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Comments on a Substantive Application under section 53 of the Fast-track Approvals Act 2024: Parks

Fast-track project name	Mt Welcome, Pukerua Bay, Porirua
Fast-track application no.	FTAA-2603-1181
PCC reference	RCO26120

Technical area	Parks
Date	30 July 2026
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Code of conduct	We confirm that we have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This technical memorandum has been prepared in accordance with that Code. Unless we state otherwise, the opinions we express are within our area of

	expertise, and we have not omitted to consider material facts that might alter or detract from the opinions that we express. Our employer, Porirua City Council, has agreed to us preparing this report in accordance with the Code of Conduct.
Documents considered	Mt Welcome, Pukerua Bay, Porirua – Substantive application Appendix 07 - Proposed Conditions of Consent Appendix 08 - Structure Plan Assessment Appendix 09 - Infrastructure Report Appendix 10 - Earthworks Construction Management Plan Appendix 11 - Part A - Stormwater Management Plan Appendix 14 – Integrated Transport Assessment Appendix 15 - Ecological Assessment Appendix 16 - Lizard Management Plan Appendix 17 - Wildlife Approval Application Appendix 21 - Landscape and Visual Effects Assessment Appendix 22 - Masterplan and Landscape Urban Design Strategy Appendix 23 - Landscape and Ecology Plans Part A Appendix 23 - Landscape and Ecology Plans Part B Appendix 26 - Geotechnical Investigation Part A Appendix 27 - Preliminary Site Investigation Appendix 28 - Contaminated Site Management Plan Appendix 29 - Streetlighting Plans Appendix 30 - Scheme Plans, Contour Plans and Services Plans Appendix 34 - Stream Width Assessment

Executive Summary

Overall, the plans for the proposed parks and reserves require more detail. More information for reserves, such as gradients and areas of the proposed activity spaces is needed across all plans.

More detail needs to be provided in terms of proposed planting including locations, species and rationale.

There is also a disconnect between the plans, with no account taken of the gradients of the reserves and other areas for the proposed tracks. It appears that the positive proposals presented in the Masterplan and Landscape Urban Design Strategy are not carried forward into the proposed plans.

There is insufficient detail about the proposed reserves and tracks such as dimensions of flat space, contours, and grades of individual tracks.

There is a disconnect between the Northern Growth Development Area Structure Plan and the Masterplan and Landscape Urban Design Strategy, particularly in relation to the proposed future connections.

Any conditions on an approved consent should ensure that the design of the proposed parks and reserves is provided for certification before construction commences, as well as ensuring that the positive aspects of the 'indicative' concepts in the Masterplan and Landscape Urban Design Strategy are delivered through the development.

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1 Green Elements

1.1 General

The application considers that the ecological value of the streams on the site is low¹. However, there may be potential for improved ecological outcomes for the streams on the site through revegetation and riparian management. We consider that the ecological value and wildlife should be considered on a larger scale including how it connects to the adjacent areas.

1.2 Reserves

Overall, the size and layout of the reserves are appropriate. The sites of the parks are generally located away from the edge of the development, making them more central and therefore more accessible to the surrounding houses.

1.2.1 General

No details have been provided for the topography of the area of the proposed reserves and parks in the Masterplan and Landscape Urban Design Strategy (MLUDS) (Appendix 22) and the Landscape and Ecology Plans (LEPs) (Appendix 23). The topography should be demonstrated on the plans to enable the impact of the gradients on the usability of the areas to be assessed.

The MLUDS identifies the sizes of the reserves, but for some the figure also includes steep sloping land. The dimensions, area, and slope of the flat land that is usable should be provided to enable a detailed assessment to be undertaken.

More information should also be provided regarding the expected gradients of the cuts and fills. This includes the different landscape treatments for the different gradients of cuts and fills. This will enable the Parks Team to better: (1) assess the suitability of cut and fill slopes where tracks are proposed to pass across them; (2) assess the suitability of proposed slope plantings; and (3) understand assets that may be vested in Council as a result of this development.

1.2.2 Neighbourhood reserves

The application does not identify the open space and recreational values of the proposed neighbourhood reserves. This makes it harder to understand what the intended outcomes for these parks are.

The neighbourhood reserves in the Lucas Block are located at the end of cul-de-sacs. This is not considered a good outcome for accessibility to the reserves across the development. Moving both the reserves in the Lucas Block closer to the north/centre of the development would provide more access, amenity and recreational value to the residential lots.

1.2.3 Ecological reserves

The ecological enhancements of the larger recreational reserves that are being vested to Porirua City are not identified in the application.

The MLUDS mentions targeted remediation of wetlands and rehabilitation of earth-worked areas, but this is not elaborated within the MLUDS or other application documentation.

¹ Dr Vaughan Keesing, Blue Green Ecology Ltd, 20 November 2025, *Mt Wellington Station Ecology Ecological values, effects and effects management*; p. 34.

For the ecological reserves, there has been no detailed assessment provided which details the fill and cut faces within the areas and the remedial work proposed for these earth-worked areas. Cross-sections showing the typical slope and remedial treatment for the different slopes of cuts and fill faces is needed to enable a detailed assessment of the proposal.

The extent of the pine trees that will be removed and the extent of the pines being retained is not identified. This should be demonstrated on a clear plan. It is noted that the retention of some pine trees will provide for an important habitat for birds and other species. The pines could also be useful as a nursery crop. Further, the pines that are on the ridgeline may be important for the integrity of the slope.

A plan should be developed addressing what should be done with the tree stumps of the pines to be removed within recreation reserves.

The proximity of potential future houses to the retained pines should be shown on a plan, so that an assessment can be carried out in relation to the risk of pine trees failing and potentially damaging housing.

1.3 Planting

We consider that slower but more robust planting that focuses on the transition from the existing vegetation to a native planting will create a better and more resilient outcome. Conditions of consent should require review of the species planting mix for certification.

It is not clear why the proposed planting is being concentrated in the gullies in the retention wetland areas. Additional planting along the top edge of the ridgelines and along the pathways would also be beneficial. A planting buffer around the tracks and houses is important for amenity and seed downfall.

There should be special consideration to planting in erosion prone areas, as the plants will likely not survive. A planting scheme for erosion-prone areas should therefore be required as a condition.

Large areas that need to be mowed with no ecological value should be avoided. Some sections of the tracks have planting either side, however, some sections have hydroseeded grass next to the tracks. A better outcome for hydroseeded areas would be native grasses that do not require mowing to be maintained.

A planting buffer is recommended around the proposed regeneration areas (SNAs, wetlands, gullies, riparian areas, Western Kakaho Revegetation Area) to ensure their survival. It is essential that that all edges have a planting buffer, rather than just some.

It is not clear from the plans provided how the fill batters are being planted. This should be clearly demonstrated on a plan with cross-sections.

The retention of the existing pine has value as it will help the establishment of the native planting. However, a plan for wilding pine control is considered to be necessary. A staged approach to its removal will enable the native population to establish. It would also be beneficial to create some lightwells in the pine and establish sections of native plantings. Ultimately, it would be good to transition to a native forest over time. A condition to address wilding plan control should be included to achieve this. We also recommend removing the pines closest to the road in case they fall and damage property.

We have concerns regarding Area B (identified in Figure 1 below), in relation to the removal of the woodlot on the east side. The walking track that is also proposed will create a narrow sliver of trees. Any trees newly exposed will be prone to failure. A condition of consent requiring details of the works planned around the woodlots, and what is proposed to remain, is necessary in our view. If the slivers of pine are proposed to stay they will likely fail in a storm event as they will be newly exposed to wind. We recommend a pine management plan as a condition.

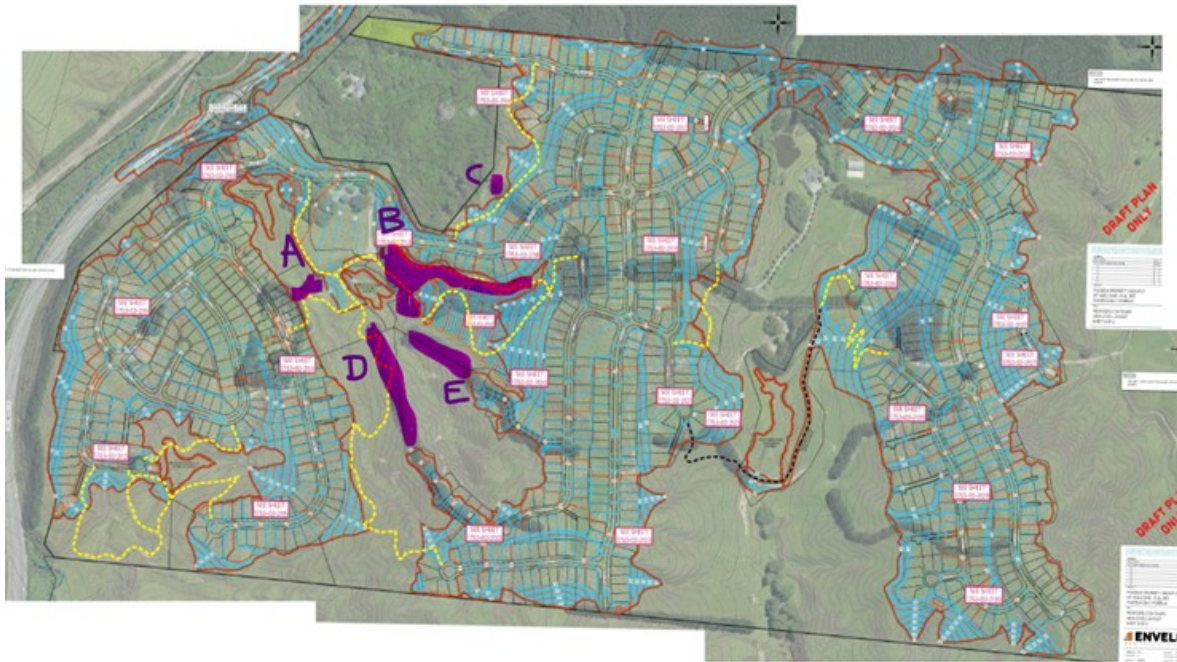


Figure 1: Composite of proposed contours
Source: Appendix 30-06 Proposed Contours Overall

1.4 Species

We recommend that, within neighbourhood reserves, the trees are planted further away from the road and behind footpaths. A wider variety of trees and plants is needed so that they grow together and support each other, increasing their long-term health.

Cultivars are not appropriate in ecological restoration areas as they will spread. Cultivars are best suited in the community centre as they are low maintenance.

Emergent species in the Western Kakaho Revegetation Mix and the Lizard Relocation Offset Areas Mix are recommended, such as swamp maire (*Syzygium maire*) and kohekohe (*Didymocheton spectabilis*). In our view three species is not sufficient for the lizard relocation mix.

Kohekohe will generally not survive if they are planted alone. We recommend that a tree like tawapou (*Panchonella costata*) could replace them as standalone or specimen trees.

A condition requiring the review of the plant species should be included. This will involve making sure there is enough diversity, that plants are native and locally eco-sourced, and no artificial cultivars are used in certain areas to ensure the risk of hybridisation is managed.

We recommend the plants and trees set out in Appendix A because they are mainly locally common and bring high value to native fauna.

2 Streetscape

2.1 Access

Overall, the LEPs require more detail to understand the proposed streetscape.

Pedestrians and cyclists access from the proposed development to Ara Harakeke shared pathway should be provided.

For all raingardens and stormwater management areas, there should be recognition that land and assets may be transferred to Tiaki Wai rather than Council. We suggest that a revised scheme plan be created, incorporating stormwater management areas within their own land parcels where practicable. It is acknowledged that there may be locations where it does not make sense or is difficult to include stormwater management areas within separate parcels. Further consideration may need to be given to these areas.

2.2 Lighting and services

Proposed lighting and street trees should be shown on the same plans to understand how they work together. This includes overlaying streetlights onto reserve locations for street entrances.

There is no lighting in the community park area. It would be beneficial to have a light power feed to be able to add lighting later.

The MLUDS shows extensive plantings along the sides of the roads, however, it is not clear from the LEPs what planting is intended in these areas. The plantings depicted in Figure 2 below are considered unsustainable due to the plantings being directly adjacent to the active transport traffic lane, meaning traffic management will be required regularly to maintain the gardens.



Figure 2: Proposed street planting

Source: MLUDS, Main entry/exit from/to SH 59, page 22.

The MLUDS also shows on-street gardens. This is not reflected in the LEPs. Clear plans showing what is intended and where, are likely necessary. Amenity gardens should be located on the side of the footpath that is not adjacent to the road.

The images on page 24 and 'Typical Intersections/Roundabouts' on page 27 of the MLUDS show garden layouts that should be avoided. The image in Figure 3 below from the MLUDS is more acceptable because the planted areas are separated from the road.

View coming into town - down hill (Indicative, showing potential outcome only)



Figure 3: Appropriate street planting example

Source: MLUDS, View coming into town - down hill, page 32.

2.2.1 Stormwater management

The infrastructure report in Appendix 9 (section 4.4) mentions there will be stormwater management for Reserves and Open Spaces. It is not clear where the stormwater management is proposed. It is also not clear what measures will be put into place to prevent scour on slopes where stormwater flows are discharged down steep and often already unstable faces proposed to be within reserves.

In our view stormwater discharges into gullies should pipe stormwater to the base of the gullies rather than allowing the water to flow overland down the slope. This avoids scour effects and reduces the likelihood of erosion and slips.

2.2.2 Wastewater

The wastewater upgrades, as mentioned in the infrastructure report to Ara Harakeke will have impacts on the pathway users. There are no alternative pathways for the public anywhere near the Ara Harakeke pathway. Therefore, the works should be carried out with public access constantly provided for. As such, a detailed pedestrian management plan that addresses how access will be maintained during works should be required as a condition.

2.2.3 Power

In our view the location of power transformers and future power substations and facilities should be identified on the proposed plan.

2.3 Street trees and species

Overall, more street detail should be provided in the streetscape plans demonstrating the location of street trees, driveways, berms and services to understand how these parts work together. In our view all proposed streetscape planting should be shown on the LEPs.

The 3D modelling in the MLUDS shows indicative street trees planted adjacent to driveways. Trees are better planted in the middle of the berms, rather than in close proximity to driveways. Street planting specifications should be provided, showing how and where the trees will be planted.

We also consider that fencing specifications for private properties adjacent to access lanes and reserves should be provided.

The street trees identified in the Street Planting plan in the MLUDS is insufficient in our view. A good native selection has been provided. However, many of the trees selected are not ideal as street or specimen trees, in particular: kānuka (*Kunzea ericoides*); kohekohe (*Didymocheton spectabilis*); tarata (*Pittosporum eugenioides*); titoki (*Alectryon excelsus*); kōwhai (*Sophora tetraptera*); whauwhaupaku/five-finger (*Pseudopanax arboreus*). Houhere/lacebark (*Hoheria populnea*) is considered a good street tree. Other options for street trees should be provided, noting that deciduous exotic species may be more suitable.

3 Tracks

3.1 Comparison to Structure Plan

A comparison of the Northern Growth Development Area Structure Plan (the Structure Plan) and the Mt Welcome proposal for tracks is shown in Figure 4 below.



Figure 4: Northern Growth Development Area Structure Plan overlayed with Mt Welcome Proposal
Key to Plan

- Blue dashed lines are track connections shown in Northern Growth Area structure plan
- Pink are the proposed tracks by Mt Welcome Development
- Red stars are proposed track connections under Northern Growth Area structure plan
- Yellow stars are proposed road connections under Northern Growth Area structure plan

- *Orange asterisks are proposed track connections at the boundary proposed by Mt Welcome Development*

3.1.1 Similarities

Along the southern boundary the Structure Plan shows a road connection at the boundary near the western edge. No road is proposed but there is a potential walking track connection P1 proposed around this location.

The structure plan had a track entrance at T1 location and P2 is proposed in a similar location.

There was a road connection proposed centrally, and the Mt Welcome plan shows one near the same central location (this is the only road connection proposed out of the three southern road connections shown in the Structure plan).

There was a track connection proposed in the structure plan at location T3 and there will be a track connection near here.

3.1.2 Northern Boundary

We are concerned that there are no off-road track connections shown to the north boundary apart from the footpaths along the two roads.

The structure plan showed connections at locations T2, T3 and T4 north which have not been implemented in the proposal which decreases social permeability to the north.

T2: This access route could potentially be provided, as the land is shown as drainage reserve. An easement or land strip would need to be left for future access, but this is dependent on the topography and final earthworks and land boundaries.

There will also be a loss of continuous off road north-south connectivity over Mt Welcome. The T2 route would have provided a continuous off-road route through the Mt Welcome block running north-south. The only proposed route that could support a north-south connection is shown below. However, the last section to the north is missing.

The Structure Plan also shows an off-road connection between the northern and southern boundaries, this has not been reflected in the masterplan. The access should be provided to connect this north-south route up to the northern boundary.

3.1.3 Southern Boundary

The Structure Plan showed four off-road track connections to the south. The Mt Welcome proposal only provides for two indicative off-road connections to the south.

T2: To form this southern connection, it would need the balance Lot 5002 to be subdivided in the future, in a manner that allowed for this connection to be formed, which gives no to little certainty of this connection.

T3: This connection appears to link the reserve (Lot 1211) to the southern neighbouring Skaiffe Block but when the plans are looked at in detail, this connection has not been provided. The plans show a strip of balance land (part of Lot 5003) between the reserve and the Skaiffe block to the south. This strip creates an 'air gap' that prevents future connection to the south at this location. The "air gapped" strip of private land significantly limits future capacity to develop a connection south when the Scaife land is developed in the future.

In our view either the reserve should be extended up to the boundary with the Scaife block, or an easement placed over the private land strip to allow a future connection from the reserve to the southern boundary. Alternatively, a wide paper road corridor could be provided to allow the possibility for this Mt Welcome Road to be extended in the future. The public road would give the owner of Lot 5003 access over it in the interim while also allowing land to be used as reserve in the interim.

The MLUDS identifies a future connection going through a proposed reserve (Figure 5). This should be clarified as to whether it is a proposed active transport or roading connection. If it is a proposed future road connection, it will conflict with the proposed reserve and this will need to be resolved. The total neighbourhood reserve area proposed in the application is appropriate, so potential loss of this reserve would need to be made up elsewhere to achieve good recreational and open space outcomes.

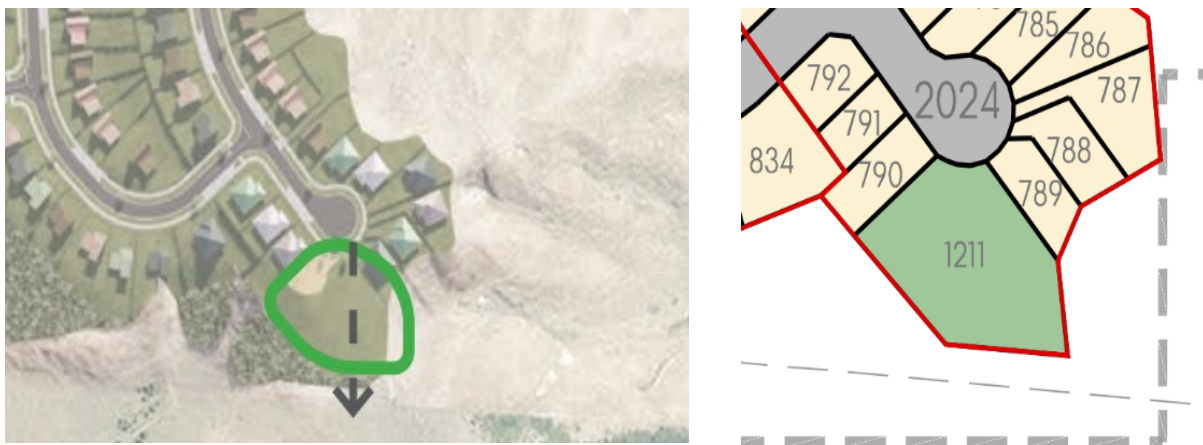


Figure 5: Southern Lucas Block Park

Source: MLUDS and Scheme Plan

3.1.4 Eastern Boundary

T4: This connection has not been provided in proposal. The **T4** connection should be provided by way of a walking and/or cycling easement over the rural balance lot along the ridgeline fence. There are two examples in Porirua where public walkways cross over private rural land by means of easements (Taua Tapu Track and the Colonial Knob Track).

3.1.5 Western Boundary

There is no clear connection to Ara Harakeke. A safe walking connection from the entrance of Mt Welcome to Ara Harakeke is vital for pedestrians. Currently the footpath ends at property boundary onto the state highway. It is approximately 117 metres from the site entrance to connect south of the entrance to Ara Harakeke pathway and 200 metres to a northern connection, as shown in Figure 6 below.



Figure 6: Possible connection points to Ara Harakeke

The internal circulation currently to go from Lot 1 to Ara Harakeke introduces three road crossings. If the pathway on the northern side of Road 01 was swapped to the southern side there would be none. For a more accessible route, the pathway should be moved to the south side of Road 01.

In our view a connection to the SH59 corridor should be allowed for (not necessarily formed) from the development area away from main entrance to provide for maintenance and/or recreational access to the land parcel adjoining the state highway.

3.2 Connectivity and future proofing

The development layout includes a large balance (Lot 5003) in the centre of the proposed residential areas. The balance area will be surrounded by new residential lots and houses. This balance lot occupies the stream valley and may provide opportunities for recreation and ecological restoration when or if it is developed in future. This application should consider future development in this area, and provide opportunities within the scheme plan for access to the balance lot in future.

Future connections into and across this large central block of land should be considered. Currently there are limited access options provided, which will constrain future opportunities. Potential internal interconnectivity locations are shown in Figure 7 below:



Figure 7: Possible future access points to Lot 5003

In our view there is poor off-road connectivity to the north and the south. It would be beneficial for users to have a continuous connection from the north of the site to the south.

Vital that the connections go beyond the subject site to future proof connectivity. The LEPs show at sheet L2.16 a track that has no connection to the north. It would be beneficial if this track made a connection northwards. The current concept shows one potential connection going northwards but the permeability from the surrounding residential area should be enabled where possible to allow greater flexibility in the future.

On the upper east side of the central balance lot (Lot 5003), there appears to be green space but this is shown on the scheme plan as a drainage reserve which has no allowance for future public access. It would be desirable to enable future access over this lot at this location to gain access to the balance lot in the future.

It is important that street-to-street connections are demonstrated on the plans. Street-to-street connections should also apply the principles of Crime Prevention Through Environmental Design (CPTED).

3.2.1 Proposed drainage reserves

On the lower east side of the valley there are a number of JOAL (Joint Owner Access Lots) access lots and a drainage reserve that connect to the balance Lot 5003.

The following recommendations and comments are made:

- We recommend that easements are provided to enable future public access over the proposed Drainage reserve parcels in scheme plans see Areas “B”, as these will be owned by an organisation outside of Council which may preclude public access.
- The legal access proposed for JOALs is to restrict access only to the houses that gain access off the road. This prevents the general public having legal walking access along the JOAL to access the balance lot in the future, if/when it is developed further, thus creating a barrier to future connectivity.
- JOAL access Lots 1121, 1122, 1123 should have right of way wording that allows access for the general public on foot or by unpowered bicycle with dogs on lead (but not powered vehicles) over these access lots, to future proof access for when Lot 5003 is developed in the future.
- Drainage Reserve Lots 1315, 1316 and 1323 could provide important pedestrian connections in the future. An easement over them would be necessary for future pedestrian connections to be enabled.

3.3 Standards and defining users

The plans show some potential off-road track connections which could potentially be beneficial; however, we have significant concerns with their design and layout. The plans identify that the following standards have been referenced, as reproduced in Figure 8.

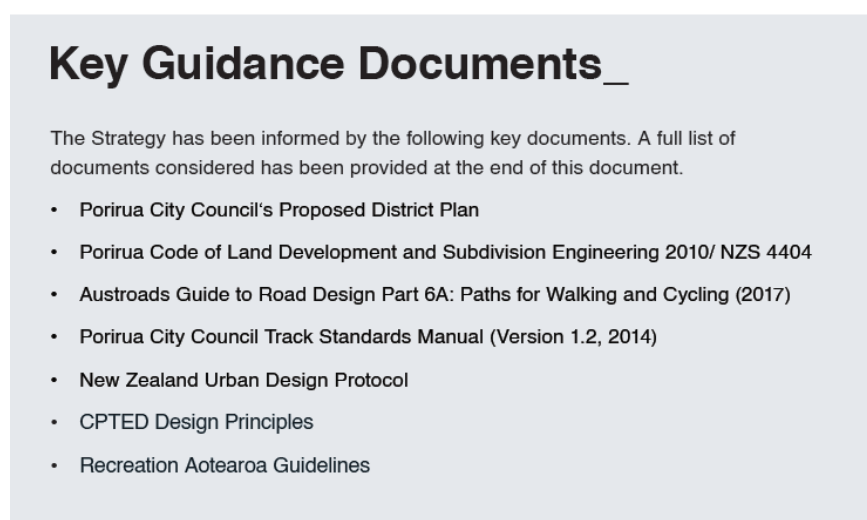


Figure 8: Key Guidance Documents of the MLUDS

3.3.1 Plan details

It is not clear how the tracks will meet the Council track standards. The plans show off-road connections but there are no plans that identify the grading or width of each track. There is no information about who each track is aimed at and the user classification (walker vs cyclist/walker). We consider that the plans need to identify what standard each track will be

designed to, and who the user group is aimed at, as the design should follow the standards for that user group. A key identifying all the tracks and who they are built to would be beneficial.

We consider that the proposed track plans need more detail, as they appear to be only indicative. In our view the following details are required:

- Size
- Grade
- Width
- Gradient
- Who is it designed for
- What is the design rationale
- Are they buildable

The lack of track gradients and contours makes it hard to determine the scale and steepness of the tracks. Some tracks directly traverse down contours, assuming they are very steep. The plans should demonstrate track details otherwise it will enable narrow possibilities and inability to accommodate changes to provide for tracks built to standards. Additionally, any earthworks designs should be designed to accommodate the benches for tracks upfront. This helps to avoid expensive unsustainable infrastructure.

It appears that the designer of the tracks has assumed the maximum grade for each category of tracks is the target, rather than avoiding the maximum and designing at flatter gradients to give more enjoyable and sustainable tracks as the first preference.

There should be a range of off-road tracks standards to ensure that there are easier tracks that appeal to all members of the community that will be living in the surrounding area.

3.4 Design

3.4.1 General

There is little detail on the design of the tracks. More detail than what has been provided, including basic design analysis and rationale for the tracks design, is normally expected as part of a resource consent application of this scale. Overall, the methodology of the track design is not provided to a suitable level of detail.

The extensive use of boardwalks through wetland areas is not encouraged because of the regular maintenance required. Boardwalks serve a purpose in wetland areas, however ongoing maintenance and repair costs are onerous. We recommend that they are only used where necessary. More detail on the design and location of the boardwalks is also necessary.

The tracks are often shown squeezed in along proposed easements, through narrow street entrances and between proposed services and structures or features. Some of the tracks cross over fill batters, in this case the fill batter needs to be designed to accommodate the flat bench for the track. For tracks that are located on fill batters, there needs to be more detail on the standards of the track.

The northern-most tracks and the middle tracks are located behind private homes. There does not appear to be any justification or rationale for these tracks.

3.4.2 Contours

Tracks should generally follow the land contour where possible, rather than dropping and rising the track across the contour lines (unless trying to establish grade dip). If trying to build a grade dip, then it needs to be designed and constructed to the specifications for grade dips.

The plan in Figure 9 below shows a track being taken up to high point and down again. A better outcome would be to follow the contour around the knoll to keep the gradient flatter and more accessible.



Figure 9: Example of poor track locations

It is important that the design of the track alignments and gradients are provided upfront, otherwise there may be outcomes where there are narrow possibilities and inability to accommodate changes to provide for tracks built to standards. A cross section of tracks on steep contours would help to understand how they cross slopes.

In some cases, the proposed tracks utilise old farm tracks that have often been installed at extremely steep gradients that do not meet the relevant track standards. Consideration of whether the tracks meet the track standards and are suitable to be used is needed.

Past experience has found that it is beneficial to have experienced dedicated trail designers engaged early on to ensure good track outcomes otherwise the track designs are often overlooked and the challenges underestimated, leading to poor outcomes and low standards.

The MLUDS has identified short walks and walking tracks for this area but does not appear to have considered that the walking tracks standard is aimed at Day Visitors, where the user standards are designed for visitors undertaking an extended walk up to a full day in duration. Using this standard means that people who are physically challenged, elderly or very young may not be able to use these tracks.

The plan in Figure 10 below shows areas where the tracks cross land where the contour lines are close together. The land is already vulnerable to slips as identified in the geotechnical investigation provided with the application. The erosional risk created by additional stormwater

pressure from urbanization, and channelization caused by cutting new roads and tracks that direct and focus water flows, should be clarified.

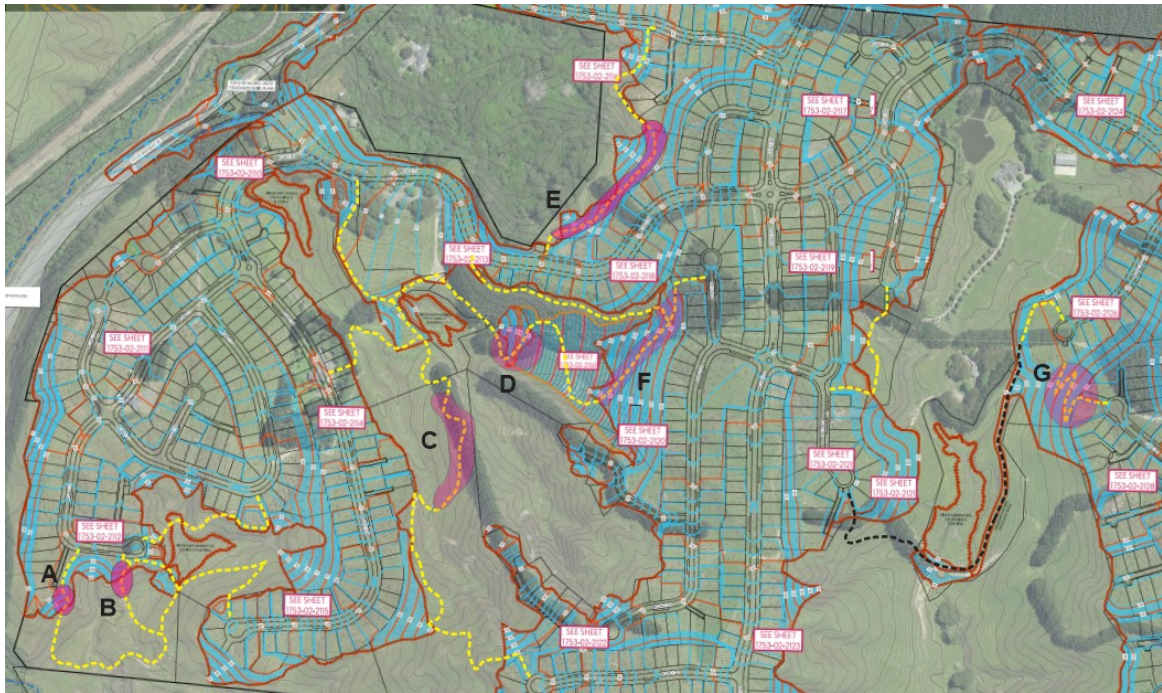


Figure 10: Proposed tracks and contours

How the fill slopes will be treated that have tracks identified on them, and will they form the cut, is considered to be missing information. It is not an ideal outcome to have tracks running through fill slopes. The engineering plans should show the formation and the gradient of the tracks that meet Council standards. This includes identifying how tracks along fill batters will be designed to prevent future geotechnical issues. We recommend that geotechnical solutions use low-maintenance methods.

In many places, such as shown with area E above, new fill faces are proposed that appear to be gradients of around 1-in-2. The plans also show a track proposed to cross the new fill face, but no bench has been provided within the fill face to accommodate the new pathway. This is a requirement for sustainable tracks. Plans that consider both tracks design and fill batters to provide suitable and sustainable outcomes should be provided.

3.4.3 Planting

Sufficient planting around the proposed tracks should be provided. Overall, more planting and planting detail is required than what has been provided. The plant spacings, grades, maintenance periods etc. for areas that are planned to be planted should be provided.

There are large areas of future reserves that are unplanted. It is important that there is planting adjacent to the proposed tracks. This could work as consolidated planting blocks between naturally regenerating blocks.

Lack of planting adjacent to the tracks and the houses creates an increased risk of wildfire. A series of belts, next to the track that are a low flammability planting mix which is approximately 10m wide would provide a better outcome.

It is important that there is planting where the tracks occur on steep slopes and in close proximity to houses. It is noted that steeper tracks with less planting would be suitable for dog walking.

3.4.4 Off road North-South link and wayfinding

The T2 Track (see Figure 4 above) in the Structure Plan was one of the more important parts of the overall track network through this block. It was the main route where the track route could follow a more forgiving contour alignment along the stream valley. It had the advantage of traversing through the whole Mt Welcome area as a continuous track from north to south and off road.

The proposed tracks mainly provide fragmented sections of tracks through steep land between residential areas. The wayfinding is less logical as the tracks are not continuous. Most of the tracks are located on very steep topography which reduces their accessibility. This results in parts of the community not being catered for, such as those who are very young, the elderly or disabled.

The MLUDS shows track connections, but they have not been 'ground truthed' with the other plans, and potentially the track plans may be undeliverable. The different disciplines need to be carefully coordinated and the appropriate design standards adopted and incorporated in the design across the subdivision upfront, with the appropriate areas set aside.

When the track alignment is overlaid onto the proposed earthworks contours for the area, it raises significant concerns. There appears to have been limited consideration for the tracks reflected in the earthworks proposal.

The example in Figure 11 below shown that at the west end it drops down a steep earth worked face then goes through a retention wetland. From the wetland it then passes through a stormwater water treatment basin which is surrounded on all sides by steep batters. It is unclear how it can be delivered within the current design. Should the scheme plan progress as shown, the easement corridor for this path would be locked in with no ability to consider alternatives to remedy the significant constraints currently for building the pathway.

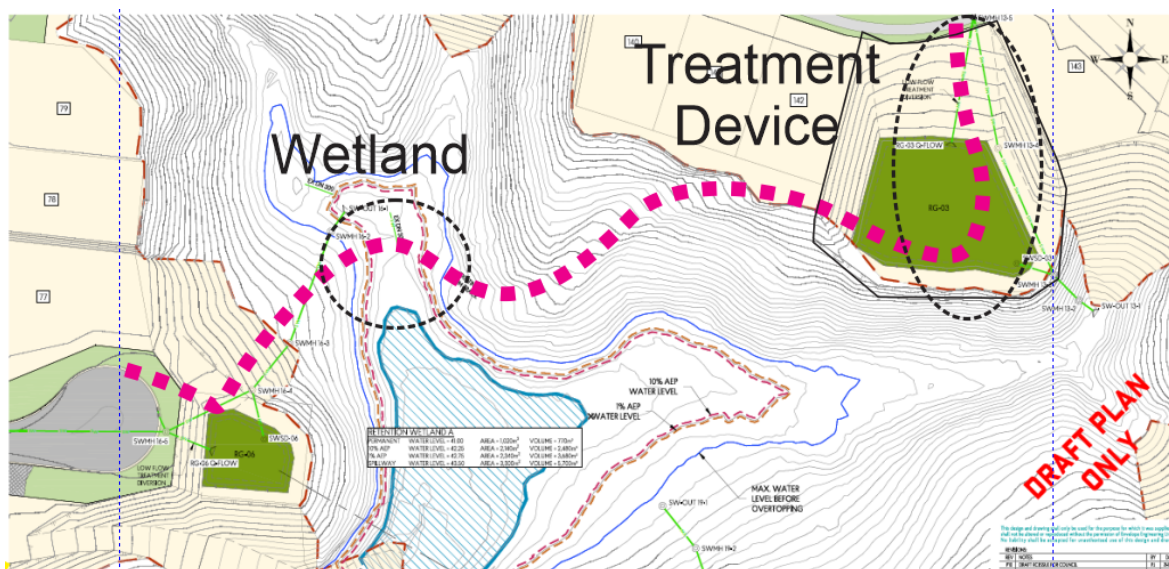


Figure 11: Example of areas of issues with proposed track locations

3.4.5 Earthworks

More detail regarding earthworks needs to be provided and their proximity to the proposed tracks. It is apparent that there is a disconnect between the different plans.

In the case of the pathway shown in Figure 12, it is shown crossing over three fill faces, two of which are very steep, where the earthworks have not been designed to accommodate the pathway.

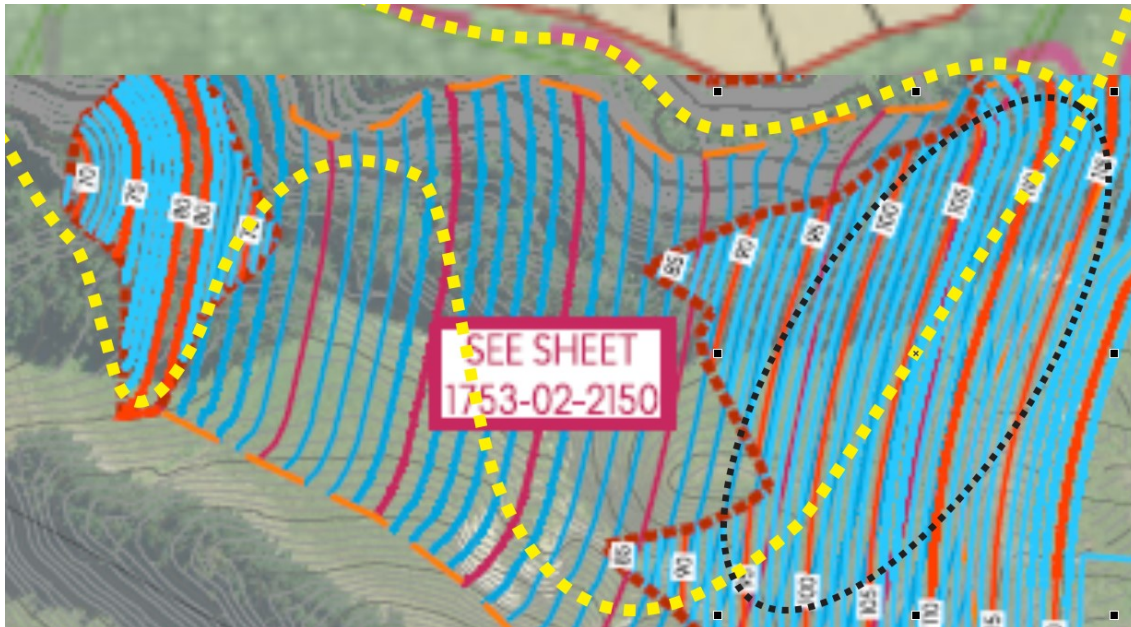


Figure 12: Example of proposed track on fill area

3.4.6 Drainage reserves

The scheme plan often shows proposed drainage reserves as being the trailhead track entrance into a wider reserve. For example, lot 1322 is a track entrance into the lot 1212 reserve. Given that these drainage reserves will be owned and managed by Tiaki Wai, a separate organisation from the Council, it is critical that the management and formation of the tracks within the drainage reserves enable ongoing viable access and the ability to provide a good level of service for accessibility. The scheme plan identifies strips as a public right of way, but in our view it would be better to vest the track route as reserve rather than right of way. The public will be using the track every day whereas the new water entity maintenance staff will only visit a few times per year.

There is a risk that the final alignment of the tracks will change with the final earthworks. There needs to be flexibility to align the right of way or land parcel to align with the actual final formation of the pathway. The width of the right of way/access parcel needs to be wide enough to accommodate the pathway and room either side for maintaining plantings.

For tracks that traverse through drainage reserves, easements will be needed. Moving the track in future will be restrictive.

3.4.7 Flooding

The tracks should be designed to prevent regular damage from floods. As shown in Figure 13 below, many of the tracks are located in either floodable areas or have overland flow paths across them.



Figure 13: Overlay of proposed tracks and overland flowpaths

4 Playgrounds

4.1 Location and size

Overall, we support the proposed playground locations and sizes. The following comments are made in relation to the neighbourhood community reserve:

- A dedicated space where dog owners can allow their dogs to exercise off lead in a reserve should be provided for in the design.
- An easement at the corner of the car park to ensure that the open space and access between the park and the development is maintained to prevent it being built out in the future may be required.
- There is a need to ensure there is vehicle access to the reserves for carrying out maintenance and ultimately replacement of equipment in future.
- The basketball halfcourt is in a good position, as noise will be minimised from the public.

4.2 Design

4.2.1 General

An area with a large area of concrete adjacent to one of the play areas to offer a flexible wheels play space would be beneficial. This is important given the lack of flat space in the development for children to learn basic skating, scooting or cycling off the roads.

4.2.2 Bollards, signage and lighting

The use of bollards will prevent cars driving onto the reserves. It is important to gate any entry to allow maintenance vehicle access.

We recommend that one playground is provided with fences with barriers from hazards to cater for neurodiverse children. Neurodiverse children can be up to 20 percent of children and they have a high tendency to run away.

If lighting is proposed through reserves, the lighting should be pole lighting rather than bollard lighting.

4.2.3 Upper Terrace

The playground in the Upper Terrace is near the road. It is recommended that, if the speed limit is above 30 kmph, the playground would be better situated closer to the houses and removed from the road. The playground could suitably go in the bottom left corner of the reserve.

4.2.4 Lower Terrace

The Lower Terrace reserve has convoluted access as there is no southern connection. The JOAL adjacent to the reserve should provide access into the park.

4.2.5 Lucas Block

The far northernmost playground in the Lucas Block could benefit from shifting into the middle of the reserve so there are more opportunities for passive surveillance from the street and apply CPTED principles. In our view moving the playground into the A3 location (shown in Figure 14 below) would create a better outcome. We also note that there are no bollards at the northern most reserve.



Figure 14: Northern Lucas Block Park

Source: MLUDS, page 41.

4.3 Specifications

Many of the positive aspects of the specifications of the parks and reserves depicted in the MLUDS are not carried forward into any other plans or consent conditions. This includes the playground equipment, fencing, and park furniture. We consider that a mechanism in the

conditions is needed to ensure that the positive aspects of the 'indicative' plans in the MLUDS are delivered through the development of the site. Any conditions on an approved consent need to ensure that the design of the proposed parks and reserves and the specifications of the elements to be included are provided for certification before construction commences.

Appendix A. Additional Information on Street Trees

Naturally occurring plants for restoration planting

Trees

- *Pennantia corymbosa*/Kaikomako
- *Paratrophis banksii*/Towai
- *Hedycarya arborea*/Porokaiwhiri
- *Pectinopitys ferruginea*/Miro
- *Notelaea*/Maire

Shrubs

- *Carmichaelia australis*/Taunoka
- *Coprosma repens*/Taupata
- *Shawia solandri*

Vines and climbers

- *Metrosideros perforata*/Akatea
- *Metrosideros fulgens*/Akatawhiwhi
- *Parsonsia hetrophyllus*/Kaihua
- *Passiflora tetrandra*/Kohia

Herbaceous plants

- *Gahnia pauciflora*/Mapere
- *Gahnia procera*

Wetland ponds retention

- *Coprosma tenuicaulis*/Hukihuki – better suited than *Coprosma propinqua*/Mingimingi

Street trees

- *Notelaea*/Maire

Soil volume guide

	Selected species expected mature stem diameter measured at 1.5m above ground		
	<300mm	300 - 600mm	>600mm
Optimum soil volume for health tree growth (m³)	28.0	35.0	>45.0
Minimum soil volume for healthy tree growth (m³)	10.0	12.0	20.0