

TRANSPORTATION ASSESSMENT REPORT
SHELLY BAY MASTERPLAN
PREPARED FOR THE WELLINGTON COMPANY
18 April 2019

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SHELLY BAY MASTERPLAN

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- Appendix C Infrastructure Report (Calibre Consulting)
- Appendix D Development Roading Plans

1. Introduction

Stantec has been appointed by The Wellington Company to provide transport consultancy services in relation to a mixed-use development proposal at the Shelly Bay site, a former Air Force Base, located on the Miramar peninsular.

The proposal plans provide for development of new residential homes; an aged care centre; a boutique hotel; commercial / retail spaces; and café / restaurant.

This Transportation Assessment Report forms part of the material submitted with the resource consent application for the redevelopment of the site. It has been prepared with due regard to the policies and standards contained within the Wellington City District Plan ("District Plan") and the industry-recognised provisions of NZS 4404:2010 'Land Development and Subdivision Infrastructure' ("NZS 4404:2010").

The transportation assessment has been progressed to assess the transportation features and effects of the proposal, and reports as follows:

- Section 2: Existing Transport Network Conditions – describes the site location in the context of the road and public transport networks, including traffic flows;
- Section 3: Development Proposal – describes the development plans;
- Section 4: Site Access – describes the site access and internal roading arrangements;
- Section 5: Parking – evaluates the proposed parking arrangements, including in relation to the District Plan requirements;
- Section 6: Trip Generation – identifies the likely trip generation that would be expected at the site;
- Section 7: Traffic Effects Assessment – examines the effects of the development on the local transport network;
- Section 8: Servicing Arrangements – details the servicing requirements and practices;
- Section 9: District Plan – summarises the relevant District Plan rules; and
- Section 10: Construction Traffic – provides details of the proposed construction traffic management.

In summary, this report concludes that the development of this site to provide a mixture of residential dwellings, aged care units and hospitality / commercial / retail activities, with associated vehicular and pedestrian facilities and connections, can be supported from a transportation perspective, with improvements afforded to the Shelly Bay Road carriageway and intersection with Miramar Avenue that will provide betterment for both existing and future users. It is noted that the provision of a ferry service between the development site and Queens Wharf, as proposed, will provide an additional mode choice for local residents in particular, and in turn lead to a reduction in development site traffic in the form of less private vehicle trips, both for commuters and recreational visitors alike, that will aid the function of Shelly Bay Road.

2. Existing Transport Network Conditions

2.1 Site Location

The proposal site, which is located along Shelly Bay Road, comprises the former Shelly Bay Air Force Base, on the western shore of the Miramar Peninsula, in Wellington. **Figure 2-1** shows the location of the site in the context of the surrounding road network, as defined by the District Plan. Land within the development site is zoned business and currently accommodates a mixture of retail and commercial activities, with some small residential component.

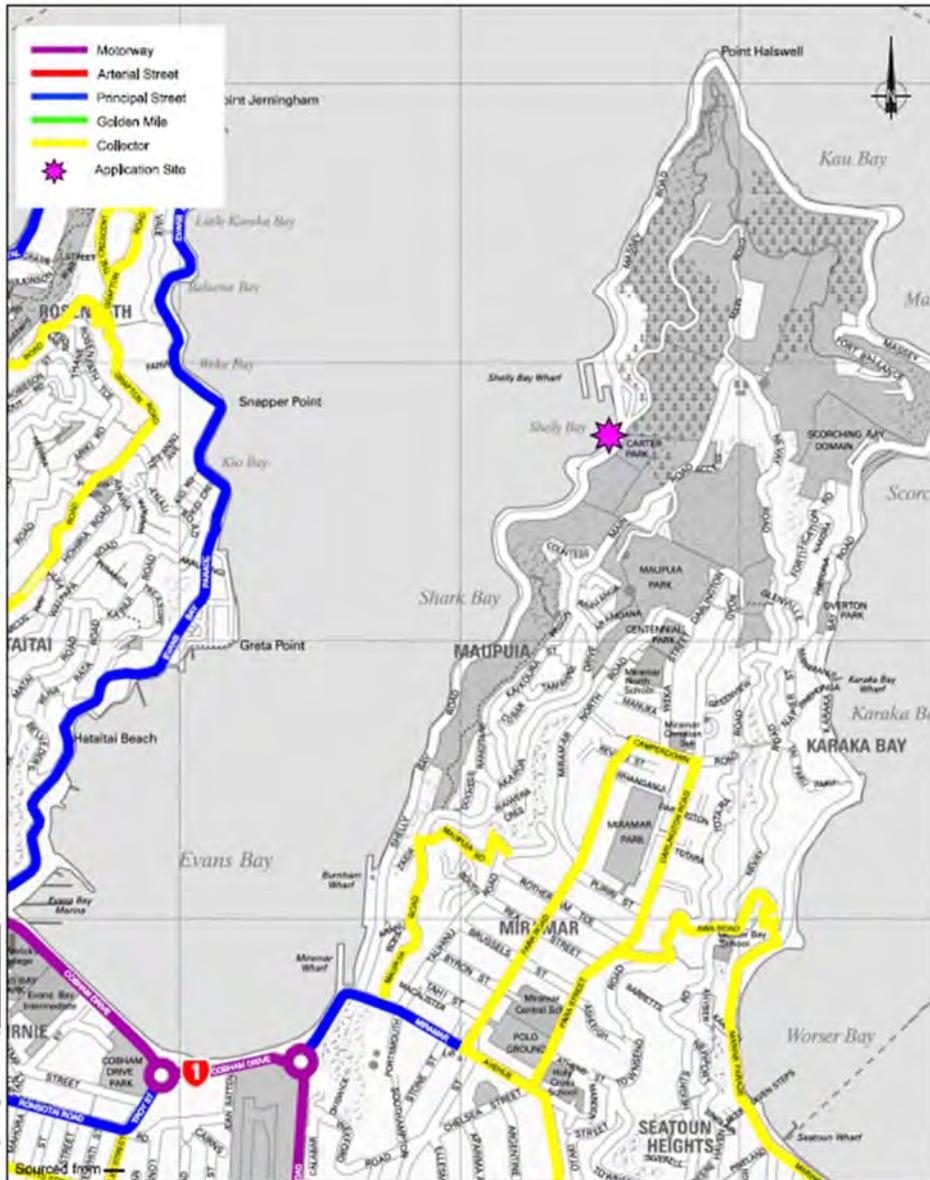


Figure 2-1: Locality Map and Road Hierarchy

2.2 Local Road Network

2.2.1 Road Hierarchy

Shelly Bay Road itself is classified as a Local Road and connects with the wider primary transport network via a t-intersection at Miramar Avenue, to the south of the development site. Priority at this intersection is given to traffic on Miramar Avenue, which is classified as a Principal Street. To the west of the intersection, Miramar Avenue becomes Cobham Drive, which in turn connects with the State Highway 1 (Arterial Street) at a roundabout some 250m south of the Shelly Bay Road intersection.

To the north of the site Shelly Bay Road becomes Massey Road, which routes around the remainder of the Miramar Peninsula (through to Scorching Bay and Karaka Bay), before connecting with Marine Parade.

Pedestrian and bicycle access is available variously along Shelly Bay Road, with plans to improve accessibility for these modes and the addition of potential future access via Main Rd from Mount Crawford (Wellington Prison).

2.3 Existing Traffic Patterns

The latest available traffic flow data has been obtained from Council for the roads in the vicinity, including:

- Shelly Bay Road: between Miramar Avenue and Massey Road (7-13 February 2019); and
- Miramar Avenue: between Shelly Bay Road and Maupuia Road (13-19 October 2018).

These traffic flows are summarised in **Table 2-1** below.

Table 2-1: Local Traffic Volumes

	Shelly Bay Road			Miramar Avenue		
	Northbound	Southbound	Total	Eastbound	Westbound	Total
Average Daily (5-day)	1,105	1,020	2,125	11,280	11,655	22,935
Average Daily (7-day)	1,300	1,220	2,520	10,665	10,950	21,615
AM peak hour (Weekday)	120	85	205	730	1,135	1,865
PM peak hour (Weekday)	130	140	270	1,040	830	1,870
Weekend Midday peak hour	255	175	430	855	905	1,760

2.3.1 Shelly Bay Road

As shown, Shelly Bay Road carries on average around 2,000-2,500 vehicles per day ("vpd"), noting these volumes relate to the typically busier summer months when recreational 'scenic drive' trips are more prevalent and the existing retail and commercial activities at Shelly Bay are at their busiest. Historic traffic count data outside of these peak summer months indicates average flows of around 1,200-1,500vpd. More detail on the daily traffic patterns experienced on Shelly Bay Road is provided in **Figure 2-2** which shows hourly patterns across a week.

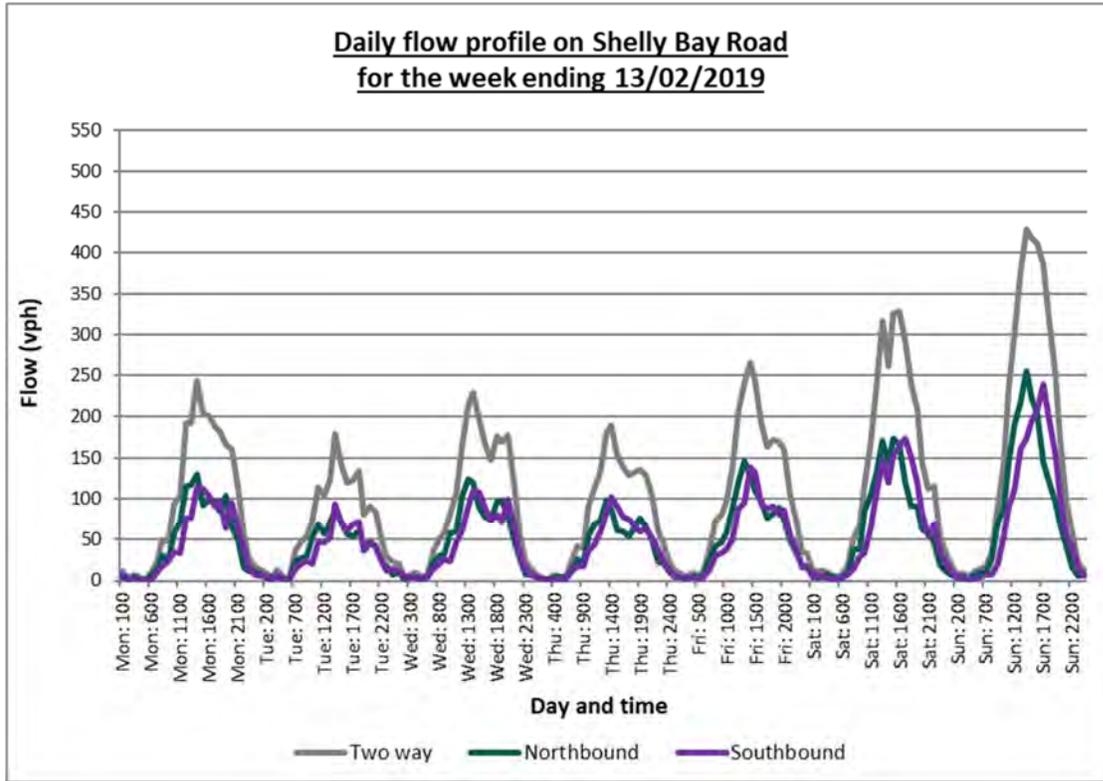


Figure 2-2: Shelly Bay Hourly Vehicle Volumes (2019)

The graph highlights the recreational function of the road as demonstrated by the higher weekend volumes as compared to the modest existing flows experienced during the weekdays. The existing small hourly weekday flows occurring during the typical network commuter peaks reflect the limited access function currently served by Shelly Bay Road. In this way, the road has spare capacity to accommodate additional traffic.

To capture the existing turning movements at the adjacent Shelly Bay Road / Miramar Avenue intersection, a series of classified turn count surveys¹ were undertaken during the weekday AM, PM and Weekend midday peak periods.

The existing measured peak hour traffic volumes for the respective peak hours are summarised in **Figure 2-3 to Figure 2-5**, below.

¹ On Tuesday 5 March and Saturday 9 March 2019

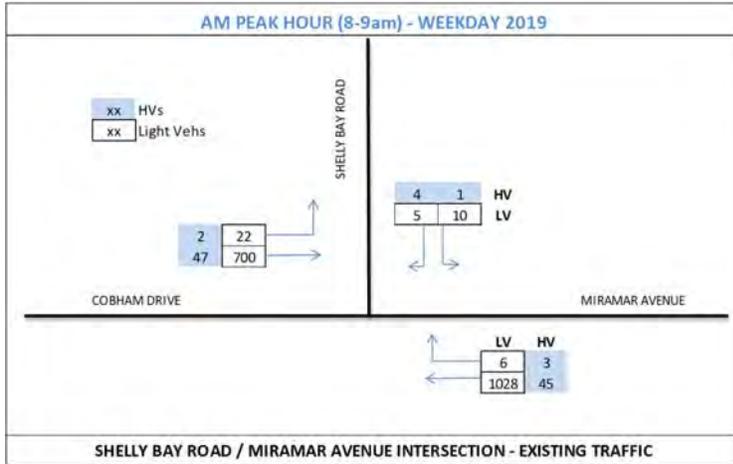


Figure 2-3: Existing Weekday AM Peak Hour Flows

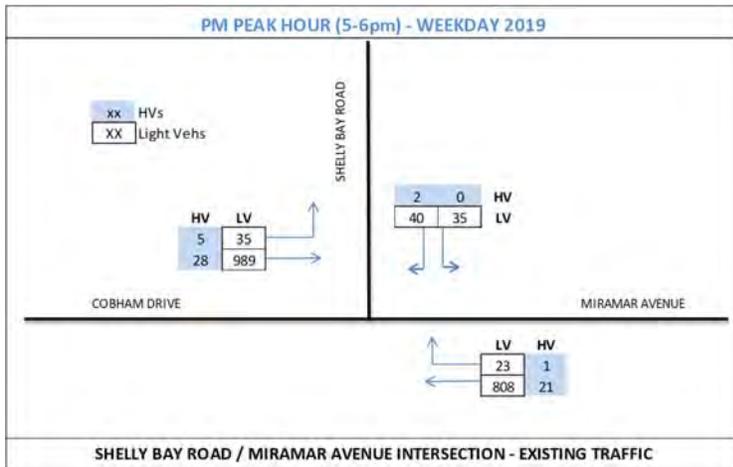


Figure 2-4: Existing Weekday PM Peak Hour Flows

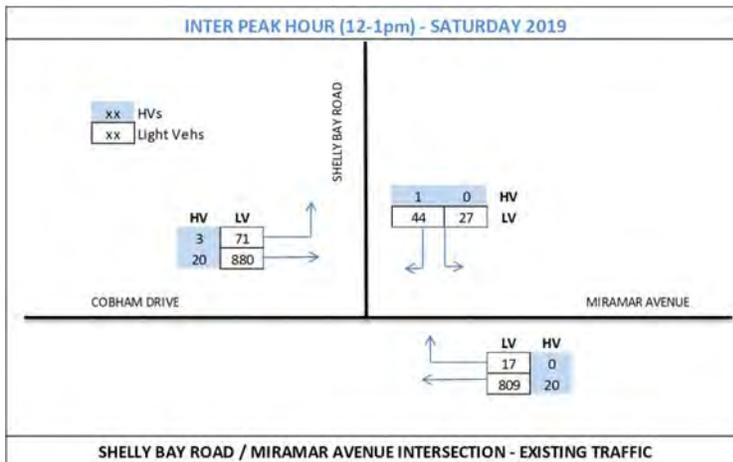


Figure 2-5: Existing Weekend Peak Hour Flows

As shown, existing turning movements at the intersection during the weekday AM peak are small, with a combined total of some 50 vehicles per hour (“vph”) turning either to or from Shelly Bay Road. Weekday PM peak hour volumes are somewhat higher at around 150vph turning movements, and Saturday higher again, reflecting the road’s role as a recreational route.

In addition to the vehicle counts, pedestrian and cycle movements at the intersection were also captured as part of the surveys. These are summarised in **Appendix A** for each of the peak periods and indicate a

high usage of the Cobham Drive - Miramar Avenue route by commuter cyclists (i.e. during the AM and PM weekday peak). By comparison, pedestrian movements on this part of the network are small.

Miramar Avenue is shown to carry around 22,000vpd, reflecting its primary network role as a Principal Street in accommodating traffic movements between Miramar and the State Highway 1 corridor.

2.4 Road Safety Record

The accident record for the roads surrounding the site has been obtained from the industry-available Crash Analysis System (CAS), for the latest complete five-year period from 2014-2018. The accident record is summarised in **Table 2-2**.

Table 2-2: CAS Summary of Accident Record

Location of Accident	Year ²	Description	Severity	Weather
Shelly Bay Rd / Miramar Ave Intersection				
Shelly Bay Rd / Miramar Ave	2015	Car changing lanes hit car in blind spot	Non-Injury	Dry / Bright
Shelly Bay Rd / Miramar Ave	2015	Van hit rear end of car slowing down for traffic	Non-Injury	Wet / Overcast
Shelly Bay Rd / Miramar Ave	2016	Motorcycle lost control while overtaking and hit traffic island.	Minor Injury	Dry / Dark
Cobham Dr South of Miramar Ave	2016	Car hit rear end of car slowing down for traffic	Non-Injury	Dry / Overcast
Cobham Dr South of Miramar Ave	2016	Car lost control, went off road and hit parked vehicle	Non-Injury	Dry / Bright
Shelly Bay Rd / Miramar Ave	2017	Car hit vehicle turning right from the left	Non-Injury	Dry / Bright
Cobham Dr South of Miramar Ave	2017	Car hit pedestrian	Minor Injury	Wet / Overcast
Cobham Dr South of Miramar Ave	2017	Car lost control turning right and hit guide / guard rail	Non-Injury	Wet / Dark
Shelly Bay Rd / Miramar Ave	2018	Car hit vehicle turning right from the left	Minor Injury	Wet / Overcast
Shelly Bay Road				
Shelly Bay Rd 1km North of Miramar Ave	2015	Car lost control turning left and hit traffic sign.	Non-Injury	Dry / Bright
Shelly Bay Rd 1.3km North of Miramar Ave	2016	Car lost control turning left and hit cliff.	Non-Injury	Dry / Dark
Shelly Bay Rd 640m North of Aranui St	2016	Car lost control turning right and hit cliff.	Non-Injury	Wet / Dark
Shelly Bay Rd 570m North of Aranui St	2017	Car lost control turning left.	Minor Injury	Dry / Bright
Shelly Bay Rd North of Miramar Ave	2017	Car lost control turning left and hit cliff.	Non-Injury	Dry / Overcast
Shelly Bay Rd North of Miramar Ave	2018	Bus lost control turning right and hit cliff.	Non-Injury	Dry / Dark

2.4.1 Shelly Bay Road / Miramar Avenue Intersection

A total of nine crashes were recorded at the intersection of Shelly Bay Road / Miramar Avenue. This included three minor injury crashes and six non-injury crashes. The two minor injury crashes involving a motorcyclist and pedestrian occurred at the bend where Cobham Drive turns towards Miramar Avenue. The third minor injury crash involving a right turning vehicle occurred on Shelly Bay Road immediately north of Cobham Drive. The non-injury crashes had a general trend of loss of control type crashes, rear end crashes and failure to give way crashes.

² CAS had no crashes recorded in 2014.

2.4.2 Shelly Bay Road

Six crashes were recorded on Shelly Bay Road between the intersection with Miramar Avenue and the development site. Of these, one resulted in a minor injury crash whilst the balance were damage only (i.e. non-injury crashes). The minor injury crash occurred due to fatigue, contributing to the driver losing control.

While there is nothing to suggest from these records that there are inherent safety issues that require attention in respect of this current proposal, it is proper that improvements are made to both Shelly Bay Road and its intersection with Miramar Avenue to align with the increased function and accessibility the road will provide, as set out later in this report, and which in turn can be expected to bring safety gains.

2.5 Sustainable Transport Modes

Shelly Bay Road is currently used largely for recreational purposes, accommodating some cyclist and pedestrian demands, especially on weekends. The surveyed pedestrian and cycle movements described earlier serve to quantify this existing demand, noting that use of the Shelly Bay Road route by pedestrians in particular is dictated by weather and seasonal influences.

There are no dedicated pedestrian or cycle facilities along Shelly Bay Road; instead the roadway is shared between all modes of travel. In this manner, and as discussed later in this report, the provision of a dedicated shared pedestrian and cycle path along this route (which will in part be facilitated by the proposed development), will support an increase in demand on this route by active mode users commensurate with the improved level of amenity.

There are no public transport routes at present to Shelly Bay. The closest bus route is the #24 bus service that stops at Mt Crawford (Wellington Prison), some 1.6km away. The Miramar Avenue 'Portsmouth Road stop' is approximately 2.6km from Shelly Bay, and is not sufficiently close to present a viable travel alternate for the Shelly Bay development. By way of completeness, the local and wider bus routes are illustrated diagrammatically within **Figure 2-6** below.

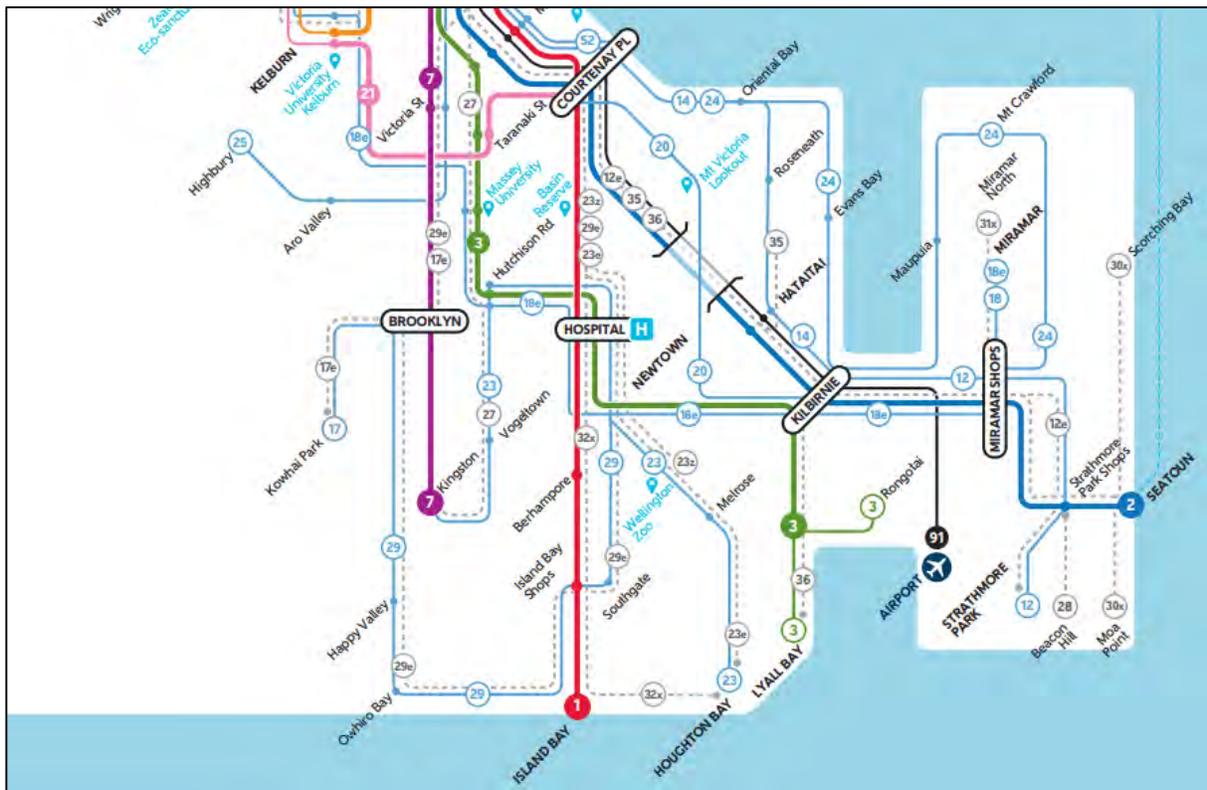


Figure 2-6: Wellington Bus Network

A summary of the available bus connections in the vicinity of the site is provided in **Table 2-3** below.

Table 2-3: Bus Services Accessible from the Site

Service #	Bus Stop	Route	Frequency
24	Mapuia Rd at Miramar Ave	Miramar Heights – Wellington – Broadmeadows – Johnsonville	60 minutes (Mon-Fri) 15 minutes at Morning peak times. 30 – 60 minutes (Sat-Sun).
2	Miramar Ave at Portsmouth Rd	Seatoun – Hataitai – Wellington – Karori	10-20 Minutes (Mon-Fri) About every 10 minutes at morning peak times. 15 – 30 Minute (Sat-Sun).
12	Miramar Ave at Portsmouth Rd	Strathmore Park – Miramar Shops – Kilbirnie	30 minutes (Mon-Sat). 60 minutes (Sun)
12e	Miramar Ave at Portsmouth Rd	Strathmore Park – Kilbirnie – Hataitai – Wellington	30 minutes (Mon-Fri) at the morning peak times to Wellington city only. 30 minutes at afternoon peak times to Strathmore only.
18e	Miramar Ave at Portsmouth Rd	Miramar – Newtown – Kelburn – Karori	60 minutes (Mon-Fri) 20 minutes at Morning peak times. 60 minutes (Sat-Sun)
30x	Miramar Ave at Portsmouth Rd	Scorching Point – Bay/Moa Wellington (Express)	20 – 50 minutes (Mon-Fri) at morning peak times to Wellington only. 10 – 30 minutes (Mon-Fri) at afternoon peak times to Moa Point only.
31x	Miramar Ave at Portsmouth Rd	Miramar North – Wellington (Express)	10 – 20 minutes (Mon-Fri) at morning peak times. 20 – 30 minutes (Mon-Fri) at afternoon peak times to Miramar North only

2.6 Existing Commuting Travel Patterns

Data from the latest 2013 Census (the most up-to-date data available, noting that the 2018 census data is not yet publicly released) provides information on the travel to work mode share by census area. The census data for the nearest 20-meshblocks in Miramar identifies a resident population of some 1,000 people that were over the age of 15 and employed on census day. The mode share of persons that travelled to work on census day is set out in **Table 2-4**.

Table 2-4: Existing Commuting Travel Patterns (2013 Census)

Travel Mode for Commute to Work	Percentage
Drove a Vehicle	51%
Motorcycle / Scooter	2%
Passenger in a Vehicle	4%
Bus	16%
Walk or Jogged	8%
Worked at Home / Other	19%

As shown, some 16% of commuting trips were made by bus, reflecting the high frequency and convenient service nearby. A further 8% of existing residents walk, cycle, or jog to work, whilst some 2% used a motorcycle as a means of travelling to work.

These existing commuter travel mode patterns of the surrounding residential catchment demonstrate that it can be reasonably expected that a number of residents within the proposed development would

undertake to commute by bus, if a convenient service was available, or might otherwise choose to use a ferry service. Otherwise, the development would generate more car trips and it is on this conservative basis that the subsequent traffic analyses have been made.

3. Development Proposal

3.1 Existing Site Activity

The site was initially established as an Air Force Base back in the 1940's, which reflects its current 'Business 1' zoning within the District Plan. Since the NZ Defence Force sold the land in 2009 the site has retained some residential use, as well as accommodating various commercial activities within existing buildings around the bay.

3.2 Proposed Development

The proposed Masterplan for the site provides for a mixed-use development, including residential, commercial and retail activities, within either renovated existing structures or new buildings.

An overview of the activities proposed for the site is set out in **Table 3-1** below.

Table 3-1: Proposed Masterplan Development Activities

Activity	GFA (m ²)	Residential Units
Residential Dwellings	-	273
<u>Retirement Complex</u>		
Self-contained units/Apartments	-	65
1-bed serviced apt	-	20
Care Suites	-	35
Boutique Hotel (50-bedrooms)	1,262	
Mixed use Commercial/Retail (low density)	2,180	
Hospitality (Café/restaurant)	1,065	
Community (Public toilets/community Hall)	400	
Total	4,907	393

As shown, the predominant land use will be residential dwellings, comprising a range of development forms including stand-alone dwellings; terraced houses; apartment buildings; and retirement units / aged care facilities. A range of supporting and complementary activities are also proposed, including café/restaurant; a boutique hotel; commercial and retail space; and some community amenities.

Access and parking area within the site have been designed with consideration to standards included in the District Plan and NZS4404:2010, as detailed below.

3.3 Access and Layout

The masterplan design guide includes details of the roading network proposed to serve the development. By way of providing further detail on the various roading elements, each is described in turn below.

3.3.1 Shelly Bay Road

The development impacts on the existing Shelly Bay Road carriageway outside of the site are described in detail in Chapter 7, where consideration is given to the change in function of the route arising from the addition of development traffic and the appropriate improvements works to mitigate any effects.

It is proposed that the current Shelly Bay Road alignment be modified within the extent of the site, to facilitate both the proposed development layout and to provide for improved vehicle travel along the bay (as compared to the challenging alignment that exists in places today). This will require appropriate land swap negotiations with Council, particularly with regard to vesting the completed carriageway and road reserve following reconstruction.

The proposed new road alignment will accommodate traffic within a 6.0m carriageway (with localised widening at bends), involving 2 x 3.0m traffic lanes. The cross section (from east to west) generally provides for:

- 2.0m footpath;
- 3.0m southbound traffic lane;
- 3.0m northbound traffic lane;
- Minimum 3.5m shared pedestrian / cycle lane.

With respect to the adopted traffic lane widths of 3.0m, NZS4404 2010 provides guidance on lane dimensions in accordance with the adjacent land use activity, traffic volumes, and speed environment. Of note is the difference between two-way carriageway widths of 5.5-5.7m, and 8.4m (i.e. 2 lanes at 4.2m). The distinction between these two cross sections is linked to the provision (or not) for cyclists to be accommodated alongside vehicles within the traffic lane, which in turn is related to the target operating speed.

With a dedicated off-street cycle path to be provided on the seaward side of the development, the traffic lanes within the main carriageway will not need to accommodate cyclists alongside vehicles. Furthermore, whilst the current legal speed limit through the development site on Shelly Bay Road is 40km/h, the proposed active speed management measures of a narrower carriageway and raised pedestrian tables, supported with proposed 'slow zone' signage mean the operational speed will be closer to 30km/h. Accordingly, if cyclists do choose to use the traffic lanes, they will more likely be recreational road cyclists, who will generally be travelling at similar speeds to vehicles (removing the need for vehicles to 'overtake' cyclists), and therefore will be able to safely share the road space.

It is considered that an alternative of providing a wider carriageway width (to facilitate shared cycle manoeuvres within the carriageway rather than within an off-street path) would compromise the intended 'slow speed' environment of the design sought within the village. By maintaining a tighter carriageway width, and providing for cyclists off-street, a better and more desirable outcome for vehicles, pedestrians and cyclists can be achieved.

In areas where 90-degree kerbside parking is provided adjacent to the 6m wide carriageway, a parking envelope width of 5.8m, measured from the edge of the northbound traffic lane to the kerb, will be provided. In taking account of the 0.6m overhang for vehicles parking at the kerb, the available 5.8m parking envelope will usefully provide a 'buffer strip' for vehicles manoeuvring between carparks and the traffic lane, similar to the existing arrangements on Oriental Parade.

The central section of Shelly Bay Road through the heart of the development has been designed as a shared space environment. Whilst there will still be kerbs delineating the footpaths from the carriageway in this area, surface treatment and raised pedestrian tables will serve to reinforce the presence of pedestrians, both crossing the traffic lanes and within the wharf area itself. Such details will need to be carefully worked through at the detailed design stage including consideration of formal crossing points for pedestrians, where priority over vehicles can be appropriately achieved.

At the south end of the development, the cross sections have been designed to reflect the smaller pedestrian demand associated with the adjacent lower density townhouse form, with a 1.5m footpath on the landside of the carriageway, and a 3.0m shared cycle and pedestrian path that extends to the south point carpark on the seaward side.

3.3.2 Development 'Laneways'

Access to the site activities on the eastern side of Shelly Bay Road will be provided via a number of 'laneways'. These laneways have been mostly designed to a width of some 7m, to enable two-way traffic flow alongside pedestrian movements, and to provide for access and turning to/from the 'parking mews', which run through the development parallel to Shelly Bay Road. These laneways have been designed to accommodate access by a fire appliance and equivalent 8m rigid trucks, including rubbish trucks, with sufficient manoeuvring space provided at the parking mews intersections to enable trucks to turn around and exit the site (to Shelly Bay Road) in a forward gear.

In line with the requirements of the Wellington Code of Practice for Land Development ("WCC Code"), where the development vehicle route width provided does not enable two-way traffic flow, over a distance of more 50m in length (i.e. the accessway connection between Laneway D and E, as shown in Envelope Drawing 1098-01 302 R2), a passing bay is provided.

With respect to sightline visibilities at these laneway intersections on Shelly Bay Road, the WCC Code provides sight distance requirements based on speed; 40m for 50km/h roads and 20m for 30km/h roads. As described above, the operating speed for the development will be closer to 30km/h, and whilst specific sightlines at respective individual accesses cannot at this stage be confirmed given the high-level masterplan layout, a compliant arrangement will be ensured during the detailed design.

In addition, the detailed design of these laneways will need to be cognisant of achieving adequate pedestrian splays at the exit points to Shelly Bay Road, in accordance with the industry standards set down in AS/NZS2890.1 'Part 1: Off-street Car Parking' ("AS/NZS 2890.1") Figure 3.3. That is, they will be designed to meet the necessary pedestrian visibility splays requiring a minimum 2m line of sight either side of the driveway, at a distance of 2.5m back from the property boundary. It may be necessary to incorporate signage and textural surface changes on the laneway approaches to Shelly Bay Road, to manage exiting vehicle speeds ahead of the footpath edge, in order to prompt drivers of the potential presence of pedestrians.

While the details at the street interface design will be developed in coordination with Council, it is intended that the laneways would remain under the management of a resident's association (i.e. not vested to Council) but provide for public access (pedestrian and cycle) to the reserve land at the rear of the development.

3.3.3 Development 'Parking Mews'

Access between laneways will be achieved via internal 'parking mews', which provide internal circulation between adjacent blocks as well as on-site parking for residents. These parking mews have been designed to an overall width of 12m, comprising 90-degree parking spaces alongside a generally 6.6m aisle width.

The speed environment on these parking mews is intended to be low, and in a similar manner to the laneways will be based on a shared space design. Planting and landscaping will be used to reinforce the slow and shared nature of the environment, particularly at the points of intersect with the laneways.

These parking mews have been designed to accommodate emergency vehicle access, as well as occasional truck movements (such as for rubbish collections) that may need to circulate between adjacent laneways from time to time.

3.3.4 Access by Ferry

A ferry service connecting the development site with Queens Wharf will operate from the existing Shelly Bay Wharf, providing regular return journeys for residents (including commuter trips), visitors and recreational users. In the manner of the established Eastbourne ferry, this service will have the benefit of reducing reliance on private vehicle trips and improving accessibility options for the development. At this stage, it is difficult to forecast the uptake of this service, and a conservative basis of no ferry travellers has been assumed in the subsequent traffic analyses. However, further commentary on the potential ferry patronage for residents of the development has been undertaken in Section 6.6 of this report, to provide an indication on the effects of such a service in reducing vehicle trip demands on Shelly Bay Road.

4. Site Access

There are two existing vehicle accesses to the site, via Shelly Bay Road to the south and Massey Road to the north. Massey Road is expected to remain largely a recreational route, so the focus of access to the Shelly Bay development will be via Shelly Bay Road.

4.1 Shelly Bay Road

As described earlier, Shelly Bay Road connects to the wider road network via Miramar Avenue to the south. The current t-intersection is give-way controlled, with priority given to vehicles on Miramar Avenue. North of this intersection, the current carriageway width on Shelly Bay Road is around 5.5m (edgeline to edgeline), with narrow shoulders. The first 500m has a footpath on the western side. The posted speed limit along Shelly Bay Road is 40km/h.

4.2 Shelly Bay Road Improvement Works

It is noted that Council has identified a series of proposed improvement works for Shelly Bay Road between the development site and Miramar Avenue, to provide some widening of the existing carriageway and a new shared cycle and pedestrian path. These changes will serve to improve safety and amenity for current pedestrians and cyclists as well as those additional users associated with the proposed development, including residents, staff and visitors. Further detail on these improvement works is described in Chapter 7.

4.3 Public Transport

The Shelly Bay area is not directly served by bus at present. The closest bus route is the service #24 (Miramar Heights), which follows the Akaroa Drive - Main Road - Nevay Road route above the site and operates at low frequencies (every 60 minutes outside of the peak) on weekdays. This route also runs during the weekend at 30–60 minute intervals.

Bus stops for the above route are located near 162 Akaroa Drive, approximately 1.6 km by foot from the site, and also at the intersection of Main Road and Nevay Road, some 2.0 km by foot from the site. The link between the site and this bus route would be significantly improved by the addition of a more-direct pedestrian connection to existing or new bus stops on Main Road that would be some 400m from the site.

In the longer term, another option may be to extend the #30x (Scorching Bay) route, which currently operates via Seatoun and Karaka Bay Road to a Massey Road terminus, in Scorching Bay, and runs during peak times only. Subject to GWRC planning and funding, it may be possible to extend this route around the peninsula to Shelly Bay, providing a direct (peak only) bus link to the site. At this stage, it is prudent to make provision for a pair of bus stops at the site at the construction stage to facilitate this option in the future.

5. Parking

The proposal plans have been designed to ensure that adequate on-site parking is provided to fully meet the anticipated parking demand generated by the site's various activities. Accordingly, a combined assessment of the parking provision requirements under the District Plan, along with a demand-based assessment using industry standards and data collected by Stantec for like activities, is provided in detail below.

5.1 Parking Requirements

In consulting industry standard data sources with respect to typical parking demands generated for the range of land use activities included under the proposed masterplan, reference has been made to the NZ Transport Agency Research Report 453 'Trips and Parking Related to Land Use 2011' ("RR 453"), and the RTA Guide to 'Traffic Generating Developments 2002' ("RTA Guide"). In addition, surveyed parking demand data recorded by Stantec at similar established activities has further supported these industry standard figures.

The parking requirements for the various activities included under the proposal plans, is set out in **Table 5-1**.

Table 5-1: Parking Provision Requirements

Activity	Proposed Unit	Industry Rates	Industry Provision
Residential ³	273	1 per unit	273
<u>Retirement Units⁴</u>			
2-3 bed unit	65	1 per unit	65
1-bed serviced apt	20	0.3 – 1 per unit	6 – 20
Care Suites	35	2 parks per 3 staff	6
Visitors	(120 units total)	1 per 5 units	24
Hotel ⁵	50-bedroom	1 per 5 rooms	10
Commercial ⁶	1,540m ² GFA	1.25-2.0 spaces per 100m ² GFA (pro-rata for low density)	20 – 30
Retail	640m ² GFA	3.5 spaces per 100m ² GFA (pro-rata for low density)	22
Hospitality	100 seats	0.6 spaces per seat (Restaurant activity)	60
Overall Total			486 - 511

In assessing the peak parking demands generated by the individual component activities included in a mixed-use development of this size, typical industry standards suggest a provision of between 486 and 511 parking spaces.

In this respect it is noted that as is typical with mixed use developments, parking demand for component activities do not generally occur at the same time, but rather peak demands will be off-set – relative to user types and activity periods. It should be noted that Shelly Bay does not have a sandy beach, and therefore will not attract the type of visitor demands typically experienced at Scorching Bay, or indeed other similar beach destinations along Wellington's coastline during the peak summer period.

5.2 Proposed Parking Provision

The development masterplan makes provision for parking in various forms, from individual garages, parking garages, on-street, and off-street public car parks at either end of the Shelly Bay Development. The proposed make-up of parking is indicated in **Table 5-2**.

³ Wellington City District Plan Permitted Activity requirement (in Residential Zones)

⁴ Stantec surveyed rates at retirement complexes in the Wellington Region

⁵ RTA Guide

⁶ RR 453

Table 5-2: Proposed Parking Provision and Allocation

Component		Spaces Provided
Residential	In garages	165
	Uncovered	87
Aged Care	Uncovered	51
Hotel	Uncovered	8
Visitor / Public	Uncovered	128
Car Sacker		60
Total		499

As shown, the proposed parking provision sits well within the range of industry suggested parking requirements. Notwithstanding this, it should be noted that specific consideration should be given to the mixed-use nature of the site, for which there are a number of aspects associated with parking provision being shared across a variety of activities that combine to achieve efficiencies, which typically lower the demand as a whole when compared to the 'sum of its parts'. These include that to some degree, a portion of trips to the site are likely to combine visitation (i.e. commercial, retail and hospitality), and that the peaks of individual activities do not typically occur at the same time. Therefore, parking demand calculated on an individual basis will in practice overestimate demand. Such influences can be expected to reduce total demand by around 10-20%, meaning the provided parking capacity can be judged as sufficient, in the manner commensurate with the truly mixed used nature of the development.

With regard to the 'public parking', it is expected the on-street parking resource can be appropriately managed through time restrictions, to ensure adequate turnover of spaces so as to provide availability to the different user groups (and their varying length of stay requirements), to efficiently manage the resource and avoid adverse parking practices. In this way, the on-street parking could accommodate some evening and overnight demand (outside of the parking restriction time limits) associated with the residential component of the site (including visitors), in an equivalent manner to on-street parking in other established residential parts of Wellington, without impacting on the daytime amenity these parks would provide in accommodating visitors to the site's other activities.

Accordingly, the forecast parking demand assessment for the site's component activities summarised in Table 5-1 has been further developed to determine the expected 'profile demand' for each activity at the site, across a typical weekday and weekend. Noting that residential units and the retirement complex (including associated visitor parks) will have dedicated private parking specifically allocated to these activities, consideration has been given to just those parking spaces that would be publicly available.

Drawing from Table 5-2, a total of some 136 car parks are provided across the site that would be accessible to the public. The hotel has been included within the public resource in order to provide a robust assessment and illustrate the potential for any additional hotel related demand, beyond the 8 dedicated parks (demand for which would typically occur during the evening/overnight), to be adequately accommodated within the residual public parking capacity.

As such, indicative day-long demand profiles for each of the hotel, commercial office, retail and café/restaurant activities has been estimated using survey data collected by Stantec at established equivalent activities (noting that such demands would be subject to variation depending on tenants etc.), and then overlaid to provide an indication of the expected overall peak parking demand relative to the 136 carparks provided at the site for these activities. The results are illustrated graphically in **Figure 5-6** and **Figure 5-7** for the weekday and weekend periods, respectively.

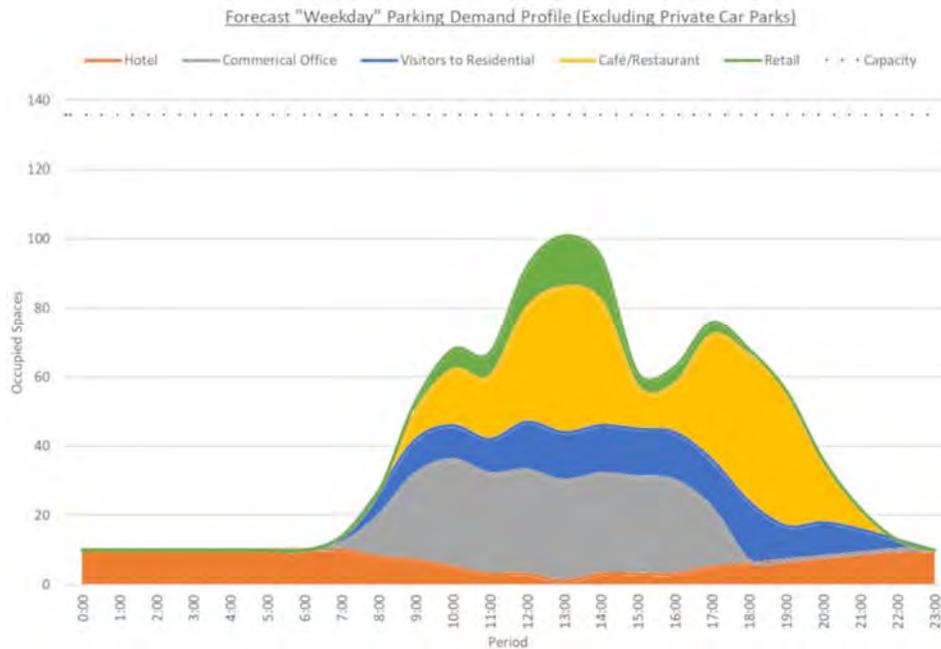


Figure 5-1: Weekday Indicative Parking Demand Profile

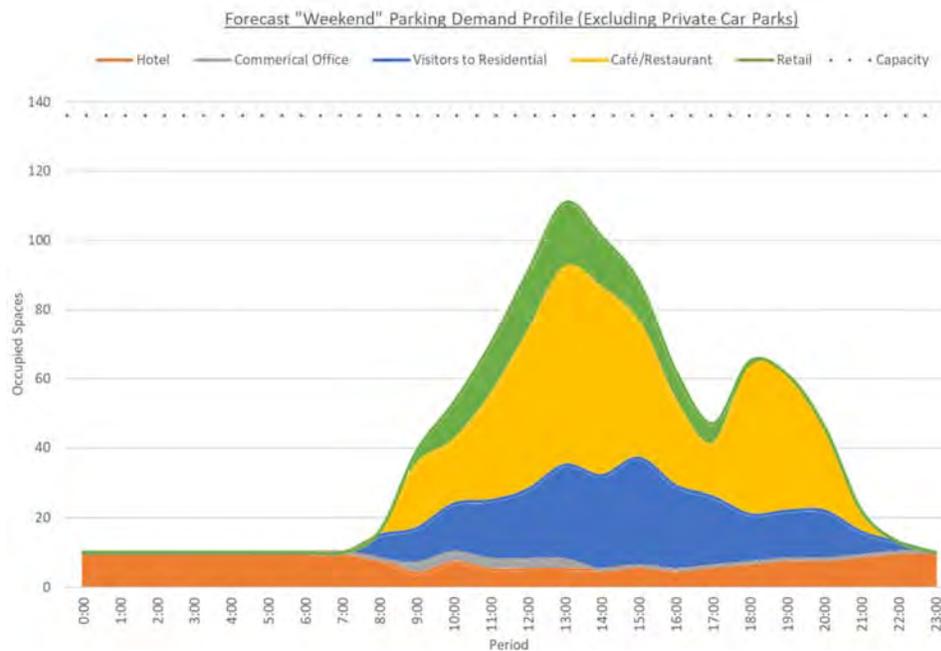


Figure 5-2: Weekend Indicative Parking Demand Profile

As shown, the forecast parking demand associated with the non-residential activities is able to be fully accommodated within the assigned public parking at the site. During the weekends, when commercial office activities at the site will typically not be operating (or at a significantly reduced rate), additional spare capacity would be available to accommodate higher weekend demands typically associated with the café/restaurant, retail and residential visitor components.

6. Trip Generation

Trip generation rates for each of the site's component activities included within the proposal are set out below in turn and have been derived from a combination of industry standards and survey data collected by Stantec for like activities.

6.1 Residential Units

Surveys of households reported within RR 453 indicate daily trip generation rates for 'Outer Suburban' residential activities typically average around 8.2vpd per dwelling, with associated peak hour movements of 0.9vph. For comparison, the RTA Guide provides similar peak hour generation rates for residential 'Dwelling Houses' of 0.85vph per unit.

Even though the census data for surrounding residential areas indicate 24% public transport and non-motorised means of travel for commuting trips, the lack of sustainable transport infrastructure currently serving Shelly Bay is such that the generation of trips have been assessed at the high end, as per RR 453. That is, peak hour and daily traffic generation rates of 0.9vph and 8.2vpd per unit, respectively, have been applied to the proposed 273 dwellings, with the resultant traffic generation summarised in **Table 6-1**.

Table 6-1: Traffic Generation (273 dwellings)

	Arrivals	Departures	Total
AM Peak*	49	197	246
PM Peak**	197	49	246
Daily	1119	1119	2,238

* AM Peak: 80% departures, 20% arrivals

** PM Peak: 80% arrivals, 20% departures

Accordingly, around 240-250 vehicle movements are expected to be generated by the residential components of the proposed development, during the weekday morning and evening commuter peak hours. Such volumes translate to a daily traffic generation of some 2,200 vehicle movements to / from the adjacent road network.

6.2 Aged Care

Data informing RR 453 provides peak hour trip rates for a Retirement Complex at around 0.3vph per unit in the peak hours and 2.6vpd for the full day. It is envisaged that the proposed Aged Care facility of 120 units will follow a similar trend. That is, peak hour and daily traffic generation rates of 0.3vph and 2.6 vpd per unit, respectively, have been applied to the proposed 120 units, with the resultant traffic generation summarised in **Table 6-2**.

Table 6-2: Traffic Generation (120 retirement units)

	Arrivals	Departures	Total
AM Peak*	29	7	36
PM Peak**	7	29	36
Daily	156	156	312

* AM Peak: 20% departures, 80% arrivals

** PM Peak: 20% arrivals, 80% departures

6.3 Boutique Hotel

Data informing the RR 453 provides peak hour trip rates for a hotel at around 1.2vph per room in the peak hours, and 6.4vpd per room for the full day. It is noted that these industry standards typically relate to large centrally located hotels that often include on-site conference facilities or meeting rooms for hire, which themselves generate a proportion of vehicle trips to and from the site that are unrelated to the hotel accommodation. The proposed boutique hotel does not include any such conference facilities, with associated trip generation therefore comprising hotel staff and guest movements only. Accordingly, whilst the peak hour trip rate of 1.2vph is expected to reflect the likely trip generation patterns in this case, the daily rate will be much lower; a revised (50%) daily trip rate per room of 3.2vpd as therefore been adopted.

Applying these rates to the proposed 50 rooms, gives the resultant traffic generation as summarised in **Table 6-3**.

Table 6-3: Traffic Generation (hotel)

	Arrivals	Departures	Total
AM Peak*	24	36	60
PM Peak**	36	24	60
Daily	80	80	160
AM Peak*	24	36	60

* AM Peak: 60% departures, 40% arrivals

** PM Peak: 60% arrivals, 40% departures

6.4 Commercial / Retail

It is noted that the type of commercial and retail activity proposed for the development is of a low-density type, similar to that which exists in part at the site already, comprising artists' studios with associated galleries, providing the public with an opportunity to view and purchase the work. Such activities therefore will not generate the quantum of traffic associated with higher density office space more traditionally found within central or fringe areas of the city.

The RTA Guide notes that commercial activities typically generate a range of trip generation rates, depending on number of staff on-site, and provides guidance for peak hour trip rates at 2vph per 100m² GFA, with corresponding daily traffic generation of 10vpd per 100m² GFA.

For the purposes of determining the overall traffic generated by the proposed commercial and associated retail activities, these peak hour and daily traffic generation rates have been adopted and applied to the combined floor area of 2,180m² GFA, with the resultant traffic generation summarised in **Table 6-4**, noting that these forecasts are considered conservative.

Table 6-4: Traffic Generation (commercial / retail)

	Arrivals	Departures	Total
AM Peak*	31	13	44
PM Peak**	13	31	44
Daily	109	109	218

* AM Peak: 30% departures, 70% arrivals

** PM Peak: 30% arrivals, 70% departures

6.5 Restaurant / Café

Data informing the RR 453 provides peak hour trip rates for a Restaurant at around 0.5vph per seat in the peak hours, and 6.1vpd per seat for the full day. Applying these rates to the proposed 1,065m² GFA, which is estimated to have in the order of 100 seats, gives the resultant traffic generation summarised in **Table 6-5**.

Table 6-5: Traffic Generation (Restaurant)

	Arrivals	Departures	Total
AM Peak*	35	15	50
PM Peak**	15	35	50
Daily	305	305	610

* AM Peak: 30% departures, 70% arrivals

** PM Peak: 30% arrivals, 70% departures

6.6 Total Site Traffic Generation

Drawing from the above identified rates,

Table 6-6 below sets out the trip generation for the site's various activities included under the proposal plans.

Table 6-6: Total Site Traffic Generation

	AM Peak Hour	PM Peak Hour	Daily
Residential	246	246	2,238
Aged Care	36	36	312
Hotel	60	60	160
Commercial / Retail	44	44	218
Restaurant / Café	50	50	610
Total	436	436	3,538

It is noted the assessment above does not take into consideration the provision of a ferry service to and from Queens Wharf, which would provide an attractive and convenient alternative transport mode for commuters at the development and also a portion of the recreational trips to the site. This will have the result of removing a proportion of the associated vehicle trips set out above, such that vehicle movements will reduce commensurate to the volume of people utilising the convenience of the ferry service, which will at peak times in particular provide quicker access to / from the heart of Wellington city.

Whilst it is difficult to estimate the likely uptake of a local ferry service, it is noted that the Eastbourne ferry currently transports about 250 commuters to and from Wellington each weekday, averaging around 5% of the Eastbourne population. Its bus services also supplement commuter travel. With no bus service at Shelly Bay and a possible ferry service also attracting passengers who might otherwise choose to use a bus, a local ferry service could substitute about 10% of the above vehicle volumes (i.e. 40-50vph during the AM and PM peaks). In a scenario where a ferry service connection between the site and the CBD experiences a higher rate of utilisation than Eastbourne's combined PT rate, of say 15% (given the sites closer proximity and therefore shorter trip duration in to Wellington city), then associated peak hour vehicle trips on Shelly Bay Road to the south of the site could reduce by some 60-70vph, providing some associated improved performance at the Miramar intersection.

6.7 Development Traffic Distribution

It is anticipated that the majority of peak hour traffic to and from the site will route towards the Wellington city centre via Miramar Avenue. Due to the proximity of local amenities, schools and possible work opportunities in Miramar, there will be a portion of the development generated trips that will travel east along Miramar Avenue. Using the existing traffic flows along Miramar Avenue it has been determined that a generally 60:40 split for development traffic can be expected, with 60% travelling to/from the south (SH1) and 40% travelling to/from Miramar.

Traffic generation during the weekend is expected to be somewhat lower⁷ than that calculated in Table 6-6, with no development commuter trips and noting also that a proportion of existing background traffic captured in the summer period counts would constitute a portion of the visits expected at the site's proposed retail and hospitality activities.

In order to analyse the performance of the Shelly Bay Road and Miramar Avenue intersection, these development traffic flows (without a ferry influence) have been assigned to the road network accordingly, as assessed in the following chapter.

⁷ Saturday inter peak development flows assume 75% of Weekday peak hour development trips

7. Traffic Effects Assessment

This chapter sets out the adopted approach for assessing the impact of the development site traffic on the adjacent road network in terms of performance, at the key intersection of Shelly Bay Road and Miramar Avenue.

For the purposes of assessing performance, the intersection has been modelled using the industry-recognised modelling package SIDRA, adopting the latest version of the software (version 8) for the Weekday AM and PM peak hours, along with the Saturday midday period.

7.1 Intersection Improvements

The Eastbound carriageway along Miramar Avenue is currently almost 6m wide at the Shelly Bay Road intersection. The Westbound carriageway is 3.5m wide, with a 3m right turn lane.

From the observations made on-site, existing right turning vehicles exiting Shelly Bay Road use a mixture of one and two-stage manoeuvres to complete this turn. In this respect, it is considered that improvements to the intersection to provide a wider central median (widening to 4.0m) for vehicles to turn in to, with protection from traffic in the adjacent through lane, will result in the majority of vehicles exiting opting to undertake a two-stage manoeuvre, providing associated efficiencies in performance and capacity. In addition, a dedicated short left turn lane provision on Shelly Bay Road has also been included in the package of proposed improvement works which have been included to test the impacts of the development trips. A possible indicative layout showing these revised arrangements is provided in **Appendix B**.

7.2 Intersection Performance

To assess the likely effects arising from the traffic demands generated by the phased development of the proposal site, which it is again noted will occur incrementally over time, the following scenarios have been modelled for the intersection:

- existing traffic flows (no development trips) and current intersection layout;
- existing traffic flows + 50% development trips (representing a partially-complete development) + proposed intersection improvements; and
- existing traffic flows + 100% development trips + proposed intersection improvements

The delay bands defining the various Level of Service ("LOS") criteria for intersections, as presented in the Highway Capacity Manual, are shown in **Figure 7-1** below.

LOS	Priority	Signals
A	<= 10	<=10
B	11 to 15	11-20
C	16 to 25	21-35
D	26 to 35	36-55
E	36 to 50	56-80
F	>50	>80

Figure 7-1: LoS Criteria

The resultant modelled LoS at the intersection, by approach and individual turning movement, for each scenario described above, is summarised in **Table 7-1** below.

Table 7-1: Intersection LOS by Approach

APPROACH	MOVEMENT	EXISTING ⁸		WITH 50% DEVELOPMENT TRAFFIC ⁹		WITH 100% DEVELOPMENT TRAFFIC ⁹	
		LoS	Ave Delay (secs)	LoS	Ave Delay (secs)	LoS	Ave Delay (secs)
AM Peak Hour							
Cobham Drive	Through	A	0.1	A	0.2	A	0.3
	Left	A	5.7	A	3.6	A	3.7
Shelly Bay Road	Left	B	12.1	B	11.7	B	12.1
	Right	F	67.8	C	21.1	C	24.7
Miramar East	Through	A	0.1	A	0.1	A	0.1
	Right	B	11.3	A	9.9	B	10.7
PM Peak Hour							
Cobham Drive	Through	A	0.1	A	0.3	A	0.4
	Left	A	3.6	A	3.7	A	3.8
Shelly Bay Road	Left	C	19.8	C	17.4	C	18.8
	Right	E	40.7	D	30.7	E	49.4
Miramar East	Through	A	0.1	A	0.1	A	0.1
	Right	B	11.1	C	19.9	E	36.3
Saturday Peak Hour							
Cobham Drive	Through	A	0.1	A	0.2	A	0.3
	Left	A	5.7	A	3.7	A	3.7
Shelly Bay Road	Left	C	15.8	B	13.8	C	14.8
	Right	D	31.6	C	22.7	D	26.4
Miramar East	Through	A	0.1	A	0.1	A	0.1
	Right	B	11.1	B	13.0	B	15.5

The intersection is currently shown to be operating at LoS C or better on all movements with the exception of the Shelly Bay Road approach, which experiences longer delays and operates at LoS E and F during the weekday PM and AM peak hours, respectively. It is noted that a contributing factor to this delay is that a proportion of drivers currently undertaking a right turn out of Shelly Bay Road do not make use of the median within the existing intersection arrangements to perform a two-stage manoeuvre, but instead wait for gaps in both traffic streams on Miramar Avenue before turning.

With the implementation of the improvement works to provide separate left and right turn lane provision for vehicles exiting Shelly Bay Road, along with widening and delineation to encourage the two-stage right turn exit manoeuvre from Shelly Bay Road, then even with the addition of some 50% of development trips the intersection is shown to be operating as well as or better than existing. With full development trips added to the network then LoS on the respective movements are shown to be equivalent if not better than the existing intersection performance, with only a minor increase in delay (8-9 seconds) on the right turn out of Shelly Bay Road during the PM peak.

⁸ Right run out of Shelly Bay Road modelled as a single movement

⁹ Right run out of Shelly Bay Road modelled as a 'two-stage' movement, taking account of the intersection improvement works

Analysis of the intersections performance during the Sunday peak period has also been undertaken and shows the turning movements to and from Shelly Bay Road operate at an equivalent or better LoS than the Saturday peak, as a result of the lower through traffic flows on Miramar Avenue opposing turns to/from the side road. Overall, and with the improvement works to the intersection as proposed, it is considered that an appropriate traffic outcome can be achieved at this key intersection.

It is noted that discussions with Council's transport team indicate options are being considered as part of the broader Wellington cycleways project to implement changes on the local network along Miramar Avenue. With the focus of the cycleway's initiative being on improving accessibility (and safety), changes at the Shelly Bay Road intersection are likely to take the form of signals. In the event such changes are progressed, then associated benefits would be delivered to development traffic in providing signal control to movements in and out of Shelly Bay Road.

7.3 Roadway Performance

It is noted that development of the site and associated addition of traffic will occur gradually over time, as the staged development takes place. As such, the site trips will not be wholly additional at one point in time but will be progressively added to the roading network over a number of years, dispersing the traffic additions and meaning that the traffic increases in any year will be an increment of the total flows.

Such growth is expected to be part of the broader transport and planning considerations for the eastern suburbs, forming part of the strategic intervention projects currently being progressed through the Let's Get Wellington Moving project. As such, it is difficult to forecast traffic effects of the development with any certainty beyond the next few years. Transport interventions may for example give rise to many more people travelling by means other than private car and may also present infrastructure upgrades, both of which will lessen the effects conservatively assessed above.

Given the site's position relative to nearby suburban centres and areas of employment (including the Wellington CBD), it is reasonably expected that most traffic associated with the proposed mixed-use development will route to and from the site via Miramar Avenue, to the south. Whilst it is acknowledged that some traffic will route to and from the north via Massey Road, the number will be small, less than 5-10% of the total development trips. It is expected that such volumes can readily be accommodated within the capacity of the existing Massey Road carriageway, which is of a similar standard to that of the current Shelly Bay Road.

With regard to Shelly Bay Road itself, it is noted that the Wellington coastline has many similar road forms which are characterised as being bound on one side by the harbour, and on the other side by inland hills. By way of example, **Figure 7-2** to **Figure 7-4** below show the existing Shelly Bay Road carriageway along with two other examples of coastal routes in Wellington with similar geometries and carriageway widths, at Marine Parade (along the eastern bays) and The Esplanade (Wellington south coast), respectively.



Figure 7-2: Shelly Bay Road



Figure 7-3: Marine Parade



Figure 7-4: The Esplanade

In a similar manner to Shelly Bay Road, both Marine Parade and The Esplanade have carriageways which vary through winding sections, generally between 5.8m and 6.7m in width. Both Marine Parade and The Esplanade currently carry around 6,000-7,000vpd.

By comparison, and as described earlier, Shelly Bay Road currently accommodates average daily flows of up to 2,000-2,500vpd, during busier weeks of the year when the recreational trip component is higher. The forecast traffic additions associated with full site development are for around 3,500vpd, which when added to the existing flows provide a projected total volume on Shelly Bay Road of around 6,000vpd at the busiest times of the year. During non-summer periods, lesser flows of around 5,000vpd are anticipated.

Accordingly, the future traffic flows anticipated to be using Shelly Bay Road once the proposal site has been fully established sit within the existing volumes currently accommodated on the comparable road carriageways identified in the two examples above.

7.4 Shelly Bay Road Improvement Works

Notwithstanding the comparative assessment of road capacity described above, it is noted that some improvements to the existing Shelly Bay Road carriageway are warranted in order to improve amenity for pedestrians and cyclists, to both better provide for existing users and to accommodate future active mode demands triggered by the development proposal.

In this regard it is noted that a prior infrastructure study undertaken by Calibre Consulting limited in 2016, includes consideration of the current and future road carriageway form between the site and the Miramar Avenue intersection to the south. This study, attached as **Appendix C**, highlights that whilst greenfield sites accommodating similar levels of traffic generation to that expected under the proposal may be designed with wider carriageways than that currently provided along Shelly Bay Road, it is not feasible to physically

achieve such widths in this case given the constraints of the cliff face on the one side and sea wall on the other. The study also acknowledges that any design needs to be cognisant of balancing technical / capacity requirements with the existing coastal amenity and natural character of the local environment.

Accordingly, the report includes an assessment of the practicality of achieving some widening along the route, to provide a 1.0-1.5m wide pedestrian and cycle path alongside a 6m wide carriageway, as shown in the plans attached to the report in Appendix C. The report concludes that such an arrangement can be achieved that will, whilst not fully adhering to the Council's Code of Practice, serve to adequately accommodate the development proposal demands. This assessment was subsequently accepted by Council and it is understood that a commitment has since been made (by Council) for these works to be undertaken.

8. Servicing Arrangements

Detail on the various servicing demands and practices anticipated for the site's various activities is set out below.

8.1 Residential Activity Servicing

Servicing requirements for the residential component of the site will be generally limited to rubbish collection and occasional furniture deliveries. Such (un)loading activities will be undertaken from within the development laneways, clear of obstructing other vehicle traffic movements.

The development plans provided by Envelope in Appendix D show the tracking paths for an 8m MRT to enter the laneways in a forward direction, utilise some of the available circulation area at the intersection points with the parking mews to turn around in, and then exit the laneway again in a forward direction (see Envelope drawing: 1098-01 350 R1 and 1098-01 351 R1). In this manner, service vehicles will not be required to undertake a reverse manoeuvre to/from Shelly Bay Road.

8.2 Commercial Activity Servicing

Given the nature of the commercial and retail activities anticipated at the site involving predominantly boutique galleries / studios, their associated servicing demands are not expected to be frequent and will be amply accommodated within the various laneways, without impeding other vehicle movements.

Courier van deliveries to the broader site activities, which are typically focused around the start of the day, can be accommodated within the laneways themselves, or from time to time may be expected to make use of kerbside parking (at a time when demand for recreational use of these spaces would generally be low).

The café activity is expected to generate food deliveries and waste collection in the order of 4 to 5 visits per day, whilst the hotel is expected to generate similar levels of demand. It is anticipated that the provision of the off-road laneway space will adequately accommodate such day to day servicing demands generated by these activities.

Overall, all servicing requirements generated by the proposed development can be accommodated within areas of the site itself, and without the need for service vehicles to undertake reverse manoeuvres between the site and the adjacent street network.

9. District Plan Provisions

As previously described, the development site is subject to a 'Business 1' zoning within the provisions of the District Plan. Rule 34.1.1 of the District Plan relates to the requirements for Permitted Activities in respect of parking, servicing and site access. The proposed masterplan design is assessed against each of the related Standards at Rule 34.6, in **Table 9-1** as follows:

Table 9-1: Assessment against District Plan Standards

Standards	Assessment of Compliance
	Vehicle Parking
34.6.1.6.1	<i>All parking shall be provided and maintained in accordance with sections 1, 2 and 5 of the joint Australian and New Zealand Standard 2890.1 – 2004, Parking Facilities, Part 1: Off-Street Car Parking</i>
	All on-site and on-street parking areas have been designed in accordance with these standards.
34.6.1.6.2	<i>Where carparking is located within a building, a minimum height clearance of no less than 2.2 metres is required</i>
	This minimum height clearance is able to be met by the areas of internal parking included within the proposal.
34.6.1.6.3	<i>The gradient for carparking circulation routes shall not be more than 1 in 8</i>
	No parking circulation routes have a gradient of more than 1 in 8.
	Servicing
34.6.1.6.5	<i>On each site in the Business Areas, at least one loading area shall be provided as follows: Where loading areas are located within a building, a minimum height clearance of 4.25 metres is required</i>
	No loading areas are proposed inside of any building. In some cases, adjacent lots may share access to a loading zone, in the manner of other established higher density activities around Wellington. Importantly, the site can provide adequate loading areas to accommodate the overall servicing demands generated by the proposed activities. The specific details of individual loading zone locations will be provided as part of the detailed design.
	<i>For buildings serviced by lifts, all levels shall have access to a loading area by way of a lift</i>
	No loading areas are proposed inside of any building.
	<i>The loading area shall be located no further than 15 metres from a lift and there shall be access between them</i>
	No loading areas are proposed inside of any building.
	<i>Turning paths shall be based on the standard for a medium rigid truck as illustrated below (ref Pg. 34/31)</i>
	No loading areas are proposed inside of any building.
34.6.1.6.6	<i>For loading areas located outdoors, the minimum width shall be 3 metres and the minimum length 9 metres</i>
	The masterplan incorporates adequate provision for such loading areas to be provided on-site, clear of the public street. In addition, the proposed access arrangements provide for a medium rigid truck to access the various activity components of the site, including adequate provision for these trucks to turn on-site and therefore to enter and exit the laneways in a forward direction, avoiding the need to reverse to and from the public street (Shelly Bay Road).

34.6.1.6.7	<i>For loading areas located within a building, the minimum width shall be 4 metres and the minimum length 9 metres</i>
	No loading areas are proposed inside of any building.
	Site Access for Vehicles
34.6.1.6.9	<i>Site access shall be provided and maintained in accordance with section 3 of the joint Australian and New Zealand Standard 2890.1 – 2004, Parking Facilities, Part 1: Off-Street Car Parking (or its successor)</i>
	As described in the preceding chapters, the site access arrangements have been designed to comply with these standards.
34.6.1.6.10	<i>Subject to standard 34.6.1.6.12 no vehicular access, shall be situated closer to an intersection than the following:</i>
	<ul style="list-style-type: none"> • Arterial and principal streets 20m • Collector streets 15m • Other streets 10m
	The masterplan design shows the access arrangements proposed comply with these minimum separation distances
34.6.1.6.11	<i>No vehicle access is permitted to a site across any restricted road frontage identified on District Plan Maps 43-45</i>
	Shelly Bay Road is not identified as a restricted road frontage.
34.6.1.6.12	<i>There shall be a maximum of one vehicle access to any site except that sites with more than one frontage may have access across each frontage, unless once of the frontages is to a State Highway, in which case no access shall be to the State Highway</i>
	The masterplan scheme represents a subdivision which would split the land contained within the development site such that each title would not typically have more than one access.
34.6.1.6.14	<i>The width of any vehicle crossing to a site shall not exceed 6 metres</i>
	The proposed laneways providing access to the landside development are shown as 7m wide. This has been done to enable truck manoeuvres to/from the site, and inbound/outbound vehicles to pass at the boundary. The minor deviation from the District plan standards will not have an impact on the safety of the proposed accessways, particularly given the required pedestrian visibility splays for vehicles exiting the site will be achieved (and confirmed during the detailed design).
34.6.1.6.15	<i>Where vehicular access can be provided from a service lane or right-of-way registered in favour of the site or other private road or private right-of-way, no vehicle access shall be from the street.</i>
	The shared access laneways will provide access to both the parking mews and the internal carparks, as well as for the occasional service vehicle visits (rubbish collection etc.). Access to development on the wharf will generally be achieved via identified vehicle routes through the shared space environment.
34.6.1.6.16	<i>All access to sites must be designed to permit free flow of traffic so that vehicles do not queue on the street.</i>
	The laneways arrangement, and associated connectivity within the site via the parking mews, will assist in distributing traffic across adjacent accessways, helping to mitigate any on-street queuing. It is noted that through traffic volumes on Shelly Bay Road are low, and therefore delays caused by traffic at the development driveways will be infrequent.

As shown, the masterplan scheme has been developed in a manner that is cognisant of the various rules and standards of the District Plan, in complying with the relevant design standards, or demonstrating that the intent of the standards can be met through the detailed design stages.

In addition to these standards set out above, Rule 34.1.1 states that a development is a Permitted Activity provided that it complies with the standards specified in section 34.6.1 (Activities), except:

“Any activity that provides more than 70 parking spaces”

Given the masterplan development provides more than 70 car parks, it requires assessment against the Discretionary Activity (Restricted) Rule 34.3.1, which states:

34.3.1 *Any activity that provides more than 70 parking spaces is a Discretionary Activity (Restricted) in respect of:*

34.3.1.1 *the movement of vehicular traffic to and from the site*

34.3.1.2 *the impact on the roading network and the hierarchy of roads (see Map 33) from trip patterns, travel demand or vehicle use*

34.3.1.3 *the provision and location of facilities for multiple modes of transport*

This report has included an assessment of the added traffic arising from the proposed development activities, including in respect of the capacity and operation of the Shelly Bay Road intersection with Miramar Avenue to the south. The analyses indicate that with proposed mitigation at the intersection, the development traffic can be accommodated without causing a significant reduction in level of service.

In respect of parking, and whilst the District Plan does not include a specific requirement for residential activities to provide parking within Business zone 1, the proposed development plans show 1 space for every dwelling, in the manner of other suburban residential developments elsewhere in the city, and as required by a residential zoning.

In addition, the proposed public provision has been determined on the basis of industry guidance with respect to parking demand generation rates applied to the proposed activities and assessed as adequately providing for development up to the proposed levels set out in Chapter 3.

In respect of access by other modes, it is noted that the development does not foreclose options for direct servicing by buses in the future, and indeed may facilitate a review by GWRC. Similarly, the development will aid Council to advance their earlier plans for a shared path along the seaward side of Shelly Bay Road, connecting between the existing path at Miramar Avenue and the new shared path to be introduced as part of the site works. Furthermore, and as described through this report, a ferry service connecting the development site with Queens Wharf in Wellington city, will usefully provide a convenient transport alternative to private vehicle trips, for residents and visitors alike.

10. Construction Traffic

A detailed Construction Management Plan (“CMP”) addressing the construction phasing of the proposed broader site development will be prepared and submitted to Council for approval prior to any works commencing.

It is noted that development of the site will occur over time, with specific programming and sequencing for construction of the various site activities to be determined once contractors have been appointed. In this manner, it is recommended that a Construction Traffic Management Plan (“CTMP”) be developed and provided to Council for approval that sets out details of the work phases and associated construction volumes for each phase, prior to any works commencing.

Traffic movements associated with the operation of the construction site will be managed in order to avoid conflicts with peak traffic periods, whilst further details of the specific routes for construction traffic will be specified in the CTMP, once the landfill and quarry sites associated with the cut and fill groundworks have been determined.

The specific construction areas associated with the phased development of the site will be laid out to allow all vehicles to access and egress the site in a forward gear, without requiring any reverse manoeuvres on the adjacent road network. On occasion when specialist machinery is being delivered or collected from the site, or when works are being undertaken close to the site frontages, it may be necessary to require some Temporary Traffic Management (“TTM”) measures, which will be undertaken in a manner that is satisfactory to Council.

These and other specific details will be documented in the CTMP to be prepared in due course, that will be submitted to Council for approval prior to site works commencing. The actual content of the plan will include:

- the timing of specific work phases;
- key activities during each work phase;
- anticipated traffic levels and access arrangements for each work phase;
- route restrictions;
- provision for maintaining safe pedestrian and cycle access and movements in the vicinity of the site;
- provision for signage;
- arrangements for contractor parking;
- arrangements for TTM, including with regard to public transport, pedestrians, parking and servicing; and
- contact telephone numbers for key site staff.

Any appropriate works signage clearly demarcating site accesses and/or construction traffic routes will be erected in accordance with the ‘Code of Practice for Temporary Traffic Management’ (“COPTTM”). Again, full details of these arrangements will be provided within the CTMP, which is expected to be a live document with amendments made according to construction progress.

11. Conclusion

Stantec has been commissioned to undertake a Transportation Assessment examining the traffic and transportation needs and potential issues arising with the proposed development of the Shelly Bay site.

In this regard, it is noted that the development's access strategy and internal vehicle circulation routes have been developed in accordance with industry standards, as has the site wide parking provision. Furthermore, the anticipated servicing demands generated by the site's mixed-use activity can be appropriately accommodated on-site, and clear of the public street.

It has been assessed that with the adoption of proposed upgrade works, which achieve a more efficient layout at the Shelly Bay Road / Miramar Avenue intersection and serve to deliver capacity improvements, the increase in traffic arising from the development will not adversely affect the performance on this part of the network, and will in fact generally serve to reduce overall delay from the level currently experienced during the peak periods today.

The proposed Shelly Bay Road improvement works, which would see the introduction of a shared pedestrian and cycle provision connecting the site and the Miramar Avenue intersection to the south, will serve to benefit not only those active mode users associated with the proposal site, but also the wider recreational demands around the Miramar peninsula. In addition, potential opportunities for improving access to bus and ferry services exist in the future as the development progresses, to deliver more convenient accessibility and travel choice.

Overall, the assessment has examined the traffic-related features and potential effects of the proposal and finds that with the adoption of the Shelly Bay Road improvement works project, and upgrades to the Miramar Avenue intersection as described, development of the site can occur in a manner that ensures an appropriate level of integration, and more particularly within a substantially improved Shelly Bay environment.

Appendices



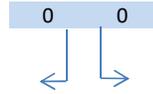
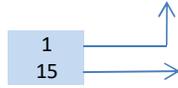
Appendix A Pedestrian and Cycle Volumes

AM PEAK HOUR (8-9AM)

Cyclists
 Pedestrians

SHELLY BAY ROAD

COBHAM DRIVE



MIRAMAR AVENUE

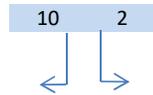
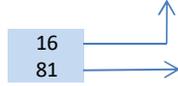
SHELLY BAY ROAD / MIRAMAR AVENUE INTERSECTION - PEDESTRIAN AND CYCLE TRAFFIC

PM PEAK HOUR (5-6PM)

Cyclists
 Pedestrians

SHELLY BAY ROAD

COBHAM DRIVE



MIRAMAR AVENUE

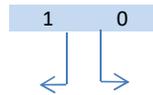
SHELLY BAY ROAD / MIRAMAR AVENUE INTERSECTION - PEDESTRIAN AND CYCLE TRAFFIC

SATURDAY PEAK HOUR (12-1PM)

Cyclists
 Pedestrians

SHELLY BAY ROAD

COBHAM DRIVE



MIRAMAR AVENUE

SHELLY BAY ROAD / MIRAMAR AVENUE INTERSECTION - PEDESTRIAN AND CYCLE TRAFFIC

Appendix B Indicative Intersection Improvements

ORIGINAL SIZE A1 0 10 20 30 40 50 60 70 80 90 100 150 200 mm DO NOT SCALE - IF IN DOUBT, ASK



NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE

SURVEYED	
DESIGNED	
DRAWN	
CAD REVIEW	
DESIGN CHECK	
DESIGN REVIEW	
APPROVED	NOT APPROVED
PROF REGISTRATION	



Client:
 Shelly Bay Mixed Use Development
 Miramar, Wellington

Indicative Design For Intersection Improvement

Status Stamp	WORKING PLOT
Date Stamp	13/03/2019
Scales	AS SHOWN
Drawing No.	13725W1A
Rev.	A

Appendix C Infrastructure Report (Calibre Consulting)



PREPARED FOR WELLINGTON CITY COUNCIL - CITY SHAPER
1 SEPTEMBER 2016

SHELLY BAY, WELLINGTON
SERVICING FEASIBILITY

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QUALITY ASSURANCE STATEMENT

Task	Name	Signature
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Prepared by	Scot Plunkett	
Reviewed by	Brett Gawn	
Approved for Issue by	Scot Plunkett	

DOCUMENT REVISIONS

Issue	Date	Issue Details	Author	Checked	Approved

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APPENDICES

APPENDIX A	SCHEMATIC PLANS OF THE PROPOSED DEVELOPMENT OF SHELLY BAY
APPENDIX B	EXCERPT FROM THE HOUSING ACCORDS AND SPECIAL HOUSING AREAS ACT 2013
APPENDIX C	SCHEMATIC ACCESS LAYOUTS – CALIBRE 709360 SHEETS C11 – C14

Declaration:

Much of the information contained in this report has been sourced from investigations completed by Calibre Consulting in assessing the costs of providing bulk infrastructure services to Shelly Bay. Those investigations form part of a separate report for Wellington City Council. Calibre Consulting has also been engaged by the developer to provide initial land surveying expertise to assist with the subdivisional aspects of the proposal.

1 PURPOSE

The purpose of this report is to confirm the ability of the Shelly Bay development site to be appropriately serviced.

2 BACKGROUND & METHODOLOGY

The Wellington Company is preparing a resource consent application for the proposed development of the Shelly Bay site. Schematic plans of the proposed development are attached as Appendix A.

In December 2015 the Shelly Bay site was announced as a Special Housing Area (SHA). For the Council to grant any resource consent under the Housing Accords and Special Housing Areas Act 2013 (the Act) the ability of the development site to be appropriately serviced needs to be considered. Details of the consideration required can be found in section 34 of the Act. An excerpt from the Act is included in Appendix B.

The Act refers to “sufficient and appropriate infrastructure” on several occasions. This phrase has been determined to mean services (such as access, drainage and utilities) that could reasonably be expected to be provided in an urban situation, in a manner and to a standard that would generally be satisfactory to the general public.

To satisfy the Council that “sufficient and appropriate infrastructure” is available or achievable for the proposed development the following steps have been completed:

- Determining the scale and standard of services required
- Assessment of the existing infrastructure
- Considering and developing options for upgrade or replacement of services as required
- Confirming the feasibility and fit of the proposed services

3 SUMMARY

Sufficient and appropriate infrastructure is in place, or can reasonably be provided, to support the proposed development of the Shelly Bay area.

The provision of suitable access, drainage and utility services can be achieved using standard civil engineering design and construction methodologies. Relevant authorities and service providers are satisfied that the development site can be adequately provided for. Fanciful, untested or cost-prohibitive solutions are not required to appropriately service the development.

4 INFRASTRUCTURE

4.1 ACCESS

Based on the proposed number of residential units, Shelly Bay Road would fall under the designation of Collector Road. In a normal “greenfield” situation this would require a carriageway width of 14m plus 8m of footpaths and berms, making 22m in total. Constructing a road to this standard is not feasible due to the cliff face along one side of the road and the sea wall and harbour on the other. Upgrading the current carriageway to fully meet the guidelines of the Council’s Codes would serve to urbanise the road and may have adverse effects overall.

The Council has indicated their expectations for the level of service required by Shelly Bay Road to provide access to the developed site. Calibre has also assessed the level of infrastructure considered necessary to service the proposal. The final design and specifics of the access road will however be confirmed as a result of the overall planning and detailed engineering design processes.

The proposed traffic lanes are consistent for the various options at a minimum carriageway width of 6.0m (two 3m moving lanes). The variations are predominantly around footpath/cycle lane provision and the extent of roadside parking.

The primary function of the route will be to “move”, so only needs to have traffic lanes and appropriately allow for pedestrian/cycle traffic. There is limited need for berm or other parking along the route. Parking on the harbour side of the carriageway is readily available in some places along the route, but will require substantial construction at other points.

A 1.0-1.5m wide pedestrian/cycle lane has been allowed for as a minimum requirement, with additional width the subject of potentially significant construction works. Preliminary investigations and some conceptual design work have been completed to assess the current layout’s ability to accommodate this allowance. In general it is expected that the existing road alignment can largely accommodate a 6.0m carriageway plus 1-1.5m pedestrian/cycle corridor, without need for significant structural works or creating large scale environmental impacts. Sketches indicating the ability of the alignment to accommodate this combined 7-7.5m width are attached in Appendix C.

The final design will need to be a balance between technical requirements and guidelines and retention of the existing natural character and amenity of the coastal route.

Notwithstanding the above the various options and alternatives will all provide roading infrastructure that will adequately service the scale of the development proposed. Whilst the finished result may not be fully compliant with standard Code of Practice requirements or 100 percent satisfactory to all parties, it will be of a scale and standard that sufficiently and appropriately caters for the development proposal.

4.2 WATER SUPPLY

Based on the expected population that will be generated by the development the water supply needs have been determined. The current infrastructure is considered to be in poor condition and grossly undersized. Consultation with Wellington Water Limited (WWL) confirmed that a new reservoir and related watermain infrastructure would be required to service this level of development. The major components of the capital works are a new reservoir (Shelly Bay), replacement of the pipeline between the Mt Crawford and Shelly Bay reservoirs, replacement of the pipeline from Shelly Bay reservoir and local reticulation.

There is considerable upgrading work needed to provide the level of service required for the proposal. The provision of a new reservoir and related pipelines is however fairly standard practice for a development at the scale of this proposal. The final details and specifications are yet to be determined, but in consultation with WWL the solutions comprise standard practice subdivisional engineering works, and are not considered unusually onerous or containing unexpected levels of risk.

The proposed infrastructure is considered to adequately meet or comply with the relevant standards for developments of this nature, and will provide sufficient and appropriate water supply infrastructure for the proposal.

4.3 WASTEWATER

The necessary wastewater drainage capacity was calculated using the Regional Standard for Water Service and the expected population generated by the development. The existing pipework was determined to be in such a condition as to be unable to cope with increased flows, and there were also issues with the size of the existing gravity feed to the existing pump station.

Consultation with WWL determined that a new wastewater pump station and rising main would be required to service the development. Due to uncertainty regarding the capacity of the existing downstream wastewater infrastructure it was determined that the new rising main would need to be extended so as to connect to the pump station in Salek Street, Kilbirnie. The major components of the capital works are a new wastewater pump station, a new rising main to the Salek Street pump station and local reticulation.

The Salek Street pump station is approximately 3.5km from the development site. Connection to this pump station will require construction of the new pipe alignment along busy roads (including SH1) and through or around large road intersections. Whilst these matters add complexity and cost to the requirements the actual logistics of the construction are within standard operating procedures for this manner of work.

The internal drainage network for the development site will also need to be designed. This will service the individual sites and connect to the public infrastructure or “mains”. The infrastructure design has allowed for the local reticulation. The design of any local reticulation is however subject to the details of the land use proposal and subsequent detailed engineering design.

The proposed infrastructure is considered to adequately meet or comply with the relevant standards for developments of this nature, and will provide sufficient and appropriate wastewater drainage infrastructure for the proposal.

4.4 STORMWATER

Current stormwater disposal for the site is via several discharge points directly feeding into Shelly Bay. Along the access to the site (Shelly Bay Road) there are several additional discharge points from the road directly to the harbour. Given the coastal nature of the site and the access road this is the logical arrangement. Current requirements for disposal, the protection of the coastal environment, discharge specifics and pollutant treatments are considered to be beyond the existing infrastructure.

The proposed development of the site and Shelly Bay Road will require upgrades and/or additions to the current discharge situation. New outfall structures have provisionally been allowed for to service the site and the upgraded Shelly Bay Road. Details of the locations and specifications for the outfalls will need to be confirmed and consented through both Wellington City and Regional Councils.

An internal stormwater network will also need to be designed for the development. This will service individual sites and allow rainfall and sub-surface runoff from above the site to be controlled through the site. The internal network design effectively comprises the positioning and sizing of appropriate catchment (sumps, raingardens etc) and distribution (pipework) networks. These are standard and expected matters for all land development proposals. The discharge points will be designed to allow for this internal network, in addition to the existing stormwater disposal.

The required infrastructure will allow for the sufficient and appropriate drainage of stormwater into, within and thorough the site, along with the appropriate and controlled disposal into the harbour.

4.5 POWER

Wellington Electricity is the infrastructure provider for power services in the Shelly Bay area. Wellington Electricity has assessed the proposal for their likely power servicing requirements. Based on the load proposed the required transformer capacity has been calculated. Upstream reinforcement work would be required to supply the development, and potentially three substations would be required. Wellington Electricity did not raise any issues or concerns regarding their ability to appropriately service the development as proposed.

4.6 TELECOMMUNICATIONS

Chorus Network Services (Chorus) is an infrastructure provider for telecommunication services in the Shelly Bay area. Chorus has confirmed that they will be able to provide telephone reticulation for the proposed development. Chorus' undertakings include the network design, supply of telecommunications specific materials and supervising installation. Chorus did not raise any issues or concerns regarding their ability to appropriately service the development as proposed.

4.7 GAS SUPPLY

PowerCo is an infrastructure provider for reticulated gas services in the Shelly Bay area. PowerCo has assessed the development proposal and determined their likely requirements. They have determined that the development would require the installation of approximately 2.9km of gas main in Shelly Bay Road. Depending on the uptake and investment required for the infrastructure the installation may utilise trenching from other services and be completed through a competitive tendering process.

Reticulated gas is not considered a core infrastructure requirement for new developments. If required for the Shelly Bay proposal PowerCo has indicated that supply to the development is feasible. Any reticulated gas supply would therefore be provided to sufficiently and appropriately service the development.

4.8 OTHER INFRASTRUCTURE

The Shelly Bay proposal also includes the potential for options such as a cable car and passenger ferry terminal. These options will potentially add to the amenity values of the area, but are not seen as key to supporting the feasibility of any development. The Act requires the consideration of “*sufficient and appropriate infrastructure*”, and matters such as cable cars and passenger ferries are considered outside of this definition.

5 PLANNING ASSESSMENT

The above details have been provided to allow the Council to appropriately assess the pending application for resource consents at Shelly Bay. Section 34 (2) of the Act states that the Council must not grant consent “*unless it is satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development*”. Section 34 (3) details the considerations that the Council must make.

The proposed infrastructure will be designed and constructed so as to be fully compatible with the existing infrastructure - s34(3)(a). As part of the detailed design process the Council’s satisfaction as to the proposal’s compliance with the applicable Codes and Standards will be obtained – s34(3)(b). Downstream investigations have been undertaken to ensure that the capacity of the proposed and existing infrastructure is sufficient to support the development proposal – s34(3)(c).

APPENDICES

APPENDIX A SCHEMATIC PLANS OF THE PROPOSED DEVELOPMENT OF SHELLY BAY



AERIAL VIEW – SOUTH BAY



AERIAL VIEW – NORTH BAY

APPENDIX B EXCERPT FROM THE HOUSING ACCORDS AND SPECIAL HOUSING AREAS ACT 2013

Decisions on applications and commencement of resource consents

34 Consideration of applications

- (1) An authorised agency, when considering an application for a resource consent under this Act and any submissions received on that application, must have regard to the following matters, giving weight to them (greater to lesser) in the order listed:
- (a) the purpose of this Act;
 - (b) the matters in Part 2 of the Resource Management Act 1991;
 - (c) any relevant proposed plan;

24

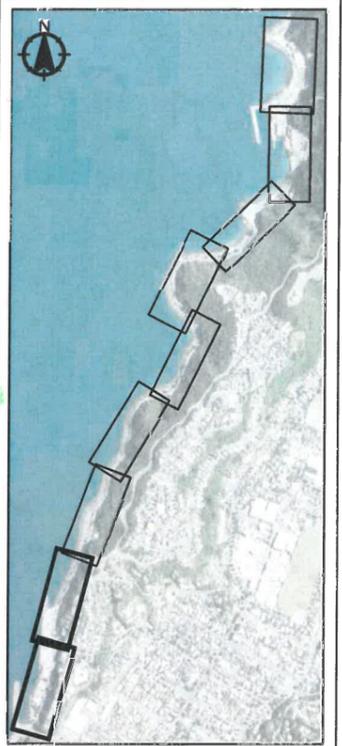
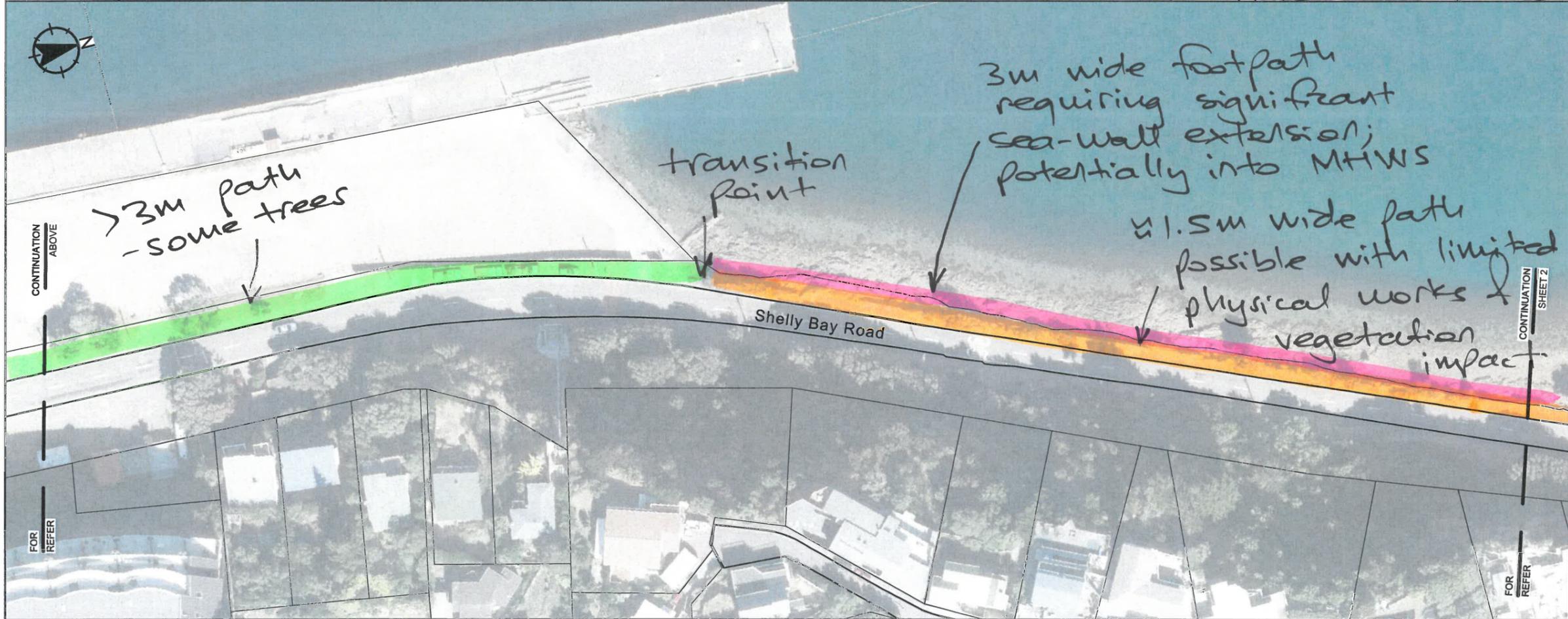
Reprinted as at
8 January 2015

Housing Accords and Special Housing Areas Act 2013

Part 2 s 34

- (d) the other matters that would arise for consideration under—
 - (i) sections 104 to 104F of the Resource Management Act 1991, were the application being assessed under that Act;
 - (ii) any other relevant enactment (such as the Waitakere Ranges Heritage Area Act 2008);
 - (e) the key urban design qualities expressed in the Ministry for the Environment's *New Zealand Urban Design Protocol (2005)* and any subsequent editions of that document.
- (2) An authorised agency must not grant a resource consent that relates to a qualifying development unless it is satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development.
- (3) For the purposes of subsection (2), in order to be satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development, the matters that the authorised agency must take into account, without limitation, are—
- (a) compatibility of infrastructure proposed as part of the qualifying development with existing infrastructure; and
 - (b) compliance of the proposed infrastructure with relevant standards for infrastructure published by relevant local authorities and infrastructure companies; and
 - (c) the capacity for the infrastructure proposed as part of the qualifying development and any existing infrastructure to support that development.
- (4) In considering an application for a resource consent under this section, the authorised agency—
- (a) may direct an affected infrastructure provider to provide any information that the authorised agency considers to be relevant in the circumstances to its consideration of the application; and
 - (b) if the authorised agency is the chief executive, may also direct any local authority to provide any information that the authorised agency considers to be relevant in the circumstances to its consideration of the application.
- (5) If an authorised agency makes a direction under subsection (4), the infrastructure provider or local authority must provide the information requested as soon as is reasonably practicable.
- (6) The Ministry must ensure that a copy of the document referred to in subsection (1)(e), or a link to that document, is on the Ministry's Internet site and that members of the public can easily access the document via that site, free of charge, at all reasonable times.

**APPENDIX C SCHEMATIC ACCESS LAYOUTS – CALIBRE 709360
SHEETS C11 – C14**



SHEET LAYOUTS

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Revision	App	Date
Surveyed -		
Designed SP		05/16
Drawn JWM		05/16
Reviewed		
Approved		



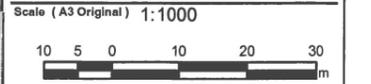
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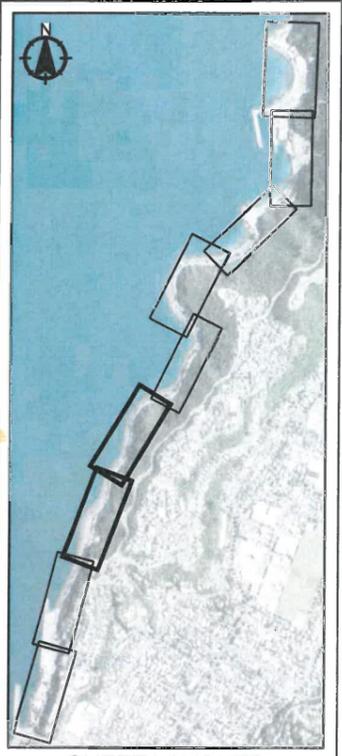
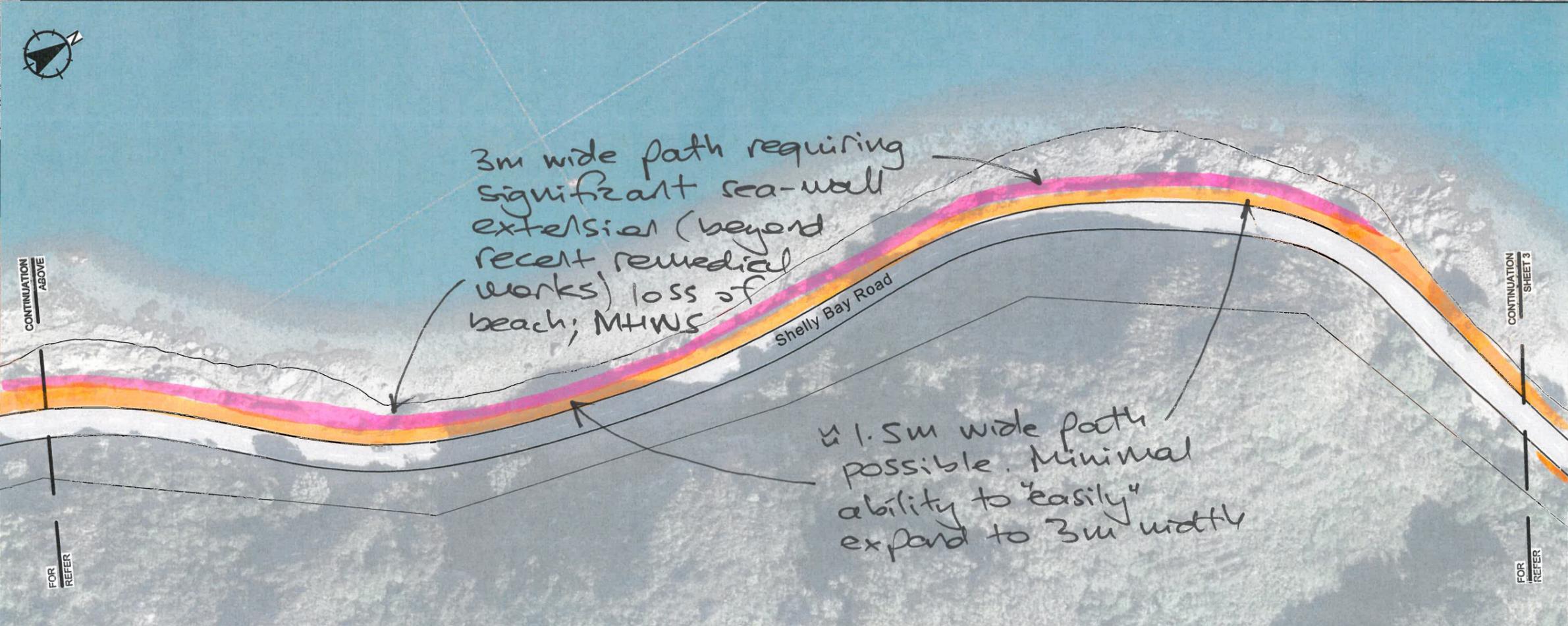
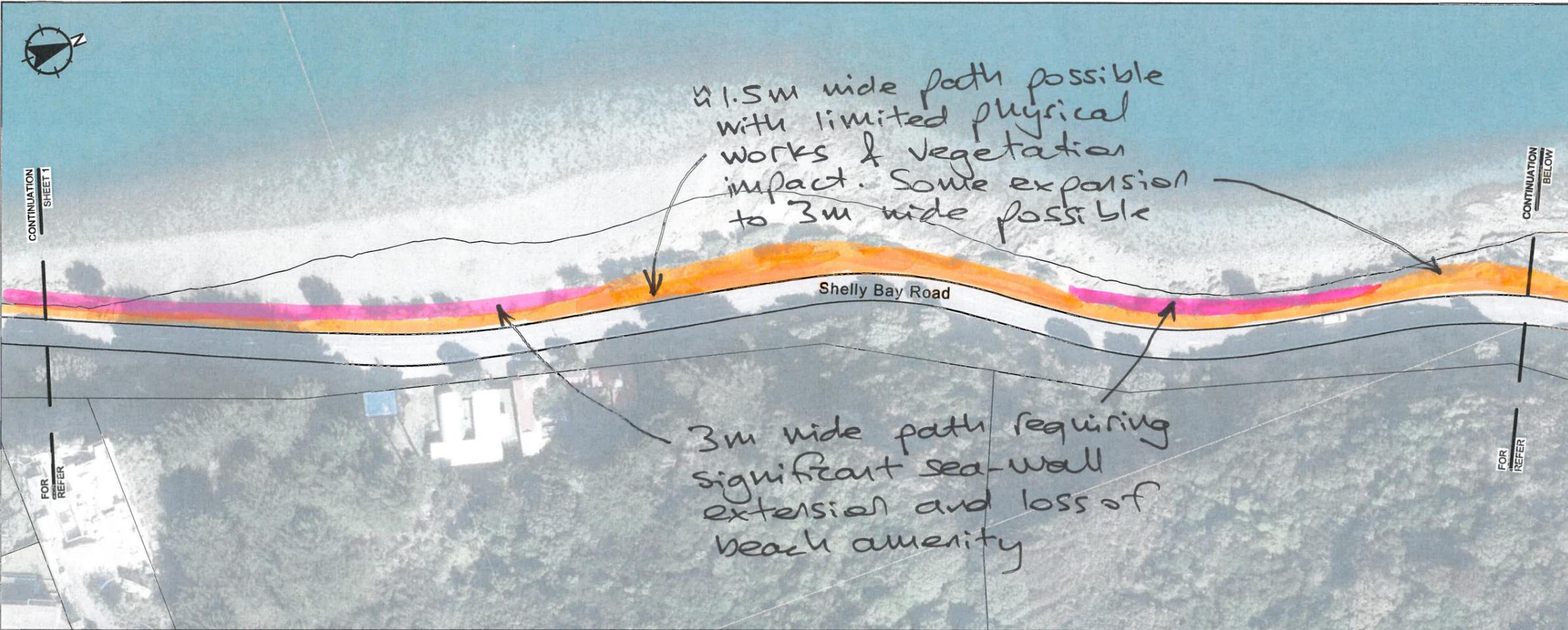
Project Title
**SHELLY BAY
BULK INFRASTRUCTURE**

Sheet Title
**PLAN LAYOUT
SHEET 1**

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Project No Sheet Revision
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SHEET LAYOUTS

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Drawn JWM		05/16
Reviewed		
Approved		

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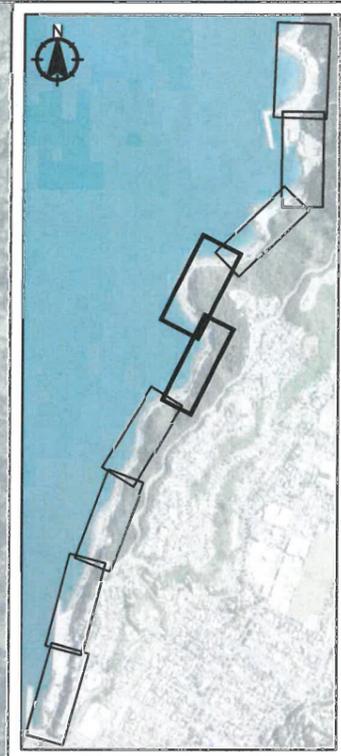
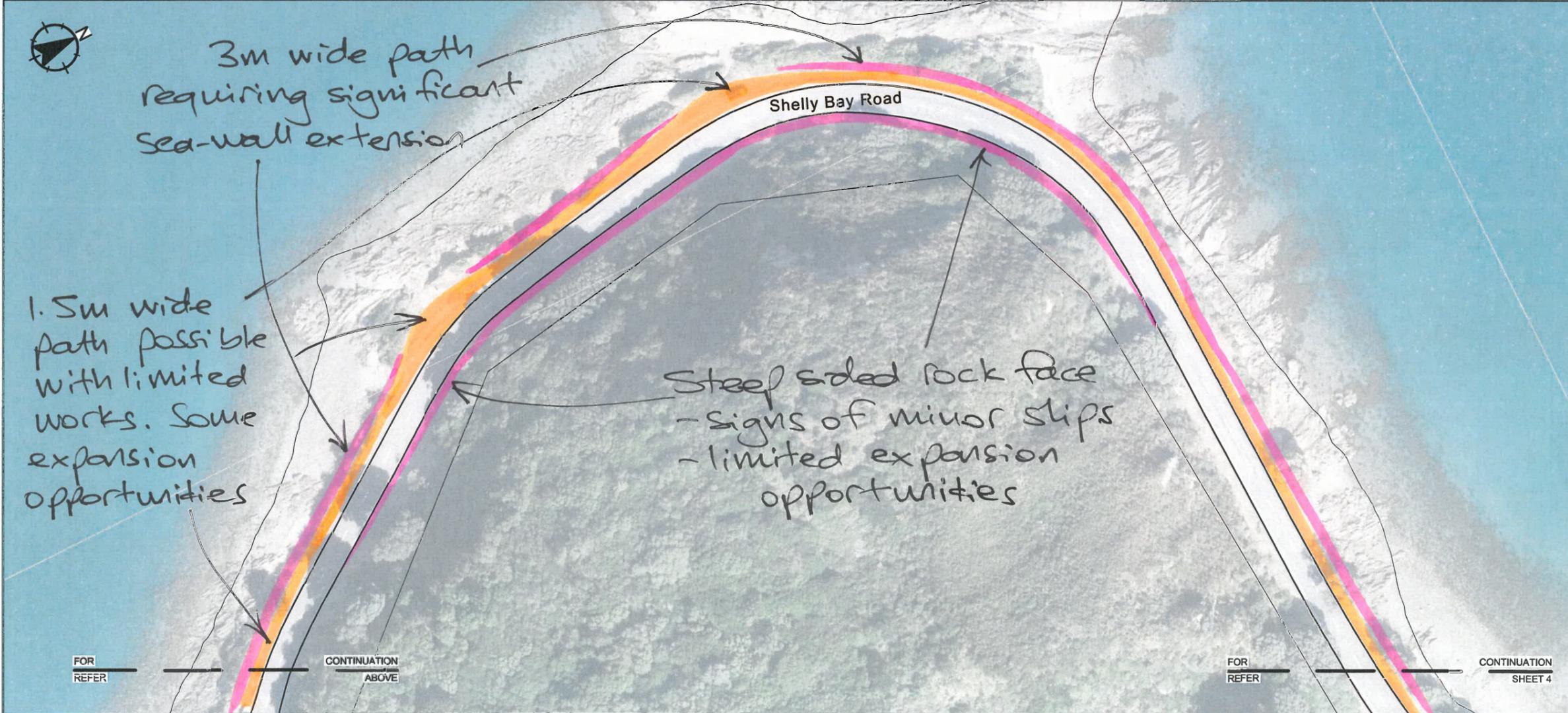
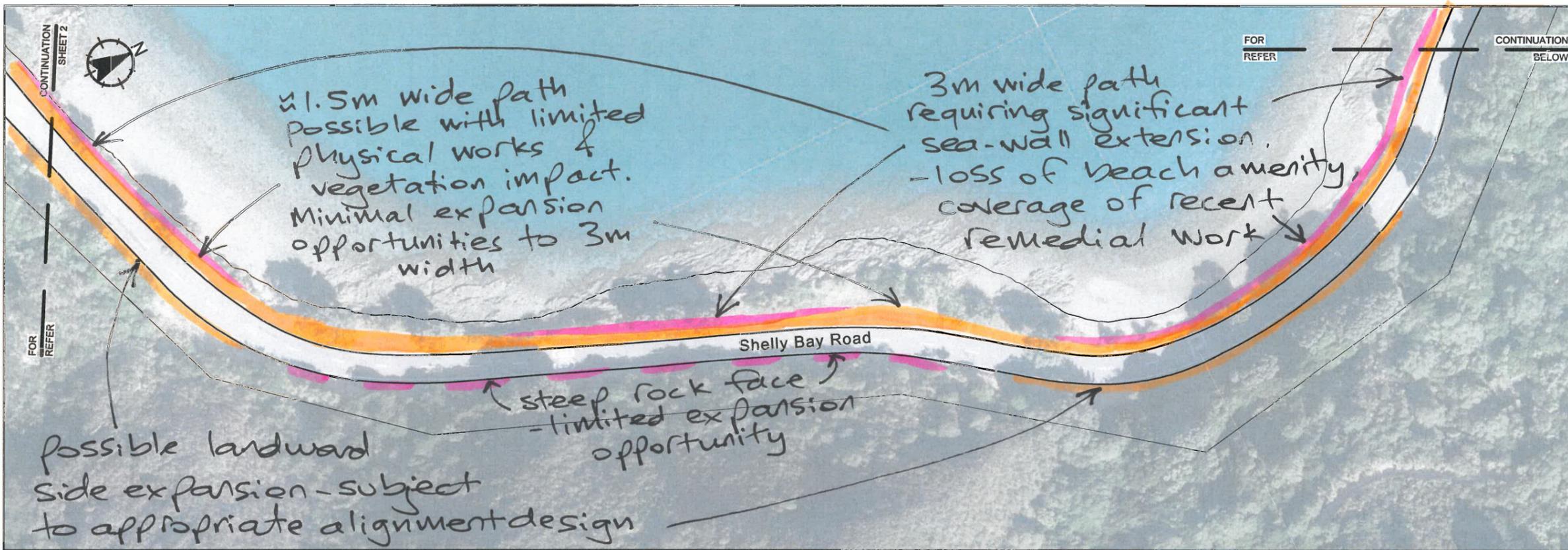
Sheet Title
PLAN LAYOUT SHEET 2

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Scale (A3 Original) 1:1000

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Drawn JWM		05/16
Reviewed		
Approved		



Verify all dimensions on site before commencing work. Prioritise figured dimensions over scaling. Refer all discrepancies to Calbre. This document and the copyright in this document remain the property of Calbre Consulting Limited. The contents of this document may not be reproduced either in whole or in part by any means whatsoever without the prior written consent of Calbre Consulting Limited.

Client
**Absolutely Positively
Wellington City Council**
Me Heke Ki Pōneke

Project Title
**SHELLY BAY
BULK INFRASTRUCTURE**

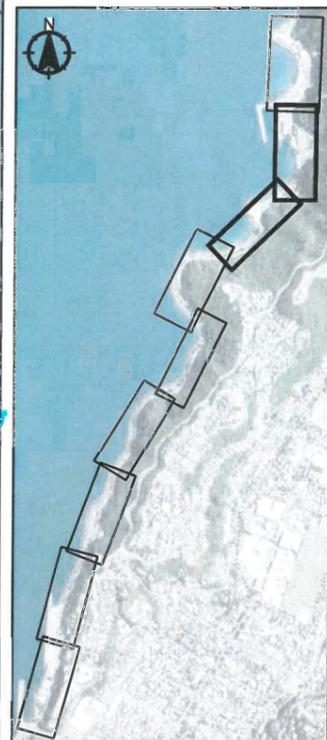
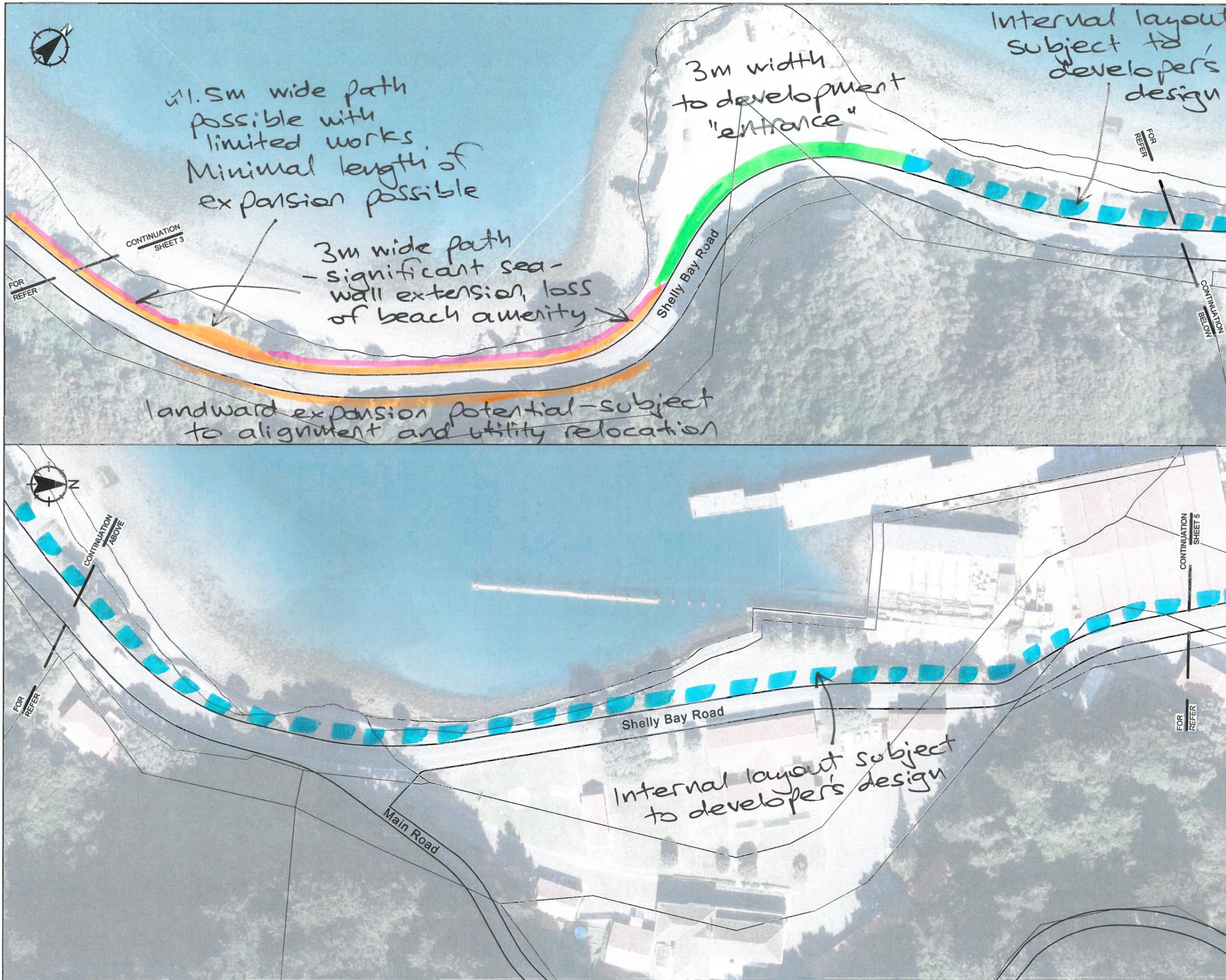
Sheet Title
**PLAN LAYOUT
SHEET 3**

Level 13, Kordia House
109-125 Willis Street, Wellington 6011 calbreconsulting.co
+64 4 384 2029



Scale (A3 Original) 1:1000

Project No	Sheet	Revision
709360	C13	-



SHEET LAYOUTS
PRELIMINARY ONLY
NOT FOR CONSTRUCTION

Revision	App	Date
Surveyed -		
Designed SP		05/16
Drawn JWM		05/16
Reviewed		
Approved		

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Client
Absolutely Positively Wellington City Council
 Me Heke Ki Pōneke

Project Title
SHELLY BAY BULK INFRASTRUCTURE

Sheet Title
PLAN LAYOUT SHEET 4

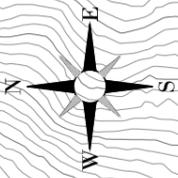
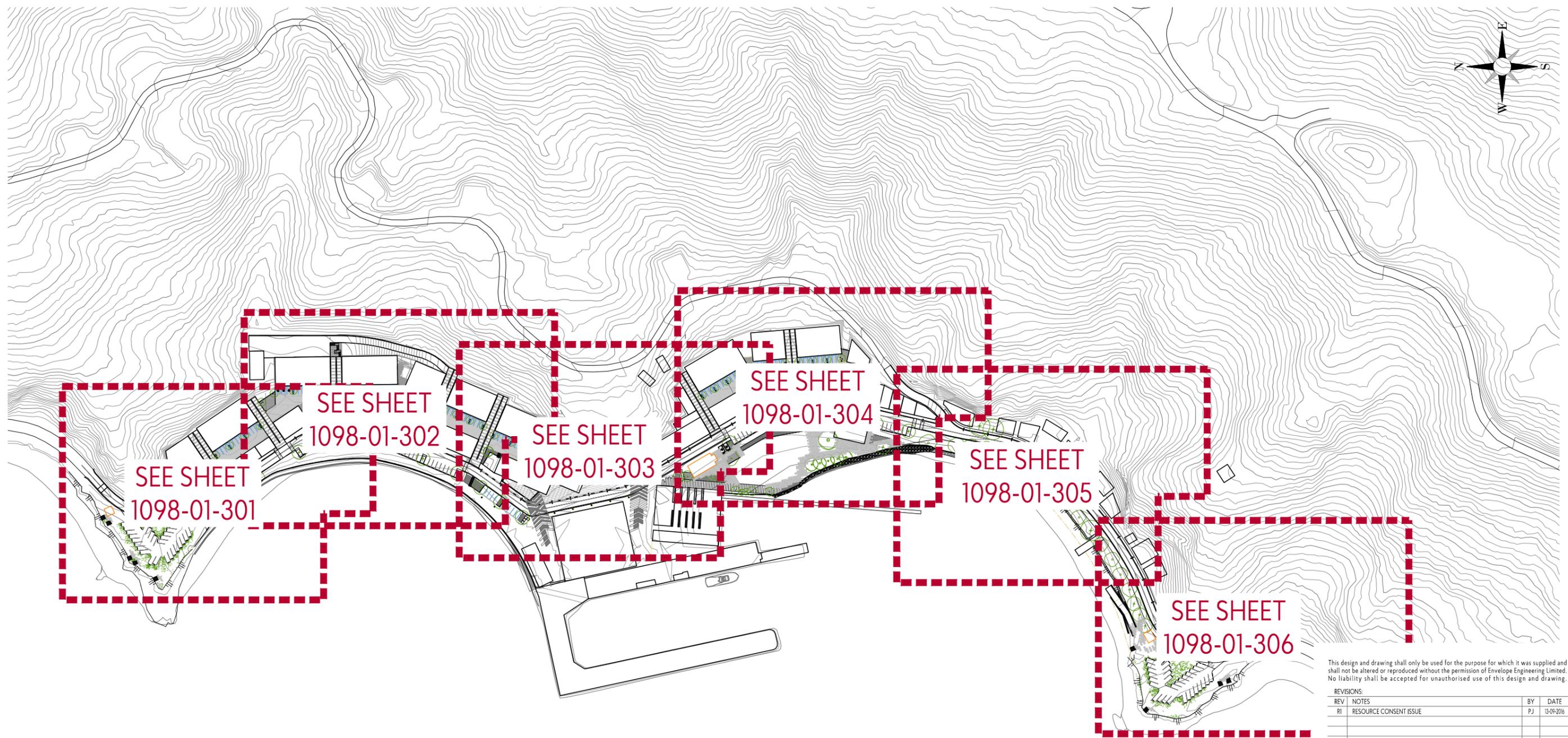
Level 13, Kordia House
 109-125 Willis Street, Wellington 6011
 calibreconsulting.co.nz
 +64 4 384 2029



Project No	Sheet	Revision
709360	C14	-



Appendix D Development Roding Plans



SEE SHEET
1098-01-301

SEE SHEET
1098-01-302

SEE SHEET
1098-01-303

SEE SHEET
1098-01-304

SEE SHEET
1098-01-305

SEE SHEET
1098-01-306

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REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016

PROJECT:
THE WELLINGTON COMPANY
SHELLY BAY
WELLINGTON

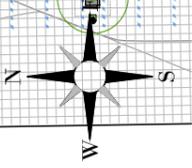
TITLE:
PROPOSED ROADING PLANS
OVERALL LAYOUT

ENVELOPE
LAND
STRUCTURE
MANAGE

L1, 125 VINCENT STREET
AUCKLAND CITY 1010
PO BOX 68946 NEWTON 1141
ENVELOPE ENGINEERING

DESIGNED: PJ
CHECKED: AB
SCALE: A1 - 1:1250, A3 - 1:2500
STATUS: RESOURCE CONSENT
PROJECT No: 1098-01
DRAWING No: 300
REVISION: R1

DRAWN: PJ
DATE: 14-Sep-2016



- NOTES:**
1. CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 2. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM II SO 31470 - RL 3.05m

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REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016

PROJECT:
THE WELLINGTON COMPANY
 SHELLY BAY
 WELLINGTON

TITLE:
PROPOSED ROADING PLANS
 SHEET 1 OF 6

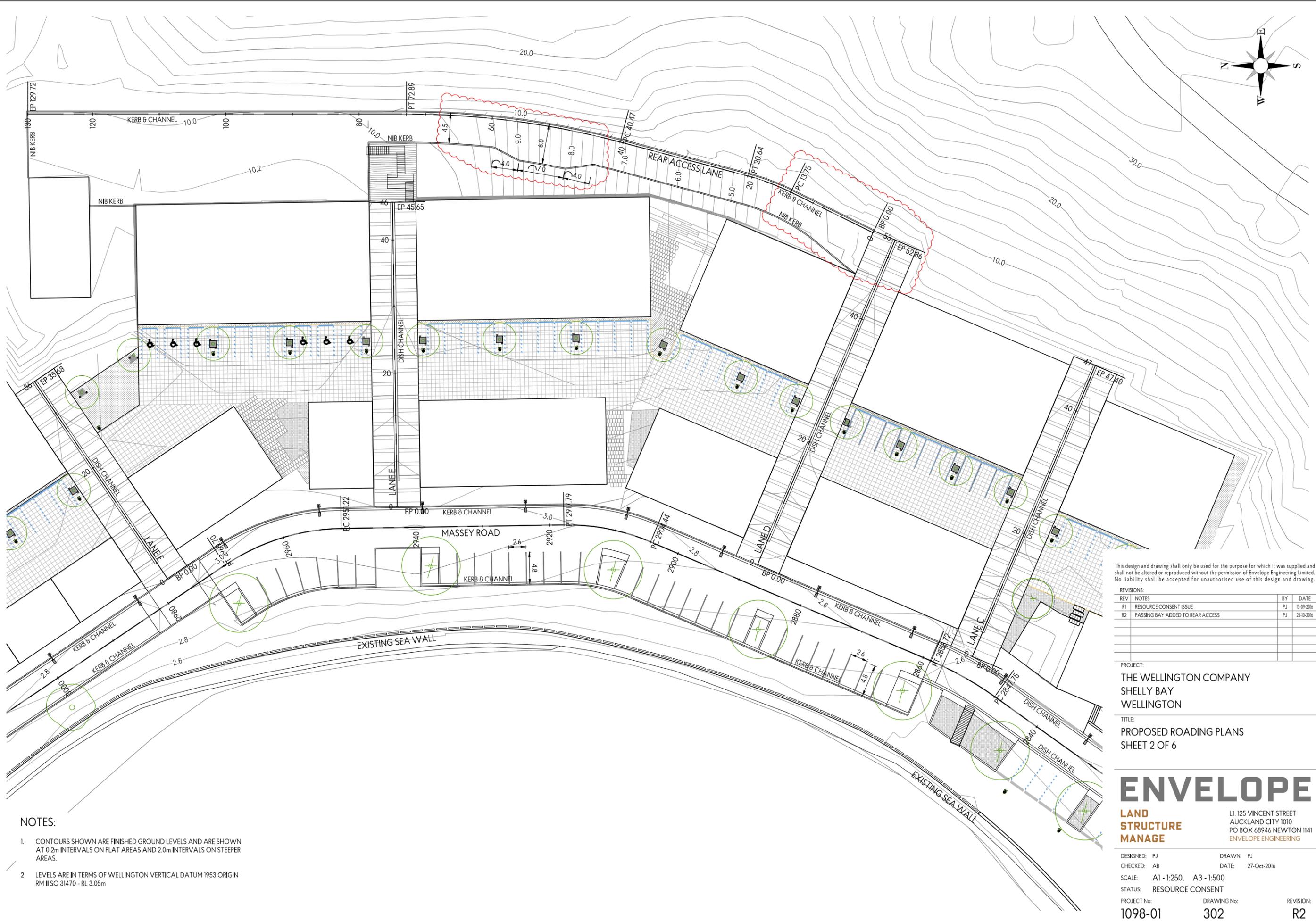
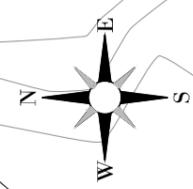
ENVELOPE
LAND
STRUCTURE
MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ DRAWN: PJ
 CHECKED: AB DATE: 14-Sep-2016

SCALE: A1 - 1:250, A3 - 1:500
 STATUS: RESOURCE CONSENT

PROJECT No: 1098-01 DRAWING No: 301 REVISION: R1



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REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016
R2	PASSING BAY ADDED TO REAR ACCESS	PJ	25-10-2016

PROJECT:
THE WELLINGTON COMPANY
SHELLY BAY
WELLINGTON

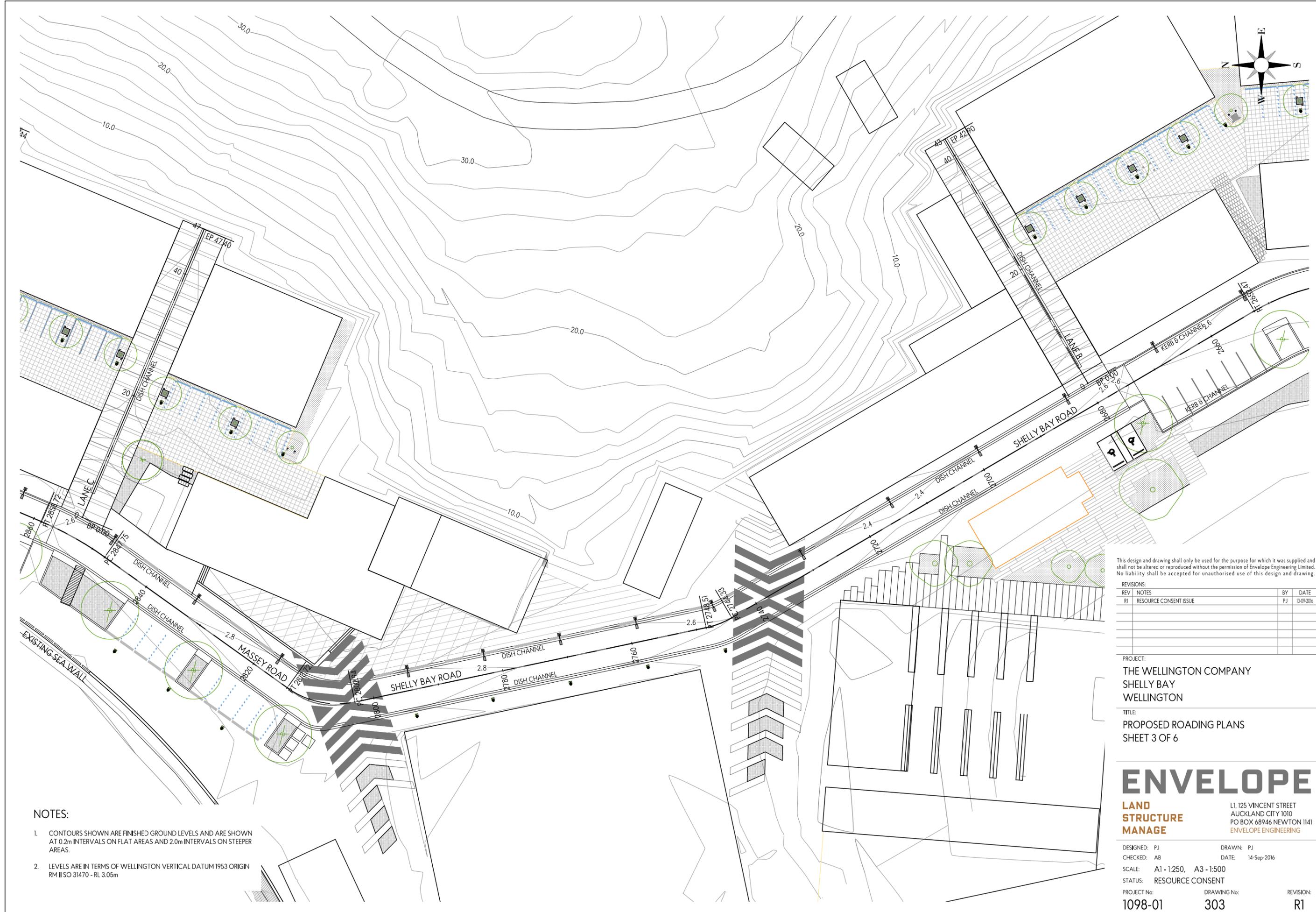
TITLE:
PROPOSED ROADING PLANS
SHEET 2 OF 6

ENVELOPE
LAND
STRUCTURE
MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ
 CHECKED: AB
 SCALE: A1 - 1:250, A3 - 1:500
 STATUS: RESOURCE CONSENT
 PROJECT No: 1098-01
 DRAWN: PJ
 DATE: 27-Oct-2016
 REVISION: R2

- NOTES:**
- CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 - LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM II ISO 31470 - RL 3.05m



- NOTES:**
1. CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 2. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM II SO 31470 - RL 3.05m

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REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016

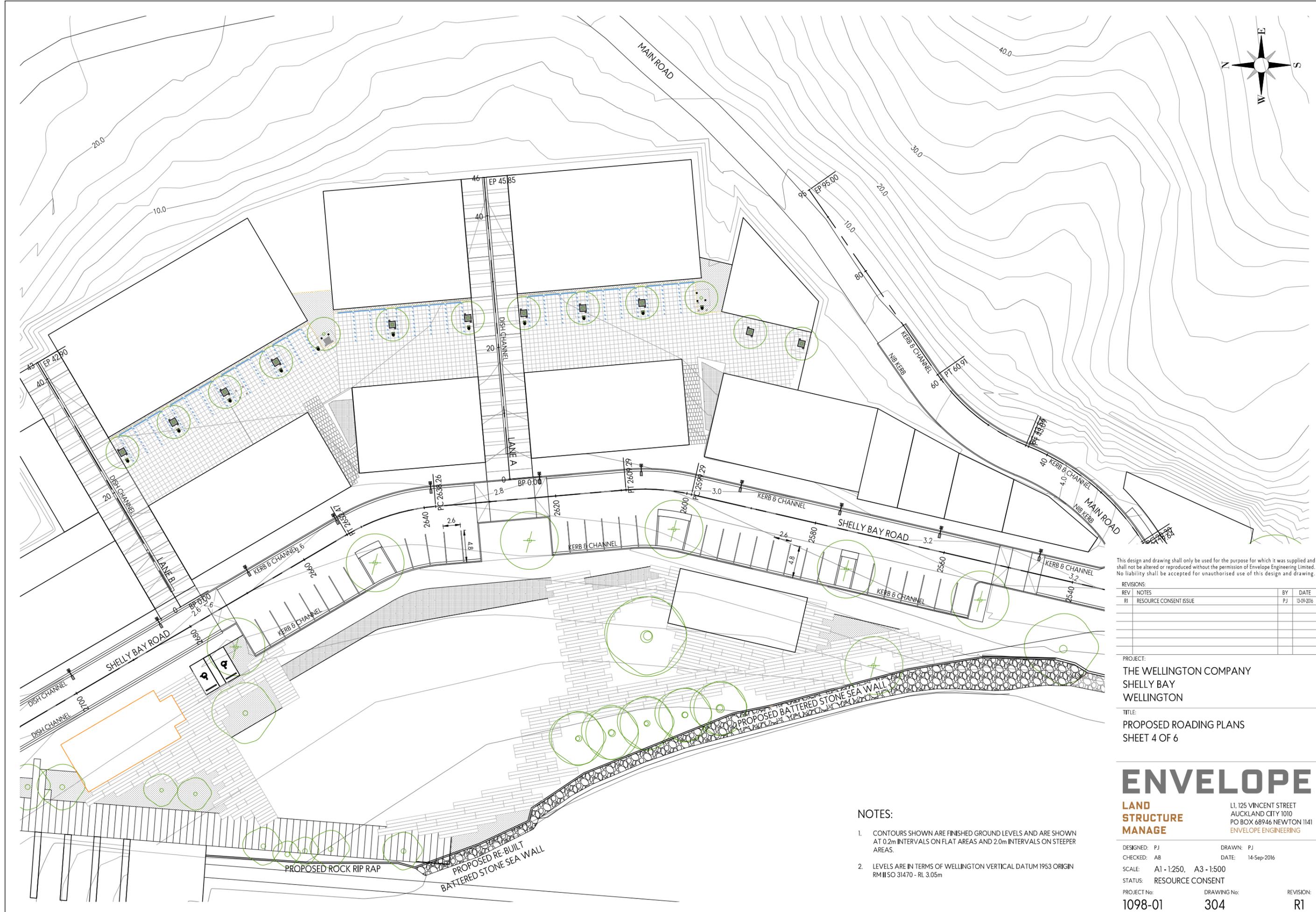
PROJECT:
THE WELLINGTON COMPANY
 SHELLY BAY
 WELLINGTON

TITLE:
PROPOSED ROADING PLANS
 SHEET 3 OF 6

ENVELOPE
 LAND
 STRUCTURE
 MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ	DRAWN: PJ	REVISION:
CHECKED: AB	DATE: 14-Sep-2016	R1
SCALE: A1 - 1:250, A3 - 1:500	STATUS: RESOURCE CONSENT	
PROJECT No: 1098-01	DRAWING No: 303	



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REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016

PROJECT:
 THE WELLINGTON COMPANY
 SHELLY BAY
 WELLINGTON

TITLE:
 PROPOSED ROADING PLANS
 SHEET 4 OF 6

ENVELOPE
 LAND
 STRUCTURE
 MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ
 CHECKED: AB
 SCALE: A1 - 1:250, A3 - 1:500
 STATUS: RESOURCE CONSENT
 PROJECT No: 1098-01
 DRAWING No: 304
 REVISION: R1

DRAWN: PJ
 DATE: 14-Sep-2016

- NOTES:
1. CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 2. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM II SO 31470 - RL 3.05m

PROPOSED ROCK RIP RAP

PROPOSED RE-BUILT
 BATTERED STONE SEA WALL

PROPOSED BATTERED STONE SEA WALL



- NOTES:**
1. CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 2. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM II ISO 31470 - RL 3.05m

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REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016

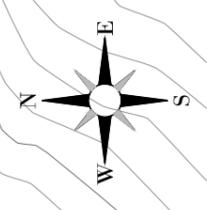
PROJECT:
THE WELLINGTON COMPANY
SHELLY BAY
WELLINGTON

TITLE:
PROPOSED ROADING PLANS
SHEET 5 OF 6

ENVELOPE
LAND STRUCTURE MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ	DRAWN: PJ
CHECKED: AB	DATE: 14-Sep-2016
SCALE: A1 - 1:250, A3 - 1:500	
STATUS: RESOURCE CONSENT	
PROJECT No: 1098-01	DRAWING No: 305
	REVISION: R1



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REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	13-09-2016
R2	LANDSCAPE REDUCED FOR CARPARK ACCESS	PJ	25-10-2016

PROJECT:
THE WELLINGTON COMPANY
SHELLY BAY
WELLINGTON

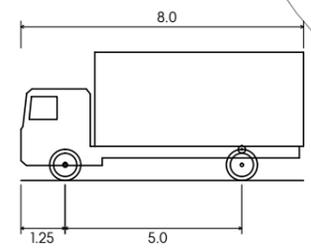
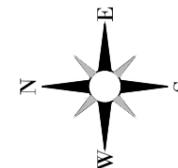
TITLE:
PROPOSED ROADING PLANS
SHEET 6 OF 6

ENVELOPE
LAND
STRUCTURE
MANAGE

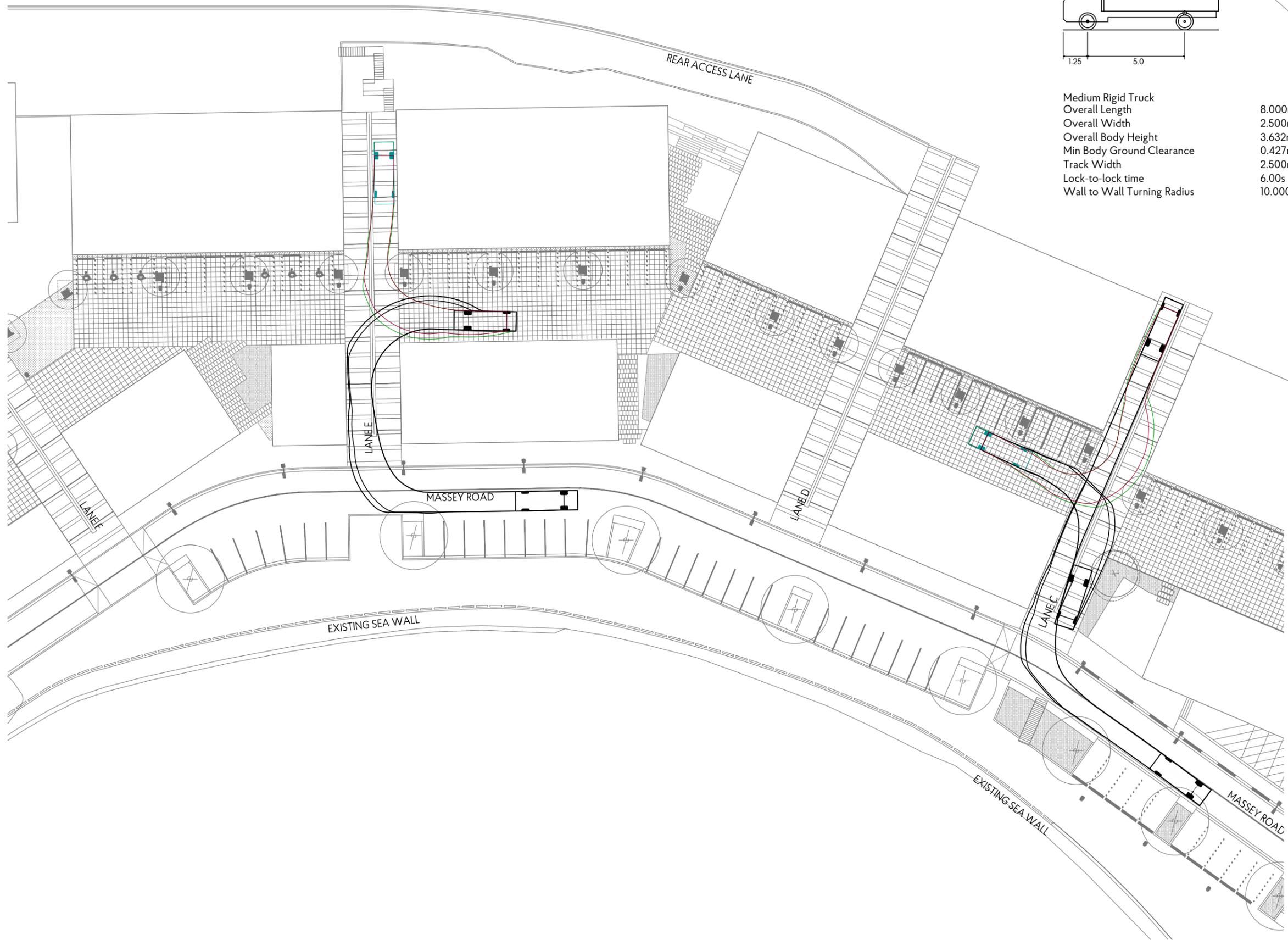
L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ
 CHECKED: AB
 SCALE: A1 - 1:250, A3 - 1:500
 STATUS: RESOURCE CONSENT
 PROJECT No: 1098-01
 DRAWING No: 306
 DRAWN: PJ
 DATE: 27-Oct-2016
 REVISION: R2

- NOTES:**
- CONTOURS SHOWN ARE FINISHED GROUND LEVELS AND ARE SHOWN AT 0.2m INTERVALS ON FLAT AREAS AND 2.0m INTERVALS ON STEEPER AREAS.
 - LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953 ORIGIN RM ISO 31470 - RL 3.05m



Medium Rigid Truck
 Overall Length 8.000m
 Overall Width 2.500m
 Overall Body Height 3.632m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock-to-lock time 6.00s
 Wall to Wall Turning Radius 10.000m



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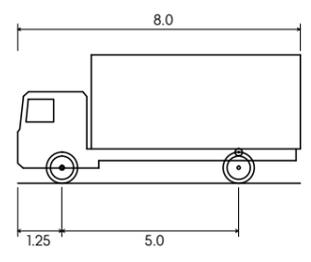
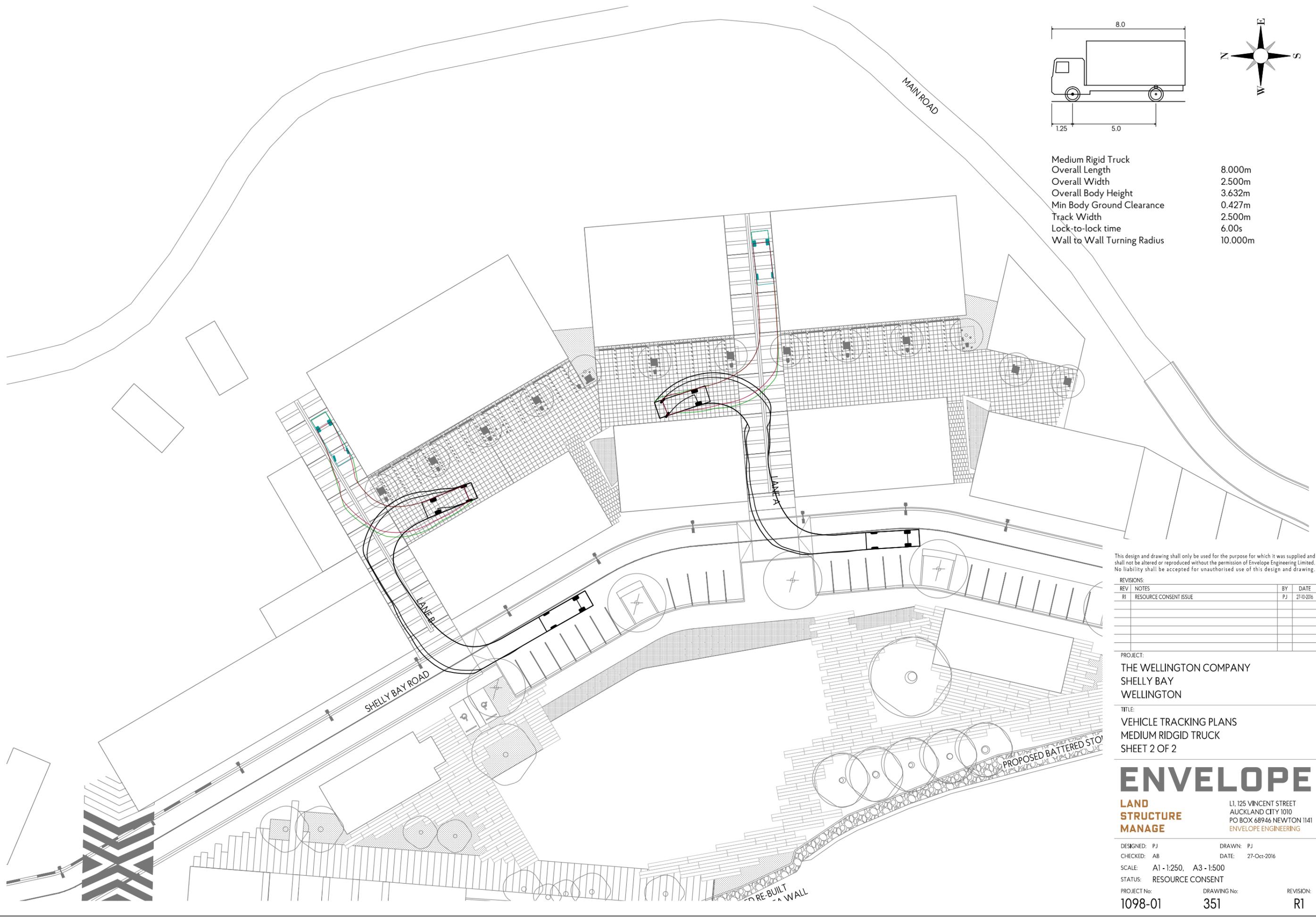
REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	27-10-2016

PROJECT:
 THE WELLINGTON COMPANY
 SHELLY BAY
 WELLINGTON
 TITLE:
 VEHICLE TRACKING PLANS
 MEDIUM RIGID TRUCK
 SHEET 1 OF 2

ENVELOPE
 LAND
 STRUCTURE
 MANAGE
 L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ
 CHECKED: AB
 SCALE: A1 - 1:250, A3 - 1:500
 STATUS: RESOURCE CONSENT
 PROJECT No: 1098-01
 DRAWING No: 350
 DRAWN: PJ
 DATE: 27-Oct-2016
 REVISION: R1



Medium Rigid Truck	
Overall Length	8.000m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	10.000m

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REVISIONS:

REV	NOTES	BY	DATE
R1	RESOURCE CONSENT ISSUE	PJ	27-10-2016

PROJECT:
 THE WELLINGTON COMPANY
 SHELLY BAY
 WELLINGTON

TITLE:
 VEHICLE TRACKING PLANS
 MEDIUM RIDGID TRUCK
 SHEET 2 OF 2

ENVELOPE
 LAND
 STRUCTURE
 MANAGE

L1, 125 VINCENT STREET
 AUCKLAND CITY 1010
 PO BOX 68946 NEWTON 1141
 ENVELOPE ENGINEERING

DESIGNED: PJ	DRAWN: PJ	REVISION:
CHECKED: AB	DATE: 27-Oct-2016	R1
SCALE: A1 - 1:250, A3 - 1:500		
STATUS: RESOURCE CONSENT		
PROJECT No: 1098-01	DRAWING No: 351	

Wellington

Level 13, 80 The Terrace
Wellington 6011
PO Box 13-052, Armagh
Christchurch 8141
Tel +64 4 381 6700

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