

30 June 2021

Central Otago District Council  
PO Box 122  
Alexandra

Attention: David Campbell

Dear David

**RC200366, Wooring Tree Property Development Ltd Partnership  
64 Shortcut Road, Cromwell  
Revised Engineering Advice re EPA Subdivision**

We have considered the proposed combination 300 lot residential, 3 lot business and other uses subdivision within mixed resource areas and recommend that the following engineering conditions be applied.

**This revised advice supersedes our letter of 21 June 2021 and results from a meeting with Council's Environmental and Roading Managers to further discuss the roading conditions.**

### **1. General**

The proposed subdivision covers the same area previously considered under PC12 and is essentially a change in densification to that proposed under PC12.

Recently completed RC200144 forms Stage 1 of the subject subdivision and provides a guideline for appropriate engineering conditions.

All works shall comply with NZS 4404:2004 and Council's July 2008 Addendum.

Any staging of the subdivision shall consist of a substantial package of development and shall be on a rational basis to the satisfaction of the Chief Executive. All infrastructure necessary for the full functioning of any stage shall be completed in conjunction with that stage.

### **2. Access**

#### *Commentary*

A Traffic Impact Assessment prepared by Opus International Consultants Ltd was prepared and considered under the Plan Change 12 process in 2017. This primarily addressed traffic issues on the perimeter of the development including interfaces with the adjoining state highways.

The Traffic Impact Assessment prepared by Carriageway for the subject subdivision is an updated consideration and takes into account matters arising from the previous assessment and subsequent agreements between parties for implementation of works, identified in the earlier report.

The Traffic Impact Assessment prepared by Carriageway considers a subdivision street layout, proposes street widths and provides an internal network layout for pedestrian and cycle movements.

Consistent with Plan Change 12, the earlier stages of the subdivision will obtain access from Shortcut Road with the future commercial area and residential areas to the west obtaining access via a roundabout located on State Highway 8B.

#### *Roading Standard*

The proposed roading arrangement has been undertaken by the developer with reference to NZS4404:2010. As for the Stage 1 works under RC200144 and recent Dunstan Park JV subdivision in Alexandra (roading standards agreed between the subdivider & Council's Infrastructure Manager), the 2010 version of NZS4404 encourages 'modern and sustainable design' that emphasises 'liveability and environmental quality'.

The carriageway widths are designed to encourage slower and therefore safer traffic speeds with provision for some on street parking.

The proposed road configurations do not strictly meet the Road Design Standard under Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004 but have been modified in consideration of the discussed design factors.

The roading standards under Table 3.2 of NZS4404:2010 allow for a minimum width carriageway of 5.7m contained within a range of road reserve corridors, footpath and parking bay configurations.

The standard of street proposed for the primary through roads within the subdivision allows for a locality of up to 200 lots to be served. We consider this to be appropriate in relation to the split of traffic between the two external access points.

The short length of carriageway between the new roundabout on SH8B and Blondie Drive will require to be constructed to an appropriately higher standard in recognition of the higher traffic volumes.

The carriageway fronting the commercial areas will also be required to be constructed to a higher standard to reflect its function. We recommend that an 8.4m width carriageway be required fronting the commercial areas in accordance with page 71 of Table 3.2 as suitable for multi purpose areas.

We also note that the safety issues associated with reverse movements out of any proposed 90 degree car parks are significant in relation to the narrower 6.0m carriageway width so we would support only **parallel** car parking on both sides of the road. We have expanded on this consideration below.

A number of ROW's are proposed. We have considered the appropriate standard in respect to Table 3.2 of NZS4404:2010 which allows for up to 6 lots to be served by a carriageway of 4.5m width. Three joint accessways serving medium density housing areas are proposed serving in excess of 6 lots. These have been considered in terms of Page 72 of Table 3.2 of NZS4404:2010.

Although prescribed 40m sight distance (at 50km/h) cannot be achieved from some driveways close to curves and intersections, it is considered that the low speed environment in such areas will reduce the sight distance requirement to acceptable levels.

#### *On Street Parking*

A number of 90 degree car parks are proposed to (in the words of the applicant):

- Increase the number of parks from the earlier parallel parking proposal
- Provides more berm space for landscaping (we are unsure how this is demonstrated)
- Provides more efficient use of road reserve land space.

The 6.0m width carriageway does not comply with the 7.0-7.9m manoeuvring space shown for 90 degree parks on Fig 12.7 of the CODP. Furthermore, the road cross sections show parallel parking on the opposite side of the 90 degree parks making it even more challenging for drivers to safely turn into and out of the angled parks. These parks will require the use of both traffic lanes for manoeuvring. Roads 1 and 2 in particular will have considerable traffic flow and potential for conflict with reversing traffic exiting the 90 degree parks. We consider the carriageway to be too narrow to allow for safe and efficient movements into and out of the 90 degree car parks.

The provision of 90 degree car parking on one side of the road may be technically acceptable subject to a 7.0m minimum width carriageway and no parking on the opposite side of the street. However this too would be undesirable as it would require persons crossing the street to opposite side addresses on a more regular basis.

The use of appropriately sized parallel car parks (but not 90 degree parks) also has the advantage of allowing occasional towing vehicles to be safely accommodated (for loading/unloading etc) on the street but off the traffic lanes.

Provided the 6.0m wide carriageway is clear of obstruction (i.e. parked vehicles) then commercial, refuse/recycling pick up and emergency vehicles using these roads will not be affected.

#### *Recommended Conditions*

The following recommended conditions are in accordance with the design principles under NZS4404:2010 and generally compatible to those agreed with Council's Infrastructure Manager's for similar recent subdivisions.

a) Typology 1 (Vintage Street, Blondie Drive east of Commercial area, Magnum Drive fronting Lots 357-362).

Comply with Table 3.1 of Council's July 2008 Addendum to NZS 4404:2004, Residential Local Road classification as modified by the following:

- Minimum 6.0m sealed 'through carriageway' width within a 20m road reserve.
- 2.2m width sealed parallel parking bays adjoining residential properties on both sides of street
- Pavement design in accordance with NZS 4404:2004 and Council's July 2008 Addendum
- Subgrade CBR >7
- 4% normal camber
- Two coat grade 3/5 chip seal or 30mm depth asphaltic concrete surfacing.
- Concrete paving block feature areas at intersections and bends.
- 9.0m radius asphaltic concrete surfaced turning circle at head of temporary cul de sacs (applicable to all road types for staging purposes).
- Mountable reinforced kerb and channel on both sides of carriageway (dish channel and border kerb adjoining parking bays) over 75mm compacted depth AP40 metal
- 1.5m width asphaltic concrete, concrete or concrete paver footpath constructed on both sides of the street with crossings at intersections to NZS4121:2001 requirements.
- 100mm depth clean topsoil between footpath and road boundary formed at 4% crossfall, trimmed and grassed to a mowable standard.
- All necessary traffic signs and road markings
- Cut/fill batters outside road boundaries with maximum 4:1 gradient to match existing ground.
- LED street lighting in accordance with NZS 4404 and accepted urban standards with lamps to be selected from Auckland Transport approved list.
- Tree planting to be in accordance with Council's 'District Tree Management and Operational Guideline 2011' and with automated irrigation provided, all to the requirements of Council's Parks & Reserves Manager.

- The location of trees, street lights and parking bays shall consider the likely location of future entranceways to residential lots.

b) Typography 2 (Part Magnum Drive, Roads 4-8 inclusive, Blondie Drive west of commercial area)

Comply with Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004, Residential Local Road classification as modified by the following:

- Minimum 6.0m sealed 'through carriageway' width within a 17m road reserve.
- 2.2m width sealed parallel parking bays adjoining residential properties on both sides of street.
- Pavement design in accordance with NZS 4404:2004 and Council's July 2008 Addendum
- Subgrade CBR >7
- 4% normal camber
- Two coat grade 3/5 chip seal or 30mm depth asphaltic concrete surfacing.
- Concrete paving block feature areas at intersections and bends.
- 9.0m radius asphaltic concrete surfaced turning circle at head of temporary cul de sacs (applicable to all road types for staging purposes).
- Mountable reinforced kerb and channel on both sides of carriageway (dish channel and border kerb adjoining parking bays) over 75mm compacted depth AP40 metal
- 1.5m width asphaltic concrete, concrete or concrete paver footpath constructed on both sides of the street with crossings at intersections to NZS4121:2001 requirements.
- 100mm depth clean topsoil between footpath and road boundary formed at 4% crossfall, trimmed and grassed to a mowable standard.
- All necessary traffic signs and road markings
- Cut/fill batters outside road boundaries with maximum 4:1 gradient to match existing ground.
- LED street lighting in accordance with NZS 4404 and accepted urban standards with lamps to be selected from Auckland Transport approved list.
- Tree planting to be in accordance with Council's 'District Tree Management and Operational Guideline 2011' and with automated irrigation provided, all to the requirements of Council's Parks & Reserves Manager.
- The location of trees, street lights and parking bays shall consider the likely location of future entranceways to residential lots.

c) Commercial Road (Blondie Drive fronting commercial areas)

Comply with Table 3.1 of Councils July 2008 Addendum to NZS 4404:2004, Commercial Local Road classification as modified by the following:

- Minimum 8.4m sealed 'through carriageway' width within a 20m road reserve.
- 2.2m width sealed parallel parking bays adjoining commercial properties on both sides of street
- Pavement design in accordance with NZS 4404:2004 and Council's July 2008 Addendum
- Subgrade CBR >7
- 4% normal camber
- Two coat grade 3/5 chip seal or 30mm depth asphaltic concrete surfacing.
- Concrete paving block feature areas at intersections and bends.
- Mountable reinforced kerb and channel on both sides of carriageway (dish channel and border kerb adjoining parking bays) over 75mm compacted depth AP40 metal

- 1.5m width asphaltic concrete, concrete or concrete paver footpath constructed on both sides of the street with crossings at intersections to NZS4121:2001 requirements.
- 100mm depth clean topsoil between footpath and road boundary formed at 4% crossfall, trimmed and grassed to a mowable standard.
- All necessary traffic signs and road markings
- Cut/fill batters outside road boundaries with maximum 4:1 gradient to match existing ground.
- LED street lighting in accordance with NZS 4404 and accepted urban standards with lamps to be selected from Auckland Transport approved list.
- Tree planting to be in accordance with Council's 'District Tree Management and Operational Guideline 2011' and with automated irrigation provided, all to the requirements of Council's Parks & Reserves Manager.
- The location of trees, street lights and parking bays shall consider the likely location of future entranceways to residential lots.

d) Right of Ways & Joint Accessways

ROW's and joint accessways shall be constructed in accordance with the 'Right of Way' requirements of Table 3.1 of Council's July 2008 Addendum to NZS 4404:2004, as modified by the following:

- ROW's with no exit to be provided where serving up to 2 lots and shall have a minimum 3.0m width carriageway within a minimum 4.0 metre width corridor.
- ROW's with no exit to be provided where serving between 2 and 6 lots and shall have a minimum 4.0m width carriageway within a minimum 6.0 metre width corridor.
- Through accessways to be provided where serving between 7 and 10 lots and shall have a minimum 6.0m width carriageway within a minimum 9.0 metre width corridor and have positive control measures installed to deter public through traffic to the satisfaction of the Chief Executive.
- Pavement design in accordance with NZS 4404:2004 and Addendum
- Subgrade CBR >7
- Two coat grade 3/5 chip seal, asphaltic concrete, concrete or concrete paving block surfacing.
- 4% camber to kerb and channel.
- Heavy duty kerb crossing at entrance constructed in accordance with Council's Roading Policies January 2015, Part 29.
- Standard or mountable kerb and channel on lower side and nib kerb on higher side of carriageway
- Mudtank collecting stormwater from ROW and discharging to soakpit within ROW.
- Attractive low maintenance surfacing (crushed schist or similar) or mown grass along verges between carriageway and ROW boundary.
- Cut/fill batters outside ROW boundaries with maximum 4:1 gradient to match existing ground

e) SH8B Roundabout – Blondie Drive Link Road

The link road between the roundabout on State Highway 8B and Blondie Drive shall be constructed to a standard not less than that for Blondie Drive but in all respects to the satisfaction of Waka Kotahi/NZTA and the CODC Chief Executive. This shall include drainage, pavement construction, carriageway widths, tapers, road markings and all details necessary to provide a safe and effective link between the state highway and the subdivision.

f) Vehicle Entrances

Vehicle entranceways to all residential and commercial lots shall be constructed in accordance with Part 29 of Council's Rooding Policies January 2015.

Entranceways to be installed at all lots with locations clearly defined at the time of subdivision as a requirement of 224c certification and to all other lots at the time of building under the provisions of the standard consent notice registered on titles.

A consent notice shall also be attached to relevant titles advising that vehicle access shall only be available from the internal subdivision road to these properties (ie no vehicle access to these properties allowed directly from Shortcut Road or State Highway 6 or 8B).

g) Other Rooding Considerations

The following additional rooding matters, prepared as draft conditions in Pages 217-241 of the application are considered suitable for inclusion in the consent.

Draft Conditions 6, 10, 11, 19, 21, 22 & 23.

All works on and adjoining the state highways shall be carried out to the approval of Waka Kotahi (WK) and consent notices shall be attached to titles such that all WK requirements are met.

### 3. Streetscaping

#### *Street Berms*

The consent holder shall be required to provide a detailed Landscape Plan showing the location, variety and installation details for street trees to be planted with associated automated irrigation system for approval by Council's Parks and Reserves Manager under the engineering approval process.

As for reserve areas it is preferable that the street irrigation be sourced from an alternative bore supply rather than from the Cromwell Water Supply.

### 4. Stormwater

All stormwater from streets shall be discharged to ground by standard mudtanks and soakpits.

Stormwater from right of ways and access lots shall likewise be intercepted and discharged to soakpits within the respective accessway areas.

The standard consent notice shall be attached to all residential and commercial titles requiring discharge from buildings and impervious areas to ground through soakpits within the confines of the respective allotments.

### 5. Water

#### *Commentary*

The subject land is situated within the boundaries of the Cromwell Water Supply and adjoins areas already connected to that supply.

Water modelling undertaken by Mott MacDonald on 31 July 2020 has been provided with the subdivision application.

The water model confirms:

- Points of connection to the existing network
- Ability to provide level of service for each area (zone)
- Capability to provide fire fighting flows relevant to each zone
- Acceptable impact on existing network.

#### *Recommended Conditions*

The following conditions are considered applicable as requirements of 224c certification:

- a) Draft Conditions 24, 25 & 26 considered acceptable.
- b) Draft Condition 27 to have the first sentence changed to read '*A detailed design for the realignment of the existing 300mm diameter watermain bisecting the site shall be prepared in liaison with Councils 3 Waters Manager and submitted for Councils 3 Waters Manager approval as a requirement of general engineering approval. The pipeline shall be realigned at the consent holder's cost as a requirement of 224c certification for the Stage 3 and/or Stage 4 works*'

## **6. Wastewater**

### *Commentary*

The subject land is situated within the boundaries of the Cromwell Wastewater Scheme and adjoins areas connected to that scheme.

Wastewater modelling undertaken by Mott MacDonald on 31 July 2020 has been provided with the subdivision application.

The wastewater model shows that the subdivision can be serviced without adversely affecting the existing network through a combination of gravity flow to Shortcut Road (Scott Terrace pump station) and pumping to the adjacent downstream reticulation.

#### *Recommended Conditions*

The following conditions are considered applicable as requirements of 224c certification:

- a) Draft Conditions 28-32 considered acceptable
- b) Add the following new condition after Condition 29 '*A detailed design for the realignment of the existing Lowburn-Cromwell rising main traversing the site shall be prepared in liaison with Councils 3 Waters Manager and submitted for Councils 3 Waters Manager approval as a requirement of general engineering approval. The pipeline shall be realigned at the consent holder's cost as a requirement of 224c certification for the Stage 3 and/or Stage 4 works*'
- c) Add the following new condition for commercial connections.  
'*Prior to 224c certification for Stage 3, standard 150mm diameter laterals with cleaning eyes shall be installed from the wastewater reticulation to within the boundary of each commercial allotment*'.

## 7. Power and Telecommunications

Conditions applicable to the subdivision are:

- a) Power and telecommunication services are to be located underground with operational connections to the boundary of all residential and commercial allotments.
- b) Connections shall be extended to the buildable area of all rear allotments.
- c) It shall be the responsibility of the consent holder to obtain the consent of the relevant service provider for the provision of these services and to provide evidence from the provider that operational services have been connected to all residential allotments and accounts paid prior to 224c approval.

## 8. Pedestrian and Cyclist Connectivity

Access from the Cromwell Town Centre to the subdivision is proposed via a pedestrian underpass to be located across SH8B. Pedestrian and cycling connectivity out to Shortcut Road and beyond to the McNulty Inlet amenities will require a combination of paths within road reserves and through the greenways.

### a) Pedestrian Underpass

We understand that the design and construction of the cycle/pedestrian underpass under State Highway 8B has been arranged under a contract work package that is currently out to tender and will be completed well in advance of the titling of the Stages 2-4 subdivision works.

Appropriate land vesting shall be arranged to contain the connecting ramps and cycle/walkway approaches in a timely manner to match the construction of these works.

The ramps and approaches shall be designed and constructed to meet NZ standards for pedestrian and disabled access (particularly maximum gradients) and the cycle/walkway shall be constructed to the requirements as detailed in 8b) below. Batters and slopes along the cuttings leading into the underpass shall be constructed or retaining walled to ensure safety of the pathway users and presenting an attractive low maintenance appearance.

### b) Cycle/Walkways

A continuous cycle/walkway shall be provided through Lots 803 and 804 between the commercial area and Shortcut Road to the following requirements:

- 2.0m width 30mm depth asphaltic concrete, standard concrete or concrete paver footpath
- Matching crossing points on intercepted streets to NZS4121:2001 requirements.
- Appropriate reserve lighting

## 9. Miscellaneous Items

The consent holder shall provide Producer Statements in an approved format from a suitably qualified person certifying the engineering adequacy and compliance with Council consent conditions relating to:

- engineering design.
- construction and construction review of subdivision works.

As built data, construction testing and RAMM data and asset information with associated costings (priced schedule) shall be provided by the consent holder in the normal manner.



**10. Reserves**

We understand that Gordon Bailey will be providing advice for reserves and irrigation.

**11. D & F Contributions**

Development & Financial Contributions payable per Residential allotment are as tabled below.

		+GST
	4695	5399.25
	3979	4575.85
	1910	2196.5
	1772	2037.8
DC+FC	12356	14209.4
DC	10446	12012.9
FC	1910	2196.5

Commercial allotment will be assessed at Building Consent stage.

Yours sincerely



Neville Jelley  
Stantec New Zealand

Copy to: Quinton Penniall