects cannot be managed. **Benefits including Opportunities for Economic Growth and Employment** The proposed discretionary activity status aligns with the established rule framework of the District Plan. By listing it individually rather than relying on Rule 11.2.4 (i) this provides additional clarity to plan users by confirming the activity

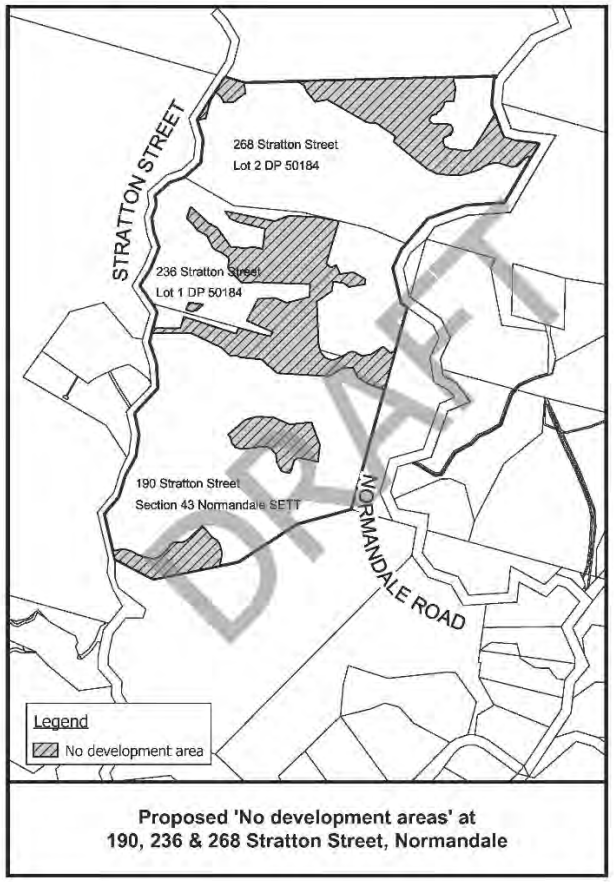
#	REQUESTED CHANGE	REASONS AND EVALUATION
		status of subdivision that does not comply with the relevant allotment design standards for *Minimum Size of Allotment, Minimum Frontage, Shape Factor, Number of Allotments, Access* and *Other* as being fully discretionary. **Costs** The proposed change does not result in any additional costs. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs. The effectiveness of the recommended change is high because the discretionary activity status aligns well with the existing District Plan approach for subdivision application that does not comply with the identified terms and standards for allotment design. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		Overall the proposed rezoning in combination with the proposed site specific provisions is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.
5	**Introduce site specific assessment criteria to 11.2.4.1 Assessment Criteria for Discretionary Activities** Add a new site specific assessment criteria: ***11.2.4.1 Assessment Criteria for Discretionary Activities*** … *(f) For the land identified in Appendix Subdivision 9, where the subdivision does not comply with the maximum Number of Allotments, the effects on the existing roading network.*	**Reason** The proposed site specific assessment criteria was initially proposed as a assessment criteria relating to engineering design for access for a controlled subdivision of the site. When evaluating the proposed controlled activity assessment criteria it became obvious that it would not add any value to the provisions but have the potential to frustrate the controlled activity status. Any consent conditions that could be proposed in response to the assessment criteria would be in relation to the public road and therefore outside the control of the applicant. It is however considered that the proposed introduction of a standard that reduces the maximum number of lots that can be achieved as a controlled subdivision by half provides sufficient certainty that the additional traffic can be accommodated. It is therefore now proposed to add a site specific assessment criteria for discretionary activities, thereby sending a clear signal that for any subdivision that breaches the maximum number of lots standard, the effects on the existing roading network will need to be considered and a transportation impact assessment may be required. **How this change achieves the purpose of the RMA** The proposed site specific assessment criteria for discretionary activities provides greater certainty that the potential adverse effects of future subdivision beyond the number of lots provided for as a controlled activity on the existing roading network will be considered. **Benefits including Opportunities for Economic Growth and Employment** The proposed additional assessment criteria provides additional guidance and certainty.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		Costs There may be additional costs for the applicant in having to address potential effects of the proposed subdivision on the existing roading network. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs. The effectiveness of the recommended change is high because it provides for the management of potential adverse effects on the existing roading network and thereby helps to achieve the relevant objectives and policies. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific assessment criteria for discretionary activities is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.

#	REQUESTED CHANGE	REASONS AND EVALUATION
6	**Introduce a new site specific non-complying activity to 11.2.5 Non-Complying Activities** Add a new site specific non-complying activity: ***11.2.4 Non-Complying Activities*** … *(c) Any subdivision of the land identified in Appendix Subdivision 9 that does not comply with the standards and terms for controlled activity under Rule 11.2.2.1 in respect of (a) Allotment Design relating to No-development Areas.*	**Reason** It is proposed to introduce a new non-complying rule for subdivision within the plan change site that does not comply with the allotment design standard relating to *No-development Areas*. The purpose of the proposed rule is to elevate any subdivision that proposes the establishment of a new building platform or new access way within an identified no-development area to a non-complying activity status, thereby signalling such proposals are not anticipated by the district plan within the site and introducing the additional gate way test to the assessment. It is also indicating that consents will only be granted in exceptional circumstances. **How this change achieves the purpose of the RMA** The proposed site specific rule that elevates any subdivision that does not comply with the allotment design standard relating to no-development areas to a non-complying activity status provides for the protection of identified areas of significant indigenous biodiversity from inappropriate development. **Benefits including Opportunities for Economic Growth and Employment** The proposed rule provides additional protection for identified biodiversity values from inappropriate development. **Costs** There may be additional processing costs for the applicant should they decide to apply for a building platform or access way within the identified no-development areas. **Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs.

#	REQUESTED CHANGE	REASONS AND EVALUATION
		The effectiveness of the recommended change is high because it provides for the protection of identified ecological values on the site from inappropriate development. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific provisions is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.
7	**Introduce a new Appendix Subdivision 9** Add a new Appendix Subdivision 9:	**Reason** It is proposed to add a new Appendix Subdivision 9. The purpose of the proposed Appendix is to show the three sites to which the site specific provisions apply and to identify the no-development areas referred to in the provisions. **Benefits including Opportunities for Economic Growth and Employment** Provides certainty where the site specific provisions apply. **Costs** No additional cost.

#	REQUESTED CHANGE	REASONS AND EVALUATION
	Appendix Subdivision 9  **Proposed 'No development areas' at 190, 236 & 268 Stratton Street, Normandale**	**Risk of Acting or Not Acting if Information is Uncertain or Insufficient** There are no risks around uncertain or insufficient information in relation to this provision. **Efficiency and Effectiveness** The efficiency of the recommended change is high because the benefits outweigh the costs. The effectiveness of the recommended change is high because it provides certainty where the site specific provisions apply. **Conclusion** The proposed amendment will not change the objective of the plan change, which is to rezone the site and provide for limited additional subdivision and development capacity. The proposed amendment does not seek any changes to the existing objectives of the Operative District Plan but proposes the addition of a site specific provision to the established subdivision framework of the District Plan. Therefore the proposed amendment is the most appropriate way to achieve the existing District Plan objectives as well as the objective of the proposed plan change. The proposed amendment is consistent with higher order documentation, legislation and guidance. Overall the proposed rezoning in combination with the proposed site specific provisions is considered to be the most efficient and effective way to achieve the purpose of the RMA for the application site.

APPENDIX 3 REGIONAL POLICY STATEMENT - RELEVANT OBJECTIVES AND POLICIES

RPS – Relevant Objectives and Policies	
3.4 Fresh water	
Objective 12	The quantity and quality of fresh water: (a) meet the range of uses and values for which water is required; (b) safeguard the life supporting capacity of water bodies; and (c) meet the reasonably foreseeable needs of future generations.
Policy 15 Minimising the effects of earthworks and vegetation clearance – district and regional plans	Regional and district plans shall include policies, rules and/or methods that control earthworks and vegetation disturbance to minimise: (a) erosion; and (b) silt and sediment runoff into water, or onto land that may enter water, so that aquatic ecosystem health is safeguarded.
Policy 40 Maintaining and enhancing aquatic ecosystem health in water bodies – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a regional or district plan, particular regard shall be given to: (a) requiring that water quality, flows and water levels and aquatic habitats of surface water bodies are managed for the purpose of safeguarding aquatic ecosystem health; (b) requiring, as a minimum, water quality in the coastal marine area to be managed for the purpose of maintaining or enhancing aquatic ecosystem health; and (c) managing water bodies and the water quality of coastal water for other purposes identified in regional plans.
Policy 41 Minimising the effects of earthworks and vegetation disturbance – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a regional or district plan, particular regard shall be given to controlling earthworks and vegetation disturbance to minimise: (a) erosion; and (b) silt and sediment runoff into water, or onto or into land that may enter water, so that healthy aquatic ecosystems are sustained.
Policy 42 Minimising contamination in stormwater from development – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district plan, the adverse effects of stormwater run-off from subdivision and development shall be reduced by having particular regard to: (a) limiting the area of new impervious surfaces in the stormwater catchment;

	(b) using water permeable surfaces to reduce the volume of stormwater leaving a site; (c) restricting zinc or copper roofing materials, or requiring their effects to be mitigated; (d) collecting water from roofs for domestic or garden use while protecting public health; (e) using soakpits for the disposal of stormwater; (f) using roadside swales, filter strips and rain gardens; (g) using constructed wetland treatment areas; (h) using in situ treatment devices; (i) using stormwater attenuation techniques that reduce the velocity and quantity of stormwater discharges; and (j) using educational signs, as conditions on resource consents, that promote the values of water bodies and methods to protect them from the effects of stormwater discharges.
Objective 13	The region's rivers, lakes and wetlands support healthy functioning ecosystems.
Policy 43 Protecting aquatic ecological function of water bodies – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, particular regard shall be given to: (a) maintaining or enhancing the functioning of ecosystems in the water body; (b) maintaining or enhancing the ecological functions of riparian margins; (c) minimising the effect of the proposal on groundwater recharge areas that are connected to surface water bodies; (d) maintaining or enhancing the amenity and recreational values of rivers and lakes, including those with significant values listed in Table 15 of Appendix 1; (e) protecting the significant indigenous ecosystems and habitats with significant indigenous biodiversity values of rivers and lakes, including those listed in Table 16 of Appendix 1; (f) maintaining natural flow regimes required to support aquatic ecosystem health; (g) maintaining fish passage; (h) protecting and reinstating riparian habitat, in particular riparian habitat that is important for fish spawning; (i) discouraging stock access to rivers, lakes and wetlands; and (j) discouraging the removal or destruction of indigenous wetland plants in wetlands.
3.6 Indigenous ecosystems	
Objective 16	Indigenous ecosystems and habitats with significant biodiversity values are maintained and restored to a healthy functioning state.
Policy 23 Identifying indigenous ecosystems and	District and regional plans shall identify and evaluate indigenous ecosystems and habitats with significant indigenous biodiversity values; these ecosystems and

habitats with significant indigenous biodiversity values – district and regional plans	habitats will be considered significant if they meet one or more of the following criteria: (a) Representativeness: the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and: (i) are no longer commonplace (less than about 30% remaining); or (ii) are poorly represented in existing protected areas (less than about 20% legally protected). (b) Rarity: the ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare. (c) Diversity: the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area. (d) Ecological context of an area: the ecosystem or habitat: (i) enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or (ii) provides seasonal or core habitat for protected or threatened indigenous species. (e) Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.
Policy 24 Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans	District and regional plans shall include policies, rules and methods to protect indigenous ecosystems and habitats with significant indigenous biodiversity values from inappropriate subdivision, use and development.
Policy 47 Managing effects on indigenous ecosystems and habitats with significant indigenous biodiversity values – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, a determination shall be made as to whether an activity may affect indigenous ecosystems and habitats with significant indigenous biodiversity values, and in determining whether the proposed activity is inappropriate particular regard shall be given to: (a) maintaining connections within, or corridors between, habitats of indigenous flora and fauna, and/or enhancing the connectivity between fragmented indigenous habitats; (b) providing adequate buffering around areas of significant indigenous ecosystems and habitats from other land uses; (c) managing wetlands for the purpose of aquatic ecosystem health;

	(d) avoiding the cumulative adverse effects of the incremental loss of indigenous ecosystems and habitats; (e) providing seasonal or core habitat for indigenous species; (f) protecting the life supporting capacity of indigenous ecosystems and habitats; (g) remedying or mitigating adverse effects on the indigenous biodiversity values where avoiding adverse effects is not practicably achievable; and (h) the need for a precautionary approach when assessing the potential for adverse effects on indigenous ecosystems and habitats.
3.9 Regional Form, Design and Function	
Objective 22	A compact well designed and sustainable regional form that has an integrated, safe and responsive transport network and: (a) a viable and vibrant regional central business district in Wellington city; (b) an increased range and diversity of activities in and around the regionally significant centres to maintain vibrancy and vitality; (c) sufficient industrial-based employment locations or capacity to meet the region's needs; (d) development and/or management of the Regional Focus Areas identified in the Wellington Regional Strategy; (e) urban development in existing urban areas, or when beyond urban areas, development that reinforces the region's existing urban form; (f) strategically planned rural development; (g) a range of housing (including affordable housing); (h) integrated public open spaces; (i) integrated land use and transportation; (j) improved east-west transport linkages; (k) efficiently use existing infrastructure (including transport network infrastructure); and (l) essential social services to meet the region's needs.
Policy 55 Maintaining a compact, well designed and sustainable regional form – consideration	When considering an application for a resource consent, or a change, variation or review of a district plan for urban development beyond the region's urban areas (as at March 2009), particular regard shall be given to whether: (a) the proposed development is the most appropriate option to achieve Objective 22; and (b) the proposed development is consistent with the Council's growth and/or development framework or strategy that describes where and how future urban development should occur in that district; and/or (c) a structure plan has been prepared.
Policy 56 Managing development in rural areas – consideration	When considering an application for a resource consent or a change, variation or review of a district plan, in rural areas (as at March 2009), particular regard shall be given to whether:

	(a) the proposal will result in a loss of productive capability of the rural area, including cumulative impacts that would reduce the potential for food and other primary production and reverse sensitivity issues for existing production activities, including extraction and distribution of aggregate minerals; (b) the proposal will reduce aesthetic and open space values in rural areas between and around settlements; (c) the proposal's location, design or density will minimise demand for non-renewable energy resources; and (d) the proposal is consistent with the relevant city or district council growth and/or development framework or strategy that addresses future rural development; or (e) in the absence of such a framework or strategy, the proposal will increase pressure for public services and infrastructure beyond existing infrastructure capacity
Policy 57 Integrating land use and transportation – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district plan, for subdivision, use or development, particular regard shall be given to the following matters, in making progress towards achieving the key outcomes of the Wellington Regional Land Transport Strategy: (a) whether traffic generated by the proposed development can be accommodated within the existing transport network and the impacts on the efficiency, reliability or safety of the network; (b) connectivity with, or provision of access to, public services or activities, key centres of employment activity or retail activity, open spaces or recreational areas; (c) whether there is good access to the strategic public transport network; (d) provision of safe and attractive environments for walking and cycling; and (e) whether new, or upgrades to existing, transport network infrastructure have been appropriately recognised and provided for.
Policy 58 Co-ordinating land use with development and operation of infrastructure – consideration	When considering an application for a resource consent, notice of requirement, or a plan change, variation or review of a district plan for subdivision, use or development, particular regard shall be given to whether the proposed subdivision, use or development is located and sequenced to: (a) make efficient and safe use of existing infrastructure capacity; and/or (b) coordinate with the development and operation of new infrastructure.
Policy 67 Maintaining and enhancing a compact, well designed and sustainable regional form – non-regulatory	To maintain and enhance a compact, well designed and sustainable regional form by: (a) implementing the New Zealand Urban Design Protocol; (b) promoting best practice on the location and design of rural residential development; (c) recognising and enhancing the role of the region’s open space network;

	(d) encouraging a range of housing types and developments to meet the community's social and economic needs, including affordable housing and improve the health, safety and well-being of the community; (e) implementing the actions in the Wellington Regional Strategy for the Regional Focus Areas; and (f) safeguarding the productive capability of the rural area.
3.11 Soils and Minerals	
Objective 29	Land management practices do not accelerate soil erosion
Policy 15 Minimising the effects of earthworks and vegetation clearance – district and regional plans	Regional and district plans shall include policies, rules and/or methods that control earthworks and vegetation disturbance to minimise: (a) erosion; and (b) silt and sediment runoff into water, or onto land that may enter water, so that aquatic ecosystem health is safeguarded.
Policy 41 Minimising the effects of earthworks and vegetation disturbance – consideration	When considering an application for a resource consent, notice of requirement, or a change, variation or review of a regional or district plan, particular regard shall be given to controlling earthworks and vegetation disturbance to minimise: (a) erosion; and (b) silt and sediment runoff into water, or onto or into land that may enter water, so that healthy aquatic ecosystems are sustained.
Policy 68 Minimising soil erosion – non-regulatory	To minimise soil erosion by encouraging sustainable land management practices and take a whole of catchment approach.

APPENDIX 4 PROPOSED NATURAL RESOURCES PLAN - RELEVANT OBJECTIVES AND POLICIES

PNRP	
3.4 Natural character form and function	
Objective O17	The natural character of the coastal marine area, natural wetlands, and rivers, lakes and their margins is preserved and protected from inappropriate use and development.
3.6 Biodiversity, aquatic ecosystems health and mahinga kai	
Objective O25	To safeguard Biodiversity, aquatic ecosystem health and mahinga kai in fresh water bodies and the coastal marine area are safeguarded such that: (a) water quality, flows, water levels and aquatic and coastal habitats are managed to maintain biodiversity, aquatic ecosystem health and mahinga kai, and (b) where an objective in Tables 3.4, 3.5, 3.6, 3.7 or 3.8 is not met, a fresh water body or coastal marine area is improved over time to meet that objective.
Objective O27	Vegetated riparian margins are established, maintained. or restored to enhance water quality, aquatic ecosystem health, mahinga kai and indigenous biodiversity of rivers, lakes, natural wetlands and the coastal marine area.
Objective O28	The extent and significant values of natural wetlands are protected, and their condition is restored. Where the significant values relate to biodiversity, aquatic ecosystem health and mahinga kai, restoration is to a healthy functioning state as defined by Table 3.7.
Policy P31: Biodiversity, aquatic ecosystem health and mahinga kai	Biodiversity, aquatic ecosystem health and mahinga kai shall be maintained or restored by managing the effects of use and development on physical, chemical and biological processes to: *Hydrology* (a) maintain or restore natural flow characteristics and hydrodynamic processes, and the natural pattern and range of water level fluctuations in rivers, lakes and natural wetlands, and *Water quality* (b) maintain or improve water quality to meet the objectives in Tables 3.4, 3.5, 3.6, 3.7 and 3.8 of Objective O25, and *Aquatic habitat diversity and quality* (c) maintain or restore aquatic habitat diversity and quality, including the form, frequency and pattern of pools, runs, and riffles in rivers, and the natural form of rivers, lakes, natural wetlands and the coastal marine area, and (d) restore the connections between fragmented aquatic habitats, and *Critical habitat for indigenous aquatic species and indigenous birds*

	(e) maintain or restore habitats that are important to the life cycle and survival of indigenous aquatic species and the habitats of indigenous birds in the coastal marine area, natural wetlands and the beds of lakes and rivers and their margins that are used for breeding, roosting, feeding, and migration, and *Critical life cycle periods* (f) minimise adverse effects on aquatic species at times which will most affect the breeding, spawning, and dispersal or migration of those species, including timing the activity, or the adverse effects of the activity, to avoid times of the year when adverse effects may be more significant, and *Riparian habitats* (g) maintain or restore riparian habitats, and *Pests* (h) avoid the introduction, and restrict the spread, of aquatic pest plants and animals.
Policy P32: Adverse effects on biodiversity, aquatic ecosystem health, and mahinga kai	Adverse effects on biodiversity, aquatic ecosystem health and mahinga kai shall be managed by: (a) avoiding significant adverse effects, and (b) where significant adverse effects cannot be avoided, minimising them, and (c) where significant adverse effects cannot be avoided and/or minimised they are remedied, and (d) where significant residual adverse effects remain, it is appropriate to consider the use of biodiversity offsets. Proposals for biodiversity mitigation and biodiversity offsetting will be assessed against the principles listed in Schedule G1 (biodiversity mitigation) and Schedule G2 (biodiversity offsetting).
Policy P37: Values of wetlands	Activities in and adjacent to natural wetlands shall be managed to maintain and, where appropriate, restore their condition and their values including: (a) as habitat for indigenous flora and fauna, and (b) for their significance to mana whenua, and (c) for their role in the hydrological cycle including flood protection, and (d) for nutrient attenuation and sediment trapping, and (e) as a fisheries resource, and (f) for recreation, and (g) for education and scientific research.
Policy P38: Restoration of wetlands	The restoration of natural wetlands and the construction of artificial wetlands to meet the water quality, aquatic ecosystem health and mahinga kai objectives set out in Tables 3.7 and 3.8, to provide habitat for indigenous flora and fauna, and to carry out the physical and ecological functions of natural wetlands, shall be encouraged and supported.

3.7 Sites with significant values	
Objective O35	Ecosystems and habitats with significant indigenous biodiversity values are protected, and where appropriate restored to a healthy functioning state as defined by Tables 3.4, 3.5, 3.6, 3.7 and 3.8.
Policy P40: Ecosystems and habitats with significant indigenous biodiversity values	Protect and restore the following ecosystems and habitats with significant indigenous biodiversity values: (a) the rivers and lakes with significant indigenous ecosystems identified in Schedule F1 (rivers/lakes), and (b) the habitats for indigenous birds identified in Schedule F2 (bird habitats), and (c) significant natural wetlands, including the significant natural wetlands identified in Schedule F3 (identified significant natural wetlands), and (d) the ecosystems and habitat-types with significant indigenous biodiversity values in the coastal marine area identified in Schedule F4 (coastal sites) and Schedule F5 (coastal habitats).
Policy P41: Managing adverse effects on ecosystems and habitats with significant indigenous biodiversity values	In order to protect the ecosystems and habitats with significant indigenous biodiversity values identified in Policy P40, in the first instance activities that risk causing adverse effects on the values of a significant site, other than activities carried out in accordance with a wetland restoration management plan, shall avoid these ecosystems and habitats. If the ecosystem or habitat cannot be avoided, (except for those ecosystems and habitats identified in Policy P40 (b), (c) and (d) that are identified and managed by Policy P39A(a)), the adverse effects of activities shall be managed by: (a) avoiding more than minor adverse effects, and (b) where more than minor adverse effects cannot be avoided, minimising them, and (c) where more than minor adverse effects cannot be avoided and/or minimised, they are remedied, and (d) where residual adverse effects remain the use of biodiversity offsets may be proposed or agreed by the applicant. Proposals for biodiversity mitigation and biodiversity offsetting will be assessed against the principles listed in Schedule G1 (biodiversity mitigation) and Schedule G2 (biodiversity offsetting). A precautionary approach shall be used when assessing the potential for adverse effects on ecosystems and habitats with significant indigenous biodiversity values. Where more than minor adverse effects on ecosystems and habitats with significant indigenous biodiversity values identified in Policy P40 cannot be avoided, remedied, mitigated or redressed through biodiversity offsets, the activity is inappropriate. Policy 41A: Avoid more than minor adverse effects of activities on indigenous fish species known to be present in any water body identified in Schedule F1 (rivers/lakes) as habitat for indigenous fish species or Schedule F1b (inanga spawning habitats), during known spawning and migration times identified in Schedule F1a (fish spawning/migration). These activities may include the following:

	(a) discharges of contaminants, including sediment, and (b) disturbance of the bed or banks that would affect spawning habitat at peak times of the year, and (c) damming, diversion or taking of water which leads to loss of flow or which makes the river impassable to migrating indigenous fish.
Policy P42: Protecting and restoring ecosystems and habitats with significant indigenous biodiversity values	In order to protect the ecosystems and habitats with significant indigenous biodiversity values identified in Policy P40, particular regard shall be given to managing the adverse effects of use and development in surrounding areas on physical, chemical and biological processes to: (a) maintain ecological connections within and between these habitats, or (b) provide for the enhancement of ecological connectivity between fragmented habitats through biodiversity offsets, and (c) provide adequate buffers around ecosystems and habitats with significant indigenous biodiversity values, and (d) avoid cumulative adverse effects on, and the incremental loss of the values of these ecosystems and habitats.
3.10 Land use	
Objective O44	The adverse effects on soil and water from land use activities are minimised
3.11 Discharges to Land and Water	
Objective O48	The adverse quality and quantity effects of stormwater discharges from stormwater networks and urban land uses are improved over time
Policy P79: Managing Land Use Impacts on Stormwater	Land use, subdivision and development, including stormwater discharges, shall be managed so that runoff volumes and peak flows: (a) avoid or minimise scour and erosion of stream beds, banks and coastal margins, and (b) do not increase risk to human health or safety, or increase the risk of inundation, erosion or damage to property or infrastructure, including by retaining, as far as practicable, pre-development hydrological conditions in new subdivision and development
Activities in beds of lakes and rivers	
Policy P102: Reclamation or drainage of the beds of lakes and rivers	The reclamation or drainage of the beds of lakes and rivers and natural wetlands shall be avoided, in particular those identified in Schedules A (outstanding water bodies) and C (mana whenua), except where the reclamation or drainage is: (a) partial reclamation of a river bank for the purposes of flood prevention or erosion control, or (b) associated with a growth and/or development framework or strategy approved by a local authority under the Local Government Act 2002, or (c) necessary to enable the development, operation, maintenance and upgrade of regionally significant infrastructure, or

	(d) associated with the creation of a new river bed and does not involve piping of the river, and (e) for the purpose of forming a reasonable crossing point, and (f) in respect of (a) to (e) there are no other practicable alternative methods of providing for the activity, or (g) the reclamation or drainage is of an ephemeral flow path.

APPENDIX 5 ECOLOGY EVIDENCE

APPENDIX 5.1 ASSESSMENT OF ECOLOGICAL EFFECTS OF PROPOSED ZONING CHANGE OF 190, 236 AND 268 STRATTON STREET, LOWER HUTT, DR SARAH HERBERT (WILDLAND CONSULTANTS LTD) - JUNE 2021

ASSESSMENT OF ECOLOGICAL EFFECTS OF PROPOSED ZONING CHANGE OF 190, 236, AND 268 STRATTON STREET, LOWER HUTT

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ASSESSMENT OF ECOLOGICAL EFFECTS OF PROPOSED ZONING CHANGE OF 190, 236, AND 268 STRATTON STREET, LOWER HUTT

View from the driveway of 268 Stratton Street, showing regeneration of indigenous vegetation underneath planted Eucalyptus *species.*

Contract Report No. 5743

June 2021

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CONTENTS

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1. EXECUTIVE SUMMARY

Urban Edge Planning Ltd on behalf of the landowners at 190 Stratton Street, 236 Stratton Street, and 268 Stratton Street, Normandale, are seeking the rezoning of the three properties from General Rural Activity Area to Rural Residential Activity Area. This rezoning would allow for a moderate increase in housing density, which is consistent with the zoning of surrounding sites.

This report is focused on the potential biodiversity effects of the proposed rezoning of these three properties, while also considering the potential adverse effects stemming from actual residential development that would be enabled by the rezoning. To inform this report, the landowners have provided an indicative development plan for the properties which allows an initial assessment to be conducted. However, an assessment of ecological effects for residential development would still be carried out at the resource consenting stage based on a finalised set of plans.

Initial assessment of residential development potentially stemming from rezoning suggests that, if executed in an ecologically sensitive manner, the ecological effects would be low. This is because the indicative development plan avoids disturbance to the highest quality indigenous vegetation types present on the properties. Care has been taken in this plan to minimise disturbance to other habitat types containing indigenous vegetation by siting new driveways on existing vehicle tracks where possible, as well as locating six of the ten proposed building sites in pasture, and another of the proposed building sites on the site of an existing building. The land owners have agreed to the introduction of no-development areas to ensure the ongoing retention of areas of more significant indigenous vegetation and habitats. Given that there is currently no legal protection of Significant Natural Areas (SNAs), or areas with Significant Natural Resources (SNRs), within the Hutt City District, the proposed protection of indigenous vegetation under the private plan change exceeds the current level of protection in the current General Rural Activity Area.

A field survey of the site was undertaken and the proposed no-development areas were reviewed. Minor modifications are suggested to ensure that the areas proposed for protection align with the ecological values on the properties and the locations of potential SNAs and SNRs identified by Hutt City Council.

2. INTRODUCTION

Urban Edge Planning Ltd on behalf of the landowners at 190 Stratton Street, 236 Stratton Street, and 268 Stratton Street, Normandale, is currently working on a private plan change application to Hutt City Council to seek rezoning of the three properties from General Rural to Rural Residential. This allows a reduction in lot size per dwelling from a minimum of 15 hectares to two hectares. Rezoning would allow for a moderate increase in housing density on the sites and align with the zoning of surrounding sites.

The properties are located in the Wellington Ecological District within the catchment of Korokoro Stream. They lie on the western fringe of Hutt City adjacent to the eastern boundary of the Belmont Regional Park (Figure 1). The properties comprise areas of *c.*20 hectares (190 Stratton Street), *c.*13 hectares (236 Stratton Street), and *c.*17 hectares (268 Stratton Street). All three properties are bounded by Stratton Street to the west and 236 and 268 Stratton Street are bounded by a formed, unsealed, and closed off section of Normandale Road to the east. The properties are characterised by a mixture of regenerating indigenous forest, permanent streams, scrub, pasture, and low-density housing. The properties at 236 and 268 Stratton Street contain areas of plantation forest near the eastern boundary. Hutt City Council's initial work on Significant Natural Areas (SNAs) identified two potential SNAs on the properties (Figure 1) but the permanent streams and other areas of regenerating indigenous vegetation may also have ecological value.

To this end, Urban Edge Planning has requested Wildland Consultants Ltd undertake an ecological assessment of the property and to identify any ecologically significant areas on site that warrant protection from development.

This report provides an assessment of the ecological effects of the proposed development, and includes:

- Maps and descriptions of the vegetation and habitat types present;
- An assessment of the ecological values of vegetation and habitat types, including the identification of any ecologically significant areas as defined by Policy 23 of the Regional Policy Statement (GWRC 2013) on site that warrant protection from development;
- Descriptions of the magnitude and extent of potential ecological effects resulting from the proposed plan change; and
- Opportunities to avoid, minimise, or mitigate potential adverse ecological effects.

3. ECOLOGICAL CONTEXT

3.1 Overview

190 Stratton Street, 236 Stratton Street, and 268 Stratton Street are located in the suburb of Normandale, Lower Hutt within the Wellington Ecological District. The District is described by McEwen (1987) as being characterised by steep hills and valleys, with frequent high winds and gales. Prevailing winds are from the north and northwest, and annual rainfall of 900-1,400 mm.

Valleys in the District have young alluvial, peaty or stony soils with varying degrees of drainage, generally more friable and better structured than hard packed coastal soils. Upper slopes are moderately fertile, with loess depths varying across the region, which results in variable erosion and weathering regimes.

Historic natural vegetation largely comprised widespread broadleaved/podocarp forest, with kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*), and mātai (*Prumnopitys taxifolia*) on hills; rimu (*Dacrydium cupressinum*)-northern rātā (*Metrosideros robusta*)/kohekohe (*Dysoxylum spectabile*) forest nearer coast; and miro (*Prumnopitys ferruginea*)-rimu/tawa (*Beilschmieda tawa*) forests at higher levels.

Extensive farming in the region, both historical and present, has removed much of this indigenous forest, and urban encroachment is continuing. Podocarp trees have largely been logged out of many remaining remnants and gorse (*Ulex europaeus*) and Darwin's barberry (*Berberis darwinii*) are common invasive species (McEwen 1987).

3.2 Local context

Ecological District

Ecological Domains ('Ecodomains') have been identified by Greater Wellington Regional Council as landscape units which share similar ecological and physical processes. The subject properties at Stratton Street are located within Ecodomain 56 "Western Hills".

Although rainfall in these hills is more seasonal than in coastal areas, the friable, well-structured soils hold more moisture year-round. Erosion is minimal although weaker fault-induced crush zones and interglacial fossil gullies exist in places. Wind flow is turbulent with channeling and eddying in gullies. Complex topography of moderately steep hillslopes with smooth ridgelines due to the old eroded peneplain surface, broad basins, gullies, fossil gullies, and fault-defined valleys creates diverse microclimates. Frost is patchy and can be heavy in basins such as Karori, Tawa, and Johnsonville where cold air collects. Native vegetation is dominated by podocarp/tawa forest with understorey species indicating moist, fertile conditions in gullies.

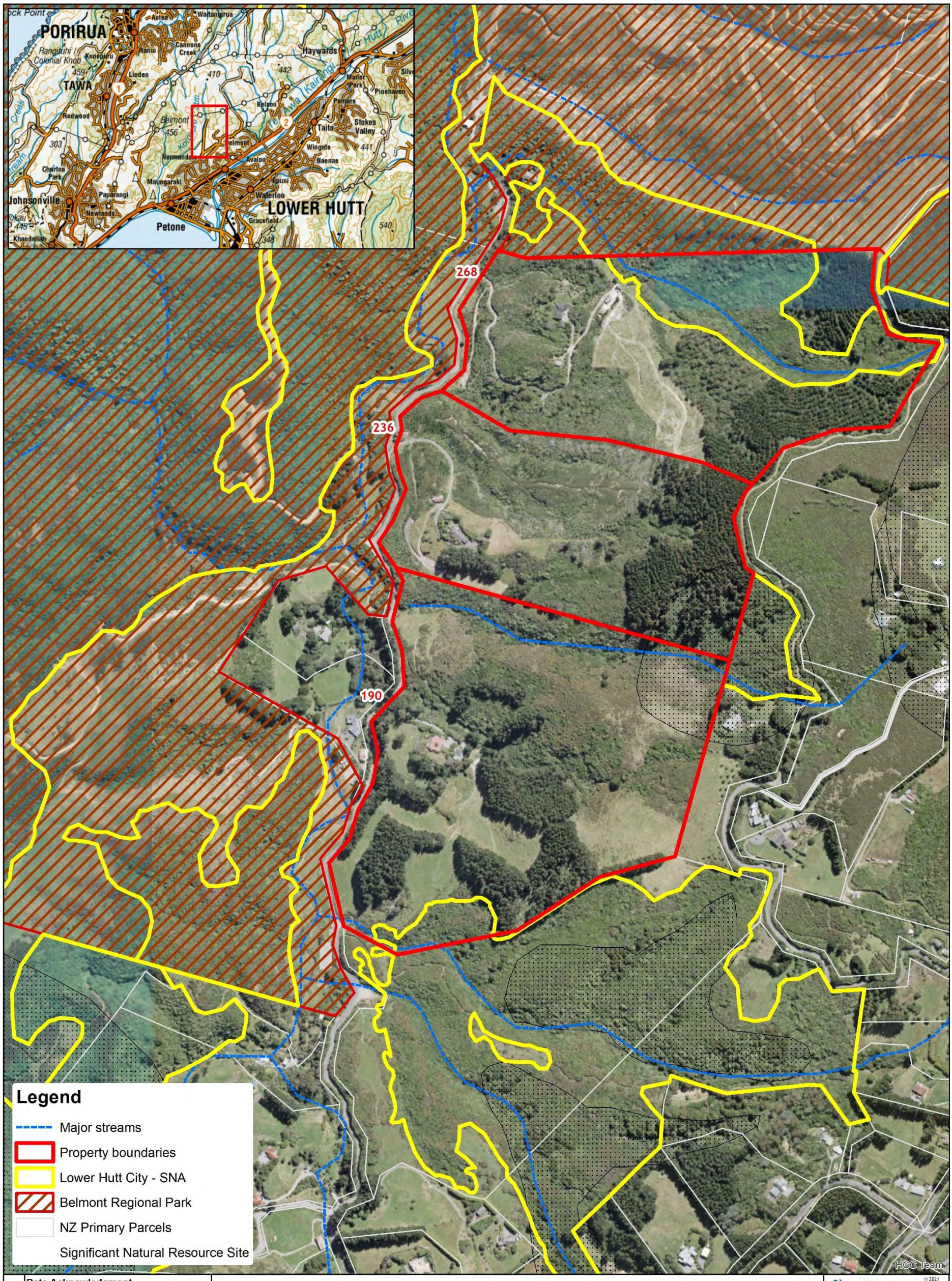
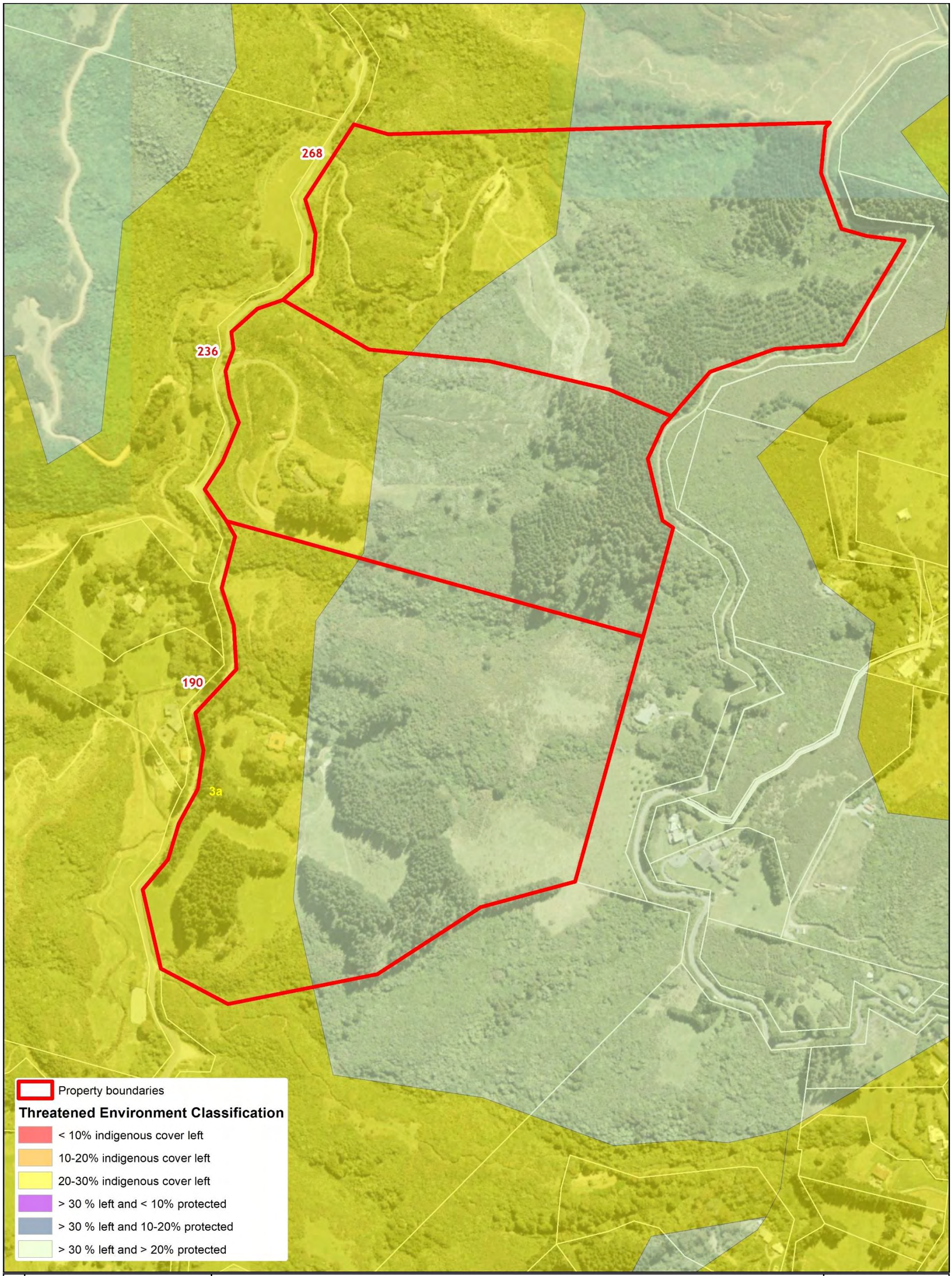


Figure 1. Location of 190, 236, and 268 Stratton Street, Normandale, in relation to Regional Parks, proposed Significant Natural Areas (SNAs), and Significant Natural ResourceSites (SNRs)



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Data Acknowledgment

Maps contain data sourced from LINZ
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Figure 2. Threatened Environment Classification of lands within 190, 236, and 268 Stratton Street, Normandale

0 100 200 m

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Scale: 1:4,000
Date: 9/04/2021
Cartographer: DBM
Format: A3

Threatened Environment Classification

The Threatened Environment Classification is a combination of three national databases: Land Environments New Zealand (LENZ), Land Cover Database (LCDB) and the protected areas network (reflecting areas legally protected for the purpose of natural heritage protection). The classification combines this information into a simple and practical GIS tool, which illustrates the degree to which indigenous vegetation has been cleared and/or legally protected (Cieraad *et al.* 2015, Walker *et al.* 2015).

According to the Threatened Environment Classification, At Risk (20-30% indigenous vegetation cover remaining) land environments occur on the western third of all three subject properties, which is considered to be a threatened environment (Walker *et al.* 2015; Figure 2). The remainder of the properties are situated within the Less Reduced and Better Protected (>30% indigenous vegetation remaining, and >20% protected) land environments, which are not considered threatened (Walker *et al.* 2015; Figure 2).

Key Native Ecosystems

The three properties are surrounded by the Belmont-Korokoro Key Native Ecosystem (KNE) to the north, west, and south[1]. The three sites are separated from this KNE by Stratton Street on their western boundary, but the northern boundary of 268 Stratton Street and the southern boundary of 190 Stratton Street are immediately adjacent to areas of this KNE.

Significant Natural Resource Sites

Chapter 14E of the Hutt City Council District Plan identifies areas that contain Significant Natural Resources (SNRs; Figure 1). Two of the three properties (190 and 236 Stratton Street are partly affected by an identified SNR (SNR38 - Normandale Road Bush). Chapter 14E includes objectives, policies and rules to protect identified SNRs from inappropriate subdivision, use and development. However, as a result of two Environment Court decisions from 2004 the rules do not apply to identified SNRs on private land.

Draft Significant Natural Areas

Hutt City Council has undertaken some initial work to identify and assess Significant Natural Areas (SNAs) within the district. This work identified two potential SNAs on the subject properties: LH001.00 (Western Hutt hills forest remnants) and LH001 (Belmont Regional Park) (Figure 1).

- LH001.00 (Western Hutt hills forest remnants) comprises moderately large areas of indigenous scrub and indigenous forest that are contiguous with Belmont Regional Park, Belmont-Speedys Reserve KNE (Key Native Ecosystem) site, and/or Belmont-Dry Creek KNE site. The site provides habitat for Threatened, At Risk, and regionally uncommon species.

[1] GWRC KNE and Wetland programme locations: https://gwrc.maps.arcgis.com/apps/webappviewer

- LH001 (Belmont Regional Park) comprises very large areas within Belmont Regional Park and parts of three KNE sites: Belmont-Dry Creek, Belmont-Speedys Reserve, and Belmont-Korokoro. Vegetation types present include pukatea (*Laurelia novae-zelandiae*)/tawa forest, rimu-rātā/tawa-kohekohe forest, tawa-kohekohe forest, tawa/miro forest, pukatea-mātai (*Prumnopitys taxifolia*)/ tawa forest, *Coprosma areolata* shrubland, and regenerating broadleaved species forest. Numerous important streams originate here and the site provides habitat for a diverse range of indigenous plants and animals, including Threatened, At Risk, and regionally uncommon species. LH001 includes indigenous vegetation on Acutely Threatened land environments with <10% indigenous vegetation remaining.

These areas do not currently have any legal standing and there are no policies or objectives relating to these.

Korokoro Stream and all tributaries are identified in Schedule F1 of the Natural Resource Plan (GWRC, 2019) as being a significant indigenous ecosystem due to providing habitat for indigenous fish species of conservation interest.

3.3 Site description

This plan change involves three Stratton Street properties, each of which includes a mixture of regenerating indigenous forest, permanent streams, scrub, pasture, plantation forest and low-density housing[1].

4. METHODS

4.1 Vegetation and habitat survey

The sites were surveyed on 26 February 2021, during which time all vegetation and habitat types were described and mapped, with the exception of curtilage areas surrounding the existing houses. The current ecological values of these vegetation and habitat types were also assessed. All vascular plant species observed were recorded (Appendix 1). Vegetation and habitat types were digitised onto aerial imagery using ArcGIS 10.7.

4.2 Fauna survey

Targeted fauna surveys were beyond the scope of this report, however the suitability of the vegetation at the site to provide habitat for key indigenous fauna species was assessed and all fauna species observed at the site were recorded (Appendix 2).

5. TERRESTRIAL VEGETATION AND HABITATS

Twelve major terrestrial habitat types (shown in Figure 3) were identified during the site survey:

[1] Specifically, one house per property.

1. Regenerating indigenous broadleaved forest
2. Eucalyptus-Tasmanian blackwood/indigenous broadleaved forest
3. *Pinus radiata*/indigenous broadleaved forest
4. Eucalyptus-macrocarpa/indigenous broadleaved forest
5. Mixed indigenous-exotic broadleaved scrub
6. Eucalyptus treeland/mixed indigenous exotic broadleaved scrub
7. Enhanced mixed indigenous-exotic broadleaved scrub
8. Gorse-māhoe-ponga scrub
9. Gorse scrub
10. Pasture
11. Pūrei riparian wetland
12. Harakake-toetoe/kiokio wetland

Where applicable, subtypes have been used to delineate subtle differences (such as differences in canopy height, or differences in the species assemblage of non-dominant plant species) occurring within major habitat types.

5.1 Regenerating indigenous broadleaved forest (Vegetation Type 1, *c.*5.87 ha)

1a: Regenerating broadleaved forest with a canopy height of 5-10 metres. The dominant canopy species was māhoe (*Melicytus ramiflorus* subsp. *ramiflorus*), but mamaku (*Cyathea medularis*), kanono (*Coprosma grandifolia*), and patē (*Schefflera digitata*) were also common. Putaputawētā (*Carpodetus serratus*) and kōtukutuku (*Fuchsia excorticata*) were present at lower abundance, with the latter being more common in riparian areas. Common subcanopy species were rangiora (*Brachyglottis repanda*) and kawakawa (*Piper excelsum* subsp. *excelsum*). The undergrowth was mostly comprised of the following ferns: mouku (*Asplenium bulbiferum*), kiwikiwi (*Cranfillia fluviatilis*), *Polystichum neozelandicum* subsp. *zerophyllum*, and piupiu (*Lomaria discolor*). Scatted tawa seedlings were present, indicating regeneration towards a later successional forest type. The most common liane was pōhuehue (*Muehlenbeckia australis*), with some supplejack (*Ripogonum scandens*) also being present. Also see Plate 1, Appendix 4.

1b: Similar to Subtype 1a, but with greater māhoe dominance and a less diverse canopy layer.

1c: Similar to Subtype 1a, but with a *c.*15 metre canopy and greater plant diversity. Kiekie (*Freycinetia banksii*), *Astelia* sp., and adult and seedling nīkau (*Rhopalostylis sapida*) are present in addition to the species recorded in Subtype 1a.

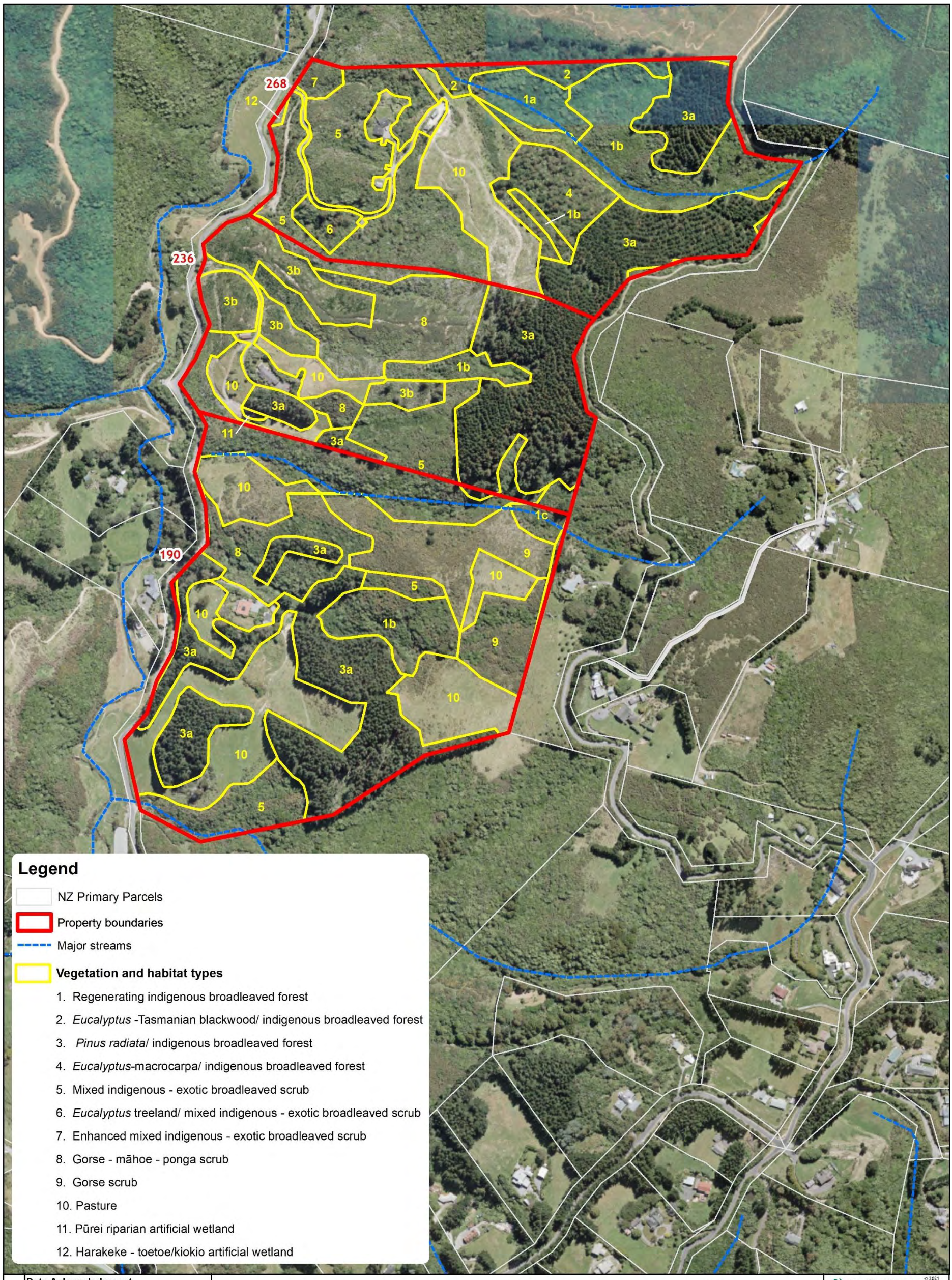

Figure 3. Vegetation and habitat types present at 190, 236, and 268 Stratton Street, Normandale, Lower Hutt.

5.2 *Eucalyptus* - Tasmanian blackwood/indigenous broadleaved forest (Vegetation Type 2, *c*.0.53 ha)

2: Planted eucalypt (*Eucalyptus* sp.) and Tasmanian blackwood (*Acacia melanoxylon*) forest with a subcanopy comprised of māhoe, hangehange (*Geniostoma ligustrifolium* var. *ligustrifolium*), gorse (*Ulex europaeus*), patē, rangiora, and kanono. Blackberry (*Rubus* sp.), tātarāmoa (*Rubus cissoides* agg.), and kōwaowao (*Zealandia pustulata*) are also present.

5.3 *Pinus radiata*/indigenous broadleaved forest (Vegetation Type 3, *c*.14.93 ha)

3a: *c.*20 metre tall radiata pine (*Pinus radiata*) forest planted on hillslopes with an indigenous subcanopy to *c.*3 metres tall. The subcanopy mostly comprises māhoe, kanono, māpou (*Myrsine australis*), and ponga (*Cyathea dealbata*). Groundcover is similar to 1a, but huruhuru whenua (*Asplenium oblongifolium*) replaces mouku.

3b: *c.*4-5 metre tall mixed radiata pine and indigenous broadleaved forest. Pines planted and/or wilding. Subcanopy is similar to Subtype 3a.

5.4 *Eucalyptus*-macrocarpa/indigenous broadleaved forest (Vegetation Type 4, *c*.1.23 ha)

4: Planted *c.*10-20 metre *Eucalyptus* sp. and macrocarpa (*Cupressus macrocarpa*) with a *c.*3 metre subcanopy comprised of hangehange, māhoe, makomako (*Aristotelia serrata*), kanono, patē, rangiora, porokaiwhiri (*Hedycarya arborea*), and ponga. Groundcover is similar to Subtype 3a. See Plate 2, Appendix 4.

5.5 Mixed indigenous-exotic broadleaved scrub (Vegetation Type 5, *c*.9.74 ha)

5: A *c.*2-3 metre tall mixture of gorse, māhoe, māpou, rārahu (*Pteridium esculentum*), makomako, kanono, tī kōuka (*Cordyline australis*), tarata (*Pittosporum eugenioides*), whauwhaupaku (*Pittosporum eugenioides*), rangiora, karamū (*Coprosma robusta*), pigeonwood, and Himalayan honeysuckle (*Leycesteria formosa*). Water fern (*Histiopteris incisa*), Canadian fleabane (*Erigeron canadensis*), puha (*Sonchus oleraceus*), mouku, and kamu matau a Maui (*Carex uncinata*) common in the ground layer. Blackberry is common around foot tracks. See Plate 3, Appendix 4.

5.6 *Eucalyptus* treeland/mixed indigenous-exotic broadleaved scrub (Vegetation Type 6, *c*.0.34 ha)

6: Similar to Vegetation Type 5, but overtopped by *Eucalyptus* species.

5.7 Enhanced mixed indigenous-exotic broadleaved scrub (Vegetation Type 7, *c*.0.14 ha)

7: Similar to Vegetation Type 5, but with indigenous trees and shrubs planted that are not found in the other vegetation types present.

5.8 Gorse-māhoe-ponga scrub (Vegetation Type 8, *c*.4.10 ha)

8: Gorse scrub with mahoe and ponga in gullies. Canopy height *c.*1-4 metres.

5.9 Gorse scrub (Vegetation Type 9, *c*.2.93 ha)

9: Gorse scrub with occasional emergent radiata pine. Canopy height *c.*1-2 metres.

5.10 Pasture (Vegetation Type 10, *c*.8.59 ha)

10: Mixture of exotic pasture grasses and herbs. Patches of mātātā (*Paesia scaberula*), rārahu, and gorse present.

5.11 Pūrei riparian wetland (Vegetation Type 11, *c*.0.03 ha)

11: A small area of riparian wetland that has been fenced off to separate it from surrounding pasture. A mixture of pūrei (*Carex secta*), *Juncus* sp., tree ferns, and exotic herbs, e.g. monkey musk (*Erythranthe guttata*), dock (*Rumex* sp.). A few kuta (*Eleocharis sphacelata*) were present despite the lack of open standing water. Watercress (*Nasturtium officinale*) was present in the stream itself, and a *c.*10 metre tall grey willow (*Salix cineria*) was located on the stream margin. This wetland is likely to be an artificial by-product of previous earthworks that created the flat area beside the wetland, dam, and perched culvert. See Plate 4, Appendix 4.

5.12 Harakeke-toetoe/kiokio wetland (Vegetation Type 12, *c*.0.03 ha)

12: A small area of wet pasture including kiokio (*Parablechnum novae-zelandiae*), toetoe (*Austroderia toetoe*), lotus (*Lotus pedunculatus*), creeping buttercup (*Ranunculus repens*), selfheal (*Prunella vulgaris*), an unidentified rush species, and pānakenake (*Lobelia angulata*). Greater bindweed (*Calystegia silvatica*) is being controlled by the landowner. Several harakeke (*Phormium tenax*) have been planted, and the only *Coprosma propinqua* seen during the site visit was encountered in this wetland. This wetland is not natural in origin; rather it has slowly appeared since the Hutt City Council rerouted streams and created a bund during the improvement and sealing of Stratton Street in 1990 (Catharina Fisher pers. comm.). See Plates 5 and 6, Appendix 4.

6. AQUATIC HABITATS

Two artificial wetlands (described as Vegetation Types 11 and 12 in Section 4 above) are present on the properties. Eight tributaries of Korokoro stream run through the three properties. The majority of these streams run through regenerating indigenous forest or scrub and are in good condition, with vegetated margins and little erosion. One perched culvert was noted in the stream immediately south of the pūrei wetland at 236 Stratton Street (Figure 3) which may restrict the passage of native fish species. However, removal of the perched culvert, or modification to the dam in which it sits, may result in drainage of the wetland immediately upstream.

7. FLORA

Sixty-eight indigenous and 40 exotic plant species were recorded during the survey (Appendix 1).

Kānuka (*Kunzea robusta*) has a national-level threat classification of Threatened-Nationally Vulnerable and mānuka (*Leptospermum scoparium* agg.) is classified as At Risk-Declining, as per de Lange *et al*. (2018). Kānuka and mānuka are members of the Myrtaceae family which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of kānuka and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However, kānuka and mānuka are currently common and widespread in the local environment, and to date have not been greatly affected by myrtle rust, thus we place little weight on their threatened status. While kuta (*Eleocharis sphacelata*) is not nationally threatened, it is considered to be a 'regionally critical' threatened species (de Lange *et al*. 2018, Crisp 2020b).

One individual grey willow was encountered near the wetland at 236 Stratton Street. This plant species is listed in the National Pest Plant Accord (NPPA)[1]. A few young wilding conifers (radiata pine, *Pinus radiata*) were present within the properties at 190 and 236 Stratton Street (Habitat Type 3b, Figure 3). All wilding *Pinus* species are considered pest organisms by the Greater Wellington Regional Council to be managed by progressive containment (GWRC 2019).

The following plant species considered to be Harmful Organisms by the Greater Wellington Council were also present on one or more of the three properties (GWRC 2019):

- African club moss (*Selaginella kraussiana*)
- Blackberry
- Buddleia (*Buddleja davidii*)
- Gorse
- Greater bindweed[2]
- Himalayan honeysuckle (*Leycesteria formosa*)
- Purple pampas (*Cortaderia jubata*)
- Pink ragwort (*Senecio glastifolius*)
- Ragwort (*Jacobaea vulgaris*)[3]
- Spanish heath (*Erica lusitanica*)

Gorse, blackberry, ragwort, pink ragwort, Himalayan honeysuckle, and African club moss are widespread, but the other species were more restricted in distribution, thus may be easily controlled.

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1 Plants listed on the NPPA are 'Unwanted Organisms' under the Biosecurity Act 1993.
2 This species is being controlled in the wetland on 268 Stratton Street (Catharina Fisher, pers. comm.).
3 Synonymous with *Senecio jacobaea* listed in GWRC (2019).

8. FAUNA

8.1 Birds

Three indigenous bird species were recorded during the site visit:

- Kererū (*Hemiphaga novaeseelandiae*)
- Tūī (*Prosthemadera novaeseelandiae novaeseelandiae*)
- Pīwakawaka (North Island fantail; *Rhipidura fuliginosa placabilis*)

One of the land owners also reports the following indigenous bird species occur on the properties (Catharina Fisher, pers. comm.):

- Bush falcon (*Falco novaeseelandiae* "bush")
- Ruru (morepork; *Ninox novaeseelandiae novaeseelandiae*)
- Riroriro (grey warbler; *Gerygone igata*)
- Korimako (bellbird; *Anthornis melanura melanura*)
- Kōtare (New Zealand kingfisher; *Todiramphus sanctus vagans*)
- Pīpīwharauroa (shining cuckoo; *Chrysococcyx lucidus lucidus*)
- Silvereye; tauhou (*Zosterops lateralis lateralis*)
- Pūtangitangi (paradise shelduck*; Tadorna variegata*)
- Kāhu; swamp harrier (*Circus approximans*)
- Spur-winged plover (*Vanellus miles novaehollandiae*)
- Miromiro (pied tomtit; *Petroica macrocephala toitoi*[1])

A further ten exotic bird species were either recorded on the properties during the site visit or reported as being present (Catharina Fisher, pers. comm.; see Appendix 2).

Bush falcon are classified as 'At Risk - Recovering' (Robertson *et al.* 2017). This national threat ranking is due to clearance of indigenous vegetation and the intensification of land-use practices, which have significantly reduced the amount of habitat suitable for breeding. Habitat degradation has also affected prey populations, and cats and mustelids have been filmed preying on adults and chicks. None of the other indigenous bird species are classified as 'Threatened' or 'At Risk' (Robertson *et al.* 2017).

Four exotic bird species were recorded during the site visit:

- California quail (*Callipepla californica bunnescens*)
- Australian magpie (*Gymnorhina tibicen*)
- Eastern rosella (*Platycercus eximius*)
- Eurasian blackbird (*Turdus merula*)

[1] Miromiro have only been observed once on the properties, thus are unlikely to be a resident bird species.

8.2 Long-tailed bats

Long-tailed bats (*Chalinolobus tuberculatus*) are classified as 'Threatened-Nationally Critical' (O'Donnell *et al*. 2018). They are known to favour forest edge and riparian habitats of both indigenous and exotic forest types, having adapted to roosting in exotic tree species such as pine (*Pinus* sp.) and macrocarpa (*Cupressus macrocarpa*). They also forage over farmland and urban areas (O'Donnell *et al.* 2021).

There are no confirmed records of long-tailed bats within 19 kilometres of the site in the Department of Conservation bat distribution database (Version June 2020). Several bat surveys within 10 kilometres of the site have failed to detect bats, including a survey undertaken in 2016 around five kilometres southwest of the site. No suitable indigenous roost trees exist at the site and it is considered highly unlikely that bats are resident at this site.

8.3 Herpetofauna

No herpetofauna (amphibians or reptiles) were encountered during the site visit. There are no lizard records in the Department of Conservation's BioWeb Herpetofauna Database or iNaturalist within the project area, although the database includes records of lizards recorded within a 10-kilometre radius. Lizards known from elsewhere within the eastern side of the Wellington Ecological District (Bell and Wiles 2015) include the ngahere gecko (*Mokopirirakau* "southern North Island", nationally and regionally At Risk-Declining[1]), barking gecko (*Naultinus punctatus*, nationally At Risk-Declining and regionally Threatened-Vulnerable), Raukawa gecko (*Woodworthia maculata*, nationally and regionally Not Threatened), copper skink (*Oligosoma aeneum*, nationally Not Threatened, regionally Threatened-Critical), ornate skink (*O. ornatum*, nationally and regionally At Risk-Declining) and northern grass skink (*O. polychroma,* nationally and regionally Not Threatened). All indigenous lizards are protected by the Wildlife Act 1953 and disturbance to their habitats is likely to require a Wildlife Act Authority (DOC Lizard TAG 2019).

Some of these species are likely to be present locally, especially ngahere gecko, barking gecko, copper skink, ornate skink, and northern grass skink. The most frequently recorded species in close proximity has been the barking gecko, although the other species are likely present too but not reported. The scrub habitats and forest-pasture boundaries provide suitable habitat for northern grass skink. Copper skink and ornate skink may be present in scrub, forest-pasture boundaries, and forest. However, the presence of these latter two species is likely to depend on the abundance of rodents and predatory mammals on the properties (Herbert, 2020). Because the three properties were covered with scrubby pasture in 1969 (Catharina Fisher, pers. comm.), it is possible that arboreal geckos (most likely to be barking gecko and ngahere gecko) may be absent due to historical forest clearance, despite suitable forested and scrub habitat types currently being present on the property.

In general, lizard populations are often (but not always) in low densities in mainland New Zealand due to predation pressure and habitat modification. Indigenous lizards are

[1] National threat classifications are as per Hitchmough *et al.* (2016) and regional threat classification are as per Crisp (2020b).

highly cryptic and can be particularly difficult to find without adequate survey effort, especially when in low numbers.

8.4 Aquatic fauna

Tributaries of the Korokoro Stream flow in an easterly direction across the properties. These streams on the property are in good condition and are likely to support aquatic fish and macroinvertebrates. Aquatic fauna records for the Korokoro Stream catchment held in the New Zealand Freshwater Fish Database (Crow 2017) are presented in Table 1. A total of 10 indigenous fish species and one indigenous invertebrate have been recorded from the catchment, including six species classified as 'At Risk-Declining' by Goodman *et al*. (2014). The introduced and naturalised brown trout has also been recorded within the Korokoro catchment. Eel elvers (*Anguilla* spp.) and kōura (*Paranephrops* sp.) have been observed in the streams on 268 Stratton Street (Catharina Fisher, pers. comm.).

Table 1: Aquatic fauna species recorded within the Korokoro Stream catchment (NIWA 2021).

Common Name	Scientific Name	Threat Category
Brown trout	*Salmo trutta*	Introduced and naturalised
Shortfin eel	*Anguilla australis*	Not Threatened
Longfin eel	*Anguilla dieffenbachii*	At Risk-Declining
Redfin bully	*Gobiomorphus huttoni*	At Risk-Declining
Bluegill bully	*Gobiomorphus hubbsi*	At Risk-Declining
Common bully	*Gobiomorphus cotidianus*	Not Threatened
Inanga	*Galaxias maculatus*	At Risk-Declining
Giant kōkopu	*Galaxias argenteus*	At Risk-Declining
Kōaro	*Galaxias brevipinnis*	At Risk-Declining
Common smelt	*Retropinna retropinna*	Not Threatened
Banded kōkopu	*Galaxias fasciatus*	Not Threatened
Kōura	*Paranephrops* sp.	Not Threatened

8.5 Terrestrial invertebrates

Four indigenous terrestrial invertebrate species were recorded at the site or reported by the landowner (*). These were:

- Wellington tree wētā (*Hemideina crassidens*)* - Not Threatened[1]
- Huhu beetle (*Prionoplus reticularis*)[2]
- Pūriri moth (*Aenetus virescens*)[2]
- Red admiral butterfly (*Vanessa gonerilla*)[2]

8.6 Introduced pest mammals

European rabbits *(Oryctolagus cuniculus cuniculus*) and brushtail possums (*Trichosurus vulpecula*) reportedly occur on the properties. Whilst Greater Wellington Regional Council undertook ground-based bait possum control a few years ago,

[1] Threat classification as per Trewick *et al.* (2016).
[2] None of these species have been assigned a national threat classification.

possums numbers are starting to bounce back (Catharina Fisher, pers. comm.). Goats (*Capra hircus*) have been eradicated in the area, and there is no evidence that deer (*Cervus elaphus*) or pig (*Sus scrofa*) occur on the property (Catharina Fisher, pers. comm.). There are 6-7 Timms traps in operation on 268 Stratton Street. Other pest animals likely to be present on the properties include ship rats (*Rattus rattus*), Norway rats (*R. norvegicus*), mice (*Mus musculus*), and hedgehogs (*Erinaceus europaeus*). Mustelids (stoats, *Mustela erminea*; ferrets, *M. furo*; and weasels, *M. nivalis vulgaris*) and feral and domestic cats (*Felis catus*) may also use the site occasionally.

9. ECOLOGICAL VALUES

9.1 Summary of terrestrial ecological values

The properties contain a combined area of *c.*5.9 hectares of regenerating indigenous broadleaved forest. Although relatively young[1] secondary forest, the presence of tawa seedlings indicate that this forest has a successional trajectory towards the podocarp-tawa forest that would have originally covered the Western Hills Eco-Domain. In addition to this, another *c.*30.9 hectares support indigenous broadleaved scrub or forest types that could be reasonably expected to eventually regenerate into podocarp-broadleaved indigenous forest representative of the Western Hills (Habitat Types 2-8).

The small amounts of kuta in damp areas of the properties are ecologically significant because they have been classified as 'regionally critical' threatened species. At least five indigenous bird species, including the 'At Risk-Recovering' bush falcon, were either observed during the site visit, documented by landholders, or are likely to use the properties. Depending on the abundance of pest mammal species on the properties and the historical proximity of scrub or forested habitat types to the properties, up to five lizard species may be present, including three nationally 'At Risk-Declining' species and one regionally 'Threatened-Critical' species. At least four indigenous invertebrate species use the properties.

9.2 Summary of aquatic ecological values

Ecologically Significant aquatic habitats (which includes wetlands and riverbeds) within the Greater Wellington Region have been identified by the Proposed Natural Resources Plan for the Wellington Region (GWRC 2019).

There are eight tributaries of the Korokoro stream and two small wetlands on this property. The streams are in mostly good condition, being predominantly in ungrazed areas of the properties and bordered by indigenous and/or exotic woody vegetation along most of their length. Based on their good condition, and existing records from Korokoro stream, up to 10 indigenous fish species and one indigenous invertebrate may

[1] Aerial photography from 1969 shows that the three properties were covered in scrubby pasture, therefore this forest type is estimated to be not older than 50 years old. Reference for aerial photography: https://retrolens.co.nz/map/#/1758046.5181193934/5438641.634594201/1759557.3437564652/5439654.425218894/2193/12

be present in these streams. Six of these species are classified as 'At Risk-Declining'. Korokoro Stream and all of its tributaries are listed in Schedule F1 of the regional Natural Resources Plan as a significant indigenous river ecosystem due to it providing habitat for indigenous fish species of conservation interest[1] (GWRC 2019). While only the tributary near the southern border of 190 Stratton Street has been mapped by Greater Wellington Regional Council[2], the other lengths of stream running through the properties shown in Figure 3 of this report are considered to be ecologically significant because they (1) drain into Korokoro stream, and (2) are likely to provide habitat for 'At Risk-Declining' indigenous freshwater fish.

The two artificial wetlands appear to have been created via other works on, or immediately adjacent to, the properties. Thus, it appears likely they are 'induced' wetlands and therefore have been precautionarily considered to be 'natural wetlands' as defined by the National Policy Statement - Freshwater Management 2020 (MfE 2021). Neither of these wetlands are listed as Significant Natural Wetlands in Schedule F3 of the Natural Resources Plan (GWRC 2019). Nevertheless, efforts have been made by the landowners to enhance both of these artificial wetlands; indigenous species have been planted in the harakeke-toetoe/kiokio wetland on 268 Stratton Street (Catharina Fisher, pers. comm.) and the pūrei riparian wetland on 236 Stratton Street has been fenced off to exclude stock. Should further investigation using the standard wetland delineation protocol (Clarkson 2013) determine conclusively that either one or both of the wetlands meet the definition of a 'natural wetland', then they will be protected by the provisions of the National Policy Statement for Freshwater Management and the National Environmental Standards for Freshwater.

10. PROPOSED PLAN CHANGE AND POTENTIAL OUTCOMES

It is proposed that 190, 236, and 268 Stratton Street are rezoned under the Hutt City Council's District Plan from a General Rural zone to a Rural Residential zone. This allows a reduction in lot size per dwelling from a minimum of 15 hectares to two hectares, and would allow an increase in housing density on the properties. It is noted that rezoning the properties to Rural Residential would bring the zoning of these three properties into alignment with the zoning of surrounding sites.

10.1 Future land uses potentially resulting from proposed rezoning to Rural Residential

Should the proposed rezoning proceed, Figure 4 illustrates an indicative development plan for the three properties. This plan currently includes the potential placement of up to ten extra house sites as well as new sections of driveway and accessways off Stratton Street. It should be noted that this is an indicative layout plan only and does not form part of the rezoning request.

[1] Defined as being 'Threatened' or 'At Risk' as per the national Threat Classification System (Townsend *et al.* 2008).

[2] See the GWRC Web Map Viewer at: https://mapping.gw.govt.nz/GW/GWpublicMap_Mobile

There are few places suitable for building sites or driveways on these properties due to the steepness of the terrain. The number of lots that it is anticipated that each property could be sub-divided into is:

- 268 Stratton Street - up to four lots (three additional housing site plus one existing house).
- 236 Stratton Street - up to three lots (two additional housing sites plus one existing house).
- 190 Stratton Street - up to six lots (five additional housing sites plus one existing house).

The possible house sites and driveway routes are shown in Figure 4. Many of the possible new driveways are along existing vehicle tracks. The indicative development plan shows that that the existing access points onto and off Stratton Street could be used to access additional lots on 268 and 236 Stratton Street. 190 Stratton Street has a much longer road frontage with other possible access points in addition to the present one. Each property has permanent streams and areas of indigenous vegetation, and the property owners have expressed their willingness to retain and protect these areas (Figure 4). The areas proposed for protection by the land owners occur in areas of regenerating indigenous broadleaved forest, mixed indigenous-exotic broadleaved scrub, enhanced mixed indigenous-exotic broadleaved scrub, and gorse-mānuka-ponga scrub (i.e. Habitat Types 1, 5, 7 and 8 as described in Section 4 and illustrated in Figure 3).

11. POTENTIALLY ADVERSE ECOLOGICAL EFFECTS

11.1 Overview

Throughout this section, both the potential adverse effects of the proposed zoning change, as well as any resulting subdivision and residential development that could occur on the properties as a result of zoning change, are addressed. Essentially, the proposed rezoning will have little effect on the ecology of the sites, but any resulting intensification of housing is likely to have associated ecological effects. These effects can be summarised as:

- Disturbance, modification, and/or loss of indigenous vegetation.
- Introduction and spread of pest plants.
- Mortality and disturbance of indigenous avifauna.
- Injury to and/or mortality of indigenous lizards.
- Sedimentation and contamination of freshwater habitats (streams and wetlands).

Each of the effects of a potential future increase in housing density at the sites is addressed in more detail below.

11.2 Disturbance, modification, and/or loss of vegetation

Vegetation clearance or disturbance will likely be required to establish additional house sites and driveway routes. However, the indicative development plan indicates that care

would be taken to avoid construction works in areas dominated by indigenous vegetation, including the draft SNA and SNR areas that lie within the property boundaries. In addition, many of the possible new driveways are along existing vehicle tracks. Nevertheless, under the indicative plan, regenerating indigenous vegetation occurring underneath *Pinus radiata* or *Eucalyptus*-macrocarpa plantations (Forbes 2015) and in areas of mixed indigenous-exotic broadleaved scrub is likely to be cleared or disturbed as a result of construction works. Increased numbers of people living on the property may have direct and indirect adverse ecological effects on the ecological values of significant areas of vegetation due to increased trampling of the undergrowth and dumping of rubbish/garden waste within ecological sites.

Given the amount and type of indigenous vegetation present on the properties, intensification of housing resulting from rezoning could be achieved with minimal disturbance or clearance of indigenous vegetation, and if so the magnitude of this effect will likely be low.

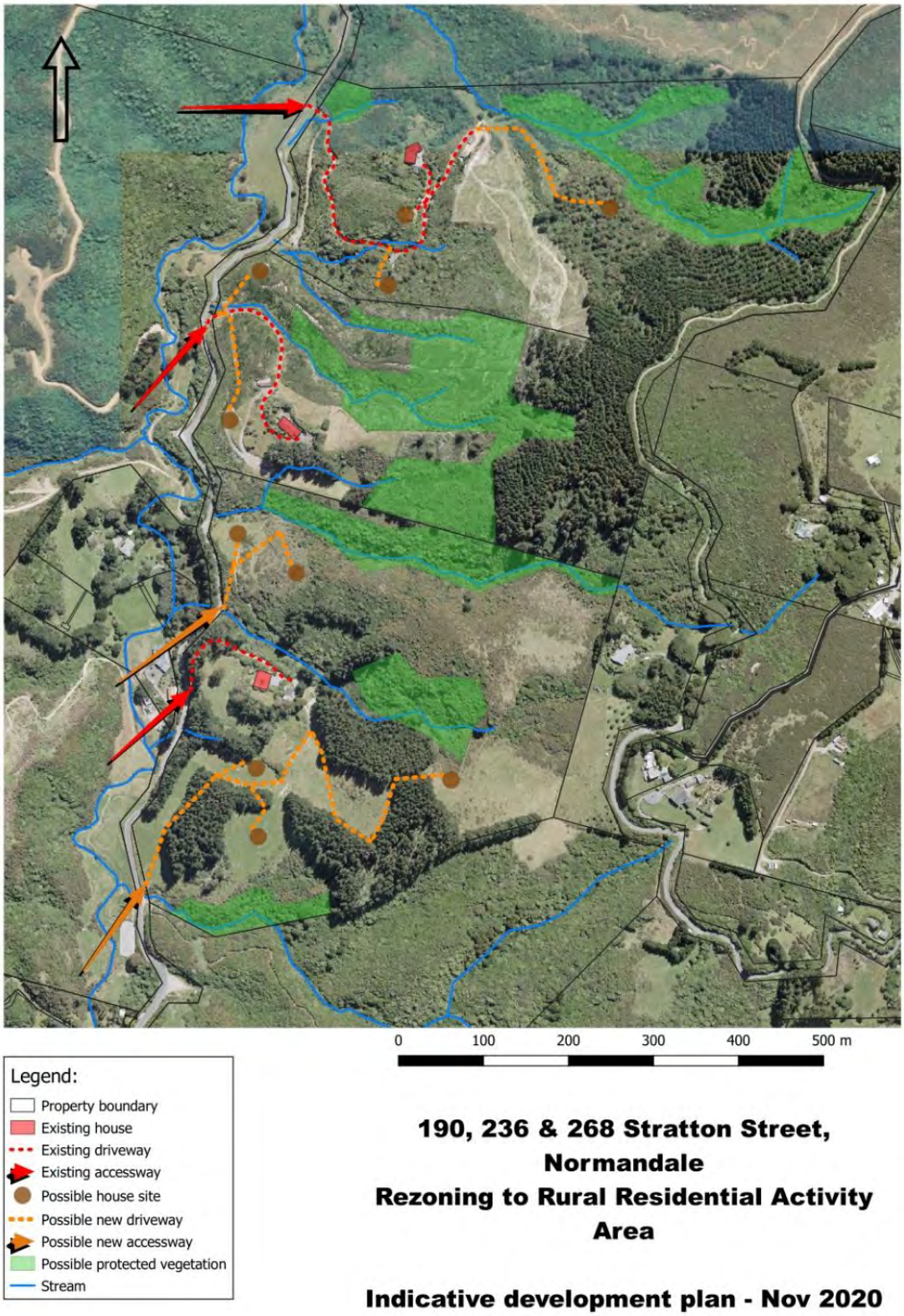


Figure 4. Indicative development plan for 190, 236 and 268 Stratton Street. Supplied by Urban Edge Planning. Note that this is not a finalised plan therefore is subject to change.

11.3 Introduction and spread of pest plants

The proposed zoning variation, and potential resulting intensification of residential development may result in the introduction of pest plants, which could threaten the ecological values of indigenous vegetation on and adjacent to the property. These potential adverse ecological effects could be addressed with subdivision consent conditions specifying prohibitions on the planting of particular pest plant species. The impact of rezoning on the risk of introducing or spreading pest plants is however very low.

11.4 Mortality of and/or disturbance to avifauna

Removal of vegetation at the site (including exotic plantation tree species) as required for a future increase in housing density will result in the localised loss of feeding and breeding habitat for indigenous bird species (Pawson *et al.* 2010). Most bird species recorded at the property are all common and widespread and there is adjacent similar habitat to which displaced birds can disperse. Given the relatively small areas and types of vegetation likely to be disturbed, the magnitude of this effect will be low.

Noise and movement associated with construction may disturb or temporarily displace bird species. However, the level of these effects is likely to be very low as most of the bird species present are common and all are mobile and to some extent habituated to human disturbance. Disturbance during the breeding season is unlikely to result in more than a low level of adverse effects as any breeding individuals would be able to produce extra clutches to compensate for failed breeding attempts.

Additional dwellings may result in increased numbers of domestic and/or stray cats on the properties (Aguilar and Farnworth 2013, Woolley and Hartley 2019). Domestic (and feral) cats are known predators of avifauna, lizards, bats, and aquatic fauna. Although it may be beneficial to prohibit cat ownership in future residences, feral cats may already frequent the properties and it is difficult to gauge the additional adverse effects that would be caused by additional cats being kept on the properties.

11.5 Injury to and/or mortality of indigenous lizards

Up to five indigenous lizard species are potentially present within the properties, although it is noted that the landowners have not encountered lizards at the site (Catharina Fisher, pers. comm.). Rezoning of the properties will have a negligible effect on lizards, but a future increase in housing density is likely to have adverse ecological effects on lizards if they are present.

Intensively grazed areas of exotic grassland present on parts of the properties do not provide habitat for lizards, unless there are areas of rank grassland, non-palatable indigenous vegetation, rocks, or other debris providing terrestrial cover. It is in these micro-habitats that lizard populations are able to persist locally in otherwise unfavourable habitats. However, construction of additional dwellings in these habitats is likely to impact lizards living in adjacent habitats through the potential introduction of domestic cats and increased rodent populations in close proximity to buildings.

The risk to lizards is likely to be low given the relatively small areas of vegetation that would be disturbed under the indicative development plan. However, because of the uncertainty surrounding whether lizards are present, and what their population densities are, the risk to lizards cannot currently be quantified and would need to be addressed as part of the processes for gaining resource consent for any future subdivision by a targeted survey effort. While the effects of development projects on indigenous lizards must be accounted for under Section 31 of the Resource Management Act 1991, indigenous lizards are also protected by the Wildlife Act 1953 thus disturbance to their habitats is likely to require a Wildlife Act Authority (DOC Lizard TAG 2019)[1].

11.6 Sedimentation and contamination of freshwater habitats

It is probable that all water from the site drains into tributaries of Korokoro Stream. Intensified residential development may result in a minor increase in the area of impermeable surfaces on the property. Surface run-off from impermeable surfaces can increase the amount and rate of stormwater flow. After heavy rainfall events, large amounts of fast-moving water flows into gullies and streams, creating a scouring effect that is harmful to aquatic fauna and can result in streambank erosion and sedimentation. Roofs, roads, and driveways are the main contributors to surface run-off. Whilst the cumulative adverse ecological effects of this within a catchment can be significant, the proposed subdivision of this property is unlikely to result in a significant increase in surface run-off and therefore the magnitude of this effect is considered to be low. It would nevertheless be beneficial to ensure that run-off from hard surfaces is channelled into swales or small-scale detention bunds.

12. OPPORTUNITIES TO AVOID, MINIMISE, REMEDY OR MITIGATE POTENTIAL ADVERSE EFFECTS

12.1 Overview

Of the ecological effects discussed above, only the protection of significant areas of native vegetation are relevant mitigation strategies for the proposed zoning change of the properties. Therefore, opportunities to mitigate adverse ecological effects related to potential future residential development on the properties are not discussed here (however, see Appendix 3 for initial suggestions as to how effects of development could be mitigated).

12.2 Disturbance, modification, and/or loss of indigenous vegetation

The indicative development plan shows a development form and density that avoids disturbance to the highest quality indigenous vegetation types present on the properties (i.e. Vegetation Type 1 - regenerating indigenous forest). It also minimises disturbance to other habitat types containing indigenous vegetation by siting new driveways on existing vehicle tracks where possible, as well as locating six of the ten proposed building sites in pasture, and another of the proposed building sites on the site of an

[1] Further information about applying to develop land on which indigenous lizards are present can be found here: https://www.doc.govt.nz/get-involved/apply-for-permits/interacting-with-wildlife/applying-to-develop-land-with-native-lizards-and-frog-species/

existing building. In addition, provision for the protection of significant areas of indigenous vegetation from development has been indicated (Figure 4). While the proposed areas of vegetation to be protected are generally ecologically appropriate, the following modifications are suggested (and illustrated in Figure 5):

- Widening the proposed protection area around Vegetation Type 1c on 190 and 236 Stratton Street so that it covers all of this vegetation type.
- Refining the boundaries of the proposed protection area on 190 and 236 Stratton Street to more closely fit the mapped areas of Vegetation Types 1b, 5, and 8.
- Extending the proposed protection area in the northeastern corner of 268 Stratton Street so that it covers a greater proportion of the adjacent areas of Vegetation Type 1b (with the exception of the area of 1b within the area of Vegetation Type 4) and Vegetation Type 2. These modifications will protect a greater area of the proposed SNA on this property.

With these modifications, the total area of protected vegetation across all properties would cover *c.*11.82 hectares. For stream margins that fall outside the proposed protection areas, riparian planting with ecologically appropriate indigenous plants is recommended.

12.3 Assessment of the ecological significance and value of the proposed no-development areas on the properties

At the time of writing, terrestrial Significant Natural Areas had not been formally scheduled in the Lower Hutt District Plan by the Lower Hutt City Council. Although some preliminary work has been caried out to identify potential terrestrial SNAs, the Lower Hutt City Council has decided not to proceed with the protection of SNAs on private properties. Therefore, there are currently no rules in place that define which areas of land within Lower Hutt are ecologically significant, as per the Policy 23 criteria from the Regional Policy Statement for the Greater Wellington region (GWRC 2013, 2016).

The Policy 23 criteria for the assessment of the ecological significance have been applied to the plan change site in order to identify any areas of ecological significance. The Policy 23 criteria are as follows:

(a) **Representativeness:** the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:
  (i) are no longer commonplace (less than about 30% remaining); or
  (ii) are poorly represented in existing protected areas (less than about 20% legally protected).

(b) **Rarity:** the ecosystem of habitat has biological or physical features that are scarce of threatened in a local, regional or national context. This can include individual

species, rare and distinctive biological communities and physical features that are unusual or rare.

(c) **Diversity:** the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.

(d) **Ecological context of an area:** the ecosystem or habitat:
   (i) Enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or
   (ii) Provides seasonal or core habitat for protected or threatened indigenous species.

(e) **Tangata whenua values:** the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.

According to Policy 23, indigenous ecosystems and habitats[1] are considered to be significant if they meet one or more of the above criteria. However, assessment of significance against criterion (e) is outside of the scope of an ecological assessment because it requires specialist knowledge of tikanga Māori from the perspective of the iwi that assert mana whenua over the land in which the site is located. Therefore, only criteria a-d have been considered for the purposes of assessment of ecological significance in this report.

The value of an ecological unit[2] within the Wellington Region can also be assigned a rank based on assessment against the first four criteria (representativeness, rarity, diversity, and ecological context) described by Policy 23 of the Regional Policy Statement (Roper-Lindsay *et al.* 2018). We therefore used the processes outlined by Roper-Lindsay *et al.* (2018) to assign a ranking of: 'Negligible', 'Low', 'Moderate', 'High', and 'Very High'. Generally, units ranked as having 'High' or 'Very High' ecological value would be considered ecologically significant however this is not always the case (for example, Wildland Consultants 2021).

The analysis indicates that five areas of terrestrial vegetation meet the criteria to be considered Ecologically Significant. These areas are identified as Areas B, C, E, F and G in Figure 5. The areas largely align with the proposed no-development areas and confirm the two draft SNAs initially identified by Hutt City Council. The remaining areas of the plan change sites, including the proposed no-development areas A and D (Figure 5), do not meet the criteria and are not considered Ecologically Significant (Table 2).

The two wetlands on the properties were treated precautionarily as 'natural wetlands' as defined by the NPS-FM, therefore the analysis found that both wetlands meet the criteria for Ecological Significance. Both wetlands are covered by proposed no-development areas (Areas F and G in Figure 5). However, as outlined earlier, a standard wetland delineation protocol (Clarkson 2013) has not been carried out, therefore it has not been confirmed whether they meet the definition of natural wetlands under the NPS-

[1] For the purposes of this report, an indigenous ecosystem or habitat has been defined as one that is dominated (that is, has ≥50% cover) by indigenous vegetation.

[2] Such as an ecosystem, vegetation type, and/or habitat.

FM, and therefore whether the NPS-FM and National Environment Standards for Freshwater would guide their management.

Therefore, it appears that the extent of the proposed no-development areas covers, and even exceeds, all ecologically significant areas on the properties.

Table 2: Ecological value and significance assessment of the five proposed no-development areas within the properties, plus three further units encompassing the remaining areas (excluding wetlands). Labels A-G assigned to each proposed no-development area are as per Figure 5. The Vegetation Type numbers are as per section 5 and Figures 3 and 5. Ecological value has been assigned a rank (ranging from 'negligible' to 'very high') according to the EIANZ guidelines (Roper-Lindsay *et al.* 2018). Ecological Significance has been assessed against ecological criteria in Policy 23 of the RPS (GWRC 2013).

Area	Vegetation Type(s)	Assessment against ecological criteria (a-d) in Policy 23 of the RPS for significance (criterion met / not met) and ecological value (negligible to very high)	Ecological value	Ecological significance
Proposed no-development area A	7	**Criterion a: Representativeness** – not met, low **Criterion b: Rarity** – not met, low **Criterion c: Diversity** – not met, low **Criterion d: Ecological context of an area** – not met, moderate	Low	Not Significant
Proposed no-development area B	1a, 1b, 2	**Criterion a: Representativeness** – met, low-moderate **Criterion b: Rarity** - met, high **Criterion c: Diversity** – met, low-moderate **Criterion d: Ecological context** – met, high	High	Significant
Proposed no-development area C	1b, 1c, 5, 8	**Criterion a: Representativeness** – not met, low-moderate **Criterion b: Rarity** – not met, low **Criterion c: Diversity –** met, low-high **Criterion d: Ecological context –** not met, low-moderate	Moderate	Significant
Proposed no-development area D	1b	**Criterion a: Representativeness** – not met, low **Criterion b: Rarity** –not met, low. **Criterion c: Diversity** – not met, low **Criterion d: Ecological context** –not met, low.	Low	Not Significant
Proposed no-development area E	5	**Criterion a: Representativeness –** not met, low **Criterion b: Rarity** – met, high. **Criterion c: Diversity** – not met, low **Criterion d: Ecological context of an area** – not met, moderate.	Moderate	Significant
Proposed no-development area F	11	**Criterion a: Representativeness** – not met, moderate **Criterion b: Rarity** – met, high **Criterion c: Diversity** – not met, low **Criterion d: Ecological context of an area** – met, moderate	Moderate	Significant
Proposed no-development area G	12	**Criterion a: Representativeness** – not met, low **Criterion b: Rarity** – met, high **Criterion c: Diversity** – not met, low **Criterion d: Ecological context of an area** – not met, low	Moderate	Significant

Area	Vegetation Type(s)	Assessment against ecological criteria (a-d) in Policy 23 of the RPS for significance (criterion met / not met) and ecological value (negligible to very high)	Ecological value	Ecological significance
Remaining areas of the three properties	1b, 3a, 3b, 4, 5, 6, 8, 9, 10	**Criterion a: Representativeness –** not met, very low-low **Criterion b: Rarity** – not met, very low-low **Criterion c: Diversity** – not met, very low-low **Criterion d: Ecological context of an area** – not met, very low-low.	Low	Not Significant

13. CONCLUSIONS

In general, the ecological effects of rezoning 190, 236, and 268 Stratton Street from General Rural to Rural Residential are likely to be low. If future subdivision and land use:

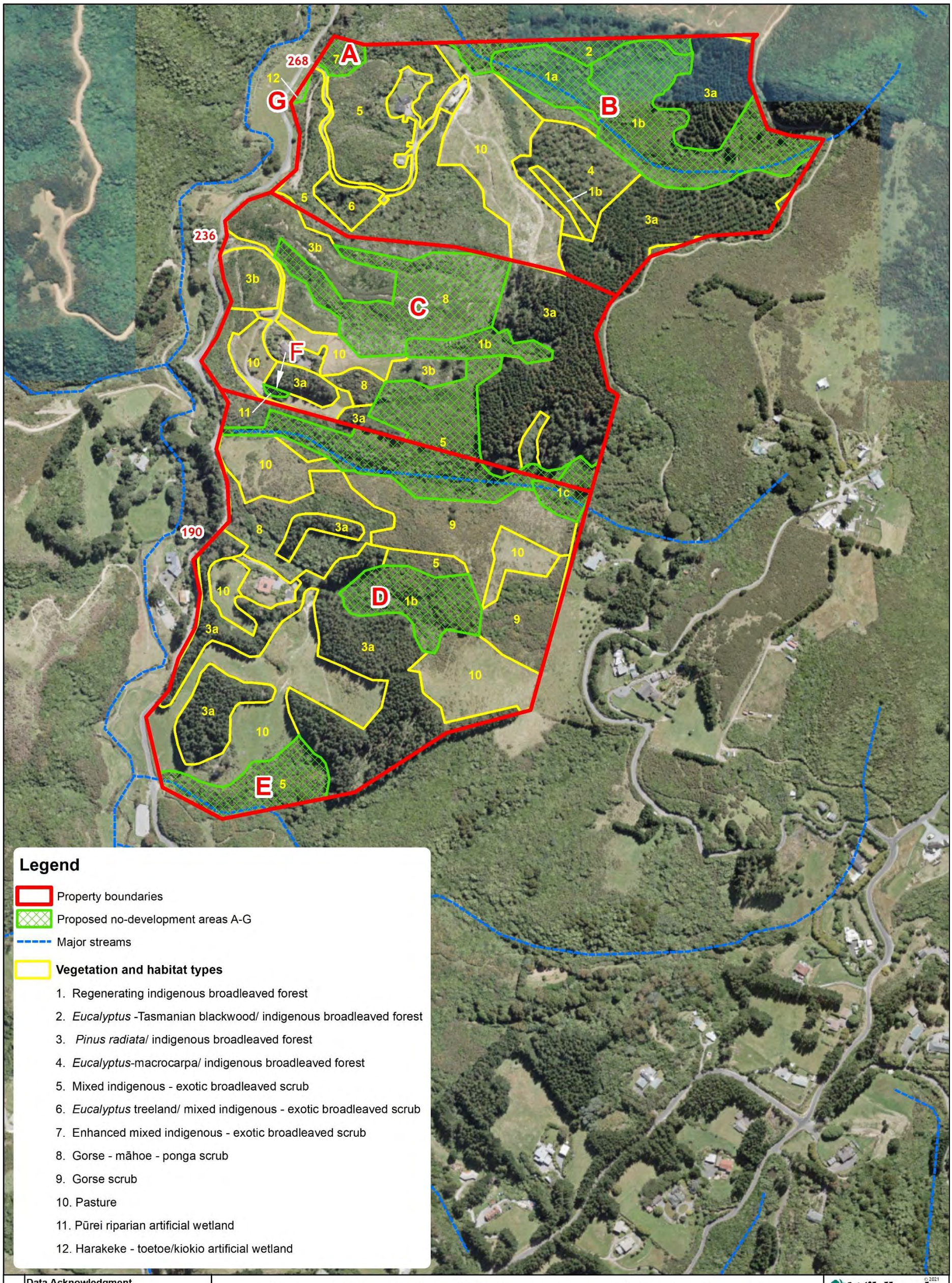
(1) avoids the identified no-development areas, and
(2) the additional measures outlined in this report are taken to minimize, remediate and/or mitigate residual adverse ecological effects,

then the proposed rezoning and development is likely to result in better protection of the ecological values present on the properties than currently exists under general rural zoning.

However, a lizard survey would be required prior to future development, and if indigenous lizards are found, a Lizard Management Plan (LMP) may need to be prepared and implemented. This LMP will provide guidance on how to implement approved mitigation actions (such as salvage and relocation) for affected lizards. The LMP will need to be submitted to and approved by the Department of Conservation, Greater Wellington Regional Council and Hutt City Council prior to any works commencing. A Wildlife Act Authorisation would be required from the Department of Conservation for lizard management. If no lizards are found during the lizard survey, then no further action would be required.

ACKNOWLEDGMENTS

We thank Corinna Tessendorf from Urban Edge Planning for initiating this project and Catharina Fisher for showing us around the properties and for providing additional site information.



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Data Acknowledgment
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Figure 5: Suggested modifications to proposed no-development areas of vegetation at 190, 236, and 268 Stratton Street

0 112.5 225 m

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Scale: 1:4,500
Date: 30/06/2021
Cartographer: DBM
Format: A3

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VASCULAR PLANT SPECIES RECORDED AT 190, 236, AND 268 STRATTON STREET, NORMANDALE

P = Indigenous species planted at this site.

INDIGENOUS SPECIES

Gymnosperms

Podocarpus totara var. *totara* (P)	tōtara

Monocot. trees and shrubs

Cordyline australis	tī kōuka, cabbage tree
Rhopalostylis sapida	nīkau

Dicot. trees and shrubs

Aristotelia serrata	makomako, wineberry
Beilschmiedia tawa	tawa
Brachyglottis repanda	rangiora
Carpodetus serratus	putaputawētā
Coprosma areolata	
Coprosma grandifolia	kanono, raurēkau, raurākau, manono
Coprosma propinqua var. *propinqua*	mingimingi
Coprosma rhamnoides	
Coprosma robusta	karamū, kāramuramu
Corynocarpus laevigatus	karaka
Dodonaea viscosa (P)	akeake
Elaeocarpus dentatus (P)	hīnau, whīnau
Fuchsia excorticata	kōtukutuku, kōnini
Geniostoma ligustrifolium var. *ligustrifolium*	hangehange
Hedycarya arborea	porokaiwhiri; pigeonwood
Kunzea robusta	kānuka
Leptospermum scoparium agg.	mānuka
Melicytus ramiflorus subsp. *ramiflorus*	māhoe
Myrsine australis	māpou, matipou, māpau
Myrsine salicina (P)	toro
Nestegis lanceolata (P)	white maire, maire rauriki
Olearia paniculata (P)	akiraho
Ozothamnus leptophyllus	tauhinu
Piper excelsum subsp. *excelsum*	kawakawa
Pittosporum crassifolium	karo
Pittosporum eugenioides	tarata; lemonwood
Pittosporum tenuifolium (P)	kōhūhū, rautāhiri, rautāwhiri
Pseudopanax arboreus	whauwhaupaku, puahou, five finger

Schefflera digitata	patē
Solanum laciniatum	
Sophora microphylla (P)	kōwhai
Sophora tetraptera (P)	kōwhai
Urtica ferox	ongaonga, tree nettle
Veronica stricta var. *macroura*	koromiko
Veronica stricta var. *stricta*	koromiko, kōkōmuka

Monocot. lianes

Freycinetia banksii	kiekie
Ripogonum scandens	supplejack, kareao

Dicot. lianes

Muehlenbeckia australis	puka
Parsonsia heterophylla	akakaikiore
Rubus cissoides agg.	tātarāmoa, tātaraheke, bush lawyer

Ferns

Asplenium bulbiferum	mouku, hen and chicken fern
Asplenium flaccidum	makawe, ngā makawe o Raukatauri
Asplenium oblongifolium	huruhuru whenua
Cranfillia fluviatilis	kiwikiwi, kiwakiwa
Cyathea dealbata	ponga, silver fern
Cyathea medullaris	mamaku
Histiopteris incisa	mātātā, water fern
Icarus filiformis	pānako
Lomaria discolor	piupiu, crown fern
Paesia scaberula	mātātā
Parablechnum novae-zelandiae	kiokio
Pellaea rotundifolia	tarawera, button fern
Polystichum neozelandicum subsp. *zerophyllum*	
Pteridium esculentum	rārahu, bracken
Pteris macilenta	titipo, sweet fern
Zealandia pustulata (=*Microsorum pustulatum*)	kōwaowao, pāraharaha, hound's tongue fern

Grasses

Austroderia toetoe	toetoe

Sedges

Carex secta	pūrei, makura, pūreirei, pūrekireki, pūkio
Carex uncinata	kamu matau a Maui, kamu
Eleocharis sphacelata	giant spike sedge, ngāwhā, kuta, kutakuta, paopao

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

Arthropodium cirratum (P)	rengarenga
Phormium cookianum subsp. *hookeri* (P)	whararikī, mountain flax
Phormium tenax (P)	harakeke, flax

Dicot. herbs (other than composites)

Hydrocotyle sp.	
Lobelia angulata	pānakenake

NATURALISED AND EXOTIC SPECIES

Gymnosperms

Cupressus macrocarpa	macrocarpa
Pinus radiata	radiata pine

Dicot. trees and shrubs

Acacia melanoxylon	Tasmanian blackwood
Buddleja davidii	buddleia
Chamaecytisus palmensis	tree lucerne
Erica lusitanica	Spanish heath
Eucalyptus sp.	eucalyptus
Hydrangea macrophylla	hydrangea
Leycesteria formosa	Himalayan honeysuckle
Prunus sp.	ornamental cherry
Quercus rubra	red oak
Rubus sp. (*R. fruticosus* agg.)	blackberry
Salix cinerea	grey willow
Ulex europaeus	gorse

Dicot. lianes

Calystegia silvatica	greater bindweed

Grasses

Cortaderia jubata	purple pampas
Dactylis glomerata	cocksfoot
Ehrharta erecta	veldt grass
Lolium perenne	rye grass

Monocot. herbs (other than orchids, grasses, sedges, and rushes)

Agapanthus praecox	agapanthus

Composite herbs

Achillea millefolium	yarrow
Bellis perennis	lawn daisy
Erigeron canadensis	Canadian fleabane
Jacobaea vulgaris	ragwort
Senecio glastifolius	pink ragwort, holly-leaved senecio
Sonchus oleraceus	puha, sow thistle
Taraxacum officinale	dandelion

Dicot. herbs (other than composites)

Digitalis purpurea	foxglove
Erythranthe guttata	monkey musk
Geranium robertianum	herb Robert
Lotus pedunculatus	lotus
Nasturtium officinale	watercress
Plantago lanceolata	narrow-leaved plantain
Prunella vulgaris	selfheal
Ranunculus repens	creeping buttercup
Rumex sp.	dock
Solanum nigrum	black nightshade
Stachys sylvatica	hedge woundwort
Trifolium repens	white clover

MOSSES

Selaginella kraussiana	selaginella, African club moss

FAUNA SPECIES RECORDED AT 190, 236, AND 268 STRATTON STREET, NORMANDALE

P = Reported as being present by landowner.

MAMMALS

Introduced (feral)

Erinaceus europaeus (P)	European hedgehog
Felis catus (P)	cat
Lepus europaeus (P)	brown hare
Mus musculus (P)	kiore-iti; house mouse
Mustela erminea (P)	stoat
Mustela nivalis vulgaris (P)	weasel
Oryctolagus cuniculus cuniculus (P)	European rabbit
Rattus norvegicus (P)	pouhawaiki; Norway rat
Rattus rattus (P)	ship rat
Trichosurus vulpecula (P)	brushtail possum

BIRDS

Indigenous

Hemiphaga novaeseelandiae	kererū; kūkupa; New Zealand pigeon
Ninox novaeseelandiae novaeseelandiae (P)	ruru; morepork
Petroica macrocephala toitoi (P)	miromiro; pied tomtit
Prosthemadera novaeseelandiae novaeseelandiae	tūī
Rhipidura fuliginosa placabilis	pīwakawaka; North Island fantail
Tadorna variegata (P)	pūtangitangi; pari; paradise shelduck
Todiramphus sanctus vagans (P)	kōtare sacred kingfisher; New Zealand kingfisher
Vanellus miles novaehollandiae (P)	spur-winged plover
Zosterops lateralis lateralis (P)	silvereye; tauhou

Introduced

Anas platyrhynchos (P)	mallard
Callipepla californica bunnescens	California quail
Carduelis carduelis (P)	goldfinch
Fringilla coelebs (P)	chaffinch
Gymnorhina tibicen	Australian magpie
Passer domesticus (P)	house sparrow
Platycercus eximius	eastern rosella
Prunella modularis (P)	dunnock
Turdus merula	Eurasian blackbird
Turdus philomelos (P)	song thrush

FISH

Indigenous

Anguilla sp. (P)	unidentified eel

FRESHWATER INVERTEBRATES

Paranephrops planifrons (P)	kōura; freshwater crayfish

APPENDIX 3

ADDITIONAL OPPORTUNITIES TO AVOID, MINIMISE, REMEDY OR MITIGATE POTENTIAL ADVERSE EFFECTS ARISING FROM FUTURE RESIDENTIAL DEVELOPMENT

Disturbance, modification, and/or loss of indigenous vegetation

Any woody vegetation that is cleared should be retained on site. Transferring felled vegetation to areas within the site but outside of the construction footprint will provide habitat for indigenous fauna. Woody debris plays an important ecological role in ecosystems (c.f. Evans *et al*. 2003) by providing habitat for a wide range of biota, including lizards, invertebrates, lichens, and fungi, and providing microsites for the regeneration of indigenous plants.

Suggestions for remediating or mitigating residual adverse effects on indigenous vegetation are as follows:

- Depending on the species' resilience to disturbance, seedlings and saplings of indigenous large shrub or tree species (particularly species that are less common on the property), and sedges, ferns, herbs and small shrubs that are present in development sites could be transplanted to other areas of the property. Seeds or cuttings could be collected from larger trees and propagated to be planted at the property at a later stage.

- Legal protection of areas of indigenous vegetation on the property from clearance and allowing their natural regeneration would also help to address the loss of indigenous vegetation for the construction of new driveways, accessways, and buildings.

- Ecological restoration in the form of pest plant control, buffer planting, and enrichment planting throughout the proposed protected areas of remaining indigenous vegetation would also provide benefits. It is important that any indigenous plantings are of ecologically appropriate species sourced from the Wellington Ecological District. An Ecological Management Plan (EMP) will be required to guide planting and pest plant control work at the site.

The indicative development plan does not show any new residences, accessways, or driveways within the Draft Significant Natural Areas (SNAs) or Significant Natural Resource Sites (SNRs), thus avoiding any direct effects. Several of the measures listed above are also applicable for minimising indirect effects of future subdivision on vegetation within the adjacent Draft SNAs and SNRs.

Any residual adverse effects on Draft SNAs and SNRs could be mitigated by:

- Removal or control of exotic plant species that potentially threaten the integrity of indigenous vegetation; particularly any plant species listed on the NPPA or GWRCs RPMS (GWRC 2019). It is recommended that plant debris from exotic species that

do not readily reproduce vegetatively[1] remain on site. Exotic plants that reproduce vegetatively would need to be removed from the property or otherwise destroyed to prevent resprouting or spreading. Stumps of tree and shrub species that are prone to resprouting may need to be treated with an appropriate herbicide.

- Planting indigenous species in light gaps caused by removal of large exotic trees to prevent establishment by adventive exotic species.
- Enhancing plant biodiversity and ecological value of existing indigenous habitats by planting appropriate eco-sourced later successional species (e.g. tawa) and/or appropriate indigenous species not currently present at the site.
- Carrying out control for mammalian omnivores and predators that browse indigenous flora or their seeds, and predate on indigenous fauna (most likely to be rodents at this site, and potentially possums (*Trichosurus vulpecula*).

Introduction and spread of pest plants

The introduction and/or spread of pest plants as a result of increased housing density and human activities on the properties can be avoided or minimised by:

- Ensuring contractor machinery, footwear and clothing are clean and free of seeds prior to site entry.
- Using appropriate and eco-sourced indigenous plants in gardens and landscaping.
- In order to control the spread of pest plants from domestic gardens, no plant species listed in the National Plant Pest Accord (NPPA) or the Greater Wellington Regional Pest Management Strategy (RPMS; GWRC 2019), in any category, should be permitted to be planted or cultivated, either in the ground or in pots. This should be addressed in conditions of subdivision or consent.
- Many species not listed in the NPPA or RPMS can also establish from dumped garden refuse. No dumping of garden waste should be allowed, particularly on the margins of indigenous vegetation. Natural areas, especially along lot boundaries and forest edges, should be surveyed annually for new pest plant incursions. Exotic plants within natural areas should be controlled when they are first recorded in order to increase the likelihood and efficiency of achieving total control.
- Controlling any wilding radiata pines on the properties, preferably at the seedling stage.

Mortality and disturbance of indigenous avifauna

Adverse effects on indigenous birds are likely to be minimised due to the proposed avoidance of high-quality habitats for forest-dwelling indigenous birds. However, suggested further steps to minimise adverse effects on avifauna are as follows:

[1] That is, resprout or regrow from structures such as bulbs, corms, or stems.

- Avoid vegetation clearance and activities generating significant noise during the nesting season (September-February) of resident indigenous bird species.

Adverse effects on indigenous birds (and other indigenous fauna such as lizards and invertebrates) could be remediated or offset by:

- Restoring or enhancing habitat quality for resident indigenous fauna. For example, planting further ecologically appropriate native plant species that provide food for indigenous birds.

- Controlling mammalian predators on the property.

Injury to and/or mortality of indigenous lizards

A lizard survey is recommended prior to application for resource consent for subdivision in order to determine whether indigenous lizard populations are present within the project area, and the potential adverse effects on the lizards as a result of subdivision. In particular, any rank grassland and shrubland areas planned for removal should be surveyed for lizard presence by a suitably qualified and experienced herpetologist.

Lizard surveys will need to be undertaken at an appropriate time of the year (October-May) and utilise appropriate survey methodology for the target species, habitat type and time of year. An expert herpetologist will be able to provide advice on optimum survey effort and techniques.

If no lizards are found during the survey, then no further action will be necessary.

If lizards are found to be present, then depending on lizard abundance, a lizard management plan (LMP) may be required, accompanied by the required Wildlife Act Authority from the Department of Conservation. A LMP is likely to support a rescue and relocation activity to suitable receptor sites elsewhere, along with any additional management requirements such as provision of habitat enhancement, habitat restoration or pest management, and/or monitoring. Habitat enhancement could be provided by provision of wood and/or rock piles along with dense plantings of indigenous vines and shrubs such as *Muehlenbeckia complexa* and *Coprosma* species. Enhancement and predator control strategies should be tailored to suit the protection requirements of whichever lizard species are salvaged (c.f. Herbert 2020).

Sedimentation and contamination of freshwater habitats

The majority of the driveways and building platforms as shown in the indicative development plan avoid the wetlands and streams on the properties, and the existing vegetative buffers are likely to minimise any sediment going into streams. However, a sediment and erosion control plan should be submitted and approved by Council before earthworks are undertaken. Protected corridors could also be established beside streams, and enhanced by ecologically-appropriate planting where required.

APPENDIX 4

SITE PHOTOGRAPHS

Plate 1: Example of the regenerating indigenous broadleaved forest present on the properties (Vegetation Type 1a).

Plate 2: A mixture of gorse and indigenous broadleaved species regenerating underneath a *Eucalyptus*-macrocarpa canopy (Vegetation Type 4, *Eucalyptus* not visible in frame).

Plate 3: Border between pasture (Vegetation Type 10) and mixed indigenous-exotic broadleaved shrubland (Vegetation Type 5) at 268 Stratton Street. Belmont Regional Park can be seen on the hills in the background.

Plate 4: The pūrei riparian wetland at 236 Stratton Street (Vegetation Type 11).

Plate 5: The harakeke-toetoe / kiokio wetland at 268 Stratton Street (Vegetation Type 12). The harakeke has been planted by the landowner.

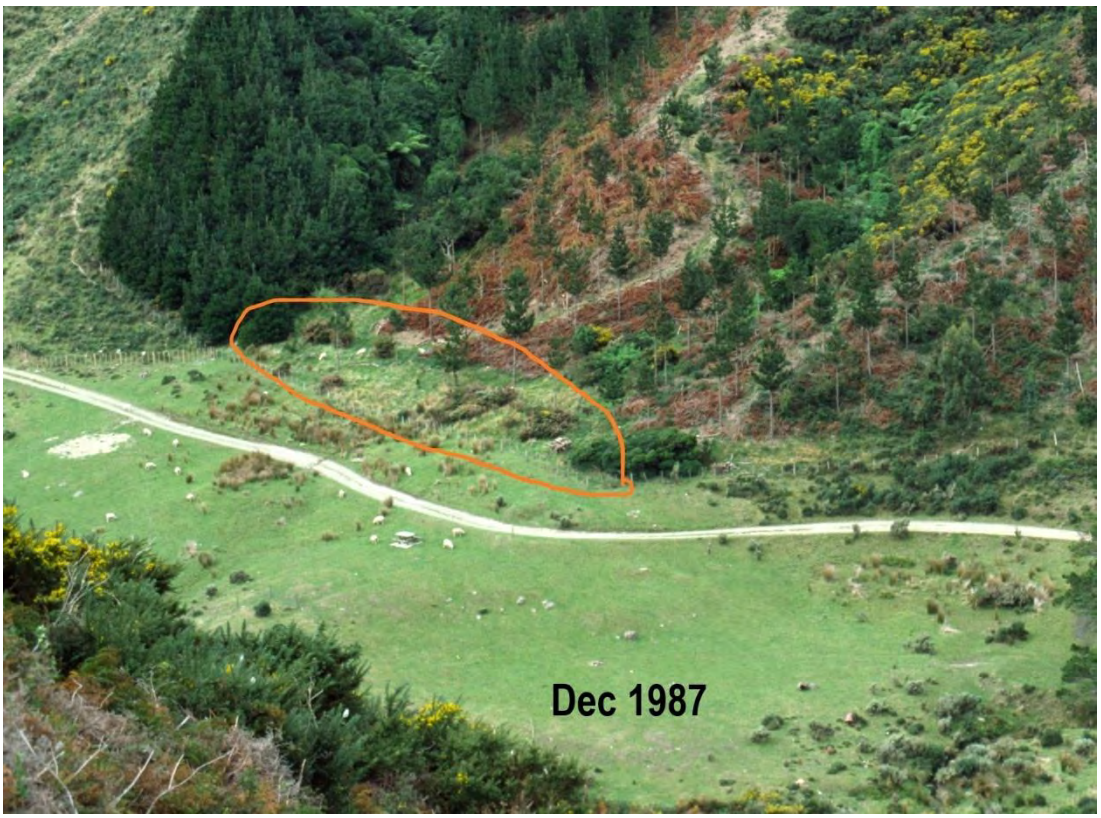

Plate 6: Photograph of the area that is now harakeke-toetoe / kiokio wetland at 268 Stratton Street (Vegetation Type 12) taken in December 1987 by Catharina Fisher.

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APPENDIX 5.2 REVIEW OF ECOLOGICAL ASSESSMENT REPORT, DR ASTRID VAN MEEUWEN-DIJKGRAAF (CARDNO (NZ) LTD) - JULY 2021

Our Ref: NZ0120096-02:AvMD
Contact: Astrid van Meeuwen-Dijkgraaf

20 July 2021

Hutt City Council
30 Laings Road,
Private Bag 31-912
Lower Hutt 5040

Attention: Dan Kellow

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Dear Dan,

HUTT CITY DISTRICT PLAN CHANGE-53
REVIEW OF ECOLOGICAL ASSESSMENT REPORT

Introduction

A private plan change has been submitted to the Hutt City Council (Plan Change 53; hereafter, PC53) to rezone three adjacent properties along Stratton Street in Normandale from General Rural Activity Area to Rural Residential Activity Area. The purpose of the proposal is to provide for additional rural residential development at a scale similar to surrounding rural residential areas.

The properties of interest are:

- 190 Stratton Street; SEC 43 Normandale SETT BLK VIII D3/922; 20.2847 hectares.
- 236 Stratton Street; LOT 1 DP 50184 20B/82; 12.7498 hectares.
- and 268 Stratton Street; LOT 2 DP 50184 20B/83; 16.7722 hectares.

Initial assessment

Cardno reviewed the ecological assessment associated with the initial PC53 application (Cardno 2020). This review identified limitations/information gaps and recommended a robust assessment of on-site and downstream ecological values be undertaken. As well as an assessment of potential environmental effects sufficient to ensure that high value ecological areas are avoided where possible and other potential adverse effects are adequately remediated, offset or compensated. It was recommended that the indicative sub-divisions scheme should be re-drawn in a way that takes account of the topography and significant ecological features, and providing a better indication of potential impacts and subdivision yield. A more considered scheme plan or structure plan should be included.

To address the identified information gaps, the landowners (PC53 applicants) contracted Wildland Consultants (hereafter Wildlands) to undertake an assessment of ecological effects of the proposed development.

Scope of works

Hutt City Council (the regulator) has requested that Cardno review the ecological effects assessment with a focus on whether the identification of 'No Development Areas' has used and applied Greater Wellington Regional Policy Statement Policy 23 criteria correctly. That is, has the applicant identified all areas that meet the Significant Natural Area (SNA) threshold under Policy 23.

Assessment of on-site vegetation types

Relevant figures from the Wildlands (2021) report are included in Appendix A of this memo. Figure 1 in Appendix A illustrates both the vegetation and habitat types within the site and the proposed 'No Development Areas'.

Vegetation Types 1, 11 and 12 are ecologically significant. Vegetation Type 1 because these areas are reasonably diverse indigenous systems with good landscape connectivity. Vegetation Types 11 and 12 because they are wetlands. Wetlands that have not been deliberately created are considered natural wetlands (GWRC 2013, 2020, 2021; Ministry for the Environment 2020a, 2020b, 2021; National Environmental Standard for Freshwater (NESFW) 2020) and are therefore protected. GWRC considers any natural wetlands to be significant due to the extensive historic loss of wetlands. Vegetation Type 11 also contains kuta (*Eleocharis sphacelata*) which is considered to be a 'regionally critical' species (Crisp 2020). Care will need to be taken that future earthworks and tree harvesting within site (including potential subdivisions) do not adversely affect the values and extent of natural wetlands.

It is not clear why a portion of Vegetation Type 1a in 268 Stratton Street is not included in the 'No Development Area B'. It would appear that this line follows the previously identified SNA boundary (Figure 1).

A small area of Vegetation Type 1b in 268 Stratton Street is also not included, likely because it is a small area sandwiched between production forestry areas (Figure 1).

Only parts of Vegetation Types 5 and 8 are included in the 'No Development Areas' and the Wildlands (2021) report does not make it clear why this might be so. It may be those areas included in 'No Development Areas' have a greater proportion of the canopy dominated by indigenous plant species, or have a greater indigenous diversity. Some parts of Vegetation Type 8 included in "No Development Area C" were pine forest in 2003 but may have had a reasonable indigenous understorey that has persisted and developed into a mostly indigenous canopy. As part of the SNA delineation process for Lower Hutt vegetation younger than 25 years old was generally excluded (Wildlands and Kessels 2015; Wildlands 2018).

Vegetation Type 7 in the south east corner of 268 Stratton Street, comprises indigenous-exotic broadleaved scrub that has been enhanced through planting. Aerial photography shows that it was pine forest in 2008 and cleared by 2013. As part of the SNA delineation process for Hutt City vegetation younger than 25 years old was generally excluded including this area. The ecological values of this area could be relatively low but this area will provide a small buffer/connection to the vegetation in Belmont Regional Park.

It is somewhat surprising that Vegetation Type 9, within 190 Stratton Street on the eastern border shared with 301 Normandale Road, is indicated as being gorse scrub. This vegetation type was visible on 1995 aerials and would therefore be expected to have greater dominance of indigenous species by now. The 2017 aerials show a more granular texture indicative of overtopping of gorse by other (possibly) indigenous plant species, especially in the gully which likely includes a watercourse of some description. It would be preferable to include areas of indigenous vegetation with the indigenous vegetation types in the adjacent Vegetation Type 1b (No Development Area D). These areas likely protect a waterway.

The Wildlands (2021) report only illustrates three of the eight tributaries of the Korokoro Stream on any of the figures. All the streams are more likely to flow in a westerly direction due to the topography than easterly as indicated in Section 8.4 of the Wildlands (2021) report.

One aspect that may not have been considered as part of delineating the 'No Development Areas' is the requirement to provide access to log Vegetation Type 3a in the northeast corner of 168 Stratton Street. Perhaps there already is an existing maintained track to facilitate that.

Overall, Wildlands (2021) have identified more locations as 'No Development Areas' than the originally proposed SNA, including all those areas identified as potential SNA in Wildlands (2018) (compare Figure 2 with Figure 1 in Appendix A of this Cardno report).

Assessment against Policy 23

The ecological values assessment for the various parts of the property and for the 'No Development Areas' set out in Table 2 of the Wildlands 2021 are generally appropriate. If one of the Policy 23 criteria is met then that area is significant. A decision was made (Wildlands and Kessels 2015) that ecological context cannot be significant without at least one other criterion also being significant.

There are two small matters of potential disagreement; however, these do not change the significance ranking of those 'No Development Areas'.

'No Development Area C' is ranked as having low to moderate connectivity and therefore not significant. Given the size of this area, the protection it offers to streams and the east-west connectivity across 190 and 236 Stratton Street, it is suggested that significant connectivity is provided by this area. Area C has already been identified as ecologically significant as it provides a diverse range of habitats.

It is the same with the assessment of connectivity for 'No Development Area E'. This area is connected, buffers and is part of the proposed SNA on the adjoining land to the south. Again, this area has been identified as significant already.

Conclusions

Wildlands (2021) have identified more locations as 'No Development Areas' than the originally proposed SNA including all those areas identified as potential SNA in Wildlands 2018. Areas are generally appropriately identified as being ecologically significant (with some minor reservations around connectivity as indicated above). Overall significant indigenous vegetation will be avoided, and it would appear that there will be only small adverse effects on other indigenous vegetation.

It is not entirely clear from Figure 3 (Figure 4 in the Wildlands 2021 report) if new access ways will require new stream crossings, but that could be assessed as part of the site development application rather than as part of the plan change.

Yours sincerely,

Astrid van Meeuwen-Dijkgraaf
Terrestrial Ecology Lead
for Cardno
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Email: astrid.vanmeeuwen-dijkgraaf@cardno.com

References

Crisp P. 2020. Conservation status of indigenous vascular plant species in the Wellington Region. Wellington Regional Council, Wellington, No. GW/ESCI-G-20/20 33 pp.

Cardno 2020. Hutt District Plan – Private Plan Change 53; terrestrial ecology support. Prepared for Hutt City Council. Cardno Contract Report NZ0120096. 27pp.

Greater Wellington Regional Council 2013: Regional Policy Statement for the Wellington Region. GW/EP-G-13/21, Greater Wellington Regional Council, Wellington, New Zealand. 212 pp.

Greater Wellington Regional Council 2020: Technical Guidance for the determination of natural wetlands under Greater Wellington's proposed Natural Resources Plan. 7pp. http://www.gw.govt.nz/identifying-a-wetland/.

Greater Wellington Regional Council 2021: Could it be a natural wetland? (Natural wetland identification flowchart). 2pp. http://www.gw.govt.nz/identifying-a-wetland/.

Ministry for the Environment 2020a: National policy statement for freshwater management 2020. https://environment.govt.nz/assets/Publications/Files/national-policy-statement-for-freshwater-management-2020.pdf. 70pp.

Ministry for the Environment 2020b: Wetland delineation protocols. Wellington: Ministry for the Environment. https://www.mfe.govt.nz/fresh-water/npsfm/documents-incorporated-by-reference.

Ministry for the Environment 2021: Essential Freshwater Interpretation Guidance: Wetlands Definitions. Exposure Draft circulated 7 April 2021- Not Final Guidance. 10 pp.

NESFW 2020: Resource Management (National Environmental Standards for Freshwater) Regulations 2020, https://www.legislation.govt.nz/regulation/public/2020/0174/latest/LMS364099.html. Reprint as at 30 April 2021

Wildland Consultants 2018. Review of Significant Natural Resource provisions for Hutt City District Plan: desktop analysis and roadside field assessments (Draft). Prepared forHutt City Council, Porirua, *Wildland Consultants Ltd Contract Report,* No. 3767d: 355 pp.

Wildland Consultants 2021. Assessment of ecological effects of proposed zoning change of 190, 236, and 268 Stratton Street, Lower Hutt. Prepared for Catharina Fisher and neighbours. Wildland Consultants Contract Report No. 5743. 45pp.

Wildland Consultants, Kessels Ecology 2015. Assessment of Ecological Site significance in Kapiti District - methodology. Prepared for Kapiti Coast District Council, Wellington, *Wildland Consultants Ltd Contract Report,* No. 3525p: 65 pp.

APPENDIX

A

RELEVANT FIGURES FROM WILDLAND REPORT

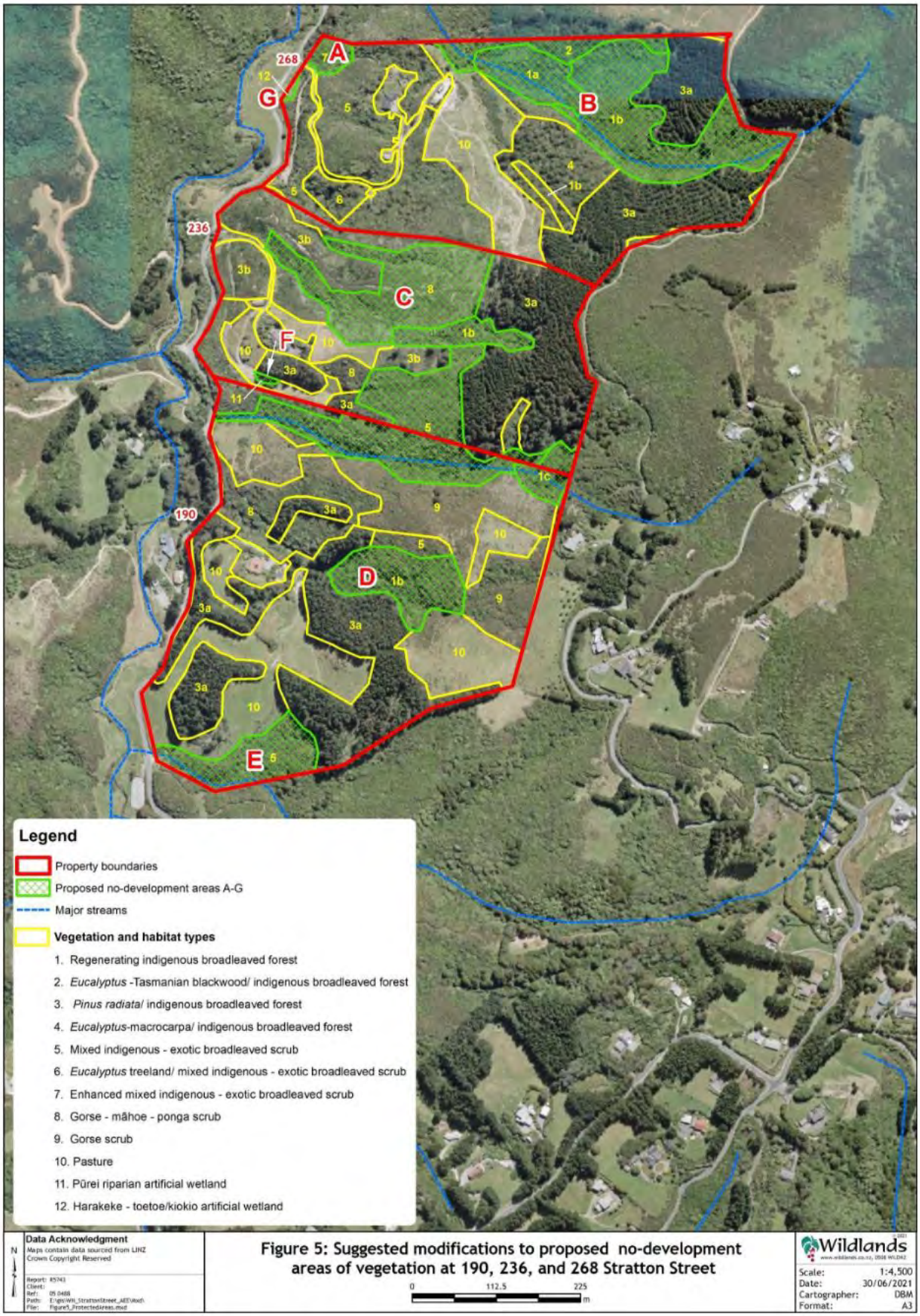

Figure 1 Figure 5 from the Wildlands (2021) report illustrates vegetation and habitat types, some stream locations and the proposed 'No Development Areas'.

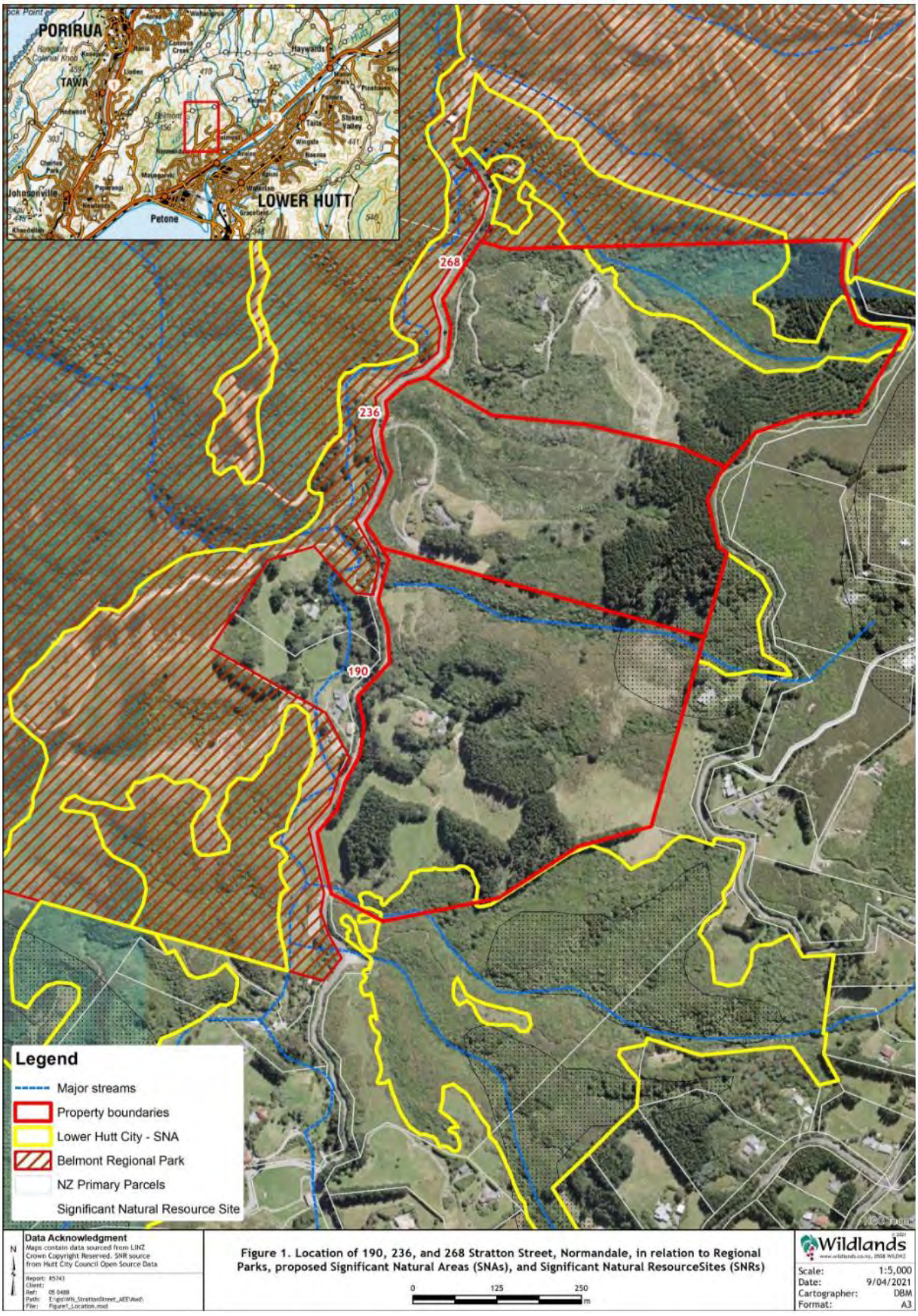

Figure 2 Figure 1 from the Wildlands (2021) report showing the Lower Hutt City proposed Significant Natural Areas (SNA) and Significant Natural Resource sites (SNR) relative to the properties of interest.

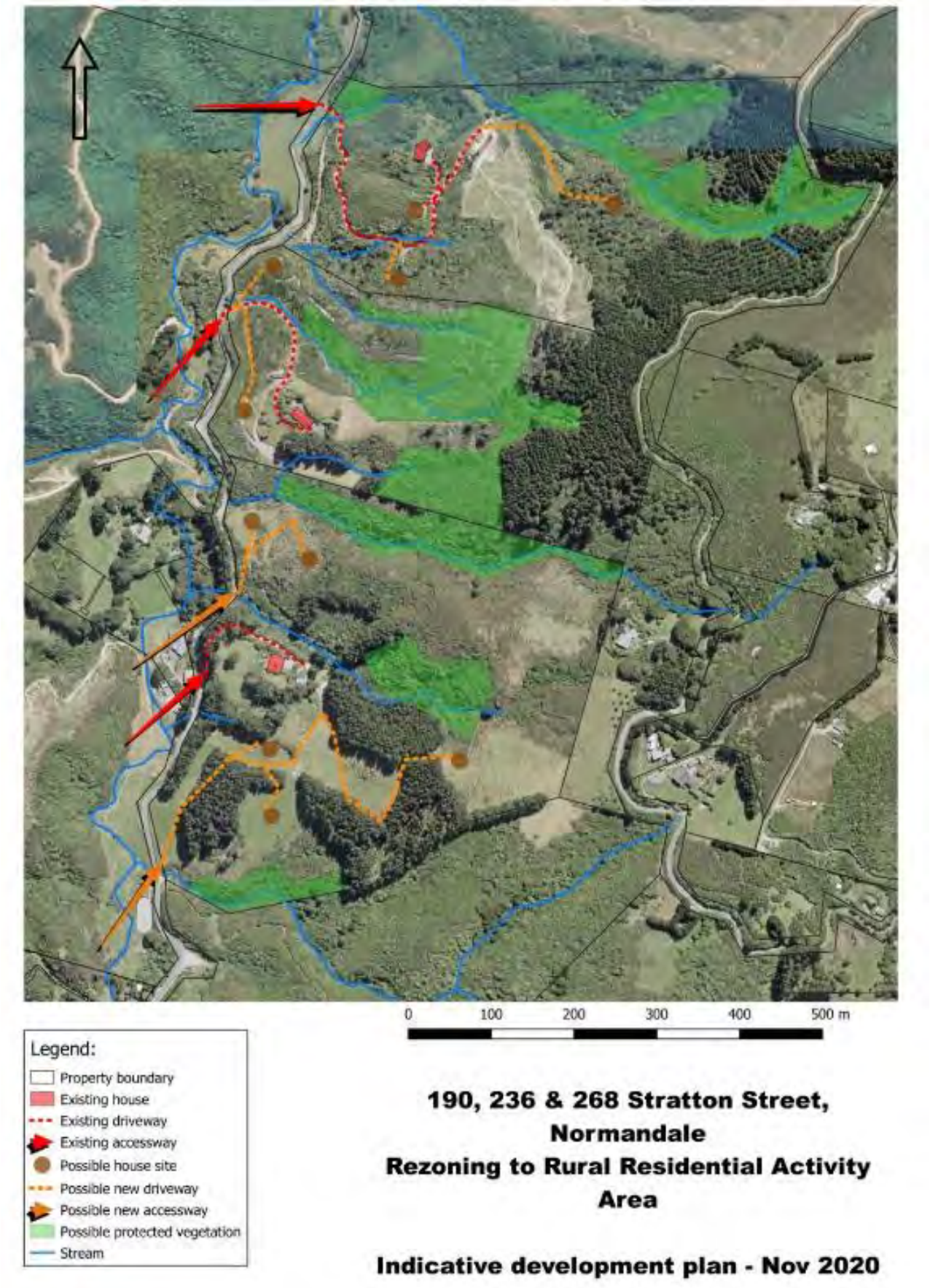

Figure 3 Figure 4 from the Wildlands (2021) report shows the indicative development plan for 190, 236 and 268 Stratton Street. Supplied by Urban Edge Planning. Note that this is not a finalised plan therefore is subject to change.

APPENDIX 5.3 EVIDENCE OF DR SARAH HERBERT (WILDLAND CONSULTANTS LTD) - SEPTEMBER 2021

BEFORE THE HUTT CITY COUNCIL

UNDER THE	Resource Management Act 1991
IN THE MATTER OF	Private Plan Change 53: 190, 236 and 268 Stratton Street, Normandale - Rezoning to Rural Residential Activity Area

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STATEMENT OF EVIDENCE OF SARAH MAREE HERBERT

2 SEPTEMBER 2021

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1. Introduction

1.1 My name is Sarah Maree Herbert.

1.2 I am a Senior Ecologist at Wildland Consultants Ltd, based in Porirua, Wellington.

1.3 I have a Doctorate of Philosophy in Ecology and Biodiversity from Victoria University of Wellington, 2021, a Master of Science with Distinction in Ecology from the University of Otago, 2010, and a Bachelor of Science in Ecology and Zoology (double major) from the University of Otago, 2007.

1.4 My professional memberships include the New Zealand Ecological Society, the New Zealand Plant Conservation Network, and the Society for Research on Amphibians and Reptiles in New Zealand (SRARNZ).

1.5 I am the author of nine peer-reviewed scientific publications, more than 50 ecological reports, and two popular science articles.

1.6 My work has included extensive ecological field studies throughout urban, rural, offshore island, and remote backcountry environments in Aotearoa New Zealand and Mauritius (Indian Ocean). In total, I have accumulated 14 years of ecological survey

and research experience through my work as an ecological consultant, research assistant, thesis research student, and contracted field ecology technician for the University of Otago (2005-2009), Manaaki Whenua Landcare Research (2007-2008), EcoGecko Consultants Ltd (2009-2019), Victoria University of Wellington (2016-2020), and Wildland Consultants Ltd (2020-present). I have particular expertise in the assessment of ecological effects of actual and proposed land uses, design and statistical analysis of biodiversity survey and monitoring programmes, population ecology, ecological restoration and management (particularly creation of novel ecosystems for supporting wildlife), herpetology, and applied ecological research. My ecological survey experience mostly encompasses reptiles, frogs, plants, birds, rodents, forest invertebrate communities, and amphibian chytrid fungus (*Batrchochytrium dendrobatidis*). I have been a laboratory-based tutor for undergraduate Zoology, Cellular Biology, or Ecology courses at the University of Otago (2005-2008) and Victoria University of Wellington (2020). I have co-supervised three Master of Conservation Biology student research projects at Victoria University of Wellington and one Master of Science research internship project jointly hosted by Victoria University of Wellington and the University of Duisberg-Essen (Germany). I am currently co-supervising two Master of Science thesis students' research projects at Victoria University of Wellington and Massey University.

1.7 I have previously caried out vegetation description and plant species identification within the southern North Island, Taranaki, Volcanic Plateau, and Auckland Ecological Regions.

1.8 I have been working on various aspects of the assessment and review of Significant Natural Areas (SNAs) since May 2020 for Wellington City Council, Porirua City Council, Upper Hutt City Council, and New Plymouth District Council.

1.9 Wildland Consultants Ltd prepared an ecological assessment of the potential effects of the proposed rezoning of the Hutt City Proposed District Plan Change on behalf of Judy and Neville Bannister and providing information on behalf of the three landowners of the affected properties:

- Judy and Neville Bannister – 190 Stratton Street;
- Sue and Ian Perry – 236 Stratton Street; and
- Catharina and Andrew Fisher – 268 Stratton Street.

1.10 I carried out the site visit for the ecological assessment and was the lead author of the ecological assessment[1] for the proposed rezoning of the properties 190, 236, and 268 Stratton Street (hereafter referred to as "The Properties").

1.11 I have read the following information during preparation of my evidence:

- Policy 23 of the Regional Policy Statement (RPS) for the Wellington Region[2].
- A report jointly prepared in 2005 by Wildland Consultants Ltd and Kessels Ecology[3] to guide the assessment of ecological significance of sites as defined by the Policy 23 criteria in the Regional Policy Statement (RPS) for the Wellington Region.
- A review of the ecological assessment report for The Properties by Dr. Astrid van Meeuwen-Dijkgraaf[4].

1.12 In preparing my evidence I have reviewed and had regard to the following supplementary evidence and advice provided by Ms. Corinna Tessendorf (Senior Planner, Urban Edge Planning Limited) – Environmental Planning.

2. Code of Conduct

2.1 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. Although this is a Council hearing, I have complied with the Code of Conduct in preparing this evidence and agree to comply with it while giving evidence. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

[1] Wildland Consultants 2021: Assessment of ecological effects of proposed zoning change of 190, 236, and 268 Stratton Street, Lower Hutt. Prepared for Catharina Fisher and neighbours. *Wildland Consultants Ltd Contract Report No. 5743*. 45 pp.
[2] Greater Wellington Regional Council 2013: Regional Policy Statement for the Wellington Region. GW/EP-G-13/21. Greater Wellington Regional Council, Wellington, New Zealand. 212 pp.
[3] Wildland Consultants and Kessels Ecology 2015: Assessment of ecological site significance in Kāpiti District – methodology. Prepared for Kapiti Coast District Council. *Wildland Consultants Ltd Contract Report No. 3525p*. 65 pp.
[4] Cardno 2021: Hutt City District Plan Change 53 – review of ecological assessment report. Prepared for Hutt City Council. Cardno Contract Report NZ0120096-02:AvMD. 8 pp.

3. Scope of evidence

3.1 This evidence relates to *the Hutt City Proposed Private District Plan Change 53*.

3.2 My evidence addresses the following matters/topics:

a) Assessment of ecological significance of the vegetation and habitats within The Properties against criteria a-d in Policy 23 of the RPS.

b) Spatial delineation of the proposed "no-development" zones relative to the ecologically significant vegetation.

c) Potential ecological effects stemming from the proposed rezoning of The Properties from 'General Rural' to 'Rural Residential'.

This evidence does not address the following:

a) Rules or planning processes pertaining to the proposed Private District Plan Change, as this is covered by the evidence of Ms. Tessendorf.

b) The suitability of the proposed rules for protecting ecologically significant vegetation.

c) Ecological effects stemming from potential future residential development of The Properties should they be rezoned as 'Rural Residential'.

d) The assessment of ecological significance of the vegetation types within The Properties against Criterion e (tangata whenua values) of Policy 23 in the RPS.

4. Summary of Evidence

4.1 The scope of the ecological assessment that I carried out included:

- An assessment of the ecological values of vegetation and habitat types, including the identification of any ecologically significant areas using criteria 1-4 in Policy 23 of the RPS on the properties that warrant protection from development;
- Descriptions of the magnitude and extent of potential ecological effects resulting from the proposed plan change; and
- Suggestions on opportunities to avoid, minimise, or mitigate potential adverse ecological effects stemming from rezoning of The Properties to 'Rural Residential'.

4.2 I was also asked to assess the ecological significance and value of the 'no-development areas' on the properties that had been proposed by the landowners. I suggested amendments to these areas where they did not cover ecologically-significant vegetation.

4.3 Throughout my evidence, the term 'ecological significance' is as per Section 6(c) of the Resource Management Act 1991: "…*significant indigenous vegetation and significant habitats of indigenous fauna*". The Policy 23 criteria set for the assessment of ecological significance:

(a) ***Representativeness:*** *the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:*

(i) are no longer commonplace (less than about 30% remaining); or

(ii) are poorly represented in existing protected areas (less than about 20% legally protected).

(b) ***Rarity:*** *the ecosystem of habitat has biological or physical features that are scarce of threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.*

(c) ***Diversity:*** *the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.*

(d) ***Ecological context of an area:*** *the ecosystem or habitat:*

(i) Enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or

(ii) Provides seasonal or core habitat for protected or threatened indigenous species.

(e) ***Tangata whenua values:*** *the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori."*

4.4 Ecological significance as defined by RPS Policy 23 is a binary classifier, where a site either is or is not significant for each criterion it is assessed against. A site is

considered to be ecologically significant if it meets one or more of the RPS Policy 23 criteria. However, Wildland Consultants and Kessels Ecology (2015) determined that Criterion d (ecological context of an area) cannot be significant without one of the other criteria being significant.

4.5 I visited the three properties on 26 February 2021, and spent approximately six hours on-site with Ms Catharina Fisher, the landowner of 268 Stratton Street. During this time, I was able to either walk over, or view through binoculars from vantage points, most of the area covered by The Properties. However, some areas were not able to be accessed in this time frame.

4.6 In my assessment, I suggested that the no-development areas on the properties proposed by the landowners should be extended to include ecologically significant vegetation types not already covered. I also suggested adjustments to the delineation of parts of the proposed no-development areas to more closely align with the boundaries of the vegetation types that I had mapped. I did not suggest the removal of any areas from the initially proposed no-development areas, for the following reasons:

- The landowners were willing to protect these areas from development (see Figure 3, Appendix 1);
- All of the vegetation types within the no-development areas proposed by the landowners contain indigenous plant species and, if left undisturbed in perpetuity, could be reasonably expected to regenerate into the podocarp/tawa forest representative of the original dominant vegetation type in the Western Hills Ecological Domain; and
- Some of these areas included reaches of major streams as mapped by Greater Wellington Regional Council. It is likely that that these major streams flow into Korokoro Stream, which is identified in Schedule F1 of the Proposed Natural Resource Plan for the Greater Wellington Region[5] as being a significant indigenous ecosystem.

4.7 The assessment of ecological effects prepared by Wildland Consultants was reviewed by Dr. van Meeuwen-Dijkgraaf (Cardno 2021). This review concluded that "*Wildlands (2021) have identified more locations as 'No Development Areas' than the*

[5] GWRC (Greater Wellington Regional Council) 2019: Proposed Natural Resources Plan - decision version. Greater Wellington Regional Council, Wellington. 333 pp. (Part 1) + 273 pp. (Part 2).

originally proposed SNA including all those areas identified as potential SNA in Wildlands 2018 [6]. *Areas are generally appropriately identified as being ecologically significant (with some minor reservations around connectivity as indicated above). Overall significant indigenous vegetation will be avoided, and it would appear that there will be only small adverse effects on other indigenous vegetation*".

4.8 I provide my responses to the minor reservations indicated in this review in the following paragraphs. Sections directly quoted from the report are indicated by text in italics within quotation marks. Additions that I have provided to assist the reader of this statement of evidence are indicated by unitalicised font in square brackets.

4.9 *"It is not clear why a portion of Vegetation Type 1a in 268 Stratton Street is not included in the 'No Development Area B'. It would appear that this line follows the previously identified SNA boundary…".* The area of regenerating indigenous broadleaved forest excluded from no-development area B is Vegetation Type 1b (see Figures 2 and 4 in Appendix 1). Vegetation Type 1b is representative of the current diversity of regenerating indigenous forest types in Wellington Ecological District and the Western Hills Eco-Domain. However, it is of my view that this patch of vegetation is not ecologically significant, and that its exclusion from no-development area B will not result in a net biodiversity loss because:

- This patch of indigenous vegetation lies entirely within land environment where >30% of indigenous cover remains and >20% is protected (Figures 1 and 2 in Appendix 1).
- No regionally or nationally threatened indigenous plant species were observed in this habitat type (as per de Lange *et al.* 2018[7]; Crisp 2020)[8].
- This forest type has a reduced plant species diversity relative to Vegetation Types 1a and 1c, i.e. it is dominated by mahoe and likely reflects an earlier successional stage and/or isolation from seed sources for indigenous plant species otherwise expected to occur in regenerating indigenous broadleaved forest at later successional stages.

[6] Wildland Consultants 2018. Review of Significant Natural Resource provisions for Hutt City District Plan: desktop analysis and roadside field assessment (Draft). Prepared for Hutt City Council, Porirua. Wildland Consultants Ltd Contract Report No. 3767d. 355pp.

[7] de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B., and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22.* Department of Conservation, Wellington. 82 pp.

[8] Crisp P. 2020b: Conservation status of indigenous vascular plant species in the Wellington region. *Greater Wellington Regional Council, Publication No. GW/ESCI-G-20/20*, Wellington. 37 pp.

- It is a relatively small area of on the edge of no-development area B, and it is not immediately adjacent to the major tributary of Korokoro Stream that runs through no-development Area B.

- It is separated from the indigenous vegetation in the Belmont-Korokoro Key Native Ecosystem (KNE) by more than 60 metres, meaning that its disturbance or removal would not create a new edge effect on the KNE. Therefore, I do not consider it to provide an important buffering function.

- A much greater total area containing indigenous vegetation, including patches with an equivalent ecological value that also do not meet the criteria for ecological significance, is covered by no-development areas A-G. Therefore, I consider that any potential adverse effects of not including this patch of vegetation in a no-development area to be adequately offset.

4.10 *"A small area of Vegetation Type 1b in 268 Stratton Street is also not included* [in a no-development area], *likely because it is a small area sandwiched between production forestry areas*". I agree with this comment with respect to this patch of vegetation and there would be little overall biodiversity gain from identification of this small isolated fragment of indigenous-dominated vegetation as a no-development area.

4.11 *"Only parts of Vegetation Types 5 and 8 are included in the 'No Development Areas' and the Wildlands (2021) report does not make it clear why this might be so."* These areas of vegetation are not ecologically significant. They were retained in the no-development areas for the reasons outlined in paragraph 4.6.

4.12 "*It is somewhat surprising that Vegetation Type 9, within 190 Stratton Street on the eastern border shared with 301 Normandale Road, is indicated as being gorse scrub. This vegetation type was visible on 1995 aerials and would therefore be expected to have greater dominance of indigenous species by now. The 2017 aerials show a more granular texture indicative of overtopping of gorse by other (possibly) indigenous plant species, particularly in the gully which likely includes a watercourse of some description. It would be preferable to include areas of indigenous vegetation with the indigenous vegetation types in the adjacent Vegetation Type 1b (No Development Areas D. These areas likely protect a waterway*." I was unable to inspect the gully in this particular area during the site visit due to the difficulty of accessing it through the gorse scrub that surrounds it. Therefore, to address this

comment, I inspected Google Earth Pro aerial imagery of this area taken between 2002 and 2021 and aerial photographs from 1995 available in Retrolens[9]. A small area of vegetation in the gully area does appear to have been there since 1995 and, based on re-evaluation of the available aerial imagery, is most like to be Vegetation Type 5 (mixed indigenous-broadleaved scrub). However, the scrub in most of the area identified as Vegetation Type 9 (gorse shrubland) appears to be of more recent origin. I was informed by the landowners that this area has been maintained as a paddock and was subject to aerial spraying in the past (Ms Fisher, pers. comm.). In my opinion, it would be sensible to amend the vegetation map for this property by adding a new polygon around this area of older vegetation for greater accuracy. However, it is my view that this patch of vegetation is not ecologically significant, and that its exclusion from no-development area D will not result in biodiversity loss, for the following reasons:

- This habitat type supports indigenous forest and shrubland plant species, but is heavily invaded by exotic plant species and represents an early successional stage of the podocarp-broadleaved indigenous forest representative of the Western Hills Eco-Domain.

- It is located entirely within a land environment where > 30% of indigenous cover remains and >20% is protected (Figures 1 and 2 in Appendix 1).

- No regionally or nationally threatened indigenous plant species were observed in the examples of this habitat type on the properties that were viewed during the site visit (c.f. de Lange *et al.* 2018[10]; Crisp 2020)[11].

- The area is not contiguous with the vegetation covered by no-development area D because it appears to have been separated from it by a farm track since at least 1995. When inspected using the Wellington 0.3m Rural Aerial Imagery (2021), the head of this gully on the neighbouring property immediately to the east (301 Normandale Road) does not appear to contain a stream, therefore it is probably unlikely that the area of vegetation in the gully immediately adjacent to the shared boundary between 301 Normandale Road and 190 Stratton Street would contain a permanent stream. It

[9] Available online at: retrolens.co.nz

[10] de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B., and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22.* Department of Conservation, Wellington. 82 pp.

[11] Crisp P. 2020b: Conservation status of indigenous vascular plant species in the Wellington region. *Greater Wellington Regional Council, Publication No. GW/ESCI-G-20/20*, Wellington. 37 pp.

is separated from the indigenous vegetation in the Belmont-Korokoro Key Native Ecosystem (KNE) by more than 60 metres meaning that its disturbance or removal would not create a new edge effect on the KNE. Therefore, I do not consider that it provides an important function in terms of buffering or connectivity.

- A much greater total area containing indigenous vegetation, including patches with an equivalent ecological value that also do not meet the criteria for ecological significance, is covered by no-development areas A-G. Therefore, I consider that any potential adverse effects of not including this patch of vegetation in a no-development area to be adequately offset.

4.13 *"The Wildlands (2021) report only illustrates three of the eight tributaries of the Korokoro Stream on any of the figures. All the streams are more likely to flow in a westerly direction due to the topography than easterly as indicated in Section 8.4 of the Wildlands (2021) report."* The Greater Wellington Regional Council's layer of major streams was used in the maps created by the GIS team at Wildland Consultants for the ecological assessment (Figures 2 and 4, Appendix 1). The eight tributaries of the Korokoro Stream are shown in the indicative development plan created by the landowners and was included on page 20 of the ecological assessment as Figure 4 (a copy of this figure is provided in Figure 3, Appendix 1). I agree that the streams on The Properties flow in a westerly, rather than an easterly direction. The statement in Section 8.4 of the ecological assessment that the streams on The Properties flow in an easterly direction is a typographical error.

4.14 "*'No Development Area C' is ranked as having low to moderate connectivity and therefore not significant. Given the size of this area, the protection it offers to streams and the east-west connectivity across 190 and 236 Stratton Street, it is suggested that significant connectivity is provided by this area. Area C has already been identified as ecologically significant as it provides a diverse range of habitats*". The inclusion of Vegetation Type 1c in this no-development area triggered criterion c of Policy 23 of the RPS (Diversity) because this vegetation type contains a natural diversity of plant species expected to occur in regenerating broadleaved indigenous forest in the Western Hills Eco-Domain, including plant species associated with older-growth forest types (for example, kiekie *Freycinetia banskii*). I do not consider this no-development area to provide important connectivity because it is not connected to indigenous vegetation in the Belmont-Korokoro Key Native Ecosystem (KNE). I acknowledge that it buffers a tributary of Korokoro Stream, therefore Criterion D (ecological context of an area) could be triggered. It is not clear whether the "At Risk" fish species present in Korokoro Stream are also present in this tributary, given that

the GWRC major streams GIS layer appears to indicate that this stream is culverted where it runs underneath Stratton Street, potentially impeding fish passage.

4.15 *"It is the same* [as the comment in paragraph 4.13] *with the assessment of connectivity for 'No Development Area E'. This area is connected, buffers and is part of the proposed SNA on the adjoining land to the south".* I agree with this statement and there is a typographical error in Table 2 of the ecological assessment. The current wording is *"Criterion d: Ecological context of an area – not met, moderate"*, it should be "Criterion d: Ecological context of an area – met, moderate".

5. Conclusion

5.1 Evaluation of the review (Cardno 2021) of the ecological assessment for The Properties, it appears that views expressed in the review and my evaluation of ecological significance and delineation of no-development areas to protect significant vegetation are mostly in agreement. Therefore, the current delineation of no-development areas is considered to be appropriate for avoiding future clearance of ecologically significant vegetation. The no-development areas also include areas of vegetation that are not ecologically significant. There is agreement that the overall adverse effects of the proposed Private Plan Change on areas of indigenous vegetation on The Properties outside the no-development zones will be very minor.

5.2 Amendments to the ecological assessment for The Properties that should be accepted include:

- Amendment of the ecological significance assessment for no-development area C to also meet criterion d (ecological context of an area) of Policy 23 in the RPS.

- Amendment of the maps in the report that map the vegetation types present (reproduced in Appendix 1 as Figures 2 and 4) to add an additional GIS polygon to delineate the area of Vegetation Type 5 within gorse scrub (Vegetation Type 9) near the eastern boundary of 190 Stratton Street.

- Amendment of the wording in Table 2 of the ecological assessment for the ecological significance and value assessment of no-development area E from *"Criterion d: Ecological context of an area – not met, moderate"*, to 'Criterion d: Ecological context of an area – met, moderate'.

- Amendment of the typographical error in Section 8.4 of the ecological assessment to state that the streams on the properties likely flow in a westerly, rather than easterly, direction.

Sarah Maree Herbert
2 September 2021

APPENDIX 1: SUPPLEMENTARY INFORMATION

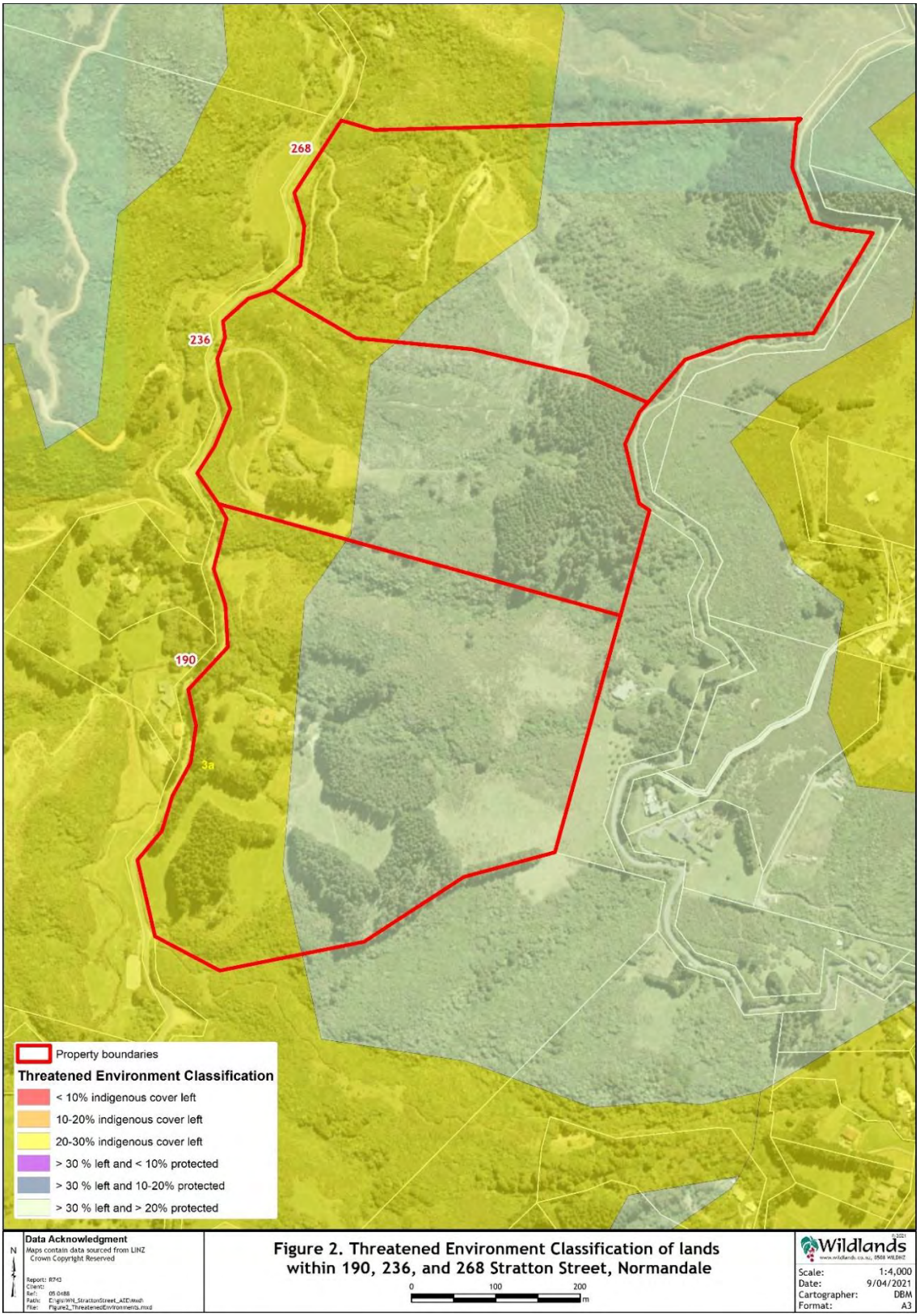

Figure 1: Figure from Wildland Consultants' (2021) ecological assessment of The Properties showing the extent of Threatened Environment Classification Categories (2012 layer)[12].

[12] Cieraad E, Walker S, Price R, Barringer J. 2015. An updated assessment of indigenous cover remaining and legal protection in New Zealand's land environments. *New Zealand Journal of Ecology 39(2)*: 309-315.

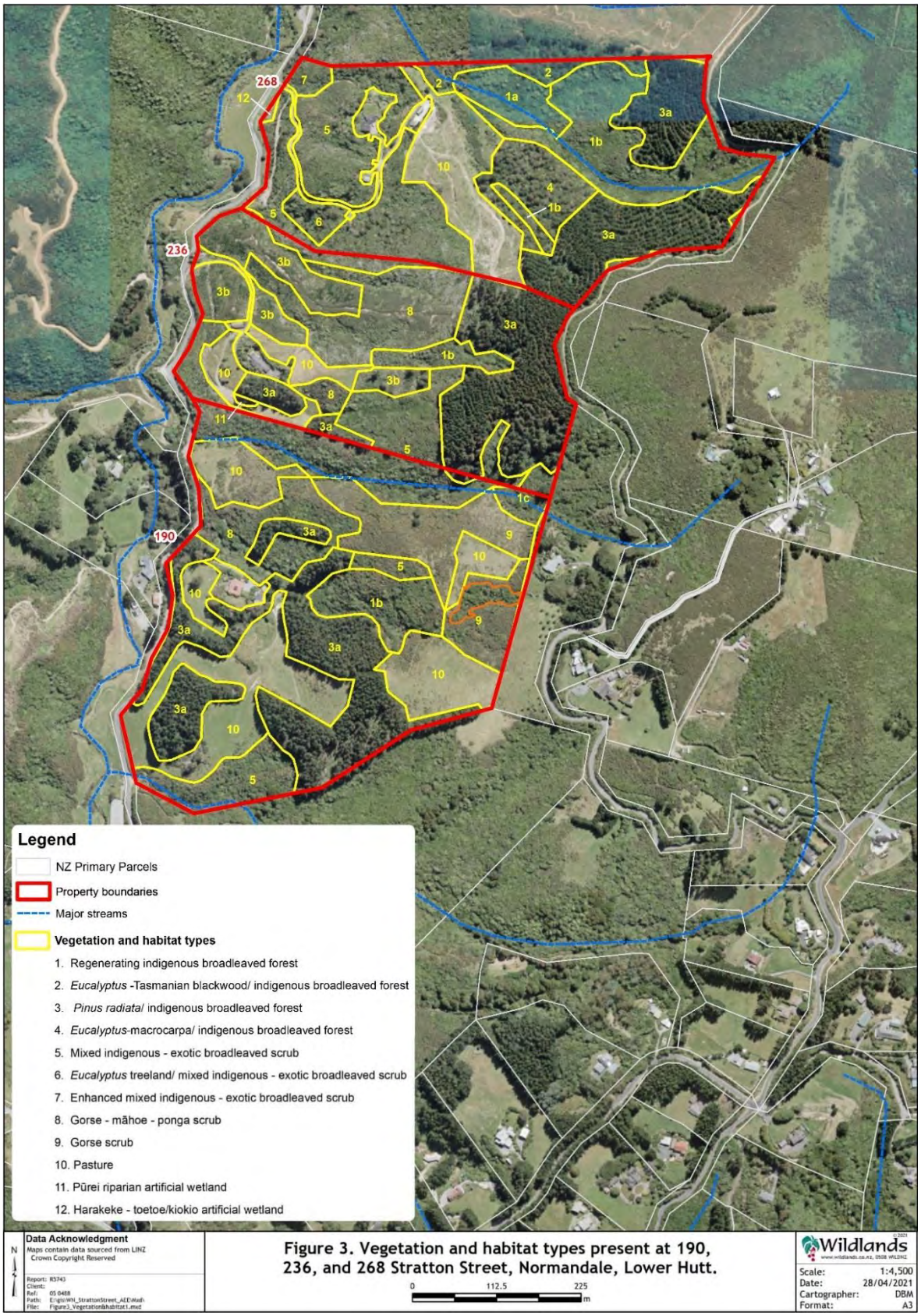

Figure 2: Figure from Wildland Consultants (2021) ecological assessment showing the vegetation types delineated on the property. The area outlined in orange shows an additional area of Vegetation Type 5 (mixed indigenous-exotic broadleaved scrub) identified during preparation of this evidence.

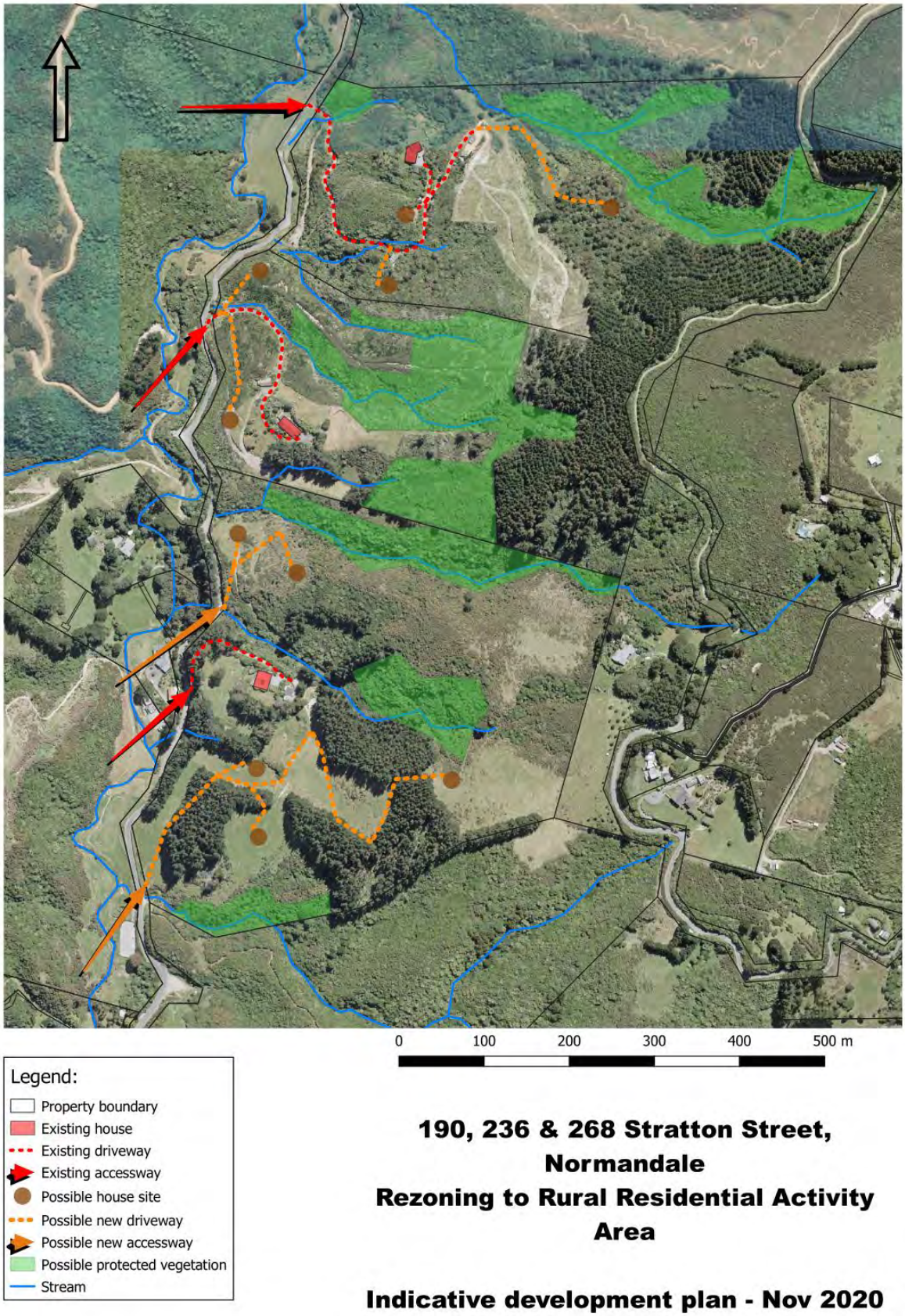

Figure 3: Indicative development plan for 190, 236, and 268 Stratton Street showing the no-development areas in green shading ("Possible protected vegetation") initially suggested by the landowners.

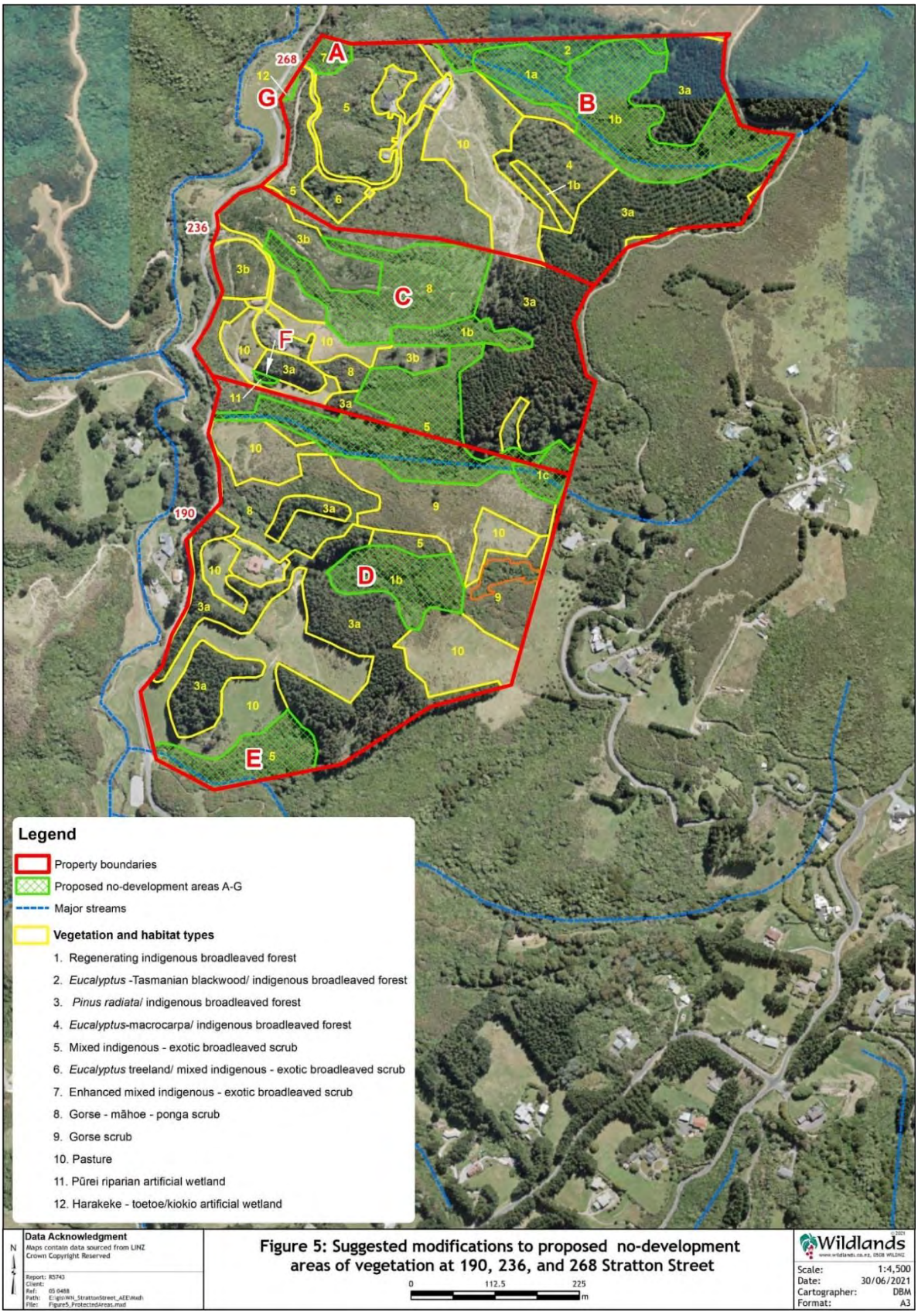

Figure 4: Figure from Wildland Consultants (2021) ecological assessment showing the delineation of no-development areas A-G together with the vegetation types delineated on the property. The area outlined in orange shows an additional area of Vegetation Type 5 (mixed indigenous-exotic broadleaved scrub) identified during preparation of this evidence.

APPENDIX 6 TRANSPORT EVIDENCE

APPENDIX 6.1 TRANSPORTATION IMPACT ASSESSMENT, GARY CLARK (TRAFFIC CONCEPTS LTD) - NOVEMBER 2019

PO Box 3737
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Tasman District
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E+gary.clark@trafficconcepts.co.nz

07 November 2019 Ref: 0661

James Beban
Urban Edge
PO Box 39071
Wellington Mail Centre
Lower Hutt 5045

Dear James

Plan Change – 190, 236, and 268 Stratton Street – Normandale - Hutt City
Transportation Impact Report

Following from your instructions and site visits, I have now completed my analysis of the private plan change to rezone rural land (General Rural Activity Area) at 190, 236 and 268 Stratton Street into rural residential land (Rural Residential Activity Area). The plan change will seek to change the existing rural land zoning so it can be subdivided into smaller rural residential lots.

My analysis of the site and related traffic matters has included site visits, discussions with the applicant and their representatives, review of the roading environment, analysis of the planning framework and an assessment of impacts are provided below. This Transportation Impact Assessment ("TIA") forms part of the documentation for the private plan change.

The key transportation considerations of the private plan change are:

- the ability of Stratton Street to accommodate the increase in traffic as a result of rezoning the land from rural to rural residential;
- the ability of the intersection of Stratton Street and Cottle Park Drive to safely and efficiently accommodate the increased use as a result of the plan change, and

- consideration of the wider network effects as a result of increased development.

The analysis and assessment provided below considers the potential impacts of the private plan change.

1. Site Location and Description

The site is located at across three properties being 190, 236 and 268 Stratton Street in Normandale, Hutt City.

Figure 1 shows the site location and the surrounding road network.

Figure 1: Site Location. (Source: Hutt City Maps)

As shown the site is located on the western Hutt hills in an area that has a combination of rural land and rural residential land. The residential urban fringe is also located close by as are the Maungaraki Shops.

To the north of the plan change area on Stratton Street is the Belmont Regional Park which has an access point from Stratton Street. Belmont Regional Park provides a number of recreational opportunities including walking, horse riding and mountain biking.

Figure 2 shows the topography of the land that is within the plan change area looking south from the northern part of 268 Stratton Street.

Figure 2: Site Topography looking south

The land within the plan change area would be described as rolling to relatively steep with a mixture of scrub, mature trees and grazing paddocks over the three titles.

The plan change area has Stratton Street along its western boundary and parts of Normandale Road along its eastern Boundary. Stratton Street connects to Miromiro Road which provides the road linkage to the Hutt City valley floor through Normandale Road that connects to Ewen Bridge.

To the west Miromrio Road connects to Dowse Drive that links through to State Highway 2 which provides wider connections to the Wellington Region and the valley floor.

Miromiro Road, Normandale Road and Dowse Drive form part of the arterial road network and are listed as Secondary Collector roads in the Hutt City District Plan. Their function is to link areas of population and economic sites. Stratton Street, Cottle Park Drive and the section of Normandale Road along the plan change area are Access Roads as defined by the Hutt City District Plan.

All the adjacent roads have a posted speed limit of 50 km/h with Stratton Street and Normandale Road along the plan change boundaries also having a posted speed limit of 50 km/h even though they are rural residential in character and would normally have a higher speed limit.

Figure 3 shows a closer aerial view of the plan change areas and adjacent roads.

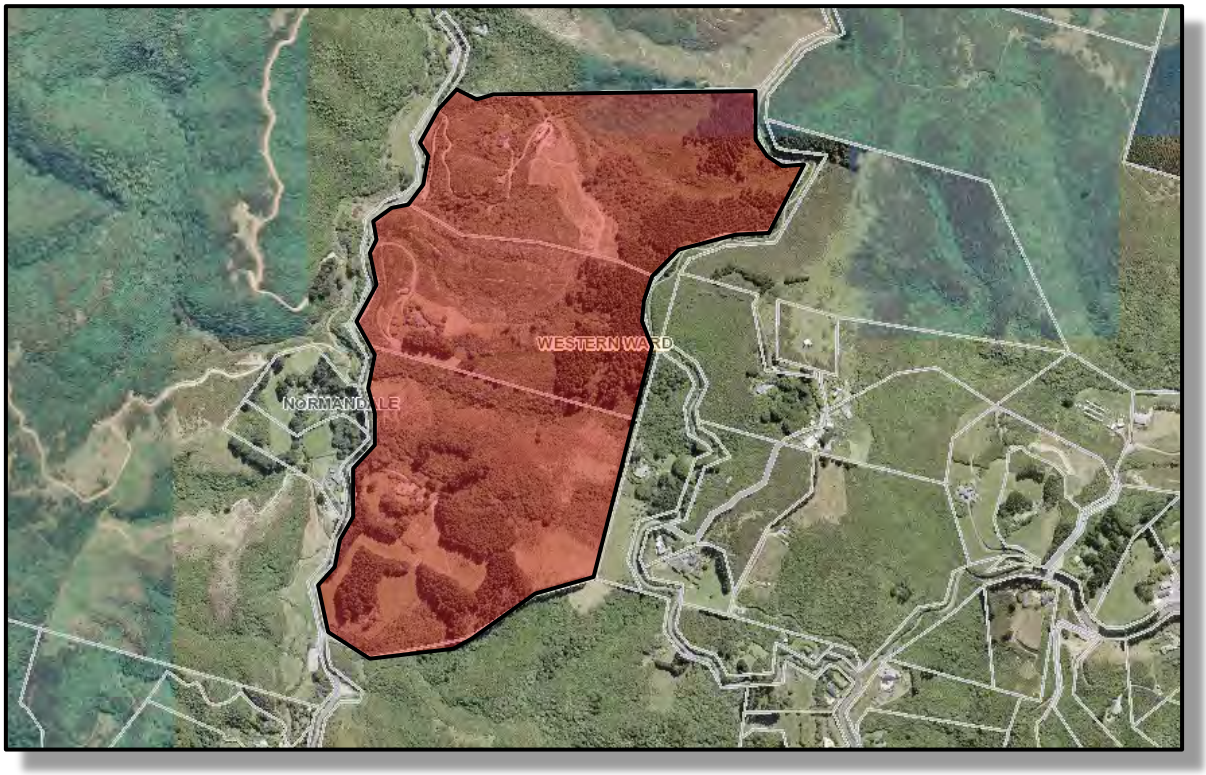


Figure 3: Plan Change Area. (Source: Hutt City Maps)

As shown, there are three large sites that make up the private plan change area. Each of the sites have one existing dwelling within its boundaries which are accessed from Stratton Street. The northernmost property (268 Stratton Street) also has road frontage to Normandale Road.

The intersection of Stratton Street and Cottle Park Drive is around 1.2 km from the southern end of the plan change area. The plan change area is around 6.5 km from the central area of Hutt City.

2. Road Environment

Stratton Street from its intersection with Miromiro Road to its intersection with Cottle Park Drive is around six metres wide and provides for two-way traffic. This first section of Stratton Street has a number of straight sections with some moderate curves and a posted speed limit of 50 km/h which is also the estimated operating speed.

The on-street parking demand is low with all houses along this section of Stratton Road having off street car parking for at least two vehicles.

This section of Stratton Street is marked with a dashed centreline. There is a footpath along the western side of the road for around 180 metres along with kerb and channel along both sides of the road. From the end of the footpath Stratton Street has no kerb and channel with edge lines marked on both sides of the road. There is no footpath along the remaining northern section of Stratton Street.

The intersection of Stratton Street and Cottle Park Drive controlled by give way signs with Stratton Street traffic required to give way to the through traffic moving along Cottle Park Drive.

Figure 4 shows a sight distance looking south towards Miromiro Road from the intersection of Stratton Street and Cottle Park Drive.

Figure 4: Sight distances looking south from the intersection of Stratton Street and Cottle Park Drive

The measured sight distance to the south is around 80 metres which will allow motorists to exit Stratton Street safely as they head towards Miromiro Road. Note that the power pole is located close to the road edge which slightly limits the sight distance for motorists exiting out of Stratton Street.

Figure 5 shows a sight distance looking north along Cottle Park Drive from the intersection of Stratton Street and Cottle Park Drive.

Figure 5: Sight distances looking north from the intersection of Stratton Street and Cottle Park Drive

The measured sight distance to the north on Cottle Park Drive being around 75 metres. This is sufficient distance for vehicles to exit Stratton Street safely. The vertical curve limits the sight distance in this direction.

Accordingly, the sight distances at the intersection are sufficient for vehicles to enter and exit Stratton Street safely based on the operating speed along the section of the road.

The next section of Stratton Street from the intersection with Cottle Park Drive to the plan change area is noticeably different to the first section of Stratton Street. The geometry is typical of a rural road that moves through rolling to steep land that provides access to property. Some sections of the road are relatively straight with other parts of the road having relatively tight low-speed curves.

The nature of this section of Stratton Street along with its relatively tight road geometry effectively lowers the operating speed down to around 30 km/h with some other longer straight sections being as high as 40 km/h. This provides an environment where road users can move safely along the road.

The road varies in width with its average width being around 4.5 metres between the edge lines.

Figure 6 shows the general road environment of Stratton Street North of its intersection with Cottle Park Drive.

Figure 6: Road environment along Stratton Street (straight section)

There are narrow road shoulders on each side of the road along with edge lines on both sides and isolated marker posts to provide extra delineation on curves.

Figure 7 shows another section of Stratton Street where the road alignment is tighter as a result of the relatively sharp bends in the road.

Figure 7: Road environment along Stratton Street (curve section)

Some of the corners have some additional widening to accommodate the swept part of vehicles negotiating the curves. There is also a narrow shoulder along both sides of the road at these locations which varies in width. The operating speed along the sections of Stratton Street are significantly lower than the posted speed limit and are estimated to be around 25 km/h.

Normandale Road is similar in nature to the northern part of Stratton Street and carries much lower traffic volumes.

Figure 8 shows the general road environment Normandale Road.

Figure 8: Road environment along Normandale Road

As with Stratton Street, parts of Normandale Road are marked with edge lines on both sides of the road with each marker posts provided on some curves. As you head further north on Normandale Road, the level of road delineation reduces with generally only marker posts provided.

The road is of a similar width to the northern part of Stratton Street and there is no footpath will kerb and channel along its length. As with Stratton Street the general road alignment and geometry provider speed environment that is less than 40 km/h. This allows the road to operate safely.

3. Traffic Environment

Stratton Street is a typical rural road located on the edges of the urban road network that provides access to private property. The level of development along Stratton Street from Cottle Park Drive is a mixture of rural residential lots, rural properties and at its northern end the Belmont Regional Park.

There are around 15 dwellings on Stratton Street from Cottle Park Drive which are roughly equally spread along the road.

Stratton Street has a number of different road users including pedestrians, horses and cyclists which share the road with vehicles. All users of the road are aware of the traffic environment that Stratton Street provides which leads to these users being alert and using the road with care. This is demonstrated by the very low number reported crashes as noted later in this report.

The availability of traffic data for this road is very limited with Hutt City Council having no recorded traffic counts and only estimated volumes in the RAMM asset management system. Fortunately, Wellington Reginal Council has traffic count data as part of understanding the use of the Belmont Regional Park.

The traffic counter was located at the entrance to the Regional Park and recorded the number of vehicles entering and exiting the recreational area from 18 July 2019 to 30 September 2019. The average seven-day count was 35 vehicles per days with most traffic being recorded between 8 am and 6 pm. In reviewing the traffic count data further, the use of Belmont Regional Park can be seen with the average weekend flows being around 63 vehicles per day, with the weekday flows being much lower at around 25 vehicles per day. It should be noted that the traffic counter did not record the flows generated by the other land uses on Stratton Street, south of the Belmont Regional Park.

As set out later in this report the expected traffic generation from the existing houses (15) on Stratton Street is estimated to be around 90 trips per day or around 10 vehicle movements in the peak hour. Therefore, the total number of existing movements on southern part of Stratton Street before the intersection of Cottle Park Drive would be around 110 vehicles per day during the week and around 160 vehicles per day in the weekend.

4. Public Transport

There is public transport available via the Route 150 bus service that travels between Petone Railway Station and Hutt Central that also connects through to Kelson. The service runs approximately every 30 minutes with a bus stop at the intersection of Stratton Street and Miromiro Road.

These services provide public transport links between the plan change area the wider Wellington area via the excellent bus and train services.

5. Crash History

A detailed search of the NZTA crash database was carried out for the five-year period from 2014 to 2018, along with the part year of 2019. The search area included all crashes along Stratton Street to its intersection with Miromiro Road. A search of crashes on the northern part of Normandale Road was also included.

There have been two reported crashes on Stratton Street since 2014. There was a non-injury crash in 2015 and a serious injury crash in 2019 along Stratton Street. There have been no reported crashes on the northern part of Normandale Road.

Table 1 provides details of each of the reported crashes that have occurred along Stratton Street from its intersection with Miromiro Road to its northern end at the entrance to Belmont Regional Park.

Road	Location	Date	Collision Reference	Accident Description	Severity
Stratton Street	180 metres north of Miromiro Road.	15/06/2015	201537957	A motorist trying to avoid police lost control of the vehicle on a left-hand corner spun 180° and hit a bank. Driver fled the scene and was caught later.	Non-Injury
	540 metres north of Cottle Park Drive.	26/04/2019	201953138	Motorcyclist travelling about 40km/h coming down Stratton Street. Hit some gravel on the road and the bike slid. He came off and bike hit bank on the opposite side of the road.	Serious

Table1: Crash History 2014 – 2019: (Source: NZTA)

The crash history shows that there are no inherent safety deficiencies with Stratton Street based on crash history. The crash in 2015 was a consequence of a driver trying to avoid police. The crash in 2019 was related to the loose gravel on the road which a regular user of Stratton Street lost control on.

The low crash history suggests that the design environment of Stratton Street and Normandale Road provides a safe environment for the users of these roads. As noted above, the alignment and general road geometry of Stratton Street is challenging and encourages drivers to be more alert and drive slowly. The existing layout of Stratton Street results in a relatively safe driving environment even though it has some geometric road deficiencies.

6. Private Plan Change

The proposed private plan change seeks to rezone the existing rural land into rural residential land which will allow for an increase in density and the number of houses that will have access onto Stratton Street.

A concept plan has been developed showing the potential number of lots that could be developed within the area that forms the private plan change. The concept plan only provides an indication of potential lots and their sizes and should not be treated as the expected number of lots or even the design or density of the future subdivisions. It has been provided to allow the analysis of the potential implications of rezoning the land.

It should be noted that the area shown as Lot 24 (301 Normandale Road) was part of the original private plan change area, however the landowner of this property is no longer wanting to be part of the private plan change.

The current concept plan has all access to the new 23 lots via internal right-of-way's within the plan change area or direct access to either Stratton Street or Normandale Road. The rights of way have been designed to connect in locations on Stratton Street where there are good sight distances to ensure safe and convenient access. Six of the new lots will have direct access onto Normandale Road.

There are no plans to form new roads as part of the private plan change area with all traffic accessing the wider road network via Stratton Street (most of the development area) or Normandale Road.

Figure 9 shows the concept rural residential subdivision layout plan.

Figure 9: Concept Lot Layout Plan. (Survey Insight Ltd)

For the purpose of the analysis the potential traffic effects of the plan change area has assumed 23 lots for traffic generation, trip distribution and any other network implications that may need to be considered. It should be noted that it is likely that a lower number of rural residential lots will be developed. Therefore, basing the analysis on 23 lots is likely to overstate any potential effects.

7. Impact Analysis

This section looks at the key transportation elements of the private plan change and provides an analysis and assessment of their implications.

7.1. Planning Framework

The development of the plan change area is expected to meet the Policies and Objectives as well as the Transport Rules and Standards contained in Section 14A – Transport of the District Plan.

Where particular provisions, rules or standards are not met, that particular development will need to apply for resource consent and provide the appropriate assessment of effects due to those non-compliances.

In regard to the Objectives (14A 3) and Policies (14A 4) contained within Section 14A of the District Plan the following analysis of the relevant parts has been provided below.

Objective 14A 3.1

A safe, efficient, resilient and well-connected transport network that is integrated with land use patterns, meets local, regional and national transport needs, facilitates and enables urban growth and economic development, and provides for all modes of transport.

The private plan change is local on the fringe of the urban area and next to rural residential land. Stratton Street is well connected to the wider road network via Miromiro Road and Normandale Road which are both listed as Collector Roads. Good public transport is available via Miromiro Road and the wider public transport network via transport hubs on the Lower Hutt railway line and interchanges at Hutt Central.

Stratton Street operates safely and there are no capacity constraints at nearby intersections to the wider road network.

Objective 14A 3.4

Adverse effects on the safety and efficiency of the transport network from land use and development that generate high volumes of traffic are managed.

The private plan change will not generate high traffic flows with the number of new movements in the network expected to be around 140 trips per day which will split across Stratton Street and Normandale Road.

The low number of movements can be accommodated on the adjacent road network with no noticeable changes in the level of service relating to safety or efficiency.

Objective 14A 3.5

Adverse effects on the safety and efficiency of the transport network from on-site transport facilities (vehicle access, parking, manoeuvring and loading facilities) are managed.

The site will be required to meet best practice guidelines with regard to sight distances and their formation. All access points will be able to meet these guidelines.

All parking and manoeuvring for the new lots will be provided within the site boundaries and there will be no effects on other road users.

Policy 14A 4.1

Additions and upgrades to the transport network should seek to improve connectivity across all modes and be designed to meet industry standards that ensure that the safety, efficiency and resilience of the transport network are maintained.

Stratton Street and Normandale Road have limitations with regard to the road alignment and width. The combination of these two elements provides a road environment that allows the existing different types of users to traverse Stratton Street and Normandale Road safely and with relative ease. There will need to be some minor

improvements to certain curves to improve forward sight distance and to allow opposing traffic to pass each other more easily.

These can be carried out within the available road reserve.

It should be noted that any improvements will improve the convenience for the users of the road. They are not needed to address any safety or capacity constraints.

Policy 14A 4.2

Land use, subdivision and development should not cause significant adverse effects on the connectivity, accessibility and safety of the transport network, and, where appropriate, should:

- *seek to improve connectivity within and between communities; and*
- *enable walking, cycling and access to public transport.*

The private plan change area will not adversely affect connectivity, accessibility or safety of the transport network.

Policy 14A 4.3

The transport network should be located and designed to avoid, remedy or mitigate adverse effects on the adjacent environment.

The private plan change area will not adversely affect the adjacent environment.

Policy 14A 4.4

Land use, subdivision or development containing noise sensitive activities should be designed and located to avoid, remedy or mitigate adverse effects which may arise from the transport network.

The private plan change will only have a small increase in the amount of traffic, and it will have no adverse effects.

Policy 14A 4.5

Any activity that is a High Trip Generator must be assessed on a case by case basis. Adverse effects of High Trip Generators on the safety and efficiency of the transport network should be managed through the design and location of the land use, subdivision or development.

The private plan change seeks to change rural land to rural residential land which is not a high traffic generator.

Policy 14A 4.6

Vehicle access, parking, manoeuvring and loading facilities should be designed to standards that ensure they do not compromise the safety and efficiency of the transport network.

The site accesses for the new lots along with any parking and manoeuvring will be able to meet best practice design guides. Any effects on the transport network will be indiscernible due to the low number of movements and the safe environment provided by Stratton Street and Normandale Road.

Policy 14A 4.7

The transport network, land use, subdivision and development should provide for all transport modes.

The private plan change area will provide for all appropriate transport modes.

7.2. Traffic Generation

The NZTA Research Report 453: Trips and Parking Related to Land Use (November 2011) provides trip generation rates for various land use categories. This report describes residential properties generating 10.4 vehicle trips per dwelling per day. This rate is largely based on a dwelling located in large urban areas and does not reflect the travel patterns of rural residential living. To that end the report also states, that:

> *"…lower trip generation rates have typically been found in more rural subdivisions. Surveys near Queenstown and Christchurch indicates daily rate of between 6 and 8 vpd (in + out) per household reflected the increased trip linking which occurred when the primary employment trip was longer…".*

More recently surveys conducted with respect to rural residential developments were carried out in order to determine the more appropriate trip generation rate for rural residential development. Traffic counts at three locations in Nelson and one in Marlborough have been studied. These locations include rural residential developments and specific cul-de-sacs. The areas of surveys were Permin Road, Redvale Road, Ridgeview Road and Marlborough Ridge Drive. Trip generation rates that were surveyed resulted in trip rates between five to seven vehicles per dwelling per day. Surveys have also been carried out on more urban areas in Nelson and Wellington which show a trip generation rate of six trips per dwelling as well.

Considering the Research Report 453 as well as the traffic surveys noted above, a trip generation rate of six vehicles trips per dwelling per day has been assumed for the new lots that will be formed as part of the private plan change area.

Based on the total number of lots within the plan change area being 23, the expected total number of daily traffic movements will be around 140 vehicles which will be equivalent to 14 vehicles per hour at the peak times.

The concept plan shows around 17 lots with access onto Stratton Street and six lots with access onto Normandale Road. Based on the assumptions of six trips per lot the increase in traffic flows on Stratton Street will be around 100 vehicles a day or around 10 vehicles per hour at peak times. Normandale Road will see an increase in traffic flows of around 40 vehicles per day or four vehicles per hour at peak times

7.3. Trip Distribution

The new lots that have access to Stratton Street are expected to use the intersection of Stratton Street and Miromiro Road and then head west to access the wider road network via Dowse Drive to State Highway 2 or Miromiro Road to access Hutt Central.

It is expected that the new trips generated from the Stratton Street lots will be split approximately equally between Dowse Drive and Miromiro Street.

The new lots that have access to Normandale Road have a number of options to access the wider road network which includes Normandale Road, Cottle Park Drive to Stratton Street, Miromiro Road and Dowse Drive. It is expected that the new trips generated from the Normandale Road lots will be equally dispersed over the different route choices.

7.4. Road Capacity and Intersection Performance

The total increase in the number of traffic movements across the wider road network is expected to be around 14 vehicles in the peak hour which is very low and can be easily absorbed into the adjacent road network with no discernible difference to other road users.

There are no capacity issues at adjacent intersections and the increase of 14 vehicle movements in the peak hour will have no effect across the wider road network.

As more vehicles use Stratton Street and Normandale Road there will potentially be more interactions between the same and different road users that will lead to slight inconveniences such as slowing down or waiting. These occurrences are less than minor and would not impact on the capacity of the road at the level the plan change will result in.

7.5. Safety

As noted above, the private plan change will not make any discernible change in the levels of safety along Stratton Street, Normandale Road or the wider road network.

This is mainly due to the road geometry align effectively constraining the operating speed along Stratton Street and Normandale Road. There are good sight distances at the key intersections that will allow new vehicles to the road network to access the wider network safely.

8. Road Improvements

The existing northern part of Stratton Street from Cottle Park Drive has some constraints that would benefit from improvements for the existing users of the road as well as future users arising from the plan change proposal as well as anticipated growth in the use of Belmont Park.

These improvements would consist of isolated curve widening and vegetation removal to improve sight distances and passing on some of the tighter curves. This would need to be done carefully because the current road alignment provides an excellent measure to control vehicle speeds.

9. Conclusion

The private plan change seeks to rezone rural land to rural residential land that sits on the fringe of more intensive urban land at the top of Normandale. A concept plan of the potential future subdivision shows that 23 lots could be established across three land titles.

The access to the plan change area is via the northern part of Stratton Street and Normandale Road which have easy access to the wider road network via Miromiro Road, Normandale Road and Dowse Drive.

The road geometry of both Stratton Street and Normandale Road has limitations that will limit capacity, safety and convenience. The road geometry also has positive effects in terms of reducing the operating speed and driver behaviour. This is reinforced by the low number of reported crashes along Stratton Street and Normandale Road.

The plan change area is expected to generate around 14 additional vehicles above the existing flows in the peak hour. The existing traffic flows along Stratton Street are around 25 vehicles during the week and 65 vehicles during the weekend (higher flows are due to Belmont Regional Park). The weekday peak flows after the plan change area is developed is expected to be around 40 vehicles per hour. These are very low flows at around one vehicle every one to two minutes.

Generally, the Objective and Policies of the Hutt City District Plan are able to be met by the proposed plan change confirming that any potential effects are less than minor.

Overall based on the traffic analysis above, it is concluded the plan change can be accommodated with any traffic effects on the safety and efficiency of the road network being indiscernible.

We are happy to provide any further clarification if required.

Regards

Gary Clark
Director
NZCE (Civil), REA, MIPENZ, CPEng

APPENDIX 6.2 BRIEF OF EVICENCE OF DAVID WANTY (WANTY TRANSPORTATION CONSULTANCY LTD) - JUNE 2021

BEFORE THE INDEPENDENT COMMISSIONER
APPOINTED BY HUTT CITY COUNCIL

Reference Number PC53

IN THE MATTER OF:	**Proposal** for a private District Plan Change 53 titled 190, 236 and 268 Stratton Street Normandale – Rezoning to Rural Residential Activity Area
APPLICANT:	Urban Edge Planning Ltd, on behalf of **Judy and Neville Bannister**

Brief of Evidence of David Keith Wanty

Presented for filing by:

Dan Kellow
RESOURCE CONSENTS - CONTRACTOR
Email: Dan.Kellow@huttcity.govt.nz

INTRODUCTION

QUALIFICATIONS AND EXPERIENCE

1. My name is David Keith Wanty. I am a self-employed transport engineer and Director / Principal of Wanty Transportation Consultancy Limited based in Wellington.

2. I have a Bachelor of Engineering (Civil) and a post graduate Master of Engineering (Civil) from the University of Canterbury and a Master of Science (Transport Planning and Engineering) from the University of Leeds. I am a member of Transportation Group NZ which is a Technical Group of Engineering New Zealand, and I am a member of the Institute of Transportation Engineers (International Division). I am registered in New Zealand as a Chartered Professional Engineer and as an International Professional Engineer.

3. I have more than 37 years' experience as a transport engineer including the areas of traffic engineering, transport planning, road safety and road asset management analysis.

4. I have been the Vice-Chair, Chair and immediate Past Chair of the national committee of Transportation Group NZ (formerly the IPENZ Transportation Group), the largest Technical Group of Engineering NZ.

5. Much of my experience has been in the area of traffic engineering. I have undertaken independent reviews of proposed development projects for local authority and private clients at the resource consent / council hearing and Environment Court stages. I have prepared assessment reports and presented evidence at a number of Council and Environment Court hearings and as a traffic expert have been involved in caucusing.

6. While based in Wellington I have undertaken a number of projects in Hutt City Council and have considered traffic and safety pertaining to private developments including that pertaining to private plan change 47, and conducted road safety audits at various stages of Council projects (including walking and cycling projects).

   I visited the plan change site environs on Friday 7 August 2020 and more recently on Wednesday 9 June 2021.

INVOLVEMENT IN PROJECT

7. My current involvement is only recent comprising reviewing the original Application documents as provided by Council for the proposed rural subdivision zone and the original submissions received.

8. In the past years I have also reviewed for Council in mid-2020 the proposed private Plan Change 48 Kelson Gardens.

EXPERT WITNESS CODE OF CONDUCT

9. I have been provided with a copy of the Code of Conduct for Expert Witnesses contained in the Environment Court's Practice Note dated 1 December 2014. I have read and agree to comply with that Code. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

PURPOSE AND SCOPE OF EVIDENCE

10. The purpose of this evidence is to assess the transport effects of the proposal.

11. The proposal involves the creation of a rural residential subdivision area combining three large properties off Stratton Street into one zone. Each of the three properties currently have one existing dwelling with access from Stratton Street; the Application states that the northernmost property (#268) also has road frontage to Normandale Road but a submitter disputes this as being inaccurate.

12. These three properties comprise the total site area of 49.8067 hectares divided approximately as follows

- 268 Stratton Street: 16.77 hectares
- 236 Stratton Street: 12.75 hectares
- 190 Stratton Street: 20.28 hectares

SUMMARY OF CONCLUSIONS

13. I concur with the Application Transportation Impact Assessment that as a result of the additional site traffic road improvements should be made to Stratton Street, off which all site access should be provided.

I note however that Council has no plans for any improvements of Stratton Street although potentially I surmise

that some could be made as part of general maintenance, possibly including vegetation trimming on the inside of bends to improve the forward sight visibility.

14. To help inform to what extent improvements are desirable, traffic surveys should be undertaken, along with speed surveys to help inform Council on a potential change in the speed limit(s) as suggested by submitters or to the initial 35 km/h advisory speed sign.

    I conclude that the potential doubling of the average daily traffic may or may not be able to be accommodated without any roading improvements with no more than a minor effect, depending on the existing traffic patterns (especially recreational users along Stratton Street). Regular vegetation trimming would go a long way to improve the road safety.

15. I consider that locating suitable accessways for the plan change site(s) could be problematic without some localised improvements, but which could be addressed at the resource consent stage if the plan change is approved.

RECOMMENDATIONS

16. I recommend that user surveys be conducted to capture the usage of the Stratton Street by both drivers and occupants of motor vehicles and non-motorised vehicle users (pedestrians, cyclists, equestrians); this ideally should include speed surveys.

17. I recommend Council investigate to confirm the alignment of Stratton Street which appears to be in places outside the road reserve. This investigation should include investigation of trimming of vegetation on the inside of bends to improve the (forward) sight visibility and to confirm that Council can readily do so (clearance within the road reserve or on Council land).

EXISTING ENVIRONMENT:

18. This proposal is to provide 13 rural residential lots at the top of Normandale bordering the Belmont Regional Park.

19. Neighbouring properties to the plan change site include:

    - 282 Stratton Street to the north of 268, being part of the Belmont Regional Park. It is also opposite the northwestern and southwestern corners of 190, and opposite 236 and 268 on the western side of Stratton Street. Also opposite the northeastern corner of 268 is

350 Normandale Road (Belmont) being part of the Belmont Regional Park accessed via Old Coach Road.

- 122 Stratton Street to the south of 190 which is labelled on the Belmont Regional Park brochure as Cottle Park (I opine it is shaped like Taurus the bull), through which is a track from Stratton Street to the sharp bend at the eastern end of Cottle Park Drive.
- 301 Normandale Dr to the east of 190 and also bordering southeastern corner of 236.
- Opposite 190 on the western side of Stratton Street are 201 and 177 Stratton Street.
- Opposite the northeastern corner of 236 on the eastern side of Old Coach Road is 330 Normandale Road.
- Opposite 268 on the eastern side of Old Coach Road is 340 Normandale Road (shares driveway with 330, 306, 308, 310 – Waglands Dogs' Holiday Retreat, 310A and 312 Normandale Road).

20. In terms of properties along Stratton Street those north of Cottle Park Drive not including the site or Belmont Regional Park are 102, 112 and 122 on the eastern side and 73, 89, 91, 101, 103, 117, 147, 149 on the western side.

South of Cottle Park Drive are 64 Poto Road and 4, 6, 8,10, 12, and 30 Stratton Street (+ unoccupied 6 Wilson Grove) on the eastern side and 3 – 27 excluding 9 on the western side.

ROAD SAFETY HISTORY

21. The Transportation Impact Report examined the reported crash history for the five calendar years 2014-2018 and partial 2019 for Stratton Street from its intersection with Miromiro Road and for the northern part of Normandale Road. It reported no crashes for the latter, one serious injury crash in April 2019 involving a downhill motorcyclist sliding on loose gravel, and one non-injury crash involving a motorist attempting to avoid the Police.

22. I have expanded the crash history to the past 11½ years, noting that all reported injury crashes are aimed to be recorded in the Waka Kotahi NZ Transport Agency (NZTA) Crash Analysis System (CAS) database within 4 weeks (refer https://cas.nzta.govt.nz/). I undertook the crash query in mid-June 2021 for all crashes since 1 January 2010 along Stratton Street including some on Miromiro Road, Poto Road and Martin Grove near their crossroads intersection with Stratton Street.

23. My search query resulted in identifying 6 crashes - this included two non-injury crashes on Poto Road, both westbound "lost control turning right" at night, one a single vehicle crash 40 m east of Stratton St on 11/4/2010 and one 30 m east of Stratton St on 31/5/2015 involving hitting a parked car and shoving it into another parked car.

24. Along Stratton Street south of Cottle Park Drive there was a non-injury "lost control turning right " night-time crash involving a single northbound car on 15/6/2015.

25. Along Stratton Street north of Cottle Park Drive there were three injury crashes.

One was a daytime serious injury crash on 26/4/2019, involving a postie on a small motorcycle losing control on a patch of loose gravel, 540 m north of Cottle Park Drive by #91. Police cleared the gravel (possibly from #102 unsealed driveway – refer Google Street View image below).

There was a daytime southbound minor injury crash on 11/8/2012 involving a drunk driver losing control, hitting a speed hump before crashing into the grass bank and flipping the car, approximately 2 km north of Cottle Park Drive.

A daytime minor injury "head on - swinging wide" crash occurred on 4/1/2010, involving a southbound motorcycle and a northbound car, both travelling in the middle of the road approaching a "blind bend" 270 m north of Cottle Park Drive by #73.

26. From this query, the predominant crashes are single vehicle loss of control crashes. One crash did involve lack of approach sight visibility along the narrow windy rural section of Stratton Street which is not surprising, and another road factor was some localised loose gravel affecting a motorcyclist familiar with the route.

ROAD SAFETY RISK

27. In addition to examining CAS I examined the NZTA Safer Journeys Risk Assessment Tool commonly known as MegaMaps. This was updated in late August 2020 and is now referred to as MegaMaps III.

28. For the 2015-2019 five calendar year period MegaMaps III showed only one injury crash along Stratton Street, being a serious injury crash on 26/4/2019 by #91.

29. MegaMaps identifies the following safety aspects, noting that Stratton Street is subdivided into two sections (rural and urban). It's key characteristics and risk/speed metrics are shown in the popup screens below (rural section shown on the left, urban fringe section on the right).

Corridor ID	STRATTON_29927
Road Stereotype	Two lane undivided
Intersection Density	<1 per km
Lane Width	<3.0m - Narrow
Shoulder Width	0m to <0.5m - Very Narrow
Roadside Hazards	High_Moderate
Alignment	Tortuous
Access Density	5 to <10 per km
Land Use	Rural Residential
State Highway	No
AADT	137
IRR Score	2.12
IRR Band	High
TLA	Lower Hutt City

Corridor ID	Access_12244
Road Stereotype	Two lane undivided
Intersection Density	3 to <5 per km
Lane Width	<3.0m - Narrow
Shoulder Width	0m to <0.5m - Very Narrow
Roadside Hazards	Severe_Moderate
Alignment	Curved
Access Density	10 to <20 per km
Land Use	Urban Fringe
State Highway	No
AADT	689
IRR Score	2.07
IRR Band	Medium
TLA	Lower Hutt City

Corridor ID	STRATTON_29927
Road Name	STRATTON
State Highway	No
IRR Score	2.12
IRR Band	High
Free Flow Speed	30.50
Speed Limit	50
Safe and Appropriate Speed	60
Primary Reason for SAAS	Aligns with framework
Governing Factor	Aligns with framework

Corridor ID	Access_12244
Road Name	Access road
State Highway	No
IRR Score	2.07
IRR Band	Medium
Free Flow Speed	44.32
Speed Limit	50
Safe and Appropriate Speed	50
Primary Reason for SAAS	Aligns with framework
Governing Factor	Aligns with framework

30. In terms of the Road Safety Metric, rural Stratton Street has a Low Medium collective and a Medium personal risk while urban (fringe) Stratton Street has both as Low risk.

31. In terms of the Infrastructure Risk Rating (IRR), rural Stratton Street is in the High IRR band while urban is Medium (most roads in Normandale and Maungaraki are in the Medium or Medium High IRR band, only the northern rural section of Normandale Road is also in the High IRR band).

32. In terms of the Safe and Appropriate Speed (SAAS), all the urban roads in Normandale and Maungaraki have a suggested 40 km/h speed and the rural roads 60 km/h; the urban fringe southern part of Stratton Street is the only section with a suggested SAAS of 50 km/h.

33. In terms of mean operating/free flow speed, rural Stratton Street is shown as 30.5 km/h; this is consistent with its geometry and speed limit of 50 km/h (the lowest SAAS for rural roads is assumed as 60 km/h – no Normandale and Maungaraki roads are shown as having a "Potential Speed [Limit] Increase"

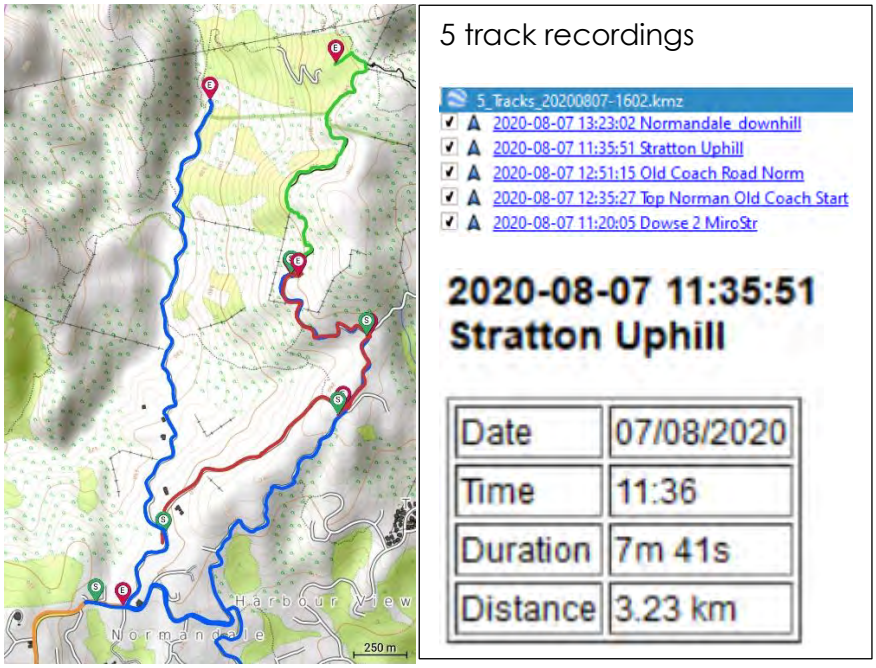
34. In terms of High Benefit Speed Management, no roads in Normandale and Maungaraki are shown as benefitting aside from Dowse Drive (mean free flow speed 43.5 km/h) in the "Second 10% Interventions - Challenging Conversations".

35. In terms of identified high risk roads or intersections, none are shown in Normandale and Maungaraki except for the Dowse Drive/Miromiro Road/Poto Road (single corridor) which is shown as an "ACC High Risk motorcycle route".

ROAD GEOMETRY and FEATURES

36. In August 2020 I undertook some GPS tracking on my car to/from the Stratton Street sites (and also on my mountain bike along Old Coach Road at the end of Normandale Road - green line in the image below). These coincided with undertaking videos using my dashboard mounted smartphone. These involved pausing the recording at times to undertake site inspections (photos and carriageway measurements) at the 190, 236 and 268 Stratton Street existing driveways, intersections and the Belmont Regional Park car park areas.

    I also undertook follow-up videos in June 2021, stopping once to undertake a spot carriageway measurement at the northbound cattle stop sign.



37. Google Earth elevation profile of the GPS tracking from the NZMAPS Android App (produced by NZ Dept of Lands & Survey) for the Stratton Street northbound track is shown below as an example. You can move the pointer along the route to view your estimated speed. I note some instances with extremely high speeds presumably from loss of satellite signal (blue line in the lower graph), possibly when restarting. I opine that the spot recorded gradients are unreliable but the moving average trend should be reasonably okay (pink/red line is the elevation, maximum at the car park by 282 Stratton Street Ranger's office was 148 metres).

38. My impression of the local roads was that they resemble other on the western Hutt Valley hills and other roads in greater Wellington being narrow and winding.

39. Stratton Street north of its intersection with Miromiro Road/Poto Road/Martin Grove is reasonably wide with a marked centreline but is fairly windy.

40. After its intersection with Cottle Park Drive (which is marked as the main route and is wide and not so windy) Stratton Street narrows with no centreline marking and a windy road 35 km/h advisory speed sign and "narrow road 1.6km to end" supplementary plate sign. It has an old Lower Hutt City "WATCH OUT Share the road – equestrian, cycle, adult pedestrian" sign (the one south of Cottle Park Drive has an children warning sign below it). While there are no streetlights, Retroreflective Pavement Markers (RRPMs) are along the edgeline and Edge Marker Posts (EMPs).

41. I measured the sealed carriageway width in four places varying between 3.6 m and 4.7 m (3.5 m between the edgelines on the bend below 190 and above 177). Beside the properties just after the cattle stop there is a track turnoff to Belmont Trig, a car park information turnoff, a horse float parking area, a new car parking area (approximately 8 m wide by 27-28 m long) opposite 268 alongside the Belmont Skills Track, and the large circular turning area with room for parking by 282 Rangers office. Note also that the edgelines ceased after the cattle stop and immediately after the 236 driveway there is a 10 km/h posted speed sign followed by four speed humps which are not signposted although they are marginally marked. There is also the trail signposted "Belmont Regional Park to Cottle Park Drive" (not well suited at Stratton Street end for other than pedestrians with/without their dog).

42. Beyond the end of Stratton Street is a 3 km track leading to Old Coach Road. Only 300 m up the track are toilets (with drinking fountain) and the Woolshed classroom which has additional parking (another locked gate). There are BBQs and picnic tables evidently associated with the classroom, and a sign for the next BAMBA (Belmont Area Mountain Bike Association) trail building event plus their trail posters. Refer also to the Belmont Regional Park Map https://www.gw.govt.nz/assets/Parks-and-Recreation/Belmont/Belmont-web-Map-2017-copy.pdf).

TRAFFIC EFFECTS: GENERAL

43. The Transportation Impact Assessment Report (TIA) for the original Plan Change proposal estimated the number of additional daily movements as 140 based on 6 motor vehicle trips per day (vpd) per dwelling (14 weekday peak hour trips). This was expected to be split to 100 vpd on Stratton Street (17 dwellings) and 40 vpd on Normandale Road (6 dwellings). The weekday peak hour traffic on Stratton Street was expected to be 10 vehicles per hour (vph).

44. The Stratton Street traffic was expected to be approximately equally split between the Miromiro Road/Dowse Drive route and the Poto Road/Normandale Road route noting that it appears that the author thought that Miromiro Road was between Stratton Street and Normandale Road.

45. The TIA has not been updated for the revised proposal with access only off Stratton Street for 13 lots (#190 -6; #236 -3; #268 – 4 allotments) for Controlled Activity standards, although more lots could be considered as a Discretionary Activity.

46. I accept that the small amount of additional traffic (up to 20 lots for example) should add little noticeable delay to the morning peak southbound heavy congestion on SH2 Western

Hutt Road. Waka Kotahi NZ Transport Agency (NZTA) has construction planned to relieve congestion at Melling. Prior to June 2021 NZTA had not formally ruled out proceeding with the Petone to Grenada project within the next ten years to relieve congestion south of Dowse Drive; I am unsure whether this changed during the June 2021 announcements deferring many key infrastructure projects due to large cost increases.

47. Based on my site visit and familiarisation I opine that Stratton Street north of Cottle Park Drive is not of a form to readily cater for much additional traffic and to mitigate the impact would likely involve engineering improvements while recognising the needs of existing users including equestrians.

48. I opine that prospective residents could include well-off families with horse loving daughters leading to additional equestrians along Stratton Street plus vehicles towing horse floats. Additional cyclists might also be expected taking advantage of the nearby Belmont Regional Park and the Belmont Skills Track for mountain bike riders (opposite the fairly recent planting along Stratton Street) by the recently formed car park near 268 Stratton Street.

49. As noted by submitters to the original Plan Change, the Application does not address mitigation measures along Stratton Street for existing road users as well as the additional expected motorised and non-motorised traffic associated with the plan change site.

50. The transportation impact assessment gives limited comment in its "Section 8. Road improvements", reproduced below

The existing northern part of Stratton Street from Cottle Park Drive has some constraints that would benefit from improvements for the existing users of the road as well as future users arising from the plan change proposal as well as anticipated growth in the use of Belmont Park.

These improvements would consist of isolated curve widening and vegetation removal to improve sight distances and passing on some of the tighter curves. This would need to be done carefully because the current road alignment provides an excellent measure to control vehicle speeds.

51. I concur that such engineering measures could include widening at bends and/or benching to improve sight visibility around tight bends, the latter occurring on two bends on Normandale Road between Cottle Park Drive and Sweetacres Drive. Widening along the straights might also be expected recognising also that equestrians prefer their horse to be off-road with a buffer gap. Vegetation trimming on the inside of bends would go a long way to improving the forward sight visibility.

52. The Austroads Guide to Road Design Part 3 Geometric Design states "Where traffic volumes are less than 150 vehicles per day [vpd] and, particularly, where terrain is open, single lane carriageways may be used."

53. The Mobile Road App estimates the average daily traffic (ADT) on Stratton Street north of Cottle Park Drive as 114 vehicles per day with 6 % heavy vehicles (estimated 22/5/21). South of Cottle Park Drive the estimate is 676 vehicles per day (flows are extracted from Council's RAMM database).

54. The anticipated Stratton Street site traffic will be approximately 80 (13 lots as of right) to 120 (if 20 lots) vpd resulting in more than 150 vpd and thus Stratton Street north of Cottle Park Drive should be clearly two lanes. Table 4.5 shows that for a design AADT of 150-500 vpd the width should be 6.2 m relating to two 3.1 m traffic lanes, and minimum 0.5 m sealed shoulders (1.5 m combined sealed and unsealed).

55. NZS4404:2010 Table 3.2 shows that in the rural context, for 1-20 dwelling units (targeted speed 30 km/h) and 1-150 dwelling units (targeted speed 70 km/h) the carriageway width (excluding shoulders, minimum 0.5 m sealed) should be 5.5-5.7

metres, with cyclists sharing the road and pedestrians on the shoulder and berm. In New Zealand centreline marking can be marked on (rural) roads with a minimum sealed carriageway width (on straights) of 5.0 m.

56. I note also that the horse float parking area 800 m south of the road end is by the northwestern corner of Cottle Park opposite the Belmont Regional Park southern boundary with 149 Stratton Street.

This means that nearly all site traffic on Stratton Street would be passing by an area where horses can be expected along the road side.

57. Accordingly this rural northern section of Stratton Road should be widened if the plan changed is approved and the Applicant should contribute to the cost of doing so noting that this is a private plan change and the intention is not consistent with current Council policies and strategies.

58. Traffic, travel time/speed and potentially carpark usage surveys should be undertaken of motorised and non-motorised road users during the weekday and fine weekends to confirm current usage and inform potential appropriate road improvement measures, and Council consideration of a potential reduction in the 50 km/h posted speed limit (and possible increase in the section north of 236 Stratton Street with a signposted 10 km/h speed limit (I failed to locate a Gazette Notice for this but Council are better placed to do so).

I note that Council are not planning any improvement works on Stratton Street other than the usual resurfacing and addressing any necessary maintenance that might arise.

59. I consider also that the signposted 35 km/h advisory speed sign should be checked to ascertain if 25 km/h is overall more appropriate.

60. As part of potential road improvements, the Applicant should consider transferring some of the plan change land to the Stratton Street road reserve where its boundary is very close to the inside of the road in order to facilitate potential future bend widening /easing and/or benching to improve sight visibility for safety.

61. In fact in some instances it appears that Stratton Street is partially within 190 Stratton Street which should have been identified as part of the Application. Potentially this might have been noted in the Application Appendix B set of Engineering Drawings. Incidentally some of Stratton Street is also within 282 being part of Belmont Regional Park.

TRAFFIC EFFECTS: ACCESSES

62. Approximately 50 seconds driving time to the north of Cottle Park Drive is the 190 Belmont Country Escape steep angled concrete driveway, which I noted had poor drainage control (no slot drain leading to the fairly blocked small culver) and not so great exiting sight visibility to the north. With the steep embankments along Stratton Street locating suitable accesses is not obvious – the Appendix 2 transportation impact assessment within the Application states:

"*The rights of way have been designed to connect in locations on Stratton Street where there are good sight distances to ensure safe and convenient access. Six of the new lots will have direct access onto Normandale Road.*"

63. However the revision to the Application results in all access being off Stratton Street. As seen in the original plan below the locations of the direct driveway accesses is not shown and I understand this still to be the case, which however is not unsurprising for a plan change application.

The locations may be shown in the Application Appendix B set of engineering drawings but at time of writing these were not available for my perusal.

64. I consider that given the geometry suitably locating accesses could be problematic and a plan showing indicative locations of each (presumably 3) would have been useful. However any desirable road improvement measures

associated with accesses could be addressed at the resource consent stage if this private plan change is approved.

ORIGINAL SUBMISSIONS SUMMARY

65. I summarise the transport related submissions as follows, based on my reading of the submissions and not relying on the summary provided (which nevertheless appears accurate).

66. DPC53/1 (Alan & Joyanne Stevens, address not provided) questioned the reliability of the transportation impact assessment and considered that it underplayed traffic effects. Concerns raised on traffic along Cottle Park Drive and its intersection with Stratton Street (plus southern end of Stratton Street). Concerns on extension of Normandale Road on the many pedestrian and cyclist users of Belmont Regional Park.

67. In their further submission DPC53F/1 they stated support for the other six submitters (refer below) and by inference opposed the transport network and other traffic effects in DPC53/3 to DPC53/7. They reiterated the very poor quality of the transportation impact assessment and viewed traffic considerations as 'absolutely key".

68. DPC53/2 (Forest & Bird) was opposed but not on any transport grounds. Their further submission DPC53F/2 reiterated issues relating to significant natural resources and permanent

waterways which I opine could conceivably influence internal (site) road geometry design.

69. DPC53/3 (Karen Self, 308 Normandale Rd) opposes any access off Normandale Road beyond the #301 access and the Old Coach Road gate entrance to the park (retain existing track nature suited for non-motorised traffic), and that further in-depth traffic studies be undertaken north of #237.

70. DPC53/4 (Matthew Willard, 89 Stratton St) notes his near misses on Stratton St as a cyclist. He states that It is inappropriate for the proposed 17 lots to be accessed off Stratton Street in its current form (effect on non-motorised users) and noted that previously access had been planned to be off Cottle Park Drive which is more suitable.

71. DPC53/5 (Peter and Sandra Matcham, adjoining neighbour to the east on Normandale Road) notes that the transportation impact assessment mistakenly assigns part of Old Coach Road (a "Grade 2 listed historic site" starting at the gate) as Normandale Road. He considers that all traffic "will need to exit on Stratton Street', states that the relative increases (minimum 150%) should be taken into consideration, and that the peak hourly flows should be much greater.

72. Their further lengthy submission DPC53F/3 itemised support of particular points/sections raised in DPC53/1, DPC53/2, DPC53/3, DPC53/6, and DPC53/7. This included, inter alia, the statements "*the report fails to consider the directive of the 2019 GPS on land transport which give safety of vulnerable users priority*" and that access via "*Old Coach Road-Belmont to Pauatahanui … would be contrary to the requirements of RMA Section 6(f) and Objective 15 and associated policies of the Wellington RPS* [Regional Policy Statement]."

73. DPC53/6 (Friends of Belmont Regional Park) echoes the traffic related views of DPC53/5.

74. DPC53/7 (Peter Shaw and Pam Guest, 177 Stratton Street) raise concerns over traffic management of the northern end of Stratton Street. If approved they request a reduction in the posted speed limit and traffic calming measures be introduced (but not road realignment which might result in increased travel speeds).

75. I find it curious that BAMBA did not make any submission, or the Belmont Regional Park ranger on behalf of Greater Wellington Regional Council.

76. To ascertain the status of Old Coach Road I searched the www.heritage.org.nz website and discovered on their map a listing for 7711, Old Belmont to Pauatahanui Road, Historic Place Category 2, registered 22/06/2007, pinned at the public road end of Normandale Road. In the attributes (extend of registration field) it says the following:

The registration includes the road (from south to north) between the end of the sealed section of the Normandale Road (GPS Coordinates: Easting 2669085, Northing 6000515, Elevation 297m) through Belmont Regional Park to the end of the sealed section of Belmont Road off the Paremata-Hayward Road (SH 58) (GPS Coordinates: Easting 2670751, Northing 6006340, Elevation 141m), a distance of approximately 10 kilometres (refer to Appendix 2, Map 2 of the registration report). The registration also includes the road formation, culverts, drains, embankments, quarries and other associated features.

Its registered legal description field was given as Legal Road (as advised by Greater Wellington: The Regional Council), Wellington Land District; its NZAA numbers were given as R27/252,R27/249,R27/250,R27/251,and R27/246.

77. I emailed and called Heritage New Zealand to enquire about what Category 2 status means but to date have not received a response.

78. In conclusion I consider that my evidence has addressed the matters raised in the original submissions.

David Keith Wanty

15 June 2021

ANNEX 1: HCC GIS aerial of the site and adjoining Cottle Park and local road network

ANNEX 1: HCC GIS aerial of the site and adjoining Cottle Park and local road network

APPENDIX 6.3 EVIDENCE OF GARY CLARK (TRAFFIC CONCEPTS LTD) - SEPTEMBER 2021

BEFORE THE HUTT CITY COUNCIL

IN THE MATTER OF	The Resource Management Act 1991 (the Act)
AND	
IN THE MATTER	Proposed Private District Plan Change 53 – Rezoning of land at 190, 236 and 268 Stratton Street from General Rural Activity Area to Rural Residential Activity Area with site specific provisions.

EVIDENCE OF GARY CLARK
Dated 30 August 2021

QUALIFICATIONS

1. My name is Gary Paul Clark. I am a Chartered Professional Engineer and hold a New Zealand Certificate in Civil Engineering. I meet the standards to be a Registered Engineers Associate (REA) and I am a Member of the Institution of Professional Engineers NZ (MIPENZ) and its specialist Transportation Group. I am a chartered professional engineer that specialises in traffic engineering and transportation planning.

2. I have post graduate passes and masters papers for Traffic Engineering, Advanced Traffic Engineering and Accident Prevention and Reduction. I am also a Certified Road Safety Auditor and assisted in writing the "Road Safety Audit Procedures for Projects" publication released by NZTA. I also co-published the NZTA document "The Ins and Outs of Roundabouts". I was a certified Commissioner after completing the Making Good Decisions Commissioners Course. I chose not to be recertified.

3. I have been working in the road and traffic industry since 1982. The knowledge and experience gained over 39 years includes most road and traffic related matters, and in particular elements around planning, design and safety. I have prepared transportation assessments for both small and large developments throughout New Zealand, conducted road safety audits and have been engaged in the development of strategies for road and traffic related issues. I have also reviewed and prepared designs for roads, intersections, developments, road safety schemes and town centre redevelopments.

4. I have presented evidence in Resource Consent hearings and the Environment Court for applications in my specialist area of traffic engineering, road safety, transportation planning and road design.

5. Over the last 39 years I have worked for the Ministry of Works, Ministry of Transport, Local Authorities and multi-national consultancies. More recently I was Transportation Manager at Tasman District Council and worked for Traffic Design Group (TDG) which I was a Senior Associate and Branch Manager of the Nelson Office. In July 2018 I decided to return to my own consultancy which has been operating since July 2004. I am the Director of that Company.

6. I have no commercial or other interest in the outcome of this application, nor any conflict of interest of any kind.

CODE OF CONDUCT

7. Although not required for a Plan Change hearing, I confirm that I have read and agree to be bound by the Environment Court Code of Conduct for Expert Witnesses and confirm that I have not omitted to consider material facts known

to me that might alter or detract from the opinions that I express in the following evidence. The evidence I give is within my expertise.

INTRODUCTION

8. Below I outline my assessment of the development in terms of transportation and traffic engineering matters. My evidence, in particular, sets out:

    - Background
    - Key points from my Transport Impact Report dated 07 November 2019.
    - Council's Section 42A Report,
    - Mr Wanty's assessment, and
    - Submissions

9. Information about the location of the PPCR area, road safety and effects are contained in my Transportation Impact Report (**TIR**) dated 07 November 2019. This was included in the PPCR and I do not intend to repeat this material except for the key points or changes since writing my assessment. However, I am happy to provide further clarification should the Commissioners require this.

BACKGROUND

10. I became involved in this project in February 2019. As part of the assessment, I have driven the roads that the Private Plan Change Request (PPCR) area was going to use on several occasions, and I am familiar with the roads in the area. My assessment was completed in November 2019.

11. My assessment of the traffic related effects arising from the PPCR were included in my TIR. The TIR considered the impacts of rezoning land contained within the land at 190, 236 and 268 Stratton Street. The PPCR seeks to change the land to a Rural Residential Activity Area from General Rural Activity Area.

12. The TIR specifically considered the effects of increasing the density of housing within the PPCR area and the likely impacts on the adjacent road network. The application at that time included up to 23 lots that would have access from Stratton Street or Normandale Road.

13. Since writing the TIR significant changes have been made to the application which include the reduction of the number of new lots from 23 to 13 and all access for the PPCR area will be from Stratton Street. These changes have significantly reduced the level of effect of the PPCR area on the adjacent road network.

KEY POINTS FROM MY ASSESSMENT

14. While the scope of my TIR has changed from the one submitted with the application, the key impacts of the PPCR remain largely the same, albeit at a noticeably reduced scale.

15. It should be noted that with the change in the PPCR any effects on the isolated section of Normandale Road, above Stratton Street, have been removed. Also, the reduction in the number of lots from 23 down to 13 (being 10 new lots) also significantly reduce any effects from the PPCR on Stratton Road.

16. The key points from my assessment that remain valid with some adjustments for the changes noted above include the following:

- The planning framework assessment which sets out an assessment of the PPCR against the Hutt City District Plan (HCDP). This assessment showed that generally the PPCR was able to meet these wider provisions of the HCDP. It was noted that while the road network can operate safely there were some constraints created by the road geometry. These constraints affected the convenience of users of the adjacent road network.
- Some improvements would be beneficial on Stratton Street to improve forward distance or create more passing opportunities. With the changes to the PPCR the number of improvements has reduced.
- The increase in traffic will be around 60 trips per day (adjusted for 10 lots) or around six trips in the peak hour.
- The increased vehicle movements along Stratton Street will be indiscernible to other road users.
- The current levels of safety experienced by existing users will remain the same as the existing situation.
- The only expected change from a traffic perspective is the increased level of inconvenience some road users may experience as a result of needing to wait more often for opposing traffic, albeit small in number.
- The TIR noted that some road improvements would benefit all road users, but care was needed to ensure these did not lead to adverse effects. The current road alignment provides a safe speed environment due to the current geometry and other constraints. Changes need to ensure the operating speeds remain low.

- The possible road improvements could include the removal of vegetation to improve short sections of forward sight distance and minor road widening to provide additional passing bays.

17. The conclusion of the TIR was that the PPCR could be accommodated within the surrounding road network, with any effects being less than minor or able to be mitigated with some minor roading improvements.

EFFECTS OF THE CHANGES IN THE PPCR

18. As noted above the PPCR scope has changed from my original analysis and assessment. The scale has been reduced from 23 new lots with indicated access from Stratton Street (17) and Normandale Road (6) to 10 new lots (13 lots included the existing homes) solely from Stratton Street.

19. These changes have removed all effects from the section of Normandale Road above Stratton Street and reduced the impacts on Stratton Street.

20. The conclusion of the TIR remains largely the same with any effects from the amended PPCR being less than minor. While road improvements will provide some benefit to road users, they are not critical to safety or efficiency of the road network.

SECTION 42A PLANNERS REPORT

21. The Section 42A Report has been prepared by a Consultant Planner (Mr Kellow) on behalf of the Hutt City Council. The Section 42A Report recommendation is that the PPCR is approved. This recommendation is based upon analysing and assessing the information provided as part of the request process.

22. His analysis has included the assessments contained within the TIR and Council's Traffic Consultant Mr Wanty. Mr Kellow has specifically relied on Mr Wanty's peer review which considers the reduced scale of the PPCR.

23. The PPCR will allow the rezoning of the General Rural Activity to Residential Rural Activity Area with some site-specific provisions. The only one that relates to traffic is that all access from the new zone must be via Stratton Street.

24. Mr Kellow's Sections 114 through to 122 provides his analysis of the traffic assessment provided for the PPCR.

25. Section 117 notes that there is agreement with the assessments that the number of lots proposed would not be unacceptable and the effects would be indiscernible.

26. Importantly Section 118 agrees with my conclusion of the PPCR. Mr Wanty's peer review has confirmed that adding 10 residential lots would have no more than a minor impact on the safety of Stratton Street and a less than minor impact on other local roads.

27. Section 120 refers to user surveys as a suggestion in Mr Wanty's peer review. I concur with Mr Kellow that while this is outside the PPCR process, it is useful to signal to Council that they should carry out surveys to better understand the future need for improvements on Stratton Street. This is important due to the unknown nature of changes to the use of the regional park at the end of Stratton Street.

28. Mr Kellow concludes that the PPCR is consistent with the objectives and policies of the Regional Policy Statement.

29. Sections 181 through to 188 provides an analysis of the submissions along with his assessment.

30. Section 188 correctly notes that any access to legal road will be subject to the standards within the transport section of the HCDP. Any non-compliance of that access will be assessed at the time of subdivision.

31. Section 226 provides the Section 32 conclusion notes that "As the plan change request has been modified since being lodged, I consider that it will meet the purpose of the RMA". I agree with this statement in regard to the traffic matters. The reduced scale of the PPCR from the TIR provided with the original request has reduced the effects on the local and wider road network.

TRAFFIC PEER REVIEW – MR WANTY

32. Council requested a peer review of the TIR that accompanied the original PPCR. The changes to the PPCR have reduced the number of new lots under a controlled activity from 20 to 10. Accordingly, any effects will also be reduced. There is also no controlled activity status for access onto Normandale Road.

33. The TIR has not been amended for the changes made through the plan change process.

34. Mr Wanty's assessment is contained within Appendix 2 of the Section 42A report. This assessment is written in the form of evidence. His summary of his conclusions

in Sections 13 to 15 are most useful and I am in general agreement with the amended PPCR and Mr Wanty's view.

35. There is agreement between myself and Mr Wanty that improvements should be made to Stratton Street, and these could be made as part of the general maintenance by Council. These improvements would address any potential effects.

36. Surveys will assist Council in determining the extent of improvements and timing. Road inspection surveys will determine the additional road signage of the appropriate posted speed limit that may be required. I note that this is a matter for Stratton Street regardless of the PPCR outcome.

37. Site access locations can be located and assessed as part of the subdivision consent application.

38. Mr Wanty has two recommendations being set out in Sections 16 and 17. In principle I agree with the recommendations. However, I note that these fall outside the PPCR process. The recommendations identify matters that Council will need to consider as part of its management of the road network and the change to the land zoning.

39. In sections 21 through to 26 Mr Wanty has carried out an expanded search of the Waka Kotahi database to include reported crashes since 2010. While useful, only the last five calendar years is typically used for analysis for this area. It is noted in Section 22 that Waka Kotahi take this approach with Megamaps and is consistent with my analysis of the crash risk.

40. For completeness I have looked at the same data search (reported crash since 2010) to consider and make comments on. Firstly, there are only three reported crashes on Stratton Street since 2010 as noted below:

    - The first crash occurred in 2010 and involved a motorcyclist and car colliding head on. This minor injury crash occurred around 250 metres north of the Cottle Park Drive intersection.
    - The second crash (minor injury) occurred in 2012 and involved an alcohol impaired driver losing control of their vehicle. This crash occurred at the southern boundary of 268 Stratton Street. The driver was travelling at speed and lost control of the vehicle when it went over a speed hump.
    - The third crash (serious) occurred in 2019 and is the only crash in the most recent five year period. This involved a postie losing control of their motor bike on loose gravel.

41. The only crash involving two vehicles occurred in 2010, being more than 10 years ago. The other crash outside the five-year crash period involved alcohol and speed.

42. The only reported crash within the five-year period involved the local postie (regular user) losing control of their motorbike on loose gravel when turning left. The cause of the crash was not related to other vehicles, the road geometry or sight distance. Most likely a maintenance issue.

43. While Stratton Street is a narrow road, the crash history shows it operates safely with road users taking the appropriate level of care when travelling along the road.

44. In sections 43 through to 63 Mr Wanty and I agree that any wider traffic effects from the PPCR are less than minor, with any potential adverse effects limited to Stratton Street from the intersection of Cottle Park Drive.

45. Mr Wanty concurs with my assessment that vegetation trimming to improve sight lines and widening will be beneficial.

46. In Sections 62 through to 64 Mr Wanty discusses the site accesses. He correctly notes that the TIR was based on the original PPCR with 23 new lots. The design and location of the site accesses will be subject to the provisions of the HCDP and will be considered as part of any future subdivision.

47. The final section of Mr Wanty's assessment deals with submissions which I address separately below.

48. In summary Mr Wanty's analysis and assessment of the TIR prepared for the original PPCR and his own assessment concludes that any impacts of the PPCR are no more than minor. This was confirmed in an email dated 24 August 2021.

SUBMISSIONS

49. As noted above there have been significant changes to the PPCR as lodged with all access from Stratton Street and the overall proposal being reduced in scale from 20 new lots to 10 lots. These changes have addressed some of the submitter's concerns and accordingly these submissions may not be relevant to the amended PPCR.

50. For the purpose of my assessment below I have taken the Reporting Planner's description of submitters as set out in sections 20 through 24 of the Section 42a Report and also Appendix 1. There were seven submissions and three further submissions received. Generally, the submissions included concerns about transport, access to the site and road safety.

51. I have not specifically commented on each submission with the general themes picked up from submitters unless there was a specific need to address a particular matter. The general themes from the submitters included the following:

- High speeds down Cottle Park Drive and the impacts on the intersection of Stratton Street,
- Widening of Stratton Street to Poto Road,
- Other road users
- Other developments/activities that have occurred without considering the effects.

52. My assessment of the matters raised by submitters have been largely covered in my TIR or Mr Wanty's analysis of the PPCR. While the concerns of the submitters are noted, the level of change from the PPCR is small. Generally, and as noted in the TIR and Mr Wanty's analysis, the change in the levels of safety will be indiscernible to other road users. This is not to downplay the submitters concerns. This conclusion is based on the low level of movements generated by the PPCR and noting that new users will be locals and know the constraints of Stratton Street.

53. The intersection of Stratton Street and Cottle Park Drive was assessed in the TIR. The assessment showed that the available sight lines are around 60 metres to the south and 75 metres to the north. The posted speed limit is 50 km/h. In this road environment the available sight lines are sufficient for vehicles travelling around 65 km/h. Vehicles are able to exit Stratton Street safely.

54. Submissions included a request to widen Stratton Street from Cottle Park Drive to Poto Street (Miromiro Road intersection). As noted in the TIR and Mr Wanty's analysis the width of Stratton Street south of Cottle Park Drive is sufficient for two-way traffic. The available road provides the level of service that is appropriate on this part of the road network.

55. Submissions have noted that Stratton Street is narrow with blind corners and different road users. The TIR and Mr Wanty's assessment also noted the road geometry and the constraints along Stratton Street. It is not steep and the road formation itself is appropriate for a rural road. I would agree with the submission that the posted speed of 50 km/h is too high for Stratton Street. A more appropriate speed limit would be 30 km/h and is consistent with Waka Kotahi Megamaps analysis. However due to provisions of the speed management practices it could only be lowered to 40 km/h. Council should investigate lowering the speed limit on Stratton Street as part of its next round of bylaw changes for speed limits.

56. The PPCR has been amended and now consists of 10 new lots (as opposed to 20) from Stratton Street which has further reduced any effects. Both the TIR and Mr Wanty's assessment noted the need for some improvements to Stratton Street. However, the improvements should be completed as part of Council's management of the road corridor regardless of the outcome of the PPCR as this is an existing concern.

57. With respect to the different road users, this was noted by myself and Mr Wanty. Stratton Street is used by different road users and provides access to a regional park. Typically, rural roads do not have facilities for all road users, and they are not required under roading cross section standards for these types of roads. NZS 4404 provides guidance around road cross sections.

58. With rural and suburban roads up to 20 homes, the expected requirement is pedestrians and cyclists share the road with vehicles. If Council believe there is a need to treat Stratton Street differently from other similar roads in Hutt City, then this would form part of an infrastructure improvement and should be provided for in the Long Term Plan.

59. Some Submitters have noted the changes that have occurred more recently with increased activity from projects completed by Greater Wellington Regional Council (GWRC). I am not aware of any consents sought by GWRC or if consents are needed for the increased activity with access to Stratton Street. As noted in the TIR, the increase in traffic does not necessarily make Stratton Street unsafe. This is due to more care being taken by all road users as the likelihood of conflicts increases. The TIR did note that with more traffic there is likely to be more inconvenience as more traffic will result in a greater need to stop and wait. This will become more unacceptable over time and with no control on uses of the GWRC land.

60. Submissions have noted that increases on Stratton Street are not small (on a percentage basis). While accepting from a percentage approach the increases can appear significant, this must be taken into context with the actual number of movements. The amended PPCR will generate around six additional movements in the peak hour or one every 12 minutes. This is a very low number of vehicle movements which would be indiscernible to users of the road.

61. The distance from Cottle Park Drive intersection to the access of the last part of the PPCR area is around 2.3 kilometres. The operating speed along Stratton Street is around 30 km/h. It takes around four to five minutes to drive the length of Stratton Street noted above. The likely chance of meeting a vehicle associated with the PPCR is low and less than one every time an existing resident uses the

road. Furthermore, as you move further north along Stratton Street the chances of meeting a vehicle from the PPCR reduces.

62. This fact highlights the need for any improvements to width (for passing) or sight lines to be focused on the southern parts of Stratton Street. This is consistent with my view of the required improvements and aligns with Mr Wanty's assessment as well.

63. The comments about the legal road name of the more northern parts of Normandale Road are noted. The Hutt City GIS does not make any change to the name of the road in their system. However, regardless of the name of the road, if it is legal road reserve then adjacent property owners, as well as the general public have the right to use it, unless it is restricted by a Limited Access Road notice or some other legal restriction. With the changes to the PPCR which requires all access from Stratton Street, this matter has been resolved. Council may want to consider a legal instrument to prevent access to the northern part of Normandale Road (and Old Coach Road) if they think access needs to be controlled.

CONCLUSIONS

64. The PPCR has gone through a rigorous process with appropriate technical assessments considering the potential adverse effects. These assessments have been considered by Council and its advisers.

65. The PPCR has been amended which has seen the total number of new lots drop from 20 to 10. All access for the new lots is from Stratton Street. The original PPCR had 17 lots with access from Stratton Street. Accordingly, the amendments to the PPCR will have a lesser effect than originally proposed with only ten new lots from Stratton Street.

66. The expected increase in the number of movements on Stratton Street are around 60 per day or six in the peak hour. This equates to around one vehicle movement every 12 minutes at peak times and less over the rest of the day. This is a very low number of vehicle movements.

67. The TIR and the Council traffic adviser (Mr Wanty) are in general agreement that the overall traffic related effects of the PPCR are deemed to be no more than minor on Stratton Street and less than minor on the wider road network.

68. The analysis in the TIR and Mr Wanty's assessment are also in agreement that some improvements to Stratton Street are required to better provide existing users and for future users. These improvements generally consist of low cost works to improve forward sight through vegetation trimming and passing

opportunities through minor road widening in isolated locations. This should be considered by Council regardless of the outcome of the PPCR in order to address existing issues.

69. The crash history, even if it includes reported crashes back to 2010, shows that there have only been three crashes over this time period. This is around one crash every three and half years. More recently the crash rate is much lower and less than one crash every five years.

70. I am happy to answer any questions the Commissioners have.