Homestead Bay Fast Track Approvals Application

Integrated Transport Assessment

Prepared for:
RCL Homestead Bay Limited

10 April 2025

Prepared by:
Stantec New Zealand

Project/File:
310104425

Stantec New Zealand

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Prepared by:

Signature

Andrew Metherell

Reviewed by:

Signature

Iain Banks

Approved by:

Signature

Peter White

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Executive Summary

Development of the Homestead Bay site proposes subdivision to enable more than 2,500 residential units, a local commercial centre, potential school, and recreational facilities. This will contribute further growth in an area that has been identified through Spatial Planning for urban growth in the Southern Corridor.

The Integrated Transport Assessment (ITA) is a requirement of the QLDC District Plan and investigates how the proposed development will be integrated with the existing and planned transport network. It also provides the relevant "design and access statement" as required by the QLDC Land Development and Subdivision Code for the proposed internal transport network.

SH6 is a primary roading corridor servicing the Southern Corridor for vehicle traffic. It is proposed that a direct and safe access point via a roundabout controlled intersection is provided as part of the development. The roundabout control will be consistent with a safe system intersection treatment and the proposed 1.3km spacing from Māori Jack Road is consistent with existing intersection separations along SH6.

SH6 within Frankton and at the northern part of the Southern Corridor is experiencing congestion, and this will worsen into the future. A range of transport related plans and strategies have identified that a shift from private vehicle travel to public transport and active modes will be necessary to support future travel demands from the Southern Corridor. It is expected that a focus will be development of bus and active modes infrastructure. A separate transportation analysis report by WSP has investigated these wide area matters and transportation effects of development beyond the site and potential solutions to support increased movement in the Southern Corridor.

To support increasing self-sufficiency of the Southern Corridor, the Site has made provision for a centrally located local commercial centre (supporting approximately 11,000m^2 of commercial building area), and a school if the Ministry of Education chooses to develop a school at this location. The transport integration of these facilities within the site have been considered as part of the overall planning for the development. These activities are well located to support local movement by a range of transport modes, offering transport choice.

It is anticipated that over time, bus services into the Southern Corridor will be more frequent, supporting reliability of use of buses. It is considered that Homestead Bay can form an efficient extension of the necessary and planned frequent public transport and active modes corridors that is most likely to travel along Homestead Bay Road and the central alignment of the communities to the north including Jacks Point, Hanley's Farm, and Park Ridge.

To support integration with the wider transport network the subdivision development will:

- provide a primary spine road connection between SH6 and Homestead Bay Road, supported by a primary loop road within the development. These roads will maximise opportunities for an efficient bus connection,
- provision of bus stops that support local accessibility and efficient expansion of the bus network into the site, as development proceeds.
- provides a key central north south active modes corridor connecting to an east west corridor along the north boundary of the site supporting direct and safe movement to Homestead Bay Road. These connections minimise conflict with the primary roads within the development.
- enable a connected network of streets, shared paths, footpaths, and open space trails to support local cycle, micro-mobility, and walking that minimise walk distances to key destinations within and near the development including the adjacent Homestead Bay Village next to Lake Wakatipu (which is zoned as part of the Jacks Point Special Purpose Zone).

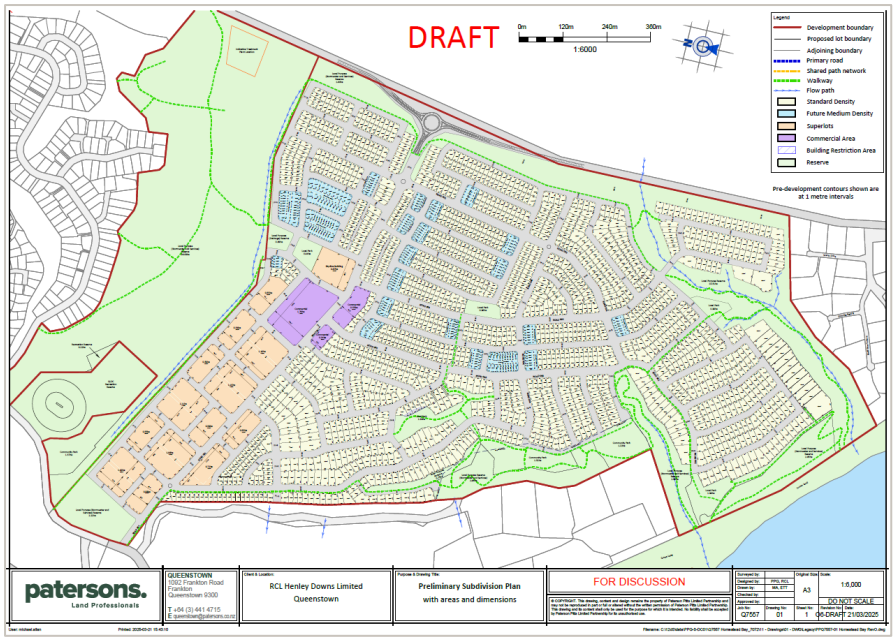
The multi-modal network has resulted in a range of bespoke road cross-sections that will provide a legible network for each transport mode. In terms of a traditional road hierarchy, the Spine Road and Loop Road have been assessed as Collector Roads, with a primary function of supporting access to residential development and the commercial centre. There is expected to be minimal through traffic unrelated to the trip generating activities of the site. In that regard, it is expected a slower speed road

environment with a fine grain well connected road network will be achieved supportive of the expected level of traffic, cycle, pedestrian, and parking activity.

The Subdivision has been assessed against Council District Plan Rules and the QLDC Land Development and Subdivision Code. It is considered acceptable solutions are provided for a multi-modal transport network to support the local community and facilitate the desired wider transport network outcomes. Various non-compliances have been identified, and relevant conditions of consent recommended to ensure non-compliances are further considered in later engineering and building consent stages where necessary.

Broadly, it is considered that development of the land area supports transport objectives in the surrounding environment and enables a well-functioning urban environment from a transport perspective. The WSP report addresses wider area infrastructure considerations to support travel demand growth from the Southern Corridor.

Based on the above, it is concluded that the subdivision of the Site as proposed can be supported from a transport perspective.



1 Introduction

RCL Homestead Bay Limited (RCL) is applying for subdivision of land through the Fast Track Approvals Act (the Application). The Application is intended to enable development of land at the southern end of the existing urban area of the "Southern Corridor", south of Jacks Point. The land is currently mostly zoned Rural and is surrounded by residential development land and land planned for urban growth. As the site has been identified in the QLDC Spatial Plan as a future growth node, development is anticipated for the future.

The Application proposes subdivision that will deliver lower density single lot development as well as future medium and high density residential development, with a local commercial centre, and potential provision for a school. The site has frontage to and is reliant on access direct to SH6, and through the adjacent Jacks Point suburb (via Homestead Bay Road and Māori Jack Road).

This Integrated Transport Assessment (ITA) initially provides a broad assessment of the masterplan level considerations for the site assessing integration with the adjoining transport network, and provisions within the site to support positive transport outcomes and sustainable travel choice. This is consistent with the level of assessment typically considered for a rezoning or Plan Change process.

The ITA then assesses the detailed subdivision transport network against QLDC subdivision requirements, typical of assessment carried out for a high trip generating activity as part of a standard subdivision consent.

This ITA which has a focus on the site transport provisions and connections and has been prepared in parallel with other transport focussed assessment that inform how travel demand generated by development of the area will address movement in the wider transport network. That assessment by WSP[1] is included in the overall Fast Track Application. An Urban Design Assessment by Urban Shift also provides context to the transport network within the site, and design outcomes proposed.

The report format addresses the site location and supporting existing transport infrastructure, existing transport patterns, expected changes in landuse and transport infrastructure, assessment of how the outcomes of the wide area assessments by WSP have influenced the transport elements of the subdivision proposal, and assessment of consistency with the transport provisions of various planning instruments.

The report sections are broadly:

- Section 2 to 5 – Existing transport network characteristics
- Section 6 – Future Changes to the transport network and landuse spatial planning
- Sections 7 to 10 – Proposed transport elements and performance of the subdivision
- Sections 11 to 16 – Assessment against planning provisions, and general assessment of transport integration
- Section 17 and 18 – Recommendations and conclusions.

[1] WSP Homestead Bay Fast Track Approvals Application Transportation Analysis – Summary Report, April 2025, prepared for RCL Homestead Bay Ltd

2 Site Location

Figure 2-1 shows the Homestead Bay site is located in the southern part of the Southern Corridor of the Wakatipu area. The Southern Corridor is serviced by State Highway 6, which connects Queenstown to Southland along the eastern side of Lake Wakatipu. There is a single road bridge across the Kawarau River to connect to Frankton which forms an employment and activity hub in the district. Frankton is connected to Queenstown town centre via State Highway 6A.

Figure 2-1: Site Location

The Fast Track Approval development area will form an extension of the existing land development areas south of the Kawarau River which include from north to south:

- Park Ridge residential subdivision(approved as a Special Housing Area) and Coneburn industrial area
- Hanley's Farm residential subdivision (part of the Jacks Point Zone)
- Jacks Point residential subdivision, village, and golf resort (part of the Jacks Point Zone)
- Homestead Bay village (proposed as part of Jacks Point Zone)
- Oraka (consented subdivision)

The site is currently zoned as a mix of Jacks Point Zone and Rural in the Proposed District Plan.

Roads within existing subdivisions in the Southern Corridor do not have specific road hierarchies assigned in the District Plan, and as such are "Local Roads" for the purpose of District Plan transport standards assessment. The Jacks Point Zone Structure Plan defines a "primary road" network within the zone, as highlighted in the formed road network in Figure 2-2.

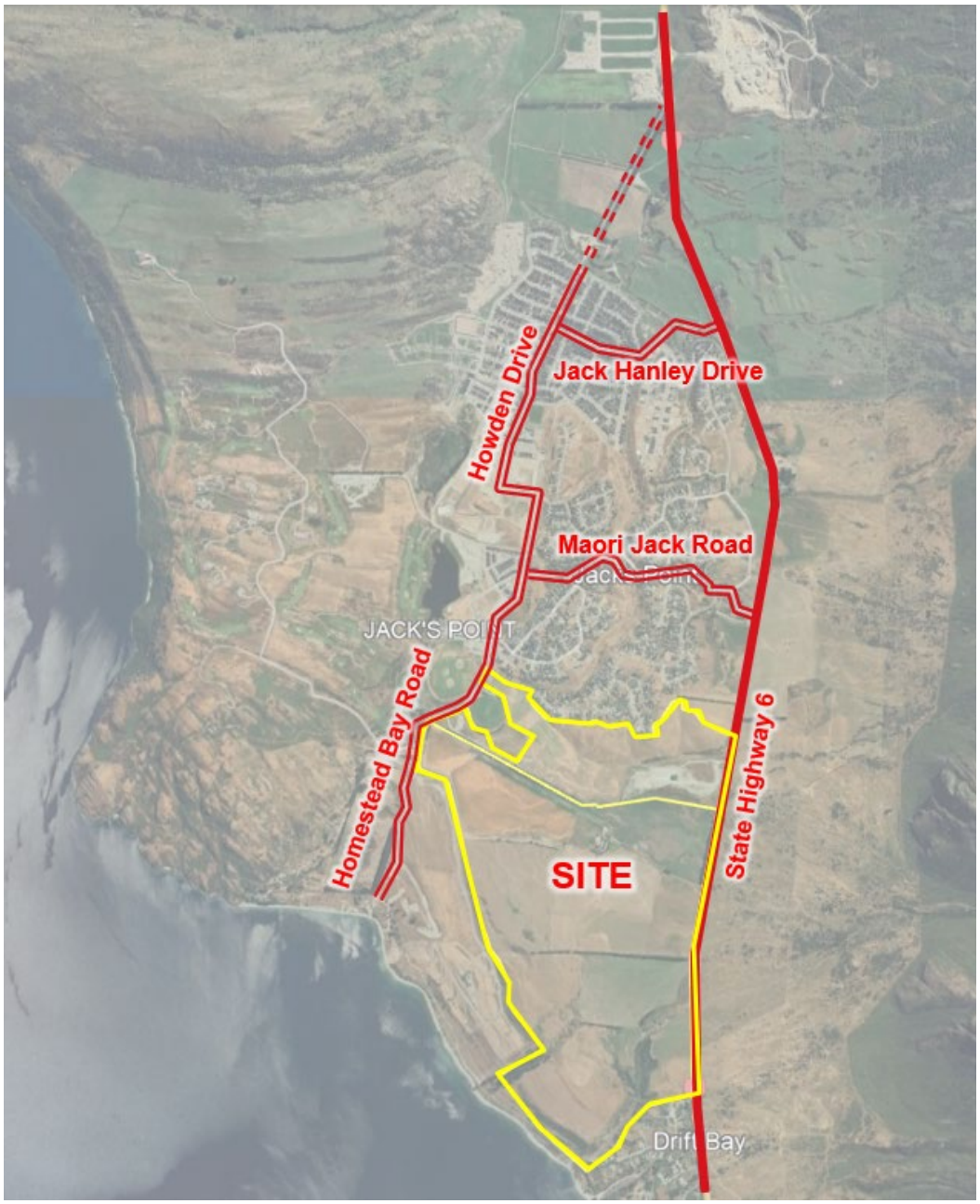


Figure 2-2: Jacks Point Zone Primary Roads

3 Existing Transport Infrastructure

3.1 State Highway 6

SH6 provides a two-lane highway roading connection serving the various activities in the area and allowing movement of other vehicles through the area. Under the District Plan for Queenstown Lakes District, SH6 is classified as a State Highway. State Highways are the dominant elements of the road network, connecting major settlements with other areas in the District. In its District-wide function, SH6 provides the connection between Cromwell, Frankton, Kingston and as far as Invercargill some 170km to the south.

SH6 in the vicinity of the site has a generally rolling alignment with longer straight sections of road and occasional bends. The speed limit along SH6 in the immediate vicinity of the Site is 100kph. It is characterised by narrow road shoulders, and NZTA classify the roadside as having Moderate to High Moderate roadside hazards.

Figure 3-1 shows the location of intersections to each of the main residential developments, including:

- Lakeshore Drive accessing Oraka to the south of the Site, formed with a basic intersection
- Māori Jack Road accessing Jacks Point to the north, formed with a right turn bay, and left turn lane
- Jack Hanley Drive accessing Hanley's Farm, formed with a right turn bay and channelised left turn lane
- Coneburn single lane roundabout accessing future Parkridge and Coneburn industrial area development.

Figure 3-1: SH6 Intersections

Representative photos at intersections along SH6 are shown in Figure 3 2.

Oraka (Northbound)

Oraka (Southbound)

Site Frontage (Northbound)

Site Frontage (Southbound)

NZone Skydive Access (Northbound)

NZone Skydive Access (Southbound)

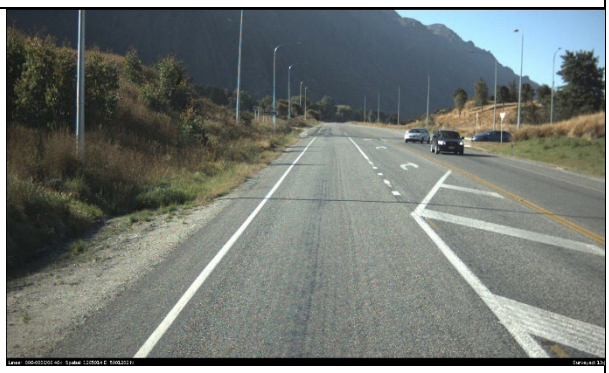
Clean Fill Site Access (Northbound)

Clean Fill Site Access (Northbound)

Māori Jack Road Intersection (Northbound)

Māori Jack Road Intersection (Southbound)

Jack Hanley Drive Intersection (Northbound)



Jack Hanley Drive Intersection (Southbound)

Coneburn Roundabout (Northbound)

Coneburn Roundabout (Southbound)

Figure 3-2: SH6 Intersection and Access Photographs

The NZ Transport Agency (NZTA) reports the mean operating speed of SH6 along the site frontage as 94km/h past the NZone skydive access, and 83km/h to the south past Lakeshore Drive and 88km/h to the north past Māori Jack Road, reducing to 74km/h north of Jack Hanley Drive. Additional data sourced from the Tom Tom travel speed database indicates an 85th percentile speed of approximately 97km/h northbound and 101km/h southbound between Lakeshore Drive and Māori Jack Road.

3.2 Local Roading Connections

3.2.1 Road Connections to SH6

Māori Jack Road is a sealed, two-lane, two-way road which serves as the access into the Jacks Point development. The SH6 intersection has a 95m long deceleration and left turn lane and a 25m long right turn lane for vehicles turning onto Māori Jack Road from SH6.

Jack Hanley Drive is formed as an urban road providing accessing into the Hanley Farm residential development, and has a posted speed limit of 40km/h with residential development on each side the main road.

Woolshed Road is an unmarked two-lane road which leads from SH6 to Hanley's Farm. The road is sealed for a distance of 40m on the approach to the intersection with SH6, but is otherwise an unsealed road. There are no dedicated turning lanes on SH6 for vehicles turning onto Woolshed Road. The speed limit on Woolshed Road is 60kph.

The road connecting Park Ridge to SH6 (at the roundabout described) has a standard residential formation, including parking on both sides of the road.

3.2.2 Internal Spine Road

Within the Southern Corridor there is a spine road that is consented and will be connected in the near future as developments progress. It will start at its northern end from Park Ridge, and southwards through the currently formed portions of Jacks Point and Hanley's Farm, as previously shown in Figure 2-2.

Park Ridge have an approved roading layout that links to vacant land to the south. On that vacant land is a four lot bulk title subdivision approval (RM220182) which includes a road to vest to join up with the Park Ridge roading network.

South of that is the approved and under construction Woolbrae residential development (RM200615) which connects to the proposed road alignment north, and Howden Drive in Hanley's Farm to the south. The northern connection through the Paterson land is a requirement of the Woolbrae RC to be formed prior to 2028.

Indicative photos of the formed portion of the spine road from Hanley's Farm south are shown in the following images from Figure 3-3 to Figure 3-9. It is apparent that the urban road and pedestrian infrastructure of Hanley's Farm (Jack Hanley Drive and Howden Street) are quite different from the low density / landscape focused roads of Jacks Point. The Hanley's Farm primary roads comprise shared cycle/pedestrian path, parking lane, and wide traffic lane. The Jacks Point primary roads are currently formed with a road carriageway and pedestrian paths are provided in nearby open space areas, although future development around Jacks Point Village may result in some changes to road cross-sections.

Figure 3-3: Jack Hanley Drive at Maize Street

Figure 3-4: Howden Drive south of Jack Hanley Drive

Figure 3-5: Jack Hanley Drive at Maize Street

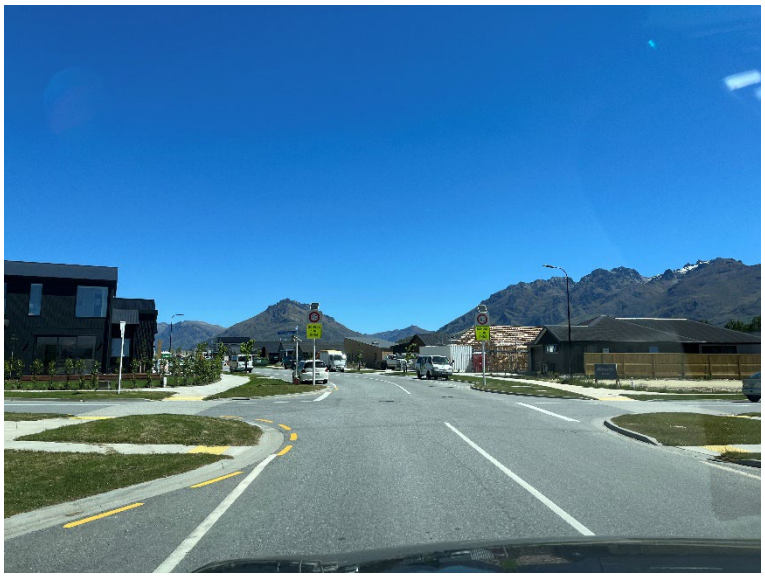


Figure 3-6: Howden Drive south of Jack Hanley Drive / Perendale Road Intersection

Figure 3-7: Māori Jack Road

Figure 3-8: Homestead Bay Road at Taurus Lane (Jacks Point Village)

Figure 3-9: Homestead Bay Road at Lodge Road (Jacks Point)

3.3 Public Transport Network

The area is currently served by the Number 4 bus service from Frankton Hub to Jacks Point, with the service driving in and out of both Hanley's Farm and Jacks Point, as shown in Figure 3-10. The service operates hourly in each direction with the service start and end times approximately as included in Table 3-1:

Figure 3-10: Existing Bus Network Map (Extract from ORC September 2023 Map):

Table 3-1: Weekday Bus Service Timings

Bus Service	First Departure	Last Departure	Frequency
No. 4 Frankton to Jacks Point	5.50am	9.50pm	Hourly
No 4. Jacks Point to Frankton	5.50am	9.50pm	Hourly

The timetable indicates that the service is timed for transfer between the No. 4 service and services connecting to and from Queenstown via the Frankton Hub. The Frankton Hub also provides connections to Kelvin Heights, Queenstown Airport, Frankton Flats, and Lake Hayes Estate.

Using a “Bee” card the cost of a trip is $2 per trip for an Adult, $1.50 for Child (13-18 years), free for young children at all times and SuperGold during off peak. A 45-minute period for free transfer between services is provided.

The nearest bus stop to the Site is located within Jacks Point on Homestead Bay Road north of Jacks Point Rise. Within Jacks Point, there are three bus stops at separations of approximately 930m, 800m and 670m, and Hanley’s Farm has three bus stops at separations of approximately 370m, 400m, and 810m. Figure 3-11 indicates 5 minute and 10-minute walking distances from existing bus stops and shows that a portion of the residential development areas are within the desirable 5 minute walk of a bus stop, whilst 10 minute walk distances cover most of the development area.

It is understood that the service will be amended in July 2025 and will connect between Hanley’s Farm and Jacks Point along Howden Drive/Homestead Bay Rd instead of separately accessing both from the State Highway as currently occurs.

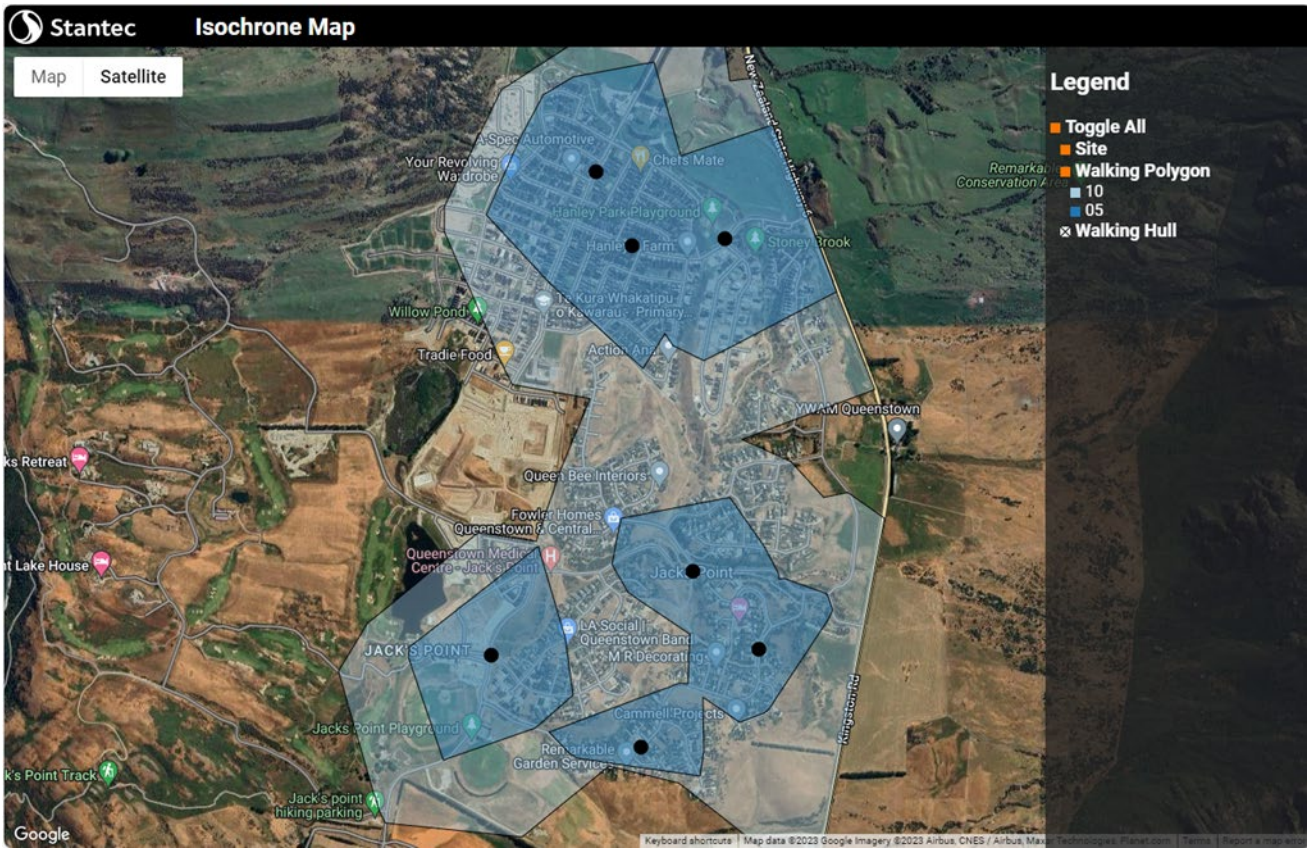


Figure 3-11: Existing Bus Stop Walk Catchments

3.4 Cycling Network

3.4.1 Wide Area Network

No direct cycling route of infrastructure is currently provided between development in the Southern Corridor and the SH6 Kawarau River Bridge although planning has been in progress and it is expected that a connection will be formed at some point in the future.

The primary cycling connections in the Wakatipu area are in the form of the Queenstown Trail, part of the New Zealand Great Rides network. The overall network is shown in Figure 3-12.

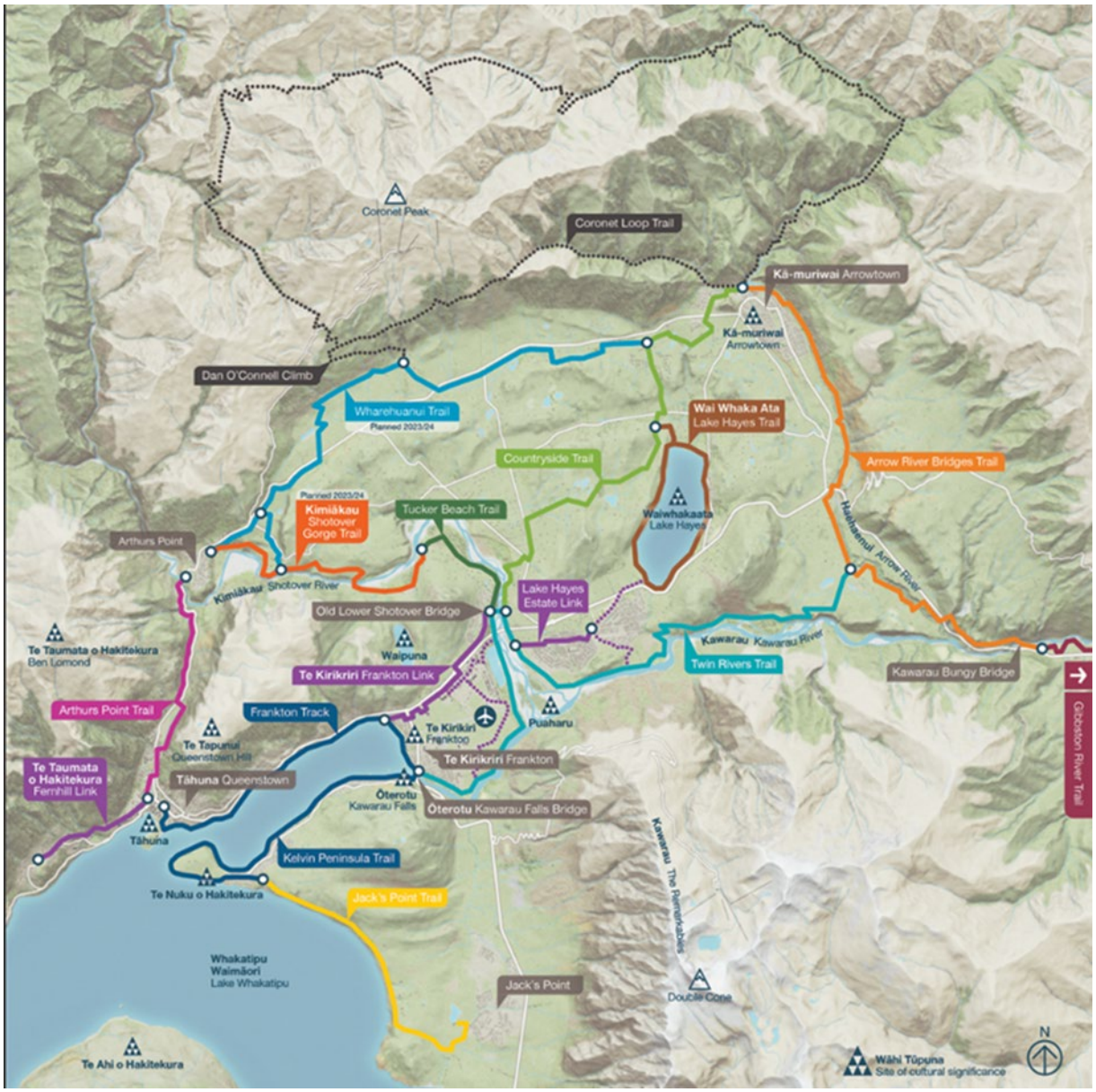


Figure 3-12: Queenstown Trail Map (Source Queenstowntrails.org website)

Currently, Jacks Point is connected to the network at Kelvin Heights Peninsula via the Jacks Point Trail. The Jacks Point Trail is rated Advanced (Grade 4) and has an estimated time of 2-3 hours for the 7.1km distance. As such, it is a recreational ride.

3.4.2 Southern Corridor Development Network

Within developments in the Southern Corridor, networks of cycling compatible streets, shared cycling/walking paths, and off-road paths have been provided.

South of the site, Oraka has a private road network, and no specific infrastructure is provided for cyclists.

North of the Site is Jacks Point which includes a private network of low use paths, and are indicated on the Jacks Point trails map as for use by cyclists and pedestrians. The path widths are of a pedestrian path standard, and some yielding behaviour would be necessary. The roads do not include specific

width or space for cyclists, with shared use of the carriageway required. The facilities are for occasional use as part of neighbourhood trips, or linkage to recreational trails.

Hanley's Farm has a network of streets that have been developed that either include a wider traffic lane to accommodate shared use by cyclists and vehicles, or with shared use paths. No marked cycle lanes are provided although some footpaths are marked as shared spaces. Some unsealed paths are provided through reserves, which are at present of a recreational nature. The facilities provided are most suitable for local neighbourhood trips.

3.5 Pedestrian Infrastructure

The pedestrian infrastructure in the developments along the Southern Corridor is primary aligned with roads. Within Jacks Point and Hanley's Farm there are some additional paths connecting around and through the developments. There are also some current gaps in infrastructure provision.

Homestead Bay Road - Māori Jack Road between the Site and Jacks Point Village has some gaps in footpath infrastructure, with footpaths only provided on one side of the road, or not at all.

There are no formed connections for pedestrians to link between the Site and Jacks Point or Lakesides Estates.

4 Existing Transport Patterns

4.1 State Highway 6

NZTA carries out a traffic counting programme on SH6, and historical data has been summarised for the Southern Corridor. Figure 4-1 shows the change in Annual Average Daily Traffic (AADT) volume over time. The 2020 year was impacted by a period of very low traffic volume associated with the Covid-19 lockdown. Over the last 10-year period from 2015 to 2024, traffic volumes on SH6 have increased at a high average rate of approximately 7% to 8% per annum (based on 2024 traffic volumes) north of the Site. This growth has also been supported by the conversion of the Kawarau Falls Bridge from single lane to two lane in 2018. SH6 south of the site has experienced traffic growth less than 1% per annum. A large portion of the traffic growth in the corridor is because of increased housing alongside the Southern Corridor, including at Jacks Point and Hanley's Farm.

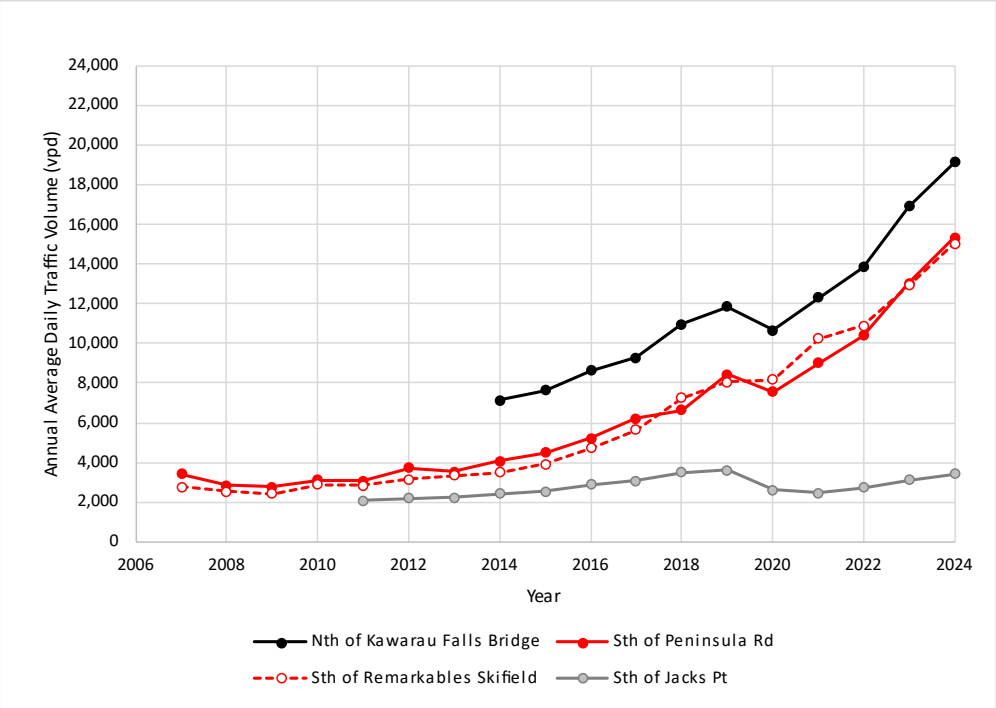


Figure 4-1: SH6 Traffic Growth

Figure 4-3 shows the seasonal pattern of average weekday traffic volumes recorded in 2023, and 2024 at the site north of the Kawarau River Bridge. The seasonal patterns from 2023 and 2024 follow a similar pattern and show a reasonably consistent traffic volume through the year with lowest volumes at the start of June.

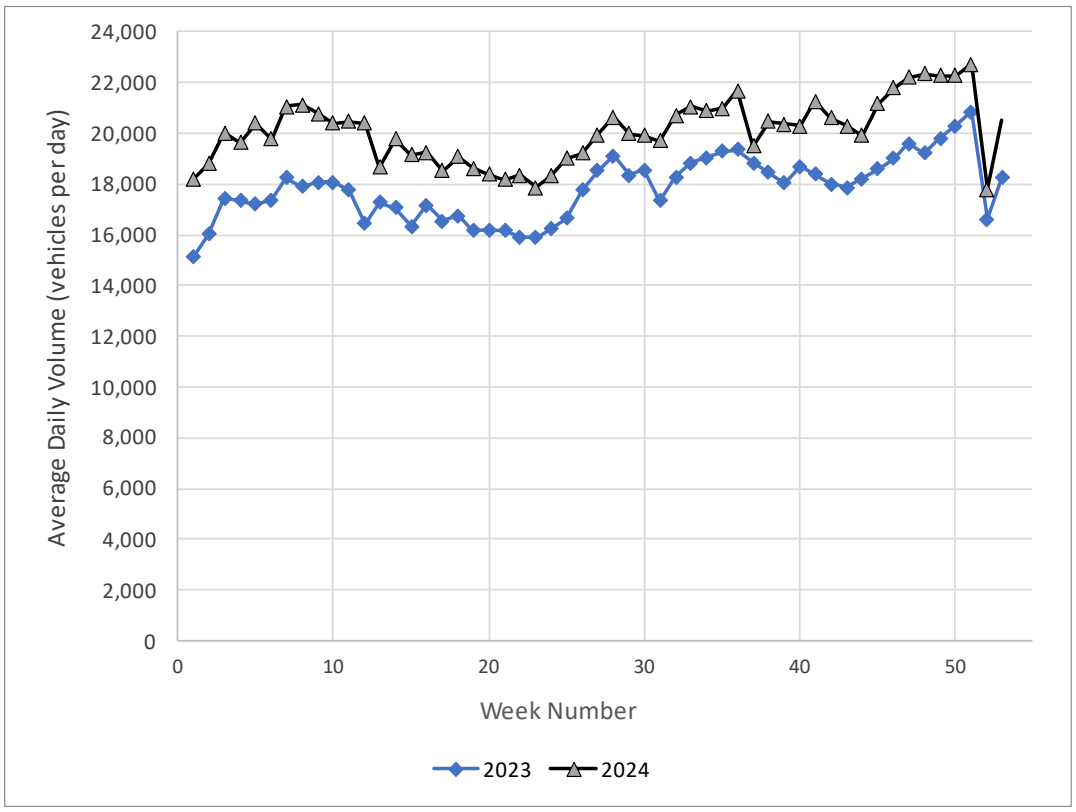


Figure 4-2: SH6 Kawarau Falls Bridge Seasonal Patterns (Weekday Average Volumes)

Hourly traffic patterns during early March 2024 have been analysed and it can be seen in Figure 4-3 that north of the site there are well defined morning and evening commuter peak hours 8am to 9am, and 5pm to 6pm. The detailed traffic counts show a strong northbound directional flow in the morning peak, and a similar although less pronounced southbound directional movement in the evening peak period. SH6 past the site has a midday peak with no notable commuter peak.

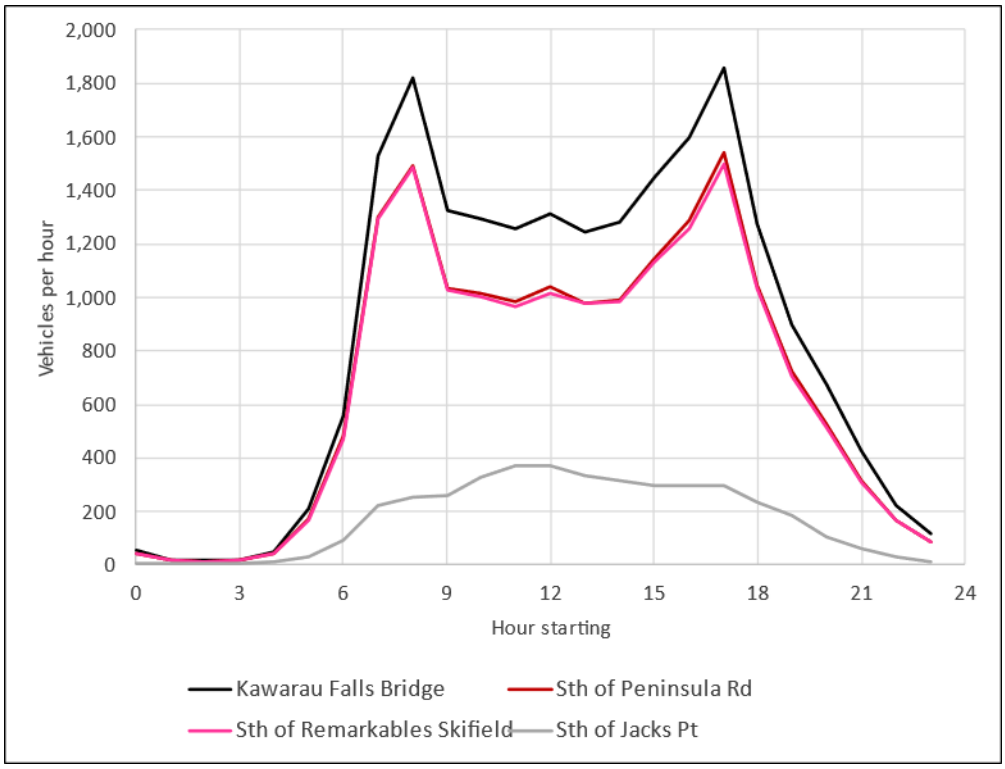


Figure 4-3: SH6 Weekday Hourly Traffic Patterns

4.2 Intersection Counts

WSP has carried out traffic counts as part of transport network investigations for RCL. The peak period traffic volumes are shown in Figure 4-4 and Figure 4-5 for the AM and PM peak hours respectively. These show that more than 90% of traffic in and out of the residential subdivision of Jacks Point and Hanley's Farm are to and from the north.

The traffic volumes also indicate that in 2022 Jack Hanley Drive carried traffic volumes of approximately 620-630vph in the peak hours, and Māori Jack Road carries approximately 400-500vph. This represents high turning traffic volumes in a high-speed rural highway environment.

WSP have estimated that the traffic volumes recorded represent traffic generation from dwellings as set out in Figure 4-1 (with allowance for houses under construction as a house, noting the presence of construction traffic generation). It is recognised that with the large amount of development underway, the reported traffic generation rates have some uncertainty.

Table 4-1: Jacks Point Zone Traffic Generation Characteristics

Road	Houses (including under construction)	AM Peak Trip Rate (vph / household)	PM Peak Trip Rate (vph / household)
Jack Hanley Drive	708	0.87	0.89
Māori Jack Road	697	0.71	0.58

For comparison, the typical rate applied for subdivision in the QLDC is 8vpd/household (equivalent to approximately 0.8-1.0vph/household), and Lake Hayes Estate / Shotover Country is estimated to have external traffic generation of approximately 0.74 to 0.77 vph/household.

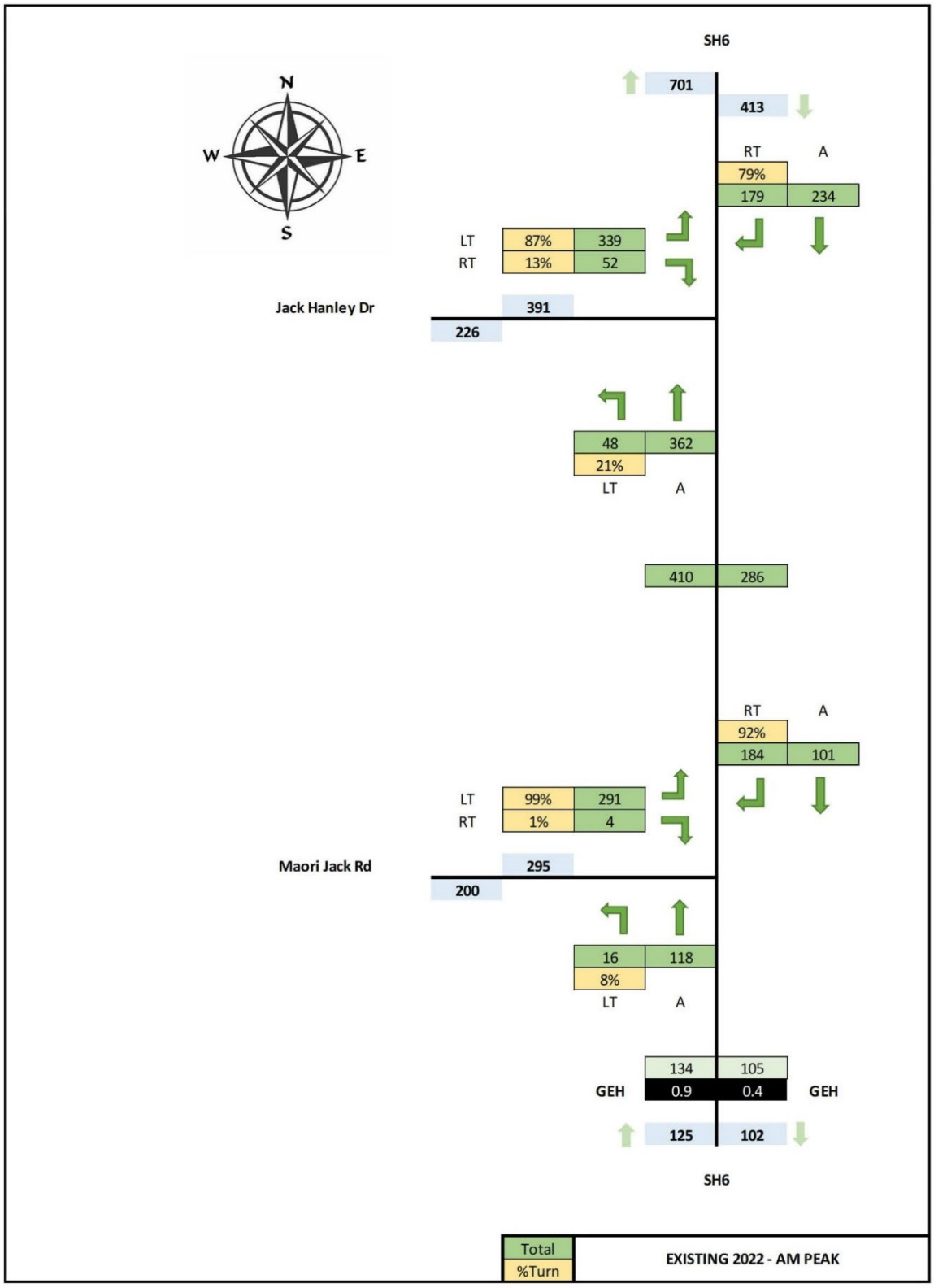


Figure 4-4: 2022 AM Peak Observed Traffic Volumes

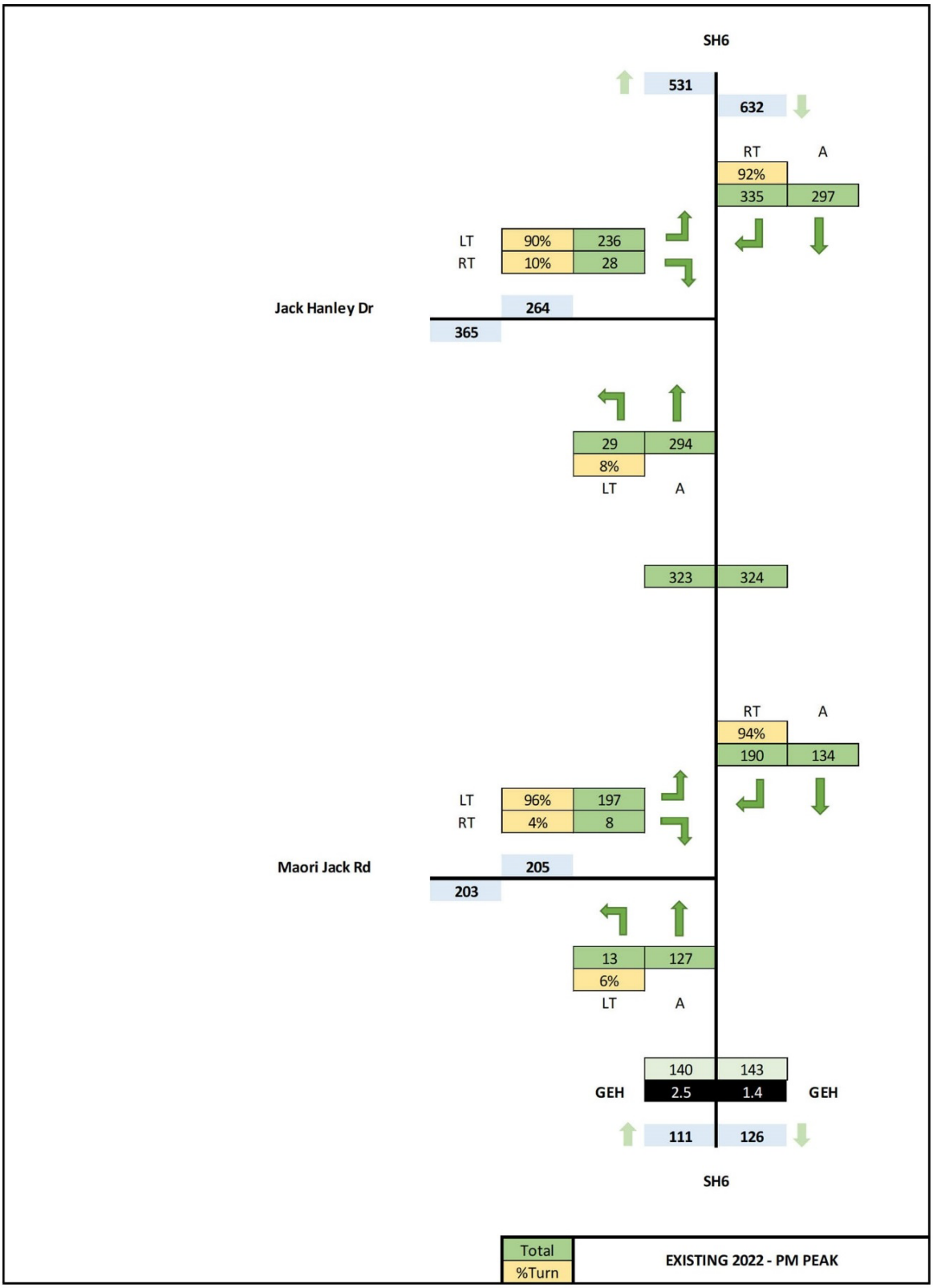


Figure 4-5: 2022 PM Peak Observed Traffic Volumes

5 Existing Road Safety

5.1 Reported Crashes

The NZTA road safety database (CAS) has been interrogated for the five-year period from November 2019 to October 2024 has been analysed for the section of SH6 from Kawarau River bridge to Oraka, as well as the road networks within Jacks Point and Hanley Farm.

A map showing the location and severity of reported injury crashes is shown in Figure 5 1. There have been 12 injury crashes and one fatal crash in the five-year period over the 9.5km section of SH6.

- SH6 Drift Bay to Māori Jack Road
  - » 2020145381 Minor injury – loss control in gravel shoulder off roadway to left when letting a car pass.
- SH6 Māori Jack Road to Jack Hanley Drive
  - » no crashes
- SH6 Jack Hanley Road to Woolshed Road
  - » 2024280346 Minor Injury – at Intersection of SH6 and Jack Hanley Drive driver turning right from side road has failed to give way and the northbound vehicle on SH6 has collided
  - » 2023251551 Minor Injury - Van was travelling northbound towards Queenstown crossed over double yellow lines and has hit the oncoming vehicle travelling towards Kingston in the south bound lane
  - » 2020150171 Minor injury – Lost control in the gravel shoulder when going around a bend.
  - » 2024282161 Minor injury – Driver has fell asleep under the influence of alcohol, crossed the centreline, and left the road without braking.
  - » 202219321 Fatal – a vehicle was hit on the side when carrying out a u-turn manoeuvre on SH6, apparently without warning to an approaching southbound vehicle where there was good visibility.
- SH6 Woolshed Road to Kawarau River
  - » 2023258534 Serious Injury – a northbound vehicle stopped in order to turn into a property access and a following vehicle failed to notice and crashed into the rear of the turning vehicle
  - » 2023273838 Minor Injury - Driver of vehicle travelling from Queenstown lost control travelling through the corner, crossed centreline, overcorrected to left, then overcorrected to the right colliding with vehicle traveling in opposite direction. Speed and tyre tread possible factors.
  - » 2023253751 Minor injury – rear end crash when a driver travelling towards Queenstown was distracted by mobile phone (charger) and hit rear end of queued traffic.
  - » 2022222679 Minor injury – a stationary work vehicle carrying out road testing on SH6 between the s-bends was hit from behind by another vehicle that had passed the tail vehicle warning of work vehicle ahead. Darkness and alcohol were factors.
  - » 2024291285 Serious Injury – northbound vehicle crossed centreline and collided with a southbound vehicle. Alcohol suspected.
  - » 2022212299 Minor Injury – a vehicle approaching the SH6 intersection from Peninsula Road hit the rear of a vehicle stopped at the intersection waiting for a gap in traffic.
  - » 2023248683 Minor Injury – a vehicle approaching the SH6 intersection from Peninsula Road and turning left did not give way adequately for a vehicle approaching on SH6 from the north, which hit the turning vehicle

There were a further twenty eight crashes on SH6 involving no injury. South of Woolshed Road, there were ten non-injury crashes that were predominantly:

- Loss of control (5 crashes)
- Hitting stray animals (3 crashes)

- Rear end crash with queued vehicles (1 crash)
- Merging crash (1 crash)

North of Woolshed Road there has been a higher number of non-injury crashes on SH6 with 28 crashes recorded. Of those 8 were loss of control, 6 were at intersections, and 2 were head on crashes. The remaining two related to loss of a load, and parking.

The predominant crash type is loss of control, with the narrow road shoulder potentially contributing to some loss of control crashes. The existing subdivision intersections to Jacks Point and Hanley Farm do not have a strong history of reported crashes.

Within Jacks Point there have been three injury crashes, and within Hanley's Farm one injury crash. These have included:

- Two pedestrian crashes in Jacks Point, a minor injury crash (2020145713) where a runner was clipped by a car on the road, and a second crash (201952858) involving serious injury where a child has run to cross the road and been hit by a car, it was twilight with diminishing visibility
- a minor injury crash in Jacks Point (2020168207) involving cyclist collision with a parked vehicle
- an intersection crash (2022214885) in Hanley's Farm where a vehicle turning into a side road failed to give way due to sun strike and was hit by a vehicle travelling through
- A serious injury crash (2024296777) in Hanley Farm where a child ran across the road from a commercial activity to a playground opposite and was struck be a vehicle.

There were six other non-injury crashes within Hanley's Farm with three involving vehicles hitting parked cars when the drivers were under the influence of alcohol, loss of control whilst attention was diverted, a road rage incident. A rubbish truck that had been parked and manoeuvred into the lane into the path of a following vehicle was the other crash reported, with visibility limitations from parked cars noted.

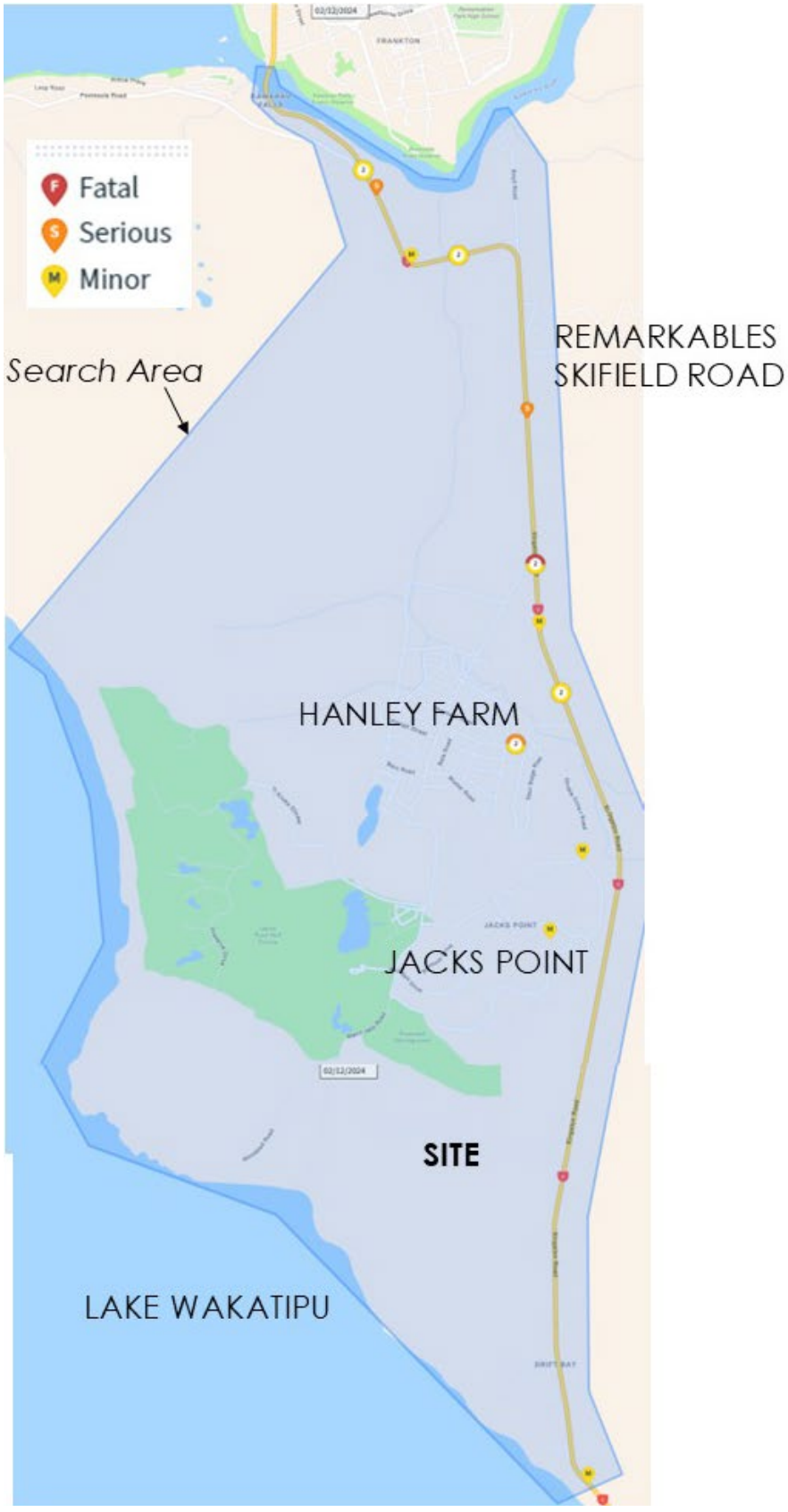


Figure 5-1: Injury Crashes Previous 5 Years

6 Planned Changes in Landuse and Transport Infrastructure

6.1 Jacks Point Zone Structure Plan

The Jacks Point Zone adjoins the site and has a detailed structure plan that sets out residential and open space areas that surround the site. An extract of the Structure Plan (Proposed District Plan Decisions Version) in the vicinity of the site has been copied and marked up as shown in Figure 6-1. It shows that on the south western side of the site, an undeveloped village area is zoned, together with an area planned for boating facilities. No provision for future connections to the Application site are shown on the Structure Plan.

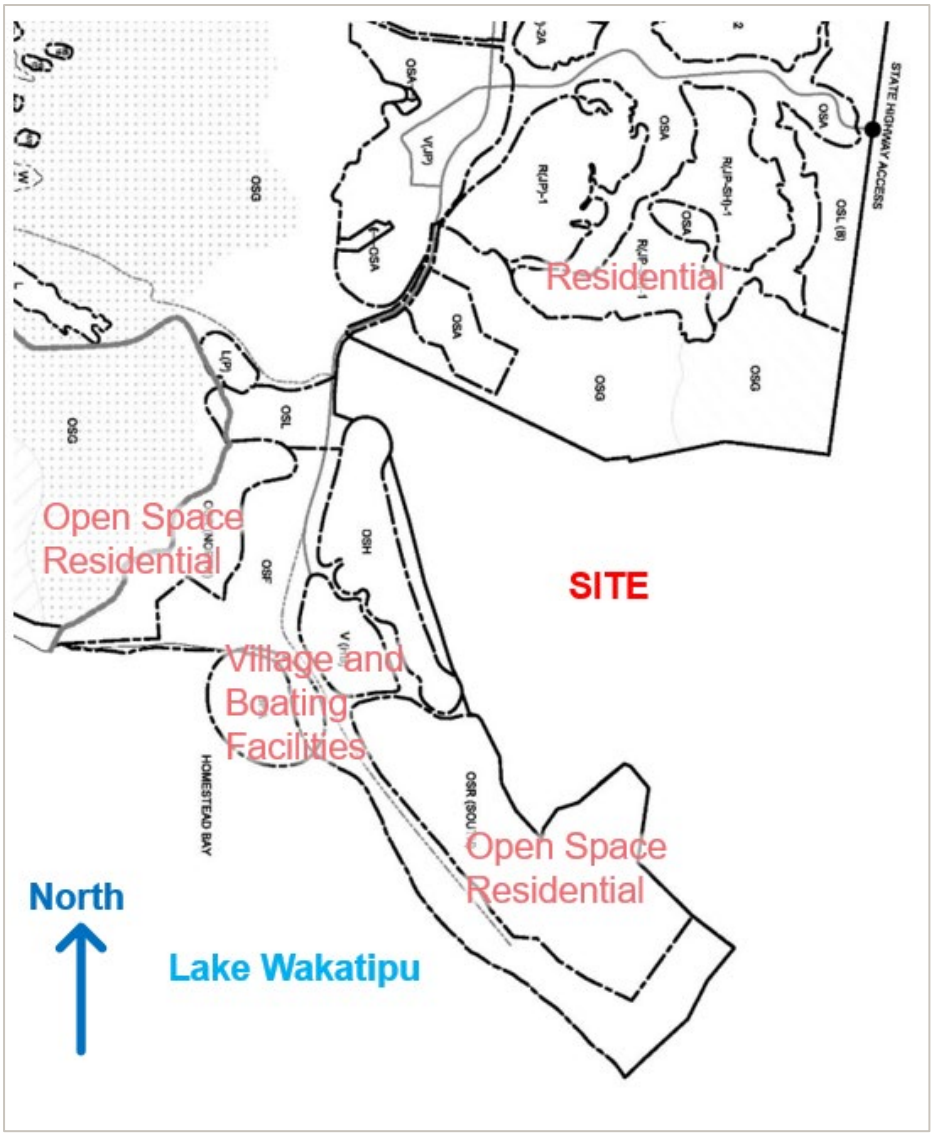


Figure 6-1: Jacks Point Zone Structure Plan Extract (with extra notation in colour)

6.2 QLDC Spatial Plan

The Queenstown Lakes Spatial Plan (2021) is “a vision and framework for how and where the communities of Wakatipu and Upper Clutha can Grow Well and develop to ensure our wellbeing and prosperity”. QLDC partnered with central Government, Aukaka and Te Ao Marama Inc to develop the plan for the district.

The Spatial Plan recognises that the transport system has not been able to keep up with growth in businesses, residents and visitors. It highlights that transport modelling suggests 40% of all trips between Frankton and the Queenstown Town Centre at peak times will need to be on alternative modes to private vehicles by 2028 and 60% by 2048 if the high levels of congestion and major delays are to be avoided. It describes that traditional transport strategies and response to growth will no longer work in the Queenstown Lakes environment, and substantial change in behaviour that embraces public transport, walking and cycling is needed.

The proposed Spatial Plan map includes spatial elements (through a map reproduced in Figure 6-2) and several outcomes, which include transport related matters. A consolidated approach to growth and the proposed urban form is proposed. An area planned to accommodate significant growth in dwellings is the Southern Corridor, with future urban areas and local centres anticipated to be provided enabling a consolidated approach to managing growth limits. The corridor includes the location of Homestead Bay as a priority development area. There is a vision for a frequent public transport network connecting the Southern Corridor to Frankton, where users can “turn up and go”.

As part of Outcome 2 (“public transport, walking and cycling is the preferred option for daily travel”), there are strategies to coordinate a programme of travel demand initiatives including of particular relevance to the Homestead Bay site:

- Increasing the frequency and managing the pricing of public transport;
- Encouraging active travel between residential areas, key destinations, and within centres
- Improving the quality of public spaces and streets to make walking and cycling safer and more appealing.

It is planned to prioritise investment on public transport and active mode networks to make them attractive. Road space will need to be optimised for moving people rather than vehicles. Map 14 of the Spatial plan reproduced as Figure 6-3 shows further detail of the expected public transport and active travel networks. It shows potential new bridges across the Kawarau River for both public transport and active modes, an active modes transport route connecting the site to Frankton, and a planned frequent bus service route with more direct connection to Frankton. A Park n Ride site is shown at Homestead Bay.

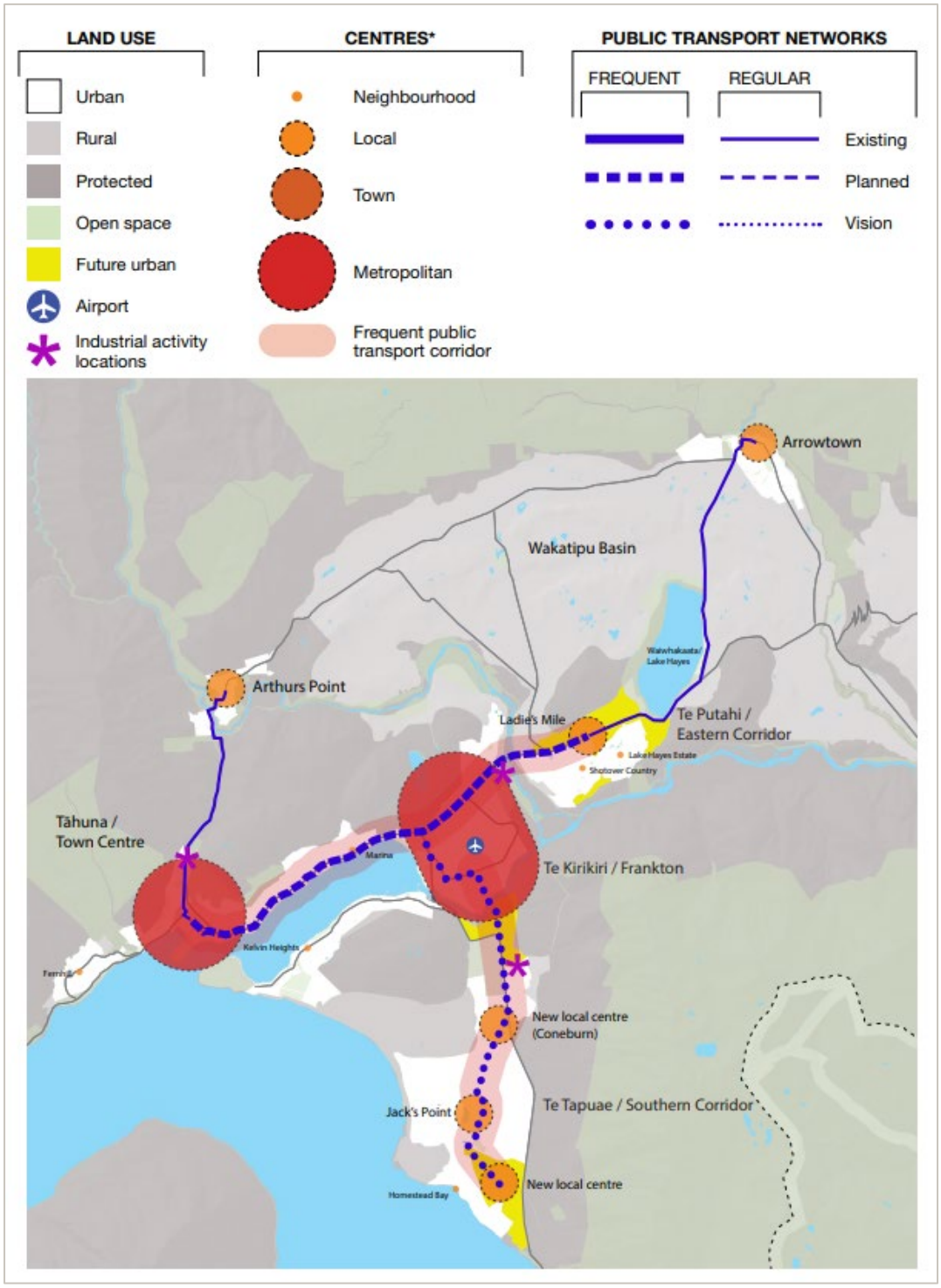


Figure 6-2: Spatial Plan Elements – Wakatipu

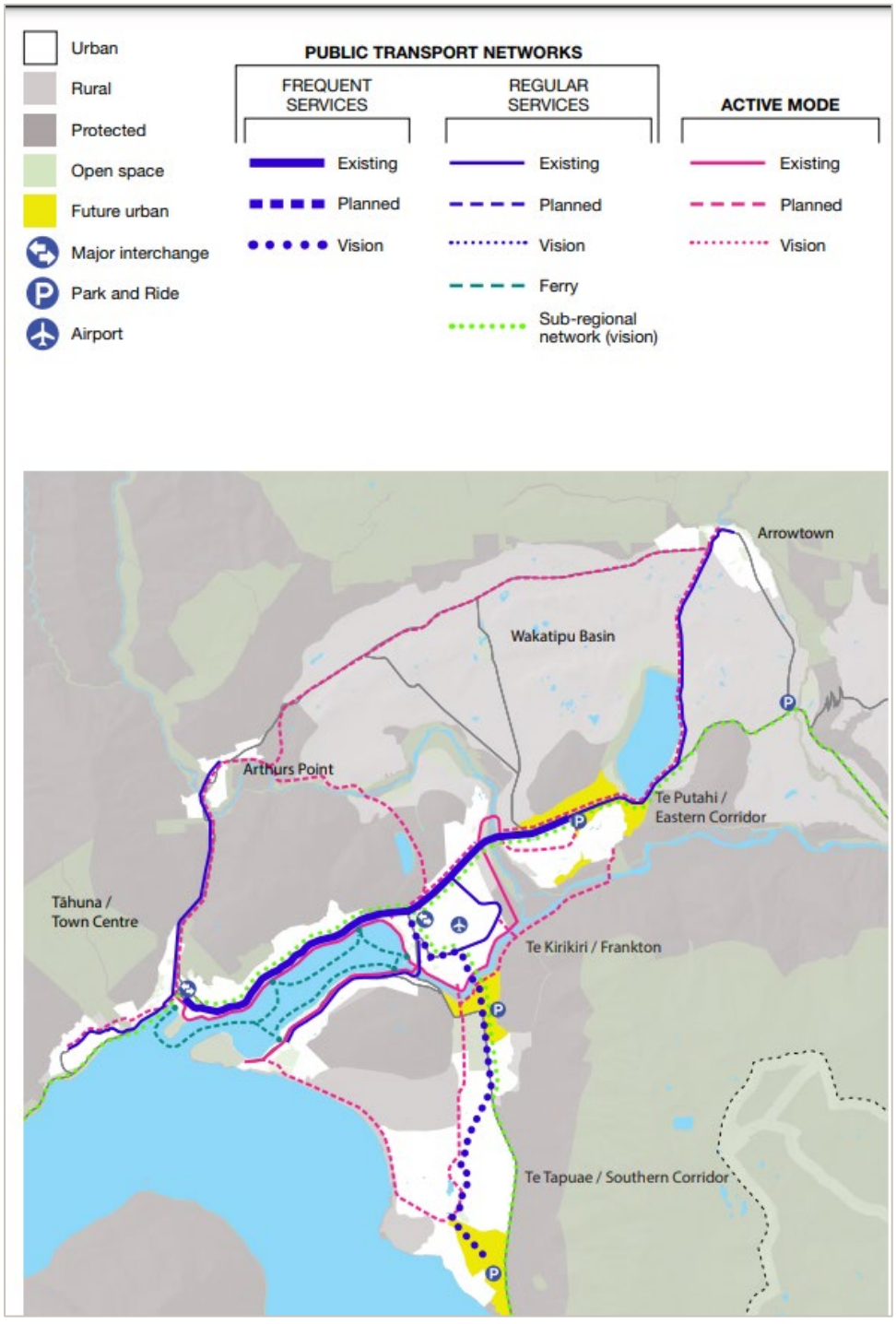


Figure 6-3: Spatial Plan Transport Network

6.3 Waka Kotahi Queenstown Business Case

The Waka Kotahi Queenstown Business Case 2020 included investigation of transport solutions for the Queenstown Town Centre, Frankton to Queenstown, and Frankton and Ladies Mile areas. A range of planned interventions were proposed, as summarised in Figure 6-4. Of particular relevance to connections from the Southern Corridor to Frankton are committed infrastructure improvements on SH6 from the Kawarau River to Frankton, including a planned northbound bus lane, improvements made to the Frankton Bus Hub, and some key intersections upgraded with traffic signals.

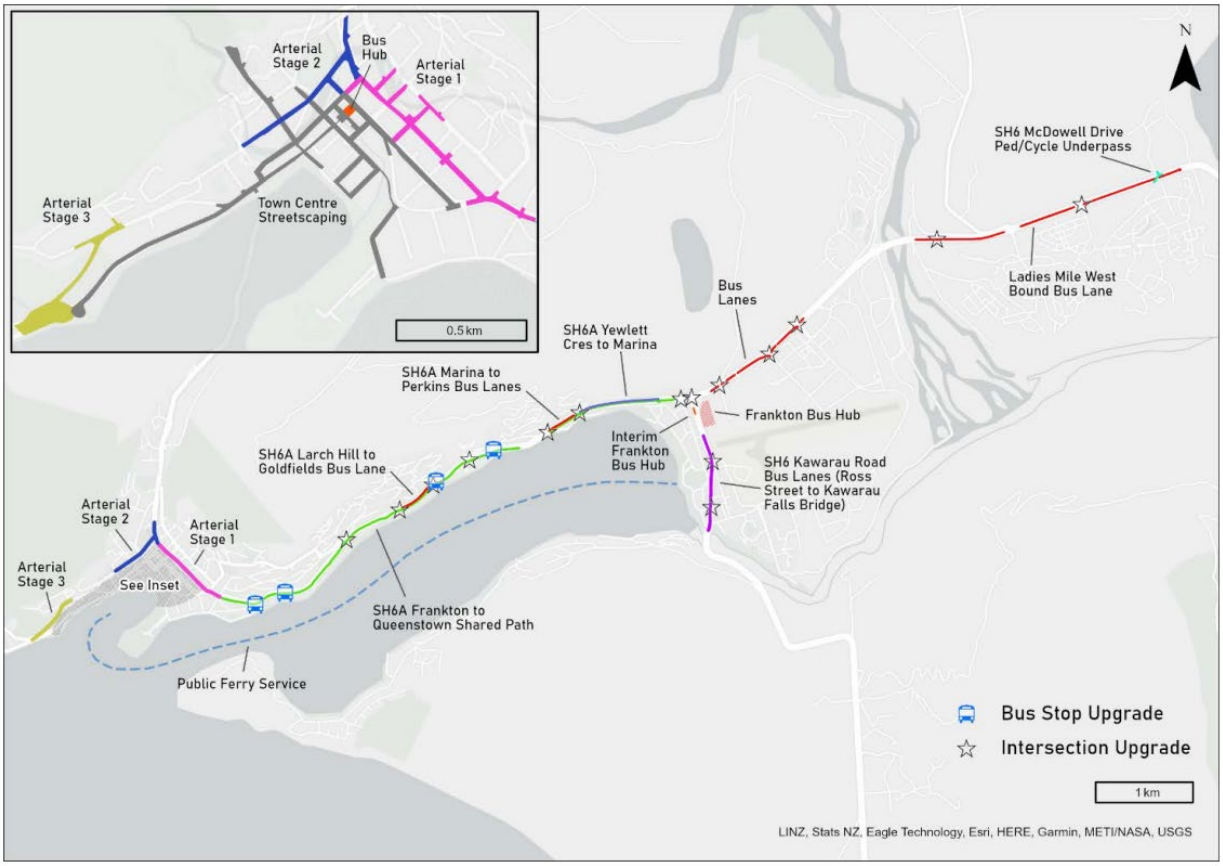


Figure 6-4: Queenstown Business Case Mapped Programme of Interventions

Unfunded infrastructure recommended included future offline public transport services with hubs in Frankton and Queenstown to provide a further step change in capacity.

6.4 Te Kirikiri Frankton Integrated Transport Programme Business Case

The Te Kirikiri Frankton Integrated Transport Programme Business Case (2019) prepared by QLDC, Waka Kotahi and Otago Regional Council included a range of recommended interventions for the short term (2019-2024), medium term (2024-2028) and long term (2029-2048). The programme plans for a high capacity transport system, which included measures to better connect the Southern Corridor to Frankton:

- Active mode bridge over the Kawarau River within 5-10 years
- Shared walking and cycling path from Frankton to Jacks Point (short term)
- Development of a Park N Ride facility near Boyd Road (medium term)
- Potential new public transport bridge across the Kawarau River (long term)
- Potential gondola or ground based mass transit service linking Frankton to Queenstown, Southern Corridor, and also to the Eastern Corridor

6.5 Public Transport Business Case

The Otago Regional Council and its Way to Go partner agencies (QLDC and Waka Kotahi) are developing a 30-year plan to inform the future public transport investment decisions for Queenstown to

provide more travel choices. The plan is known as the Queenstown Public Transport Business Case[2], and links in with the outcomes sought in the Queenstown Spatial Plan to create a resilient, sustainable, and safe transport network where public transport, walking and cycling are the first transport choice.

Public transport options are being investigated, and the process has considered and tested a range of technologies and types of public transport, including buses, ferries, and in the longer term, off road solutions, such as gondolas. The work shows that once planned bus priority measures are in place, a bus-based solution is best for Queenstown for at least the next 30 years.

Services would start out using existing buses, transitioning to a fleet of zero emission buses over time. As demand increases, these buses could be replaced when need by articulated or even bi-articulated buses.

Two preferred bus network options have been evaluated. Relevant to the Southern Corridor, both options include a frequent one seat ride from Jacks Point and Hanley's Farm to Queenstown Town Centre without needing a transfer at Frankton Bus Hub. It is noted that full consideration of development of the Homestead Bay site would not have been accounted for in these options.

Under the first option with minimal transfers, other locations will also typically be serviced by frequent services direct to the Queenstown Town Centre, and passing through the Frankton Bus Hub. This is shown in Figure 6-5.

Under the second option shown in Figure 6-6, other services would connect to the Queenstown-Jacks Point service at the Frankton Bus Hub.

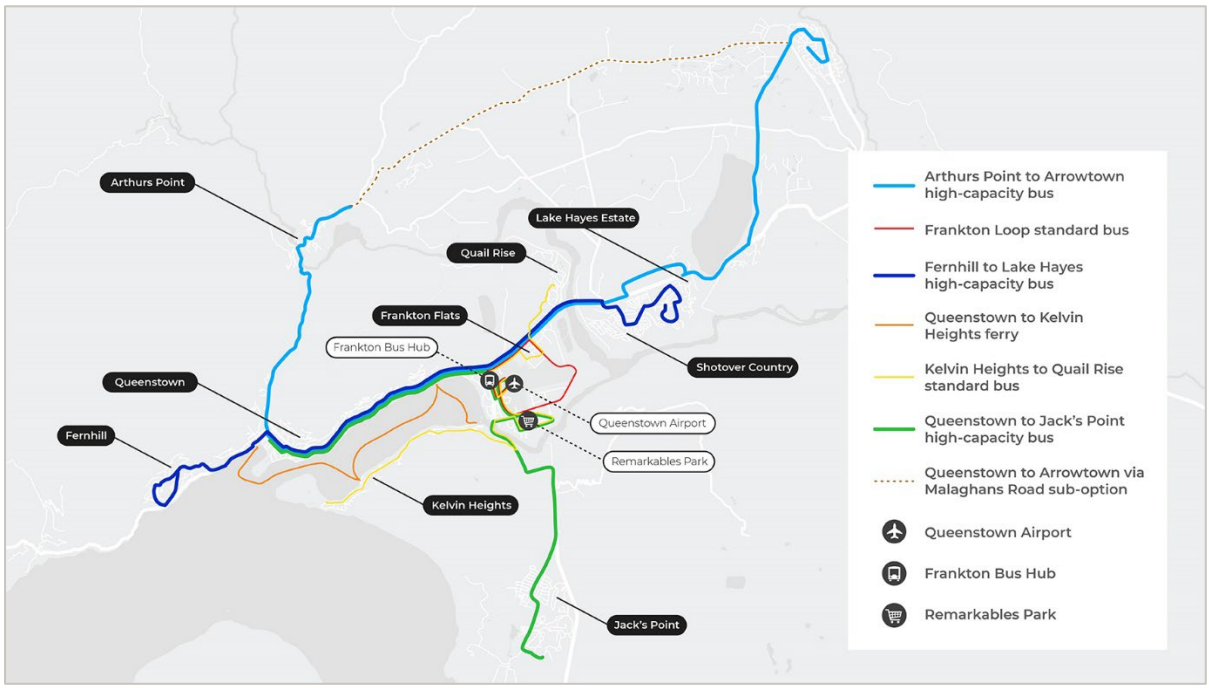


Figure 6-5: PT Business Case Option 1 (Minimal Transfers)

[2] https://www.orc.govt.nz/public-transport/queenstown-buses-and-ferries/queenstown-public-transport-business-case

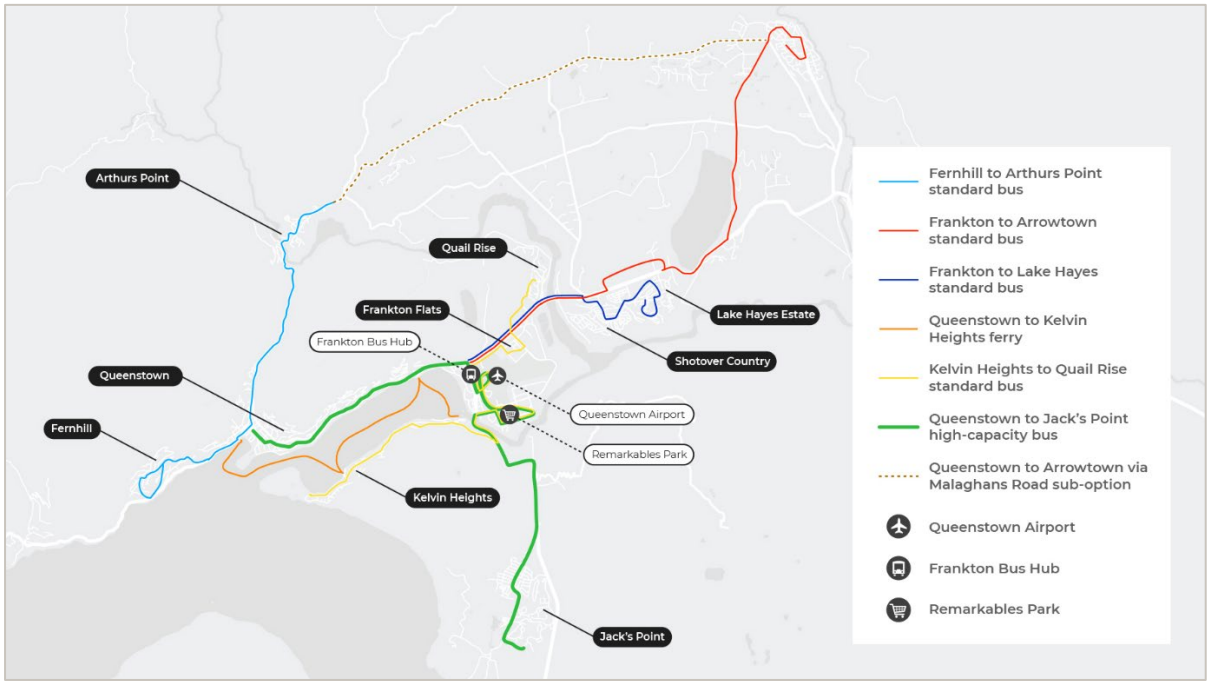


Figure 6-6: PT Business Case Option 2 (More transfers)

Existing ferry services between Steamer Wharf, Frankton Marina, Bayview and the Hilton would be retained, but the frequency and span of service could be improved. Service expansion of ferries to Frankton Beach and Lake Hayes Estate were considered but discounted due to technical and feasibility challenges.

It is noted that forecasts of development growth have likely changed since that publicly available business case was released.

6.6 Wakatipu Active Travel Network Business Case

The QLDC Wakatipu Active Travel plans to provide an integrated network of trails for walking and cycling that connects to public transport, providing a genuine alternative to getting around by car. This builds on the Wakatipu Active Travel Network Business Case (2019), which established a preferred active travel network, with indicative delivery timeframes shown in Figure 6-7.

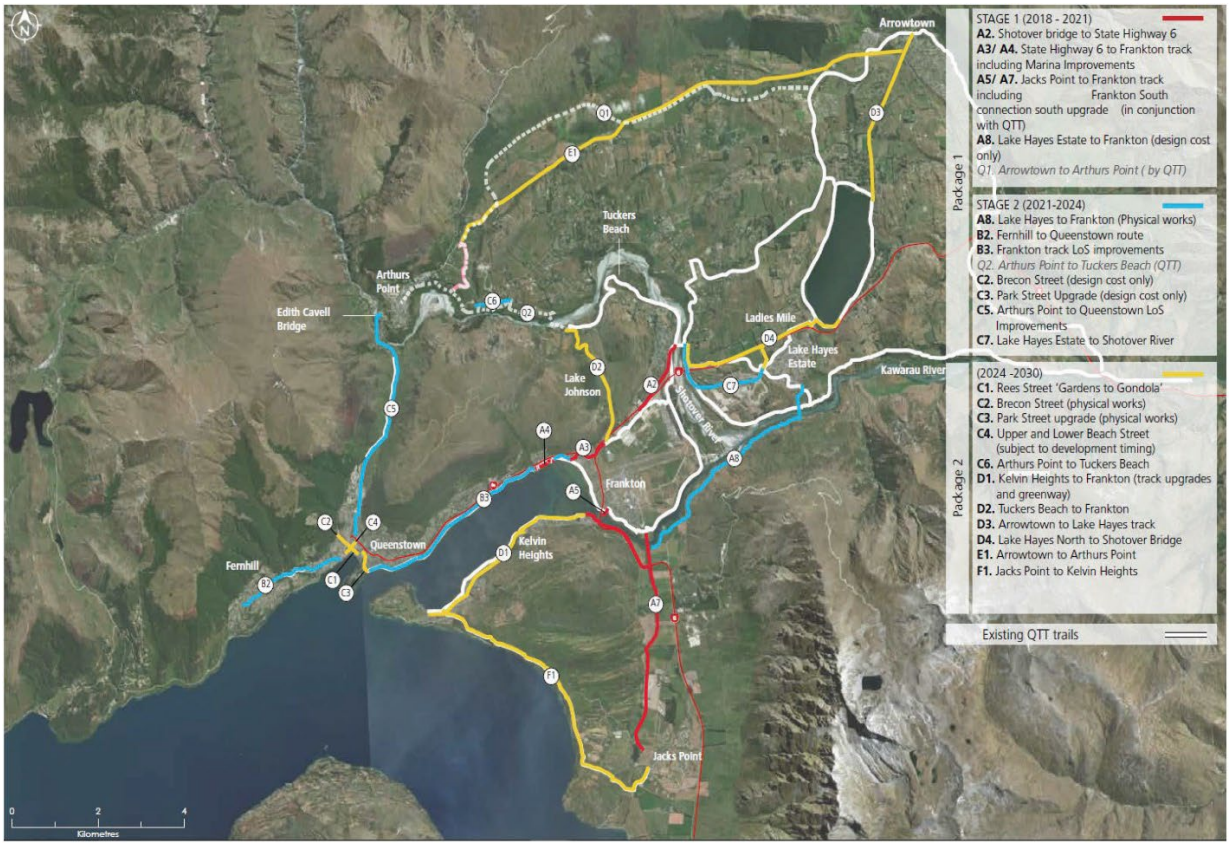


Figure 6-7: Wakatipu Active Travel Business Case Network

The Way to Go website updates on the network describe that the A7 route is intended to be a shared path connecting Jacks Point to Frankton. This would be via new developments, through private land off the highway, under State Highway 6 via an underpass, through additional private property and on to a new walking and cycling bridge over the Kawarau River and connecting to the existing Queenstown Trail at Frankton. Currently this is not funded with the 2024-2027 National Land Transport Programme funding period.

The website project update newsletter in December 2023 notes a preferred route (Figure 6-8) from the northwest of Park Ridge and along the south of SH6 to the Kawarau River bridge. It is understood[3] that easements have since been achieved, and delivery of a northern section is being considered by the Queenstown Trails Trust.

[3] Queenstown Trails Trust looks to build crucial new route » Lakes Weekly Bulletin

Figure 6-8: Preferred Active Modes Route (A7)

6.7 Southern Corridor Network Operating Framework

GHD prepared the Southern Corridor Network Operating Framework (NOF) for QLDC in 2020.

The NOF sought to establish a network plan for five different modal priority road user groups within the Southern Corridor area. The planned landuse reflected projections to 2048, and included some allowance for Homestead Bay as a future growth area. The NOF is reproduced in Figure 6-8, and comprises movement layers for each of the following:

- Pedestrians and cyclists
- Public transport
- Freight traffic
- General vehicle traffic

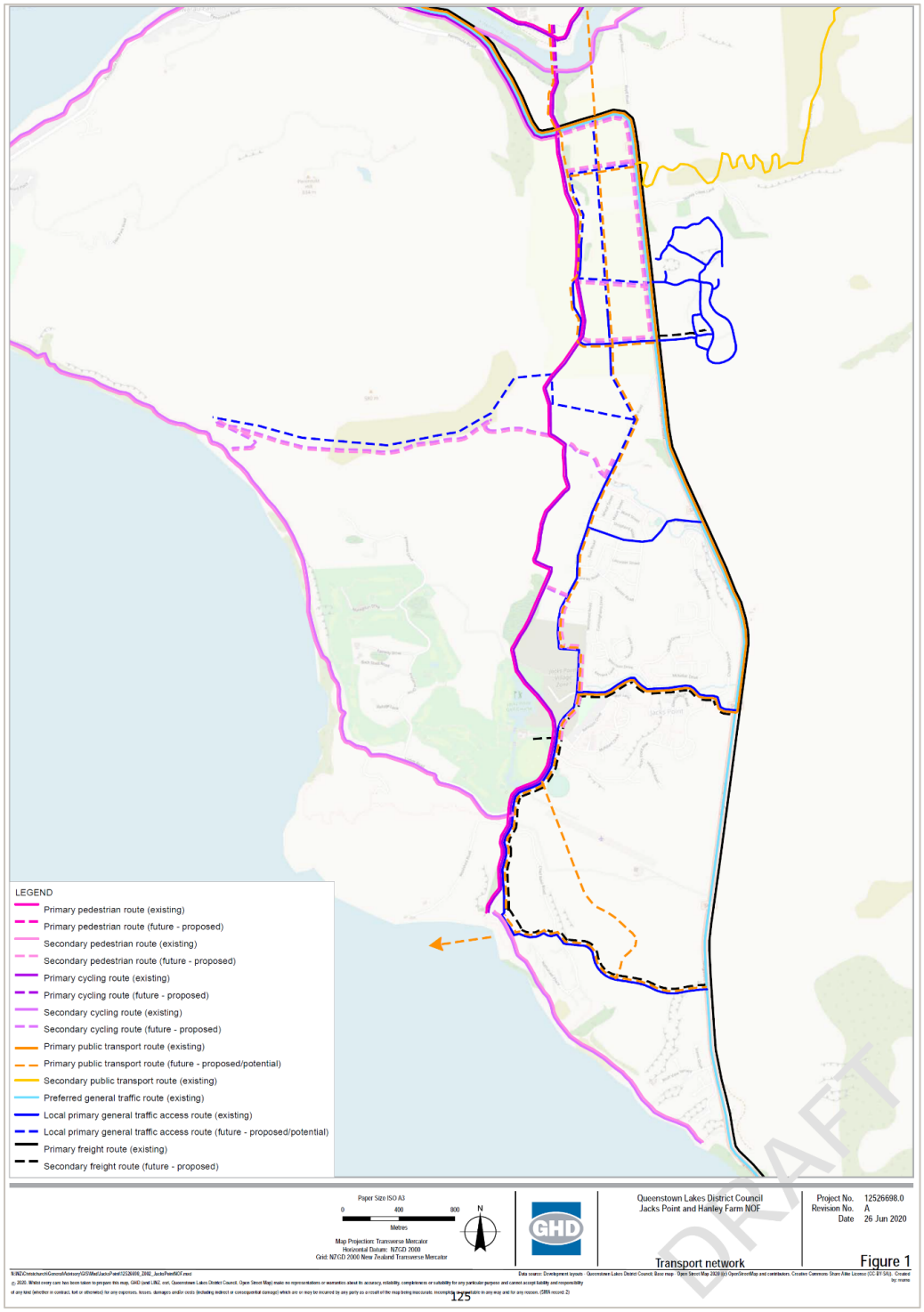


Figure 6-9: Transport Network NOF Map

The reporting noted that the section of road connecting Jacks Point to Homestead Bay Village has some modal conflict, with many modes competing for the same space.

Homestead Bay had been anticipated to be served via SH6 for general traffic and freight, whilst Māori Jack Road – Homestead Bay Road will also accommodate pedestrians and cyclists.

Public transport is planned via the residential spine network and also via existing SH6 routes. The routes have anticipated a separate public transport /active modes bridge (or bridges) across the Kawarau River.

6.8 ORC Public Transport Plan

6.8.1 2021-2031 Otago Regional Public Transport Plan

The 2021-2031 Otago Regional Public Transport Plan is a strategic document that guides the planning and delivery of public transport services in the Otago region for the next 10 years. It sets out a vision as follows:

> *Inclusive, accessible, and innovative public transport that connects Otago and contributes positively to our community, environment and economy.*

Broadly the plan seeks to:

- Reduce the impact on the environment
- Increase access to the public transport system
- Make public transport more attractive for users
- Make the public transport changes required in a constrained funding environment.

Key opportunities in Wakatipu focus on enabling a step change in public transport patronage and mode share. A step change in public transport will be supported through a high capacity, high priority public transport spine that links key development areas identified through the spatial planning process as well as important tourist destinations. Feeder networks of public transport and active modes are also provided. This needs to be supported by infrastructure and behaviour change aspects for it to be successful. It recognises work carried out as part of business case work in the Wakatipu area. To address key network opportunities, it proposes that a range of measures be implemented including bus priority on SH6A, higher capacity vehicles on core and frequent routes, high quality shelters and passenger facilities, and services to support the Wakatipu Spatial Plan.

The plan references further detailed business case work being carried out, and it is understood that is still ongoing.

Of specific reference to Structure Plan considerations for the Homestead Bay site, Table 10 sets out target bus stop spacing for frequent services of 200-500m, with regular services also at 200-500m spacings.

6.8.2 Draft 2025-2035 Otago Regional Public Transport Plan

The ORC is currently consulting on a draft Regional Public Transport Plan 2025-2035. Adoption of the plan is scheduled for June-July 2025.

Of specific relevance to the Homestead Bay proposal, is the discussion on aspirations for the Queenstown public transport network. There is a plan to service the Southern Corridor with high capacity and frequent articulated buses, and potential to serve the area with other modes such as an off-line option and a direct ferry service. Maps representing an outline of expected development of the Queenstown Orbus network are included, and the future focused map is reproduced in Figure 6-10.

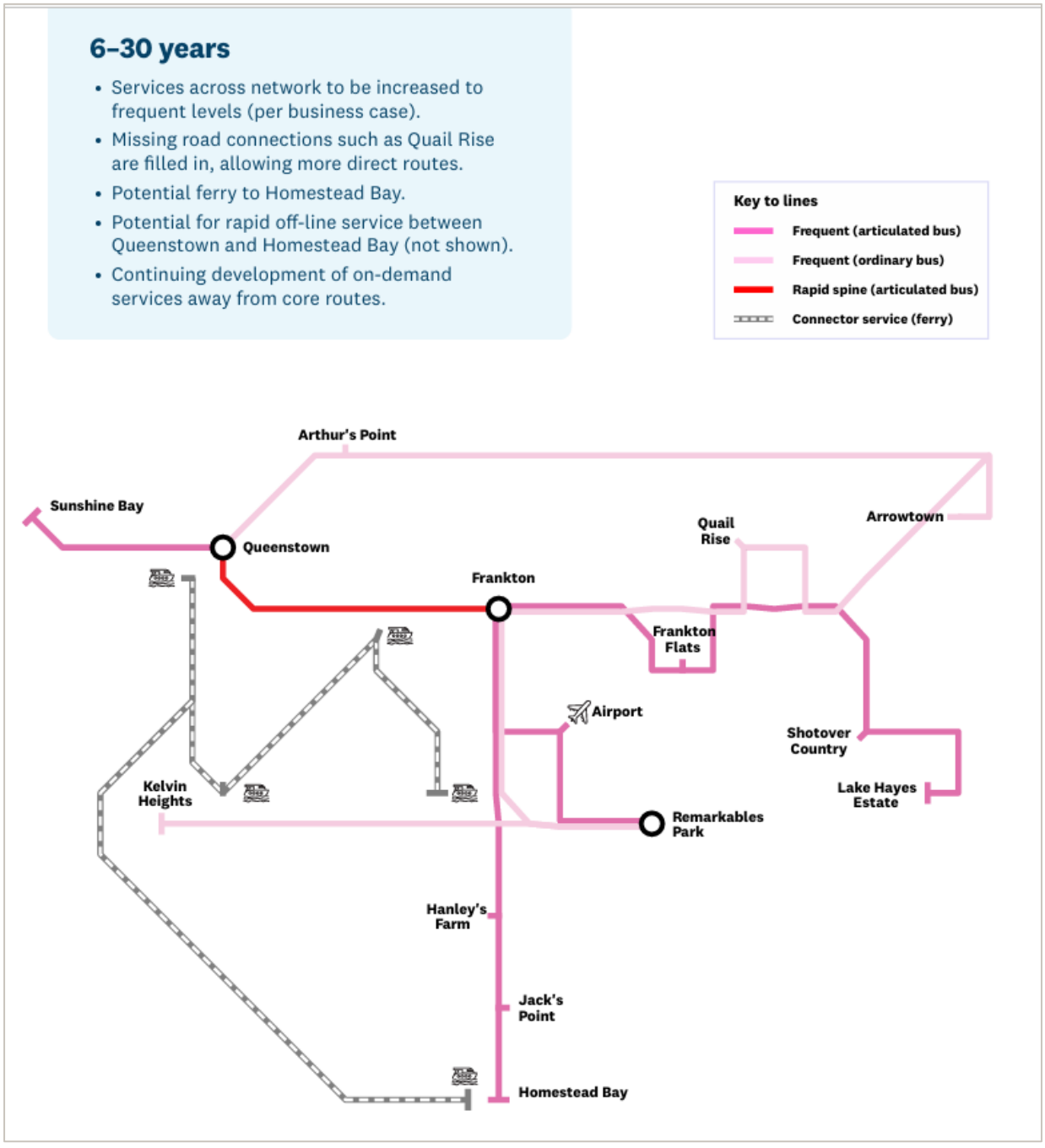


Figure 6-10: ORC draft RPTP Queenstown Map

There is also extensive discussion regarding bus stop infrastructure, which would be relevant for consideration of bus network planning.

7 Proposed Subdivision Plan

7.1 Subdivision Plan

The Application seeks subdivision to establish an urban development of Homestead Bay, creating a new residential suburb in the Southern Corridor growth area of the Wakatipu Basin. The overall subdivision plan is shown in Figure 7 1 below, and included in **Appendix A**.

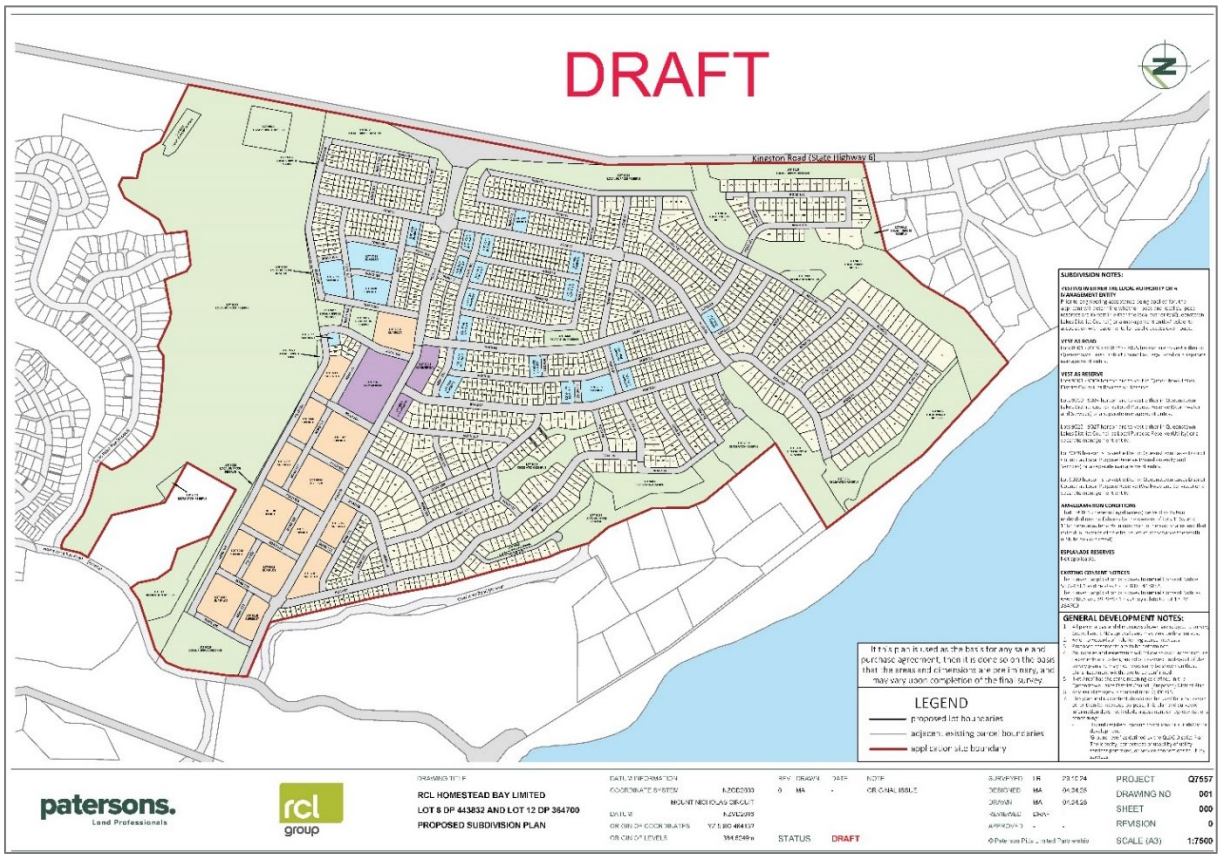


Figure 7-1: Proposed Subdivision Plan

7.2 Proposed Landuse

7.2.1 Residential Lots

The proposed subdivision provides for the following expected residential landuse:

- Standard Density lots (yellow): 1438 lots
- Future Medium Density lots (within blue superlots): 22 superlots approx. 199 residential units)
- Future High Density lots (within orange super lots): 14 superlots providing approx. 890 residential units

7.3 Commercial Area

Additionally, there is 2.58ha of commercial land shown in purple on the subdivision plan, also shown in Figure 7-2 below.

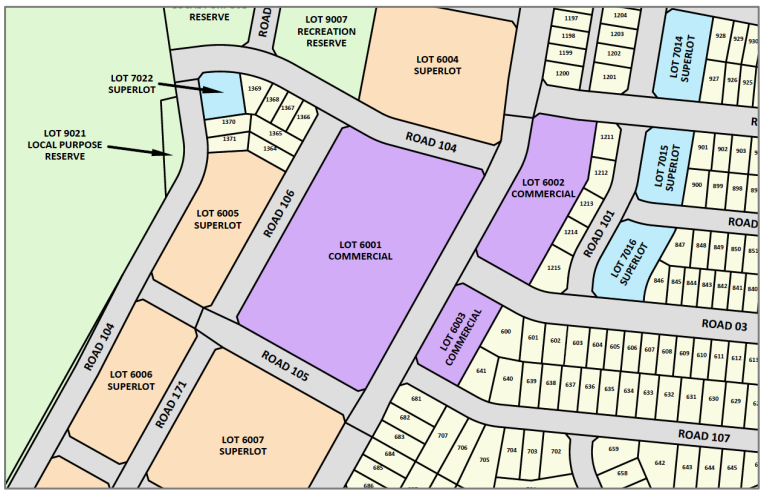


Figure 7-2: Proposed Commercial Area

7.3.1 School

It is anticipated that a school can be provided within the overall subdivision, with various options available, and unlikely to be confirmed until much later in the development process. A school site is typically approximately 3ha, and it is understood that the Applicant would encourage it to be located in a central location within the subdivision, indicatively within the locations shown in Figure 7-3.

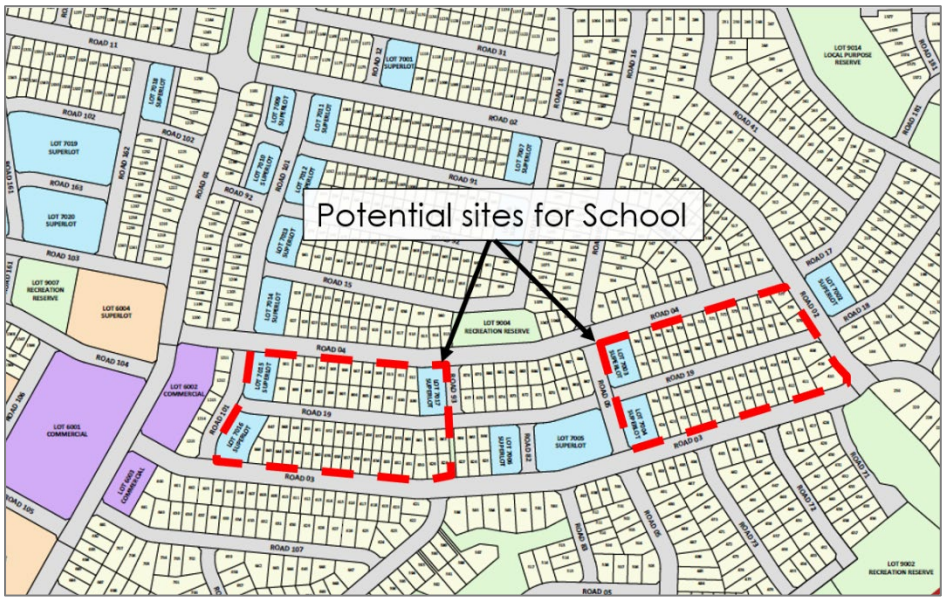


Figure 7-3: Indicative Location Envelopes for a School Site

The site closest to the commercial area would result in removal of 59 standard density lots and 3 medium density lots, whereas the other site would require removal of 55 standard density lots and 2 medium density lots. If a school takes up either option then the number of standard density single house lots will be reduced to between 1379 and 1383 lots, and the number of potential future medium density units / lots will be reduced to between 180 and 185 units / lots.

7.4 Local Parks and Reserves

The proposed subdivision includes eight recreation reserves spread around the subdivision. The location of proposed recreation reserves are highlighted in green in Figure 7-4. As shown on the subdivision plan there is also extensive Local Purpose Reserve located around the development.

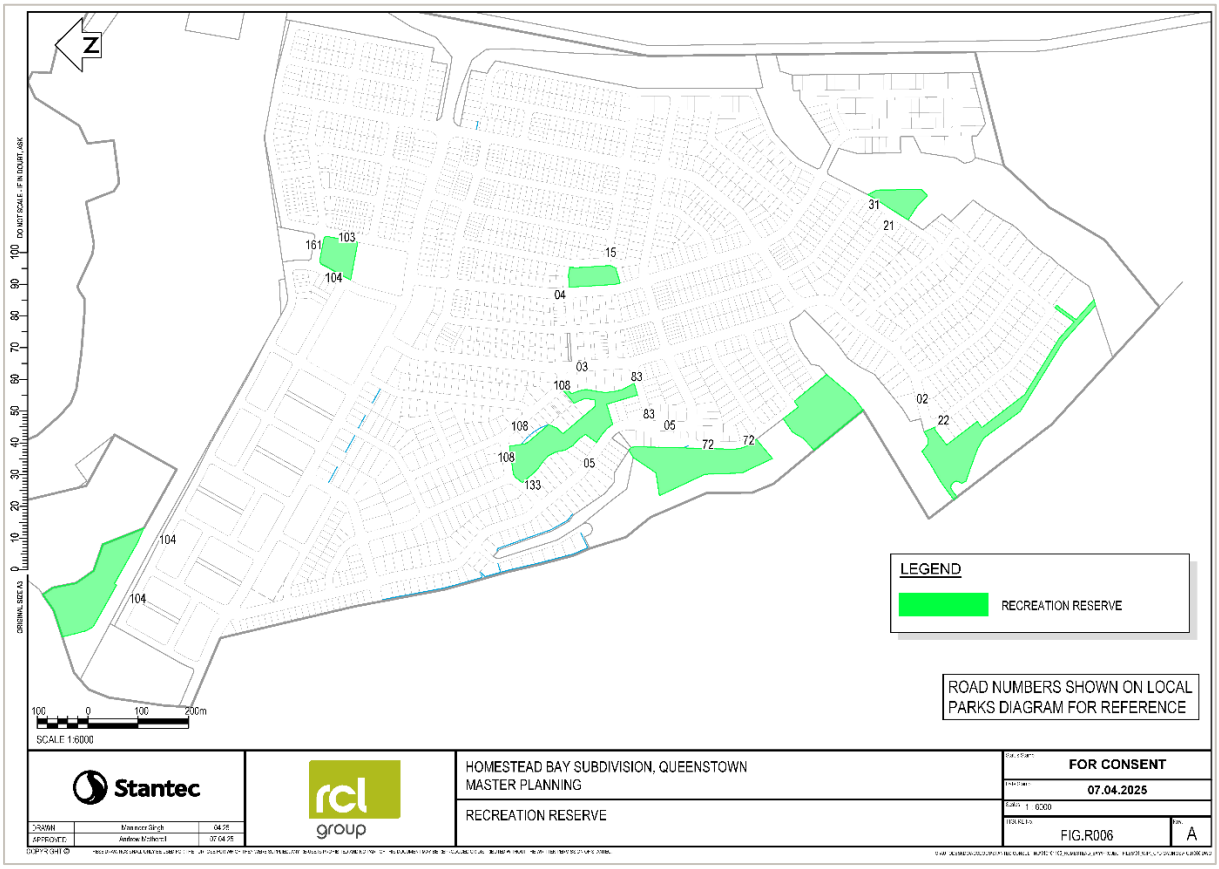


Figure 7-4: Local Recreation Reserves

8 Trip Generation and Distribution Assessment

The WSP analysis and reporting that informed the WSP Transportation Analysis – Summary Report for the Fast Track Approval Application included an assessment of a development scenario for the entire Southern Corridor from Park Ridge at the north, to Homestead Bay and Oraka in the south.

The scenarios assessed in the WSP reporting provided scenarios as follows:

- With Homestead Bay development (RCL land, Homestead Bay Village, and the existing Homestead plus Otago University land), with and without additional non-residential activities
- Without Homestead Bay development, no additional non-residential activities
- The periods assessed are 2033 (with 60% of the Fast Track Approval site developed), indicative of a typical 10 year period that a District Plan assessment would cover where staging and infrastructure requirements may be relevant; as well as a 2053 assessment that forecasts the long term transport network (with 100% of all of the Southern Corridor development) to assist with understanding matters that will need to be provisioned for through the design of development.

Traffic volumes for assessment are derived by WSP (incorporating house numbers supplied by RCL) based on a range of calculations and assumptions/forecasts for mode share and trip distribution. Some key parameters are as follows:

- WSP forecast that 90% of generated traffic will be to and from the north, with the remaining 10% to and from the south, which is reflective of existing traffic counts.
- Public transport mode share for residential development in the peak direction is forecast to be approximately 19% (northbound) in the morning peak, and 15% (southbound) in the PM peak, by 2033. This represents a large increase compared to existing and is representative of traffic model forecasts that were available.
- Active mode share of 10% for residential development is assumed for peak directions in the peak periods.
- Trip reduction factors are allowed for that reflect the expectation that the Southern Corridor will over time have increases in non-residential landuse, which in turn reduce the level of traffic movement on SH6 north of the site. The WSP Transport Effects Report indicates that overall trip reduction of approximately 17% in the AM peak and 12% in the PM peak may be achievable through the provision of non-residential uses in the Southern Corridor and Homestead Bay.

Trips from each development are apportioned to different intersections that access SH6. WSP assumed travel from the Homestead Bay site is 60% via the new SH6 intersection, 20% via Māori Jack Road, and 10% each via each of Jack Hanley Road and Park Ridge. In practice there will be a dynamic response based on delays and travel times via each route. For example, it is possible that a higher proportion of traffic from the Homestead Bay site uses the SH6 intersection in the morning peak to have priority over other traffic exiting from the other roads.

9 Subdivision Transport Network Elements

9.1 Transport Network Operating Framework

The subdivision has been developed following assessment of the requirements for a multi-modal transport network. These include:

Walking network:

- Primary walking network available via footpaths and/or shared paths on both sides of almost all streets.
- Secondary pedestrian network supported by low volume shared use streets and lanes, as well as an external trail network within open space areas.

Cycling Network:

- A primary neighbourhood cycle route north-south through the site, in the form of a shared path separated from parking and property. This will connect to a primary route along the northern side of urban development, enabling conflict free connection to Homestead Bay Road.
- A secondary local area residential shared path network to afford additional space, shared with pedestrians, for low-speed cyclists and micro-mobility users. External trails will be within open space areas will also be compatible for cycling.

Public transport network:

- A primary route on the “Spine Road” connecting Homestead Bay Road to SH6, supported by a loop south of the Spine Road to ensure houses are accessible in the southern part of the site.
- Anticipated bus stop locations, that provide certainty of infrastructure provision whilst retaining flexibility for the bus service provider.
- Provision is expected to be made for layover at the commercial area, requiring some bus accessible local streets.

Vehicle Network:

- A hierarchy of road carriageways are proposed.
    - » The primary road network will comprise the Spine Road and Loop Road. These would be generally consistent with a Collector Road function. The Spine Road is likely to have some through traffic in the long term associated with traffic travelling between Homestead Bay to the west, and SH6.
    - » A secondary network of higher order local roads provide for two-way movement at all times.
    - » A tertiary network of lower local roads that support property access, with on-street parking and minimal through traffic function.
    - » A lane network that provides for site access, often with a shared use environment.

Freight network:

- The primary freight network will relate to servicing of the commercial centre, potentially by occasional large truck and trailer and rigid trucks. The anticipated route will be from the SH6 entrance, along the Spine Road, accessing at local streets adjacent to the commercial site, then returning to SH6. Other streets in the subdivision will need to provide design heavy vehicles according to road type and area being accessed, typically being medium ridged truck for residential areas.

This key elements of this network are broadly summarised in a format comparable to a Network Operating Framework Plan, within Figure 9-1 (larger version in **Appendix C**), and detailed further in the following section of this report.

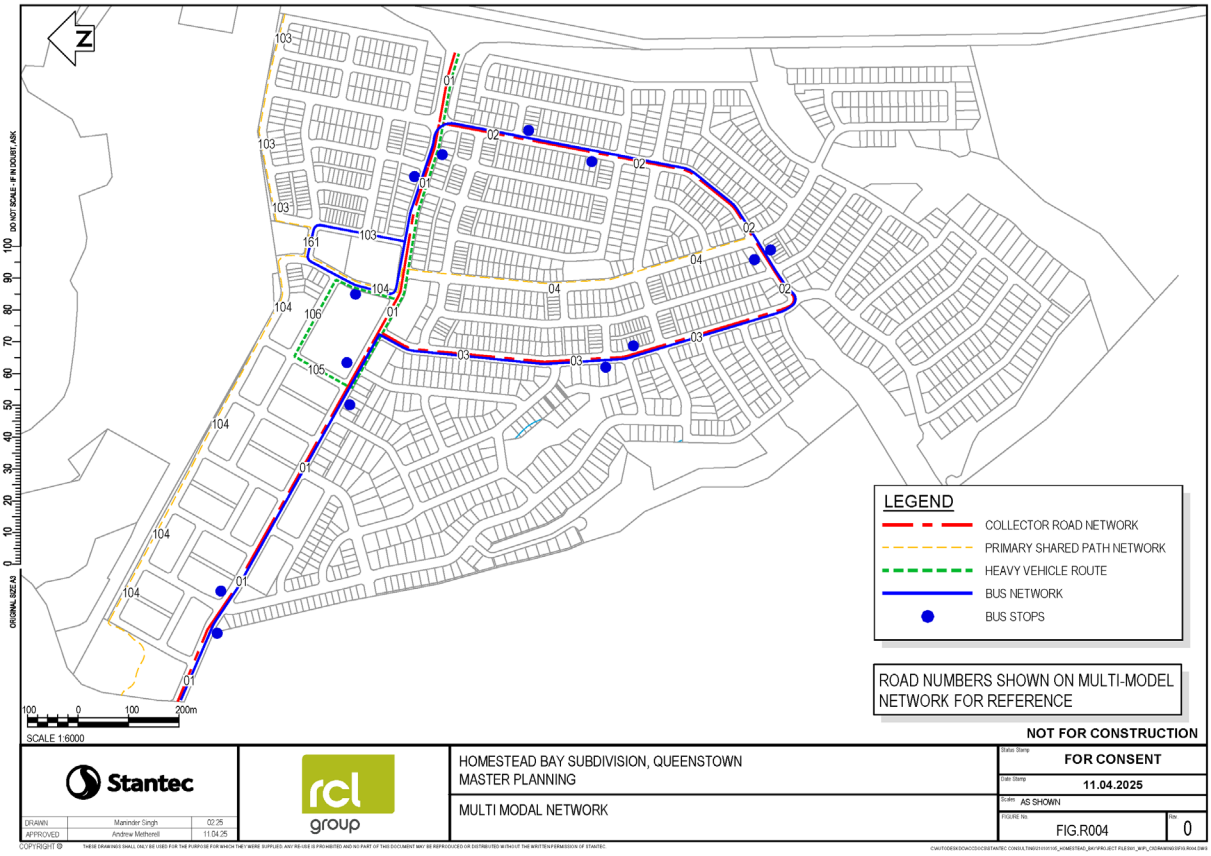


Figure 9-1: Proposed Multi-Modal Transport Network

9.2 Road Connections and Layout

A preliminary analysis of traffic volumes on each road within the development area has been carried out based on indicative traffic generation and distribution analysis. The analysis summarised in Figure 9-2 shows that the highest volumes will be experienced on the primary road network connecting to SH6, past the commercial area, and along the eastern most spine road. This has been developed with some broad assumptions around base trip generation rate, expected long term public transport mode share increases, and allowance for some traffic through the site from future development lots to the west (with allowance for approximately 2,000vpd through traffic). It is quite possible that traffic volumes find a different balance east-west depending on the extent that other activities are provided in the Southern Corridor.

Figure 9-2: Indicative Traffic Volumes on Road Network

From a vehicle movement perspective, the east-west spine road would be considered a collector road in the District Plan road hierarchy context, with the road potentially having indicative traffic volumes as follows (depending on traffic distribution and extent of through traffic, which in this case 2,000vpd is indicated)):

- Spine Road 4,000 vpd to 9,000vpd which would be treated as a Collector Road
  - » SH6 connection: 9,000vpd
  - » Central: 6,000vpd – 7,500vpd
  - » Homestead Bay Road connection: 4,000vpd – 5,000vpd
- Loop Road 500vpd – 5,000vpd which will be treated as Collector Road due to other functions in the multi-modal network
  - » 2000-5000vpd on the northeastern section,
  - » 500vpd – 2,000vpd on the north-western section
  - » Other roads: generally less than 1,000vpd, indicative of local access (Local Road) function.

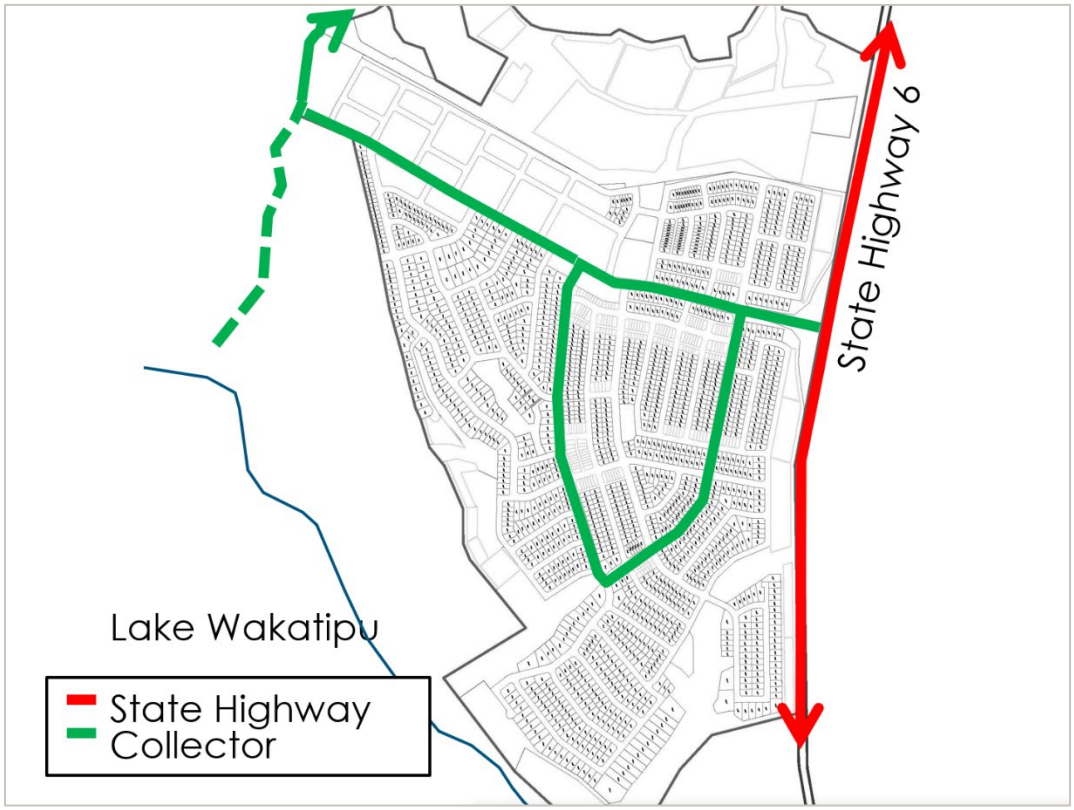


Figure 9-3: Vehicle Movement Hierarchy

The notation of Collector Road as indicated on Figure 9-3 for the spine route between Homestead Bay and Jacks Point (and onwards to Hanley's Farm and Park Ridge) also recognises the importance of that internal connecting road that does not rely on SH6.

9.3 SH6 Access

9.3.1 Number of Access Points

As with other subdivisions in the Southern Corridor, it is important that new development can gain direct access to SH6 to enable efficient vehicle movement beyond the Southern Corridor. Access to SH6 enables vehicle traffic and freight traffic volumes to be minimised on residential roads of adjacent subdivisions and is consistent with the Southern Corridor Network Operating Framework. It will also spread the major turning movements to SH6, noting existing traffic volumes already demonstrate high side road turning movements at both Māori Jack Road and Jack Hanley Road.

Recognising the rural highway function where access and intersections are generally minimised and subject to Limited Access Road requirements, a single point of access to SH6 is proposed for the development. This will be supported by the internal connections to Homestead Bay Road (which connects to Jacks Point).

9.3.2 Form of intersection

The subdivision has made allowance for an offset three-leg roundabout control intersection, as it is a Primary Safe System intersection control for a high-speed environment, is consistent with the expected form of control for other intersections in the Southern Corridor, and can provide for expected traffic demands efficiently. The offset form anticipates no development would occur on the east side of SH6. The concept of the intersection is shown in Figure 9-4.

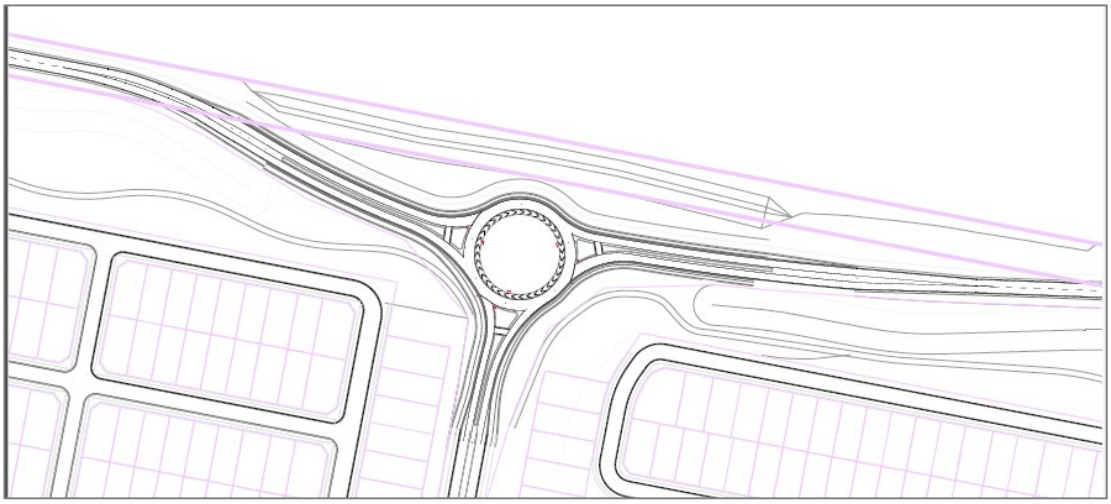


Figure 9-4: SH6 Roundabout Feasibility Design

The design of a new intersection onto SH6 will be subject to a Safe System Assessment through engineering design stages. In the higher speed environment that exists, roundabouts and grade separation are identified in the Austroads Safe System Assessment Framework as a "Primary" Safe System intersection treatment for a higher speed environment.

Whilst grade separation virtually eliminates the exposure to crashes at an intersection, it is very costly and typically used to service large traffic volumes where a roundabout cannot function adequately or is not practical. Compared with priority-controlled intersections, roundabout control reduces speeds of vehicle conflicts thereby reducing severity of crashes.

As set out in the WSP report, it is expected that long term roundabout intersections are likely to be necessary at each of the intersections to the major residential subdivisions in the Southern Corridor, being Māori Jack Road, Jack Hanley Road, and the Coneburn site (existing). The existing intersections have separation of approximately 1.3km to 1.4km. With the Coneburn intersection recently formed as a roundabout, logically any future intersection upgrades on SH6 would also preferably provide a roundabout control as a primary safe system treatment. In the interim, a roundabout located near the southern extent of the Southern Corridor will enable future consideration of a reduction of speed limit on SH6 north of the new intersection to the "safe and appropriate" 80km/h speed limit.

The Homestead Bay intersection will be located near the southern extent of the Southern Corridor where through traffic volumes on SH6 are sufficiently low that a roundabout is not expected to have capacity issues in the foreseeable future. It is considered a roundabout will provide the preferred treatment for this location. There are no formed intersections or major accesses to the eastern side of SH6 alongside the site frontage, and it is assumed at this stage of development planning that land on the eastern side of SH6 will not be available for construction of a roundabout centred on the existing SH6 centreline, and an offset three-leg roundabout will be necessary.

9.3.3 Proposed Location of Intersection

There is limited guidance on separation distance between highway intersections, although the existing major intersections on SH6 in the Southern Corridor are approximately 1.3km to 1.4km apart. The proposed intersection to Homestead Bay located at the NZone access would provide a similar 1.3km separation from Māori Jack Road, and 1.2km from the minor Lakeshore Drive intersection. Strategically, the proposed location will provide drivers a consistent experience as they travel along the network.

The preference from a transport efficiency perspective is to have an intersection at the northern end of development to minimise travel distance. The proposed location provides for this, and as it is on a high point of the highway along the road frontage it also minimises conflicts with natural features such as creeks which would otherwise contribute to higher costs and potential resilience issues.

The summary of potential long term intersection location and control is shown in Figure 9-5.

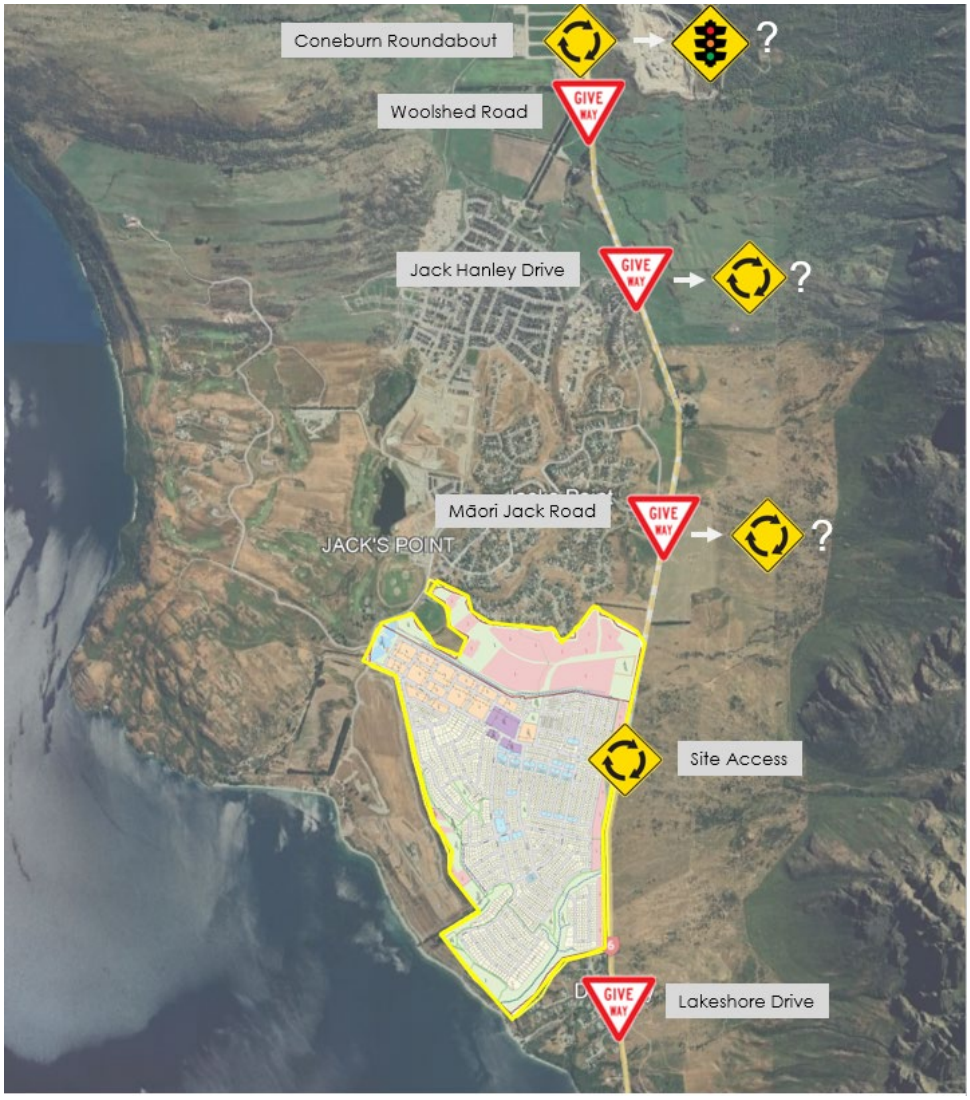


Figure 9-5: SH6 Intersection Controls

9.3.4 Intersection Geometric Considerations

The size of a roundabout is determined by the speed environment and the need to sufficiently slow vehicles approaching the roundabout. Austroads Guide to Road Design Part 4B: Roundabouts indicates that for an approach speed environment of 80km/h or more to a greenfield roundabout, a "desirable" central island radius for the roundabout would be approximately 22m for a single lane roundabout. This is the same as adopted at the Coneburn roundabout.

As the road reserve is 20m wide, the roundabout will be offset into the development area. The offset is further increased by a proposed large scale bund to divert water flow paths from the Remarkables mountain range. The resultant offset is approximately 80m from the centre of the road reserve to the centre of the proposed roundabout. Suitable land area has been made available for that, as well as considering expected bulk earthworks with the level of the roundabout reduced from the existing road level to enable suitable gradient and tie in to the subdivision roading. The proposed location maximises the extent that the roundabout can be constructed off the existing SH6 road carriageway. Approach curvature and sight distances will meet NZTA and Austroads guidance requirements, with a general specification included in **Appendix B**.

It is considered that the feasibility design is conservative in terms of land requirements so that the engineering design can be refined through future design processes.

9.4 Homestead Bay Road Access

Homestead Bay Road is currently a low volume and low speed road (Homestead Bay between Māori Jack Road and Jacks Point Rise has an 85th percentile operating speed of 40km/h). The proposed subdivision provides for the Collector Road (Road 01) within the Site to follow the southern boundary of the Site to intersect with Homestead Bay Road approximately:

- 102m south of Lodge Road, which provides access to large lot dwellings on the west side of Jacks Point, and
- 45m north of the Chief Reko Road private right of way, currently serving 12 residential lots, with potential to access a larger number of lots in the future (subject to subdivision).

The design of intersection will be addressed in detailed design. It is recommended the design operating speed on Homestead Bay Road past the intersection is 30km/h to ensure there is 5 seconds or more of driver time between the proposed Site access road and Chief Reko Road. Whilst the road is already of a slow speed design currently, the speed is likely to be best achieved by provision of a traffic calming device, such as with a raised platform, potentially with pedestrian crossing facility, between the proposed Site and Chief Reko Road. This is considered achievable through future design processes.

An access serving two residential lots is located on the western side of Homestead Bay Road, and would be located at the southern extent of the intersection. It is considered that the low usage of the access will not adversely affect the functionality of the proposed intersection, particularly noting the above recommendation for speed management.

9.5 Public Transport Provision

In order to support wider transport network outcomes, the ability to service the site efficiently by public transport is particularly important.

Bus services are expected to provide the primary means of public transport in the Southern Corridor, although other potential long-term options have been considered by the transport authorities at a high level including a ferry on Lake Wakatipu from Homestead Bay.

This section of the Integrated Transport Assessment investigates how the proposed Subdivision Plan responds to the need for the development to be capable of being well serviced by public transport.

9.5.1 Southern Corridor Network

The Network Operating Framework set out an expectation for a spine service running through the subdivisions from Homestead Bay to Hanley's Farm and Park Ridge, supported by secondary services into Jacks Point and Homestead Bay.

Further work by WSP for RCL suggests that a spine service from Homestead Bay to Hanley Farm and Park Ridge will be the most suitable, with a long-term expectation of 10 to 20 buses per hour in each direction required. It is suggested by WSP that a possible means to service a possible future ferry service and Homestead Bay development is with a split service, recognising that the ferry frequency is likely to be less than the necessary bus frequency. In that scenario, the spine route service would have alternate destinations of either the Homestead Bay development or the Homestead Bay ferry service. WSP also consider it likely that a secondary service providing greater coverage into Jacks Point may be necessary as it would not be efficient to connect the spine route into Jacks Point residential areas. Their indicative map showing the development areas and potential spine route is shown in Figure 9-6 below.

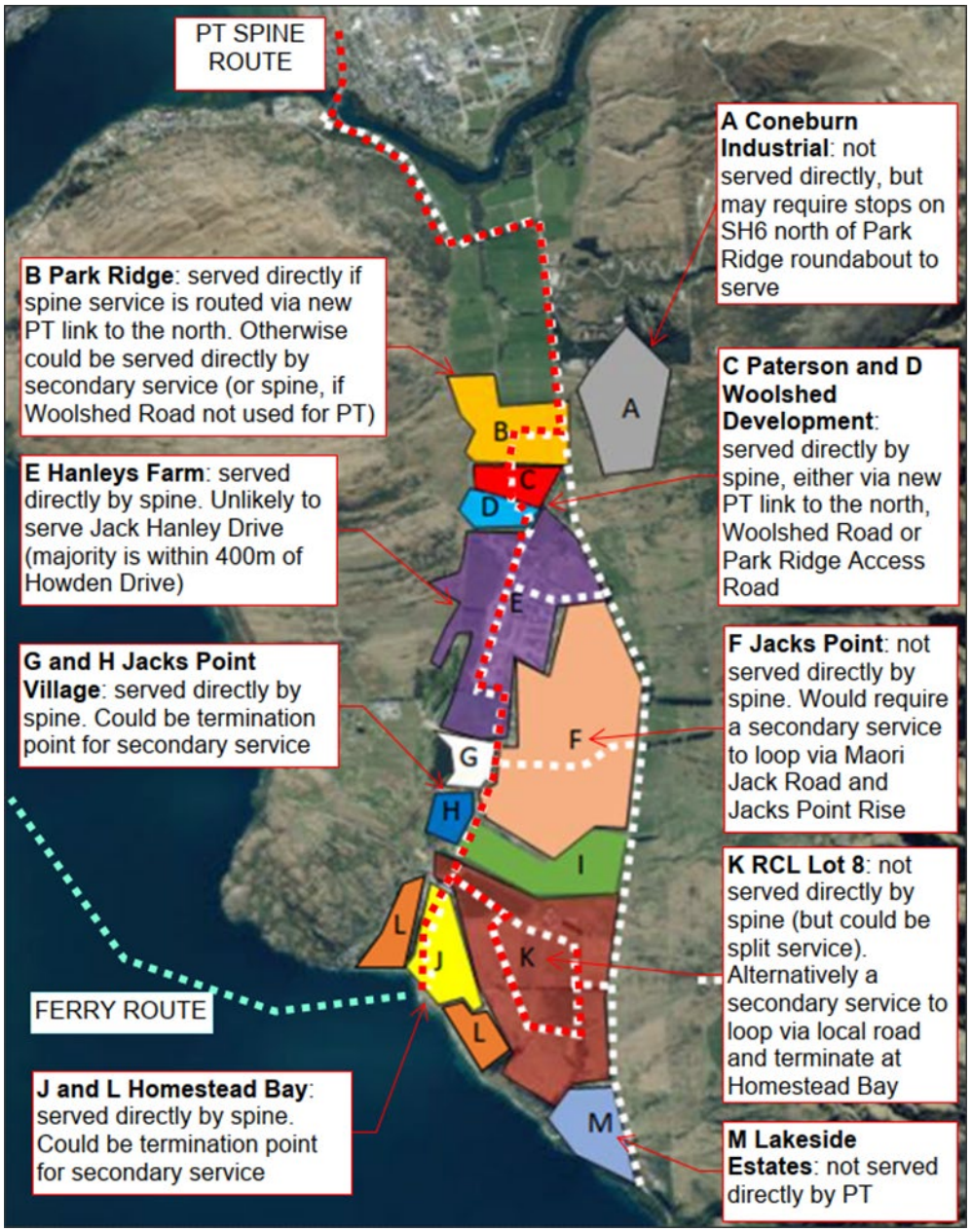


Figure 9-6: Indicative Spine Road Route (WSP Public Transport Report)

Of note, it is understood that there is not a long term plan for future bus routes to continue to use SH6 adjacent to the residential areas in the long term, as they currently do. The use of SH6 would reduce the available catchment and patronage for individual buses, and it is likely that bus priority measures will be provided for the spine road. For the purpose of the ITA, it is considered possible that depending on demand, and capacity of the SH6 route that express bus services could be contemplated, particularly during peak periods recognising that Homestead Bay will have a high population catchment in its own right.

9.5.2 Bus Route Options

The Subdivision movement network proposes roads that will need to be able to accommodate buses. The precise routing will depend on a range of factors including:

- Whether Homestead Bay is a terminus point for bus routes, or whether it forms an intermediate stop within the wider routes.
- The frequency of service, and whether longer walking distances are accepted for higher frequency services.
- The staging of development and dwelling occupancy in the interim ahead of completion of the whole subdivision development

On the first point, the Southern Corridor assessment indicates that Homestead Bay is likely to be a terminus of a direct route to the north. However, closer investigation and consideration of the surrounding area indicates that there is the possibility that if a route traversed through the adjacent Homestead Bay Village, then both areas could be serviced by a single bus route improving access to Site and the Homestead Bay Village future development areas.

NZTA guidance[4] identifies that frequency of services can influence how far people are willing to walk to and from public transport, which is influenced by:

- The level of service of walking facilities including factors such as pedestrian delay, amenity, directness and safety/security.
- The level of service of the public transport, with higher frequency, faster services typically attracting people from a wider catchment than slower, less frequent services.

The Waka Kotahi guidance recommends a standard walking catchment to stops for different levels of public transport service as set out below:

Table 9-1: NZTA Bus Stop Walking Catchment

Walking catchment	For
≤400m or 5min walk	Low frequency public transport stops
≤800m or 10min walk	High frequency public transport stops (a service at least every 15min)
≤1200m or 15min walk	High frequency and rapid public transport stops or stations

An analysis of four potential public transport route options has been carried out for the Subdivision Plan layout for Homestead Bay. The diagrams in Figure 9-7 show the indicative route, approximate 400m walk catchments (indicatively based on a 300m radius to reflect the walking distance does not match crow fly distance), and possible bus stop locations to maximise catchment. The assessment comments describe the calculated proportion of households within Homestead Bay that can be captured within the 400m or 800m walk distance catchments.

Three of the options assessed terminate at the commercial centre. It is well recognised that it is difficult to provide for layovers between trips in lower density suburban areas. Layovers are essential for reliability and providing for (required) driver break requirements and should be planned for. The presence of buses waiting on street in residential areas is often a concern for those living in low density residential dwellings, even with electric buses. Buses on a layover between services are more accepted in town centres, even those with a high degree of residential, and it is also easier to provide driver amenities in those situations. To try and address some of these issues, Option 4 which does not terminate at the commercial centre would therefore require some additional driver amenity facilities in the residential area, such as adjacent to a community park. These are not proposed to be provided on the route.

[4] https://www.nzta.govt.nz/walking-cycling-and-public-transport/public-transport/public-transport-design-guidance/getting-to-and-from-public-transport/walking/

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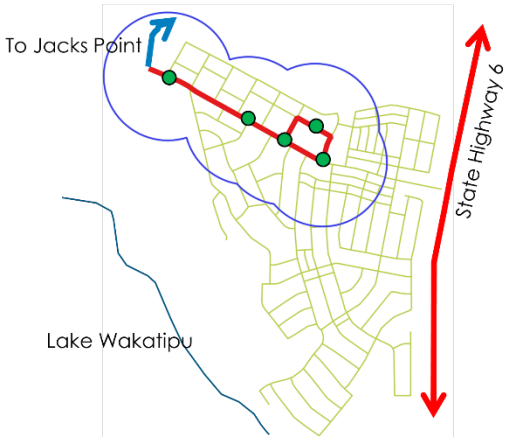
<td> 
</td>
<td><u>Option 1: Direct Route to Commercial</u>

✓ Minimal route distance for those travelling from Homestead Bay to the north

× Low coverage of Homestead Bay

× Less efficient to integrate with Homestead Bay Village and ferry in future

Internal Route Distance: 2.0km
Coverage of Homestead Bay households:
• 400m walk to bus stop: 47%
• 800m walk to bus stop: 76%
Northern part of future Lot 13 / Homestead Bay village development could be within 800m of a bus stop</td>
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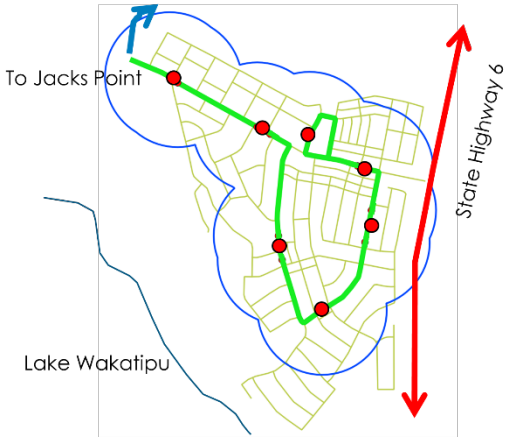
<td> 
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<td><u>Option 2: Maximum Coverage</u>

✓ High coverage of Homestead Bay

✓ Moderate change in route distance for those travelling from Homestead Bay to the north

× Less efficient to integrate with Homestead Bay Village and ferry in future

Internal Route Distance: 4.3km
Coverage of Homestead Bay households:
• 400m walk to bus stop: 88%
• 800m walk to bus stop: 100%
Northern and western part of future Lot 13 / Homestead Bay village development could be within 800m of a bus stop</td>
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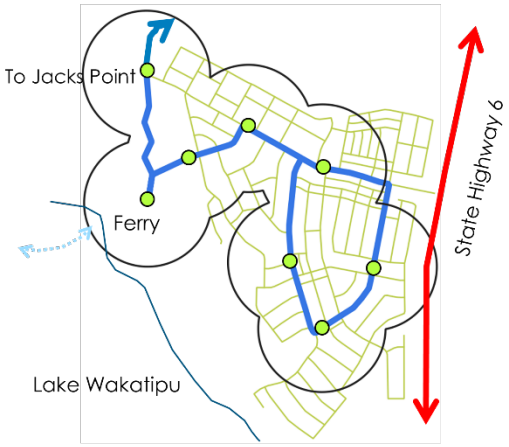
<td> 
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<td><u>Option 3: Integration with Lot 13 and Potential Ferry</u>

✓ High coverage of Homestead Bay

✓ Access to Lot 13 / Homestead Bay Village and ferry supports extra utilisation of bus services

✓ Reduces need for a split service between the ferry and Homestead Bay

× Longer route distance for those travelling from Homestead Bay to the north

Internal Route Distance: 5.2km (including 500m divert to/from Ferry)
Coverage of Homestead Bay households:
• 400m walk to bus stop: 84 %
• 800m walk to bus stop: 100%
Most of future Lot 13 / Homestead Bay village development could be within 800m of a bus stop.</td>
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<td><u>Option 4: Termination in Residential Area</u>

✓ High coverage of Homestead Bay</td>
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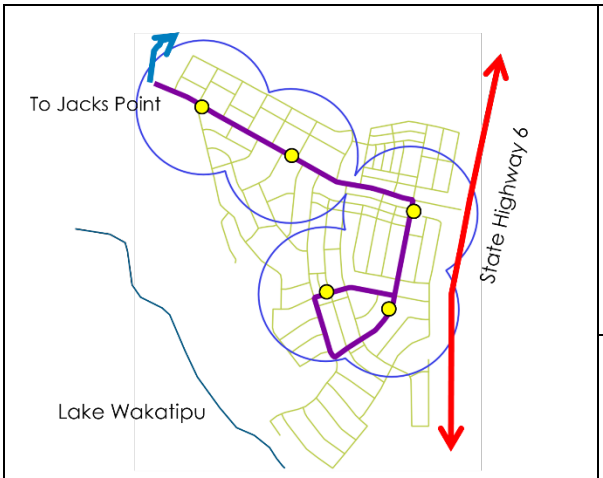
	✓ *Direct route to commercial area* ✓ *Retains flexibility to connect ferry and commercial areas efficiently* × *Operational requirements would generate need for facilities to support bus termination point in residential area* *Longer route distance for those travelling from Homestead Bay to the north*
	Route Distance: 4.3km: • 400m walk to bus stop: 80% • 800m walk to bus stop: 97% Northern and western part of future Lot 12 / Homestead Bay village development could potentially be within 800m of a bus stop

Figure 9-7: Bus Route Option Assessment

The assessment shows that a range of options to operate the bus services will be available with protection of a primary network of bus compatible streets. There is an expectation that buses will be able to terminate at or near the commercial area whilst also providing convenient access to the higher density parts of the development.

At this stage, Option 2 is considered most desirable from an accessibility perspective. Nevertheless it is considered that routes 1 and 3 have specific benefits that should be protected through road design at the time of subdivision.

Option 4 has not been progressed in the subdivision road design as there is no clear option for driver facilities, and it requires additional routing on local roads where priority for lower speed roads is necessary.

The proposed Spine and Loop Road network maintains that flexibility and further consideration can be given to options at by bus service providers as the detailed design progresses. By that time, greater clarity on future public transport options (as a result of the public transport business case) for the Southern Corridor should be known.

The Subdivision plan responds to this assessment by providing suitable road carriageway width on these roads.

9.5.3 Bus Stops

Bus stop infrastructure is a matter for consideration as part of subdivision. The current QLDC Land Development and Subdivision Code of Practice (2020) requires bus stops to be provided on connector/collector roads in accordance with the Council direction, and consultation with the regional transport authority.

Bus stops are to be designed in accordance with Auckland Transport Code of Practice Chapter 20: Public Transport – Buses, 2017, and the QLDC Bus Stop Policy and Standards, 2020. In addition, with the publishing of Waka Kotahi Public Transport Network Guidance it is expected some reference to those provisions will be necessary in design.

The expected bus route and bus stop provision is shown in Figure 9-8 (larger version in **Appendix C**).

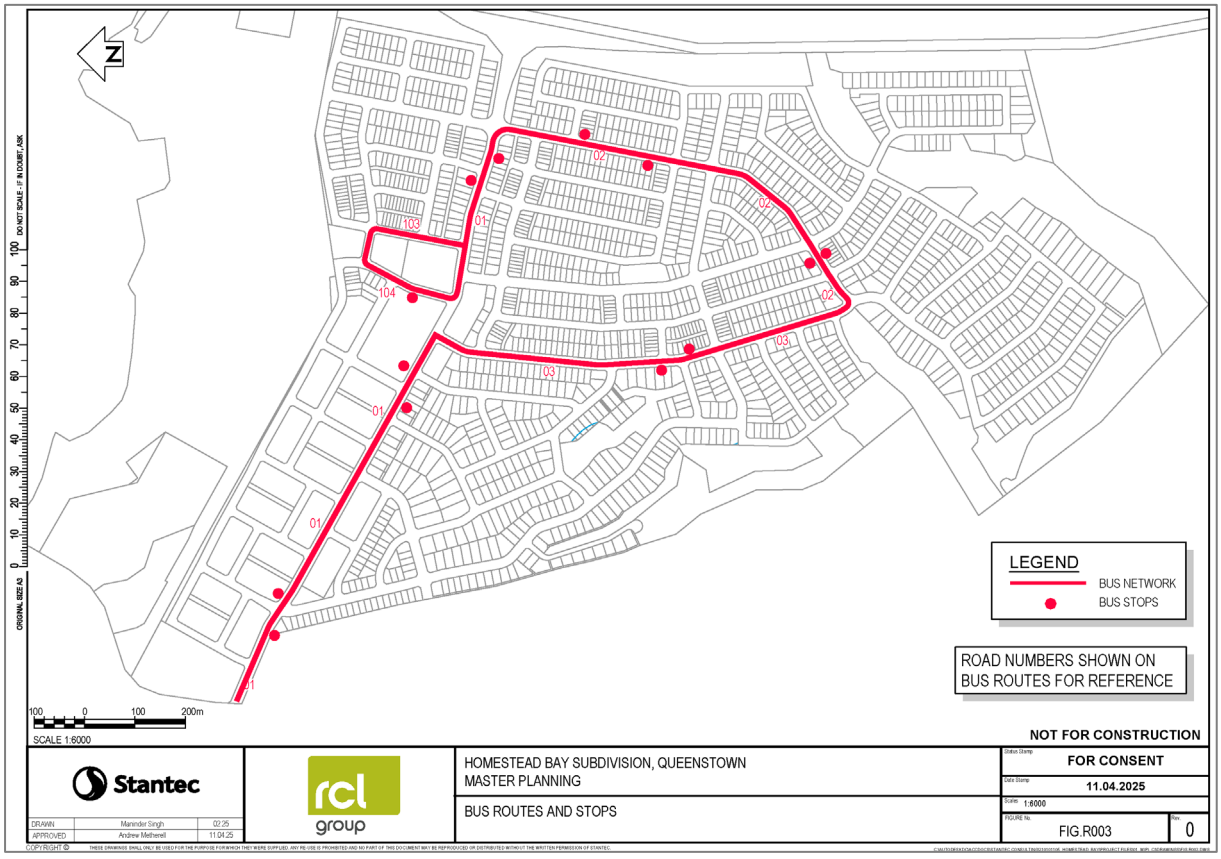


Figure 9-8: Bus Route and Bus Stops

The WSP transport analysis reporting has indicated that the length of bus could be longer than currently used in the Queenstown network. If, for example, an articulated bus was considered, the bus length increases from 13.5m long to 18.5m long. That can impact the design of intersections in the road network. This will be a matter for detailed design consideration.

From a subdivision road network perspective, the highly connected road network maximises the walkable catchment to bus stops and thereby reduces the need for additional bus stops.

The Subdivision plan responds to these considerations by positioning, where practical, bus stops where there is least conflict with vehicle crossings, and anticipates a full width 2.7m wide stop (which may be marked at 2.5m width). There will be some locations where the vehicle crossings will generate some overlap with bus stops, particularly in low density residential areas.

9.5.4 Ferry

There have been previous investigations of the potential for a ferry to service the Homestead Bay area, likely to/from the Steamer Wharf in Queenstown. Services have previously been tested in the Queenstown Transport Business Case work, and demand was not considered sufficient. The draft Regional Public Transport Plan indicates a ferry as a possibility to service the Homestead Bay area as a result of expected landuse density in the Southern Corridor

WSP previously carried out modelling that indicates peak hour mode share to and from Queenstown Town Centre of up to close to 30% may be possible. This would equate to up to approximately 100-240 passengers per hour in the peak direction in the long term. As the majority of trips to/from the Southern Corridor will be to other destinations, this will be equivalent to reducing the car mode share across the Kawarau River bridge by approximately 5-10%.

The Homestead Bay site could connect to a ferry terminal if that eventuates in the future in a range of ways:

- Walking access: if direct connections are available, approximately 40% of the residential dwellings in the Site would be within a 15-minute walk distance of the site, as indicated by Figure 9-9.
- Cycling: All of the dwellings in the Site can be within approximately 2km to 3km (depending on connections available) of the terminal, with an elevation difference of up to approximately 80m. Most of the development is expected to be within approximately 15 minutes cycle time of a ferry terminal even if direct connections through Homestead Bay Village are not available. E-bikes would make the distance even less of a barrier. Access could be supported with a cycle route along the lake front, and connections across the Homestead Bay Village (lot 13) development area.
- Bus connections: The current public transport service investigations indicate that a split spine road service may be considered to service Homestead Bay and the ferry independently. That would require a 750m walk from the development spine road along Homestead Bay Road, which is likely to have limited attractiveness of using the bus as an initial connection. The bus service analysis indicates that the optimal outcome to maximise access to the ferry would be if a bus service travelled through the adjacent Lot 12 / Homestead Bay Village site, enabling either a direct connection to a ferry stop, or a short walk from the bus to the ferry.
- Drive (Park n Ride): Whilst other mode options are available, driving to the ferry stop is also likely, and may be required to maximise patronage. This would require some parking area to be made available near the ferry terminal. For the Site, a road connection through the Lot 12 / Homestead Bay Village site would be desirable to minimise travel distance.

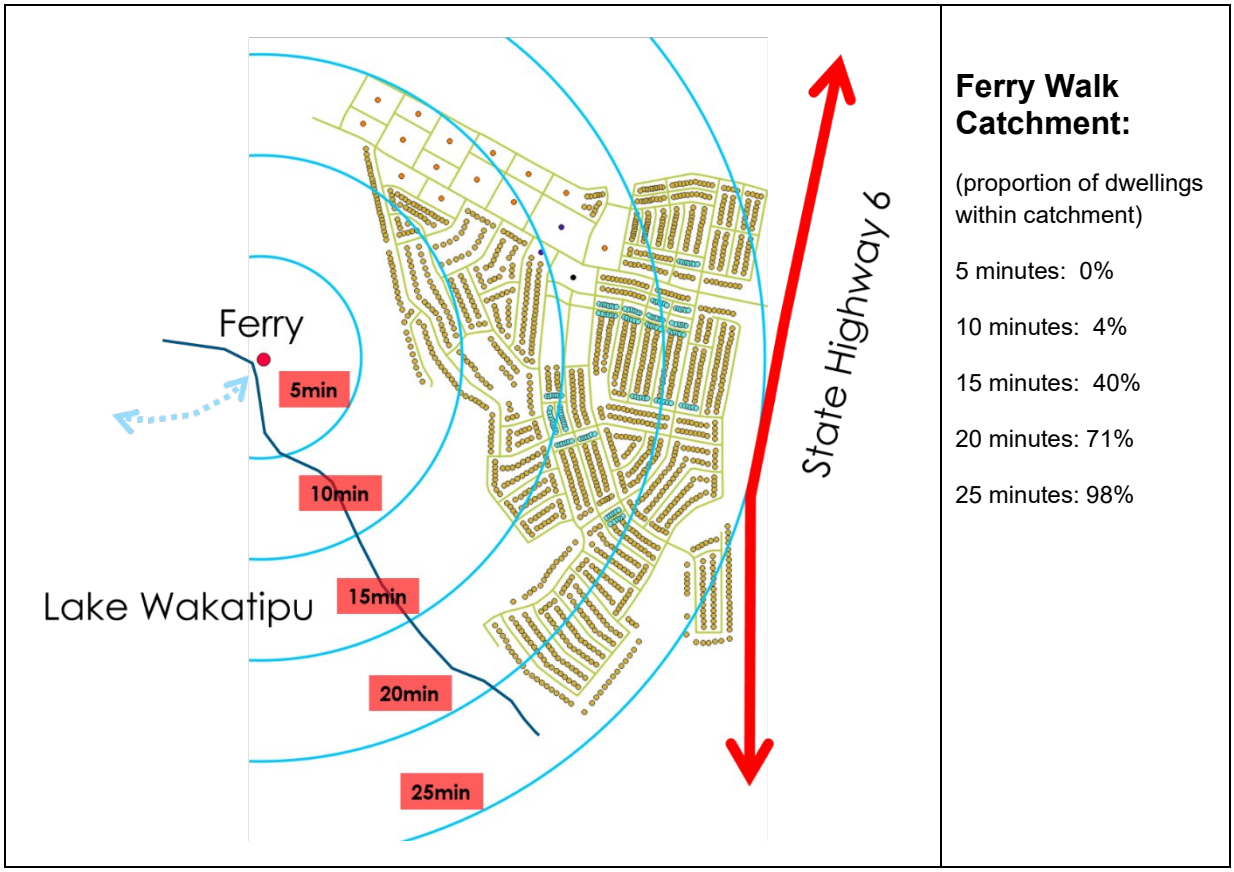


Figure 9-9: Indicative Walk Distance to Potential Ferry (Long Term)

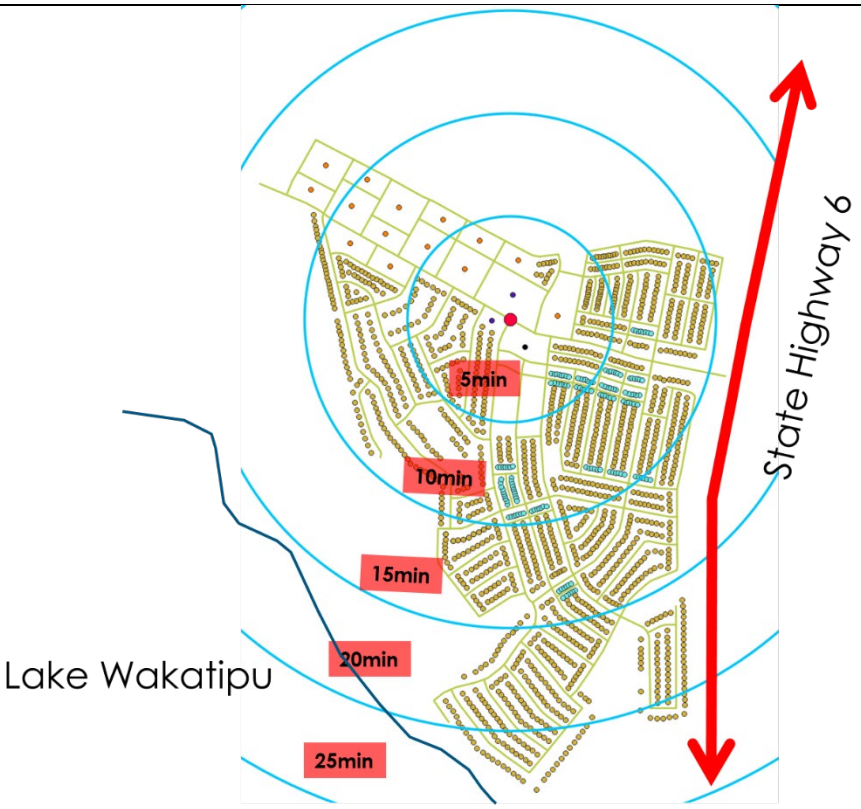
9.6 Accessibility of Non-Residential Uses

The Homestead Bay site proposes a local commercial centre and school in the central northern part of the site.

An analysis has been carried out to consider the approximate walking catchments to the local commercial centre and school land uses. The assessment has calculated the estimated number of

dwellings within the site within 5-minute walking bands, based on a crow fly distance band of 300m representing approximately 5 minutes or 400m walking distance in a connected street network.

Figure 9-10 shows that it is forecast that approximately 80-95% of dwellings will be within a 15-minute walk distance of these primary non-residential landuses.



Commercial Centre Walk Catchment:

(proportion of dwellings within catchment)

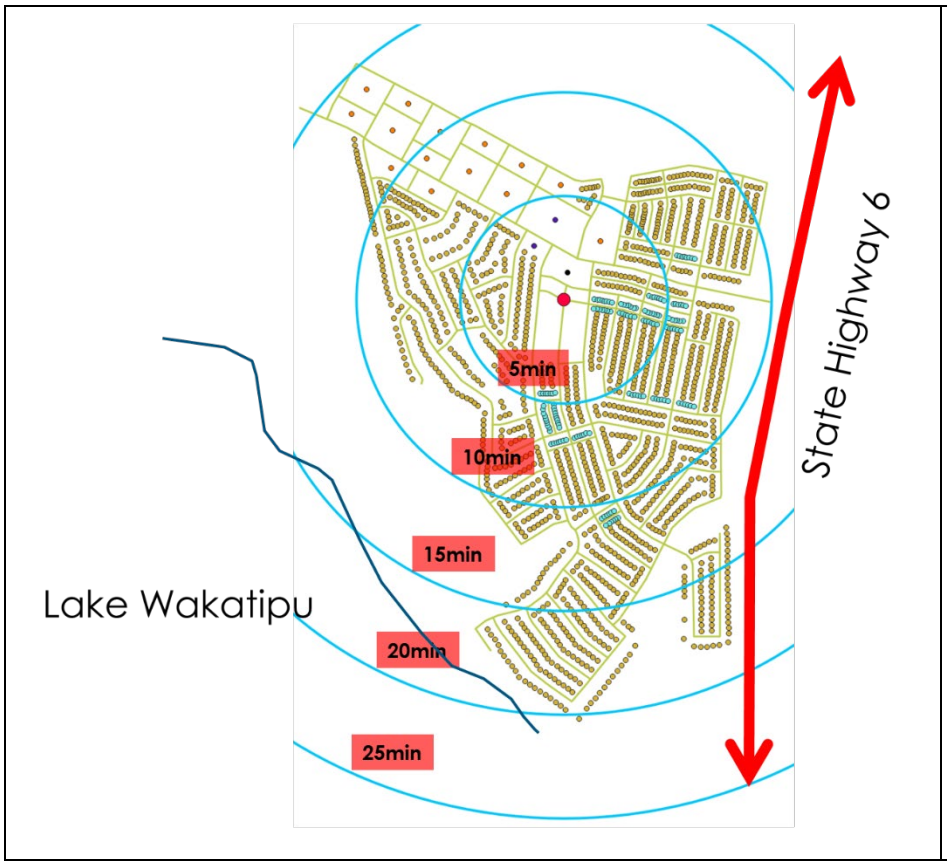
5 minutes: 21%

10 minutes: 69%

15 minutes: 88%

20 minutes: 98 %

25 minutes: 100 %



School Walk Catchment:

(proportion of dwellings within catchment)

5 minutes: 20%

10 minutes: 69%

15 minutes: 93%

20 minutes: 100%

25 minutes: 100%

Figure 9-10: Indicative Walk Distances to Non-Residential Landuse

It is considered the commercial centre and school will be within reasonable cycling distance of all dwellings within the site, with maximum cycling distances of approximately 1.7km from the most southern dwellings to the northern part of the commercial centre.

9.7 Cycle Routes

Cycling is likely to provide for three trip types within the site:

- Short neighbourhood trips within the Homestead Bay community, particularly for trips where walking may be seen to be less desirable due to distance. This would include for trips to the commercial centre and school. The Subdivision Plan proposes short neighbourhood trips are provided for by a network of shared paths, connected low volume streets, and potentially 'greenway' traffic calmed streets.
- Recreational trips within and potentially beyond the wider Southern Corridor. This would likely connect to the recreational trails that already exist (for example within Jacks Point) or that may be developed in the future. These will most likely be accessed via Homestead Bay Road to the north. Recreational trips will typically be carried out on a trail network removed from residential access and traffic, and where travel distance is less of a consideration. The Subdivision Plan has proposed a network of trails within and through open space around the perimeter of the site, which will be linked to by low volume residential roads and the shared path network.
- Longer distance commuter / education trips, including between neighbourhoods in the Southern Corridor and further afield to Frankton. These are also expected to be accessed via Homestead Bay Road, or potentially a route close to SH6. Longer distance trips are likely to be carried out by more experienced cyclists, where routes of least distance are preferred. For many, the central north-south route will be accessible and provides a route separated from boundaries where a higher speed can be achieved, connecting to the east-west route at the north of the site where higher

speed can also be achieved. Otherwise, the road network has been designed to support speeds that as far as practicable are compatible with shared movement

The network for cyclists is shown in Figure 9-11 (larger version in **Appendix C**), providing for these trip types. The two types of facility shown are:

- Primary shared path cycle corridors: This will provide a high level of delineation and protection for cyclists, separated from higher volume streets. The proposed cycle path will have increased separation from property boundaries. It is expected that through detailed design intersections will be crossed in a way that supports efficient and safe cycle movement, including consideration of raised treatments. This will provide for the direct routes within the site and to the Homestead Bay Road corridor supporting local and wide area access.
- Secondary shared path cycle paths: These routes provide a network of lower speed shared paths, on desire lines that will likely generate lower volumes of local movement, such as children and families accessing the school and commercial area, or trips within the neighbourhood. The network is continuous through the development.

In addition, there is a planned network of trails around the site within the open space areas, and these will connect into the internal network. It is expected that some of the connections will provide for cyclist movement.

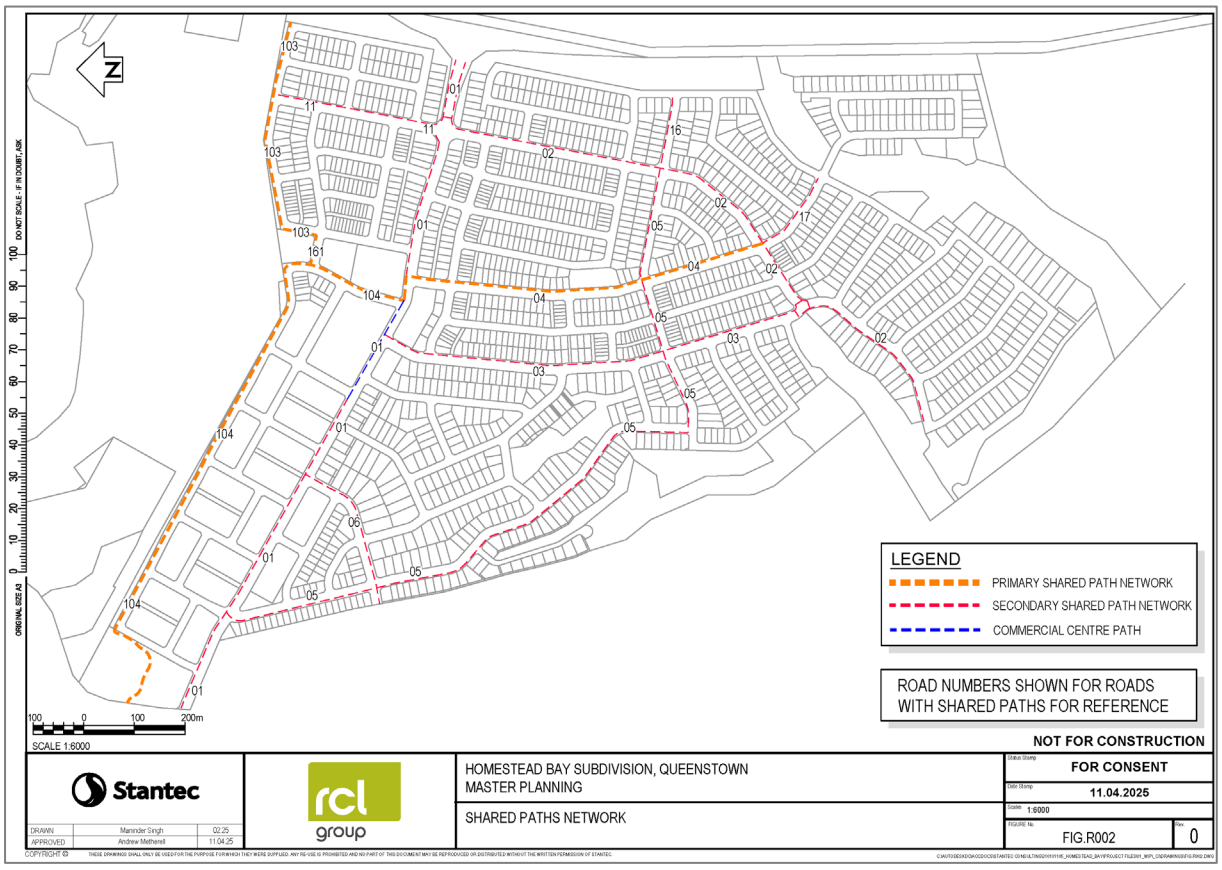


Figure 9-11: Indicative Cycle Network

9.8 Walking Connections

The site roading network provides a highly connected network of streets, which will enable walking trips to be made on direct routes within and beyond the development. Footpaths are provided to support walking accessibility throughout the Site.

As described in section 9.6 of this report, some sections of the development are located beyond a 15-minute walk from the local commercial centre and schools. The primary cycle corridor is proposed north-south through the development, and that also supports a higher standard pedestrian facility.

10 Road Design Statement

10.1 Overview

The multi-modal movement networks have been considered alongside the place context associated with the differing landuse within the site to support a network of multi-layered road cross-sections. The high-level movement principles of the subdivision network give consideration to the typical requirements of the QLDC Code of Practice (COP), whilst recognising that the specific requirements for this subdivision do not always support strict adherence.

These road cross-sections comprise of:

- Road carriageway widths, informed by: movement function, traffic volume, car parking, bus network and adjacent land use.
- Footpath and shared path network, informed by: cycle movement function, layer and different standards for expected use by land use.
- Landscape, amenity and provision for services.

10.2 Road Carriageway Widths

The road carriageway widths are informed by considering the relationship between movement functions such as traffic volume, desired operating speed, car parking, bus network requirements, and heavy vehicle requirements, all while considering the adjacent landuse environment, purpose and function of the road.

Figure 10-1 (larger version in **Appendix C**) shows the road carriageway width applied to the road cross-sections across the internal street network. The following section of this report describes the design rationale for these widths.

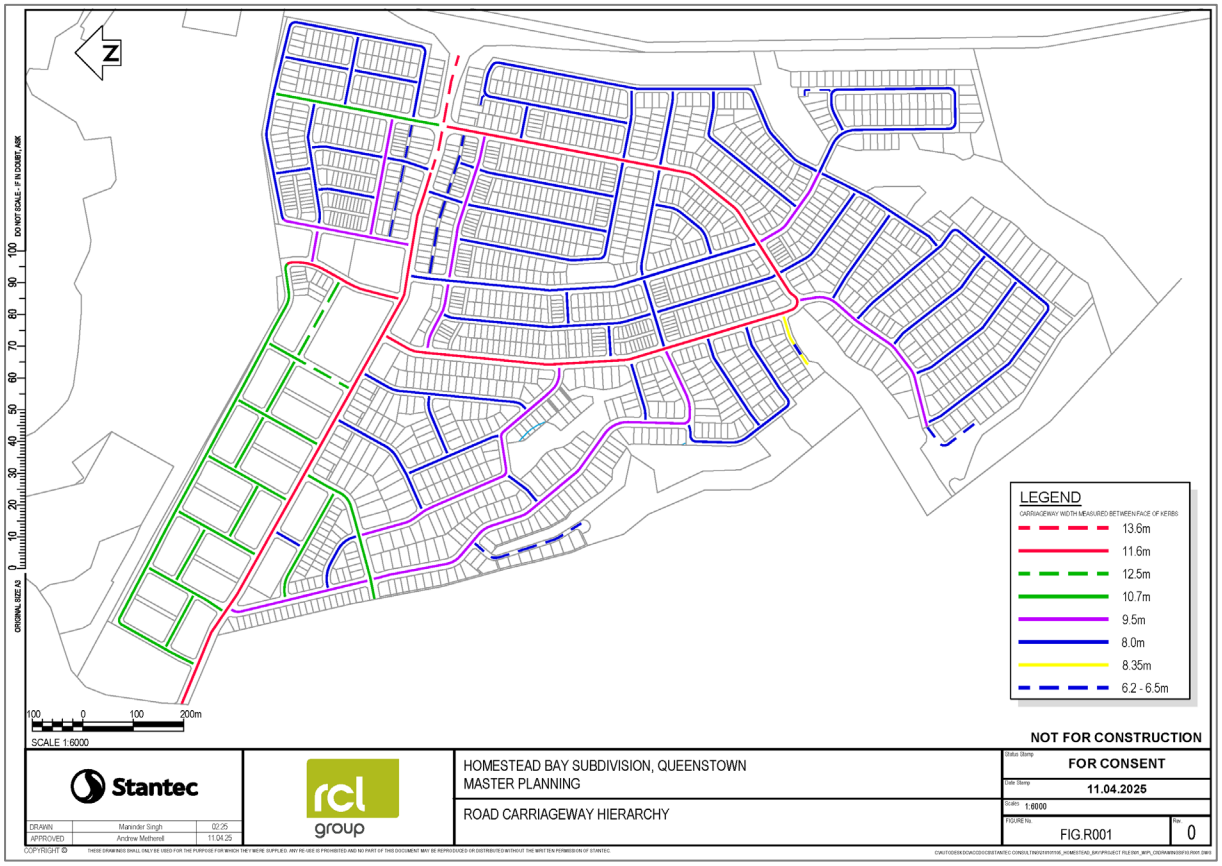


Figure 10-1: Road Carriageway Width Hierarchy

10.2.1 Indicative Traffic Volumes

The volume of traffic expected on each of the subdivision roads has been assessed as previously described. Further detail of the traffic patterns have been considered for initial assessment of road carriageway elements, and a colour-coded bandwidth with the indicative daily traffic forecast is shown in Figure 10-2.

Figure 10-2:Vehicle Movement Diagram

Generally, the QLDC COP defines approximate traffic volumes and widths as follows for an Urban residential road.

- lane at 200vpd; 2.75m-3.00m or 5.5 m – 5.7m width
- a local road at 2,000vpd; 5.5 m – 5.7m width
- a collector road at 8,000vpd; 8.4m width (4.2m lane in each direction)

In addition, it enables alternative traffic lane widths to suit particular design considerations.

10.2.2 Bus Provision

The proposed bus route for the subdivision was previously outlined in Section 9.4.2, and primarily occurs on Collector Roads. A base two way traffic carriageway width of 6.6m (3.3m lane in each direction) has been applied for accommodating buses passing each other on a Collector Road at

speeds commensurate with the residential neighbourhood environment. The combined width 6.6m width supports the following:

- 0.3m Clearance to parking bay
- 2.5m Bus width
- 1.0m Indicative clearance for passing buses
- 2.5m Bus width
- 0.3m Clearance to parking bay

Bus parking is expected to be dimensioned at 2.7m width. As discussed later, a standard parking bay will be 2.5m wide, so the bus bay will slightly extend into the traffic lane, reducing the lane effective width to 3.1m at the bus stop.

10.2.3 Heavy Vehicle Access

The heavy vehicle routes within the site primarily relate to:

- the bus routes, accommodating a city bus, and potentially longer term an articulated bus.
- access from SH6 to the commercial centre by medium rigid trucks, and occasional large rigid trucks or articulated vehicles.
- access to residential areas by small rigid trucks on a daily basis, and medium rigid trucks occasionally (e.g. refuse trucks and fire engine)

The proposed design vehicle by road is set out in Figure 10-3 (larger version in **Appendix C**).

It is noted that the QLDC COP includes a higher standard requirement for provision of heavy vehicles. The COP necessarily establishes broad criteria for the multitude of potential subdivision road networks. In this case, a considered approach to the type of vehicles that will use low volume residential streets has been taken, resulting in the design vehicles proposed as typical. It is noted that as detailed design is carried out on the roads and intersections, these will be considered further, and there is flexibility in road boundaries to make localised adjustments for vehicle tracking.

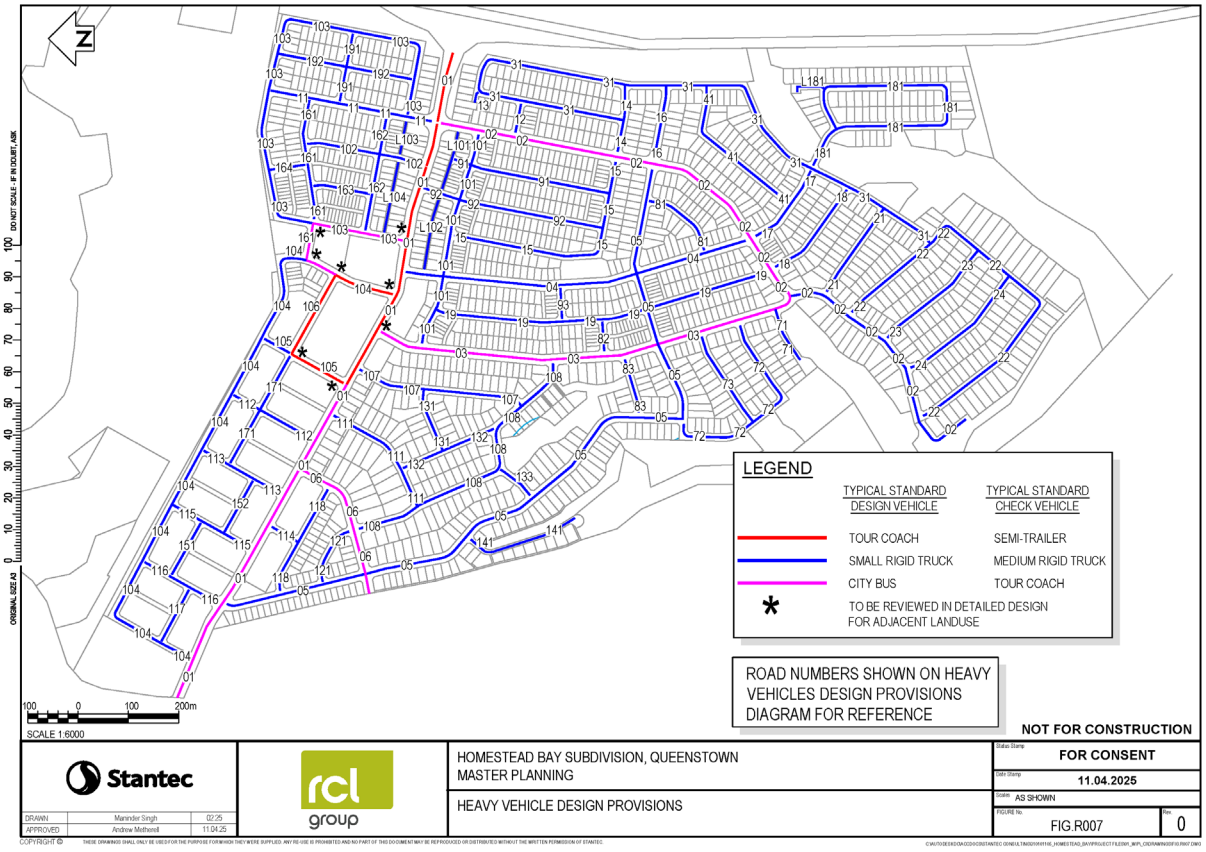


Figure 10-3: Heavy Vehicle Design Provisions

10.2.4 Kerbside Side Car Parking

The QLDC COP (3.3.1.3, 3.3.6) defines parking bay widths at 2.1m to 2.5m width, and 5.4 to 6.0m length. For the purpose of cross-section development, a width of 2.5m has been adopted. On the Collector Roads this will generate a total carriageway width of 11.6m when added to the 6.6m required for buses.

Whereas narrower parking lane widths are supportive of effective parking practice (close to the kerb), the presence of slightly narrower traffic lanes than a full width (3.5m) traffic lane warrants some additional clearance to parked cars (i.e. only the traffic lane is at a minimum). The width also supports flexibility for different situations of providing parking bays, or a more standard continuous kerb (as has generally been adopted at Hanley's Farm).

10.2.5 Landscaped Median

A landscape median is proposed on the entry to the site from SH6. Provision is made for that to be 2.0m wide. No specific provision is made for u-turns around the end of the median as no property access is proposed onto the road at the locations it will be used. Where that is proposed, the road carriageway will be 13.6m wide (instead of 11.6m wide)

10.2.6 Cycle Provision

Shared Paths

The cycle network is focused on separating cyclists from vehicle lanes on the streets, with the use of a shared path network outside the road carriageway. This form of cycle network using shared path,

supplemented by “greenways” where necessary, is considered most suitable, and is typical of residential subdivisions in the Wakatipu Basin. It is flexible to the accommodation of vehicle access and kerbside parking demand, and the generally lower traffic volumes on the street network.

Whilst separated cycleways (QLDC COP 3.3.11.2) were considered during development of the cross-sections, it considered these are less compatible with the type of predominantly suburban residential environment. The infrastructure provision outside the road carriageway is described in Section 10.3.

On Street – Shared Use of Road Carriageway

No specific cycle facilities are proposed on street within the road carriageway. With the cycle network being outside the carriageway in the form of shared paths, to support management of operating speed, the design approach where cyclists are on street is that they will share the lane. On the collector road network the 3.3m wide traffic lane will support guidance that a shared lane is “narrow“ and sits between 3.0m and 3.3m.

It is acknowledged that the QLDC COP provides for a 4.2m wide traffic lane on a collector road. This width provides a wide kerbside lane that can enable a vehicle to pass a cyclist in lane with an absolute minimum combined width. However, by comparison a typical combined collector road that supports cyclists on road (e.g. within a cycle lane) would typically be approximately 5.0m wide. The 4.2m width in the proposed context is considered too wide for general traffic, and too narrow for directly supporting cycling on the road carriageway. As with later stages of Hanley Farm, it has therefore not been adopted.

In practice, some streets will be more easily shared than others at Homestead Bay as a result of gradient and traffic volume. A desired commuter cyclist speed of approximately 25km/h can be anticipated on level grade. Where gradients are downhill, higher speeds can be anticipated by cyclists choosing to use the road and sharing of the traffic lane will have minimal effect on other traffic. On uphill gradients, the speeds reduce, and use of the shared path network will become more attractive to minimise conflict with following vehicles.

Greenway

It is expected that through detailed design stages, consideration will be given to cyclist speed on street and greenway treatments such as raised speed platforms / humps to manage vehicle speed could be considered, as can the use of cycle sharrow symbols.

10.2.7 Commercial Area Streets

Commercial Area Collector Road

The main street commercial area is proposed to be a slow speed environment that supports pedestrians crossing the road. As with the residential collector road layout, the same 3.3m wide traffic lanes and 2.5m wide parking lane is proposed, resulting in a 11.6m wide carriageway. It is expected that a higher level of use of indented parking or parking bays would be considered, as is common on a town centre main street. Landscaping would typically be mixed with parking. Indicative photos of comparable roads are set out in Figure 10-4 and Figure 10-5.

Figure 10-4: Tennyson Street (Rolleston) Source: Google Earth

Figure 10-5: Central Street (Five Mile)

Commercial Area Local Road

To support servicing of the commercial area, local roads have been allocated additional width in the traffic lanes. This is a bespoke consideration based on initial vehicle tracking considerations at access and intersections serving expected high trip generating activity. Parking is allowed for on each side of the road.

10.2.8 High Density Residential Streets

The high density residential streets are planned to have additional streetscape provision, with landscaping alternating with parking bays. On those streets, the COP cross-section is proposed, with 5.7m traffic carriageway, and 2.5m parking bays / landscaping either side. That generates a total width of 10.7m width. Car parking demand will need to be met to a higher degree on-site. A comparable type of street carriageway is Hall Street in Frankton, as shown in Figure 10-6.

Figure 10-6: Hall Street – High Density Street

10.2.9 Local Residential Streets

NZS4404:2010 and the QLDC COP support consideration of alternative road cross-sections. On a local residential street, strict adherence to the building blocks in the COP can in some cases lead to very wide roads relative to traffic function, or streets where parking bays become ineffective due to the number of vehicle crossings.

Hanley's Farm has been developed with numerous streets that apply alternative cross-sections, most commonly 7.9m kerb to kerb, and that has been used as a basis for developing the local road residential carriageway for the Site.

The QLDC COP at C3.3.1 discusses three carriageway types that provide flexibility for parking on street whilst supporting the residual property access and local movement function. These are broadly:

- 5.5m-5.7m that supports parking on one side of the road, with a residual through traffic lane. This has not been adopted in the proposed subdivision.
- 7.2m-7.5m that supports either two parked cars and one through movement, or one parked car and two through movements. A variation of this has been applied at Homestead Bay, being 8.0m wide (kerb face to kerb face).
- 9.0m-9.5m providing the ability to have two through traffic lanes and two parking lanes. 9.5m width has been applied at Homestead Bay, which is at the upper limit reflective of high parking demand.

Instead of 7.2m-7.5m an 8m carriageway has been implemented based on the experience of the 7.9m (kerb to kerb) design applied at Hanley Farm. This provides a small amount of additional width to support safe manoeuvring and movement. This sits in a range that the COP states should be avoided (being between 7.5m and 9.0m) due to confusion between movement and parking functions. Whilst that may be the case in low parking demand streets, where heavy parking demand exists it becomes clear that the road does not support two traffic lanes and a single movement lane is obvious (i.e. there is no confusion). Typical road speeds of this type of road are approximately 30km/h.

By way of example, the standard Hanley's Farm road cross-section at approximately 7.9m wide kerb to kerb, has enabled maximising flexibility of parking supply on-street, and vehicle crossing provision recognising that in current conditions housing has generated on-street parking at high levels. A typical evening parking demand on street is indicated in Figure 10-7, with parking space highly utilised both sides and a single lane supporting two-way traffic through yield behaviour. In some cases, this has required additional sections of no-stopping line for passing. It is considered that 8.0m can be supported

to provide a small level of additional comfort to the cross-section. In other Districts (such as Selwyn District) 8.0m is widely utilised without concern.

Figure 10-7: Plough Street (Hanley's Farm)

The 9.5m wide road has been adopted for streets with similar characteristics to streets with the 8.0m width. The additional width is applied on roads that either collect other local streets, or are of a longer length. Experience at Hanley's Farm indicates that some slightly higher order residential streets would be beneficial and supportive of movement through the network with less yielding behaviour necessary where there is high level of kerb-side parking on both sides of the road. A full parking bay / lane with 5.5m-5.7m movement lanes (total width 10.5m – 10.7m) is not considered to be justified as would be anticipated by the standard cross-section of the QLDC COP.

The 9.0-9.5m width (example shown in Figure 10-8) is a traditional residential street width, and the upper end of this enables cars to pass each other with slightly more clearance, which is also beneficial for the likes of refuse collection, emergency service access, and cyclist accessing property. No defined parking bays are proposed, as the density of housing and vehicle access will limit their effectiveness. Longer roads of this width may require some traffic calming measures to reduce vehicle speeds at times of day with lower parking demand, as the width of road does not fully impede a drivers speed (although the length of road is a factor in reducing speeds). Such traffic calming may be provided by either physically slowing vehicles or creating the perception of a narrower carriageway.

Figure 10-8: 9.5m wide carriageway at time of low parking demand (Source Google Earth)

Typical road speeds for this type of road are likely to be approximately 40km/h at times of lower parking demand, and lower at times of high parking demand.

10.2.10 Lanes

Lanes have had specific designs provided, with widths of 6.2m to 6.5m proposed. These street and lanes are short, and there is flexibility in the width to be provided. Whilst the width does not strictly satisfy the QLDC COP, it primarily relates to positioning of kerb and channel.

10.2.11 Summary

The road carriageway cross sections are provided as included in Table 10-1:

Table 10-1: Carriageway Provision

Kerb to Kerb Carriageway Width	Application	QLDC COP Equivalent	Key rationale for departure from QLDC COP	Speed management requirements
13.6m	Collector Road entrance way with median, residential	15.4m (13.4m + 2.0m median)	Collector road traffic lane widths at 3.3m instead of 4.2m, separate cycle facility, support lower operating speed	None
12.5m	Local street surrounding commercial area	10.7m	Provision for heavy vehicle access	Landscaping interspersed with parking
11.6m	Collector Road residential and commercial	13.4m	Collector road traffic lane widths at 3.3m instead of 4.2m, separate cycle facility, support lower operating speed	Raised platform / localised paving treatments in commercial centre. Kerb buildouts.
10.7m	High density residential street	10.7m	Compliant - Not applicable	Landscaped kerb buildouts
9.5m	Higher order local residential street	10.7m	Alternative solution to support lower operating speed and kerbside parking	Kerb buildouts at intersections, traffic calming.
8.0m	Standard residential street	10.7m	Alternative solution to support lower operating speed and kerbside parking	None
6.5m	Residential rear lane	5.5m	Additional width for manoeuvring	None
6.2m + 2.5m parking bay			Alternative solution for site specific street	None

It is considered that the proposed road carriageway hierarchy will provide those using vehicles a legible street network that supports wayfinding and operating speeds that are consistent with the multi-modal environment desired. The provisions reflect that the density of development will result in high levels of access and parking demand that necessitate a flexible road environment for kerbside parking provision.

10.3 Cycle Facilities

As described in Section 9.7 and 9.8 the site is to be developed with a connected network of shared cycle and pedestrian paths. Cycle and pedestrian demand on almost all paths on residential streets is expected to be low, and often with directional bias. The demand in itself will not warrant higher order cycle facilities such as separated cycleway or separated cycle lanes.

The purpose of the shared path is to afford a facility that supports active mode use across the subdivision by the wide range of users in the community, separate to traffic movement lanes. A key user type is expected to be low speed users such as families accessing key local destinations including the commercial centre, local parks, and school. It may also support the connection to wider area facilities for other trips within the Southern Corridor. Directness is important, but overall trip times will be short even with the need to cross side road intersections.

Recognising general guidance for shared paths, the width of all of the shared paths in standard residential areas is proposed to be 3.0m. This is slightly wider than a "desirable minimum width" local access path of 2.5m, and consistent with the typical maximum width included in "Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling". The increased width supports the multi-user nature of the paths, recognises that some of the streets have gradients where some additional clearance will be appropriate, and to ensure the path network is highly legible for the community. It also affords some flexibility if there are localised areas where a slightly narrower area is necessary.

Different standards of shared path facility are provided, reflecting the overall hierarchy of the path network described earlier:

- A primary central north - south path where the path is fully offset from the boundary by 3.0m, to minimise any risk associated with conflicts across driveways where driveways in standard residential areas can't be avoided crossing the path.
- A 3.0m wide primary east – west path along the northern boundary without road or vehicle crossing conflicts. Whilst minimal separation is provided to car parking, turnover of parking will be infrequent, and downhill (westbound) cyclists will be facing the front of parked cars increasing intervisibility.
- Secondary shared paths 3.0m wide on other roads, separated from parking by landscape, but less separation to boundaries. These paths are intended for local connection.
- A short section of dual sided 2.5m shared paths on the entrance to the subdivision where there are no conflicting driveways.

Other potential shared path provision that could be made, that are not explicitly defined at this stage are:

- The 2.5m footpaths on high density residential streets. Whilst it is not proposed those are specifically defined as shared paths, opportunity does exist to provide additional marked east-west connection.
- The commercial main street has a 4.2m footpath, the layout of which will depend on adjacent commercial development outcomes. Typically, such footpaths wouldn't have a defined shared path function, although the path width would not exclude such an outcome, particularly for young users.
- Where cycle trails are proposed, these will sit outside the road reserve within open space areas and be of a lesser design standard. The shared path network is intended to support connection to those trails.

It is considered that the proposed provisions will support active mode use to and through the subdivision, at a level commensurate with likely demand and the type of trip making that will exist.

10.4 Footpaths

Footpaths are provided on both sides of the road (except in some cases the footpath is replaced with a shared path on one side) for all roads with road carriageway 8.0m or wider, reflecting the level of development and desire to provide a highly connected pedestrian network. The additional exception is where the road has frontage to open space, in most cases a trail is proposed within the open space rather than a footpath.

Footpath widths are generally as follows:

- 1.5m standard residential, as per QLDC COP;
- 1.8m on spine road connecting SH6 to Homestead Bay Road, as per NZTA pedestrian network guidance for a collector road;
- 2.5m high density residential, as per QLDC COP;
- 4.2m in the commercial main street area, enabling utilisation of street furniture (4.0m provided for in QLDC COP).

10.5 Landscaping

The landscaping provision is as per the road cross-sections, and generally arranged as follows:

- Residential roads, spine road, and loop road – located between road kerb and footpath, similar to how Hanley's Farm roads have been developed
- High density residential roads, and commercial roads - interspersed between kerbside parking

The typical provision of landscaping is as set out in reporting by RMM Landscape Architects.

10.6 Expected Road Operating Speed

Expected operating speeds have been set out in Figure 10-9, with reference to the range of matters described in preceding sections, including type of landuse, road function, road width, intersection types, and facilities for other users. This can be a useful reference in assessing detailed design provisions, and District Plan rule requirements for individual lots. Whilst the whole of the subdivision could be considered with a 40km/h speed limit, the activity and design provisions are anticipated to lead to the operating speeds noted even if a standard 50 km/h speed limit applied.

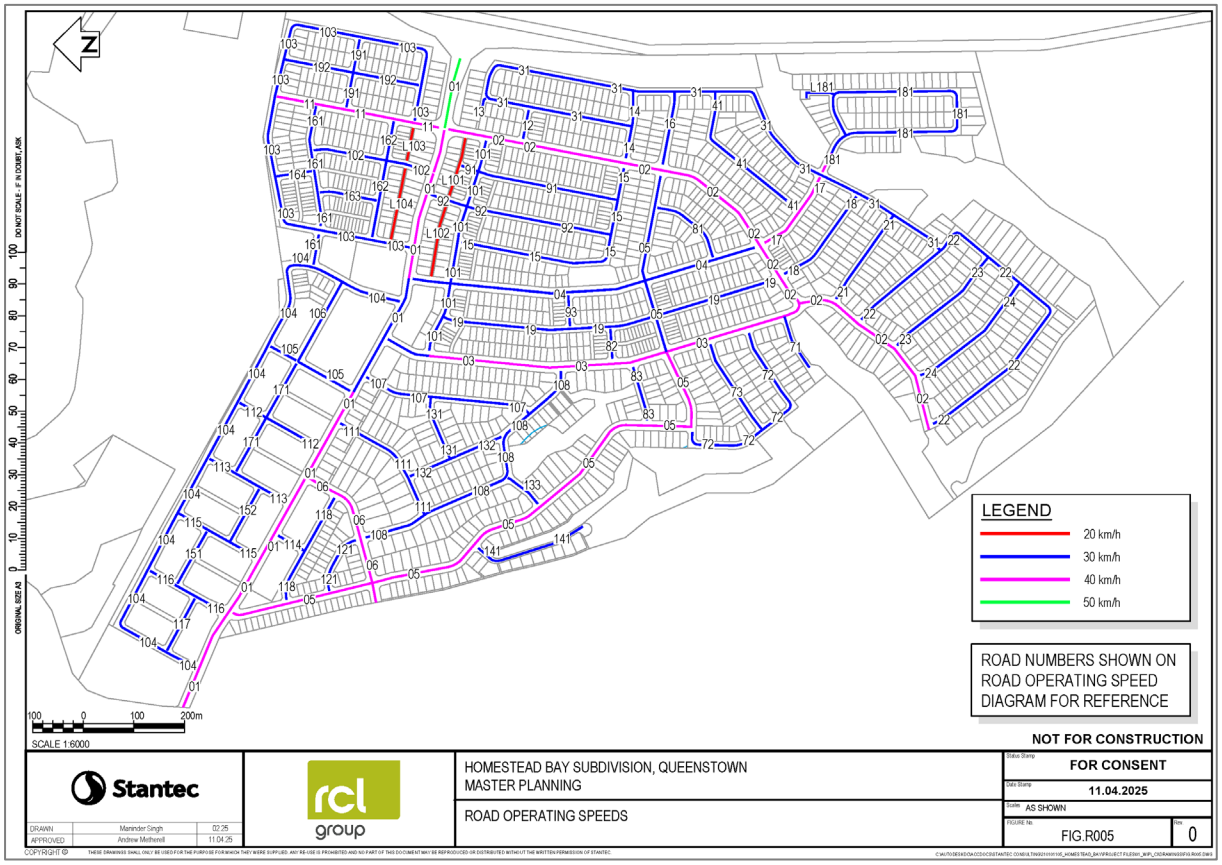


Figure 10-9: Expected Road Operating Speeds

There will be locations on each road where lower speeds will also be expected, such as adjacent to intersections, and on tighter curves. That level of detail is not included on the above diagram.

10.7 Road cross sections

Road cross sections have been developed from each of the considerations set out for road carriageway, footpaths and shared paths, and landscaping. A full reference plan of the cross sections is set out in the following plan, together with road numbering.

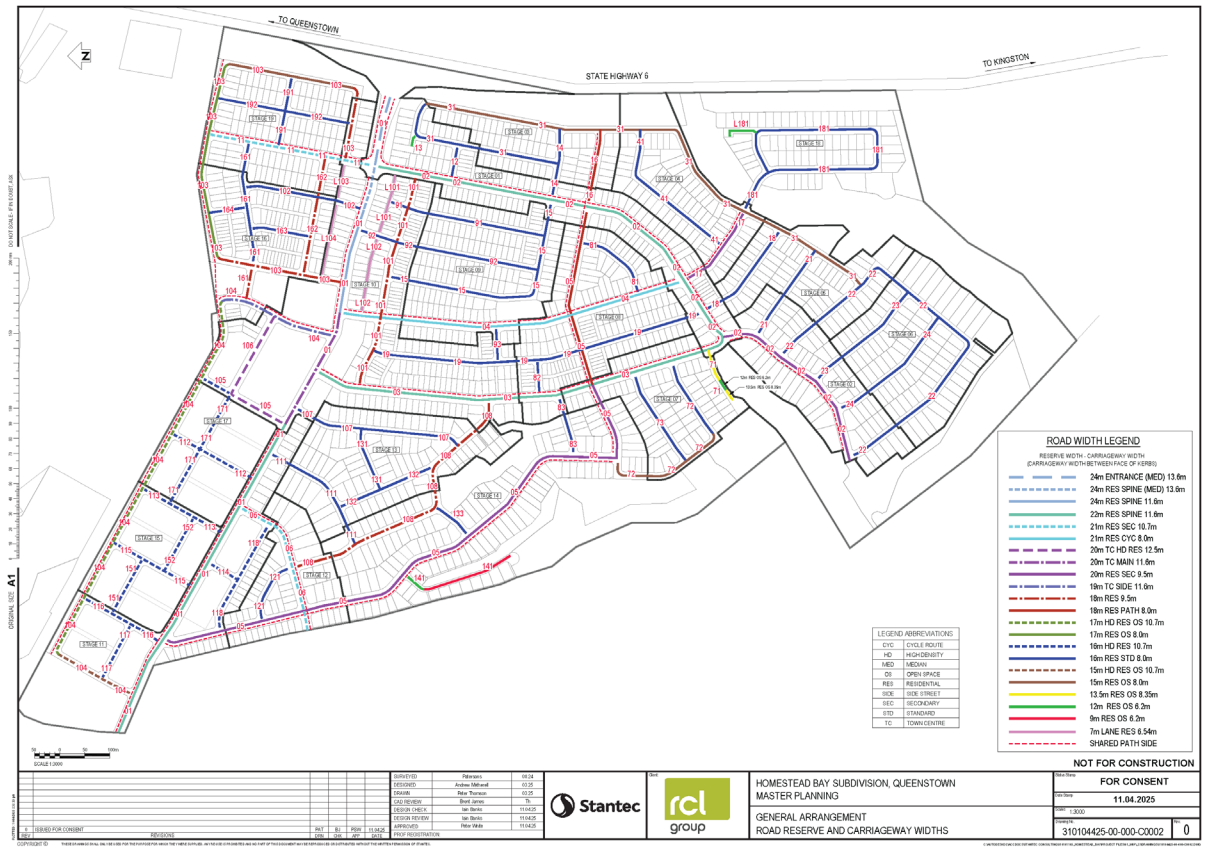


Figure 10-10: Road Numbering and Cross Sections

Naming nomenclature is generally as follows:

- Road reserve width (e.g. 24m is the road corridor width).
- Landuse / place context (e.g. “Res” is residential, “TC” is town centre, “HD Res” is High density residential).
- Road type (e.g. Spine is the collector road, “Sec” is the secondary road network, “Std” is standard residential, “OS’ is adjacent to open space, “Main” is main street, “Path” includes a shared path, “Cyc” is a primary cycle route).
- Road carriageway width (e.g. 11.6m is the kerb to kerb width including parking).

The cross sections and a specific analysis of the functions provided on each road cross-section with reference to the QLDC COP is provided in **Appendix D**.

Whilst most cross-section application to the road network is intended to be self-explanatory with the context provided earlier, the following specific comments are made to assist understanding of the rationale for specific streets:

Table 10-2: Road Cross Section Descriptions

Road	Cross-section	Comment
1	24m RES SPINE (MED) 13.6m	The median is only provided along the part of the road that has no direct vehicle access from property, to provide an enhanced landscaped entrance to the site.
1	20m TC MAIN 11.6m	The main street also forms part of the collector road network, and as such a slow speed environment is required to minimise severance. It is expected that there will over time be priority pedestrian movements across the road in this area.
4	21m RES CYC 8.0m	The primary shared cycle route through the residential area. The road carriageway width is a standard residential width (8.0m). Priority at intersections is intended to support the continuity of the cycle path, and effective crossings of Road 1 Road 5, and Road 2.
5	20m RES SEC 9.5m	A long road that will form a desire line for both vehicles and cyclists when moving to Homestead Bay Road from the south of the site. Due to length, the road is a wider residential carriageway, and can support a cycle greenway (low speed shared use) if necessary, in addition to the shared path. Some traffic calming may need to be considered.
6	21m RES SEC 10.7m	A higher standard of residential road to support potential connection to Homestead Bay development to the southwest.
103, 161	18m RES 9.5m	Specific design likely to recognise potential large lot development of the skydive hangar on the west side, and need to manoeuvre buses on low volume street.
104	19m TC SIDE 11.6m	Specific design to recognise commercial west, and potential large lot development of the skydive hangar on the east side
105, 106	20m TC HD RES 12.5m	Wider road cross-section to reflect heavy vehicle movement that is likely to be required.

10.8 Road Gradients

The road design plans show expected gradient of each road. Most roads have a low gradient on them, with only some roads having gradients of approximately 5-8%. The maximum gradient is 8%, well within maximum gradient requirements of the QLDC COP. Road sections including gradients between 5% and 8% are shown in Figure 10-11. It is considered that these gradients are conducive to supporting active modes, and a safe transport network.

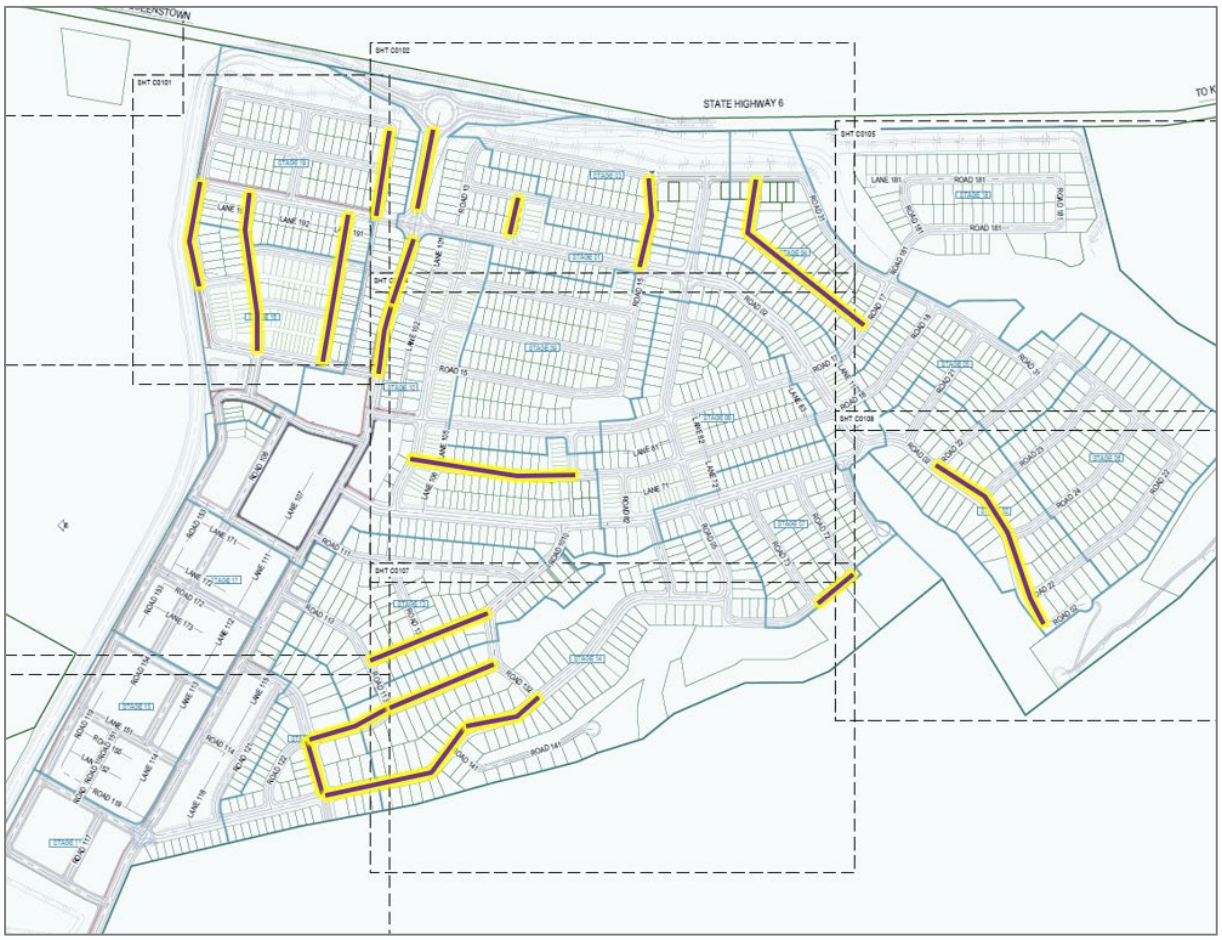


Figure 10-11: Roads with Gradient 5% to 8% (shown in yellow)

10.9 Intersections

Intersection design will be addressed in engineering design. Indicatively, intersection form will retain simple intersections, with turns occurring from in lane, rather than having specific provision for turn lanes. This approach is generally consistent with intersection treatment at Hanley's Farm.

10.9.1 Intersection Separation

The QLDC COP (clause 3.3.7) requires intersections between connector/collector roads or intersections of connector/collector roads with arterials to be a minimum distance of 150 m apart, centre line to centre line. Intersection separations of these road types are shown in Figure 10-12, and exceed this minimum.

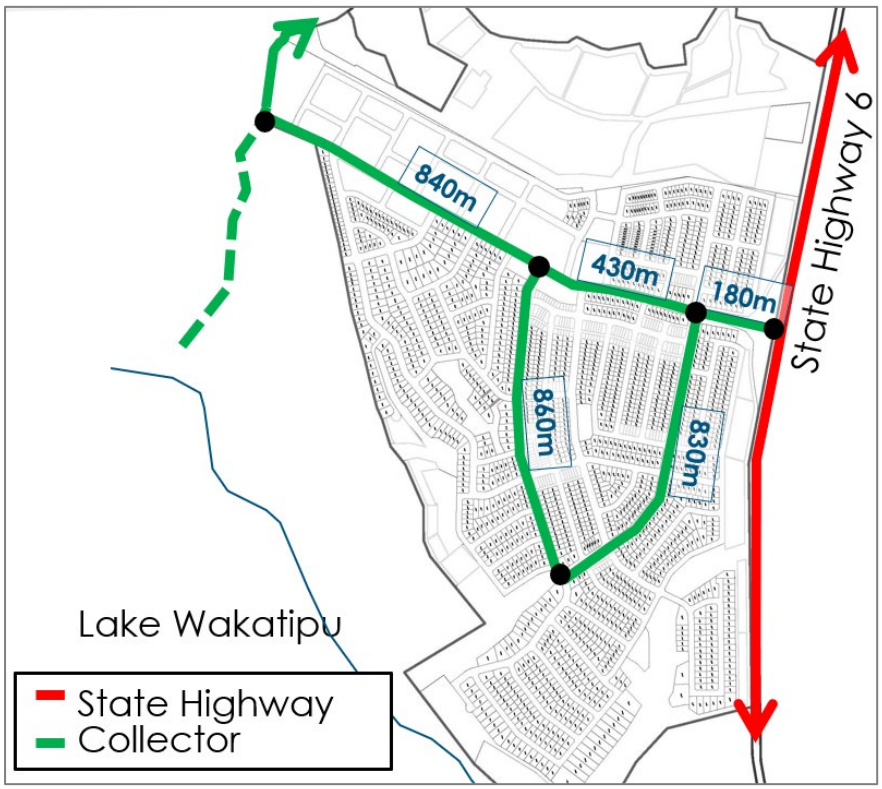


Figure 10-12: Collector Road Intersection Separation

Local road intersection separation along the Collector Roads is comparably low as a result of the fine grain roading network where most lots have direct frontage to the legal road. This is common place in modern residential subdivisions.

10.9.2 Local Road Intersections

At residential area local road intersections preference is for priority-controlled intersections, either in the form of T-intersection (priority or sign controlled), or cross-road with the side road giving way (or stopping). For T – intersections, it is considered intersections where an 8.0m road is the side road, there is not a need for sign control. However, consistent with the treatment of intersections at Hanley's Farm, this will be a matter reviewed through detailed design.

Kerb buildout would be provided to support shortened pedestrian crossings, similar to at Hanley's Farm. The priority of roads is indicated on the diagram showing application of road cross-sections.

10.9.3 Roundabouts

Specific intersections will be roundabout controlled, with a residential scale of roundabout (e.g. similar to the Jack Hanley Drive / Howden Drive intersection. It is recommended that raised platform treatments are provided on internal roundabouts to support pedestrian and cycle movement, where such platforms can remain effective for the type of traffic that will use them. Roundabouts are proposed at the following intersections:

- Road 01 / 02 / 11 intersection – a key movement conflict point requiring control for efficiency and safety, as well as transitioning speed from the adjacent SH6.

Feasibility design is included in the engineering drawings to confirm sufficient space is available, and an extract of the roundabout is reproduced below in Figure 10-13

Figure 10-13: Indicative Road 01 / 02 / 11 Roundabout Intersection Layout

Other locations that may be considered at detailed design are primarily for urban form and speed management, with a lower level of traffic control, being at:

- Road 02 / 05 / 16 intersection – to support speed management (feasibility layout in Figure 10-14
- Road 03 / 05 intersection – To support management of priority and bus turning

Those two intersections are at the intersection of the shared path network such that two approaches have crossings, and a roundabout with raised platform treatment on approach can support effective and safe crossing.

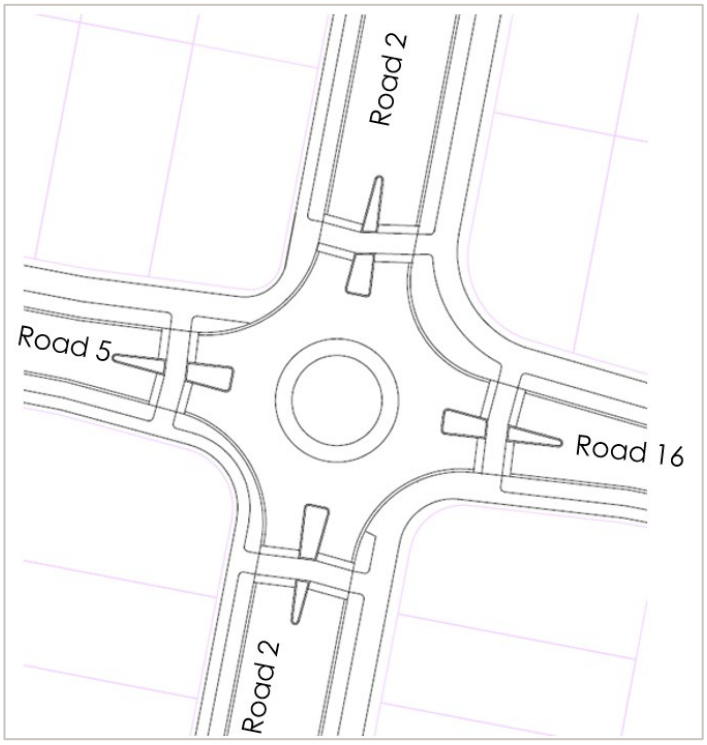


Figure 10-14: Road 02 / 05 / 16 Intersection Feasibility

10.9.4 Commercial Area Intersections

There are four important intersections on Road 1 that will require specific treatment of intersections for heavy vehicle and / or bus manoeuvring. Whilst the COP anticipates design vehicles to turn in lane, it is likely that some compromise to that will be required, particularly reflecting the low usage by the commercial area design heavy vehicles. Those intersections are:

- Road 01 / 103 – part of the bus loop
- Road 01 / 104 – part of the bus loop and commercial block servicing route
- Road 01 / 03 – collector road / collector road intersection in town centre environment. Whilst a roundabout had been considered, it would affect the streetscape and isn't strictly necessary for conflict management. Swept paths of buses will necessitate some localised adjustment to the road cross-section to support turning movement.
- Road 01 / 105 – part of the commercial block servicing route.

Indicative heavy vehicle tracking is shown in Figure 10-15 for the Road 01 / 03 intersection as an example. This vehicle tracking indicates the likely need to incorporate adjusted kerb positions and potential mountable aprons on the corner to maintain low speed for most vehicles whilst accommodating turning of the design vehicle.

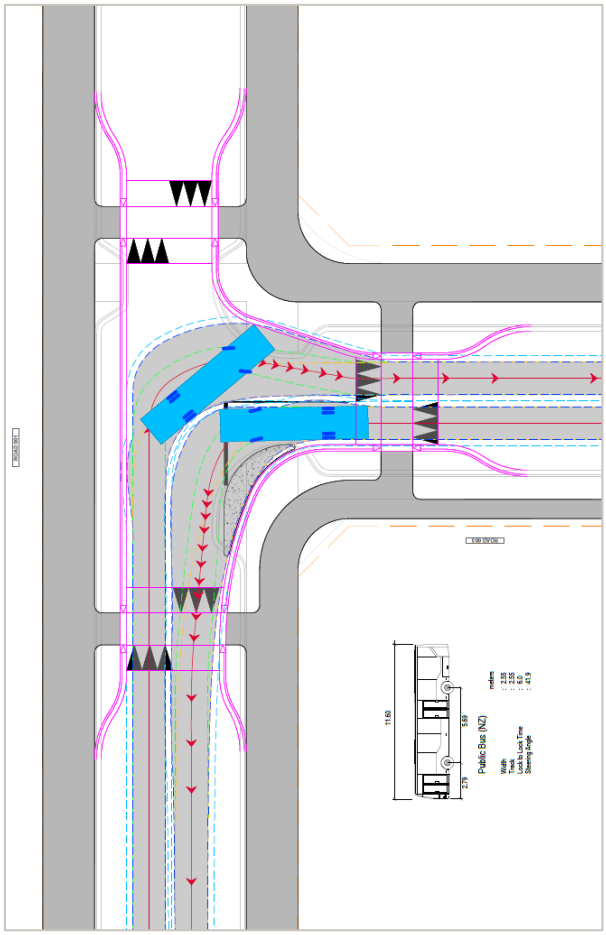


Figure 10-15: Road 1 / 3 Indicative Design Response to Heavy vehicle tracking at Intersection

The commercial area will also require specific design of the following intersections:

- Road 105 / 106 – may need to accommodate larger vehicles servicing commercial area
- Road 104 / 106 - may need to accommodate larger vehicles servicing commercial area
- Road 104 / 161 – likely to accommodate bus loop
- Road 103 / 161 – likely to accommodate bus loop

It is considered sufficient road reserve width is available to achieve acceptable designs that meet design vehicle tracking requirements.

10.10 Raised Platform Treatments

Consistent with a Safe System approach to road safety, there are several locations where intersections and pedestrian/path crossings should be considered as raised platforms or crossings that require vehicles to slow. This is particularly important where higher levels of pedestrian and cyclists may cross the road and the expected operating speed on the road will be higher than 30km/h (safe system threshold speed for pedestrians and cyclists).

Figure 10-16: Indicative Raised Platform on Roundabout Approach

The following locations are considered suitable for provision of such crossings:

- Road 01 / 05 / 116 – subdivision entrance area
- Road 1 West of Road 105 – collector road traffic calming and transition at western entrance to commercial centre
- Road 01 / 04 intersection - primary cycle route and eastern entrance to commercial area
- Road 01 / 02 / 11 roundabout – subdivision entrance area and shared path crossings
- Road 02 / 05 /16 roundabout – collector road traffic calming and shared path crossings
- Road 04 / 05 intersection– shared path crossings
- Road 03 / 05 intersection - collector road traffic calming and shared path crossings
- Road 05 / 133 intersection – speed management
- Road 05 / 06 intersection – Road 5 approaches to manage intersection conflicts and speed

11 District Plan

11.1 Transport Rules

A tabulated summary of the assessment of compliance of the proposed subdivision is included in **Appendix E.**

There are a large number of rules that will most suitably be considered at the time of land development, as they do not specifically relate to subdivision. It is noted that the proposed development is not particularly unusual so it is unnecessary at this stage to assess individual lot potential for non-compliance at this stage.

Exceptions relate to access design for right of way (lanes), sight distance at accesses, and position of vehicle crossings. These are addressed as far as practical at this stage. As a high level comment, it is noted that the proposed road network provides for a slower speed urban environment, and the necessary density of housing precludes the subdivision layout effectively avoiding non-compliance in all situations. A comparable approach has been applied and accepted at other subdivisions such as Hanley Farm.

There are also some rules that are zone specific and would be relevant to the landuse being enabled by the subdivision. As the site is Rural Zoned, those relevant rules would not strictly apply. It is recommended that where rural zone rules would apply, and would be inappropriate, an approval is sought that future development will not be subject to such rules. A suitable condition could instead reference the need for landuse activity to apply the most relevant transport rules from urban zones.

11.1.1 Rule 29.5.13 Access and Road Design

The road design standards are not in full accordance with Table 3.2 of the QLDC Land Development and Subdivision Code of Practice. The departures are generally identified throughout this report, with the intention of providing a functional multi-modal subdivision road network.

There are four medium density super lots that will be serviced by private lanes in medium density super lots that are proposed to service more than 12 lots (Rule 29.5.13.c) Those four are shown within the highlighted blue super lots in Figure 11-1 below. The private lanes propose access to 20, 20, 22, and 23 units.

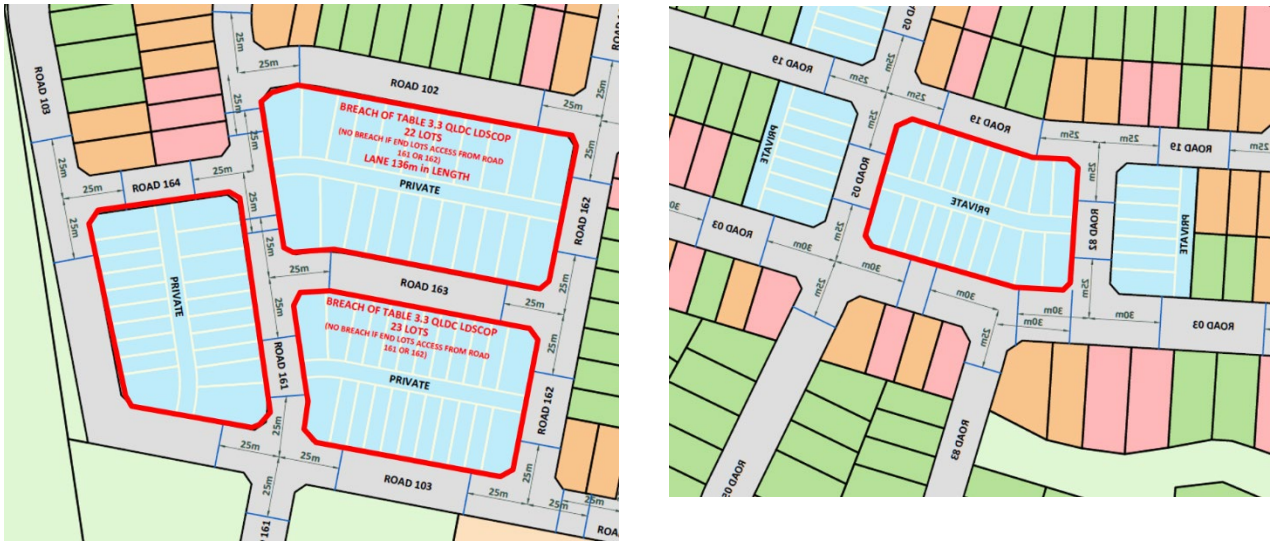


Figure 11-1: Medium Density Super Lot Private Lanes - Lots Serviced Breach

These will be subject to comprehensive design, and enable road frontages that have less vehicle crossings supporting improved safety and functionality of frontage roads. The roads accessed are all

low volume, and within small development blocks such that walkable blocks are not affected. The lanes will be largely straight, affording options for heavy vehicle servicing if required. It is considered acceptable solutions will be achievable that do not rely on a public lane.

In addition, the number of lots serviced is addressed in Table 3.3 of the QLDC COP. It sets out that for a Suburban Live and Play lanes should be up to 100m, and serve 1 to 20 lots. In this case, two of the lanes slightly exceed this number of lots, and one exceeds the length. It is noted that in the Homestead Bay context, the units serviced will be townhouse type close to the commercial centre and bus routes such that there is opportunity for lower trip generation per unit, and traffic volumes will be less than the 200 vpd approx. indicated as a typical maximum volume.

11.1.2 Rule 29.5.17 Minimum Sight Distances from Vehicle Accesses

At this stage of design it is difficult to confirm which sites will not or may not meet the sight distance requirement. The rule is based on a 50km/h speed, whereas the Code of Practice sets target operating speeds at a lower level for many streets. The design operating speed for the entire subdivision is expected to be less than 50km/h. For this reason, the rule is considered to require an excessive sight distance that is not supported by the proposed operating speed.

At this stage, it is simply noted that due to the nature of the subdivision design, many sites will technically not comply simply as a result of proximity to a T intersection (which physically limits sight distance available), or in some cases proximity to a tight curve in a local street.

Assessment matters include the positive effect of efficient use of the site and delivering intensification and a compact urban form. The proposed subdivision design achieves those outcomes and this is part of the reason for the technical non-compliance.

Assessment matters also consider safety of the transport network. In that regard, a more practical consideration is to reference the design operating speed and corresponding sight distance (at a level consistent with the District Plan requirement). Operating speed affects the required sight distance, with an assessment of stopping sight distance from Austroads Guide to Road Design (Geometric Design) with 1.5 second reaction time summarised below for a comparable level as required by the District Plan.

Table 11-1: Stopping Sight Distance by Speed

Speed (km/h)	Stopping Sight Distance (m)
10	5
15	9
20	13
25	17
30	22
35	28
40	34
45	41
50	48 (the District Plan requires 45m)

In the urban residential environment, the identified sight distance restrictions generally relate to either:

- On a minor road there is a sight distance constraint to a nearby intersection which physically limits the sight distance
- As a result of the position of a lot in proximity to a bend in the road

These different scenarios are described and assessed as follows:

Sight distance limited by a nearby intersection

The sight distance of a lot on a minor road downstream from an intersection is in practice affected by the turning speed of a vehicle at the intersection. At a standard residential intersection the turning speed is constrained by the corner radius of the kerb at the intersection, and the width of the major and minor roads. It is considered for general assessment a turning speed of 15km/h should apply in the context of the road environment proposed at Homestead Bay.

Based on Austroads stopping distance formula, the expected stopping sight distance that could be applied is only 9m. In practice this will either always be met, or the vehicle crossing separation from an intersection will be more appropriately assessed. It is considered the identified non-compliances are of a technical trigger matter only, and further assessment of the non-compliance of the lots is not required

Sight distance restricted by a bend

The sight distance in proximity to a bend may be a matter that triggers the rule. A bend is expected to further reduce speeds from the standard operating speed of the road, and sight distance non-compliance is most likely where the bend has a low radius and angle of direction change. In that respect, it is considered that the following of sight distance provides an acceptable solution with many roads not requiring further assessment based on the design operating speed of the roads:

Table 11-2. Sight Distance Review Criteria

Design Speed	Stopping Sight Distance	Typical Subdivision Road Types	Assessment Comment
20km/h	13m	All roads with carriageway less than 8m width	No Requirement to assess at engineering approval stage
30km/h	22m	Other local roads as per operating speed diagram (Figure 10-9)	No Requirement to assess at engineering approval stage unless vehicle crossing is on the inside of a curve with a change of angle of 45 degrees or more. Where not able to be satisfied address speed of road through design, or specifically identify vehicle crossing position that best meets requirement.
40km/h	34m	Collector Roads, and Local Roads as per operating speed diagram (Figure 10-9)	No Requirement to assess at engineering approval stage unless vehicle crossing is on the inside of a curve with a change of angle of 45 degrees or more. Where not able to be satisfied address speed of road through design, or specifically identify vehicle crossing position that best meets requirement.
50km/h	45m (the District Plan requirement)		(no lots will apply)

Assessment against these criteria will most appropriately be considered during engineering design, and can consider the design speed of the bend. A potential condition of consent would be:

Recommended Condition (General Form)

Sight distance requirements of Rule 29.5.17 will only require assessment where a lot is located on the inside of a curve with a change of angle of 45 degrees or more, and the road has a target operating speed of 30km/h or higher.

The sight distance requirements will be based on Austroads Guide to Road Design (Geometric Design) Stopping Sight Distance with reaction time of 1.5 seconds, and estimated operating speed of the road at the location of the vehicle crossing

The sight distance measurement will be as per clause 29.14.11, Diagram 11 of the QLDC District Plan.

11.1.3 Rule 29.5.21 Minimum Distances of Crossing from Intersections

The criteria applied to each that would trigger a potential non-compliance with the rule is as follows:

- Collector Road frontage: 30m separation of any part of the vehicle crossing from centreline of the intersection.
- Local Road frontage: 25m separation of any part of the vehicle crossing from the centreline of the intersection.

Vehicle crossings are not yet defined at this stage of subdivision. In considering the suitability of a subdivision layout, the ability to satisfy the rule, or otherwise deliver satisfactory vehicle crossing positions can be assessed. In a subdivision of the density proposed, it is not practical to develop a subdivision with lots that can fully comply with the rule at the outset. That would necessitate significant use of rear lots anywhere near intersections. There is future reliance on the exemption that where no compliant crossing is achievable, the vehicle crossing is to be positioned to be as compliant as possible (i.e.. as far from the intersection as practical).

Based on experience with Hanley's Farm which applies similar block layouts, it is expected that a generally preferred vehicle crossing position will be located on the south – east part of the lot. There will be some variance, and this will not specifically be directed as a requirement. There are also cases on corner lots where the landowner may have opportunity to best achieve compliance, but the lot orientation will tend to support a non-compliant location, such as the short side of a lot. To understand the likely ability of a landowner to satisfy the rule requirement, and analysis has been carried out.

Patersons have developed a plan showing the level of compliance expected for the standard density residential lots, shown in Figure 11-2. The full set of plans are included in **Appendix F**. This is focused on likely compliance for the preferred vehicle crossing position. The assessment is summarised as follows:

- Where no part of the lot boundary is captured by either criterion, it is considered the lot will be fully compliant, and no further assessment will be necessary. Those lots are marked green on the plan.
- Where the lot has a part of the boundary that does not comply, the following secondary assessment are considered:
    - » Where a preferred location for the vehicle crossing (south and / or east of the lot) is likely to comply, or be in the most compliant location, the lot is coloured orange.
    - » Where a preferred location for the vehicle crossing (south and / or east of the lot) is unlikely to comply because it is not in the most compliant location, the lot is coloured red.

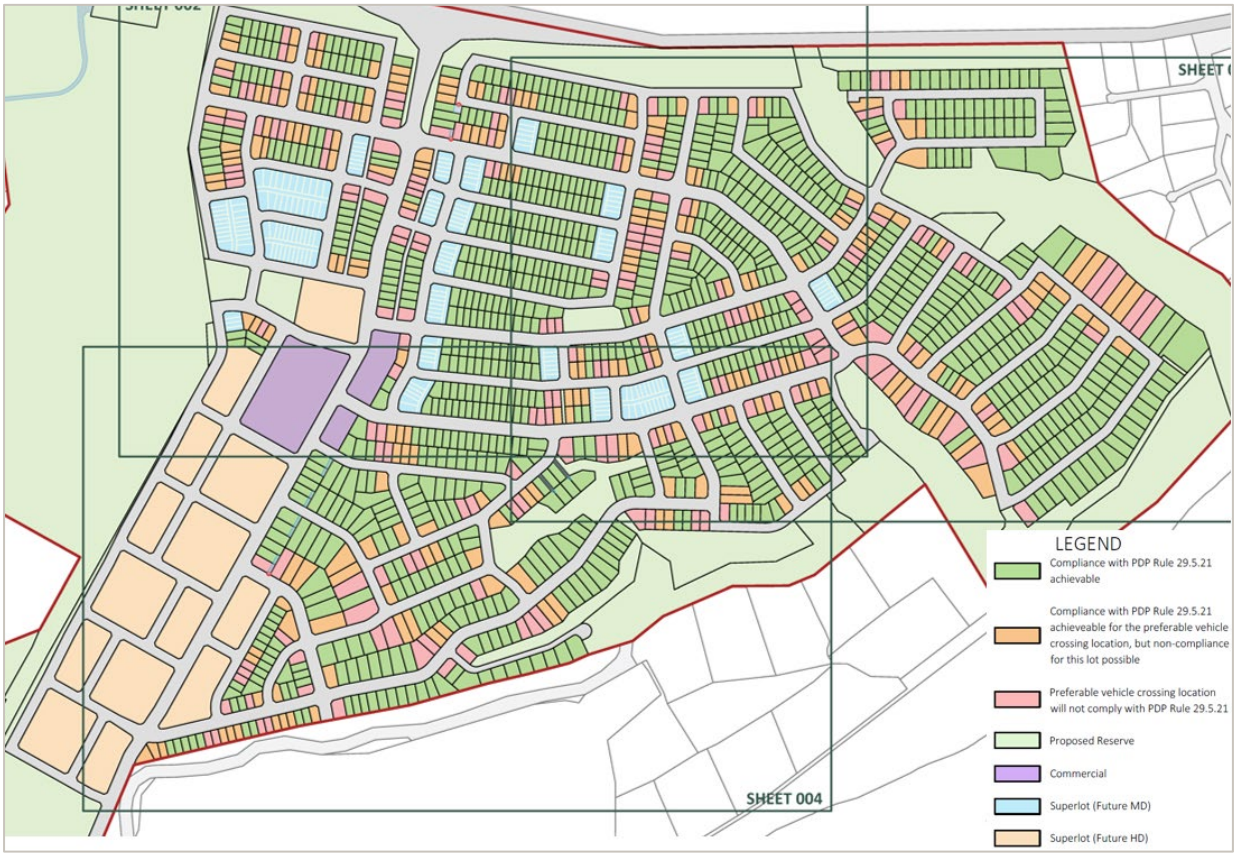


Figure 11-2: Vehicle Crossing Compliance

In the Homestead Bay development, it is considered the most critical breach will be where the vehicle crossing either sits over the intersection corner treatment, or where pedestrian facilities may be present. These locations would be considered unacceptable and the vehicle crossing will need to be relocated to a practical and safe position. In some cases, this would also apply to locations that are "most compliant", which may still conflict with pedestrian facilities. It is considered vehicle crossing positions at the head of the T of an intersection will be acceptable provided there is not conflict with pedestrian infrastructure.

Recommended Condition (General Form)

To address this, it is considered necessary to defer most decision making for non-compliant lots until detailed design, with the purpose of identifying vehicle crossing positions that are unacceptable particularly from a perspective of conflict with infrastructure. A potential condition of consent is as follows:

> *For all low density residential lots marked as non-compliant with Rule 29.5.21 on Patersons Plan set (reference vehicle crossing separation breaches plan set), at detailed design of the road network a drawing is to be prepared identifying locations along the kerb where vehicle crossings are not to be permitted considering the placement of pedestrian crossing facilities (including kerb drop downs), and the intersection function and corner radius.*
>
> *The consent holder shall provide specific confirmation of the locations where vehicle crossings are not permitted from a suitability qualified traffic engineer, to ensure that the non-compliance with the Council standard will not result in unacceptable safety and operational effects.*

At the time the lot is developed, if a position is proposed that does not meet the acceptable locations, then it will be subject to the normal resource consent process.

11.2 Subdivision and Development

District Plan Objective 27.5 and its associated policies set out expectations for new subdivision transport infrastructure.

11.2.1 Subdivision Road Network

The proposed subdivision transport network, and the rationale for design decision has been described in detail within this ITA.

It is considered that the road network supports safe and efficient vehicle movement, whilst supporting and promoting more sustainable modes of travel including provision of a bus network, and well connected cycle and pedestrian facilities.

11.2.2 Safety

The subdivision access to SH6 will alter the character of SH6 past the site. The proposed design response of installing a rural roundabout is a safe system treatment for an intersection, and also affords sufficient traffic capacity at the intersection.

The internal road network has a collector road and local road network that has been fully considered in terms of traffic volume, function for the various multi-modal sures, and the adjacent landuse. It is considered it provides an acceptable transport outcome for the site, which can be integrated with the wider area transport network.

The roads within the subdivision will contribute to drivers adopting low vehicle speeds appropriate for the environment. The design of most roads supports target operating speeds of between approximately 30-40km/h, and the collector road will have traffic management features to also support speed management in the 40-50km/h range, and likely lower.

Overall, it is considered that the subdivision transport network will create a low-speed environment.

11.2.3 Lot Access

All proposed residential lots will have vehicle access direct to a public road or a private lane which will link to a public road. Each private lane has been designed to keep the distance between each lot and the public road as short as practical.

Whilst there will be a range of non-compliance with technical intersection separation and sight distance requirements, it will be possible for accesses and vehicle crossings to the public roads to be formed so that they can achieve functional sight distance and either intersection separation or integration with minimal traffic effects.

11.2.4 Public Transport

A public transport network is proposed to service the site directly. Bus route and stops have been protected through design. A high level of accessibility will be achievable. Consideration has been given to potential future ferry services, with the site having suitable connectivity to make use of such a service if it is provided in the long term.

11.2.5 Pedestrian and Cycle Networks

An extensive network of pedestrian and cyclist provision is proposed, as described through this report. This will support safe and direct local movement, as well as support integration with existing and future active modes networks north of the site.

11.3 Engineering Code of Practice

The justification for the proposed road design standards is included throughout this report. It is considered this achieves the objectives, and many of the details of the QLDC COP.

12 External Subdivision Access Performance

12.1 Forecast Performance of SH6 / Homestead Bay Intersection

The expected traffic patterns are set out in Section 7 of the WSP Transport Effects Report, which are largely based on an unconstrained traffic demand scenario (i.e. where capacity constraints north of the site are not influencing traffic generation patterns to any significant degree). These traffic volumes are reproduced for the SH6 / Homestead Bay site intersection in Figure 12-1 for the scenario that assumes non-residential activity is introduced to the Southern Corridor.

		AM PEAK			PM PEAK		
Road	**Movement**	**2022**	**2033**	**2053**	**2022**	**2033**	**2053**
		Existing	**Scn 3a**	**Scn 1a**	**Existing**	**Scn 3a**	**Scn 1a**
SH6 North	Through	143	375	540	105	272	415
	Right		120	202		262	418
Homestead Bay	Left		283	430		179	308
	Right		43	72		23	39
SH6 South	Left		14	25		38	65
	Through	140	344	529	134	467	720
Intersection		**283**	**1179**	**1798**	**239**	**1241**	**1965**

Figure 12-1: Estimated Turning Traffic at SH6 / Homestead Bay Intersection (WSP report)

WSP modelled the proposed SH6 intersection with the year 2053 traffic volumes in SIDRA intersection and reported in the WSP Transport Effects Report that the intersection can operate with good levels of service and spare capacity as a roundabout control with single lane circulating carriageway.

As the intersection control and form may influence how development occurs around the intersection the sensitivity to potential traffic distribution and background traffic volume assumptions have been tested.

- Firstly, the turning volumes have been increased by 50% to represent the potential variance in utilisation of the intersection instead of other Southern Corridor intersections to access SH6. This test confirms that the intersection can continue to operate efficiently (at Level of Service A or B) in the long term, albeit with longer queues.
- A second test increasing SH6 volumes by a further 25%, and leaving turning volumes at the WSP forecast also results in the intersection being able to continue to operate efficiently (at Level of Service A or B).
- A third test increasing turning traffic volumes by 50%, and SH6 traffic volumes by 25% results in the intersection operating close to capacity in the morning peak, and overcapacity in the evening peak (Level of Service F on the SH6 south approach).

As the traffic volumes assessed are long term, and require much higher traffic volumes than assessed by WSP to reach or exceed capacity, it is considered based on the analysis carried out that a single lane roundabout will satisfy traffic demands for the design life of the intersection.

12.2 Wider Area Constraints

The WSP Transport Report forecasts that development of land within the Southern Corridor with or without the Homestead Bay site development will lead to some capacity constraints in the road network further north, which could severely restrict movement at peak times in the longer term. In the absence of providing major road capacity increases which are currently not planned, these constraints clearly

lead to the need for supporting a major shift away from private vehicles as a dominant mode of transport to support development.

The various transport plans described earlier in this ITA highlight a range of potential transport capacity responses such as construction of a new bridge across the Kawarau River for public transport and active modes of transport.

12.2.1 Bus service and network infrastructure response

There will need to be an increase in mode share to public transport with supporting infrastructure to enable priority for buses. This ITA has set out how the Homestead Bay area can support this necessary shift through design of the street network to accommodate frequent bus services, including a terminus area in the vicinity of the proposed commercial area. The site can form a logical extension to a bus network, and can support the development with its good coverage of the site within walkable catchment. Increasing frequency of bus services and improving the directness of routes is signalled through various strategy documents described in this ITA.

12.2.2 Cycle Network Infrastructure Response

There will be a need to support increased mode share particularly by commuter cycling, through a well connected and efficient cycle network. This ITA has assessed the ability to provide a well developed cycle network that efficiently and safely connects to routes beyond the site, and supports local movement by cycling (and walking).

It is expected that the wider area route will also be through or along the edge of development in the Southern Corridor, utilising existing and improved cycle networks. Some development of those networks will be necessary regardless of the Site development and strategies are in place to develop those further in the future and in particular improve connectivity to Frankton.

12.2.3 Potential Water Ferry Response

The draft Otago Regional Public Transport Plan identifies the possibility of a future ferry service connecting Homestead Bay Village to Queenstown. A ferry would provide further travel mode choice for residents of Homestead Bay then enable some further reduction in private vehicle mode share.

The Homestead Bay Site layout has responded to the potential for a ferry through consideration of maximising the connectivity of possible bus routes between the Homestead Bay site and the ferry through the adjacent Lot 13 (by way of future road connections), as well as with cycle route and walking connections.

13 Road Safety Assessment

13.1 Site Layout

The proposed Site includes multi-modal transport network provisions that address the landuse, place and movement function anticipated by the QLDC COP. There is proposed to be a high proportion of the road network within the site operating at a low 30km/h (a Safe System speed for pedestrians and cyclists), and Collector Roads will also operate below 50km/h. Design of the detail of the transport network will follow, and a standard process is the Safe System Assessment of designs. It is considered that the proposed subdivision layout will deliver a safe transport network.

13.2 Homestead Bay Road

The Homestead Bay subdivision will likely generate a majority of traffic direct onto SH6, with a lesser amount travelling locally onto Homestead Bay Road which is a Primary Road in the Jacks Point Zone Structure Plan.

Development is still occurring along the Homestead Bay Road corridor, and as such it is possible that the infrastructure will change over time.

With the intention that the Southern Corridor is serviced by a frequent bus route, as well as a key cycle link along the general alignment of Homestead Bay Road the infrastructure connecting through and to Jacks Point may need to be upgraded over time as demand increases. As the road network is privately owned, but publicly accessible, no specific changes have been proposed at this stage of subdivision. Any upgrades will be necessary to also service other future developments in the area, such as Homestead Bay Village.

13.3 SH6

The SH6 roundabout proposed will provide a safe system response to subdivision access from a high speed state highway. Design and works require NZTA approvals (which in turn will include requirements for Safe System Assessment). It can be anticipated that the intersection will safely accommodate movement between the site and SH6. A roundabout will also assist with speed management particularly for those travelling northbound, which generates positive safety outcomes north of the site.

14 Location Assessment

The site represents greenfield development and will be at the southern limit of the Southern Corridor. In that respect it will contribute to increases in vehicle travel in the network, and consequently emissions. This is balanced against the strategic need to provide for additional residential capacity in the Wakatipu Basin, in locations that are suited to development.

The site has been identified through the QLDC Spatial Plan as a preferred area for future growth, that can be supported by sustainable modes of travel for local travel, and travel in the wider Wakatipu area. The site is immediately adjacent to other existing and planned development areas, and supports consolidation of the urban area.

Road networks, active modes networks, and public transport networks will pass the site frontage, so only need to be extended to the extent that they provide access within the development. The site is also well located to a possible ferry terminal if that is pursued in the future. The provision of planned schools, recreational facilities and a commercial centre offer the opportunity for other residents in the Southern Corridor to access local services by sustainable modes, or by a shorter travel distance. These matters contribute to the site forming part of a connected and integrated transport network.

15 Transport Network Integration Assessment

The WSP Transport Report addresses wide area transport integration matters associated with achieving capacity to meet the multi-modal travel demand along the Southern Corridor and into Frankton. Within the next ten years there will be continued capacity pressure on the road network, which is already experienced in Frankton and will migrate southwards on SH6 as development levels increase.

A key element of the proposed transport response is to support mode shift through provision of bus infrastructure and frequent services, and direct active mode connections. These services will be located along or near Homestead Bay Road in the medium term.

From a development perspective, the subdivision responds to these matters in the following way:

- Having a roundabout design at SH6 that can have a lot of its construction off the SH6 existing road alignment, minimising initial construction impacts.
- Providing a network of roads able to support public transport routes, with bus stops planned to be formed during construction at locations (to be agreed) to ensure the site is accessible to this mode of travel from the outset. To support public transport connections, that will likely require an interim extension of a bus route via SH6 into the Homestead Bay development. It is considered that would be achievable, as the Jacks Point route could be altered from a loop to a through route of Jacks Point, terminating at Homestead Bay subdivision.
- Providing future road connections to adjacent developable land, which also supports future connectivity to Homestead Bay Village where a ferry could be contemplated in the long term.
- Enabling a protected active modes route from initial stages of development to connect to infrastructure within adjacent development (e.g. Jacks Point), to support active modes connection to the existing urban areas in the Southern Corridor. Ideally this would connect to Homestead Bay Road, or alternatively if staging starts at SH6 a route close to SH6 or to the existing Jacks Point Road network. That would minimise the need for 'local' vehicle and active modes trips between the site and other subdivisions in the Southern Corridor via the SH6 road network.
- Over time, it is anticipated that the Homestead Bay active modes network will need to be upgraded to support movement, such as trips to school. This is also an existing matter for Jacks Point design, which has not defined through cycle routes to the same standard as proposed within Homestead Bay.

It is considered that the Homestead Bay subdivision responds to these transport network integration matters adequately in the immediate vicinity of the Site.

16 Strategic Planning Requirements

16.1 National Policy Statement – Urban Development

The National Policy Statement Urban Development 2020 sets policy around urban development. It aims to ensure that towns and cities are well-functioning urban environments. New development capacity is considered against whether that development capacity is "infrastructure-ready", with good access to existing services, public transport networks and infrastructure.

Based on the assessment provided, it is considered that the subdivision will provide connections to the existing transport network in locations that support safe and efficient integration of the site. It is also considered that the development is generally well connected along the transport corridors. Public transport services can be extended into the site to reduce reliance on private vehicle travel, and those services are being anticipated through the draft Otago Regional Public Transport Plan. Similarly active travel networks are planned to service the area and connect to Frankton.

The Site will represent consolidation of the Southern Corridor development area which increases the likelihood that non-residential activities can establish to support reduced requirement for travel out of the area for convenience related trips. The Site itself proposes a local commercial centre, and anticipates provision of a school. The site will have good connections to areas of open space, including surrounding the site, Lake Wakatipu, and the amenity areas within the Southern Corridor.

16.2 District Plan

The Proposed District Plan includes a range of transport matters relevant to consideration of subdivision of the land. As the Site is not zoned, additional consideration has been given to the consistency between the proposal, and the Proposed District Plan Objectives and Policies, and higher-level planning documents.

The Transportation section includes relevant objectives as follows:

> *29.2.1 Objective - An integrated, safe, and efficient transport network that:*
>
> *a. provides for all transport modes and the transportation of freight;*
>
> *b. provides for future growth needs and facilitates continued economic development;*
>
> *c. reduces dependency on private motor vehicles and promotes the use of shared, public, and active transport;*
>
> *d. contributes towards addressing the effects on climate change;*
>
> *e. reduces the dominance and congestion of vehicles, particularly in the Town Centre zones; and*
>
> *f. Enables the significant benefits arising from public walking and cycling trails.*

The Subdivision plan enables a connected transport network for all modes of travel, including an expected high frequency public transport route, and potential long term provision for a ferry in the vicinity. Together with plans for upgrade to the wider area active modes network, the site development offers opportunity to support increasing levels of transport modes that reduce dependency on private motor vehicles.

The landuse proposed by the subdivision includes a local commercial centre and expectation of a school, which further reduces the need for travel outside of the neighbourhood. High density development is included to make it more attractive for commercial development to establish, and for high frequency bus services to access the site.

Development in the Southern Corridor will contribute to increasing congestion at the northern extent of the development areas and connections to Frankton. The WSP report has considered how that may be addressed in the transport response. The proposed rezoning is in a planned area identified through spatial planning as suitable for development. It can efficiently utilise and support alternative transport

modes that will add to demand and benefits of planned public transport and active modes infrastructure and increased frequency of bus services.

> *29.2.3 Objective - Roads that facilitate continued growth, are safe and efficient for all users and modes of transport and are compatible with the level of amenity anticipated in the adjoining zones.*

The Subdivision Plan proposes a well connected transport network that enables a split of vehicle movements between neighbourhood roads that connect the Southern Corridor communities and have previously been identified as Primary Roads, and the SH6 arterial through movement for efficient travel. The provision of a roundabout at the new intersection with SH6 can provide for turning movements efficiently, and with a Safe System compatible design.

The transport strategies have recognised that it will not be realistic to support continued growth of private vehicle travel through road capacity improvements, and mode shift to public transport and active modes with associated infrastructure and service improvements will be necessary to support continued growth. The location and layout of the site will support these changes in transport mode.

> *29.2.4 Objective - An integrated approach to managing subdivision, land use, and the transport network in a manner that:*
>
> > *a. supports improvements to active and public transport networks;*
> >
> > *b. promotes an increase in the use of active and public transport networks and shared transport;*
> >
> > *c. reduces traffic generation; and*
> >
> > *d. manages the effects of the transport network on adjoining land uses and the effects of adjoining land-uses on the transport network.*

This ITA has set out how the site will contribute to these objectives. The layout is planned to provide a well-connected network for all transport modes, and landuse provision in the site will support increasing self-sufficiency in the Southern Corridor.

17 Recommendations

This ITA has assessed the ability of the site to integrate with the planned transport networks. The site has been anticipated to be developed as part of spatial planning for the Wakatipu area, with a focus on it being serviced by a frequent public transport route, as well as dedicated active modes routes that enable longer distance travel from the Southern Corridor to Frankton (and beyond).

These transport outcomes will be supported through the subdivision to provide a transport network that is well connected to the adjacent transport networks to service all modes of transport including walking, cycling, public transport, and private vehicles. These respond to the transport capacity constraints that exist with or without development.

The ITA has identified several matters that require further consideration during detailed design to support integration of the site with the surrounding transport network. These are typical processes for a detailed engineering design and include:

- Detailed design of the Homestead Bay Road / Road 01 intersection to achieve a 30km/h operating speed on Homestead Bay Road between Road 01 and Chief Reko Road (Section 9.4);
- Design of bus stops in accordance with QLDC requirements (Section 9.5.3);
- Intersection design to be considered against design vehicle provision through engineering design (Section 10.2.3);
- Safe system treatments to support target speed environment where necessary, including raised platforms (Section 10.10);
- Vehicle crossing position compliance to be considered further through detailed engineering design, to set out in detail acceptable (and unacceptable locations) for non-compliant crossings (Section 11.1.3);
- Sight distance at vehicle crossings to be assessed against specific criteria for vehicle crossings on inside of road curves where the road deviates more than 45 degrees (Section 11.1.2);
- Safe system assessment to be carried out of road engineering design and SH6 roundabout as part of engineering approval process (Section 13).

18 Conclusion

Subdivision of the Homestead Bay site could result in approximately 2,500 residential lots, a local commercial centre, school, and recreational facilities. This will contribute further growth in an area that has been identified through Spatial Planning for urban growth in the Southern Corridor.

It has been assessed that the site can be integrated with the surrounding transport network to achieve outcomes that support a change to increased levels of use of sustainable travel modes including buses, cycling and walking. These outcomes are important as the wider transport network at the northern part of the Southern Corridor and into Frankton has capacity constraints particularly at peak times.

The site will achieve primary vehicle movement access to SH6 by implementing a Safe System compatible roundabout. This will be supported by connection to Homestead Bay Road which provides for lower levels of local travel, as well as a primary corridor for public transport and active modes. A comprehensive road layout plan has been outlined in this report that supports a walkable neighbourhood that also provides efficient and effective extension of the bus and cycle network to service the residential development area, supporting mode shift.

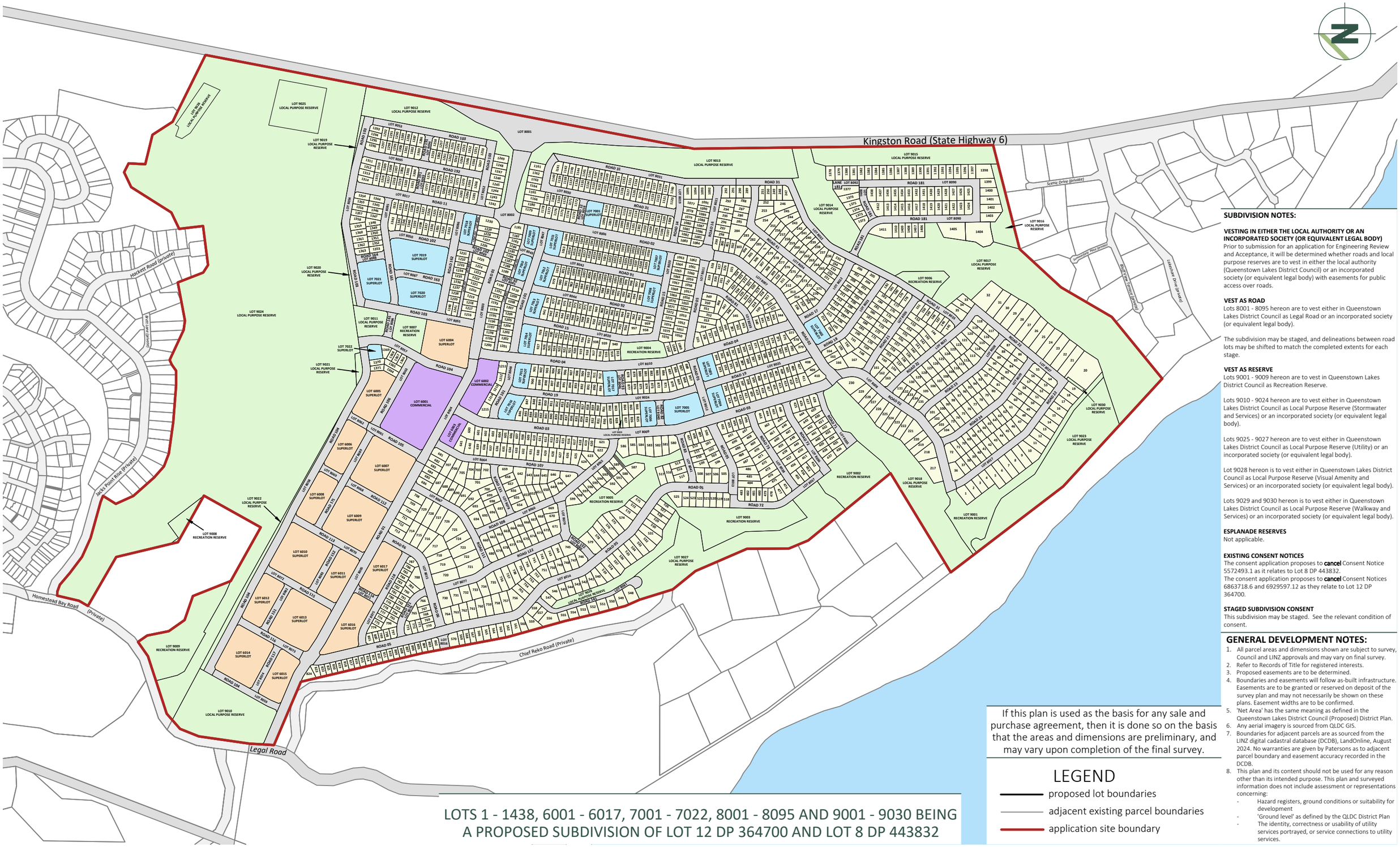
Parts of the proposed transport network do not directly comply with District Plan and QLDC COP rules and requirements, however it is considered acceptable alternative solutions are provided, and / or assessment given that identifies effects will not be of high significance.

Broadly, it is considered that development of the land area supports transport objectives and enables a well-functioning urban environment from a transport perspective. Wide area transport constraints are being investigated and addressed at a District level, with the focus of change for the Southern Corridor being on mode shift to bus and active modes, which can be supported by the development plan and location.

Based on the above, it is concluded that the Subdivision of the site as proposed can be supported from a transport perspective.

Appendices

Appendix A Proposed Subdivision Plan



LOTS 1 - 1438, 6001 - 6017, 7001 - 7022, 8001 - 8095 AND 9001 - 9030 BEING A PROPOSED SUBDIVISION OF LOT 12 DP 364700 AND LOT 8 DP 443832

If this plan is used as the basis for any sale and purchase agreement, then it is done so on the basis that the areas and dimensions are preliminary, and may vary upon completion of the final survey.

LEGEND

- proposed lot boundaries
- adjacent existing parcel boundaries
- application site boundary

SUBDIVISION NOTES:

VESTING IN EITHER THE LOCAL AUTHORITY OR AN INCORPORATED SOCIETY (OR EQUIVALENT LEGAL BODY)
Prior to submission for an application for Engineering Review and Acceptance, it will be determined whether roads and local purpose reserves are to vest in either the local authority (Queenstown Lakes District Council) or an incorporated society (or equivalent legal body) with easements for public access over roads.

VEST AS ROAD
Lots 8001 - 8095 hereon are to vest either in Queenstown Lakes District Council as Legal Road or an incorporated society (or equivalent legal body).

The subdivision may be staged, and delineations between road lots may be shifted to match the completed extents for each stage.

VEST AS RESERVE
Lots 9001 - 9009 hereon are to vest in Queenstown Lakes District Council as Recreation Reserve.

Lots 9010 - 9024 hereon are to vest either in Queenstown Lakes District Council as Local Purpose Reserve (Stormwater and Services) or an incorporated society (or equivalent legal body).

Lots 9025 - 9027 hereon are to vest either in Queenstown Lakes District Council as Local Purpose Reserve (Utility) or an incorporated society (or equivalent legal body).

Lot 9028 hereon is to vest either in Queenstown Lakes District Council as Local Purpose Reserve (Visual Amenity and Services) or an incorporated society (or equivalent legal body).

Lots 9029 and 9030 hereon is to vest either in Queenstown Lakes District Council as Local Purpose Reserve (Walkway and Services) or an incorporated society (or equivalent legal body).

ESPLANADE RESERVES
Not applicable.

EXISTING CONSENT NOTICES
The consent application proposes to **cancel** Consent Notice 5572493.1 as it relates to Lot 8 DP 443832.
The consent application proposes to **cancel** Consent Notices 6863718.6 and 6929597.12 as they relate to Lot 12 DP 364700.

STAGED SUBDIVISION CONSENT
This subdivision may be staged. See the relevant condition of consent.

GENERAL DEVELOPMENT NOTES:

1. All parcel areas and dimensions shown are subject to survey, Council and LINZ approvals and may vary on final survey.
2. Refer to Records of Title for registered interests.
3. Proposed easements are to be determined.
4. Boundaries and easements will follow as-built infrastructure. Easements are to be granted or reserved on deposit of the survey plan and may not necessarily be shown on these plans. Easement widths are to be confirmed.
5. 'Net Area' has the same meaning as defined in the Queenstown Lakes District Council (Proposed) District Plan.
6. Any aerial imagery is sourced from QLDC GIS.
7. Boundaries for adjacent parcels are as sourced from the LINZ digital cadastral database (DCDB), LandOnline, August 2024. No warranties are given by Patersons as to adjacent parcel boundary and easement accuracy recorded in the DCDB.
8. This plan and its content should not be used for any reason other than its intended purpose. This plan and surveyed information does not include assessment or representations concerning:
   - Hazard registers, ground conditions or suitability for development
   - 'Ground level' as defined by the QLDC District Plan
   - The identity, correctness or usability of utility services portrayed, or service connections to utility services.

patersons. Land Professionals

rcl group

DRAWING TITLE

RCL HOMESTEAD BAY LIMITED
LOT 8 DP 443832 AND LOT 12 DP 364700
PROPOSED SUBDIVISION PLAN

DATUM INFORMATION	
COORDINATE SYSTEM	NZGD2000 MOUNT NICHOLAS CIRCUIT
DATUM	NZVD2016
ORIGIN OF COORDINATES	YZ 5 SO 484152
ORIGIN OF LEVELS	384.6249m

REV	DRAWN	DATE	NOTE

STATUS **FOR CONSENT**

SURVEYED	LR	29.10.24
DESIGNED	MA	10.04.25
DRAWN	MA	10.04.25
REVIEWED	BC	10.04.25
APPROVED	-	-

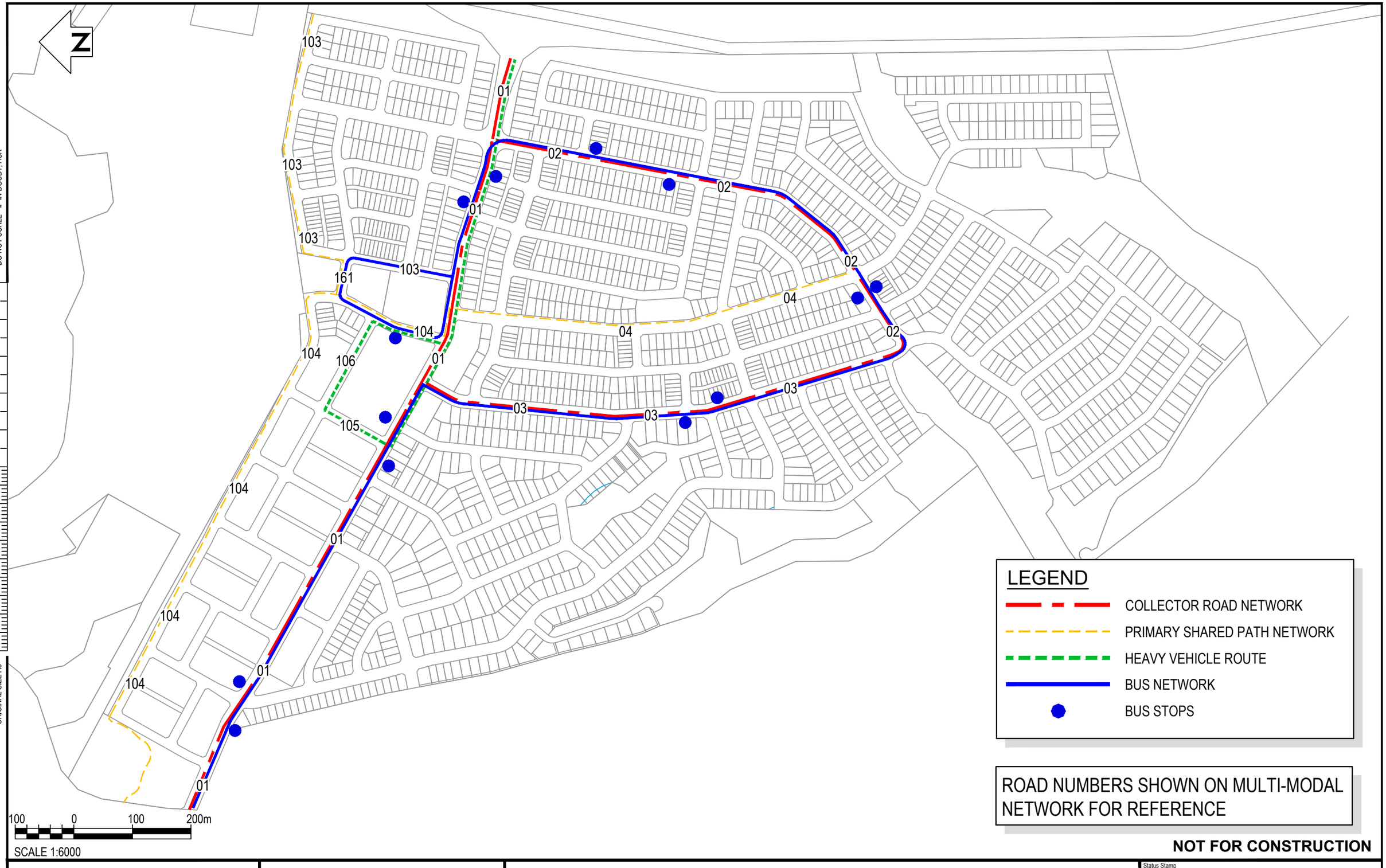
PROJECT	Q7557
DRAWING NO	001
SHEET	000
REVISION	0
SCALE (A3)	1:7500

Appendix B SH6 Roundabout Design Parameters

Homestead Bay Fast Track Subdivision Consent
Appendix B SH6 Roundabout Design Parameters

DESCRIPTION	REQUIREMENTS	COMMENTS
Roundabout General Design Criteria		
Design Vehicle	19m Semi-Trailer	
Approaches and lanes	Based on traffic analysis	Single lane roundabout with single entry and exit lanes on all three approach legs.
Posted Speeds	SH6 - 80km/h	
	Homestead Bay Access (Road 01) - 50km/h	
Design Speeds	SH6 - 90km/h	Speed Reduction Treatments proposed
	Homestead Bay Access (Road 01) - 60km/h	
Lane widths	3.75m exit and entry lanes	On both SH6 Approaches, 3.5m lanes on Road 01
Specials	N/A	Special provision made for cyclists in both directions of travel
		Provision made for roundabout to be dualled in the future.
Site controls		
Road users		Trucks, cars and cyclists (No pedestrian provision made at this stage of design)
Topography and available land		The topography of the site is generally falling from east to west and the proposed roundabout located on a crest at SH6. Sufficient land is available to build the roundabout offline. No land negotiations required east of the SH6 road reserve.
Environment and heritage		No provisions made at this stage of the design development
Physical Constraints		QEII land east of the SH6 road reserve
		Existing site topography
		Existing SH6 alignment
		Flood protection and drainage requirements
Utilities		No provisions made at this stage of the design development
Parking		No parking provision along SH6
Alignments and Cross sections		
Central Island	Desireable 22m radius for single lane roundabout	20m central island + 2.4m apron. Effective radius 22.4m
Circulating carriageway width	6.5m based on 19m semi-trailer	5.2m lane width + 2.4m apron width for sweeping truck and trailers = Effective circulating carriageway width 7.6m
Entry and Exit geometry		
Vertical gradients on approaches	3-4% Desirable, maximum 6%	SH6 North Approach - 0.5%
		SH6 South Approach - 0.5%
		Homestead Bay (Road 01) Immediate approach (first 20m) - 3.0%
		Homestead Bay (Road 01) Before immediate approach (120m) - 6.0%
Speed reduction measures	Speed reduction required along the SH6 approaches to reduce speeds from 100km/h.	The north and south approaches proposes speed reduction curves. Although the southern curves are gentle.
Bicycle lane treatment	Yes	Provision made for cyclist on all the approaches
Pedestrians	Yes - On Access Road	Footpaths provided on both sides of the access road to the development
Parking	No	No parking provided along the SH6 approaches. Parking provided along Road 01 as part of the development requirements
Fast exits	Yes	Roundabout exit curves designed to provide a faster exit than entry.
Entry and exit path radii	Yes	The entry curves on all approaches conforms to the minimum requirements
Vehicle tracking	Yes	19m semi-trailer tracking acceptable
Sight distances		
ASD (RT=2.0 sec min requirement)	60km/h = 73m, K value (crest) = 24.0	All sight distance requirements met.
	90km/h = 139m, K value (crest) = 87.3	
Criteria 2 Sight Distance (from holding line) for rural roundabouts based on 30km/h speeds	42m (5sec critical gap acceptance)	All sight distance requirements met.
Other Design Details		
Lighting		No provision for lighting design at this stage of the development
Road signs and markings		Road markings and signage to be provided during detailed design
Landscaping		No landscaping provisions made at this stage o fthe design development
Drainage		Refer to the drainage section for drainage strategy

Appendix C Movement Network Diagrams



LEGEND

- COLLECTOR ROAD NETWORK
- PRIMARY SHARED PATH NETWORK
- HEAVY VEHICLE ROUTE
- BUS NETWORK
- BUS STOPS

ROAD NUMBERS SHOWN ON MULTI-MODAL NETWORK FOR REFERENCE

NOT FOR CONSTRUCTION

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DRAWN	Maninder Singh	02.25
APPROVED	Andrew Metherell	11.04.25

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

MULTI MODAL NETWORK

Status Stamp: **FOR CONSENT**

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Scales: AS SHOWN

FIGURE No.: FIG.R004

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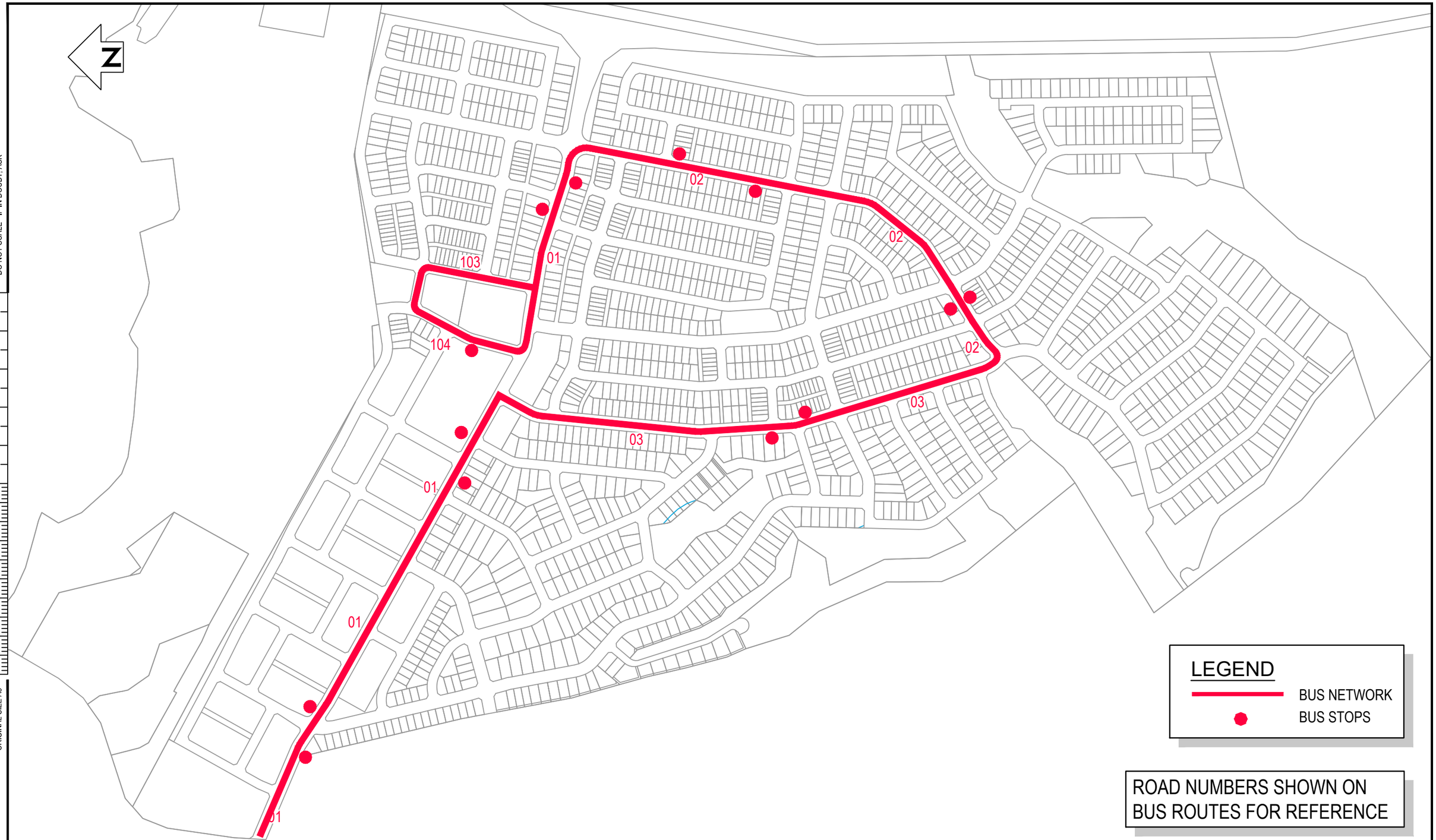

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A3

SCALE 1:6000

LEGEND

BUS NETWORK

BUS STOPS

ROAD NUMBERS SHOWN ON BUS ROUTES FOR REFERENCE

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APPROVED	Andrew Metherell	11.04.25

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

BUS ROUTES AND STOPS

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:6000

FIGURE No.: FIG.R003

Rev.: 0

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DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A3

0 10 20 30 40 50 60 70 80 90 100

N

103 11 01 11 16 02 103 02 17 01 05 103 161 04 02 104 04 05 01 03 02 03 05 104 01 05 06 01 05 05 104 01

100 0 100 200m

SCALE 1:6000

LEGEND

- PRIMARY SHARED PATH NETWORK
- SECONDARY SHARED PATH NETWORK
- COMMERCIAL CENTRE PATH

ROAD NUMBERS SHOWN FOR ROADS WITH SHARED PATHS FOR REFERENCE

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MASTER PLANNING

SHARED PATHS NETWORK

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:6000

FIGURE No.: FIG.R002

Rev.: 0

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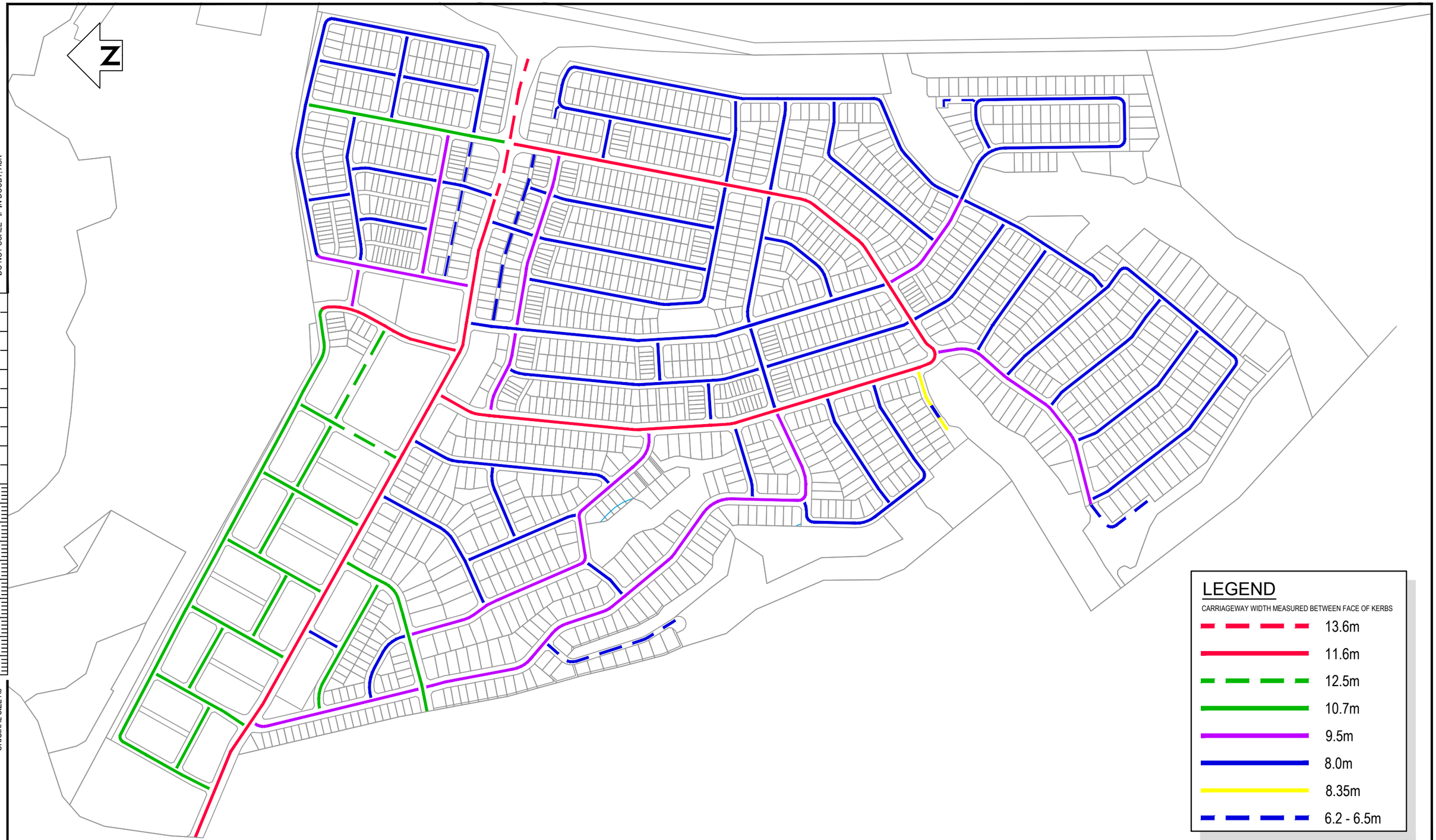
DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A3



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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROAD CARRIAGEWAY HIERARCHY

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:6000

FIGURE No.: FIG.R001

Rev.: 0

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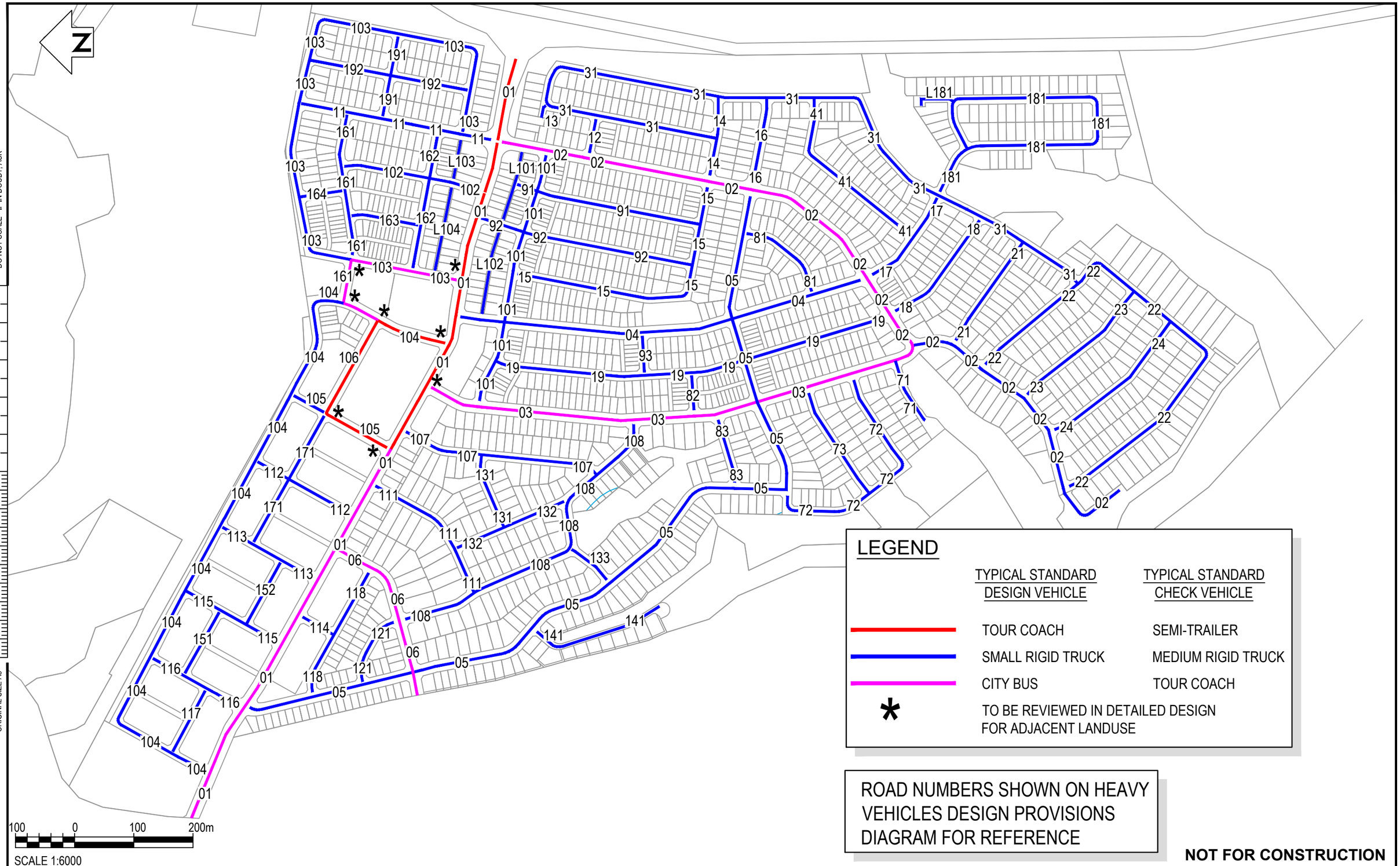

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

HEAVY VEHICLE DESIGN PROVISIONS

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Date Stamp: **11.04.2025**

Scales: AS SHOWN

FIGURE No.: FIG.R007

Rev.: 0

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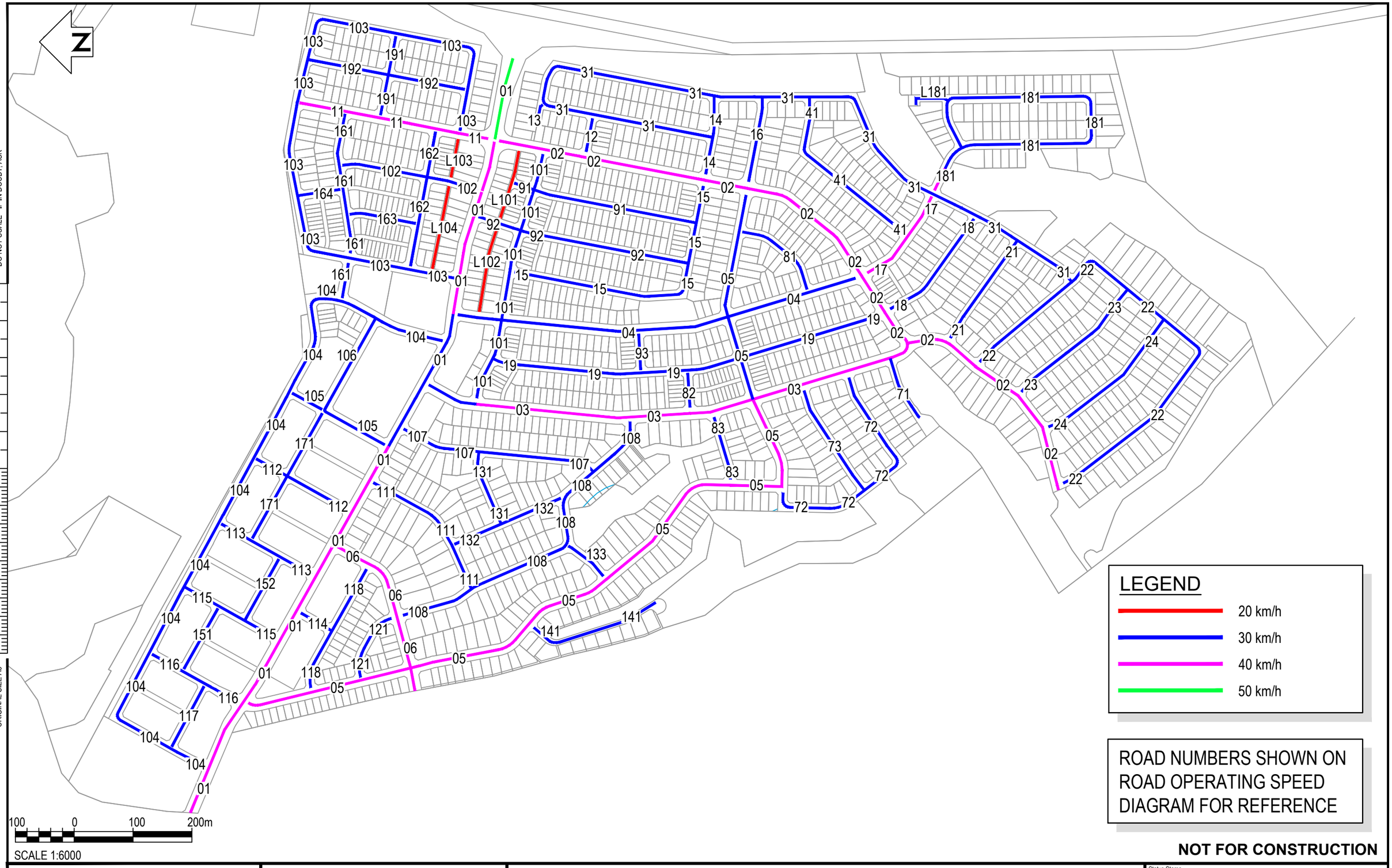

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROAD OPERATING SPEEDS

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Date Stamp: **11.04.2025**

Scales: AS SHOWN

FIGURE No.: FIG.R005

Rev.: 0

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Appendix D Road Cross Sections

TO QUEENSTOWN

TO KINGSTON

STATE HIGHWAY 6

N

STAGE 01
STAGE 02
STAGE 03
STAGE 04
STAGE 05
STAGE 06
STAGE 07
STAGE 08
STAGE 09
STAGE 10
STAGE 11
STAGE 12
STAGE 13
STAGE 14
STAGE 15
STAGE 16
STAGE 17
STAGE 18
STAGE 19

12m RES OS 6.2m
13.5m RES OS 8.35m

50 0 50 100m
SCALE 1:3000

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1

ROAD WIDTH LEGEND

RESERVE WIDTH - CARRIAGEWAY WIDTH
(CARRIAGEWAY WIDTH BETWEEN FACE OF KERBS)

- 24m ENTRANCE (MED) 13.6m
- 24m RES SPINE (MED) 13.6m
- 24m RES SPINE 11.6m
- 22m RES SPINE 11.6m
- 21m RES SEC 10.7m
- 21m RES CYC 8.0m
- 20m TC HD RES 12.5m
- 20m TC MAIN 11.6m
- 20m RES SEC 9.5m
- 19m TC SIDE 11.6m
- 18m RES 9.5m
- 18m RES PATH 8.0m
- 17m HD RES OS 10.7m
- 17m RES OS 8.0m
- 16m HD RES 10.7m
- 16m RES STD 8.0m
- 15m HD RES OS 10.7m
- 15m RES OS 8.0m
- 13.5m RES OS 8.35m
- 12m RES OS 6.2m
- 9m RES OS 6.2m
- 7m LANE RES 6.54m
- SHARED PATH SIDE

LEGEND ABBREVIATIONS	
CYC	CYCLE ROUTE
HD	HIGH DENSITY
MED	MEDIAN
OS	OPEN SPACE
RES	RESIDENTIAL
SIDE	SIDE STREET
SEC	SECONDARY
STD	STANDARD
TC	TOWN CENTRE

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	PAT	BJ	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Peter Thomson	03.25
CAD REVIEW	Brent James	Th
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Iain Banks	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

GENERAL ARRANGEMENT
ROAD RESERVE AND CARRIAGEWAY WIDTHS

Status Stamp: **FOR CONSENT**
Date Stamp: **11.04.2025**
Scales: 1:3000
Drawing No.: 310104425-00-000-C0002
Rev.: 0

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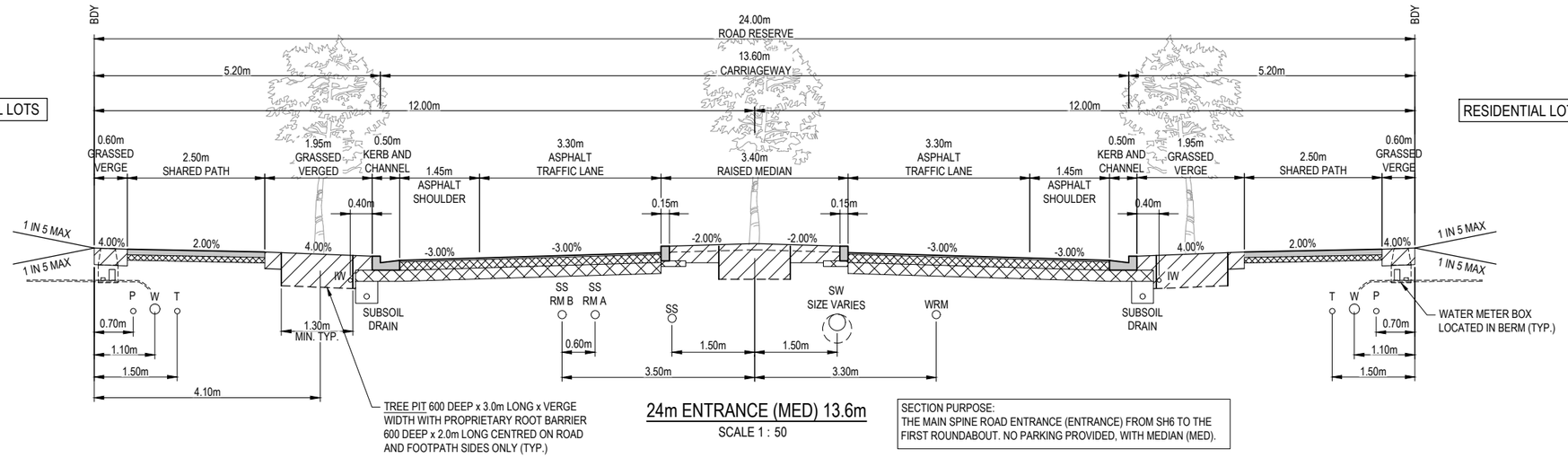
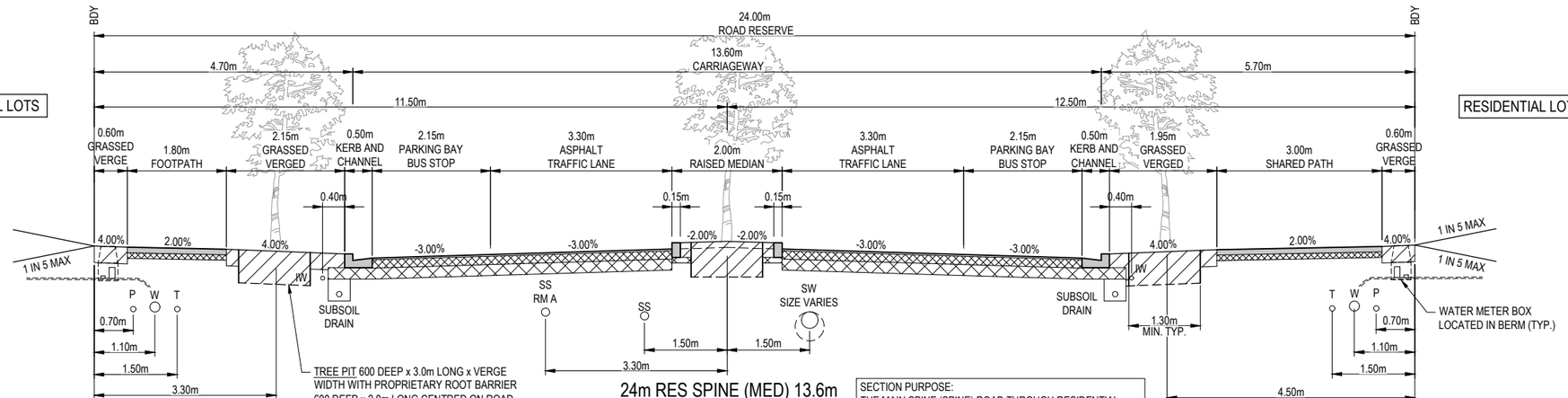


24m ENTRANCE (MED) 13.6m

SCALE 1 : 50

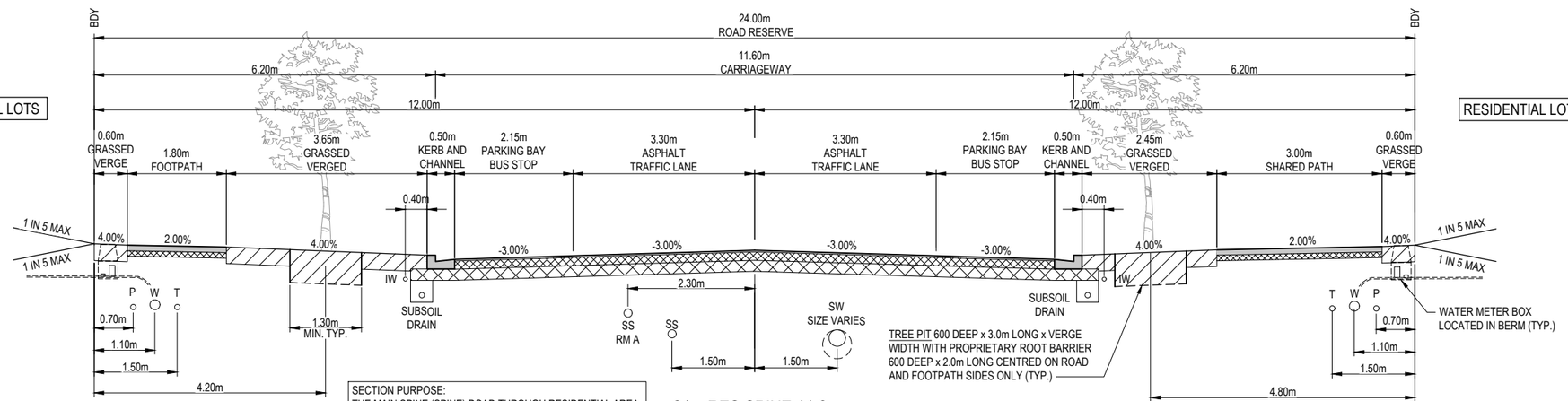
SECTION PURPOSE:
THE MAIN SPINE ROAD ENTRANCE (ENTRANCE) FROM SH6 TO THE FIRST ROUNDABOUT. NO PARKING PROVIDED, WITH MEDIAN (MED).



24m RES SPINE (MED) 13.6m

SCALE 1 : 50

SECTION PURPOSE:
THE MAIN SPINE (SPINE) ROAD THROUGH RESIDENTIAL AREA (RES) WITH SEPARATE TRAFFIC AND PARKING LANES CAPABLE OF ACCOMMODATING BUS AND SERVICE VEHICLES WITH A RAISED LANDSCAPED MEDIAN (MED).



24m RES SPINE 11.6m

SCALE 1 : 50

SECTION PURPOSE:
THE MAIN SPINE (SPINE) ROAD THROUGH RESIDENTIAL AREA (RES) WITH SEPARATE TRAFFIC AND PARKING LANES CAPABLE OF ACCOMMODATING BUS AND SERVICE VEHICLES.

SCALE 1:50

ROADS 01-06 (TBA)	40 ASPHALT (DG10) 180 M4 AP40 250 AP65
ALL OTHER ROADS	30 ASPHALT (DG7) 150 M4 AP40 200 AP65
DRIVEWAYS & ACCESS WAYS	SE 62 MESH CENTRAL 150 CONCRETE 100 AP40
FOOTPATHS	100 CONCRETE (BROOM FINISH) 100 AP40

PAVEMENT LAYERS

SCALE 1 : 25

NOTE: ALL PAVEMENT LAYER DEPTHS BASED ON SUBGRADE CBR GREATER THAN OR EQUAL TO 7

MINIMUM COVER TABLE		
CODE	SERVICE	MINIMUM COVER
W	WATERMAIN	1000
WR	RIDERMAIN	1000
WRM	WATER RISING MAIN	1000
IW	IRRIGATION WATER	400 1000 AT ROAD CROSSINGS
T	TELECOMMS	750
P	POWER	LV 750 HV 1000
SS	SANITARY SEWER + LPS	1000
SS RM	SANITARY SEWER RISING MAIN	1000
SW	STORMWATER	1000

ABBREVIATIONS			
CYC	CYCLE ROUTE	SIDE	SIDE STREET
HD	HIGH DENSITY	SEC	SECONDARY
MED	MEDIAN	STD	STANDARD
OS	OPEN SPACE	TC	TOWN CENTRE
RES	RESIDENTIAL		

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REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	GH	PAT	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 24m ROAD RESERVE

Status Stamp: FOR CONSENT
Date Stamp: 11.04.2025
Scales: 1:50
Drawing No.: 310104425-00-000-C0120
Rev.: 0

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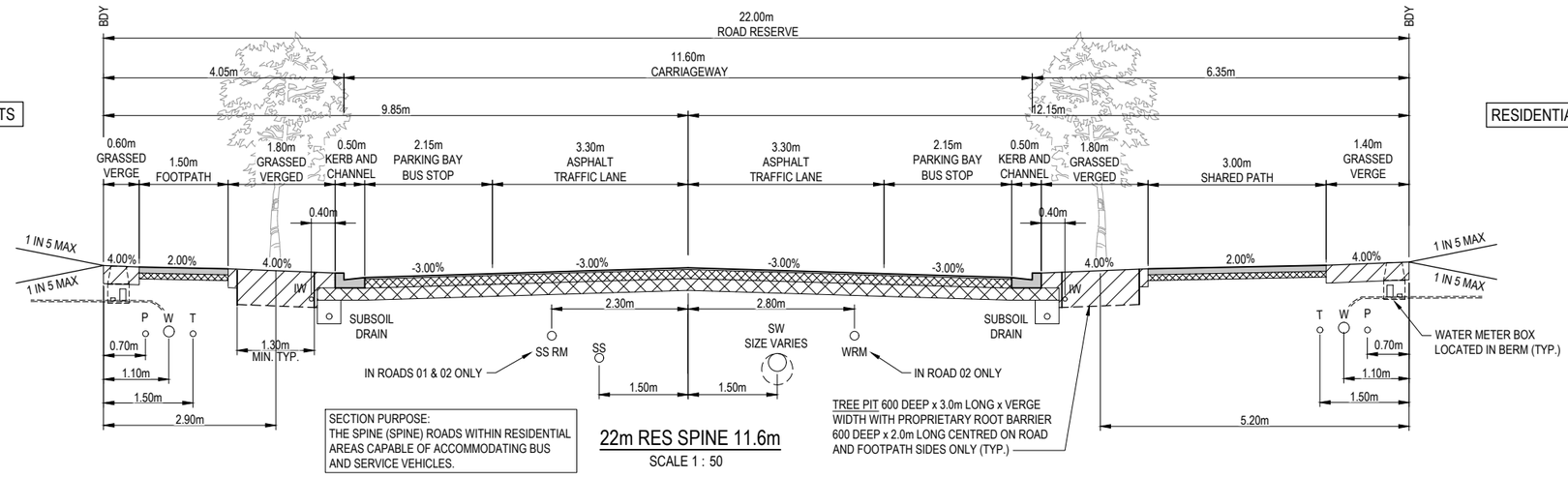
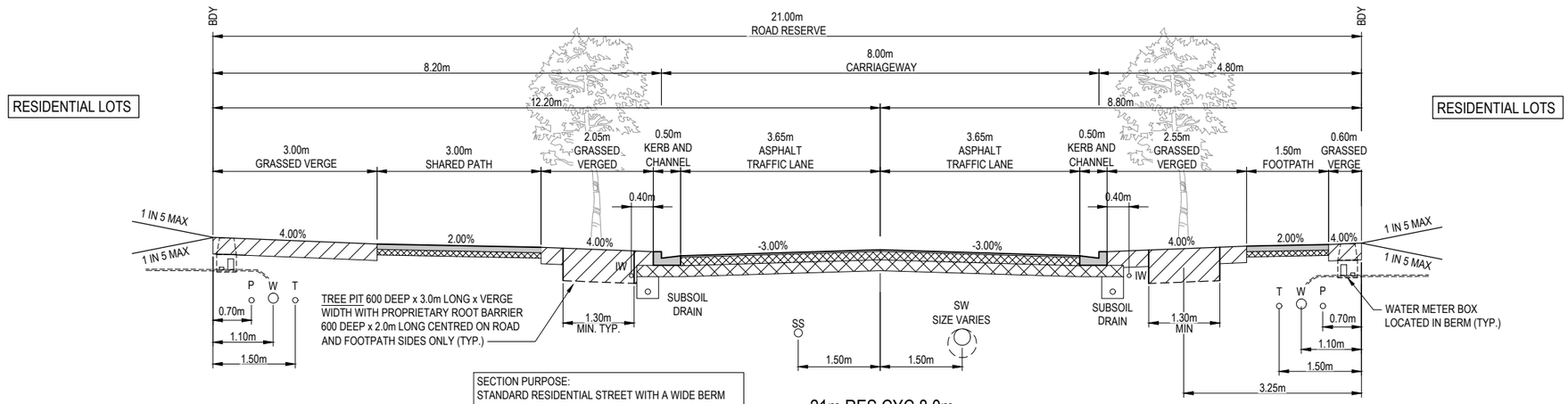


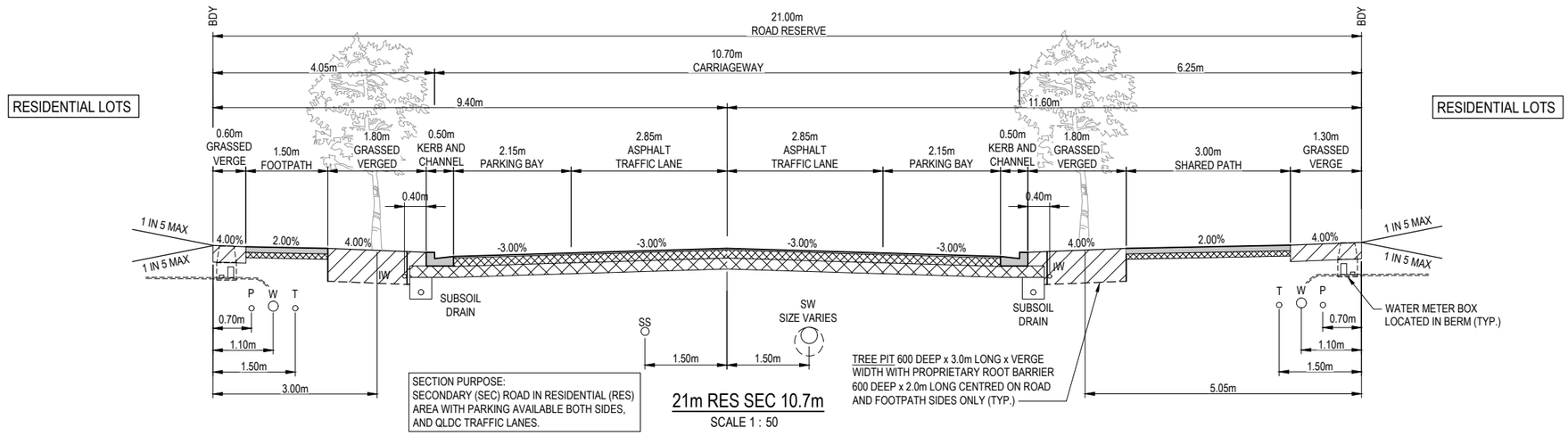
22m RES SPINE 11.6m

SCALE 1 : 50



21m RES CYC 8.0m

SCALE 1 : 50



21m RES SEC 10.7m

SCALE 1 : 50

1 0 1 2m

SCALE 1:50

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ORIGINAL SIZE A1

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BJ	PAT	PSW	11.04.25

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DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 22m AND 21m ROAD RESERVES

Status Stamp: **FOR CONSENT**
Date Stamp: **11.04.2025**
Scales: 1:50
Drawing No.: 310104425-00-000-C0121
Rev.: 0

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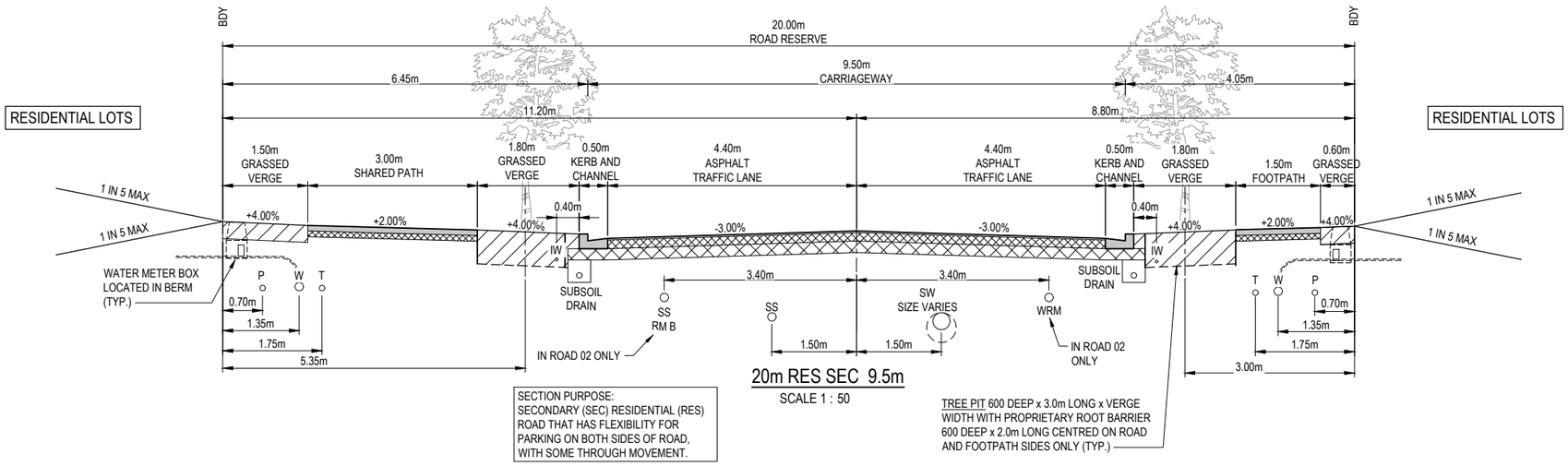
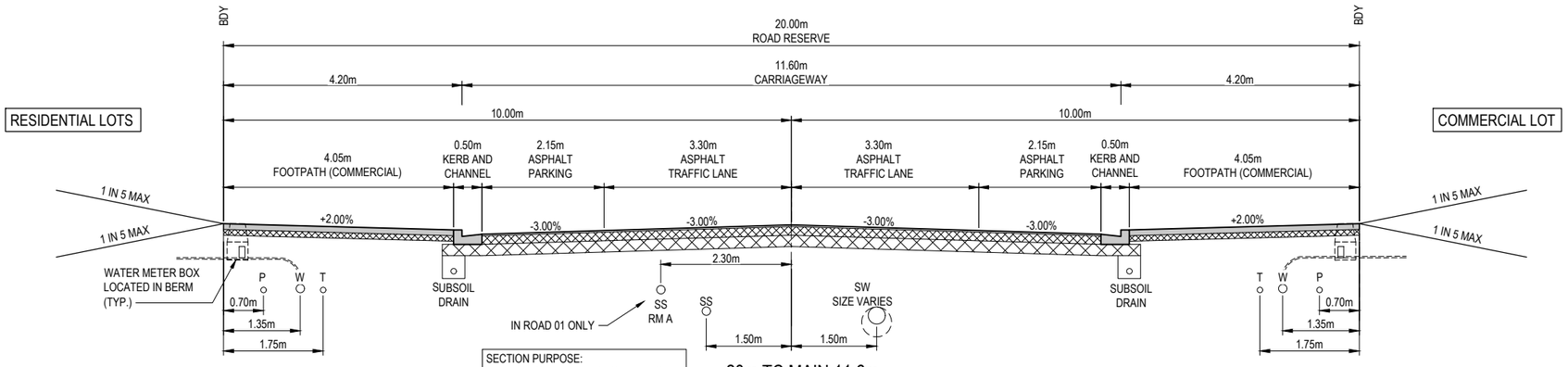


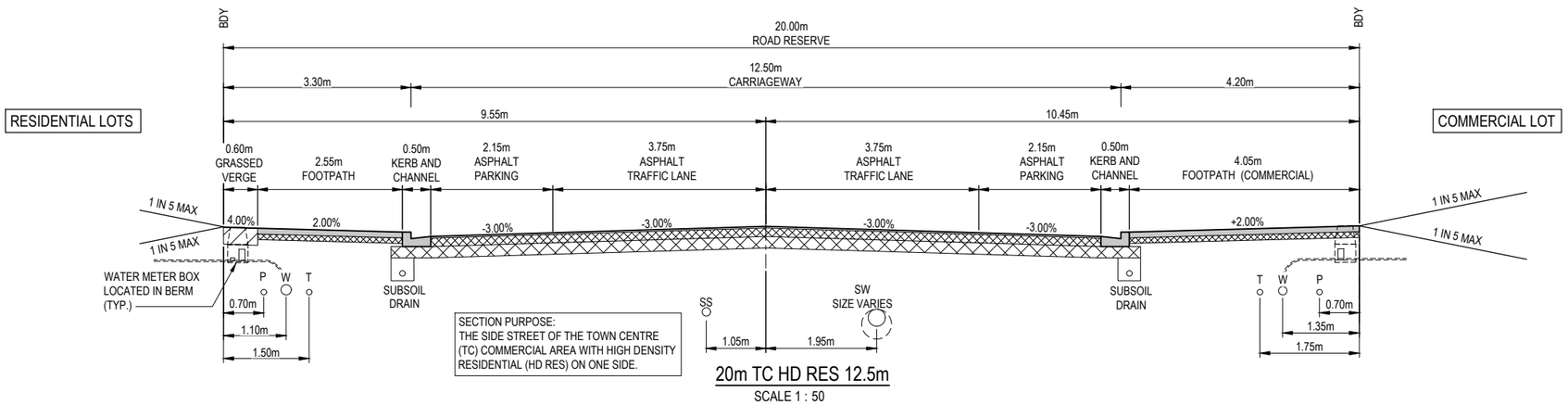
20m RES SEC 9.5m

SCALE 1 : 50



20m TC MAIN 11.6m

SCALE 1 : 50



20m TC HD RES 12.5m

SCALE 1 : 50

1 0 1 2m

SCALE 1:50

NOT FOR CONSTRUCTION

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ORIGINAL SIZE **A1**

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BJ	PAT	PSW	11.04.25

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DESIGNED	Andrew Metherell	03.25
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CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

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HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 20m ROAD RESERVE

Status Stamp	**FOR CONSENT**
Date Stamp	**11.04.2025**
Scales	1:50
Drawing No.	310104425-00-000-C0122
Rev.	0

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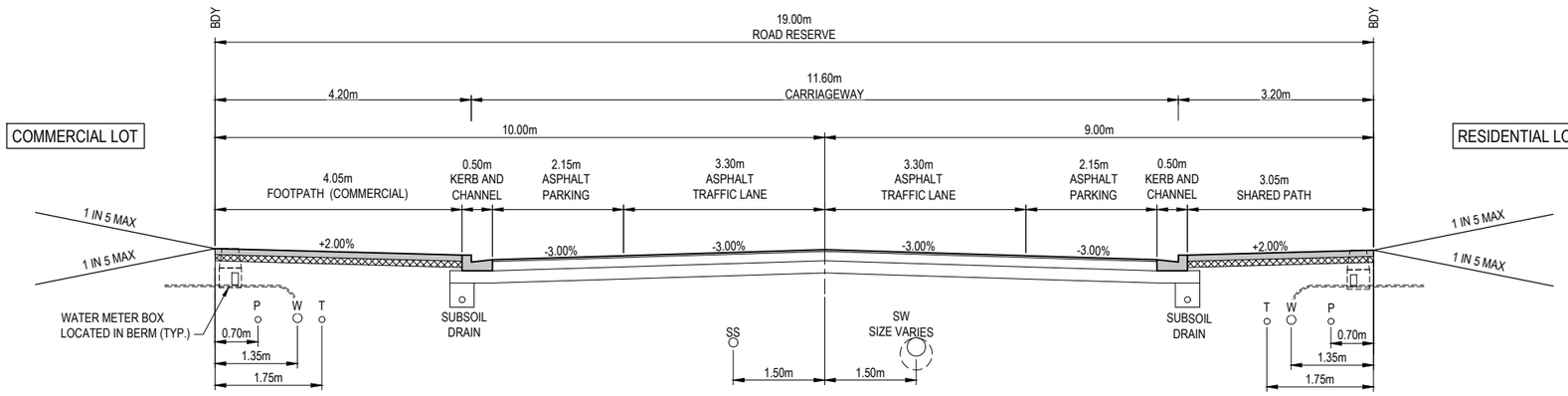
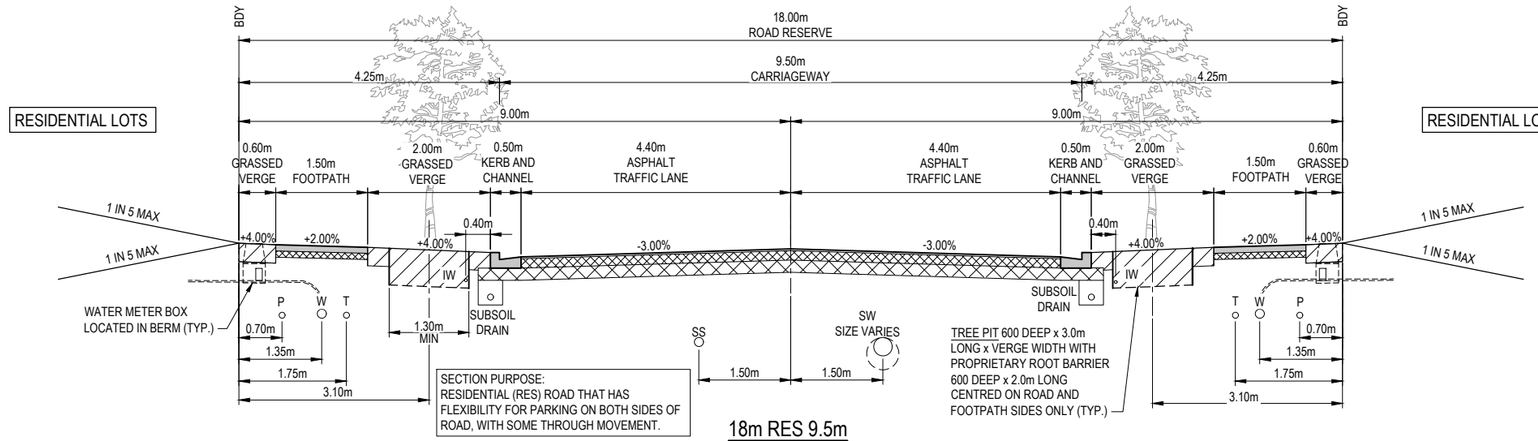


SECTION PURPOSE:
THE SIDE STREET (SIDE) OF THE TOWN CENTRE (TC) COMMERCIAL AREA, WITH SHARED PATH DOWN ONE SIDE FOR CONNECTIVITY.

19m TC SIDE 11.6m

SCALE 1 : 50

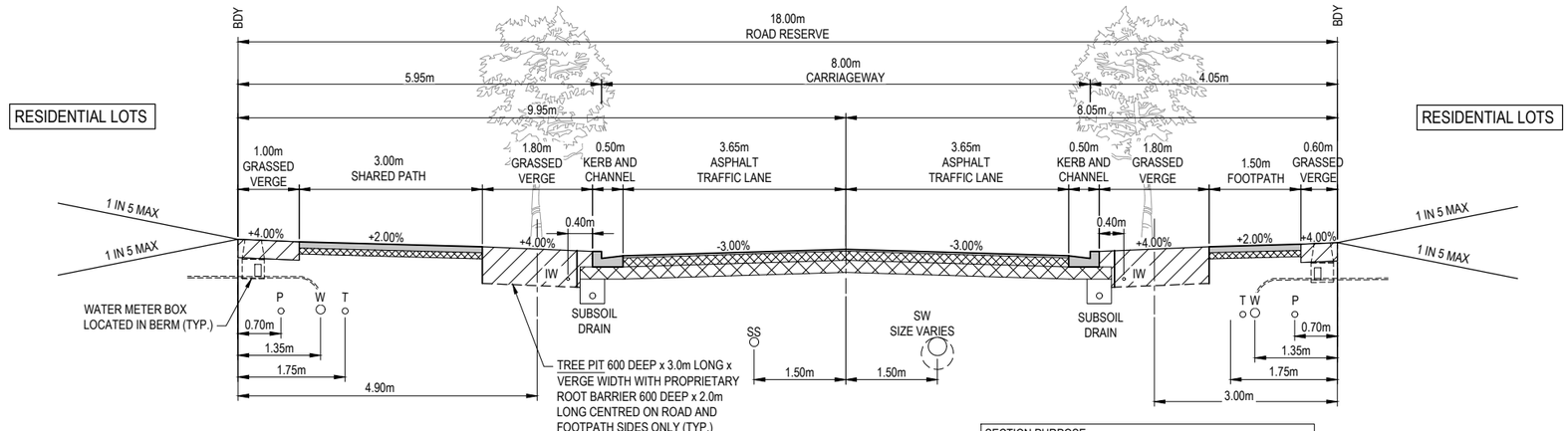


SECTION PURPOSE:
RESIDENTIAL (RES) ROAD THAT HAS FLEXIBILITY FOR PARKING ON BOTH SIDES OF ROAD, WITH SOME THROUGH MOVEMENT.

TREE PIT 600 DEEP x 3.0m LONG x VERGE WIDTH WITH PROPRIETARY ROOT BARRIER 600 DEEP x 2.0m LONG CENTRED ON ROAD AND FOOTPATH SIDES ONLY (TYP.)

18m RES 9.5m

SCALE 1 : 50



TREE PIT 600 DEEP x 3.0m LONG x VERGE WIDTH WITH PROPRIETARY ROOT BARRIER 600 DEEP x 2.0m LONG CENTRED ON ROAD AND FOOTPATH SIDES ONLY (TYP.)

18m RES PATH 8.0m

SCALE 1 : 50

SECTION PURPOSE:
STANDARD (STD) RESIDENTIAL (RES) ROAD WITH FLEXIBILITY FOR PARKING BOTH SIDES AND A SINGLE TRAFFIC LANE THROUGH, WITH A SHARED PATH (PATH) FOR CONNECTIVITY.

1 0 1 2m
SCALE 1:50

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BJ	PAT	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
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CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

Stantec

Client: rcl group

HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 19m AND 18m ROAD RESERVES

Status Stamp: **FOR CONSENT**
Date Stamp: **11.04.2025**
Scales: 1:50
Drawing No.: 310104425-00-000-C0123
Rev.: 0

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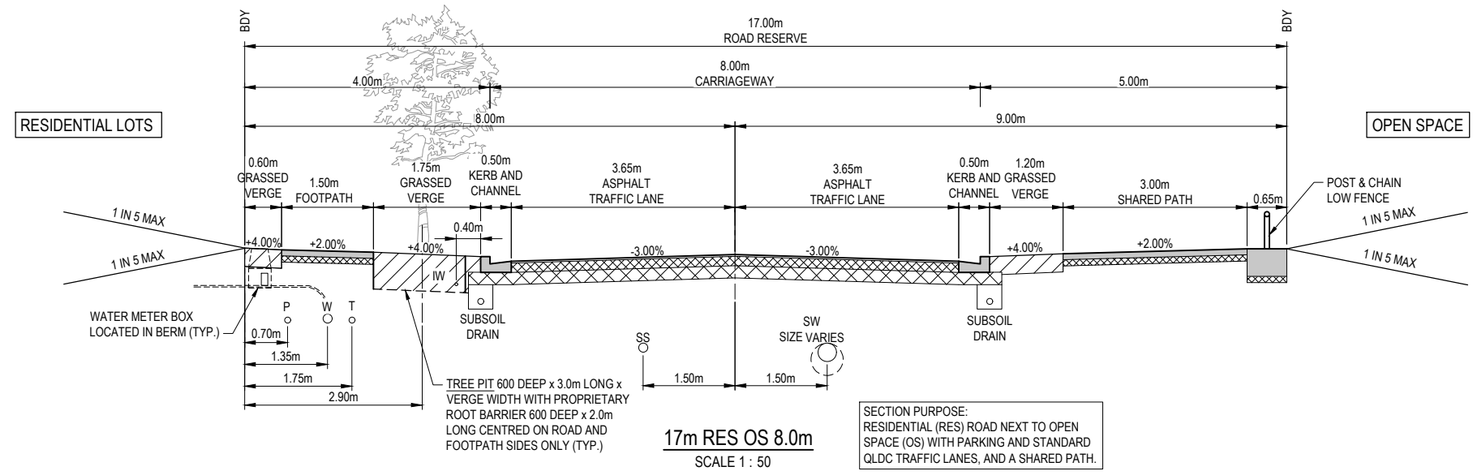
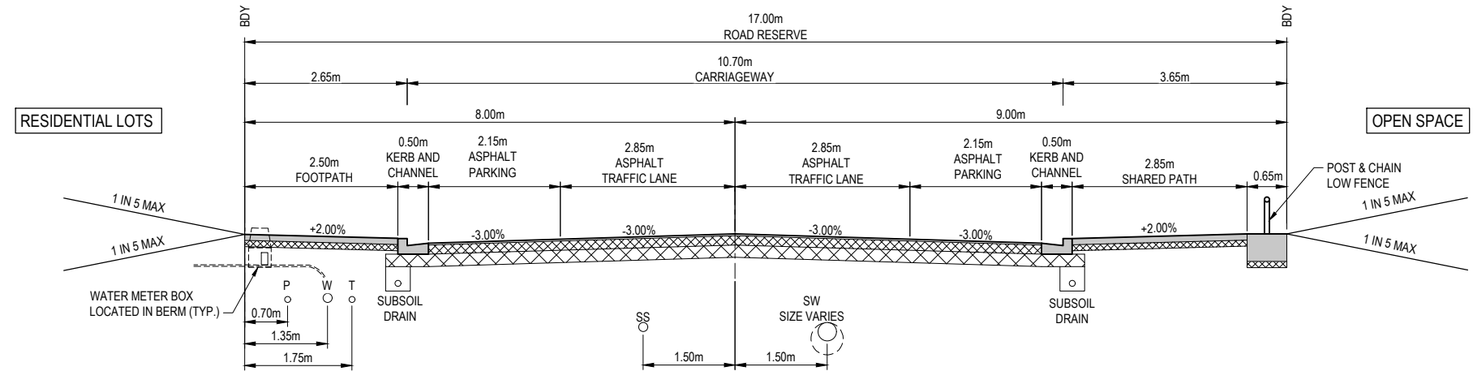


SECTION PURPOSE:
RESIDENTIAL (RES) ROAD NEXT TO OPEN SPACE (OS) WITH PARKING AND STANDARD QLDC TRAFFIC LANES, AND A SHARED PATH.

17m RES OS 8.0m

SCALE 1 : 50



SECTION PURPOSE:
HIGH DENSITY RESIDENTIAL (HD RES) ROAD NEXT TO OPEN SPACE (OS) WITH PARKING AND STANDARD QLDC TRAFFIC LANES, AND A SHARED PATH.

17m HD RES OS 10.7m

SCALE 1 : 50

1 0 1 2m

SCALE 1:50

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BG	PAT	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

Stantec

Client: rcl group

HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 17m ROAD RESERVE

Status Stamp: **FOR CONSENT**
Date Stamp: **11.04.2025**
Scales: 1:50
Drawing No.: 310104425-00-000-C0124
Rev.: 0

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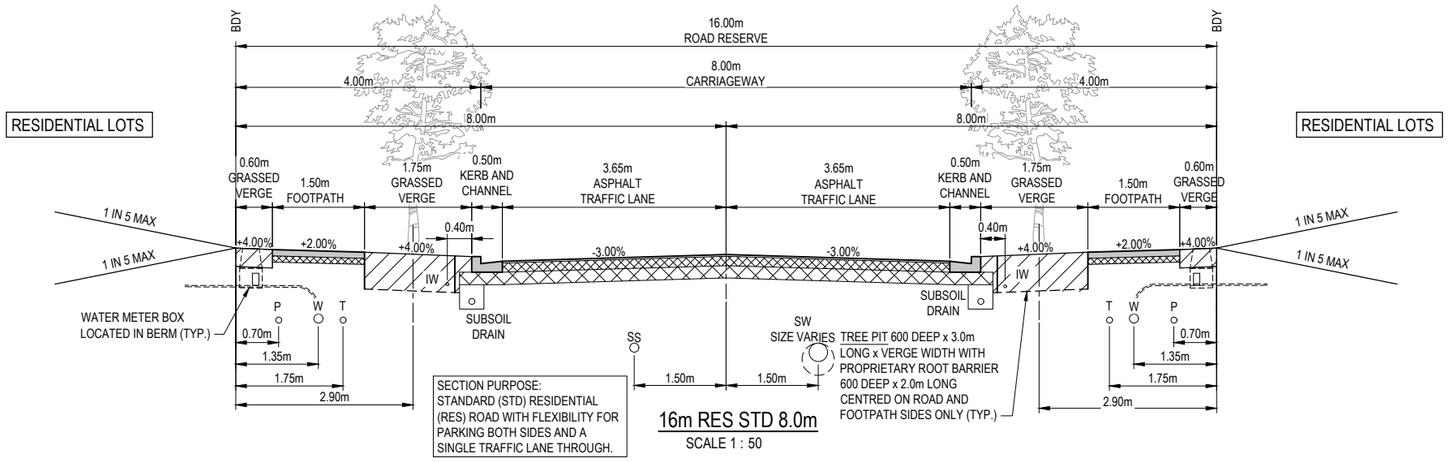
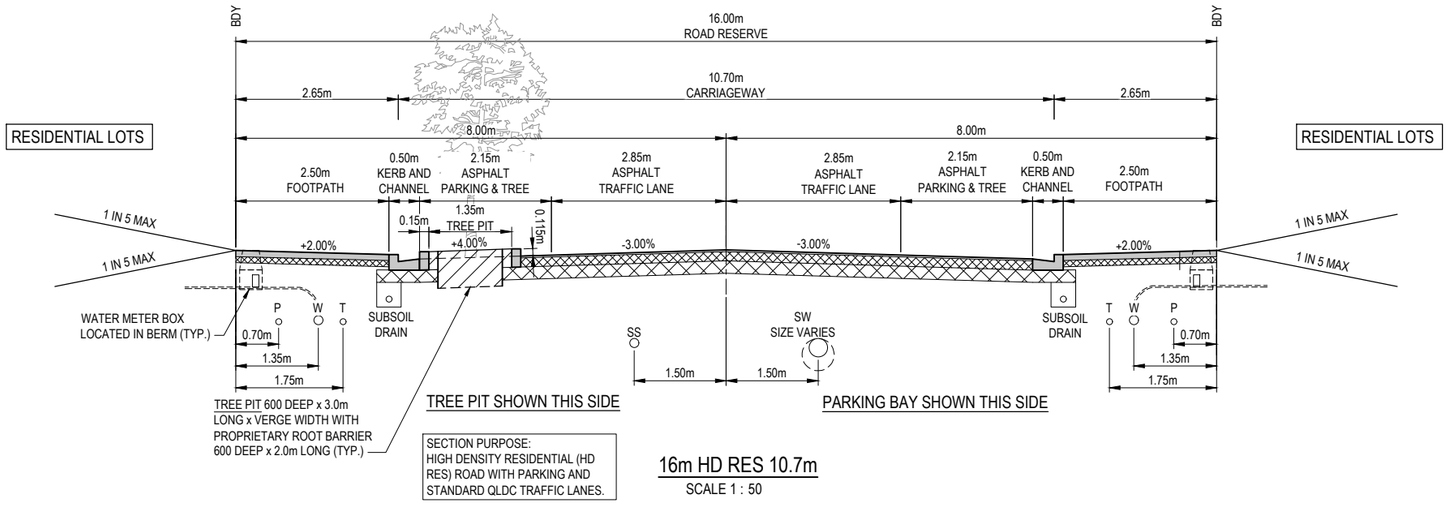


16m RES STD 8.0m

SCALE 1 : 50



16m HD RES 10.7m

SCALE 1 : 50

1 0 1 2m

SCALE 1:50

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BM	PAT	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

Stantec

Client: rcl group

HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 16m ROAD RESERVE

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:50

Drawing No.: 310104425-00-000-C0125

Rev.: 0

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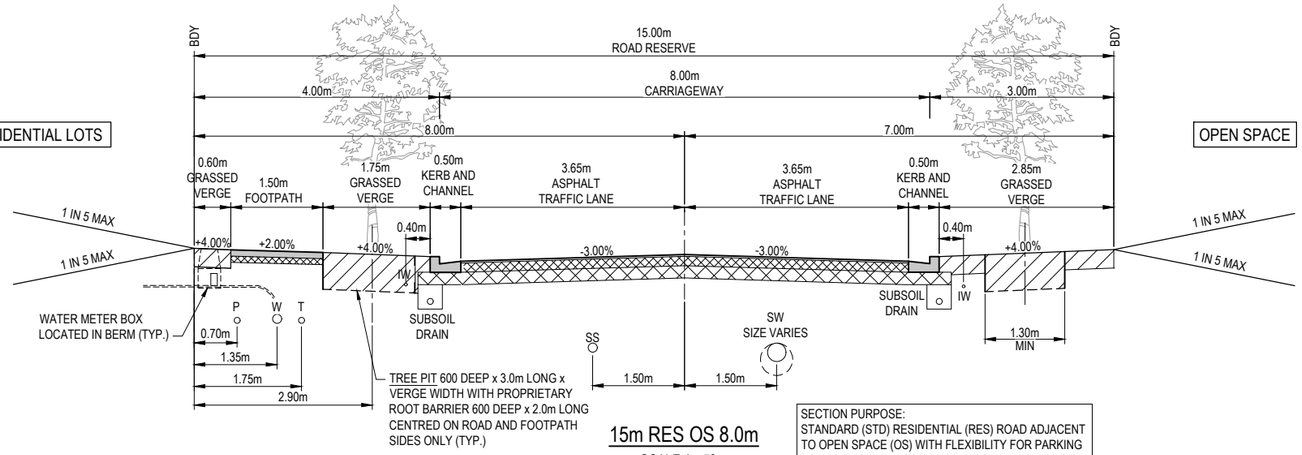
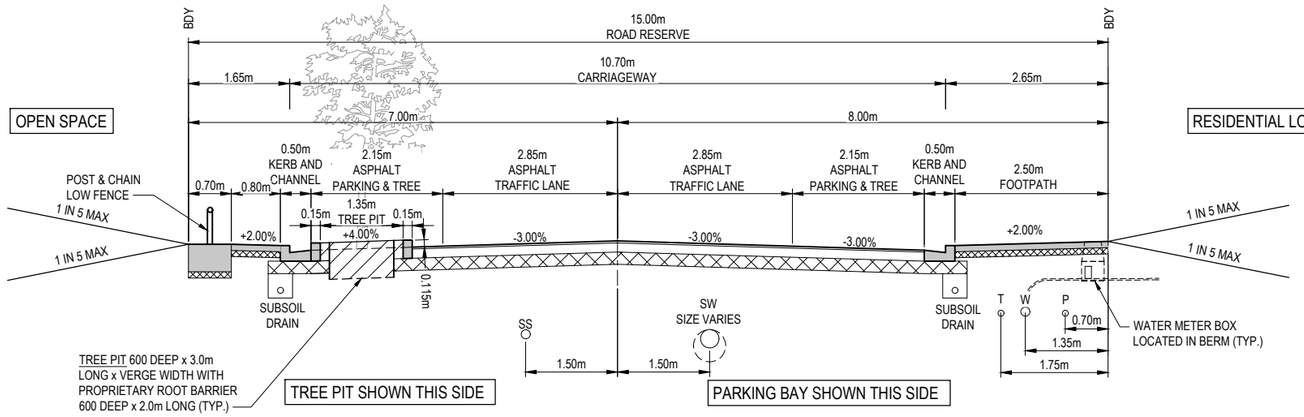


15m RES OS 8.0m

SCALE 1 : 50

SECTION PURPOSE:
STANDARD (STD) RESIDENTIAL (RES) ROAD ADJACENT TO OPEN SPACE (OS) WITH FLEXIBILITY FOR PARKING BOTH SIDES AND A SINGLE TRAFFIC LANE THROUGH.



15m HD RES OS 10.7m

SCALE 1 : 50

SECTION PURPOSE:
HIGH DENSITY RESIDENTIAL (HD RES) ROAD NEXT TO OPEN SPACE (OS) WITH PARKING AND STANDARD QLDC TRAFFIC LANES.

ORIGINAL SIZE A1

1 0 1 2m

SCALE 1:50

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE
0	ISSUED FOR CONSENT	BM	PAT	PSW	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

Stantec

Client: rcl group

HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING
TYPICAL CROSS-SECTIONS - 15m ROAD RESERVE

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:50

Drawing No.: 310104425-00-000-C0126

Rev.: 0

PLOTTED: 10/04/2025 7:47:41 pm
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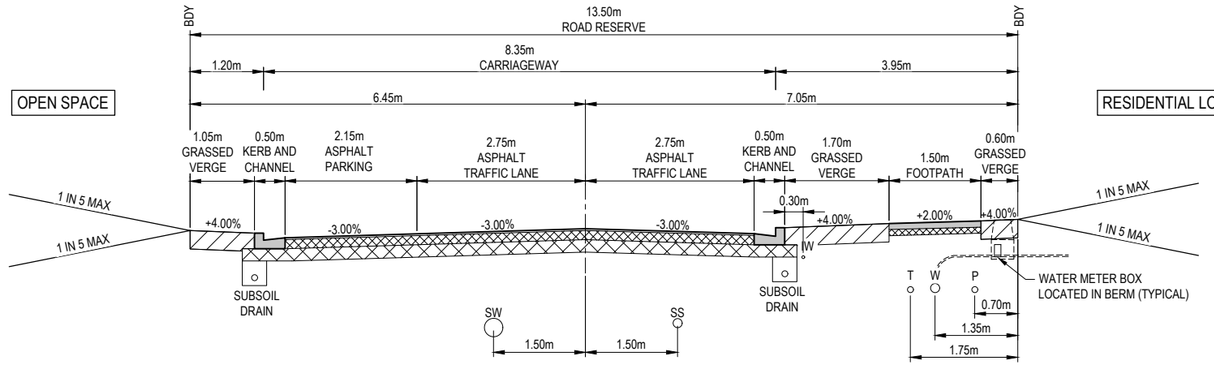
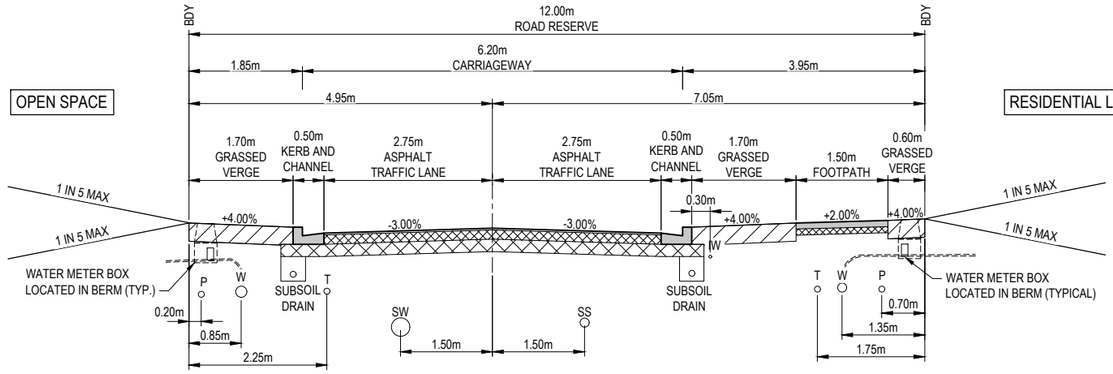


13.5m RES OS 8.35m

SCALE 1 : 50

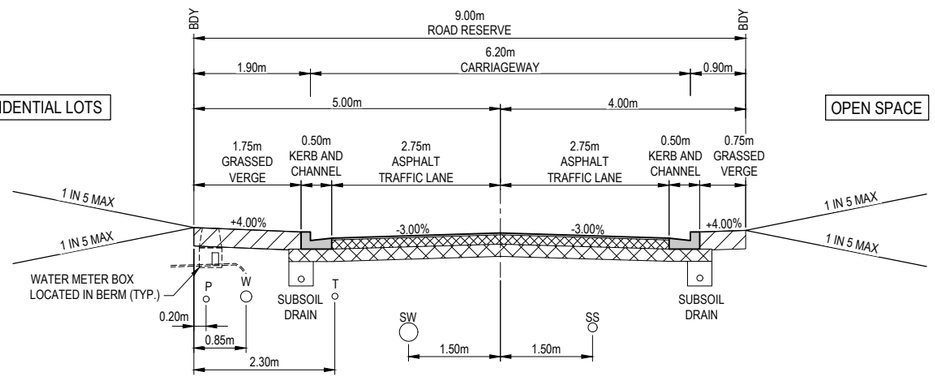
SECTION PURPOSE:
STANDARD (STD) RESIDENTIAL (RES) CUL-DE-SAC ACCESS ADJACENT TO OPEN SPACE WITH FOOTPATH ON SIDE ADJACENT LOTS.



12m RES OS 6.2m

SCALE 1 : 50

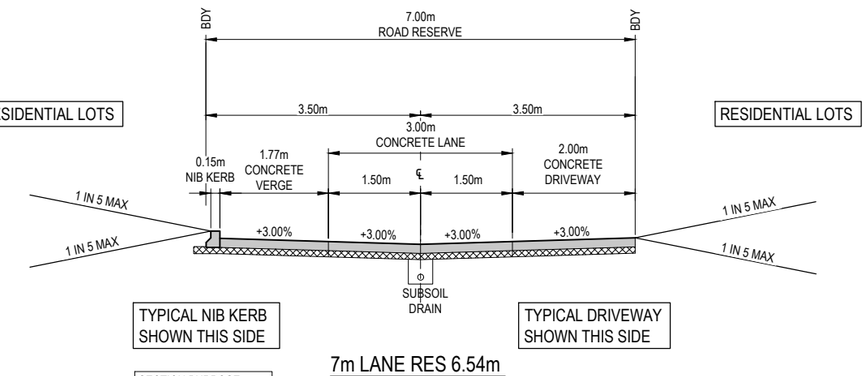
SECTION PURPOSE:
STANDARD (STD) RESIDENTIAL (RES) CUL-DE-SAC ACCESS ADJACENT TO OPEN SPACE WITH FOOTPATH ON SIDE ADJACENT LOTS.



9m RES OS 6.2m

SCALE 1 : 50

SECTION PURPOSE:
CUL-DE-SAC WITH OPEN SPACE ONE SIDE AND LOTS ON THE OTHER.

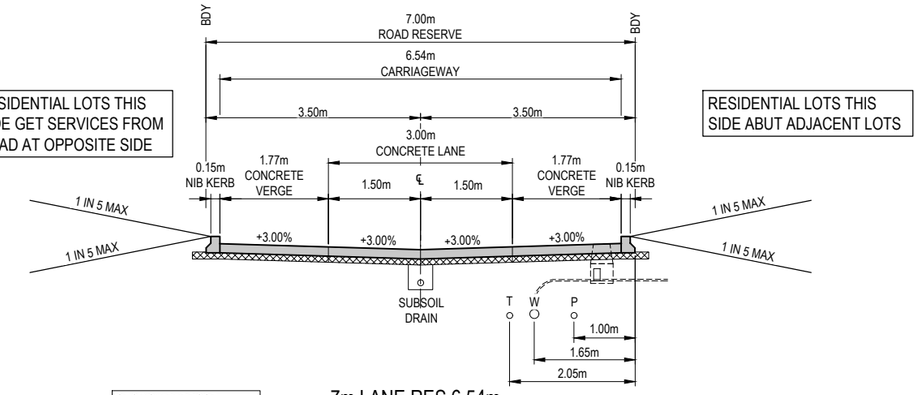


7m LANE RES 6.54m

SCALE 1 : 50

(NO SERVICES)

SECTION PURPOSE:
REAR LANE - SERVICES IN ADJACENT ROAD.



7m LANE RES 6.54m

SCALE 1 : 50

(WITH SERVICES)

SECTION PURPOSE:
REAR LANE - SERVICES NOT IN ADJACENT ROADS.

NOT FOR CONSTRUCTION

SCALE 1:50

DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1

PLOTTED: 10/04/2025 2:48:39 pm

REV	REVISIONS	BG	PAT	PSW	DATE
0	ISSUED FOR CONSENT	DRN	CHK	APP	11.04.25

SURVEYED	Patersons	08.24
DESIGNED	Andrew Metherell	03.25
DRAWN	Gerhard Heyden / Brent James	03.25
CAD REVIEW	Peter Thomson	11.04.25
DESIGN CHECK	Iain Banks	11.04.25
DESIGN REVIEW	Peter White	11.04.25
APPROVED	Peter White	11.04.25
PROF REGISTRATION:		

Stantec

Client: rcl group

HOMESTEAD BAY SUBDIVISION, QUEENSTOWN
MASTER PLANNING

ROADING -TYPICAL CROSS-SECTIONS
13.5m, 12m & 9m ROAD AND 7m LANE RESERVES

Status Stamp: **FOR CONSENT**

Date Stamp: **11.04.2025**

Scales: 1:50

Drawing No.: 310104425-00-000-C0127

Rev.: 0

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Appendix E District Plan Rules Assessment

The following assessment of compliance with the District Plan transport rules addresses the residential lots relevant to the subdivision only. Due to the stage of development, most rules will only apply as lots are developed.

Rule	Requirement	Comments	Assessment
29.4.11	High Traffic Generating Activities Any new land-use or subdivision activity, including changes in use that exceeds the traffic generation standards or thresholds set out in Table 29.5. Discretion is restricted to effects on the transport network. Thresholds: • Subdivision traffic greater than 400vpd, or 50vph in commuter peak hour • 50 residential units, • retail 1000m^2	Approx 2,500 residential units, 11,000m^2 GFA Traffic generation exceeds thresholds	Restricted Discretionary See report for assessment of effects
29.5.1 (a)	Any parking space required by Table 29.4 or loading space shall be available for staff and visitors during the hours of operation and any staff parking required by this rule shall be marked as such.	To address at landuse development	Not Applicable
29.5.1 (b)	No parking space required by this Plan shall be located on any access or outdoor living space required by the District Plan, such that each parking space required shall have unobstructed vehicular access to a road or service lane, except where tandem parking is specifically provided for by Rule 29.5.8.	To address at landuse development	Not Applicable
29.5.1 (c)	Parking spaces and loading spaces may be served by a common manoeuvring area (which may include the installation of vehicle turntables), which shall remain unobstructed.	To address at landuse development	Not Applicable
29.5.2 (a)	All provided parking spaces and associated manoeuvring areas are to be designed and laid out in accordance with the Car Parking Layout requirements of Table 29.7 and Diagram 3 (car space layouts) of Schedule 29.2.	To address at landuse development	Not Applicable
29.5.2 (b)	The installation of a vehicle turntable for residential units and residential flats is an acceptable alternative to achieve the required turning manoeuvres of the swept path Diagram 4.	To address at landuse development	Not applicable
29.5.3	Car parking areas shall have a gradient of no more than 1 in 20 parallel to the angle of parking and 1 in 16 in any other direction	To address at landuse development	Not applicable
29.5.4 (a)	Other than in relation to residential units and visitor accommodation with less than six guests, whenever an activity requires parking, mobility parking spaces shall be provided in accordance with the following minimum standards: 1 to 10 spaces: 1 accessible space 11 to 100 spaces: 2 accessible spaces More than 100 spaces: 2 accessible spaces plus 1 more for every additional 50 spaces.	To address at landuse development	Not applicable

Rule	Requirement	Comments	Assessment
29.5.4 (b)	Car parking for people with disabilities shall be i.On a level surface; ii.Clearly signposted; iii.Located on the same site as the activity; iv.Be as close as practicable to the building entrance; and, v.Be accessible to the building via routes that give direct access from the car park to the building.	To address at landuse development	Not applicable
29.5.5 (a)	Drop off/pick up (set down) Areas	To address at landuse development	Not applicable
29.5.6 (a)	Where on-site manoeuvring areas or drop off/ pick up (set down) areas are required, these shall be located and designed to ensure that no vehicle is required to reverse onto or off any road.	To address at landuse development	Not applicable
29.5.6 (b)	Where heavy vehicle parking spaces, on-site manoeuvring, and loading areas are required, these shall be designed and located to ensure that no heavy vehicle is required to reverse manoeuvre from (or onto) any site or service lane onto (or from) any road.	To address at landuse development	Not applicable
29.5.6 (c)	Where a service lane does not meet the definition of a 'road', a heavy vehicle can reverse onto (or from) a site from (or onto) a service lane but this does not enable a heavy vehicle to then reverse from that service lane onto a road.	Heavy vehicle parking spaces are not required for residential activity	Not applicable
29.5.6 (d)	On-site manoeuvring shall be provided to ensure that no vehicle is required to reverse onto or off any State Highway or arterial road.	No development lot access to state highway.	Not applicable
29.5.6 (e)	On-site manoeuvring shall be provided for a B85 vehicle to ensure that no such vehicle is required to reverse either onto or off any collector road where: i. the frontage road speed limit is 80km/h or greater, or ii. six or more parking spaces are to be serviced by a single accessway; or iii. three or more residential units share a single accessway; or iv. the activity is on a rear site.	To address at landuse development	Not applicable
29.5.6 (f)	On-site manoeuvring shall be provided for a B85 vehicle to ensure that no such vehicle is required to reverse either onto or off any local road where: i. ten or more parking spaces are to be serviced by a single accessway, or ii. five or more residential units share a single accessway; or iii. the activity is on a rear site.	To address at landuse development	Not applicable
29.5.6 (g)	Where on-site manoeuvring areas are required, a B85 vehicle shall be able to manoeuvre in and out of any required parking space other than parallel parking spaces, with only one reverse manoeuvre:	To address at landuse development	Not applicable
29.5.6 (h)	The installation of a vehicle turntable for residential units and residential flats is an acceptable alternative to achieve the required turning manoeuvres.	To address at landuse development	Not applicable
29.5.7 (a)	The minimum width of the entrance to a single garage shall be no less than 2.4 m.	To address at landuse development	Not applicable

Rule	Requirement	Comments	Assessment
29.5.7 (b)	The minimum length of a garage shall be 5.5m.	To address at landuse development	Not applicable
29.5.7 (c)	Where a car space is proposed between a garage door and the road boundary, the minimum length of this car space shall be 5.5m.	To address at landuse development	Not applicable
29.5.7 (d)	Where onsite manoeuvring is required, the minimum manoeuvring area between the road boundary and the garage entrance shall be designed to accommodate a B85 design vehicle.	To address at landuse development	Not applicable
29.5.7 (e)	Where two parking spaces are provided for on a site containing only a single visitor accommodation unit or a single residential unit, which may also include a single residential flat, the parking spaces may be provided in tandem.	To address at landuse development	Not applicable
29.5.8 (a)	On-site queuing space shall be provided for all vehicles entering a parking or loading area	To address at landuse development	Not applicable
29.5.8 (b)	Where the parking area has more than one access the required queuing space may be divided between the accesses based on the expected traffic volume served at each access point.	To address at landuse development	Not applicable
29.5.8 (c)	Queuing space length shall be measured from the road boundary at the vehicle crossing to the nearest vehicle control point.	To address at landuse development	Not applicable
29.5.9 (a)a	Off-street loading shall be provided in accordance with this standard on every site in the Business Mixed Use Zone, the Town Centre zones and Local Shopping Centre Zone	Not in BMUZ, town centre zone or shopping centre zone.	Equivalent condition should be included as a condition of consent for commercial lots
29.5.9 (b)	Every loading space shall be of the following dimensions:	To address at landuse development	Not applicable
29.5.10 (a)	The surface of all parking, loading and associated access areas shall be formed, sealed and otherwise maintained so as to avoid creating a dust or noise nuisance, to avoid water ponding on the surface and to avoid run-off onto adjoining roads.	To address at landuse development	Not applicable
29.5.11 (b)	The first 10m of such areas, as measured from the traffic lane, shall be formed and surfaced to ensure that material such as mud, stone chips or gravel is not carried onto any footpath, road or service lane.	To address at landuse development	Not applicable
29.5.11 (a)	Excluding parking areas accessory to residential activity, where a parking area provides for 10 or more parking spaces, which are likely to be used during the hours of darkness, the parking and manoeuvring areas and associated pedestrian routes shall be adequately lit.	To address at landuse development	Not applicable
29.5.12	Bicycle parking, lockers and showers shall be provided in accordance with the minimum requirements of Table 29.6.	To address at landuse development	Not applicable

Rule	Requirement	Comments	Assessment
29.5.13 (a)	All vehicular access to fee simple title lots, cross lease, unit title or leased premises shall be in accordance with Table 3.2 of the QLDC Subdivision Code of Practice 2018	Access will be provided through new roads that are designed with reference to the COP, but incorporate alternative design solutions in many cases.	Restricted Discretionary
29.5.13 (b)	All shared private vehicular access serving residential and/or visitor accommodation units in the High, Medium and Low Density Residential Zones shall be in accordance with the standards.	Not in this zone. Legal width complies. The formed width of carriageway on the private ROWs top be assessed at landuse development.	Equivalent condition referencing rule should be included as a condition of consent
29.5.13 (b) (i)	Except Where a shared vehicle access for 1 to 6 units adjoins a State Highway, arterial, or collector road, it shall have a formed width of 5.5m - 5.7m and a legal width of at least 6.7m for a minimum length of 6m, as measured from the legal road boundary.		
29.5.13 (b) (ii)	Formed access widths for 1 to 6 units shall include widening to not less than 5.5 m over a 15m length at no more than 50 m spacing (measured from the end of one passing bay to the beginning of the next).		
29.5.13 (b) ii (ii)	To allow vehicles to pass, formed access widths for 1 to 6 units shall include widening to not less than 5.5m over a 15m length at no more than 50m intervals		
29.5.13 (c)	No private way or shared access in any zone shall serve sites with a potential to accommodate more than 12 units on the site or adjoining sites	3 medium density super lots proposed that service more than 12 lots	Restricted Discretionary Activity
29.5.13 (d)	Private shared vehicle access shall have legally enforceable arrangements for maintenance put in place at the time they are created.	To address at landuse development	Not applicable
29.4.13 (e)	All vehicle access design shall comply with Schedule 29.2	To address at landuse development	Not applicable
29.5.13 (f)	The above access width rules do not apply to existing private shared vehicle accessways for controlling the number of units that may be built using the accessways unless the total land served by the accessway could provide for more than 12 units	No existing access ways	Not applicable
29.5.14 (a)	The following vehicle crossing widths shall apply as measured at the property boundary; for residential activity, access shall have a minimum width of 3m and a maximum width of 6m.	To address at landuse development	Not applicable
29.5.14 (b)	Vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.16 shall comply with Diagram 2 and with either Diagram 6 or 7 in Schedule 29.2, depending on the activity served by the access,	To address at landuse development	Not applicable
29.5.14 (b) i	The access shall cross the property boundary at any an angle of between 45 degrees and 90 degrees.	To address at landuse development	Not applicable
29.5.14 (b) ii	The vehicle crossing intersects with the carriageway at an angle of between 45 degrees and 90 degrees.	To address at landuse development	Not applicable
29.5.14 (b) iii	Roading drainage shall be continuous across the length of the crossing.	To address at landuse development	Not applicable

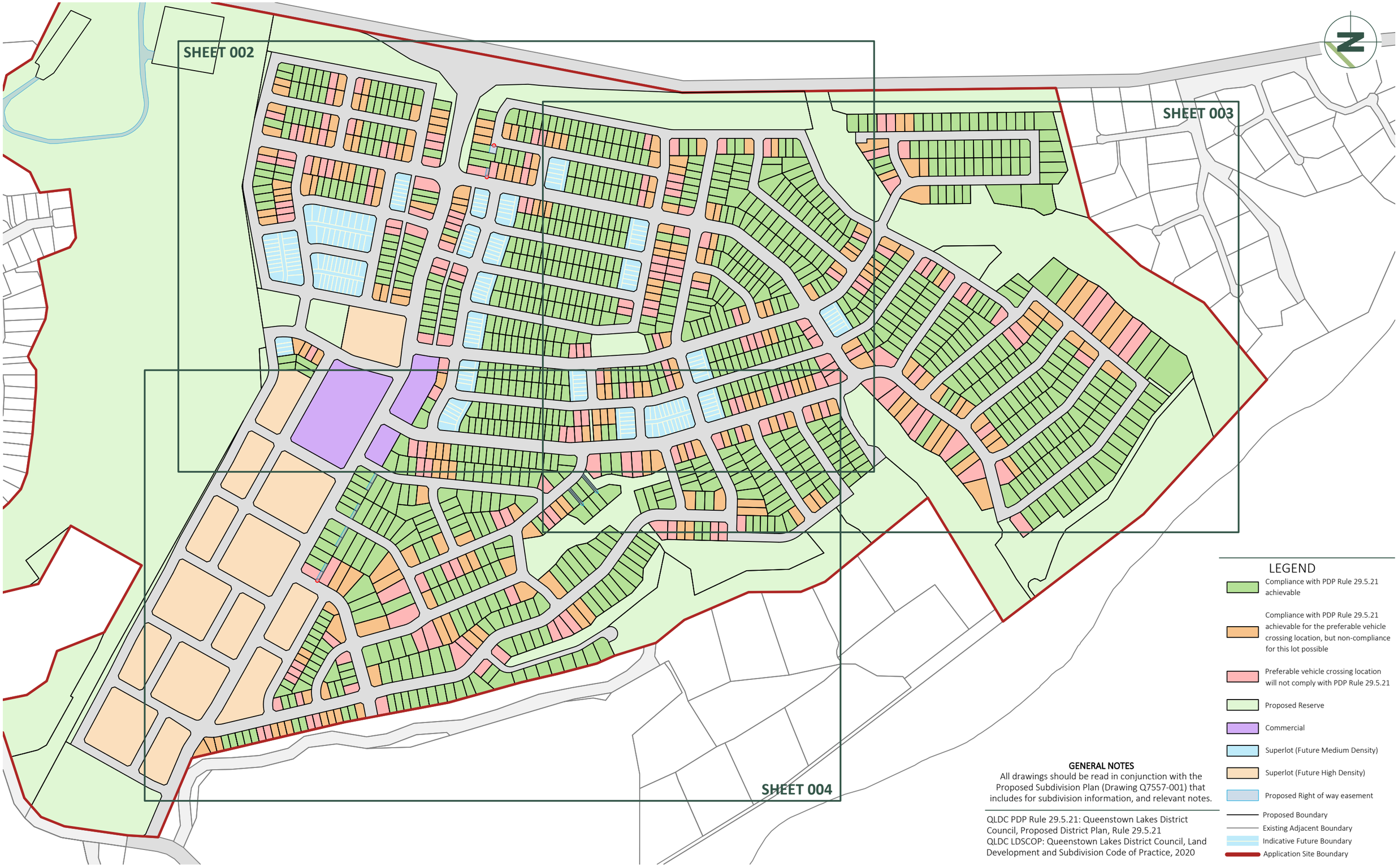
Rule	Requirement	Comments	Assessment
29.5.14 (b) iv	All vehicular accessways adjacent to State Highways shall be sealed from the edge of the carriageway to the property boundary.	No access to state highway	Not applicable
29.5.14 (c)	For vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.16, the width of the vehicle crossings at the kerb shall be 1.0m wider than the width at the boundary.	No access to state highway	Not applicable
29.5.14 (d)	All vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.16 shall be located at least 500mm from any internal property boundary and from any other vehicle crossing on the same site.	No access to state highway	Not applicable
29.5.15	Design of vehicle Crossing – rural zones	Underlying zoning may stay as rural	Rule will be triggered at land development but not applicable
29.5.16 (a)	The maximum gradient for any private way used for vehicle access shall be 1 in 6.	Less than 1 in 6	Compliant
29.5.16 (b)	In residential zones where a private way serves no more than 2 residential units the maximum gradient may be increased to 1 in 5 provided: i. The average gradient over the full length of the private way does not exceed 1 in 6; and ii. The maximum gradient is no more than 1 in 6 within 6m of the road boundary; and iii. The private way is sealed with a non-slip surfacing. For the purpose of this rule gradient (maximum and average) shall be measured on the centreline of the access.	No private ways serving 1-2 lots	Not applicable
29.5.16 (c)	The vehicle break-over angles shown in Diagram 2 of Schedule 29.2 shall not be exceeded over any part of the width of the vehicle access/crossing.	To address at landuse development	Not applicable
29.5.17 (a)	Minimum sight distances	Sightlines will not be satisfied at some lots due to proximity to intersections in particular, suggested condition of consent for a practical assessment at detailed design	Restricted Discretion
29.5.18	Minimum sight distances from vehicle access onto state highway	No access to state highway	Not applicable
29.5.19	Maximum number of crossings 2 permitted where frontage is 19-60m long	To address at landuse development	Not applicable
29.5.20	Minimum distance between vehicle crossings onto state highways.	No crossings to state highway	Not applicable
29.5.21 (a)	No part of any vehicle crossing shall be located closer to the intersection of any roads than 25m (local road frontage) Except that where the boundaries of the site do not enable a conforming vehicle crossing to be provided, a single vehicle crossing may be constructed provided it is located 0.5m from the internal boundary of the site in the position that most closely complies with the above provisions.	Subdivision layout will generate vehicle crossing breaches, assessed in this report and suggested condition of consent for a practical assessment at detailed design	Restricted Discretion

Rule	Requirement	Comments	Assessment
29.5.22	Minimum distance of vehicle crossing from intersection onto state highways.	No crossings to state highway	Not applicable
29.5.23 (b)	The canopy shall be setback 2m from the road boundary.	To address at landuse development	Not applicable
29.5.23 (c)	Accessways into Service Stations shall comply with the following minimum separation distances from other driveways. Between driveways for residential activities - 7.5m Between driveways for other activities - 15m.	To address at landuse development	Not applicable
29.5.23 (d)	The width of any driveway into a Service Station shall comply with the following: One way - 4.5m min and 6.0m max. Two way: - 6.0m min and 9.0m max.	To address at landuse development	Not applicable
29.5.23 (e)	Any one-way entrance or exit shall be signposted as such.	To address at landuse development	Not applicable
29.5.23 (f)	The road boundary of the site shall be bordered by a nib wall or other device to control traffic flows and to clearly define entrance and exit points.	To address at landuse development	Not applicable
29.5.23 (g)	Pumps shall be located a minimum of 4.5m from the road boundary and 12m from the midpoint of any vehicle crossing at the road boundary. All vehicles shall be clear of the footpath and accessways when stopped for refuelling.	To address at landuse development	Not applicable
29.5.23 (h)	A minimum path width of 4.5m and a minimum inside turning radius of at least 7.5m shall be provided for vehicles through the service station forecourt, except that for pumps which are not proposed to be used by heavy vehicles, the minimum path width required is 3.5m.	To address at landuse development	Not applicable
29.5.23 (i)	Tanker access to bulk tank filling positions shall ensure tankers drive in and out in a forward direction, without the need for manoeuvring either on the site or adjacent roadways. Where this cannot be achieved tankers shall be able to be manoeuvred so they can drive out in a forward direction.	To address at landuse development	Not applicable
29.5.23 (j)	Tankers discharging shall not obstruct the footpath.	To address at landuse development	Not applicable

Appendix F Vehicle Crossing Compliance Plans

Plans produced by Patersons to demonstrate expected vehicle crossing compliance of residential lots against District Plan Rule 29.5.21 (a). Excluded from the assessment are:

- High density super lots
- Commercial lots



LEGEND

- Compliance with PDP Rule 29.5.21 achievable
- Compliance with PDP Rule 29.5.21 achievable for the preferable vehicle crossing location, but non-compliance for this lot possible
- Preferable vehicle crossing location will not comply with PDP Rule 29.5.21
- Proposed Reserve
- Commercial
- Superlot (Future Medium Density)
- Superlot (Future High Density)
- Proposed Right of way easement
- Proposed Boundary
- Existing Adjacent Boundary
- Indicative Future Boundary
- Application Site Boundary

GENERAL NOTES

All drawings should be read in conjunction with the Proposed Subdivision Plan (Drawing Q7557-001) that includes for subdivision information, and relevant notes.

QLDC PDP Rule 29.5.21: Queenstown Lakes District Council, Proposed District Plan, Rule 29.5.21
QLDC LDSCOP: Queenstown Lakes District Council, Land Development and Subdivision Code of Practice, 2020

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DRAWING TITLE

RCL HOMESTEAD BAY LIMITED
VEHICLE CROSSINGS IN BREACH OF QLDC PDP RULE 29.5.21 AND BREACH OF REAR LANE QLDC LDSCOP

DATUM INFORMATION	
COORDINATE SYSTEM	NZGD2000
	MOUNT NICHOLAS CIRCUIT
DATUM	NZVD2016
ORIGIN OF COORDINATES	YZ 5 SO 484152
ORIGIN OF LEVELS	

REV	DRAWN	DATE	NOTE

STATUS **FOR CONSENT**

SURVEYED	-	
DESIGNED	-	
DRAWN	JP/MA	07.03.25
REVIEWED	HR	09.04.25
APPROVED	-	

PROJECT	**Q7557**
DRAWING NO	**002**
SHEET	**001**
REVISION	**0**
SCALE (A3)	**1:6000**

GENERAL NOTES

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Kingston Road (State Highway 6)

BREACH OF TABLE 3.3 QLDC LDSCOP
22 LOTS
(NO BREACH IF END LOTS ACCESS FROM ROAD 161 OR 162)
LANE 136m in LENGTH

BREACH OF TABLE 3.3 QLDC LDSCOP
23 LOTS
(NO BREACH IF END LOTS ACCESS FROM ROAD 161 OR 162)

BREACH OF TABLE 3.3 QLDC LDSCOP
LANE 104 155m in LENGTH

BREACH OF TABLE 3.3 QLDC LDSCOP
LANE 103 164m in LENGTH

right of way breach

LEGEND

- Compliance with PDP Rule 29.5.21 achievable
- Compliance with PDP Rule 29.5.21 achievable for the preferable vehicle crossing location, but non-compliance for this lot possible
- Preferable vehicle crossing location will not comply with PDP Rule 29.5.21
- Proposed Reserve
- Commercial
- Superlot (Future Medium Density)
- Superlot (Future High Density)
- Proposed Right of way easement
- Proposed Boundary
- Existing Adjacent Boundary
- Indicative Future Boundary
- Application Site Boundary

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DRAWING TITLE

RCL HOMESTEAD BAY LIMITED
VEHICLE CROSSINGS IN BREACH OF QLDC PDP RULE 29.5.21 AND BREACH OF REAR LANE QLDC LDSCOP

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REVIEWED	HR	09.04.25
APPROVED	-	

PROJECT	Q7557
DRAWING NO	002
SHEET	002
REVISION	0
SCALE (A3)	1:3000

LEGEND

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- Compliance with PDP Rule 29.5.21 achievable for the preferable vehicle crossing location, but non-compliance for this lot possible
- Preferable vehicle crossing location will not comply with PDP Rule 29.5.21
- Proposed Reserve
- Commercial
- Superlot (Future Medium Density)
- Superlot (Future High Density)
- Proposed Right of way easement
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RCL HOMESTEAD BAY LIMITED
VEHICLE CROSSINGS IN BREACH OF QLDC PDP RULE 29.5.21 AND BREACH OF REAR LANE QLDC LDSCOP

DATUM INFORMATION	
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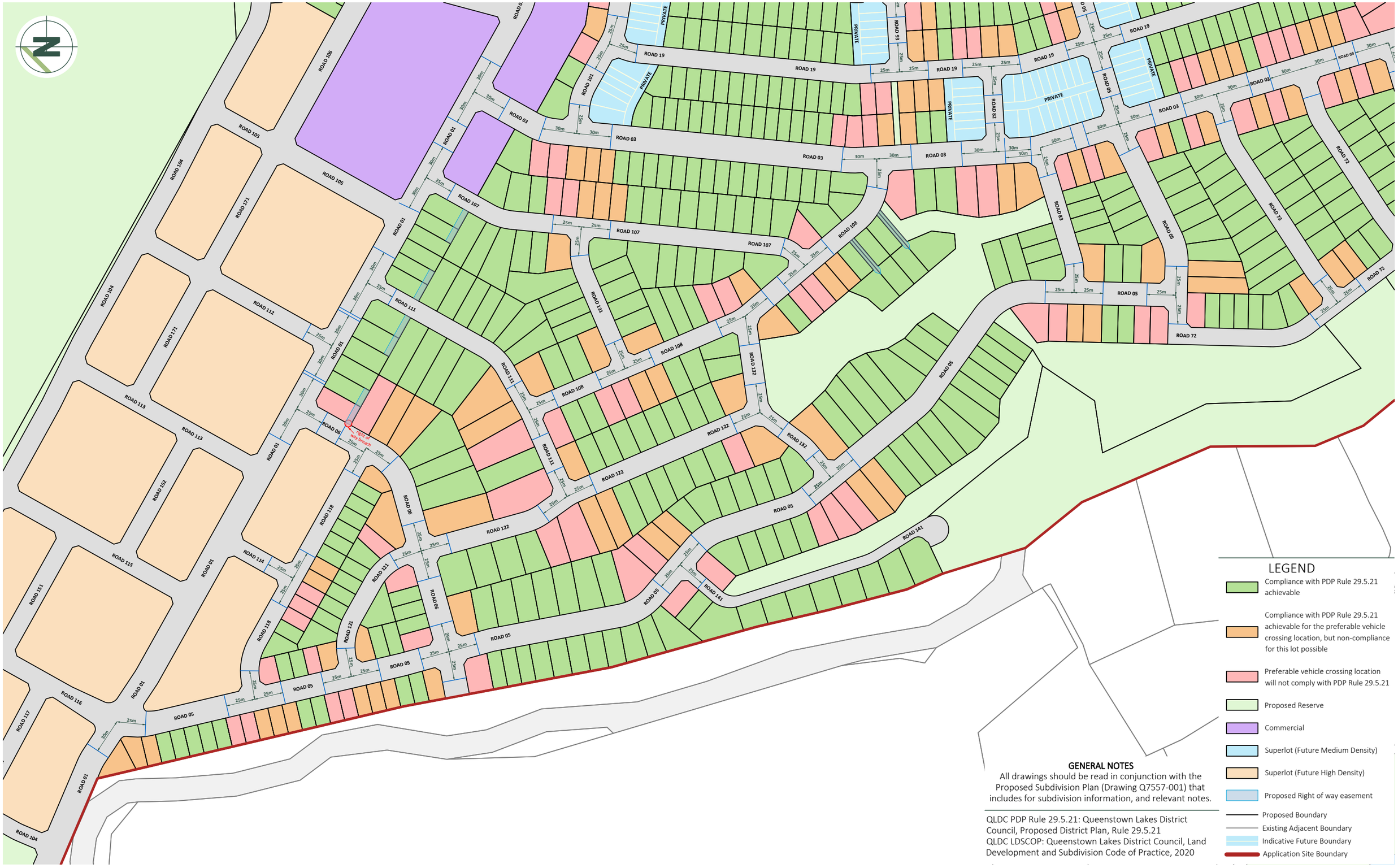
DATUM	NZVD2016
ORIGIN OF COORDINATES	YZ 5 SO 484152
ORIGIN OF LEVELS	

REV	DRAWN	DATE	NOTE

STATUS **FOR CONSENT**

SURVEYED	-	
DESIGNED	-	
DRAWN	JP/MA	07.03.25
REVIEWED	HR	09.04.25
APPROVED	-	

PROJECT	**Q7557**
DRAWING NO	**002**
SHEET	**003**
REVISION	**0**
SCALE (A3)	**1:3000**



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DRAWING TITLE

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REV	DRAWN	DATE	NOTE

STATUS **FOR CONSENT**

SURVEYED	-	
DESIGNED	-	
DRAWN	JP/MA	07.03.25
REVIEWED	HR	09.04.25
APPROVED	-	

PROJECT	**Q7557**
DRAWING NO	**002**
SHEET	**004**
REVISION	**0**
SCALE (A3)	**1:3000**

Stantec

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

Stantec New Zealand
Level 3, 2 Hazeldean Road
Addington, Christchurch 8024
NEW ZEALAND
Mail to: PO Box 13052, Christchurch 8140
stantec.com