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Integrated Transport Assessment
prepared for

**CONISTON PARK
LIMITED**

Farm Road / Racecourse Road, Ashburton

December 2023



Integrated Transport Assessment
prepared for

Coniston Park Limited

Farm Road / Racecourse Road, Ashburton

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Table of Contents

Introduction	1
Transport Environment.....	2
Road Network.....	2
The Proposal	3
Assessment of Effects.....	5
Connectivity and Integration.....	5
Road Cross Sections, Frontage Upgrades and Intersections.....	6
Transport Network Effects.....	8
Summary & Conclusion	9

List of Figures and Tables

Figure 1: Site Location [Source: Canterbury Maps]	1
Table 1: Traffic Generation Rates From Gainsborough Subdivision Survey	4
Table 2: Estimated Traffic Generation	4
Table 3: Turning Volumes at Proposed Intersections	9

Appendices

Appendix 1 Outline Development Plan and Road Cross Sections

Appendix 2 Waka Kotahi New Zealand Transport Agency Crash Report

Introduction

1. Coniston Park Limited has commissioned Novo Group to prepare an Integrated Transport Assessment (ITA) for the proposed Private Plan Change application for the land on the corner of Farm Road and Racecourse Road, Ashburton.
2. This report provides an assessment of the transport aspects of the proposed development. It also describes the transport environment in the vicinity of the site, describes the transport related components of the proposal and identifies compliance issues with the transport provisions in the District Plan. It has been prepared broadly in accordance with the Integrated Transportation Assessment Guidelines specified in New Zealand Transport Agency Research report 422, November 2010.
3. It is proposed to rezone the site from Residential D to Residential C. The proposed zoning and subsequent subdivision are anticipated to provide for approximately 166 dwellings, and possibly a local service such as a preschool. The development includes two road intersections with Farm Road and one with Racecourse Road and provision for a future road connection to the north and two future pedestrian and cycle connections also to the north.
4. The site location is illustrated in **Figure 1** and a copy of the proposed site layout is contained in **Appendix 1**.



Figure 1: Site Location [Source: Canterbury Maps]



Transport Environment

Road Network

5. The site has frontage to both Farm Road and Racecourse Road and is opposite the 'T' intersection of Carters Road with Farm Road.

Farm Road

6. Farm Road is a local road with one traffic lane in each direction. Adjacent to the site, Farm Road has a 6.6m sealed width with flush grass berms, further south this increases to 8.6m sealed width, with kerb and channel and footpaths (although there is a transitional area immediately south of the site to Middle Road).
7. The speed limit adjacent to the site is 60km/h reducing to 50km/h south of the site. It is anticipated that the 50km/h speed limit would be extended to the intersection with Racecourse Road prior to occupation of future dwellings within the subdivision.
8. The Mobile Road¹ traffic volume estimate (2021) suggests around 645 vehicles per day on the northern part of Farm Road near the site, and around 890 vehicles per day in the existing residential areas.

Racecourse Road

9. Racecourse Road is a Principal Road and has one traffic lane in each direction. The speed limit changes approximately 165m north of the intersection with Farm Road from 100km/h to the north and 60km/h south to the intersection with Allens Road beyond which it is 50km/h to the intersection with State Highway 1. It is anticipated that the 50km/h speed limit would be extended to a point north of the subdivision once urban road upgrades are completed.
10. The Mobile Road estimate is around 1,400 vehicles per day (2021) near the site increasing to around 3,800 vehicles per day near the intersection with State Highway 1.
11. Near the site, Racecourse Road has an approximately 7m wide sealed carriageway with flush grass / gravel shoulders, towards the east (SH1) the road has a varied formation that reflects the transitional nature from rural / lifestyle to residential. Various sections have been upgraded to an urban form. It is anticipated that remaining sections between the site and State Highway 1 will be upgraded overtime to provide a consistent urban formation.

Carters Road

12. Carters Road forms a give-way controlled "T" intersection with Farm Road opposite the site. Carters Road is a local road connecting between Farm Road and Allens Road and providing property access to a mixture of residential and rural-lifestyle properties. It has a 50km/h speed limit and an un-marked sealed carriageway with flush grass berms.

¹ <https://mobileroad.org/desktop.html>



Crash History

13. The Waka Kotahi NZ Transport Agency Crash Analysis System (CAS) has been reviewed to identify reported crashes over the previous 10 year period (2012 - October 2023 inclusive). The search area included the road frontages and approximately 300m beyond the site, in each direction. The search results indicated four reported crashes including one serious injury crash.
14. One non-injury crash occurred mid-block on Farm Road, south-west of the intersection with Middle Road as a result of a driver hitting a parked vehicle. The vehicle was legally parked and driver inattention appears to be the primary cause.
15. One non-injury, mid-block crash on Racecourse Road associated with a driver losing control whilst overtaking.
16. Two crashes at or near the intersection of Racecourse Road and Hepburns Road. One minor injury crash associated with a driver losing control of the vehicle where alcohol and driver inattention were suspected factors. The other included a serious injury crash as a vehicle was overtaking and collided with another vehicle turning right into Hepburns Road. The driver overtaking failed to notice the vehicle indicating to turn and misjudged their intentions, fog / misty conditions may have been a contributing factor.
17. The above crashes appear to be isolated events, the reduction in speed and increased driver awareness that results from a more urban environment may help to improve driver attentiveness and generally contribute to the safety of the nearby road network.
18. Importantly, there were no reported crashes at (or associated with) the intersections of Farm Road with Racecourse Road or Carters Road.

The Proposal

19. It is proposed to rezone the site from Residential D to Residential C. This will cater for around 166 dwellings and possibly a local service such as a preschool. The Residential D zone would have provided for an estimated 40 dwellings and as such the proposal is for an increase of around 126 dwellings.
20. Commensurate with the Residential C zoning proposed, an outline development plan has been prepared which is provided in **Appendix 1** and in summary includes the following:
 - Two road intersections with Farm Road
 - One Road intersection with Racecourse Road
 - Urban Road frontage upgrades along both Farm Road and Racecourse Road
 - An internal road network for property access with an assumed 40km/h speed limit and proposed cross sections which cater for traffic lanes, parking and footpaths.
 - An off-road pedestrian and cycle connection between Farm Road and the land to the west, generally following the Waikanui Creek and a second connection from



Farm Road (near the Carters Road intersection) along the Stormwater Reserve and continuing towards the NW boundary.

- A Pedestrian connection through the reserve to the adjacent land West of the site.
- A reserve protecting the opportunity for a future road connection to the adjacent land to the west.
- Property access to both Farm Road and Racecourse Road.

Traffic Generation

21. In order to understand the traffic generation of residential development within Canterbury, Novo Group has undertaken traffic surveys of the Gainsborough subdivision in West Melton over five consecutive week days in June 2022. The surveyed traffic generation rates are summarised in **Table 1**. This is considered to provide a good indication of the traffic generation of the proposal.

Table 1: Traffic Generation Rates From Gainsborough Subdivision Survey

	AM Peak	PM Peak
Average Rate (of the peak hour in the five days surveyed)	0.59	0.62
Max Rate (highest peak hour, of the surveyed days)	0.76	0.84
Arrivals	19%	63%
Departures	81%	37%

22. Applying the above traffic data to the 166 future dwellings provides the traffic generation estimates and patterns summarised below.

Table 2: Estimated Traffic Generation

	AM Peak	PM Peak
Average	98	103
Peak (busiest hour, busiest day of the week)	126	139
Arrivals	19-24	65-88
Departures	79-102	38-51

23. In addition to the above, a nominal allowance for 40 additional peak hour trips has been considered in the event that a preschool or other local service is provided. Ultimately the traffic generation will depend on the size and type of activity. The 40 trips is intended to provide for a typical preschool or small local shop noting that such activities would service the needs of the future residents and therefore tend to have a lot of pass by and diverted trips rather than generation a significant volume of additional traffic. Such activities would



require consent in the proposed zone, enabling the specifics of the traffic generation to be considered in detail at that time. As such this allowance, and a 50-50 split between arrivals and departures in the peak hours, is considered appropriate to ensure a robust assessment of the proposed zoning and development of the site.

Assessment of Effects

24. The key transport related effects are addressed below and include connectivity and integration of the site with the existing and future transport network, the suitability of the proposed road cross-sections and frontage upgrades, and the impact of the additional traffic on the capacity and safety of the transport network.

Connectivity and Integration

25. The proposed Outline Development Plan (ODP) in **Appendix 1** shows the key road and pedestrian / cycling connections to the existing transport network, though the site, and provision for future connectivity. The appropriateness of these connections to provide for the future residential zone is considered below.
26. In terms of vehicular travel to the wider road network we note that the site is well positioned for convenient and efficient access to:
 - SH77 From either Farm Road or Racecourse Road
 - SH1 north via Racecourse Road
 - SH1 south and areas of the township south and east of the State Highway via Farm Road to Harrison Street which turns into Walnut Avenue.
27. These key connections to the wider road network are all formed to a high level and provide safe and efficient routes for future residents.
28. There are also a variety of local destinations which may be within walking and or cycling distance including:
 - Argyle Park including play grounds, sports fields and outdoor recreation (Opposite side of Farm Road near the southern end of the site)
 - Allenton School (approx. 1.5km trip one way).
 - Ashburton College (approx. 2km trip one way).
 - Ashburton Domain and Hospital (approx. 2km trip one way).
 - Allens Road – Harrison Street corner shops (approx. 1.5km trip one way)
 - Various shops and services along SH77 (1-3km).
29. Once the footpaths adjacent to the site are connected to the existing section of footpath on Farm Road this will provide a continuous sealed footpath route to these destinations. There



are also cycle routes available to most of these destinations along sealed, low volume local roads.

30. The frontage road upgrades could include kerb-build outs or similar facilities for a pedestrian crossing on Farm Road where the existing path will extend from Argyle Park through to the proposed connection along the waterway. Appropriate design and location can be readily considered / agreed at subdivision stage.
31. In summary, the site is considered to be well located to provide for access to key destinations by all active modes (or micro mobility devices).
32. There are no existing public bus routes in Ashburton however the site could be readily serviced by a future route along Farm Road. Such a route could provide access within an approximately 300m walk for most future lots. Alternatively, the primary road cross section would also cater for future bus routes / stops. As such there are no constraints to future public transport services for the site if routes were to be established in the future.
33. Overall, the site is considered to be well located to cater for the travel needs of the future residents.

Road Cross Sections, Frontage Upgrades and Intersections

34. The detailed design of the frontage road upgrades, intersections and internal roads will be undertaken at subdivision stage however where the design may differ from the standards of the District Plan this has been addressed below to ensure that a future subdivision design will be achievable and provide for a safe and efficient transport network.

Frontage Road Upgrades

35. The 50km/h speed limit is anticipated to be extended the full length of Farm Road to the Racecourse Road intersection and the road design developed accordingly. The Farm Road frontage is anticipated to be upgraded to provide for a footpath, kerb and channel. It is anticipated that the carriageway would be upgraded to match the existing urban section (south of the site) which has an 8.6m width. It is further expected that 5.0m of this width (from the centre line) will be formed, this provides for kerb-side parking adjacent to the site and retains one traffic lane in each direction. The final form would be completed once residential development on the opposite side² of the road is constructed but in the interim provides a functional carriageway to cater for both the existing traffic and that anticipated as a result of this development.
36. The Racecourse Road frontage is also anticipated to be upgraded to meet an urban standard including a footpath adjacent to the site, kerb and channel. There is no consistent existing urban formation to the east of the site. Functionally, near the site, this will need to provide for one traffic lane in each direction and retain the flush median / right turning lane as well as allow for a right turn lane for the new road intersection. Noting the proximity of

² This land is zoned for residential development however is in separate ownership and the timing of that development is not known.



the intersections, kerb-side parking may be prohibited particularly in the section between the Farm Road and New Road intersections³. A 1.5m wide footpath is proposed.

Farm Road and Racecourse Road Intersections

37. The ODP generally provides the framework for the future subdivision to comply with the 125m intersection spacings⁴ anticipated by the District Plan standards except at the new road intersection with Racecourse Road and the first internal intersections. These are discussed below.
38. The typical 125m intersection spacing is not provided between the intersections of Racecourse Road with the proposed primary road and existing Farm Road intersection. The separation distance will be approximately 105m. In this instance the proposed location for the new road intersection with Racecourse Road is recommended so that the new intersection is located on the outside of the horizontal curve in Racecourse Road. This location ensures that safe intersection sight distances can be achieved in each direction and that the alignment can provide for a right turn lane on Racecourse Road. The priority is afforded to traffic on Racecourse Road and as such the 105m separation distance is more than enough to avoid any potential for confusion or conflict between vehicles turning at each intersection. It also provides sufficient distance for a right turn lane on the Racecourse Road approach to Farm Road, noting that the deceleration / taper requirements would reduce with the extension of the 50km/h speed limit on Racecourse Road.
39. The separation distance is considered to be appropriate for the future road operating parameters and provides better sight distance allowing for the existing alignment of Racecourse Road. On balance this is therefore considered to be the most appropriate location for the proposed road intersection.
40. The first internal road intersections within the subdivision may be located less than 125m from the primary road intersections with Farm Road and Racecourse Road. This is somewhat a result of the dimensions of the site, the need to efficiently service property access to future lots, maintain good connectivity for all modes, as well as work around the existing waterway. These are all 'T' intersections and whilst not technically on opposite sides of the road, due to the anticipated priorities they will not result in conflicts or confusion for turning vehicles. These internal intersections are also all low volume local roads anticipated to be formed as basic 'T' intersections which would not require additional space for turning lanes, splitter islands or other traffic control devices. Noting this, I am confident the ODP layout will enable a safe and efficient internal road layout to service the development.
41. The two primary road intersections with Farm Road are more than 125m apart and more than 125m from the Farm Road – Racecourse Road intersection. Farm Road is straight and flat and offers good visibility in each direction such that each intersection should readily

³ And noting that future lots in this location would likely have an alternative road frontage that caters for kerb-side parking.

⁴ From Centreline to Centreline assuming the future 50km/h speed limit and noting that this only applies to intersections on the same side of the road.



achieve the 110m sight distance anticipated by the District Plan standards for a 50km/h speed limit.

Internal Road Network

42. The District Plan defers to the Land Development Standard NZS4404 for road design. This provides a variety of designs depending on the classification and future volumes. The internal roads don't match any one formation in the standard and therefore the proposed road cross sections are included as part of the ODP. These are shown in **Appendix 1** and the key elements are summarised below:
- The primary road sections through the site connecting to Farm Road and Racecourse Road will have two 3.5m traffic lanes, separate parking bays and a minimum 1.5m wide footpath with the potential for 2.5m wide shared path on one side.
 - The secondary internal roads will have an 8.0m carriageway (including kerb-side parking) and 1.5m wide footpaths on each side.
43. The cross sections proposed achieve the general intent of the standard in terms of catering to the future traffic volumes, parking, movement lanes and pedestrian facilities. These cross-sections are generally consistent with the variety of residential road designs used around the country and are suitable for the property access and the anticipated traffic volumes as well as catering for pedestrians and cyclists. All internal roads are anticipated to have a 40km/h speed limit.
44. The internal road network is generally anticipated to provide for basic priority controlled 'T' intersections which generally meet the District Plan spacing requirements of 125m, between intersections on the same side of the road (other than as detailed earlier in this report).
45. Overall, these road cross sections are generally considered to be suitable for the subdivision and future residents needs and the inclusion of these within the ODP will provide direction for the development of the future subdivision.

Transport Network Effects

46. Distribution of vehicular traffic will ultimately depend on the destination but noting that most residential trips are likely to be within Ashburton, traffic volumes are anticipated to be around 70-80% along Farm Road and 20-30% along Racecourse Road. Applying the estimated peak hour volumes outlined earlier in this report, across the three proposed external road intersections⁵ would suggest the following peak hour turning volumes.

⁵ With the two intersections to Farm Road having a 50/ 50 split based on proximity to the residential dwelling.



Table 3: Turning Volumes at Proposed Intersections

Peak Hour	Primary Road - Racecourse Road (20-30%) vph	Primary (Main) Road – Farm Road (35-40%) vph	Primary Road (Main Road 2) – Farm Road (35-40%) vph
AM	28-33	48-66	48-66
PM	29-54	50-72	50-72

47. Noting the existing volumes on Farm Road and Racecourse Road and the turning volumes at each proposed road intersection are very low, no capacity constraints are anticipated. We would expect these turning volumes to be readily accommodated by basic 'T' intersections.
48. A right turn lane could be considered on the Racecourse Road approach to the new intersection with the proposed primary road. This would reflect the additional through road function of Racecourse Road as a Principal Road. This would require detailed consideration at subdivision stage in terms of benefits for road safety noting the alignment of Racecourse Road. We are confident that with appropriate detailed design an intersection in this location can be provided for safe and efficient access to Racecourse Road.
49. We note that some traffic may also travel through the existing Farm Road – Racecourse Road intersection and note that this intersection has a right turn lane and a partial left turn lane, on Racecourse Road. These largely reflect the historical rural speed environment and priority for traffic on Racecourse Road. This intersection formation will more than cater for any additional traffic movements as this intersection generated by the residential development. We do not anticipate any need for separate left / right turning lanes on the Farm Road approach noting the low existing volumes and that the development is not likely to substantially increase traffic through this intersection as most development related trips would travel either directly to Racecourse Road via the primary road intersection or in other directions on Farm Road.
50. Overall, with the proposed changes to the transport network we anticipate that the travel associated with all modes of transport can be accommodated safely and within the capacity of the existing and planned transport infrastructure.

Summary & Conclusion

51. Overall and in summary, we consider that the proposed Residential C zoning is appropriate for the site noting that:
 - The site is well located and has good connectivity to local destinations to enable travel via walking and cycling (or other micro mobility devices).
 - Vehicular travel to the wider road network can be appropriately accommodated by the proposed road connections to Farm Road and Racecourse Road.
 - The internal road layout and cross sections are appropriate to provide for property access, the anticipated traffic volumes and walking and cycling trips.

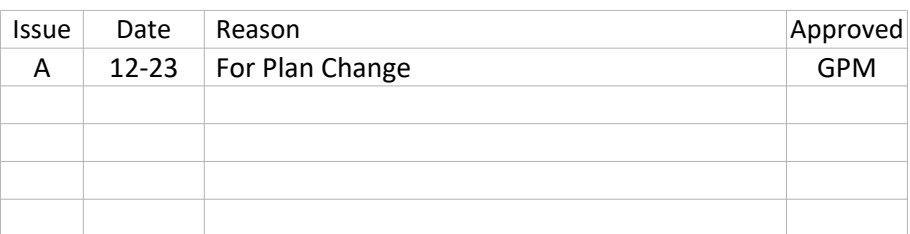


- The additional traffic associated with the residential development is relatively low and can be accommodated safely and efficiently within the existing and planned transport network.
 - There is appropriate provision for future transport connections to adjacent undeveloped land.
52. Overall, from a transport perspective we therefore consider the site is appropriate for Residential C zoning and the detailed design of the proposed transport network can be appropriately developed in accordance with the proposed ODP and District Plan rules.



Appendix 1

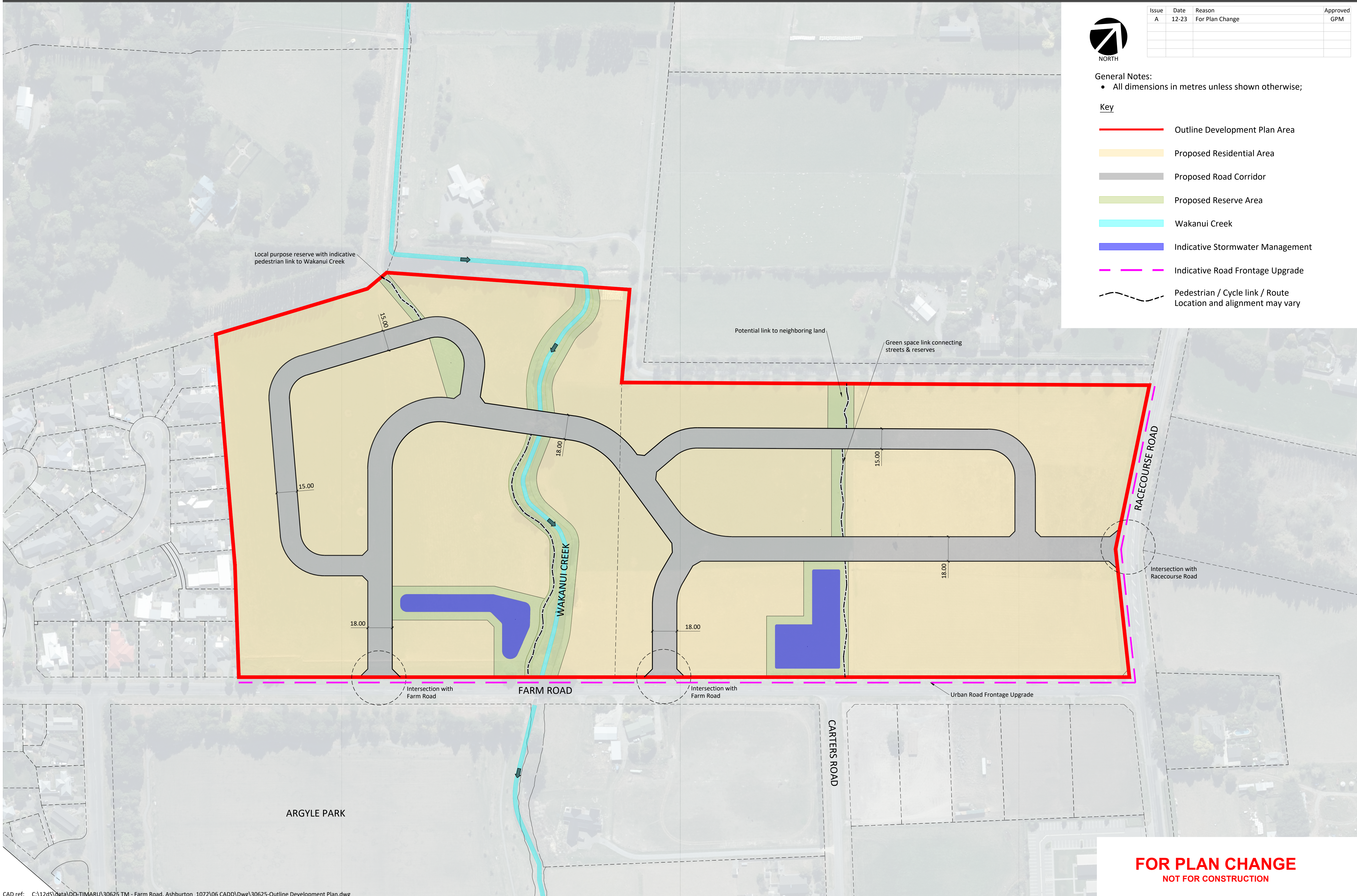
Outline Development Plan and Road Cross Sections



- All dimensions in metres unless shown otherwise;

Legend:

- Outline Development Plan Area
- Proposed Residential Area
- Proposed Road Corridor
- Proposed Reserve Area
- Wakanui Creek
- Indicative Stormwater Management
- Indicative Road Frontage Upgrade
- Pedestrian / Cycle link / Route
Location and alignment may vary

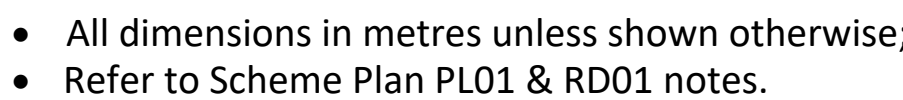


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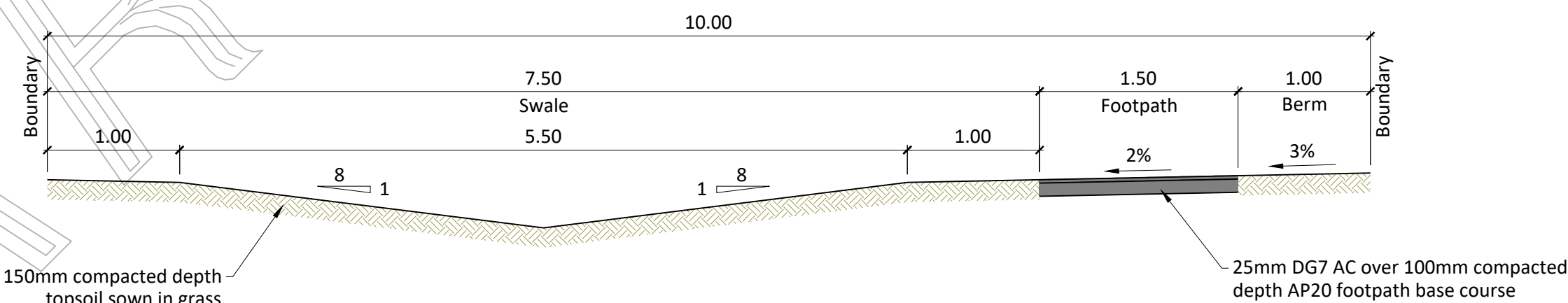
OUTLINE DEVELOPMENT PLAN

Design	Drawn	QA check	dwg	Issue
RL	RL	GPM	OP01	A
Scale @ A1	Date	File		
1:1250	12-23	30625		



Issue	Date	Reason	Approved
A	05-23	For Plan Change	PJ
B	11-23	For Plan Change	PJ

Scale 1:40



Scale 1:40

Scale 1:40



FOR PLAN CHANGE
NOT FOR CONSTRUCTION

Design	Drawn	QA check	dwg	Issue
RL	RL	PJ	TD01	B
Scale @ A1	Date	File		
1:40	11-23	30625		



Appendix 2

Waka Kotahi New Zealand Transport Agency Crash Report



Untitled query

Saved sites

Farm

Crash year

2012 — 2023

Plain English report

4 results from your query.

1-4 of 4

Crash road	Side road	Feature	Distance from side road/feature	Direction	Reference station	Route position	Easting	Northing	Longitude	Latitude	ID	Date	Day of week	Time	Description of events	Crash factors	Surface condition	Natural light	Weather	Junction	Control	Casualty count fatal	Casualty count serious	Casualty count minor	Social cost \$(m)
FARM ROAD	MIDDLE ROAD		100m	W			1498566	5140721	171.737381	-43.879635	201372956	02/11/2013	Sat	09:30	Car/Wagon1 WDB on FARM ROAD hit parked veh, Car/Wagon1 hit non specific parked	CAR/WAGON1, attn diverted by scenery/persons outside vehicle, too far left	Dry	Bright sun	Fine	Nil (Default)	Unknown	0	0	0	0.03
RACECOURSE ROAD	FARM ROAD		500m	W			1498959	5141707	171.742462	-43.870811	201372647	08/09/2013	Sun	17:30	Car/Wagon1 WDB on RACECOURSE ROAD lost control while overtaking	CAR/WAGON1, misjudged own vehicle, other lost control	Dry	Bright sun	Fine	Nil (Default)	Unknown	0	0	0	0.04
RACECOURSE ROAD	HEPBURNS ROAD			I			1498888	5141834	171.741609	-43.869658	2021208770	18/12/2021	Sat	03:30	Ute1 NDB on Racecourse road lost control turning, Ute1 hit fence	UTE1, alcohol suspected, other inattentive	Wet	Dark	Light rain	T Junction	Give way	0	0	1	0.11
RACECOURSE ROAD	HEPBURNS ROAD			I			1498892	5141826	171.741653	-43.869732	201510780	27/01/2015	Tue	08:36	SUV1 NDB on RACECOURSE ROAD overtaking hit Other2 NDB on RACECOURSE ROAD turning right	SUV1, failed to notice indication of vehicle in front, misjudged intentions of another party, overtaking vehicle signalling right turn, ENV: fog or mist	Dry	Overcast	Mist or Fog	T Junction	Give way	0	1	1	1.26

1-4 of 4