FLYGERS INVESTMENT GROUP LIMITED

PRIVATE PLAN CHANGE REQUEST FOR WHISKEY CREEK RESIDENTIAL AREA, PALMERSTON NORTH.

20 APRIL 2021

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REPORT INFORMATION

Report Status	Final
Our Reference	PT0162
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Author	Paul Thomas
Review By	Kevin Judd

PART A

REQUEST FOR A CHANGE TO THE OPERATIVE PALMERSTON NORTH DISTRICT PLAN

REQUEST TO CHANGE THE PALMERSTON NORTH DISTRICT PLAN PURSUANT TO SECTION 73(2) AND IN ACCORDANCE WITH PART 2 OF THE FIRST SCHEDULE OF THE RESOURCE MANAGEMENT ACT 1991

To: The Chief Executive

Palmerston North City Council

32 The Square

Palmerston North 4410

1. Flygers Investment Group Limited requests the plan change set out below.

2. Description of the Plan Change

The requested Plan Change involves the rezoning of approximately 12.9 hectares of land from Rural Zone to Residential Zone and an area of 10 hectares of land adjacent to that from Rural to Recreation Zone to establish the Whiskey Creek Residential Area. The remainder of 611 Rangitikei Line shall remain with its current Rural Zone.

The area is located at the northern urban edge of the City adjacent to Rangitikei Line. The land abuts existing residential land at Meadowbrook Drive.

Part of the plan change site is also currently within the District Plan Flood Prone Overlay. The development of the land will involve earthworks that will reduce the area subject to flood risk. The plan change request, therefore, also includes amendment to the Flood Prone Overlay in accordance with Plan A below. This aspect of the change shall only take effect once the earthworks has been completed. Consequently, it is proposed to seek resource consent for the earthworks ahead of completion of the plan change so that specific cross reference to this consent can be included in the Plan provisions.

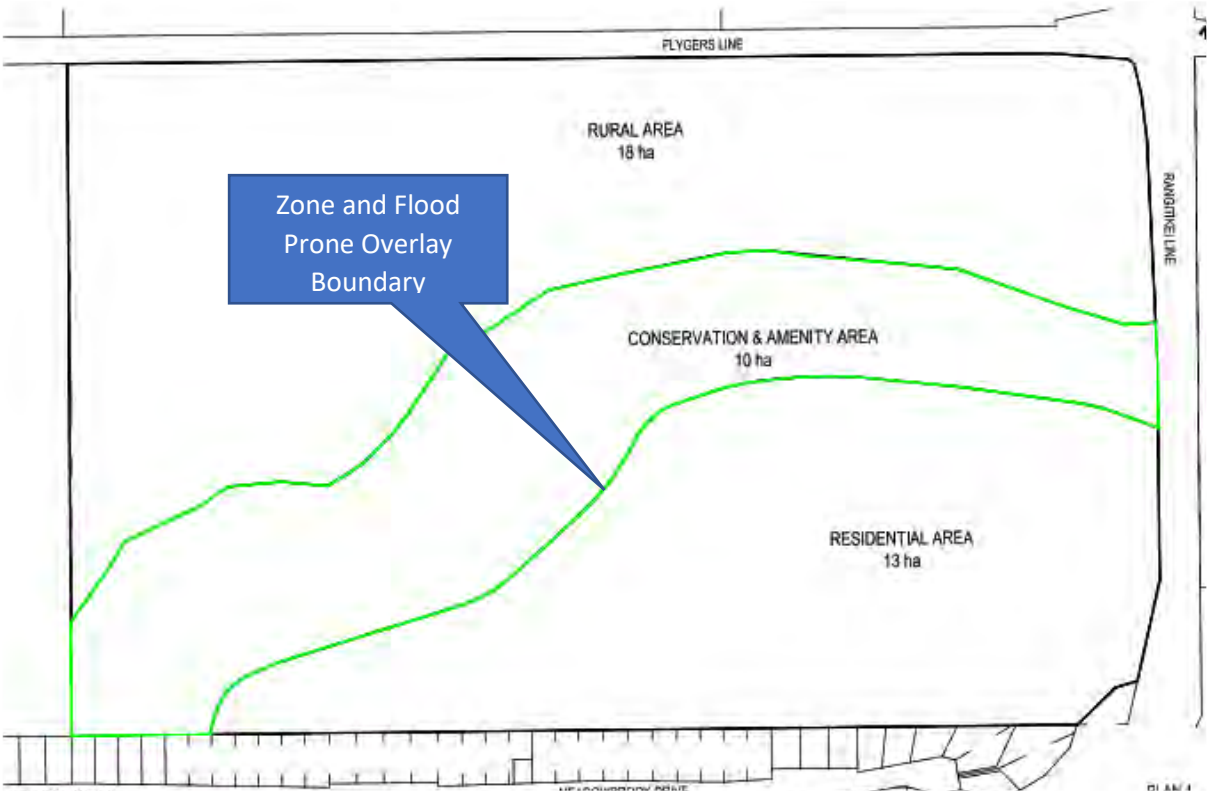
The land to which Plan Change relates consists of four properties as follows.

1. The 19.2 hectare property owned by Flygers Investment Group Limited with the address of 611 Rangitikei Line and described as Lot 2 DP 389924 in the title referenced WN493/128.

2. The adjacent 20.23 hectare property owned by Flygers Investment Group Limited with the address of 165 – 243 Flygers Line and described as Part Section 553 Town of Palmerston North referenced in title WN329/81.

3. The property of 0.86 hectares with a single large dwelling at 609 Rangitikei Line owned by Mr Bruce Robertson. The land is described as Lot 1 DP 389924.

4. 127 Benmore Avenue being Lot 14 Deposited Plan 40933 described in the title referenced WN10D/573.



Plan A

The Plan Change incorporates site specific provisions into Section 7A Greenfield Residential Areas. This section of the District Plan was repurposed to be the framework for all new Greenfield Areas as part of Plan Change C.

The Plan Change also includes the Whiskey Creek Structure Plan.

3. Proposed Changes to the Operative Palmerton North District Plan.

The specific changes to the District Plan proposed are as follows:

1. Changes to Section 4 Definitions

Add the following definition

Whiskey Creek Residential Area:

means the Greenfield Residential Area shown in the Whiskey Creek Structure Plan.

Amend Pressure Sewer Areas definition to include:

- *The Whiskey Creek Residential Area as shown on Map 7A.3.*

2. Changes to Section 7A: Greenfield Residential Areas

Add an additional bullet to 7A.1 Introduction paragraph 2.

- *The Whiskey Creek Residential Area (Map 7A.3)*

Add an additional Resource Management Issue to 7A.2

10. The effects of development on the Lower Manawatu Drainage Scheme.

Add an additional Policy Section 7A. 3 under Objective 2 being Policy 2.8:

4.8 To ensure that subdivision in the Whiskey Creek Residential Area:

- *Avoids, remedies or mitigates adverse effects on the Lower Manawatu Drainage Scheme*
- *Provides for restoration of the ephemeral tributary of Whiskey Creek as recreational reserve with quality recreational links.*
- *Provides appropriate setbacks of buildings from the natural gas pipeline that traverses part of the area and locates the pipeline within a public service corridor.*
- *Provides for vehicle access to both Benmore Avenue and Rangitikei Line.*
- *Has regard for the existing residential subdivision boundaries where it abuts Meadowbrook Drive.*

Add to 7A.4 Methods - General

- *The Whiskey Creek Structure Plan (Map 7A.3)*

(iii) Changes to Section 7A.5 Residential Zone

Add to 7A.5.2 .2 Performance Conditions for Restricted Discretionary Activity.

Part (d) Lot Size.

Sub part (i) add at the end of this clause:

, except for the Whiskey Creek Residential Area which must have an average lot size of 400m^2 – 500 m^2.

Sub part (iii) amend to read:

*No single lot shall exceed 1000m2 (except **neighbourhood centre lots** and balance lots).*

R7A.5.2.3 Assessment Criteria for Restricted Discretionary Activity

Insert (h) as follows:

(h) Subdivision design and layout within the Whiskey Creek Residential Area.

(i) *The extent to which the design and layout avoids, remedies or mitigates adverse effects on the Lower Manawatu Drainage Scheme.*

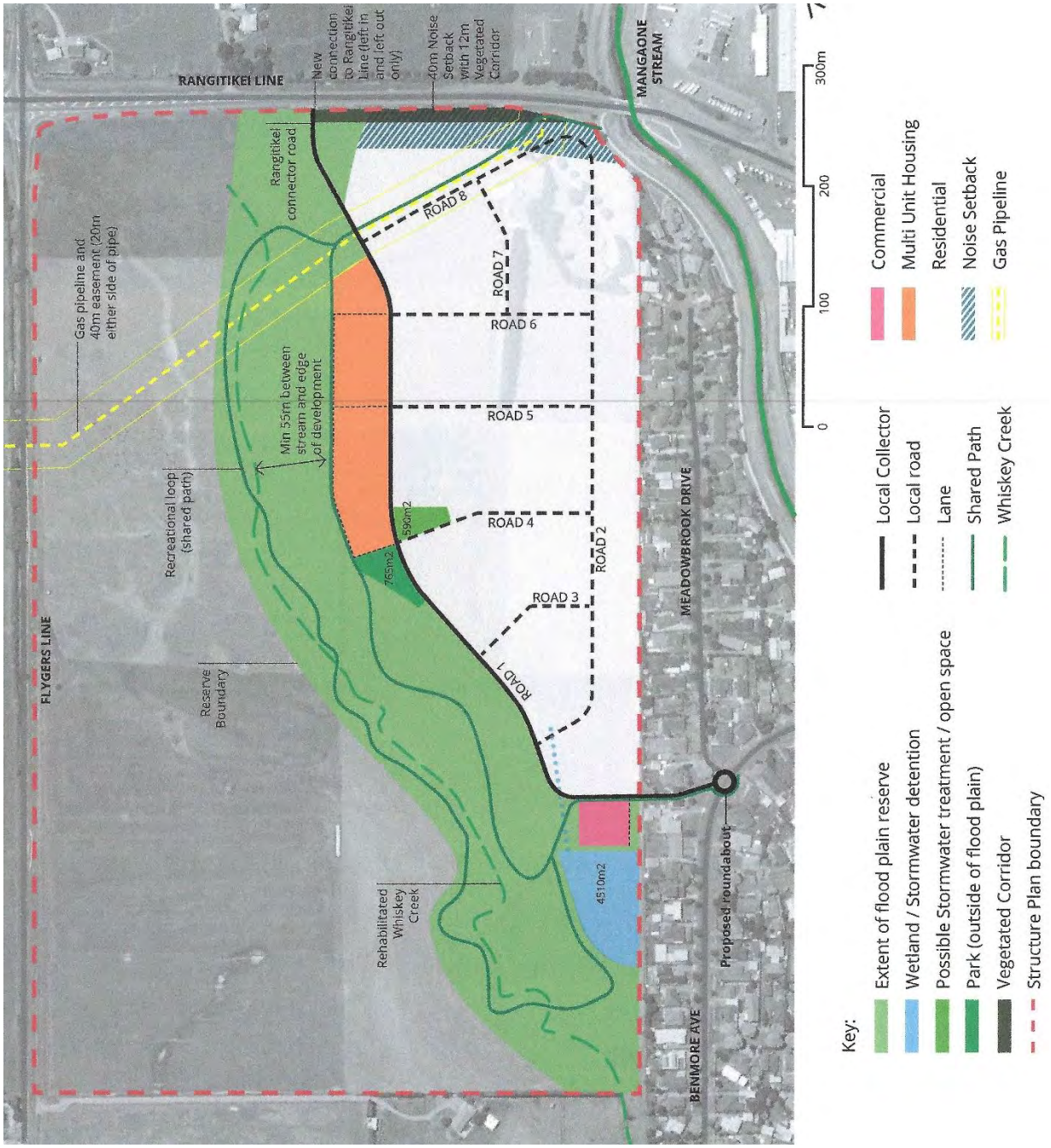
(ii) *The extent to which the design and layout provides for restoration of the ephemeral tributary of Whiskey Creek as recreational reserve with quality recreational links.*

(iii) *The extent to which the design and layout provides appropriate setbacks of buildings from the natural gas pipeline that traverses part of the area and locates the pipeline within a public service corridor.*

(iv) *The extent to which the design and layout provides for vehicle access to both Benmore Avenue and Rangitikei Line.*

(v) *The extent to which lot boundaries are consistent with the existing residential lots in Meadowbrook Drive where the lots abut those properties.*

Insert Map 7A.3.


RANGITIKEI LINE
New connection to Rangitikei Line (left in and left out only)
40m Noise Setback with 12m Vegetated Corridor
MANGAONE STREAM
Rangitikei connector road
ROAD 8
ROAD 7
ROAD 6
ROAD 5
ROAD 4
ROAD 3
ROAD 2
ROAD 1
Gas pipeline and 40m easement (20m either side of pipe)
Min 55m between stream and edge of development
Recreational loop (shared path)
599m2
765m2
4510m2
Reserve Boundary
FLYGERS LINE
MEADOWBROOK DRIVE
Rehabilitated Whiskey Creek
Proposed roundabout
BENMORE AVE
0
100
200
300m
Key:
Extent of flood plain reserve
Wetland / Stormwater detention
Possible Stormwater treatment / open space
Park (outside of flood plain)
Vegetated Corridor
Structure Plan boundary
Local Collector
Local road
Lane
Shared Path
Whiskey Creek
Commercial
Multi Unit Housing
Residential
Noise Setback
Gas Pipeline

Map 7A.3.

(iv) Changes to Section 10 Residential Zone

10.3 Objectives and Policies

Insert Policy 9.7

To enable multi-unit housing development within the Whiskey Creek Residential Area in accordance with the Structure Plan (Map 7A.3).

10.6.1.5 Dwellings and Accessory Buildings in the Greenfield Residential Areas.

Performance Standards – Insert the following

(b) Maximum Building Height, Height Recession Planes and Overlooking

iii No building within the Whisky Creek Residential Area on lots that abut existing residential boundaries on Meadowbrook Drive shall exceed a maximum height of 5 m.

(c) Separation Distances

iii Any building other than an accessory building shall be located a minimum of 20 m from the Gas Pipeline located within the Whiskey Creek Residential Area and shown on Map 7A.3.

(d) Site Area and Coverage

Insert ii. (c) Dwelling units in the Whiskey Creek Residential Area shall have the following permeable areas:

25% of the net site area for each dwelling where this is between 171m^2 and 366m^2

30% of the net site area for each dwelling where this is between 367m^2 and 449m^2

35% of the net site area for each dwelling where this between 450m^2 and 561m^2

40% of the net site area for each dwelling where this between 562m^2 and 1050m^2

(e) Acoustic insultation and Setbacks for the Whakarongo Residential Area

add to heading *and Whiskey Creek Residential Area*

Amend Rule 10.6.3.3 to read: (amendment shown in bold)

Multi-unit residential development in the multi-unit housing areas identified on Maps 10.6.3.3(a)-(g) **and Map 7A.3** is a Restricted Discretionary Activity with regard to:

Amend I b) to read:

A minimum notional site area of 150m^2 applies if the development site is located within either Areas B, D, G **or the multi unit housing area shown on Map 7A.3.**

Amend ii b) to read:

Each unit must have a gross floor area greater than 60m^2, if the site is located within either Areas B, D, G **or the multi unit housing area shown on Map 7A.3.**

Amend (vi) by adding:

In the Whiskey Creek Residential Area multi unit housing area identified on Map 7A.3 the following applies:

(i) No building may exceed a height of 11 m

(ii) All parts of a building shall be contained within a 60 degree plane commencing at 3 metres above ground level inclined inwards at right angles in plan.

(iii) Front yard fences shall not exceed a height of 0.9 metres.

(v) Where a fence is erected along a property boundary directly adjoining public open space it shall not exceed 0.9 m.

Amend Rule R 10.7.3.5 Commercial Activity

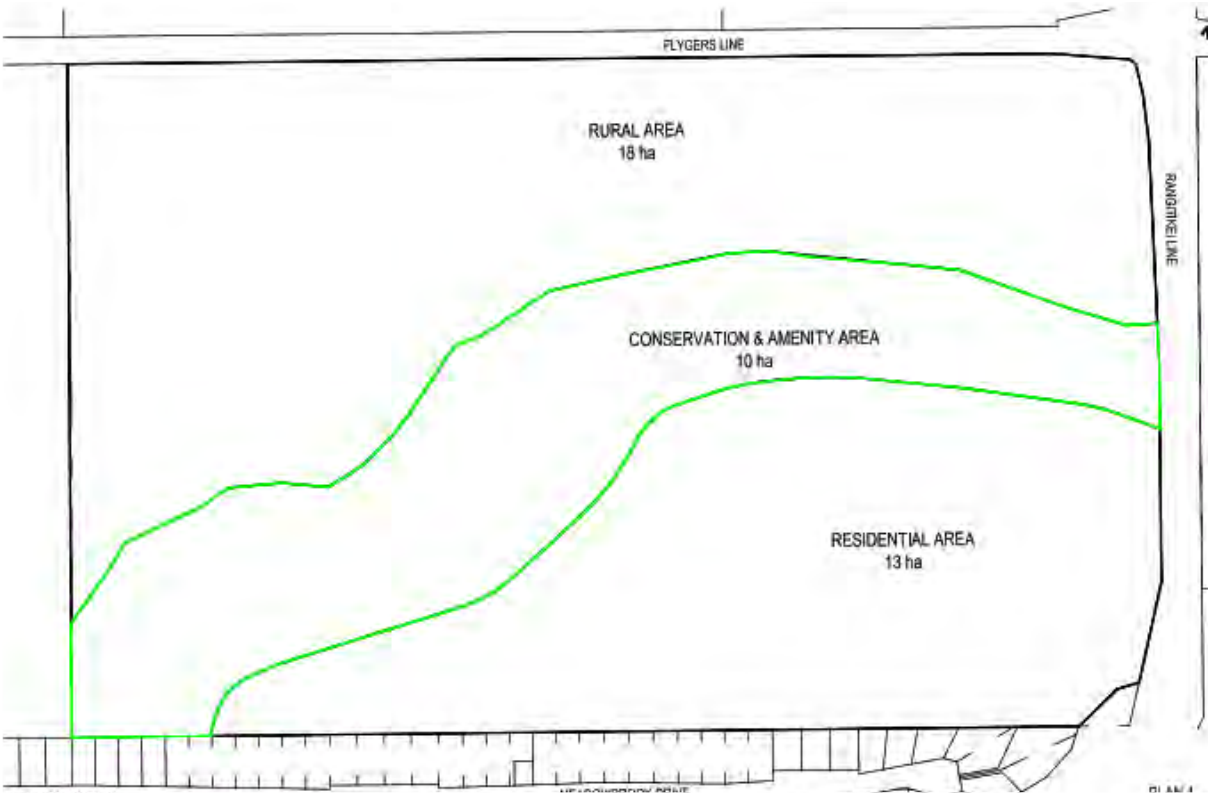
Delete from this rule the words:

and the application is included as part of the application for subdivision consent

(vi) Changes to the District Plan Maps

Amend the District Plan Maps to zone the Whiskey Creek Residential Area part Residential, part Conservation and Amenity Zone and part remaining as Rural as shown on Plan B.

Amend the Flood Prone Overlay boundary associated with the Whiskey Creek Residential Area to the boundary of the Residential Zone as shown below with the following annotation. *"The change to the Flood Prone Overlay shown here shall take effect once the earthworks authorised in Resource Consent XXXXXX have been fully implemented."*



Plan B

(vii) The Purpose Of The Plan Change Request

The purpose of the Plan Change Request is to enable residential development of the land to be zoned residential in accordance with a structure plan that addresses the key opportunities and constraints. This includes development of a reserve along the western edge of the development.

(viii) The Reasons For The Plan Change Request

The reasons for the Plan Change Request include:

- To assist in meeting future residential needs of Palmerston North in accordance with the City Development Strategy.
- The site is well located for both town centre, employment and community facilities. Earthworks are proposed to reduce the extent of flood prone area and increase the developable area whilst protecting the functioning of the Lower Manawatu Drainage Scheme.
- In conjunction with the residential development the former Whisky Creek stream bed will be redeveloped as a green corridor and will form a public reserve.

Additional information on the purpose and reasons for the Plan Change Request is provided in later sections of this report.

(ix) As required by Clause 22 of the First Schedule to the Resource management Act 1990 the attached report includes an Assessment of Environmental Effects and an evaluation report prepared in accordance with Section 32 of the Act.

Signed by the agent for the requestor

Paul Thomas:

Thomas Planning Ltd

Date: 20 April 2021

Address for service for the applicant:

Thomas Planning Limited

2A, Jacobsen Lane

Ngaio

WELLINGTON 6035

Attention: Paul Thomas

Telephone No: (04) 4795034

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PART B

PLAN CHANGE REQUEST ASSESSMENT AND EVALUATION

WHISKEY CREEK RESIDENTIAL AREA

1. BACKGROUND TO THE PLAN CHANGE REQUEST

The land associated with this plan change request is located at the northern urban edge of Palmerston North. It is bounded to the northwest by Flygers Line and to the northeast by State Highway 3. To the south is the northern edge of the Cloverlea residential area.

The Mangaone Stream flows south to the east of the site and separates the Cloverlea residential area from the Bennett Street industrial area.

Whiskey Creek previously flowed through the site but was diverted to a watercourse adjacent to the western side of Flygers Line as part of the Lower Manawatu Drainage Scheme. However, there remains a length of ephemeral stream within the site. Further, a large part of the area is affected by sheet flow across State Highway 3 through the site in a 1 in 100 year AEP flood event in conjunction with the triggering of the Flygers Line Spillway located further north.

The land adjoins properties on the north west side of Meadowbrook Drive which is a cul-de-sac off Benmore Avenue. Benmore Avenue is classed as a Collector Road and links Cloverlea to Rangitikei Line via Bennett Road in the northeast and Gillespies Line to the south west.

All the land is currently zoned Rural as shown in Figure 1 which also shows the extent of the Flood Prone Overlay. The land is currently used for cropping, generally for maize.

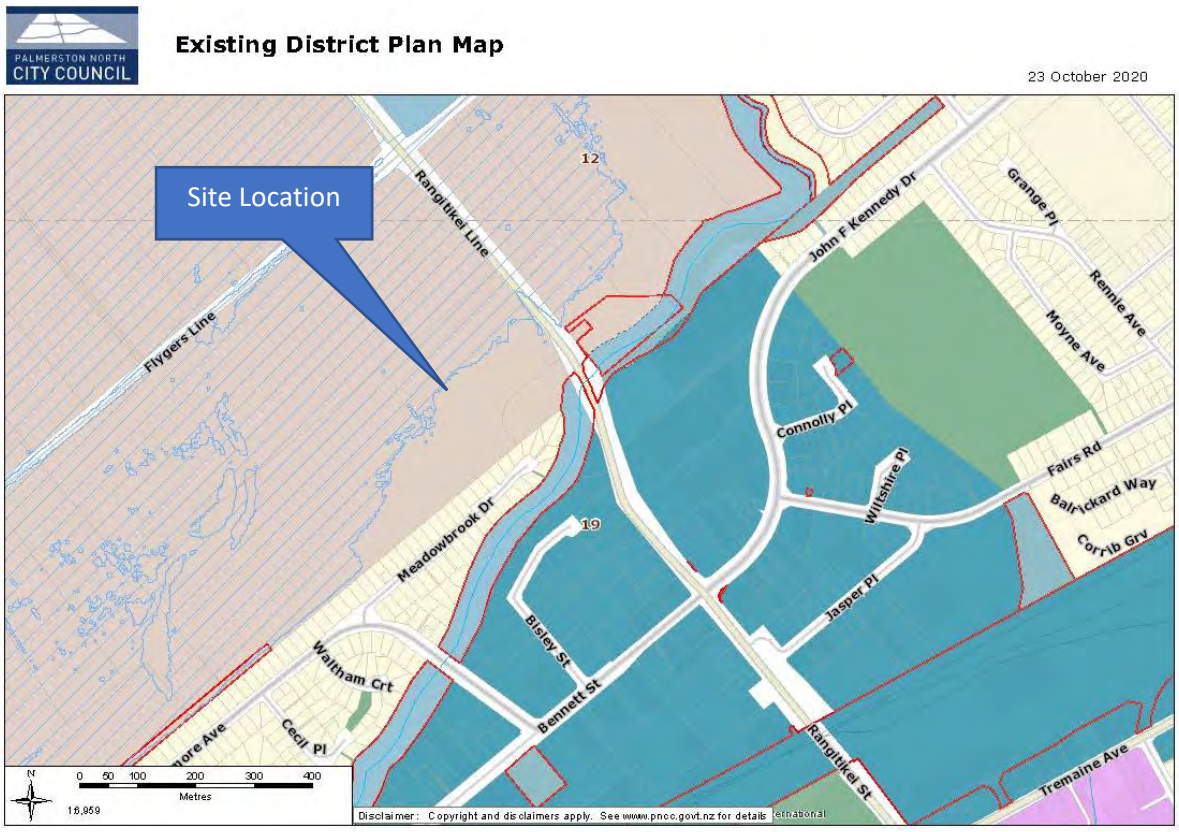

Figure 1: Existing District Plan Map

As much of the site is flood prone, consideration was given to whether the area of developable land could be increased by cut and fill earthworks from the land that is flood prone.

After initial discussions with Horizons Regional Council DHI Ltd was commissioned to model a number of different earthworks scenarios. This showed that with a specific earthworks design the operation of the flood prone ponding area can be protected without adverse effects on other land. The assessment was reviewed by both Horizons Regional Council and Palmerston North City Council before proceeding to develop this plan change.

The effect of this is that the developable area is increased from 7 hectares to nearly 13 hectares. The flood management issues are considered in more detail in Section 11 of this report and the DHI Ltd assessment is provided at Appendix 2.

The Plan Change development process from this point is detailed in Section 10.

Figure 2: The Plan Change Area Viewed From Flygers Line.

2. BRIEF DESCRIPTION OF THE PROPOSED PLAN CHANGE

The Plan Change Request is to provide objectives, policies and rules for the development of the land in the manner shown on the Proposed Structure Plan.

The land is proposed to be zoned part Residential Zone, part Conservation and Amenity Zone and part is to remain as Rural Zone as shown in Figure 3 below.

Figure 3: The Proposed Zones.

The scope of provisions to be inserted in the Plan include:

Section 7A: Greenfield Residential Zone

- An additional policy relating to site specific issues associated with development of the area.
- Assessment criteria for subdivision and development of the land which will apply to Restricted Discretionary Activities.
- An average lot size for the development.
- Inclusion of a Structure Plan.

Section 10: Residential Zone

- Policy and provisions to enable multi unit housing as shown on the Structure Plan with some amended performance standards.
- An additional performance standard for lots that abut the existing residential properties on Meadowbrook Way relating to building height.
- Additional performance standard for building setback from the gas pipeline.
- Application of existing acoustic insulation and setback rules.

In addition, it is proposed to amend the Flood Prone Overlay to match the changed flood prone area once recontouring of the land has been completed. To formalise this, it is proposed to apply for consent for this work in advance of completion of the Plan Change.

The specific details of the plan change are set out in the request in Part A and also in Section 12.

2 THE EXISTING DISTRICT PLAN PROVISIONS FOR THE LAND

The entire site is currently zoned rural in the operative Palmerston North District Plan and much of the land is affected by the Flood Prone Overlay as shown in Figure 1 above.

In this zone subdivision of land down to 20 hectares is enabled as a Controlled Activity, except for subdivision of a surplus dwelling which has a 1 hectare minimum and 2 hectares maximum.

Permitted activities in the Rural Zone include farming, horticulture, production forestry, home occupations and roads.

The land does not have a rural residential overlay. However, one dwelling is permitted on sites of 20 hectares or less and 2 dwellings on sites over 20 hectares.

Garden centres, home occupations with retailing, some nurseries and roadside stalls, dependant dwelling units and expansion of existing listed industries are all classed as Controlled Activities.

The policy framework for the zone emphasises the following:

- protection of rural land from the effects of unplanned urban expansion,
- encouraging the effective and efficient us of the resources of the rural area
- maintaining or enhancing the natural character
- enhancing the diversity of the rural community
- managing the effects of and on Palmerston North Airport
- protecting outstanding natural features and landscape and
- enabling renewable energy developments and managing the effects of them on the environment.

The existing zone is clearly inappropriate for managing the urban development of part of the site and the development and use of the reserve. Therefore, given the nature of the development proposal a change to the District Plan is both necessary and appropriate.

3 THE PLAN CHANGE REQUEST PROCESS

Part 2 of the First Schedule to the Resource Management Act sets out the requirements and process of approval of a Private Plan Change. The request is required to explain the purpose of, and reasons for, the proposed plan change. It is also required to contain an evaluation in accordance with Section 32 of the Act. The environmental effects of implementation of the plan change are required to be described in such detail as corresponds to their scale and significance.

The request is reviewed by the local authority which may request further information to better understand the plan change within 20 working days. As a result of this further information the local authority may, with the agreement of the person who made the request, modify the request.

Then within 30 working days the local authority must decide whether the request is to be adopted as its own plan change, continue as a private plan change, or is to be dealt with as if it were an application for a resource consent.

The authority may also reject the request at this point but only on grounds that it:

- Is frivolous or vexatious
- Is the same as a matter dealt with in the last 2 years
- Is not in accordance with sound resource management practice.
- Would be inconsistent with Part 5 or
- The Plan has been operative for less than 2 years.

If accepted as a private plan change, the local authority is then required to prepare the plan change in consultation with the requestor and within 4 months must notify the change for submissions.

Once accepted the procedure is the same as that for a Council plan change. Submissions are summarised and notified for further submissions and then a hearing of submissions is conducted.

The decision of the local authority is then publicly notified and submitters and the requestor have the right of appeal to the Environment Court.

4 COUNCIL STRATEGIES

There are a number of current Palmerston North City Council Strategies that have some relevance to this proposal and have been had regard to in developing the Plan Change.

Of perhaps greatest importance is the City Development Strategy 2017 which provides the overall direction of urban growth for the next 20 years. It proposes to accelerate the City's growth and prosperity and adopt sustainable development practices. It seeks to establish a clear planning framework to promote growth and urban development by providing certainty for public and private investment. This includes an adequate supply of development land with infrastructure to support growth. It also includes a specific target of 12,000 more jobs in Palmerston North by 2028.

The strategy proposes to release land at City West earlier than previously anticipated and this has been achieved in part through the Kikiwhenua Residential Area. It also proposes to work with the land owners at Napier Road and Flygers Line on small greenfield additions to the housing land supply.

This plan change request is that referred to as "Flygers Line" in the Strategy. It is, therefore, fully in line with the Council current housing land supply strategy.

The Council is currently preparing a new 10 Year Plan. This is still in draft form for consultation and not approved by Council so the relevant plan is the 10 Year 2018 – 28. The City Development Strategy is built into this 10 Year Plan along with a host of other strategies and plans.

Goal 1 is an Innovative and Growing City. The City Development Strategy is a key means of achieving this goal.

"Palmerston North is expanding, and Council wants to accelerate the city's growth and prosperity. Having a ready supply of land with infrastructure to support the city's growth will ensure Council can harness new development opportunities and increase Palmerston North's competitiveness. Council will provide infrastructure in a timely way while managing the financial risks of providing too much

infrastructure in multiple locations. Integrating land use planning and infrastructure can be a powerful economic development tool. The Government has provided strong direction about this, particularly for housing, in its National Policy Statement for Urban Development Capacity (2016)."

The Plans under this strategy are:

• ***District Plan***

The plan change request seeks to change the District Plan to provide for a residential development capable of accommodating 160 dwellings in a sustainable manner. The City View Objectives in the Operative District Plan are assessed in Section 11.

• ***Housing and Future Development Plan***

This Plan seeks to ensure that residential land supply exceeds demand by 20%. This means there is a constant supply of at least 1,800 greenfield residential sections. It also recommends zoning changes to provide additional housing choice and specifically refers to Napier Road and Flygers Line.

• ***Strategic Partners Development Plan***

The development of the Plan Change Request has recognised Rangitane o Manawatu as mana whenua and as a strategic partner of the Council.

• ***Urban Design Plan***

This plan seeks to ensure that principles of good urban design are elevated to be an *"intrinsic and effective part of everyday city making and co-creation."* Strong urban design principles underpin this plan change request and are detailed later in the report and in Appendix 3.

• ***Heritage Management Plan***

While there are few heritage issues associated with the site, the requestor has worked closely with Rangitane O Manawatu on the development of this proposal.

• ***Growth Infrastructure Plan***

This Plan seeks to ensure that Council front foots new infrastructure in advance of growth and has clear growth priorities. It stresses the importance of collaboration with landowners and developers on the provision of infrastructure capacity which should exceed demand by 20%. The servicing of the Whiskey Creek Residential Area can be achieved without major infrastructure provision.

• ***Strategic Transport Plan***

This Plan promotes a freight ring road using the Kairanga Bunnythorpe Road which is to the north of the proposal.

Goal 2 is "A creative and exciting city." The key priorities relevant to this Plan Change are:

1. *To Create a city that has great places for all people, and particularly families*
2. *To focus on building communities and places.*
3. *Increasing access to quality green space and active transport networks is seen as strategically important.*

A placemaking approach has been adopted for this plan change with expert urban design and landscape inputs to the design process. The Whiskey Creek tributary restoration and associated public reserve development is a major feature of the proposal. The location is also well served by public transport and will incorporate active transport features.

Plans under this strategy include:

• ***Placemaking Plan***

The focus of this plan is to build resilience in residential and village neighbourhoods through place based projects. These include community led streetscape projects and a laneways programme.

• ***Active Communities Plan***

The relevant actions planned in the Active Communities Plan are:

- Extend the walking and cycling network, including completing and upgrading parts of the existing network.
- Plan for and provide sport and recreation facilities in urban growth areas.
- Provide signage and wayfinding to direct people to places and spaces to recreate in.

• ***Active and Public Transport Plan***

This includes:

- Provide for the extension of public transport, cycling, and pedestrian facilities and services into residential and industrial growth areas, and the rural villages.
- Apply the principles of good urban design.
- Continue development of the shared path loop around the city and along the Manawatū River edge linking Ashhurst, Linton, Longburn, Bunnythorpe and Feilding, including the Mangaone Stream Shared Path connection to Manawatū River Shared Path (by end of 2020/2021)

• ***Biodiversity Plan***

The relevant outcomes sought in the Biodiversity Plan are:

- More native-friendly species are planted within the city, providing year-round food sources for native wildlife.
- The mauri of urban streams is enhanced, and native aquatic life is thriving.
- All streets have street trees, where practicable.

• ***Three Waters Plan***

The relevant outcomes sought in the Three Waters Plan are:

- A pressure sewer policy is developed to support wastewater bylaw reviews to mandate pressure sewer implementation in NEIZ and City West zones.
- A city-wide wastewater network hydraulic model is completed and in use to inform asset management and city development decisions.
- Evaluate options to implement controls by way of permeable surface coverage, stormwater detention, water sensitive design and minimum floor level separation to mitigate the effects of and flooding risks associated with new development.

- Urban waterways are thriving ecosystems.
- District Plan provisions enable Council to require mitigation to restrict impacts of stormwater run-off from new development, particularly infill or brown field redevelopment.
- There is a formal cultural monitoring framework for freshwater management with Rangitāne o Manawatū.
- Council understands iwi and community values around urban waterways.
- Stormwater services are resilient enough to cope with the effects of climate change.
- District plan controls better manage the effects of urban development on stormwater services.

The Plan Change Request includes adding the site to the identified Pressure Sewer Areas, and also provides for management of stormwater.

These strategies have all been had regard to in developing this proposal and in evaluating options through the Section 32 Assessment.

5 RESIDENTIAL LAND CAPACITY

Palmerston North City Council undertook a Housing and Business Capacity Assessment in 2019 as required by the then National Policy Statement on Urban Development Capacity 2016.

This assessment included consideration of this Plan Change Request coming forward.

The Capacity Assessment also links to the Housing and Future Development Plan referred to above which also identifies the need to provide zoning adjustments to provide additional housing choice at Flygers Line.

The assessment found that:

- Annual population growth is expected to be higher than the 1,000 people per year previously projected.
- There has been a significant increase in housing construction in the City, with consents for construction of new houses increasing from 161 in the year to December to 477 consents in the year to December 2018.
- Despite this, there has been strong growth in house prices.
- Demand can be accommodated in the short term if Whiskey Creek is developed, however, in the medium and long term there will be a deficit of greenfield land supply.

The assessment specifically recommended that a Future Development Strategy is prepared that identifies additional opportunities for housing to meet projected growth demands. Further, that Council review how the Ratings Policy can best support the release of residential zone for development.

6 THE PLAN CHANGE DEVELOPMENT PROCESS AND CONSULTATION

The Plan Change development process has involved extensive investigations over more than 2 years. The first phase of investigation considered whether the land area which is not exposed to flood risk could be increased whilst maintaining the efficiency of the flood ponding area associated with the Manawatu Drainage Scheme, and, in particular, the flow of flood water through the area when the Flygers Spillway is triggered. This is approximately once every ten years.

This involved specific technical investigation which was initially reported to both Horizons Regional Council and Palmerston North City Council. The next step in the process was to investigate how the area would be accessed and then embark on a range of engineering and urban design investigations to determine an overall master plan which, in turn, has directed the proposed Structure Plan.

During this stage a Cultural Impact Report was also commissioned from Rangitane o Manawatu which is attached at Appendix 4. More recently after being approached there have also been discussions with Ngati Turanga, which is a hapu of Ngati Raukawa and has interests west of the Magaone Stream.

Palmerston North City Council, First Gas Ltd and Horizons Regional Council have also been consulted on regular occasions during the process. In addition, there have been direct discussions with Waka Kotahi NZTA that is reported in the Transportation Assessment.

Horizons Regional Council provided a formal consultation response on 25th February 2021. This drew attention to the One Plan objectives and policies which are specifically considered in Section 10. It also drew attention to:

- the Accelerate25 programme which seeks to see managed urban growth and increased economic activity in the region,
- The One Plan Climate Change and Transport policies, and
- Potential regional consent requirements.

The feedback supported a left in left out connection to Rangitikei Line and a collector road that could potentially be used for public transport.

There has also been consultation with residents of the Cloverlea neighbourhood. This involved distribution of project information directly to some 600 households and two follow up drop in sessions. These were held on the evening of Friday 19th February and the following Saturday morning of 20th February in the hall at Cloverlea School. Project material was displayed and team members were available to answer questions and discuss issues. Feedback was then recorded on feedback forms and by e mail.

In total 32 addresses were represented at the drop in sessions and feedback was received from 23 parties. As would be expected there was strong representation from Meadowbrook Drive and Benmore Avenue.

Issues of concern included:

- Loss of views and sun for Meadowbrook Drive adjoining properties
- Increased traffic on Benmore Avenue
- Risk of additional flooding
- Construction effects
- Use of agricultural land
- Effects on property values

Discussions with the Meadowbrook Drive adjoining neighbours identified a strong preference for single story dwellings to reduce sun, privacy and bulk effects and for some views. It also identified a preference for lining up the side boundaries of the new lots with existing side boundaries so that only one property backs onto an existing property.

These measures have been adopted by the plan change request and include policy, standards and assessment criteria to ensure those matters are considered at both subdivision stage and dwelling construction.

A number of feedbacks also sought specific additional information. Those providing feedback have been responded to by e mail with the additional information requested and, for Meadowbrook residents, advising of the changes adopted in response to their concerns. Parties have also been advised of the intention to apply for earthworks consents ahead of the plan change approval and the expected time of submission of this Plan Change Request.

7 PRINCIPAL ISSUES AND ASSESSMENT OF ENVIRONMENTAL EFFECTS

Th following section addresses the principal issues associated with the suitability of the site for residential development, the opportunities arising, the design concept and the positive and adverse effects on the environment.

The section draws on the technical reports prepared by a range of experts which are included in the Appendices to this request.

The general order of addressing these issues is the bigger picture issue, development constraints and then management of risks of adverse effects.

7.1 IS THE LOCATION APPROPRIATE FOR THE SCALE OF DEVELOPMENT PROPOSED?

The Site is positioned at the intersection of Rangitikei Line and Flygers Line, adjacent to the city's current urban edge along Meadowbrook Drive and Benmore Avenue. Located some 3km from Te Marae O Hine / The Square, the Site is notably closer to the CBD than other designated growth areas. Benefits associated with this close proximity include the potential for greater take-up of active movement modes and increased accessibility of amenities, while consolidation of the city's urban footprint helps resolve the city's edge along Rangitikei Line.

SH3 (Rangitikei Line) provides excellent north-south connectivity into the city and out towards the future NZTA ring road that will service the planned Regional Freight Hub. Flygers Line provides an east-west link that accesses the airport and the future growth area of Kākātangiata.

Construction of 9,440 new dwellings is anticipated in Palmerston North City in the 30 years to 2048. Half of these are expected to be built on greenfield land. Three major growth locations are being pursued by Council: Whakaronga, Kākātangiata (formerly City West and Anders Road / Racecourse), and Aokautere. Council projections at Aokautere are for some 1,200 additional dwellings beyond those currently zoned, 500 dwellings at Whakaronga and over 5,000 at Kākātangiata. In this context, Whiskey Creek is relatively small (157 dwellings) but contributes to the picture of growth around the city's edge.

The wider urban structure around the site reflects the former boundary between Palmerston North City and Manawatu District with rural land to the north east affected by the Flygers Line spillway and residential and industrial areas to the south west. The Mangaone Stream is an important feature which separates the industrial and residential areas, while the State Highway 3 bridge over the Mangaone Stream forms the northern gateway to the City.

The site forms an extension to the community of Cloverlea. It is only 700 m to Cloverlea Park, which is adjacent to Cloverlea Primary School, and also Colquhoun Park to the east. Despite this a significant reserve development is proposed as part of the development based around the restoration of the tributary of Whiskey Creek which sits alongside the development area. The nearest local centre is approximately 1.3 km away at Herbert Avenue. City wide amenities are available by bus public transport.

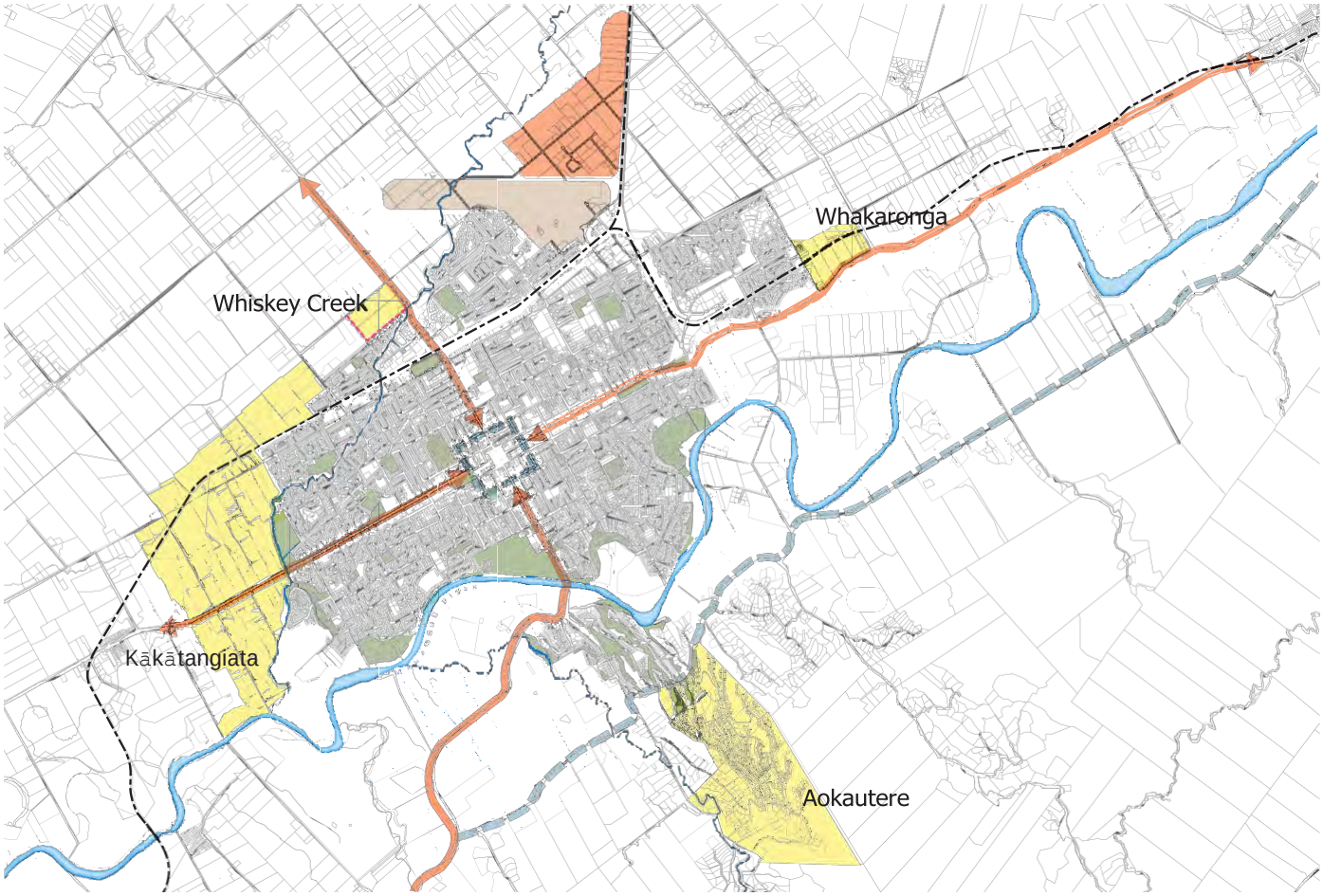

Figure 4: Future Growth Areas.

The proposed residential area therefore provides a small but valuable addition to the larger growth areas and has long been considered part of the wider greenfield residential areas strategy. It will provide choice in terms of housing and living location and provide an enhanced northern gateway to the City. With good access to services and employment it is an appropriate location for greenfield growth.

7.2 WHAT EFFECT WILL DEVELOPMENT HAVE ON FLOOD MANAGEMENT IN THE LOCALITY?

This is a critical issue because much of the site is classed as flood prone land. This occurs only when the Flygers Spillway is triggered. The spillway relieves flood pressure on the Mangaone Stream as part of the Lower Manawatu Flood Control Scheme. The spillway is located west of Milsons Line and Flygers Line and when triggered diverts floodwater to the Whiskey Creek basin. This in turn

floods land north east of Rangitikei Line. If this ponding area is exceeded water flows across State Highway 3 southwest into the area of the Plan Change site.

The Lower Manawatu Flood Control Scheme includes two other constructed spillways which all collectively feed floodwater into the Taonui Basin and then to the Manawatu River as shown in Figure 5 below.

DHI Ltd was specifically commissioned to determine whether earthworks designed to increase the area of non flood prone land in this vicinity could be undertaken without adversely affecting the operation of the Flood Control Scheme and any other land in terms of flood risk. A range of earthworks design options were modelled and tested. This report is included as Appendix 2.

DHI Ltd regularly undertake modelling for Horizons Regional Council and were therefore familiar with the Flood Scheme and its requirements. Horizons agreed to share their model with the project to undertake this work. DHI developed a "MIKE" Flood Model using digital ground elevation information from Horizons. The model covered the area from the Flygers Spillway to the intersection of Whiskey Creek with Cloverlea Road. This was subsequently reduced to the area upstream of Gillespies Line when no backwater effects down stream of Gillespies Line were identified.

The earthworks modelled involved 0.112 km^2 of earthworks with a predominance of cut of 20,000 m^3 and the reworking of drainage across the site including rerouting of the drain that runs through the middle of the property.

The initial assessment found that major infrastructure assets downstream such as roads are not affected by the earthworks. However, there is an increase of flood levels downstream of 14 cm.

Consequently, a series of low impact design options were tested. These included bunds to direct flow, a detention pond in the northern corner of the site, and a series of swales and diversion to improve flow connectivity. The modelling also took account of the Benmore Avenue stopbank upgrade being undertaken by Horizons to provide 0.5% AEP flood protection.

In total 6 options were investigated and these are detailed in the DHI Report (Appendix 2). Only Option 6 was found to manage flood risk to a less than minor extent for downstream properties. This includes a series of swales connecting to the ephemeral Whiskey Creek stream bed including one from the repositioned drain, two online ponds either side of the same stream bed. These ponds seek to divert overland flow paths to the west and this is achieved with an east – west bunds crossing both drains but with a stream opening of 2 metres. In addition, there are two retention ponds at the downstream end of the property to store peak flood volumes. The specific concept is shown in Figure 6 below and has been adopted. To provide further certainty this will be further detailed in resource consents for earthworks that will be sought ahead of the Plan Change.

With these measures adopted there will be less that minor effects on properties and infrastructure from the earthworks proposed and this has therefore been adopted as the basis for developing the overall plan change proposal.

The ponds will be incorporated into the detailed earthworks design and the design of the reserve. The pond south of the development detention pond will be considered for use as a constructed wetland for stormwater treatment.

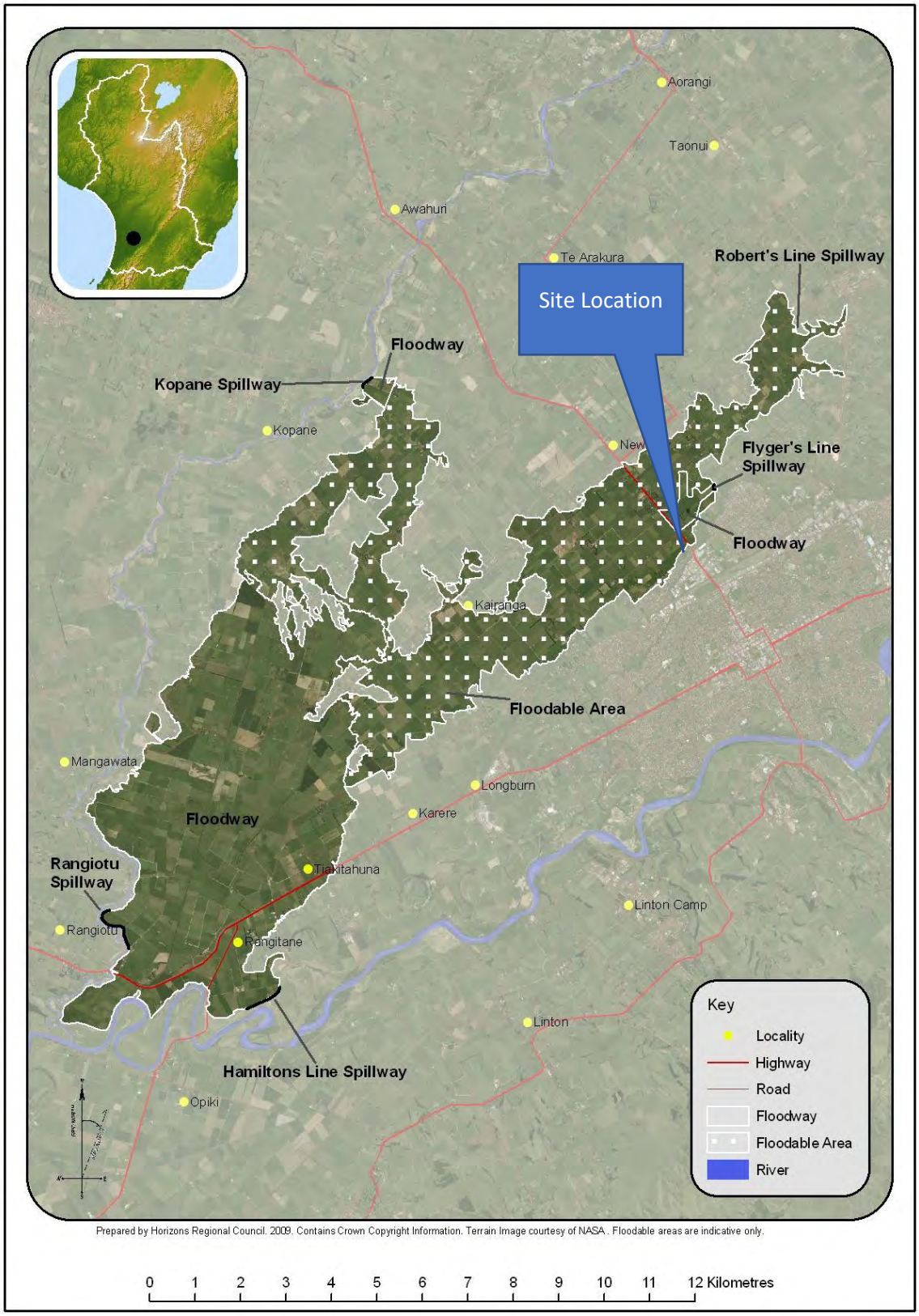

Figure 5: Taonui Basin Spillways, Floodways and Floodabble Area.

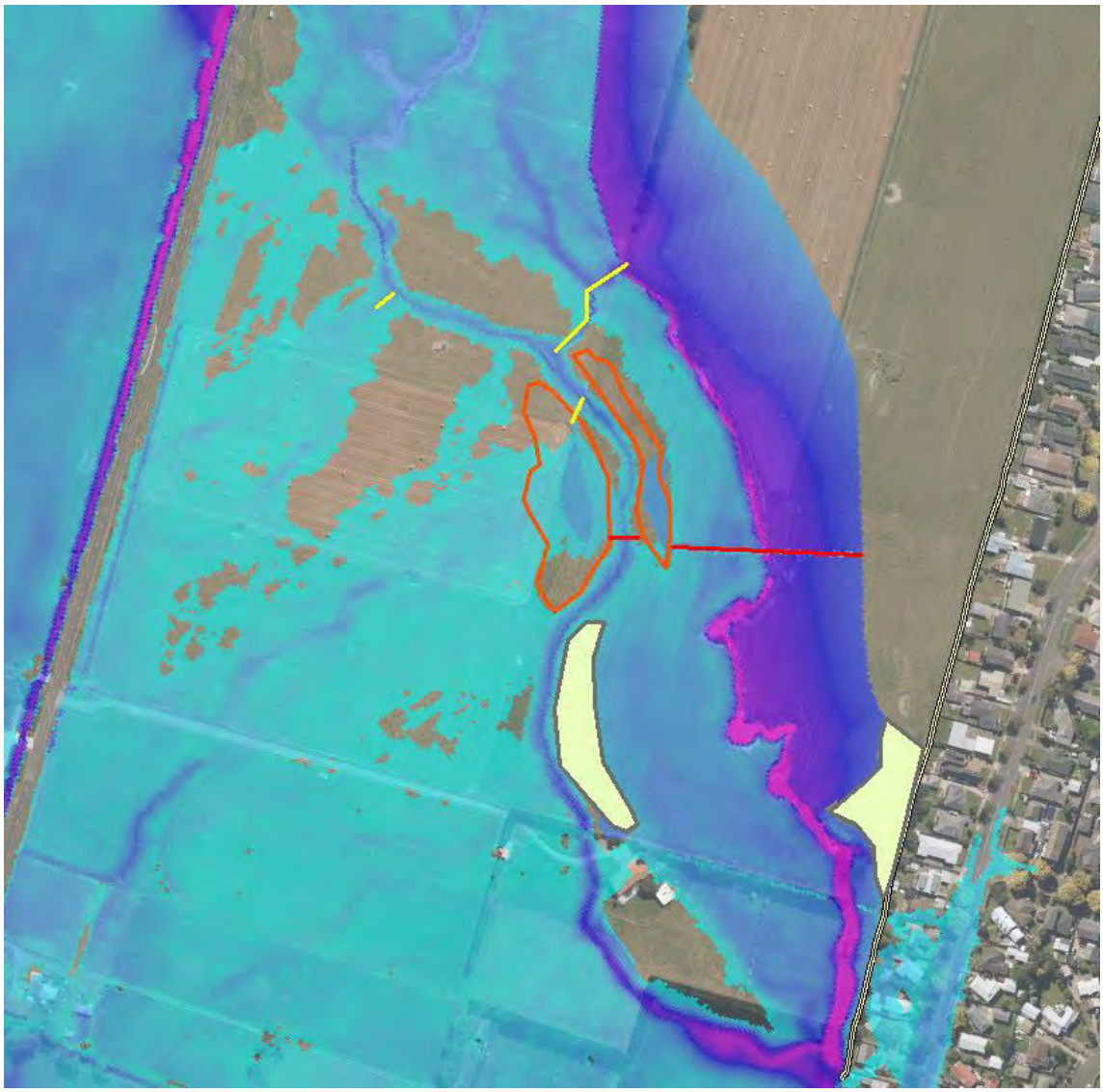

Figure 6: Proposed Flood Retention and Diversions Measures.

7.3 ARE THERE ANY CULTURAL ISSUES THAT MAKE THE AREA INAPPROPRIATE?

In order to understand any cultural issues associated with the proposal, Rangitane o Manawatu, who are mana whenua, was commissioned to undertake a cultural impact assessment. This is included at Appendix 4.

Rangitane o Manawatu deliver a maori model of environmental management through the Te Ao Turoa Environmental Centre. The Centre undertakes ecological and cultural monitoring projects, restoration of waterways through planting and plastic reduction, weed and pest control, and engagement in planning processes.

The Cultural Impact Assessment was undertaken by Siobhan Karaitiana and reviewed by Danielle Harris. The assessment used a Whanua Ora Outcomes Framework with the three key outcomes tested being:

Rangatiratanga

- Exercising rangatiratanga by collaboration in planning.
- Identifying and providing for cultural landscape values.
- Iwi awareness of assets held in common.

Healthy Lifestyles

- Participation in a sustainable economy
- Whanua physical well being
- Access to a healthy environment
- Affordable housing

Te ao Maori

- Language is visible and celebrated
- Street and place names adopt Rangitane names

The assessment found no fatal flaws from a cultural / whanau ora perspective. The assessment supports the restoration of the Whiskey Creek tributary, recreation access and housing. However, in a number of areas further information has been requested and there will be further engagement at the more detailed design stage associated with the individual resource consents.

7.4 IS THERE ANY CONTAMINATED LAND?

Riley Consultants Ltd was commissioned to undertake a Preliminary and Detailed Site Investigation to determine the suitability of the site in terms of any risk of land contaminated. This report is attached at Appendix 5.

The Preliminary Site Investigation identified the potential for market gardening to have historically occurred on the site and for isolated hydrocarbon contamination within farm sheds. In addition, it was identified that in the 1942 period an abattoir was located on the northern site boundary on Flygers Line.

As up to three HAIL activities have potentially occurred on the site a Detailed Site Investigation was undertaken in accordance with the National Environmental Standard for Contaminated Sites (NES-CS).

This included 13 hand auger boreholes in the field, 3 hand dug test pits underneath the sheds and 9 hand auger boreholes at the abattoir site. The results of laboratory testing of these samples showed the following;

- Cadmium in seven out of the 13 surface samples collected from the field
- Arsenic, cadmium chromium, copper, and zinc in the samples collected from the shed footprint
- Cadmium, chromium, copper, lead, and zinc in the samples collected from the footprint of the former abattoir

None of these exceeded the NES-CS soil contaminant standards for residential land use.

Further:

- Polycyclic aromatic hydrocarbons (PAHs) were detected but not at levels that exceed the NES-CS soil contaminant standards for residential land use.
- Neither Organochlorine pesticides nor acid herbicides were found in detectable concentrations.
- None of the Total petroleum hydrocarbons (TPH) values exceed relevant health-based assessment criteria within the MfE Petroleum Hydrocarbon Guidelines.

These findings will be had regard to in the detailed methodology for the earthworks and may require a controlled activity resource consent under the NES-CS. However, the detailed assessment has confirmed he suitability of the site for residential development in terms of land contamination risks.

7.5 ARE THE GEOTECHNICAL CONDITIONS SUITABLE FOR DEVELOPMENT?

Specific investigations have been undertaken to determine if there are any geotechnical hazards that may have an impact on residential development. Riley Consultants Ltd was commissioned to undertake a first stage of investigation and this is detailed in their report in Appendix 6.

The investigation assessed sub surface conditions to a depth of 6.5m with Cone Penetrometer Tests followed by 3 boreholes. The sub soils are firm sandy and clayey silts and sands down to 5-7m below ground level and then gravels with lenses of stiff clayey silt. Testing of these soils classed them as non-liquifiable.

Groundwater levels vary seasonally and following rainfall events and have been recorded within the range of 1m and 4m below ground level.

Despite the overall soil testing some liquefiable materials were identified in the soil profile being discrete layers of loose to medium dense sandy silt, or silty sand. The liquefaction assessment identified potential for induced settlement in the order of 20 mm to 100 mm under a ULS Ultimate limit state) event.

Lateral spread was also assessed in relation to the drainage ditches and stream bank. This raised the prospect of the need for a 50 m setback of dwellings from stream or ditch however it also noted that "negligible lateral spread is predicted in the SLS (serviceability limit state) event and the lateral spread risk is correspondingly low." (page 6 Geotechnical Assessment Rileys Ltd). However, the assessment also recommended that further investigations are undertaken to obtain a more accurate prediction of lateral spread displacements.

Consequently, once a preliminary design concept for the land development had been established, Total Ground Engineering Ltd was commissioned to carry out supplementary investigations and analysis of risk of lateral spread. This is reported in the Lateral Spreading Assessment in Appendix 7.

The further investigations associated with this assessment found groundwater ranging between 0.85m and 1.3m depth. In general, this assessment agreed with the Riley Consultants conclusions above. It identified three potential mitigation approaches as follows:

- a building exclusion line 55m from the limit of the earthworks, or
- realigning the overflow channel to be 55m from the flood protection line. Or
- construction of an 8 m wide band of ground improvement at the flood protection line which could be stone, columns, dynamic compaction or replacement of sediments with river gravels.

In finalising the proposal and structure plan option 2 has been adopted and the drainage channel positioned to achieve this. The earthworks design incorporating the within reserve flood ponds has also confirmed that there is sufficient setback from these faces.

7.6 IS THE SITE IMPORTANT FOR FOOD PRODUCTION?

The site is currently used to grow maize for feedstock. The Land use Capability is recorded as Class 2 soils. As a result, Perrin Ag Consultancy Ltd was commissioned to advise on the productivity of the soils. This report is attached as Appendix 8.

This report identifies the soils as Kairanga silt loam and Te Arakura sandy loam shallow phase which are "*poorly and imperfectly drained and have a continuing slight wetness after drainage. Water tends to lie in the winter and are susceptible to compaction and pugging, restricting winter grazing by heavy cattle. These soils tend to dry out in winter."* (page 3 Perrin Ag)

There is also some Karapoti brown sandy loam which is a free draining soil, but the gravel and drying out in summer limits intensive or horticultural use.

The soils are classed as IIw2 and IIs1 which are at the lower end of the LUC class 2 and reflects their limitations.

The assessment confirmed that the soils are true to the mapping information and are poorly drained and unsuitable for horticulture of vegetable growing uses. They can, however, be used for arable crops and grazing.

The remaining rural zoned land is likely to continue to be cropped. To help facilitate this it is expected that the subdivision of the land will include a right of way from Road 1 through the reserve to access the rural land. Overall, the assessment concluded that the soil capability limitation did not preclude development for urban land uses.

7.7 HOW WILL DEVELOPMENT FIT WITH THE HIGH PRESSURE GAS PIPLEINE?

The Taranaki to Napier High Pressure Gas Pipeline crosses the northern part of the site between Flygers Line and Rangitikei Line. At Rangitikei Line is passes under SH 3 to the gas gate compound where there is a take off for low pressure gas reticulation of Palmerston North.

It is important that this infrastructure is adequately protected from damage during and after development of the area. The gas is a potentially explosive hazard if the pipeline is ruptured.

Discussions have been held with First Gas Ltd who own and operate the pipeline. This has included the nature and extent of earthworks proposed and appropriate protocols.

In terms of integration of the pipeline into the development the requirements of First Gas are that the pipeline is to be within in a service corridor within road reserve berm and secondly that there is a habitable building set back of 20m either side of the pipeline.

The structure plan has been designed to fully meet these requirements and shows the pipeline on the northern side of Road 8 with a requirement for a 20m set back. This has also been proposed as a building standard for this residential area in the proposed provisions.

With these measures in place the gas pipeline can be accommodated without undue risk to the safety of the pipeline and therefore safety of those living in the vicinity and the wider community.

Detailed design work on the earthworks has confirmed the depth of the pipeline and will ensure that sufficient cover is retained over the pipeline to meet First Gas requirements.

7.8 ARE THERE NOISE EFFECTS FROM RANGITIKEI LINE (SH3)?

Acousafe Ltd was commissioned to advise on whether any site specific noise performance standards or other provisions were required for the residential area. The Noise Assessment Report is included as Appendix 9.

The assessment concluded that the existing noise limits and activity rules that are generally applied across the existing Residential Zone can be applied to the Whiskey Creek Residential Area. The Residential standards are 5 decibels stricter than the existing Rural zone standards during the day and night with no change in the evening. It also concludes that the residential and rural interface is appropriately controlled.

The principal issue arising is, as indicated in the heading, is the potential for reverse sensitivity effects from vehicle noise on SH3 Rangitikei Line. The speed limit on the adjacent stretch of highway is 100 kph with the 50 kph zone located just to the south. Given the traffic flows on the highway, the NZTA recommended buffer to dwellings is 40 metres. At this distance the expected noise level will be 62 $bBL_{Aeq(24hr)}$. A modern double glazed dwelling with windows closed provides 22 dB noise reduction achieving an acceptable indoor noise level of 40 $bBL_{Aeq(24hr)}$. This zone extends out to 80 m from the State Highway.

The assessment therefore recommends that performance standards for dwelling construction be included that require a building setback of 40 metres and insulation and ventilation requirements between 40 m and 80 metres from SH 3. The proposed structure plan specifically provides for the building set back and both aspects are proposed for specific rules applying to the Whiskey Creek Residential Area. These are the same standards that have been applied for the Whakarongo Residential Area and are already in force for that area.

There is the potential for a small increase in traffic related noise levels from Road 1 for the properties at 1 Meadowbrook Drive and 125 Benmore Avenue which will be adjacent to the new road. This will be considered further during the resource consent process and, if necessary, noise mitigation measures such as insulation or fencing/bunding will be assessed and incorporated as required in consultation with the property owners.

7.9 WHAT ARE THE TRANSPORTATION RELATED EFFECTS?

A Transportation Assessment of the Proposal has been undertaken by Harriet Fraser Traffic Engineering and Transportation Planning. This is attached as Appendix 10.

The key proposals in terms of road access and road/shared path structure are:

- primary road connection to Benmore Avenue with a four-arm roundabout created with Meadowbrook Drive;
- secondary road connection to SH3 with a left in/ left out only arrangement;
- extensive shared path network within the site which connects with the existing shared path along the edge of the Mangaone Stream at one end and with the footpath network on Benmore Avenue at the other end; and
- an indicative internal road layout that provides route choice options within the subdivision.

There are three types of street within the internal road hierarchy, the collector road that connects Benmore Avenue to Rangitikei Line, the local roads that provide access to area to the south of the collector road and lanes which provide access to housing on the northern side of the collector road.

Benmore Avenue is classed as a Collector Road and currently carried about 3,300 vehicles per day. While Rangitikei Line is an Arterial Road with some 11,500 vehicles per day. Meadowbrook Drive currently has 55 houses generating a morning peak of 25 vehicles per hour. There is a bus service to the City Centre with stops on Benmore Avenue and an important recreational cycle path along the Mangaone Stream.

The Whiskey Creek Residential Area is expected to generate approximately 1570 vehicle movements per day. Within this there would be 157 movements per hour in the weekday traffic peak. The table below shows the forecast trip distribution.

	Weekday Morning Peak (7.45-8.45am) (vph)	**Weekday Evening Peak (4.30-5.30pm) (vph)**
Outwards		
L to Benmore Ave	89	17
R to Benmore Ave	20	20
L to Rangitikei Line	9	3
Inwards		
L from Benmore Ave	4	52
R from Benmore Ave	24	44
L from Rangitikei Line	12	22
TOTAL	158	158

Table 1: Forecast Traffic Flows

The connection to Rangitikei Line is proposed to be limited to left in left out only. This is for safety reasons and has been agreed in principle with NZTA. The expected level of use of this connection is limited to 22 vehicle movements per hour which, the Transportation Assessment finds, can be safely and efficiently accommodated. Specific design measures will be required to prevent right turns and it is also proposed that there are design measures to discourage traffic travelling through the subdivision to from the Cloverlea area to access SH3.

The Collector Road serving the development is proposed to connect to Benmore Avenue and Meadowbrook Drive by means of a roundabout. A preliminary design concept for this is shown in Figure 7 below.

Figure 7: Proposed Roundabout Design Concept.

The Transportation Assessment concludes that, while this is a preliminary design, it can readily accommodate the additional traffic. However, detailed design will need to give particular consideration to affected residential driveways and accommodation of pedestrians and cyclists. Consultation with affected parties on this issue has commenced.

With regard to the wider local road network, an additional 72 vehicles per hour are expected to travel south west along Benmore Avenue which can easily be accommodated by this Collector Road. There is some existing congestion at the Bennett Street/ SH3/ John F Kennedy Drive intersection. An additional 3 vehicles are expected on the approach during each cycle of the traffic signals in the morning peak. The assessment finds this is unlikely to add to existing delays through the intersection.

The assessment also specifically considers the existing objectives and policies of the District Plan and concludes that the proposal is compatible with those provisions.

7.10 WHAT ARE THE EFFECTS OF THE PROPOSED EARTHWORKS?

In terms of the proposed earthworks the site can be divided into three zones. Firstly, the existing area above the flood risk level which is largely left untouched. Secondly an area of fill amounting to about 16,500 m^3 of material which is cut from the third area north of the fill. The fill area will be compacted and form part of the development site, while the cut area will form part of the proposed reserve. There will be surplus cut of about 28,000 m^3 which will be removed off site.

Importantly the detailed design features required to manage floodwater flows have been incorporated into the earthwork design as recommended by DHI Ltd and referred to in Section 7.2 above and shown on the earthworks plan in Figure 8 below.

While the area of earthworks is quite large the volumes involved are not large because the depth of cut and fill involves less than 500 mm apart from the areas where flood ponds are required. The exercise is therefore more one of recontouring than mass earthworks.

Figure 8: Proposed Earthworks.

It is not expected that the earthworks will extend for more than one summer construction season.

For most of the existing residents of Meadowbrook Drive there is a buffer of some 150 metres from the nearest earthworks. This buffer reduces to the south and there are 9 existing residential properties that will have no buffer from the fill area.

For these occupiers it will be important to manage construction effects which will be addressed through the required resource consents. This can be expected to include a Construction Management Plan which will detail management measures associated with controlling noise, dust, sediment and erosion and traffic.

7.11 WHAT ARE THE EFFECTS OF STORMWATER GENERATED BY THE DEVELOPMENT?

Currently the topography of the land means that rain either soaks to ground or flows north to the existing drain and the ephemeral Whiskey Creek.

Development for residential dwellings means that there is less ground permeability and therefore more stormwater run off. The additional run off can add to loads on the reticulated stormwater system as well as adding to flood risks. Mitch Hydro Ltd was commissioned to investigate stormwater and recommend management measures. This report is included at Appendix 12.

The area drains roughly east to west until it is intercepted by the remnant Whiskey Creek open channels draining to the south, which culminate at the floodway stop-bank adjacent to No. 91 Benmore Avenue, where the PNCC 900mm diameter stormwater main commences. This is about 110 metres south of the southern corner of the site.

Figure 9: PNCC Stormwater Connection adjacent to 91 Benmore Avenue.

The entire site is affected by localised catchment flooding, but more significantly by Mangaone Stream spillway events considered earlier in Section 7.2. The Flygers Line spillway is located some 1.4 km upstream and was constructed in 1982 to reduce flooding through Palmerston North.

During Flygers Line spillway events there are multiple flow controls across site, including the two open channels (Whiskey Creek and tributary) plus sheet flow across driveways and roads etc. The February 2004 and June 2015 flood events both flooded across the Rangitikei Line / Flygers Line intersection. The spill flows drain to the Taonui Basin and downstream to the Oroua and Manawatū Rivers.

The assessment has calculated the rainfall depths for specified storm events using the HIRDS V4 procedure. The existing permeability of the land was then assessed to calculate the existing catchment run off. The development concept was then used to calculate stormwater generation once full developed.

The Stormwater Mitigation Plan is based on a pipe layout within proposed roads leading to a flood detention pond at the southern end of the development. Secondary flow paths will be contained within the road corridors.

The pond has been sized to contain the stormwater of a 50 year ARI event and will be approximately 90 m long, 50m wide and 1.5m deep with 3:1 embankment batters. Stormwater from the development will be channelled through the pond to a 300 mm culvert outlet. The floor of the pond will be planted with native species and will be dry most of the time. However, storm events that exceed the capacity of the 300mm outlet will then be detained in the pond and released as the inflow reduces. Events greater than 50 year ARI will result in spillage from the pond via a constructed spillway discharging the surplus water to the Whiskey Creek flood area. The 300 mm outlet will discharge to the reserve and drain via an open swale for a distance of 100 m to the Whiskey Creek channel immediately upstream of the south western property boundary. The PNCC stormwater outlet shown above is a further 110 m downstream.

The outlet area of the reserve could also be used for stormwater quality treatment by way of a constructed wetland. Other treatment options include rain gardens / bioretention devices.

The proposed flood detention pond will provide hydraulic neutrality with reductions in peak discharges in all events up to the 100 year ARI event. However other options will also be considered at the subdivision resource consent stage which may include roof-water tanks and underground storage with a view to additional upstream discharge points to enhance waterflow through the reserve.

The assessment also considered how site stormwater would relate to the timing of floodwater releases from the Flygers Line spillway. It found that the Mangaone Stream catchment has a time of concentration of 30-40 hours compared with the Whiskey Creek Residential Area of 30-40 minutes. Therefore, the mitigated peak outflows from the proposed flood detention pond would be unlikely to coincide with the peak discharge from the Flygers Line spillway to the Taonui Basin. The increased runoff volume in the 1% AEP event as a result of the Plan Change is also minimal i.e. in the order of 0.2% of the total spilled volume down the Flygers Line spillway during the February 2004 (approx. 1% AEP) event.

7.12 WHAT ARE THE EFFECTS ON WATER AND WASTEWATER SERVICES?

The existing wastewater network in the area has a 150mm ø main located within Benmore Avenue. This sewer main flows to the south west and eventually discharges into the Wastewater Treatment Plant in Totara Road, some 5km away. The depth of the wastewater system adjacent the proposed roundabout, is in the order of 2 metres deep.

Two servicing options were considered to service the estimated 160 lots proposed within the residential land. These being a gravity drainage system and a pressure system.

A typical gravity system includes a 100mm ø rigid lateral pipe to each property. These laterals connect to a 150mm ø rigid main pipe within the roadway. These pipes are graded to fall towards the connection point of the existing system. If the connection point is too high a lifting pump chamber is required to discharge the sewage into the existing system.

A pressure system requires each lot to have installed a small pump chamber which is fitted with a grinder pump. Sewage is pumped into a 50mm ø flexible pipe within the street which in turn discharges into the connection point. No lifting pump is required, as the system relies on pressure.

Due to the proposed ground levels of the land in question, it was calculated that there wasn't sufficient elevation for a gravity system to drain the site without the need for a pump lifting station.

It was also considered that any gravity system could increase the peak flow effects on the down stream network, due to the users discharging sewage at peak times.

The pressure sewer system would be able to service the entire development without the need for a lifting station. The individual pump systems are able to be time coordinated so that the discharge from the site can be timed to occur outside peak flow hours, which would not cause any downstream capacity issues. Pressure sewer systems are also less susceptible to the effects of water infiltration, liquefaction and ground movement.

The Council has a general policy that pressure sewer systems should be used in Greenfield Residential Areas and the North East Industrial Zone. This policy is stated as Policy 1.1 in Section 7A of the District Plan which is to provide for installation of pressure sewer systems in Pressure Sewer Areas. The site is not currently identified as a Pressure Sewer Area, but it is proposed that the Plan Change provisions amend the definition to include the Whiskey Creek Residential Area.

Discussions have been held with Council over the proposed sewage disposal options and Council has confirmed that the pressure system is their preferred option.

In regard to water supply, the system has separate 150mm ø water mains in Benmore Avenue, directly opposite the proposed development, and at the northern end of Rangitikei Line, as shown in Figure 10 below.

It is proposed to extend the watermain at the northern end of Rangitikei Line by 150m to the eastern corner of the site. This extended watermain will be looped through the development to Benmore Avenue by a new 150mm ø main. The system will provide the required minimum service pressure of 350kPa and a minimum peak flow capacity of 25L/s for fire-fighting purposes. Discussions with Council have indicated that this will provide a compliant water supply system for the development.

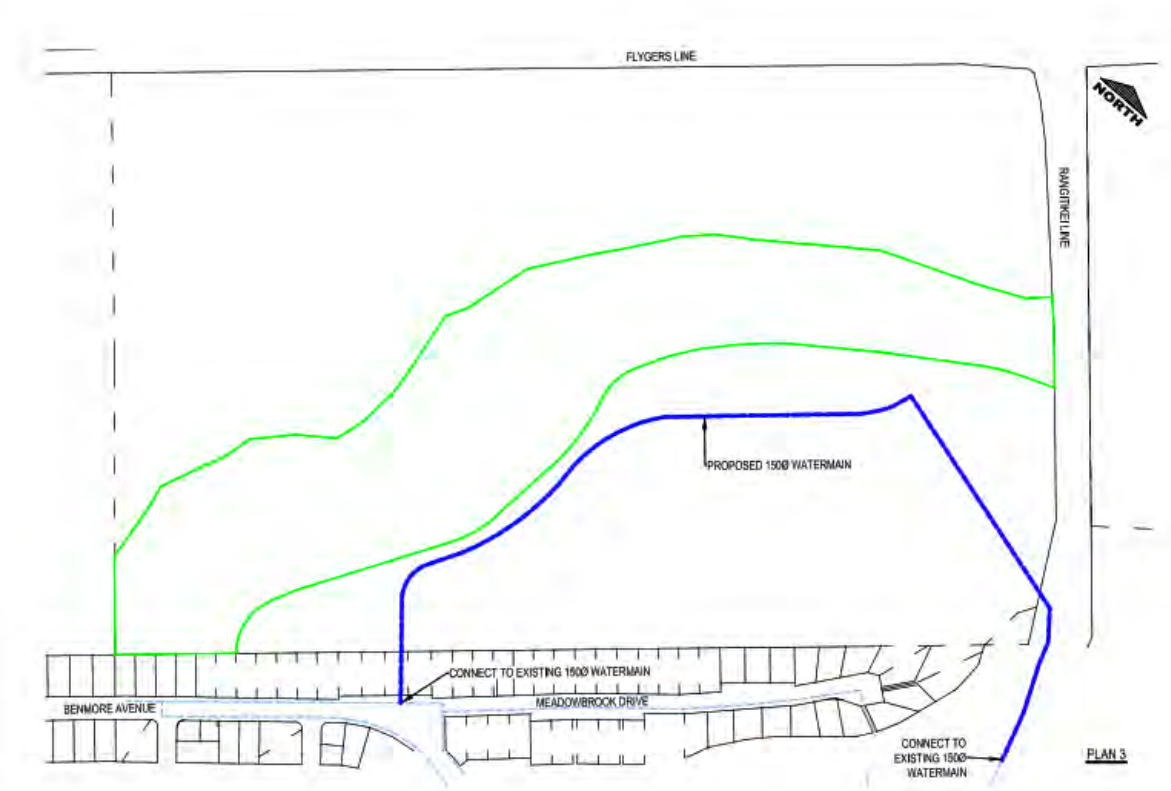

Figure 10: Proposed Watermain.

7.13 URBAN DESIGN, LANDSCAPE AND RECREATION EFFECTS

The principal issues addressed above have informed the development of a Structure Plan and Illustrative Masterplan for the development.

A detailed Urban Design Report is attached at Appendix 3. This was prepared by McIndoe Urban and Local Landscape Architecture Collective and reports on the design process for the plan change request.

The design process was based on nine Design Principles which are:

Strategic Alignment

- Whiskey Creek aligns with National Policy Statement on Urban Development.
- Development helps to implement high-level PNCC strategies and plans.
- Whiskey Creek establishes a more logical northern growth limit.

Connectivity

- Fully connected movement network.
- Recreational pathways forming circuits.
- Proximity to public transport.

Place-Based Identity

- Legible spatial structure.
- Distinctive elements with clear relationships to one another.
- Intuitively understood street hierarchy.

Absolute Urban Edge

- Sharply defined urban edge creates a new northern gateway.
- Permanent edge condition creates special character and amenity.
- Restoration of Whiskey Creek draws attention to flood plain.

Neighbourliness

- Proposed spatial structure connects to the city at macro and micro scales.
- Lot and dwelling types acknowledge existing subdivision patterns.
- Street layout creates positive front/back relationships with existing houses.

Flexibility, Diversity and Choice

- Proposed plan offers a range of densities and dwelling types.
- Development delivers various amenities within walking distance.
- Potential exists for connections to further development on the northern margin.

Mixed Use Activation

- Different densities and dwelling types increase housing capacity and choice.
- Strong local destinations encourage residents to walk and ride.
- Well-used amenities and public spaces attract further visitation.

Environmental Design

- Stormwater management is an integral part of spatial planning.
- Proposal promotes restoration and naturalisation of waterways.
- Proposal enhances biodiversity and extends green corridors.

Within these design principles the aim has been to achieve:

- A feasible development with a mix of housing density, housing type and price point.
- An identified area of multi-unit housing in a location of high amenity.
- The scale, alignment and orientation of the new development matched to existing patterns.
- An attractive, safe road connection from Benmore Avenue.
- A small convenience retail / café facility near the connection with Benmore Avenue.
- Revitalisation of Whiskey Creek.
- A sustainable and liveable neighbourhood that provides a high level of amenity.

The Illustrative Masterplan shown in Figure 11 below emerged from testing various options which are consider further in the Section 32 assessment. The design is built around six design strategies.

These are:

- External linkage to both Benmore Avenue and Rangitikei Line ensuring the development is an integral addition to the existing urban fabric.

- A clear street hierarchy with a main collector road skirting the northern edge of the development, local roads feeding to the collector road and lanes serving the multi-unit housing area.
- Recreational pathways within the Whiskey Creek Reserve connecting to the local street network and links to the Mangaone Stream corridor providing a recreational circuit.
- Small blocks creating a permeable neighbourhood minimising the need for rear lots and maximising north south alignment for sun access to properties.
- A broad reserve along Whiskey Creek providing the developments principal ecological and recreational asset.
- Lot type and density to meet market needs and good neighbour interface.

The Indicative Masterplan features a widened stream corridor to enhance ecological outcomes and address potential liquefaction. Yield and block layout have been optimised within the developable portion of the Site as dictated by the revised flood line. The Masterplan provides a through-site connection between Benmore Avenue and Rangitikei Line. Multi-unit housing occurs along a portion of the stream corridor, and a mixed use area is located near the intersection with Benmore Avenue. The stormwater detention area sits above the flood line and the gas pipe easement and SH3 noise buffer have been incorporated.

The implementation of the Master Plan will be the subject of detailed design for subdivision and development consents. It has however informed the final Proposed Structure Plan which forms part of the Plan Change provisions. The Proposed Structure Plan shown in Figure 11 below shows:

- The access and road structure arrangements.
- The extent of floodplain reserve and rehabilitation of Whiskey Creek.
- A neighbourhood park contiguous with the reserve but above flood prone level.
- The area of residential development with 40m noise set back from SH 3.
- Location of stormwater detention pond and adjacent neighbourhood centre.
- Gas pipeline location and associated building set back.
- Location of multiunit housing overlay area
- Indicative recreational loop and connections.

While the ability to achieve hydraulic neutrality has been tested and proven, the detailed design will consider other options for stormwater management with a view to additional discharge points to the reserve further north in order to enhance waterflow through the reserve into Whiskey Creek.

Figure 11: Illustrative Masterplan.

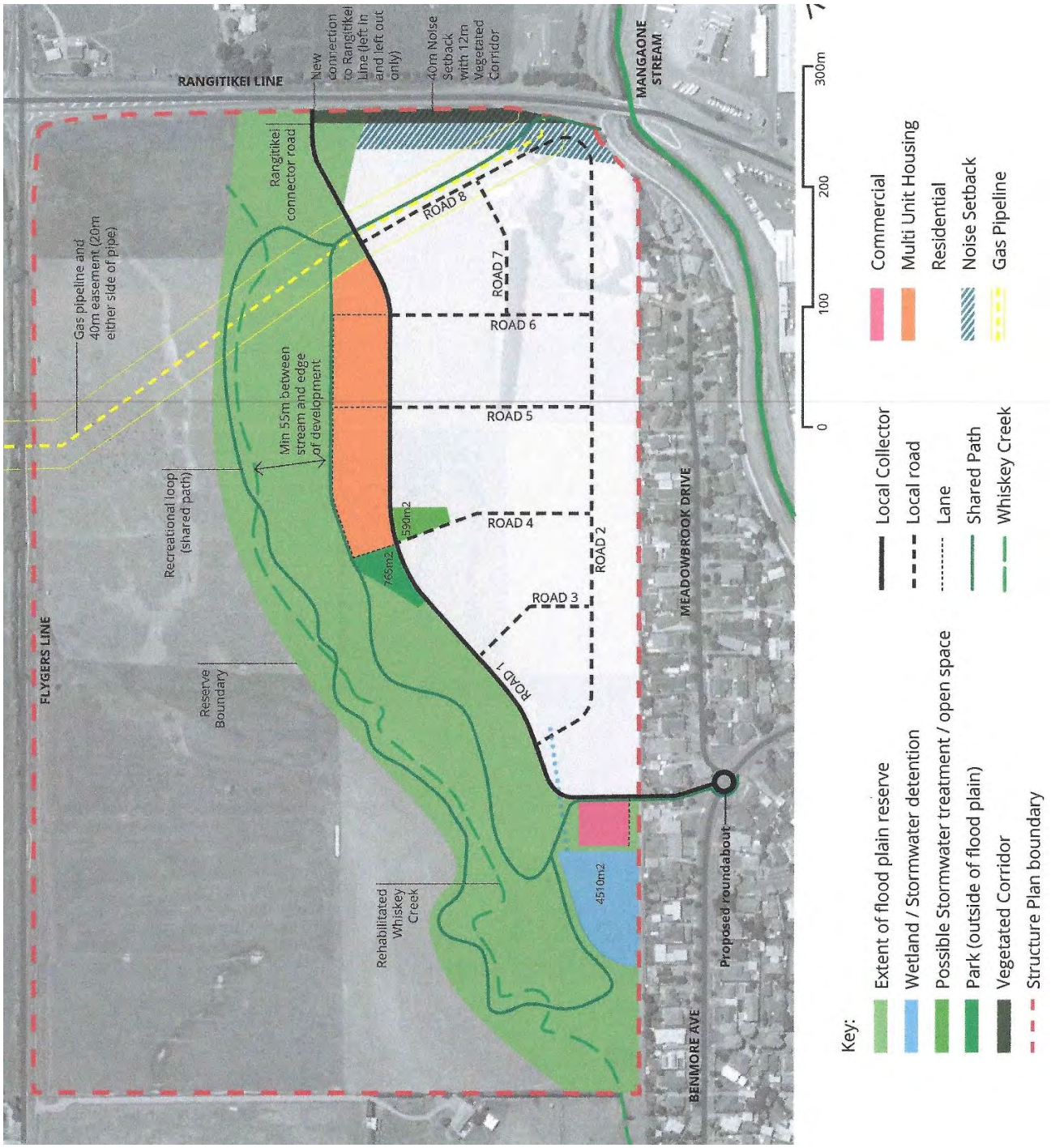

Figure 12: Proposed Structure Plan.

7.14 EFFECTS ON NEIGHBOURS

One of the key design strategies has been to have an appropriate interface with the existing established residential properties of Meadowbrook Drive and Benmore Avenue. The issues of this interface were informed by the public consultation held as part of the Plan Change design process.

The existing residential properties that border the Plan Change are predominantly, but not exclusively, single storey dwellings and a number have had the benefit of an expansive view to the

northwest across open rural land. This has generally provided a sunny but windy climate with neighbour privacy.

Understandably one of the key concerns of these owners and occupiers is the loss of that amenity associated with being at the urban rural interface.

A clear preference was expressed for aligning proposed lot boundaries with existing lot boundaries on the north west side of Meadowbrook Drive so that the development creates single, rather than multiple, neighbours for each property.

This has been adopted and provisions are proposed to maximise the extent of these aligned boundaries when subdivision consent applications are assessed.

In addition, there was also a clear preference for single level dwellings on adjoining sites to reduce the concerns regarding sun access and privacy. This has also been adopted and a height performance standard at this interface of 5 metres is proposed. This is reduced form the standard residential height standard of 9 metres.

While there will clearly still be a significant change in character of the outlook for these properties, the measures adopted will reasonably mitigate those effects.

7.15 OTHER COMMUNITY EFFECTS

Generally, it is considered that other community effects will be positive. The proposed reserve development is a substantial area of 10 hectares compared with the residential area of 13 hectares. The reserve will be accessible to the wider Cloverlea community adding to the amenity of the wider neighbourhood.

Similarly, the site for the small neighbourhood centre has been selected to have maximum accessibility to the wider community as well as exposure to the amenity of the reserve. This development may include a café with outlook to the reserve and also a small convenience shop.

The development is also expected to provide additional students for Cloverlea School which is within a reasonable walkable distance for students.

8 PROPOSED CHANGES TO THE DISTRICT PLAN

There are a number of sections within the District Plan that are relevant to this Plan Change request. They include:

- Section 7A which deals with Subdivision in Greenfield Residential Areas
- Section 10 which deals with activities and development within the Residential Zone including the multi-unit housing overlay, and commercial activities within the residential zone
- Section 22 which deals with Natural Hazards including Flood Prone Areas.
- Section 15 which deals with the Recreation Zone.

Both Sections 7A and 10 were amended through Plan Change C to provide for development of the Kikiwhenua Residential Area and appeals to these provisions have only recently been resolved.

The Plan Change Request seeks to incorporate the Whiskey Creek Residential Area into the Section 7A and Section 10 provisions with relatively few amendments.

The technical work completed for the Plan Change Request has covered a wide range of areas as detailed in Section 7 above and in Appendices.

All policies and rules in Section 7A that are generic to Greenfield Residential Areas are proposed to apply to the Whiskey Creek Residential Area. Importantly this requires at each stage of development the submission of a Comprehensive Development Plan to ensure that each stage is considered against the Structure Plan. It also includes policies relating to design principles, natural features, open space and location of neighbourhood centres.

These policies have been had regard to in the development of the Structure Plan. The key features have emerged from the design process which has been detailed in Section 7 and includes:

- A development area for approximately 157 dwellings with sections likely to average around 450 m^2 and a road structure that provides strong connections to the adjacent open space.
- The development of a 10 hectare public open space and reserve along the edge of the development based on the rehabilitation of the ephemeral Whiskey Creek tributary.
- Road connection to Benmore Avenue at the existing Meadowbrook Drive / Benmore Avenue intersection by means of a roundabout.
- Road connection to Rangitikei Line which will be restricted to left in and left out only.
- An area at the edge of the development identified for possible multi-unit medium density development for about 20 units.
- A site for a small neighbourhood centre which is also accessible to the existing residential area.
- Managed stormwater including an identified area for detention.
- Incorporation of the existing high pressure gas pipeline into proposed road reserve.
- A 40m building setback from Rangitikei Line to avoid effects from road noise.

The Structure Plan will be included in Section 7A as Map 7A.3.

To be consistent with other greenfield residential areas it is proposed that a definition of Whiskey Creek Residential Area be included in Section 4 Definitions that refers specifically to the land shown on the Structure Plan. Similarly, it is proposed that the definition of Pressure Sewer Areas also be amended to include the Whiskey Creek Residential Area.

Most of the relevant resource management issues for the Area are covered by the existing issues in section 7A.2. However, there is one exception for this greenfield area and that is the effect of development on the Lower Manawatu Drainage Scheme. It is, therefore, expressly proposed that this be added to Section 7A.2 as issue 10.

Existing Policy 2.7 relates specifically to the Kikiwhenua Residential Area and addresses the site specific issues of that greenfield residential area. It is proposed to similarly insert one additional policy that responds to the key development issues for the Whisky Creek Residential Area. These are the effects on the Lower Manawatu Drainage Scheme, restoration of Whiskey Creek, protection of the high pressure natural gas pipeline and vehicle access to the area. Also arising out of public consultation is an expressed preference that boundaries of existing residential properties align with the new lot boundaries. The final limb of the policy seeks to address this matter.

The following additional policy is, therefore, proposed.

8.8 To ensure that subdivision in the Whiskey Creek Residential Area:

- *Avoids, remedies or mitigates adverse effects on the Lower Manawatu Drainage Scheme*

- *Provides for restoration of the ephemeral tributary of Whiskey Creek as recreational reserve with quality recreational links.*

- *Provides appropriate setbacks of buildings from the natural gas pipeline that traverses part of the area and locates the pipeline within a public service corridor.*

- *Provides for vehicle access to both Benmore Avenue and Rangitikei Line.*

- *Has regard for the existing residential subdivision boundaries where it abuts Meadowbrook Drive.*

Reference to the Structure Plan is also required in Section 7A.4 – Methods.

The existing consent regime for subdivision of greenfield residential areas is based on a Restricted Discretionary resource consents with a wide range of discretionary matters.

The performance conditions to qualify as a Discretionary Activity focus on the submission of a Comprehensive Development Plan including expert reports on hydraulic and geotechnical engineering issues and an urban design statement.

In addition, Lot sizes are required to average between 500m^2 and 550m^2, with a minimum of 350 m^2 and a maximum of 1000m^2.

While additional provisions will apply to the multi-unit housing area which are addressed below, the existing average lot size is larger than is being targeted by this development. A smaller average of 400m^2 to 500m^2 is therefore proposed.

In addition, the neighbourhood centre development may involve a lot in excess of 1000m^2 and therefore this has been added to the existing balance lot exemption. As proposed, this would also apply to other greenfield residential areas. If this is not considered appropriate specific reference can be added to the neighbourhood centre shown on Map 7A.3.

The provisions also include extensive assessment criteria. Not all of these are relevant to the Whiskey Creek Residential Area but that can be addressed at the time of application assessment. There are also site-specific assessment criteria for the Whakarongo and Kikiwhenua Residential Areas. In many respects these reflect the site-specific policies which are a requirement to consider in assessing resource consent applications.

While it is not considered that additional assessment criteria are necessary for Whiskey Creek Residential Area they have been included for consistency with the approach to other Greenfield Residential Areas.

The next District Plan Section to address is Section 7 – The Residential Zone.

The provisions of this section apply to activities and built development on the land zoned Residential. Objectives 9, 10 and 11 and their respective policies apply specifically to Greenfield Residential Areas. Objective 9 has an urban design focus, Objective 10 addresses neighbourhood centres within Greenfield Residential Areas and Objective 10 relates to natural hazards.

None of the policies deal with multi-unit housing within Greenfield Residential Areas. As the proposed Structure Plan seeks to provide the option of multiunit housing within a specifically identified part of the Residential Area it is appropriate to recognise this with an additional policy.

Consequently, an additional Policy 9.7 is proposed as follows:

9.7 *To enable multi-unit housing development within the Whiskey Creek Residential Area in accordance with the Structure Plan (Map 7A.3).*

Rule 10.6.1.5 specifically deals with Performance Standards for dwellings and accessory buildings in the Greenfield Residential Areas. These include:

- Access and parking
- Building height recession planes and overlooking
- Separation distances
- Site area and coverage
- Acoustic insultation and setbacks
- On-site amenity
- Fencing
- Flood hazards

There are a number of aspects of these standards that are proposed to be amended through the Plan Change.

Two of them relate to development abutting residential properties on Meadowbrook Drive where it is appropriate that there be a reasonable building set back of 5 m which will limitation development to single storey dwellings.

The next is in relation to permeable areas within residential lots. The strategy for managing stormwater and achieving hydraulic neutrality involves a detention pond with a storage capacity of approximately 3700m^3. This is detailed later in this assessment and the Stormwater Management Plan by Mitch Hydro Ltd is included at Appendix 12. This requires there to be specific levels of permeability within each residential lot.

It is therefore appropriate to include a Performance Standard within Rule R10.6.1.5 relating specifically to Whiskey Creek Residential Area. It is noted that the standard for Kikiwhenua Residential Area is 30% of the net site area for each dwelling. In this case it is proposed to have different percentages depending on the size of the lots as follows:

- 25% of the net site area for each dwelling where this is between 171m^2 and 366m^2
- 30% of the net site area for each dwelling where this is between 367m^2 and 449m^2
- 35% of the net site area for each dwelling where this between 450m^2 and 561m^2
- 40% of the net site area for each dwelling where this between 562m^2 and 1050m^2

The next matter is in relation to acoustic insultation and setbacks from State Highway 3. Assessment of existing and future noise levels from traffic flows on State Highway in the specialist report by Acousafe Consulting and Engineering Ltd has led to the recommendation that the requirements for the Whakarongo Residential Area in relation to road noise also apply to the Whiskey Creek Residential Area.

This can be achieved by simply expanding the performance standard heading to include the Whiskey Creek Residential Area, even though the rule also includes measures for railway noise which is not relevant to Whiskey Creek.

Finally, a performance standard is proposed to be included to provide a 20 m setback for non accessory buildings from the high pressure gas pipeline as shown on the Structure Plan.

Non compliance with any of the standards triggers a restricted discretionary consent pursuant to Rule R10.6.3.2 and this includes Assessment Criteria. No changes to these provisions are proposed.

Rule R10.6.3.3 then deals with multi-unit residential development in identified multi-unit housing areas. While the focus of these areas is redevelopment within existing residential areas, the provisions have also been applied to the Hokowhitu Lagoon Residential Area.

While Council has indicated that these provisions will be reviewed in the future, they are generally fit for purpose for the multi-unit housing area within the Whiskey Creek Residential Area with some amendments. It is, therefore, proposed to amend the rule to include reference to the multi-unit residential area shown on Map 7A.3.

The provisions have different minimum site areas and gross floor areas for different groups of multi-unit housing areas. For Whiskey Creek Residential Area it is proposed that the minimum notional site area be 150 m^2 and the minimum unit size be 60 m^2. It is, therefore, proposed to amend Performance Standards i. b) and ii. b) to include specific reference to these standards also applying to the multi-unit housing area shown on Map 7A.3.

In addition, there are two standards for the multi unit residential area that are proposed to be amended. These are in line with other currently being developed Council plan changes enabling multi-unit residential development. They are an increase in the building height standard from 9 metres to 11 metres, and a change to the height recession plane from 2.8 m and 45 degrees to 3 metres and 60 degrees. These changes are to enable three level dwellings in the multi-unit residential area. It is also proposed that the front fence height of 0.9 m which applies to Greenfield Residential Area also apply to the multi-unit provisions.

Multi-unit housing that does not comply with the standards is a Discretionary Activity.

Importantly, rule R10.7.3.5 will also be applicable to the Neighbourhood Centre in terms of any commercial activity proposed as part of that area. This rule classes any commercial activity shown in a Comprehensive Development Plan in accordance with R7a.5.2.2 as a Restricted Discretionary Activity. This rule has been designed for the nature of commercial activity proposed in the Structure Plan. However, the rule confines its application to a land use consent applied for as part of the subdivision consent. It is not clear why this limitation has been applied. In most cases development of a commercial site can be expected to occur sometime after subdivision has been completed. The Plan Change Request, therefore, includes amendment to this rule to enable its application separately from the subdivision. It is appreciated that this has wider application and there may be other means of improving the effectiveness and efficiency of this rule that should be considered ahead of public notification. However, this specific amendment is proposed to clearly establish scope.

Adjoining the residential development area is a proposed reserve which involves the rehabilitation of both the permanently flowing tributary of Whiskey Creek and the upstream ephemeral section. This upper section will be realigned to maintain a setback of 55 metres from the residential

development. This is an important mitigation of risk of liquefaction lateral spread in the event of a seismic event.

This land will be zoned "Conservation and Amenity Zone". While currently the conservation values of the area are not high, rehabilitation and development of the reserve is expected to provide material conservation and amenity values incorporating a shared path loop track through the reserve and linking through the residential area to the Mangaone Stream. No buildings are anticipated within the reserve but public toilets could at some stage be provided. Cultural signage and information boards will also be included.

The remainder of the property will remain with its current Rural Zone.

The final element of the plan change request is to amend the Flood Prone Overlay. This area of flood prone land within the property will be reduced in line with the proposed earthworks for the site. The extent of this is a matter of some accuracy detail and will be authorised through resource consent approval which will provide full detail of the proposed earthworks.

As a result, it is proposed to make early application for the earthworks in parallel with the plan change request. This will allow the Plan Change to include the change to the Flood Prone Land on the Plan Map and include the specific reference to it taking effect only when the resource consent has been fully implemented.

9 NATIONAL POLICY CONTEXT

The National Policy Context is relevant to the assessment and determination of this plan change request.

Of greatest significance is the National Policy Statement on Urban Development 2020 (NPSUD) which came into effect on 20th August 2020 and replaced the National Policy Statement on Urban Development Capacity 2016.

Within this document Palmerston North City is classed as a Tier 2 local authority.

The objectives of the NPSUD include:

- Ensuring planning decisions improve housing affordability by supporting competitive and land and development markets.

- District Plans enable more people in areas of an urban environment where one or more of the following apply:
    - The area is near a centre zone or other area with employment opportunities.
    - The area is well serviced by existing or planned public transport.
    - There is high demand for housing land in the area, relative to other areas within the urban environment.

- Planning decisions relating to the urban environments take into account the principles of the Treaty of Waitangi.

- Local authority decisions are:

- Integrated with infrastructure planning and funding.
- Strategic over the medium and longer term.
- Responsive to proposals that add development supply.

Policies to achieve these objectives include:

- Planning decisions are to support well functioning urban environments.

- All local authorities are to provide sufficient development capacity to meet expected demand for housing over both the short medium and long term.

- The District Plan shall enable heights and density of urban form commensurate with the greater of:
  - The level of accessibility to active or public transport to a range of commercial activities and community services or
  - Relative demand for housing and business use on that location

Policy 8 is of particular relevance in that it requires local authorities to be responsive to plan changes that would add significantly to development capacity and contribute to well functioning urban environments, even if the development capacity is:

- Unanticipated by RMA Planning documents; or
- Out of sequence with planned land release

The National Policy Statement on Freshwater Management 2020 (NPSFM) is also potentially relevant given the relationship with Whiskey Creek and its proposed restoration. This NPSFM seeks to ensure that freshwater is managed to prioritise the health and well being of the ecosystem ahead of the needs of people.

It aims to ensure that freshwater is managed in an integrated way through a National Objectives Framework. Policies require no further loss of wetland or river extent. To achieve this, it inserts three policies into regional plans without recourse to the First Schedule process. The first relates to wetlands, the second to loss of river extent and the third to fish passage.

The definition of natural wetland includes any area of improved pasture that is dominated by exotic pasture species and is subject to temporary rainfall derived water pooling.

In this case the land involved is currently used for cropping and not pasture. There are no existing wetland areas although sheet flow of floodwater can occur as part of operation of the Flygers Line Spillway. The stormwater treatment may include the creation of new areas of managed wetland between the detention pond and Whiskey Creek and possibly other areas within the reserve. Further, the extent of stream will at least be maintained and if possible increased as part of the restoration of the stream habitat. The nature of the proposal is, therefore, fully in line with the intent and specific requirements of the NPSFM.

10 REGIONAL POLICY CONTEXT

The Regional Policy Statement and Regional Plans are contained in the compendium Horizons One Plan. As indicated above both the National Policy Statements above have implications for the

Regional Planning Context going forward. In particular, the Manawatu Wanganui Regional Council is a Tier 1 local authority in terms of the NPSUD and is required along with PNCC prepare a Future Development Strategy.

In terms of existing Regional Policy Statement policy the following objectives and policies are relevant.

Objective 3-3: The strategic integration of infrastructure^ with land^ use

Urban development occurs in a strategically planned manner which allows for the adequate and timely supply of land^ and associated infrastructure^.

Assessment: The site has long been signalled for development as part of the City Development Strategy and Housing and Future Development Plan. This plan change has taken some time to finalise because of the flood modelling challenges. However, it is intended to now complete this development as soon as possible to contribute to addressing a shortage of residential growth land in the City.

Objective 3-4: Urban growth and rural residential subdivision on versatile soils

To ensure that territorial authorities consider the benefits of retaining Class I and II1 versatile soils for use as production land when providing for urban growth and rural residential subdivision.

Assessment: The quality of the soils of the site have been carefully assessed and sit at the lower quality end of Class 2 soils. This is because of wetness limitations which make them unsuitable for horticulture and market gardening. The potential of the land is limited to arable drops such as the maize currently grown on the site.

Policy 3-4: The strategic integration of infrastructure with land use

Territorial Authorities must proactively develop and implement appropriate land use strategies to manage urban growth, and they should align their infrastructure asset management planning with those strategies, to ensure the efficient and effective provision of associated infrastructure.

Assessment: The development has limited infrastructure requirements. The development of the reserve will create a valuable asset and contribute to restoring the streams and waterways of the City. A roundabout connection to Benmore Avenue is required. The Council has considered the infrastructure requirements in its current work on the review of the Long Term Plan.

Policy 3-5: Urban growth and rural residential subdivision on versatile soils

In providing for urban growth (including implementing Policy 3-4), and controlling rural residential subdivision ("lifestyle blocks"), Territorial Authorities must pay particular attention to the benefits of the retention of Class I and II versatile soils for use as production land in their assessment of how best to achieve sustainable management.

Assessment: See above.

In relation to flood hazard the following are relevant.

Objective 9-1: Effects of natural hazard events

The adverse effects of natural hazard events on people, property, infrastructure and the wellbeing of communities are avoided or mitigated.

Assessment: The only natural hazard is one of flood risk which is part of a managed drainage scheme. The area of development will not be flood prone once earthworks are complete and the earthworks will not create adverse flood conditions for any other property.

Policy 9-2: Development in areas prone to flooding

a. *The Regional Council and Territorial Authorities must not allow the establishment of any new structure or activity, or any increase in the scale of any existing structure or activity, within a floodway mapped in Schedule J unless:*

i. *there is a functional necessity to locate the structure or activity within such an area, and*
ii. *the structure or activity is designed so that the adverse effects of a 0.5% annual exceedance probability (AEP) (1 in 200 year) flood event on it are avoided or mitigated, and*
iii. *the structure or activity is designed so that adverse effects on the environment, including the functioning of the floodway, arising from the structure or activity during a flood event are avoided or mitigated,*

in which case the structure or activity may be allowed.

b. *Outside of a floodway mapped in Schedule J the Regional Council and Territorial Authorities must not allow the establishment of any new structure or activity, or an increase in the scale of any existing structure or activity, within an area which would be inundated in a 0.5% AEP (1 in 200 year) flood event2 unless:*

i. *flood hazard avoidance is achieved or the 0.5% AEP (1 in 200 year) flood hazard is mitigated, or*
ii. *the non-habitable structure or activity is on production land, or*
iii. *there is a functional necessity to locate the structure or activity within such an area,*

in any of which cases the structure or activity may be allowed.

c. *Flood hazard avoidance must be preferred to flood hazard mitigation.*

d. *When making decisions under Policies 9-2(a) and b(i) regarding the appropriateness of proposed flood hazard mitigation measures, the Regional Council and Territorial Authorities must:*

i. *ensure that occupied structures have a finished floor or ground level, which includes reasonable freeboard, above the 0.5% AEP (1 in 200 year) flood level.*
ii. *ensure that in a 0.5% AEP (1 in 200 year) flood event the inundation of access between occupied structures and a safe area where evacuation may be carried out (preferably ground that will not be flooded) must be no greater than 0.5 m above finished ground level with a maximum water velocity of 1.0 m/s, or some other combination of water depth and velocity that can be shown to result in no greater risk to human life, infrastructure or property,*

iii. *ensure that any more than minor adverse effects on the effectiveness of existing flood hazard avoidance or mitigation measures, including works and structures within River and Drainage Schemes, natural landforms that protect against inundation, and overland stormwater flow paths, are avoided,*

iv. *ensure that adverse effects on existing structures and activities are avoided or mitigated,*

v. *have regard to the likelihood and consequences of the proposed flood hazard mitigation measures failing,*

vi. *have regard to the consequential effects of meeting the requirements of (d)(ii), including but not limited to landscape and natural character, urban design, and the displacement of floodwaters onto adjoining properties, and*

vii. *have regard to the proposed ownership of, and responsibility for maintenance of, the flood hazard mitigation measures including the appropriateness and certainty of the maintenance regime.*

e. *Within that part of the Palmerston North City Council district that is protected by the Lower Manawatū River Flood Control Scheme to a 0.2% AEP (1 in 500 year) standard, including the Mangaone Stream stopbank system, additional flood hazard avoidance or mitigation measures will generally not be required when establishing any new structure or activity or increasing the scale of any existing structure^ or activity.*

f. *Despite Policy 9-2(d)(i) and (ii), within that part of the Whanganui central city bounded by Bates Street, Ridgway Street and Victoria Avenue, flood hazard mitigation measures will not be limited to considering flood height and flow but will include such methods as resilient construction and emergency management systems.*

g. *This policy does not apply to new critical infrastructure*

Assessment: It is important to note that in Figure J2 the site is classified as a "floodable area" and not a "floodway". No habitable buildings are proposed to be within a floodable area. However, the proposed reserve will be within the floodable area and any proposed structures will need to have regard to the above policies.

The District Plan mapping of flood prone areas is currently consistent with Schedule J Figure J:2. However the earthworks will reduce the area of the site that is flood prone and the Plan Change request includes amendment to the District Plan Maps to recognise this once the earthworks have been implemented.

Policy 3-7: Energy efficiency*

a. *The Regional Council and Territorial Authorities must have particular regard to the efficient end use of energy in consent decision-making processes for large users of energy.*
b. *Territorial Authority decisions and controls on subdivision and housing, including layout of the site and layout of the lots in relation to other houses/subdivisions, must encourage energy-efficient house design and access to solar energy.*
c. *Territorial Authority decisions and controls on subdivision and land use must ensure that sustainable transport options such as public transport, walking and cycling can be integrated into land use development.*

Assessment: The Structure Plan design has had regard to the ability for house designs to maximise solar access and the location of the development is accessible to both the City Centre and local community facilities. The collector road will also be suitable for a public transport route.

11 DISTRICT CITY VIEW OBJECTIVES

The District Plan City View Objectives represent the broad outcomes that the Plan seeks to achieve. While this is a request to change the Plan, it should still have regard to the broader strategic direction of the existing overall District Plan.

Relevant objectives are considered below.

1. Planning for residential, industrial, commercial and rural-residential growth sustains a compact, orderly and connected urban form which avoids the adverse environmental effects of uncontained urban expansion into the rural zone.

Assessment: The proposal provides a strong connected edge to this part of the city and supports a compact form. The proposal is also well integrated with the existing Cloverlea neighbourhood and the structure plan provides an "orderly" development.

2. The provision of infrastructure, particularly within identified growth areas, shall be efficient, timely, environmentally sensitive and economically sustainable.

Assessment: The Plan Change Request Structure Plan signals a specific roading layout and connections and also specific proposals for stormwater infrastructure. Other services extensions are efficient and economically sustainable.

3. The integrated and efficient provision of, and access to, infrastructure, network utilities and local services is facilitated for all residents.

Assessment: The proposal supports local services and will provide a significant new reserve and neighbourhood centre for the wider local community.

5. A variety of high quality residential living environments are provided to satisfy the needs of all residents.

Assessment: The proposed design has a strong urban design basis and reserve interface providing potential for high quality living environments.

8. The distinctive rural and urban character of the City is recognised and a clear differentiation is provided regarding subdivision, development and servicing expectations within rural and urban areas.

Assessment: The proposal forms a clear edge to the City and enhances the north west gateway. It helps differentiate between urban and rural environments.

9. Subdivisions, buildings and infrastructure are designed and constructed to promote a coordinated, healthy and safe environment.

Assessment: The Structure Plan and landownership will ensure a coordinated approach to the development. The reserve develop will also support active lifestyles and quality recreation connections.

10. The visual appeal of the City is enhanced.

Assessment: The reserve development will restore a tributary of Whiskey Creek and its ephemeral connections. The development of this reserve will materially add to the visual appeal of the City at an important gateway.

11. The principles of good urban design are given effect to for all new subdivisions, urban intensification and major building developments, particularly those located within the City Centre or fronting key transportation routes.

Assessment: The development concept has been built on strong urban design principles.

15. Active engagement from tangata whenua within resource management decisions.

Assessment: The development of this Plan Change request has included active involvement of mana whenua.

17. The natural and cultural heritage features of the City are preserved and enhanced, including the margins of the Manawatu River and sites of significance to tangata whenua.

Assessment: The reserve development will make a significant contribution to restoration of the natural heritage of the City.

19. The effects of natural hazards are avoided or mitigated taking into account the effects of climate change and the significant social disruption caused by natural hazard events.

Assessment: The proposal has had specific regard to protecting the efficient functioning of floodwater diversion from the Flygers Spillway and will not result in adverse flood effects for any other properties.

21. A broad range of recreation and leisure opportunities are provided for in the City which contribute towards an enhanced quality of life.

Assessment: The proposed reserve will incorporate a shared path recreational loop linking with the Mangaone Stream walkway and will add to the recreational opportunities of the local area.

22. Appropriate noise standards are in place to protect noise sensitive activities.

Assessment: The noise effects of traffic on SH3 have been considered and appropriate standards proposed.

24. All forms of transport, including public transport, walking, cycling and private vehicles are adequately provided for to assist with sustainable energy use and a healthy lifestyle.

Assessment: The road network proposed provides for private vehicles, cycling and walking and also potentially provides for public transport.

It can reasonably be concluded from the above that the proposal has a strong fit with the relevant City View Objectives.

12 SECTION 32 ASSESSMENT

The process of development of the Plan Change Request has provided for careful evaluation of alternatives throughout the process. Inherently a process of this nature is an iterative process with expert inputs from a wide range of experts influencing the design process.

Section 32 requires that there be evaluation of the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the Act and examine whether the proposed provisions are the most appropriate way to achieve the objectives by assessing the efficiency and effectiveness of other reasonably practicable options.

The objectives of the proposal can be described as to achieve:

- A feasible development with a mix of housing density, housing type and price point.
- A sustainable and liveable neighbourhood that provides a high level of amenity and connectivity and incorporates the revitalisation of Whiskey Creek.
- A maximised development area without adversely affecting the flood management function of the area.
- Appropriate management of environmental risks associated with liquefaction, stormwater discharges, environmental noise and existing infrastructure.

These objectives themselves have specific regard to the purpose of the Act. Evaluation of their appropriateness can be considered in the context of the District Plan zoning of the site. In this regard there are a number of alternatives including:

1. Retaining the existing rural zoning.

2. Applying the District Plan Rural Residential overlay enabling development at a density of 1 dwelling per 1 – 2 hectares where there is no flood risk.

3. Residential zoning of land not subject to flood risk.

Evaluation of these options has been undertaken at a high level using a multi criteria assessment approach. The criteria reflect the purpose of the Act in this context and the alternatives have been rated according to the following scale.

Fully supports/exceeds	
Supports in most regards	
Partial support of criteria	
Minor alignment only	
Does not support / undermines	

The assessment is set out in the table below.

Assessment Topic & Criterion	Scenario 1: Rural Zone	Scenario 2: Rural Residential	Scenario 3: Part Residential
1.0 STRATEGIC ALIGNMENT			
A1.1 Aligns with high-level PNCC strategies and plans. • Correlates well with city's economic development. • Supplies new housing in step with population growth. • Adds to range of housing options available.	• No contribution to city growth targets. • No increase in housing choice. • Area not flood prone would be land bank for future development.	• Little contribution to city growth targets. • Little increase in housing choice. • Some potential for future intensification.	• Significant contribution to city growth targets. • Contributes to housing choice.
A1.2 Promotes responsible growth. • Directs greenfield development to low-impact locations. • Produces cohesive well-integrated outcome. • Locates new housing near existing amenities.	• Under-utilised low-impact location. • Hard urban rural interface • No improvement of weak city edge.	• Under-utilised low-impact location. • Partially integrated with rural zone. • Some improvement of weak city edge.	• Moderately well utilised low-impact location. • Comprehensively planned. • Moderately well integrated with residential zone. • Stream corridor within walking distance. • Improvement of weak city edge.
A1.3 Protects high-value agricultural land. • Retains high-class soils in agricultural use. • Avoids fragmentation of productive land.	• All land in agricultural production. • All large rural lots.	• Some land in agricultural production. • Smaller rural lots.	• Some land in agricultural production. • Some large rural lots. • Co-location of new and existing housing.
A1.4 Improves water quality. • Restores mauri and mana of waterways. • Treats waterways as integrated system. • 'Naturalises' tributaries of Manawatū River.	• No restoration of mauri and mana. • No overall management. • No naturalisation of landscape/waterways.	• No systematic restoration of mauri and mana. • No overall management. • Potential for some naturalisation (lifestyle lots).	• No systematic restoration of mauri and mana. • Potential for some overall management. • Potential for some naturalisation (green space).

A1.5 Increases biodiversity. • Improves quality of natural environment. • Restores natural ecologies (incl. streams/wetlands). • Contributes to network of biodiversity corridors.	• No improvement in natural environment. • Potential for further degradation of waterway. • Impediment to biodiversity corridors.	• Some improvement in natural environment. • Potential for further degradation of waterway. • Potential impediment to biodiversity corridors.	• Potential for some improvement (green space). • Potential for further degradation of waterway. • Potential impediment to biodiversity corridors.

2.0 FEASIBILITY

A2.1 Meets economic feasibility criteria. • Generates acceptable development costs. • Offers adequate yield at the right price point. • Allows phased development with built-in flexibility.	• Minimal development cost. • No housing yield. • Potential for future development.	• Low development cost. • Low housing yield. • Some potential for future development.	• Moderate development cost. • Moderate housing yield. • Limited potential for phased development.
A2.2 Minimises risks from natural hazards. • Manages threat from flooding. • Manages threat from liquefaction. • Manages threat from slope failure (lateral spreading). • Builds in resilience.	• Low SW impact (very low density) • Low flood risk (very low density) • Little risk from liquefaction (very low density).	• Low SW impact (low density) • Low flood risk if structures confined to flood free land. • Low risk from liquefaction (low density). • Little built-in resilience (single access).	• Potential for low-impact SW management • Low flood risk if structures confined to flood free land. • Some risk from liquefaction (mod. density) • Built-in resilience (multiple access).
A2.3 Minimises risks associated with consenting process. • Presents strong rationale for change. • Minimises reverse sensitivities. • Benefits neighbours and other stakeholders.	• Zero risk (no DP change).	• Some risk (DP change required for rural res overlay). • Loss of agricultural production. • Low impact on remaining rural activities. • Low impact on neighbouring residential zone. • Established urban fringe development pattern.	• Some risk (DP change required). • Loss of agricultural production. • Some impact on remaining rural activities • Some impact on neighbouring residential zone. • Contiguous with existing residential area. • Some increase in recreational amenities.

3.0 IDENTITY			
A3.1 Creates a strong place-based identity. • Possesses recognisable formal/spatial components. • Organises components in clear relationships. • Offers a point of difference.	• No distinctive feature. • Retention of arbitrary rural/urban boundary.	• No distinctive feature. • Improved transition at rural/urban interface.	• Some distinctiveness / partial open space edge. • Recognition of natural rural/urban boundary. • Conspicuous rear boundaries at city gateway. .
4.0 CONNECTIVITY			
A4.1 Contributes to good city-wide network structure. • Supports multi-modal movement network. • Connects existing/new residential areas with wider city. • Extends city-wide network of greenways/off-road trails.	• No improvement of movement network. • No new through connections. • No extension to greenways or off-road trails.	• No improvement of movement network. • No new through connections. • No extension to greenways or off-road trails.	• Some improvement in network (PT viability). • New north-south connection to Flygers Line. • Moderate internal connectivity. • Expansive rural views from through-route. • Potential addition to greenways. • Off-road paths limited to short mid-block links.
5.0 GOOD NEIGHBOUR			
A5.1 Demonstrates good urban design at macro level. • Amplifies natural features and existing landscape. • Provides coherent addition to existing urban structure. • Connects and consolidates existing residential areas.	• No enhancement of existing landscape. • No increase in coherence of urban form.	• Some enhancement of existing landscape. • Clearer transition at rural/urban interface. • Contiguous with existing residential area. • Limited connection with neighbouring suburb.	• Some enhancement of landscape (flood plain). • Contiguous with existing residential area. • Some connection with neighbouring suburb.

6.0 ECOLOGY			
A6.1 Improves environmental quality. • Reinstates, restores and protects local habitats. • Creates ecological corridors (esp. along waterways). • Encourages revegetation (min. 10% indigenous cover).	• No improvement in natural environment. • Potential degradation of waterway. • Impediment to biodiversity corridors.	• Some improvement in natural environment. • Potential degradation of waterway. • Potential impediment to biodiversity corridors. • Some indigenous revegetation (private lots).	• Potential for restored habitats (green space). • Potential for degradation of waterways. • Potential impediment to biodiversity corridors. • Some indigenous vegetation (incl. street trees). • Potential connection to Mangaone Stream.

A visual summary of the assessment results is tabulated below and if all criteria are treated as being of similar relative importance then a Part residential development of the site is the most appropriate way to achieve the purpose of the Act.

Assessment Topics & Criteria	Scenario 1: Rural	Scenario 2: Rural Residential	Scenario 3: Part Residential
A1.1 Aligns with high-level PNCC strategies and plans.			
A1.2 Promotes responsible growth.			
A1.3 Protects high-value agricultural land.			
A1.4 Improves water quality.			
A1.5 Increases biodiversity.			
A2.1 Meets economic feasibility criteria.			
A2.2 Minimises risks from natural hazards.			
A2.3 Minimises risks associated with consenting process.			
A3.1 Creates a strong place-based identity.			
A4.1 Contributes to good city-wide network structure.			
A5.1 Demonstrates good urban design at macro level.			
A6.1 Improves environmental quality.			

Section 32 also requires specific evaluation of the proposed plan provisions. While there are multiple aspects to the specific changes and additions to the provisions, they are for the most part captured in some manner in the proposed Structure Plan and Indicative Masterplan. This stage of the Section 32 evaluation therefore focusses on evaluating other reasonably practicable design options for achieving the objectives. This similarly takes a Multi Criteria Assessment approach and evaluates options that were considered in the design process and resulted in the current Structure Plan.

It is also important to recognise that the provisions proposed seek as much as possible to fit the format, style and nature of the existing District Plan and particularly Section 7A Greenfield Residential Areas. This section has been through a number of plan changes and therefore associated Section 32 scrutiny and evaluation. In particular, Plan Change C sought to make this a section that can accommodate additional greenfield areas as they arise. It is, therefore, not appropriate to re-evaluate the content of Section 7C and this makes it even more appropriate to focus on alternative design options for the Structure Plan / Master Plan.

The three options evaluated are identified in Section 3.4 of the Urban Design Report in Appendix 3.

Option 1: Business As Usual.

Described as a hybrid geometry to maximise the number of standard sized lots with uniform lot orientation and road connection to Flygers Line.

Figure 13: Option 1.

The key characteristics of this option are:

• Low-moderate market risk, some variation/mix in density and dwelling type.

• Predominantly north-south lots with sub-optimal sun access.
• Good levels of open space amenity.
• Partly responsive to local landscape but discontinuous edge.
• Allows for ecological corridors.
• No local centre. Moderate external connectivity to Benmore Avenue and Flygers Line.
• Legible street pattern with clear geometry and range of street types.
• Potential for high-quality streetscape.

Option 2: Landscape – led Approach.

Described as a 'distorted grid' street structure that provides views of the stream corridor at the end of each street and establishes clear sightlines with a continuous green amenity corridor along the boundary.

Figure 14: Option 2.

The key characteristics of this option are:

• Moderate-high housing yield, moderate market risk associated with multi-unit housing.
• Significant variation/mix in density and dwelling type and local centre provision.
• Predominantly east-west lots offering good orientation for sun.
• High levels of open space amenity.
• Responsive to local landscape.
• Naturalisation of Whiskey Creek corridor, extension of ecological corridors.
• Integrated low-impact SW management.
• Significantly improved urban edge.
• Good external connectivity to Benmore Avenue and Rangitikei Line.
• Strong support for PT/active modes.

• Extension to recreational trails, including the Mangaone Stream.
• Moderate internal connectivity but limited east-west connection.
• Legible street pattern and clear geometry.
• Potential for high-quality streetscape.

Option 3: Neighbourhood Network.

Described as a formal grid structure providing different densities, lot orientations and bringing open spaces into the developed area.

Figure 15: Option 3.

The key characteristics of this option are:

• Moderate-high housing yield, moderate-high market risk associated with multi-unit housing.
• Local centre provision.
• Significant variation/mix in density and dwelling type.
• Very high open space amenity.
• Responsive to local landscape.
• Naturalisation of Whiskey Creek corridor, extension to ecological corridors.
• Integrated low-impact SW management.
• Significantly improved urban edge.
• Good external connectivity to Benmore Avenue and Rangitikei Line.
• Strong support for PT/active modes.
• Extension to recreational trails including the Mangaone Stream.
• High internal connectivity with small blocks and no cul-de-sacs.
• Legible street pattern.
• Potential for high-quality streetscape.

The Multi Criteria Assessment of these options is set out in the table below.

Assessment Topic & Criterion	Option 1: Hybrid Geometry	Option 2: Deformed Grid	Option 3: Neighbourhood Network
1.0 STRATEGIC ALIGNMENT			
B1.1 Recognises Rangitāne as mana whenua. • Recognises value of landscape and natural systems. • Acknowledges and protects cultural sites. • Expresses Māori culture in the physical environment.	• Potential for Rangitāne stewardship of restored habitats. • Potential for interpretive material (reserves, trails). • Potential for Te Reo placenames.	• Potential for Rangitāne stewardship of restored habitats. • Potential for interpretive material (reserves, trails). • Potential for Te Reo placenames.	• Potential for Rangitāne stewardship of restored habitats. • Potential for interpretive material (parks, reserves, trails). • Potential for Te Reo placenames.
2.0 FEASIBILITY			
B2.1 Meets economic feasibility criteria. • Generates acceptable development costs. • Offers adequate yield at the right price point. • Allows phased development with built-in flexibility.	• Well-proportioned lots in compact layout. • Moderate yield; low-moderate market risk (medium density). • Part single-loaded thoroughfare (Road 1). • Potential for phased development.	• Well-proportioned lots in compact layout. • Moderate-high yield; moderate market risk (med density). • One single-loaded thoroughfare (Road 1). • Potential for phased development.	• Well-proportioned lots in compact layout. • Moderate-high yield; moderate-high market risk (med density). • One single-loaded thoroughfare (Road 1). • Potential for phased development.
B2.2 Minimises risks associated with consenting process. • Presents strong rationale for change. • Minimises reverse sensitivities. • Benefits neighbours and other stakeholders.	• Sympathetic interface with Meadowbrook Drive. • Localised impact on Benmore Ave (new street, vehicles). • Added value for Robertson block. • Creek corridor buffer to rural zone. • Significant increase in local open space amenity.	• Sympathetic interface with Meadowbrook Drive. • Localised impact on Benmore Ave (new street, vehicles). • Added value for Robertson block. • Creek corridor buffer to rural zone. • Significant increase in local open space amenity.	• Sympathetic interface with Meadowbrook Drive. • Localised impact on Benmore Ave (new street, vehicles). • Added value for Robertson block. • Creek corridor buffer to rural zone. • Significant increase in local open space amenity.

B2.3 Contributes to a sustainable utility network. • Provides integrated cost-effective wastewater system. • Encourages reduced domestic demand for water. • Encourages reduced flow of wastewater.	• Potential for low impact SW management • Some impact on demand.	• Potential for low impact SW management • Moderate impact on demand.	•Potential for low impact SW management • Moderate impact on demand.
3.0 IDENTITY			
B3.1 Creates a strong place-based identity. • Possesses recognisable formal/spatial components. • Organises components in clear relationships. • Offers a point of difference.	• Strong spatial hierarchy. varied density/lot type/streetscape. • Local centre at threshold with existing residential area. • Local centre linked to creek corridor reserve/trails. • Distinctive naturalised creek corridor.	• Spatial hierarchy but some repetition. Varied density/lot type. • Commercial facility linked to creek corridor reserve/trails. • Distinctive naturalised creek corridor.	• Strong spatial hierarchy (varied density/lot type/streetscape). • Retail facility linked to creek corridor reserve/trails. • Neighbourhood park linked to creek corridor reserve/trails. • Distinctive naturalised creek corridor.

B2.2 Responds to threshold between city/plains. • Accesses unique visual and recreational assets. • Creates gateway feature on city's northern fringe.	• Urban edge follows natural feature (flood plain). • Perimeter street and creek corridor reserve along urban edge. • Frequent direct connections to creek corridor/urban edge. • Terrace housing "sentinel" along part of urban edge.	• Urban edge follows natural feature (flood plain). • Perimeter street and creek corrido reserve along urban edge. • Frequent very direct connections to creek corridor/urban edge. • Terrace housing "sentinel" along full urban edge.	• Urban/rural boundary follows natural feature (flood plain). • Perimeter street and creek corridor reserve along urban edge. • Frequent connections to creek corridor/urban edge. • Terrace housing "sentinel" along full urban edge.

4.0 CONNECTIVITY			
B4.1 Ensures movement is safe, efficient and enjoyable. • Provides efficient routes for through movement. • Calms vehicular traffic on local streets. • Includes recreational circuits and off-road trails.	• Alternative routes to/from all locations. • One efficient through-route. • Expansive views from perimeter street (Road 1). • Quiet local streets. • Trail between Whiskey Creek and Mangaone Stream.	• Alternative routes to/from all locations. • One efficient through-route. • Expansive views from perimeter street (Road 1). • Quiet local streets. • Trail between Whiskey Creek and Mangaone Stream.	• Alternative routes to/from all locations. • One efficient through-route. • Expansive views from perimeter street (Road 1). • Quiet local streets. • Trail between Whiskey Creek and Mangaone Stream.
B4.2 Produces good local network structure. • Produces interconnected multi-modal network. • Possesses a clear internal street hierarchy. • Connects existing/new residential areas. • Extends local network of greenways/off-road trails.	• Good internal connectivity (alternative routes). • Highly legible street pattern (well-developed hierarchy). • Moderately good external connectivity (two links). • Expansive views from perimeter street. • Trail between Whiskey Creek and Mangaone Stream.	• Good internal connectivity (alternative routes). • Legible street pattern (some repetition). • Moderately good external connectivity (two links). • Expansive views from perimeter street. • Trail between Whiskey Creek and Mangaone Stream.	• Good internal connectivity (alternative routes). • Highly legible street pattern (well-developed hierarchy). • Moderately good external connectivity (two links). • Expansive views from perimeter street. • Trail between Whiskey Creek and Mangaone Stream.
B4.3 Encourages balanced mix of transport modes. • Offers transport options (alternatives to private vehicle). • Encourages shift to public transport and active modes. • Supports walking/PT with high quality public realm.	• Good support for PT, walking and cycling. • Good connections to existing trail networks. • Walkable destinations (local centre and reserves).	• Good support for PT, walking and cycling. • Good connections to existing trail networks. • Walkable destinations (retail facility and reserves).	• Good support for PT, walking and cycling. • Good connections to existing trail networks. • Walkable destinations (retail facility, park and reserves).

5.0 GOOD NEIGHBOUR			
B5.1 Demonstrates good Urban Design at local level. • Amplifies natural features and existing landscape. • Acknowledges existing built form/open space patterns. • Consolidates residential character.	• Expressed natural limit to urban growth. • Contiguous with existing built-up area. • Enhanced open space network. • Clear priority for residential development.	• Expressed natural limit to urban growth. • Contiguous with existing built-up area. • Enhanced open space network. • Clear priority for residential development.	• Expressed natural limit to urban growth. • Contiguous with existing built-up area. • Enhanced open space network. • Clear priority for residential development.
B5.2 Supports high-quality public realm. • Encourages street-facing development. • Sets the scene for high quality streetscape. • Supports CPTED principles (incl. passive surveillance).	• Predominantly street-facing development. • Active interesting frontages (few rear lots, limited garaging). • Custodial presence (legible routes, visible signs of inhabitation).	• Predominantly street-facing development. • Active interesting frontages (few rear lots, limited garaging). • Custodial presence (legible routes, visible signs of inhabitation). • Some deep lots with potential for long driveways.	• Predominantly street-facing development. • Active interesting frontages (few rear lots, limited garaging). • Custodial presence (legible routes, visible signs of inhabitation). • Some deep lots with potential for long driveways.
B5.3 Delivers services equitably and effectively. • Meets existing/projected community services demand. • Ensures services are accessible and pleasant to use. • Accommodates a wide range of users and activities.	• Open space amenity exceeds status quo . • Extended network of recreational trails and cycleways. • Green connections between new and existing reserves. • Highly accessible open spaces. • Highly accessible local centre to new and existing areas.	• Open space amenity exceeds status quo. • Extended network of recreational trails and cycleways. • Green connections between new and existing reserves. • Highly accessible open spaces. • Accessible retail facility.	• Open space amenity exceeds status quo. • Extended network of recreational trails and cycleways. • Green connections between new and existing reserves. • Highly accessible open spaces. • Accessible retail facility.

6.0 ECOLOGY			
B6.1 Incorporates sustainable SW management practices. • Manages SW responsibly on site. • Incorporates natural waterways in SW system. • Reduces sedimentation by limiting runoff/erosion. • Treats stormwater prior to discharge. • Avoids large point source discharge.	• Accommodates detention pond. • Controlled discharge to creek corridor • Potential for SW treatment • No-build area within flood plain.	• Can accommodate detention pond with some amendment. • Controlled discharge to creek corridor • Potential for SW treatment • No-build area within flood plain.	• Can accommodate detention pond with some amendment. • Controlled discharge to creek corridor • Potential for SW treatment • No-build area within flood plain.
B6.2 Raises amenity value of ecological areas. • Increases accessibility and visibility of ecological areas. • Joins Whiskey Creek and Mangaone Stream corridors. • Creates destinations and promotes recreational use.	• Highly accessible open spaces. • Naturalised creek corridor. • Green corridor between Whiskey Creek and Mangaone Stream. • Good support for walking and cycling. • Street trees on most thoroughfares. • Local centre linked to open space.	• Highly accessible open spaces. • Naturalised creek corridor. • Green corridor between Whiskey Creek and Mangaone Stream. • Good support for walking and cycling. • Street trees on most thoroughfares. • Local centre linked to open space.	• Highly accessible open spaces. • Naturalised creek corridor. • Green corridor between Whiskey Creek and Mangaone Stream. • Good support for walking and cycling. • Street trees on most thoroughfares. • Local centre linked to open space.
7.0 HOUSING CHOICE			
B7.1 Provides volume, choice and flexibility. • Helps meet existing and projected demand. • Responds flexibly to changing demographics. • Provides choice of dwelling type.	• Moderate housing yield. • Some variation in density/lot type.	• Moderately-high housing yield. • Significant variation in density/lot type (range of dwellings).	• Moderately-high housing yield. • Significant variation in density/lot type (range of dwellings).

A visual summary of the assessment is set out below in accordance with the adopted rating scale of:

Fully supports/exceeds	
Supports in most regards	
Partial support of criteria	
Minor alignment only	
Does not support / undermines	

Assessment Topics & Criteria	Option 1: Hybrid Geometry	Option 2: Deformed Grid	Option 3: Neighbourhood Network
B1.1 Recognises Rangitāne as mana whenua.			
B2.1 Meets economic feasibility criteria.			
B2.2 Minimises risks associated with consenting process.			
B2.3 Contributes to a sustainable utility network.			
B3.1 Creates a strong place-based identity.			
B2.2 Responds to threshold between city/plains.			
B4.1 Ensures movement is safe, efficient and enjoyable.			
B4.2 Produces good local network structure.			
B4.3 Encourages balanced mix of transport modes.			
B5.1 Demonstrates good Urban Design at local level.			
B5.2 Supports high-quality public realm.			
B5.3 Delivers services equitably and effectively.			
B6.1 Incorporates sustainable SW management practices.			
B6.2 Raises amenity value of ecological areas.			

The Proposed Structure Plan and Illustrative Masterplan seeks to combine the best aspects of the three options evaluated above. In addition, it provides a mix of densities and uses. The multi-unit housing area is located on Road 1 at the Whiskey Creek Reserve edge. A mixed-use commercial neighbourhood centre is located near the link to Benmore Avenue. This promotes activation and definition of the 'absolute urban edge'. Lot configuration along the southern boundary allows a complementary relationship with the existing urban fabric.

The design provides a high level of external and internal connectivity by means of

(i) a connected spatial network,
(ii) a legible spatial structure and
(iii) a street hierarchy
(iv) external connections to Rangitikei Line and Benmore Avenue.

The street and block structure connects the Site with Whiskey Creek reserve and avoids the need for cul-de-sacs. Efficiently sized north-south blocks create east-west lots that maximise sun. The extended green corridor proposed along the revitalised Whiskey Creek corridor will include shared path and walkway system providing recreational loops and connections to the Mangaone Stream walkway. Formal and informal play spaces and observation will be incorporated into the reserve. Combined with the local street network, well-connected open spaces create characterful 'place elements' that contribute to a unique Whiskey Creek identity.

The Masterplan provides new blue and green infrastructure for the Site integrated into the overall development. The main stormwater detention area is located outside of the floodplain and allows flows back into Whiskey Creek through a wetland. This will improve water quality and revitalise the ephemeral stream bed. Options for separate discharge to the reserve will also be considered at the subdivision consent stage.

The Whiskey Creek green corridor with its ephemeral wetlands, stream bed and restored area of lowland forest could become a significant habitat node to the north of the city. It can function as a stepping stone connecting areas such as Manderson's Bush with the suburban environment.

13 RISKS AND UNCERTAINTIES

Section 32 (2)(c) requires assessment of the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

In this case there is considered to be sufficient information and certainty to proceed and therefore this assessment is not required. Appropriate expertise has been applied in each aspect of the proposal and there has been extensive consultation with stakeholders such as NZTA, PNCC, Horizons and iwi as well as the local community.

Importantly, the proposed provisions do not permit development without further scrutiny through restricted discretionary resource consents at both the territorial authority and regional council level. This will require information to a more detailed level and certainty including appropriate management plans. This allows any remaining uncertainty to be addressed through consent conditions.

14 CONCLUSIONS

The Plan Change Request for Whiskey Creek Residential Area has been carefully investigated with recognised experts and tested in terms of Section 32.

The resulting proposal provides significant community and environmental benefits while ensuring the flood management performance and infrastructure is protected.

The development is expected to add to the residential land supply to the extent of 150 – 160 dwellings.

While there has been extensive consultation with interested and affected parties this request will now be considered by Palmerston North City Council and then notified for submissions which will be considered at a hearing before this Plan Change has effect.

In parallel with this it is proposed to advance detailed resource consents for earthworks so that this land supply can be expedited.

APPENDIX 1

CERTIFICATES OF TITLE

APPENDIX 2

FLYGERS LINE HYDRAULIC MODELLING: DHI LTD.

APPENDIX 3

WHISKEY CREEK URBAN DESIGN REPORT:

MCINDOE URBAN LTD AND LOCAL LTD.

APPENDIX 4

FLYGERS LINE PLAN CHANGE CULTURAL IMPACT ASSESSMENT

TO HOTU MANAWA O RANGITANE O MANAWATU MARAE.

APPENDIX 5

PRELIMINARY AND DETAILED SITE INVESTIGATION: CONTAMINATED LAND.

RILEY CONSULTANTS LTD

APPENDIX 6

GEOTECHNICAL ASSESSMENT: PROPOSED PLAN CHANGE RANGITIKEI LINE AND FLYGERS LINE

RILEY CONSULTANTS LTD.

APPENDIX 7

LATERAL SPREADING ASSESSMENT

TOTAL GROUND ENGINEERING LTD

APPENDIX 8

REPORT ON SOIL PRODUCTIVITY: 165-243 FLYGERS LINE AND 609 AND 611 RANGITIKEI LINE

PERRIN AG CONSULTANTS LTD

APPENDIX 9

PROPOSED PLAN CHANGE FLYGERS LINE

ACOUSAFE LTD.

APPENDIX 10

WHISKEY CREEK PROPOSED PRIVATE PLAN CHANGE TRANSPORTATION ASSESSMENT

HARRIET FRASER TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING

APPENDIX 11

PROPOSED PLAN CHANGE WHISKEY CREEK: WATER AND WASTEWATER, GAS MAIN AND EARTHWORKS ASSESSMENTS

RESONANT LTD

APPENDIX 12

WHISKEY CREEK PLAN CHANGE STORMWATER MANAGEMENT PLAN:

MITCH HYDRO LTD