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Mr G Finlayson
Barker & Associates
PO Box 1986
Shortland Street
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1 July 2025

Copy via email: [redacted]

Dear Gus,

SPECIALIST COMMENTS RESPONSE – 88,130,133 UPPER OREWA ROAD AND 53A,53B,55 RUSSELL ROAD, OREWA

Further to your recent instructions, we have reviewed comments received on 26 June 2025 and have responded to the transport matters raised.

1 AUCKLAND TRANSPORT – TESSA CRAIG

The comments within the Auckland Transport covering letter prepared by Tessa Craig are in general a summary of the two traffic / transport reviews undertaken by Beca and PTM. As such, the Commute commentary in response to the covering letter generally refers to detailed review of the other two more substantive reviews, provided further below.

1.1 EXECUTIVE SUMMARY

1.1.1 ITEM 1 – ADVERSE IMPACTS

Comment:

AT's assessment is that there are sufficiently significant adverse impacts which are out of proportion to the Project's regional benefits, and not able to be avoided, remedied, mitigated, offset, or compensated for by conditions or modifications, such that the Panel should consider declining consent (under Section 85 (3) of the Fast-track Approvals Act 2024) (FTAA). The regional benefits are overstated by the Applicant and development occurring ahead of supporting infrastructure is likely to result in poor transport outcomes. The adverse impacts include reduced productivity and reduction in efficiency of the State Highway network as a result of congestion at the SH1 interchange (delays to freight and commercial vehicles), impacts on accessibility for the existing communities at Ōrewa (impacted by delays at the interchange), and serious safety impacts at the tie in to the existing rural network to the south of the development (Stage 2 of the development), which has an economic cost in terms of Deaths and Serious Injuries (DSIs).

Commute response:

While not strictly traffic engineering related, these items and in particular the issues regarding congestion at the SH1 interchange, safety and accessibility are covered in the detailed response to both the PTM and Beca comments further below.

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1.1.2 ITEM 2 – ROADING PREREQUISITES

Comment:

The Auckland Future Development Strategy (FDS) identifies four roading infrastructure prerequisites needed to be in place prior to the land developing:

a) NoR 1 - New Rapid Transit Corridor, including a walking and cycling path,

b) NoR 2 – New Rapid Transit Station at Milldale,

c) NoR 6 - New Connection between Milldale and Grand Drive, Ōrewa and

d) NoR 10 - Upgrade to Wainui Road.

Commute response:

The ITA has reviewed the specific Delmore site. In summary, the ITA concludes that the proposed development can operate appropriately and safely without the provision of the four infrastructure pre-requisites identified above.

A detailed response to the FDS pre-requisite comments raised by several of Councils' specialists is provided within the AEE prepared by Barker and Associates (B&A), and covering legal memorandum prepared by Madeleine Wright.

1.1.3 ITEM 3 – NOR 6 CONNECTION

Comment:

The benefits contended by the Applicant could only be considered regionally beneficial if the entire NoR 6 Connection between Milldale and Grand Drive Ōrewa corridor were to be delivered. The arterial road cannot operate with its intended function (as an arterial corridor supporting urban growth and improving access) until it is fully constructed and does not have any regional benefit until it can operate as an arterial corridor. The Project is considered likely to result in adverse impacts related to cumulative effects, capacity, safety, public transport serviceability, actives modes provision and stormwater hazards.

Commute response:

Delivery of a significant portion of the entire NoR6 road

It is confirmed that not all the arterial road will be constructed by the development. The proposal does however deliver a significant portion (over 40%) of a regionally significant road (NoR 6). Whilst the applicant does not own the land for the remaining sections of the NoR road and thus does not have the ability to compulsory acquire the remaining land, the portion of the NoR 6 road being delivered by the applicant is some 0.85km in length and includes a full arterial specification road including cycle facilities and carriageway accommodating a frequent bus route. The specific part of the road being delivered is the steepest/most complex part of the NoR 6 Road from an engineering perspective, as outlined in the NoR6 Memorandum prepared by McKenzie & Co. The construction of this arterial specification road by the applicant will mean Auckland Transport in the future will not need to construct this road (order of magnitude saving of $10 million).

Regional significance of the NoR6 road

As noted in the lodged ITA, the NoR6 road is a regionally significant road providing wider benefits to the surrounding area including connecting residents of the proposal and residents to the east of State

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Highway 1; a viable connection to the northbound and southbound State Highway 1. The NoR6 corridor is considered to be appropriately designed and will operate safely and efficiently while improving connectivity, safety, and efficiency of the surrounding area.

This road is part of the "North Projects" Notices of Requirement (NoRs) for Auckland Transport (AT) and Waka Kotahi NZ Transport Agency (Waka Kotahi). As per the Assessment of Environmental Effects lodged with the NoR "*The notices are to designate land for future strategic transport corridors and stations as part of Te Tupu Ngātahi Supporting Growth Alliance to enable the future construction, operation and maintenance of transport infrastructure in the North area of Auckland*". The AEE also notes "The North Projects are intended to support growth in Northern future urban areas and without these projects, growth would be constrained. The purpose of the North Projects is to provide key infrastructure to enable anticipated growth to occur

A number of the corridors involve the addition of walking and cycling infrastructure (active mode facilities) and urbanising of existing rural roads in anticipation of the growth. Route protection of the projects will prevent build out of the optimal transport corridors/stations, reduce future construction costs and deliver enhanced outcomes through integration with urban development".

The delivery of the proposed significant portion of NoR6 road constitutes a regional benefit

The NoR 6 Road is clearly a future strategic regional road with significant regional benefits. As noted in the lodged Delmore AEE prepared by B&A, as part of Auckland Transport's North Projects', the delivery of the significant portion of the NoR 6 road will provide transport choice and provide safe and efficient options for future public transport and active transport in addition to private vehicles. Users will have an opportunity to be more active and connect to places by active transport modes such as walking or cycling. The road will provide a new transport corridor that connects the growth areas of Milldale, Ara Hills and Ōrewa and is integrated with the surrounding urban growth areas. It will enable access to economic and social opportunities by providing an integrated multimodal corridor. It will integrate and support the future transport network including other "North Projects", and support the development of an efficient, resilient and reliable multi-modal transport network for Hibiscus Coast area. The NoR 6 road is also considered to have positive impacts on the efficiency of freight in the area, improving the way businesses operate, providing potential further economic benefits to the region.

As such, given the extent of the NoR 6 road by the applicant is considered to be a significant portion, and the benefits of the NoR6 road are considered regionally significant, it is considered that the NoR6 road delivered by the proposal constitutes a regionally significant benefit in its own right.

1.1.4 ITEM 4 – GAPS IN INFRASTRUCTURE

Comment:

In the absence of the proper plan change process to address zoning, land use and infrastructure services, it is expected that the Project should address larger cumulative issues and effects resulting from the development. In this case, however, the Project has not addressed major concerns in relation to the provision of appropriate infrastructure. There are gaps in the information that should be considered and addressed. The following sections explain the significant adverse impacts identified by AT in its assessment.

Commute response:

See response to PTM and Beca in general further below.

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1.2 PARTIAL DELIVERY OF NOR6

1.2.1 ITEM 5 – NOR 6

Request:

The Applicant proposes constructing a section of the NoR 6 Connection between Milldale and Grand Drive Ōrewa tying in at the north to Grand Drive and terminating in a turning head at the southern extent. The proposed horizontal alignment for NoR 6 in the Project differs from that shown in the concept design developed by Supporting Growth Alliance, Te Tupu Ngātahi (SGA) (the agency responsible for route protection via designation for the new Connection between Milldale and Grand Drive, Ōrewa NoR 6). Whilst the proposed road alignment would remain within the designation boundary, the drawings in the substantive application show that the southern portion of road is shifted east outside of the land owned by the Applicant or AT (the paper road) to be within a neighbouring property (3 Russell Road) and that the intersection with Upper Ōrewa Road will not be formed as part of the Project. The southern section of NoR 6 including the proposed roundabout would therefore need to be delivered by further development or AT and changing the alignment means the road could not be constructed in the AT owned paper road, therefore AT would have to bear the cost of land acquisition. The delivery of a portion of the NoR 6 does not equate to regional benefits as it would only serve the development site and provide no efficiency or arterial corridor benefits.

Commute response:

This is discussed in the Civil engineering response (NoR6 Memorandum) prepared by McKenzie & Co. From a traffic engineering perspective, the revised alignment is considered to be appropriate.

1.2.2 ITEM 6 – NOR 6 DESIGNATION

Request:

When designating for NoR 6 the SGA work considered a 2048+ scenario for anticipated growth in this area. The SGA Integrated Transport Assessment (ITA) associated with NoR 6 identifies the potential effects of land use occurring ahead of both NoR 6 and NoR 10 (Upgrade to Wainui Road including the intersections of Lysnar Road, Upper Ōrewa Road and Kowhai Road). This is outlined in more detail in the Delmore Fast Track Application Beca Review Transport (Annexure A), this report outlines impacts relating to safety, poor access to amenities, poor connectivity, and reliance on the existing network causing inefficiencies, congestion and delays that translate to adverse impacts on productivity.

Commute response:

The ITA has reviewed the specific Delmore site, and concludes that the site and surrounding areas can operate safely both during development and post-development, without requiring further upgrades of the surrounding road network. Effects relating to those specific intersections above are undertaken in the response to Beca, further below.

1.2.3 ITEM 7 – NOR 6

Request:

To be consistent with the FDS the arterial road to be constructed as NoR 6 should encompass the entire future site frontage to the proposed urbanised area, which means in doing so the extent of NoR 6 to be constructed and vested should extend to and include the intersection of Grand Drive / Upper Ōrewa Road and Russell Road. The stopping of the arterial road with a turning bay to the north of the intersection means that a through link is not provided by the development at all. The arterial road is a

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significant linkage for private and public transport and active modes. It is intended to form a major component of the envisaged future strategic transport network. More specifically, the arterial road is needed to accommodate and support future growth of which the proposed 1250 dwellings form a significant part.

Commute response:

See Section 1.1.3 above. The suggested extent of NoR6 road which AT is seeking the applicant to develop extends beyond the application site. The applicant does not own the land for the remaining sections of the NoR6 road and thus does not have the ability to compulsory acquire the remaining land.

1.2.4 ITEM 8 – NOR 6

Request:

The lack of provision for the entirety of NoR6 cannot be conditioned as it necessitates the need for a redesign of the developments street network for it to be located on the Applicant and AT paper road land.

Commute response:

See 1.2.1 above. This is discussed in the Civil engineering response (NoR6 Memorandum) prepared by McKenzie & Co. From a traffic engineering perspective, the revised alignment is considered to be appropriate.

1.2.5 ITEM 9 – NOR 6 ROUTE PROTECTION

Request:

NoR 6 which is for route protection only has a lapse date of 30 years, which in itself highlights that AT is not currently able to fund or deliver the proposed urban arterial road corridor (the southern section of NoR 6 linking to Upper Ōrewa Road) NoR 10, that would provide the public transport network and walking and cycling facilities necessary to serve the residential development proposed. The cost estimates for the NoR 6 and NoR 10 corridors, along with the required upgrades to Upper Ōrewa Road and Russell Road (referred to later in this response) are set out in the SGA Technical Note (Annexure B).

Commute response:

Noted.

1.2.6 ITEM 10 – ACCESS TO EACH ALLOTMENT

Request:

The Project is to gain access via a connection to be formed by an adjacent residential development (as per section 7.4.1.1 of the Applicants AEE). Given the reliance on delivery of this road by a third party, consideration should be had under Section 106 of the Resource Management Act, as to whether sufficient provision will be made for legal and physical access to each allotment.

Commute response:

This is not a traffic engineering matter. A Grand Drive Memorandum, outlining that this section of road is required to be delivered by the Ara Hills consent owner has been provided as part of the applicant's response.

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1.3 NOR 6 COSTINGS

1.3.1 ITEM 11 – COST SAVINGS

Request:

The cost savings contended by the Applicant for the proposed arterial road alignment option are significantly inflated. The difference in length has been overstated by a factor of 10 (i.e. 30m as opposed to 300m). Design refinement and optimisation of the bridge over a single stream (rather than two stream as proposed by the Applicant in the revised alignment) for the SGA NoR alignment has not been undertaken, so it's not appropriate to use this as the basis for comparison. The Applicants proposed alignment will require crossing two streams at a convergence point, which increases environmental risks and reduces opportunities to refine the design further. The vertical grade has also been increased beyond what is desirable, so a comparison of this with the SGA bridge is not fair or appropriate comparison.

Commute response:

Response to this matter is provided in the NoR6 Memorandum prepared by McKenzie & Co.

1.3.2 ITEM 12 – OPERATING COSTS

Request:

AT has calculated the potential operating costs for the roading network proposed to be provided by the Applicant and for the increased maintenance of existing rural roads which will function more as urban collector roads with the substantial increase in traffic generated by the proposal. These roads will require additional maintenance for 25-30 years which would not be required if the development occurred in line with the FDS. These are considered to be in the order $166,634.82 per annum for the 5.9km of local roads, 2.1km of collector road and 820m of arterial road for which would result from the Project which AT and Council has not budgeted. These figures only cover maintenance and renewals, and not depreciation. These additional costs would need be covered by ratepayers and require funding to be moved from areas which are consistent with the FDS for Auckland.

Commute response:

Response to this matter is provided in the NoR6 Memorandum prepared by McKenzie & Co.

1.4 GRAND DRIVE INTERCHANGE IMPACT

1.4.1 ITEM 13 – NOR 6 BENEFITS

Comment:

The New Zealand Transport Agency Waka Kotahi (NZTA) is the Road Controlling Authority for the state highway network including the Grand Drive interchange. Whilst the Applicant is proposing to construct a section of NoR 6, the benefits of an arterial road are not able to be realised until it is fully built, as there is no ability to efficiently transport freight, run public transport services, or provide a safe active modes network. A bottleneck effect will result at the point the Project ties into the existing road network and there is a significant risk adverse efficiency impacts will result at the SH1 interchange, with the eastern roundabout at the interchange operating below acceptable performance levels, as outlined in the NZTA) response to Auckland Council.

Commute response:

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We agree that NZTA are the Road Controlling Authority for the Grand Drive interchange. The proposal has been designed to be self-sufficient with regard to transport and roading infrastructure during the interim period until the full length of the NoR6 road is constructed. The commentary regarding this interchange (including sensitivity testing and thresholds as to the level of the Delmore traffic that can be added to the interchange) are included in the response to NZTA.

The extent to which the delivery of the significant portion of NoR6 road within the application site constitutes a regionally significant benefit is outlined further above in Section 1.1.3.

1.4.2 ITEM 14 – SIDRA MODELLING

Comment:

The SIDRA modelling (provided in the Integrated Transport Assessment (ITA)) shows that there will be significant effects on the eastern roundabout of Grand Drive Motorway Interchange, with queues of more than 600 meters expected on this approach during morning peak times. Cars coming from the development (west) have priority at the roundabout. Notwithstanding these issues in the assessment, the Applicants ITA shows that with the consented trips from the Ara Hills development and the proposed development, the Grand Drive / SH1 motorway interchange will not have adequate capacity. NZTA have suggested further sensitivity testing given the impact at the interchange and AT support this request. NZTA have raised significant issues related to the operation of the interchange and AT concurs that sensitivity testing is required including assessment of southbound trip percentage, impact of varying trip distribution on roundabout performance and queue lengths and delays under different growth scenarios.

Commute response:

See Section 1.4.1 above. Further, the SIDRA modelling did account for the 'worst case' scenario where all traffic travelled through the Grand Drive roundabouts resulting in LOS F and unacceptable queuing on the eastern roundabout eastern approach in the morning peak (hence the 600m queue noted in the comment above). However, a revised SIDRA model was then created taking into account the other future connection on the southern side of the site (to Upper Orewa Road) resulting in a likely 30% reduction in traffic at the Grand Drive roundabout when that connection is provided. This is detailed in the ITA. This would indicate that the second connection is required before approximately 750 houses are constructed (which corresponds to mid-way through Stage 2).

The revised SIDRA model (with additional connection) resulted in a change of LOS from F to C and a reduction in average delay from 114 seconds to 25 seconds and a reduction in vehicle queuing from 680m to 230m through the Grand Drive roundabouts which is considered to be well within appropriate parameters (LOS C indicates traffic flow is still stable). As such, it is considered that the modelling undertaken to support the assessments made in the lodged ITA is appropriate. Notwithstanding, further sensitivity testing in response to NZTA has been undertaken, outlined in Section 5.1 below.

1.4.3 ITEM 15 – SIDRA MODELLING DISTRIBUTION

Comment:

The Applicants ITA identifies the eastern roundabout at the Grand Drive interchange (providing access to SH1) is likely to operate over capacity during the morning peak hour. To mitigate this, the Applicant has proposed providing the Projects Stage 2 access onto Upper Ōrewa Road, to provide an alternative route. The modelling suggests this would reduce traffic at the interchange by 30% however, it is not clear whether this considers the potential for through traffic as a result of the connection or why this would be the case. Trip distribution at this roundabout (particularly volume headed southbound onto SH1) is unclear and there is concern that the impact on the interchange is under-represented especially as there is a proposed private plan change (Private Plan Change 103 – waiting

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for a decision) for Silverdale West industrial area , which would attract people from Ōrewa and the development down to the employment area, through the development site to avoid SH1 (and the interchange) in the morning peak. The Applicant will need to investigate solutions to the congestion and efficiency issues in consultation with NZTA.

Commute response:

As noted in the response item above, the performance of this interchange is documented in the ITA and further additional sensitivity testing has been undertaken in the response to NZTA (as they are the road controlling authority for the interchange).

1.4.4 ITEM 16 – TRIP RATES & SENSITIVITY

Comment:

The Applicant has used a trip generation rate of 0.65 peak hour trips per dwelling based on the New South Wales Roads and Transport Authority Guide to Traffic Generating Developments ('The RTA guide rate for medium density. There is a lack of modal choice provided in the area due to a lack of frequent public transport and/or walking/cycling routes to employment and core services. Also, most of the dwellings are stand alone and have 3 to 4 bedrooms proposed. that the PTM Consultants assessment consider that the RTA rate of 0.85 peak hour trips per dwelling for a dwelling house would have been a more appropriate rate for this development given the size of the dwellings. The Applicant has not provided a sensitivity test to assess how changes in this key input variable affects the model outputs, which would help to understand the robustness of their assessment and to better understand the impact of uncertainties. The Applicant should have varied key parameters, in order to identify influential factors so that informed decisions can be made on the models predictions. AT cannot support the assumed trip generation rate and does not consider this a robust analysis given the potential for significant impacts on a key part of the transport network.

Commute response:

In the review by NZTA (who are the Road Controlling Authority for the critical interchange) they have stated “The trip generation rate was deemed appropriate for this assessment”.

See response to PTM below regarding trip generation rates. In summary, it is considered by both Commute and NZTA that the trip generation rates used in the ITA are appropriate.

1.4.5 ITEM 17 – SIDRA MODELLING (EASTERN ROUNDABOUT)

Comment:

As a result of the development, the Level of Service (LOS) for the eastern approach of the eastern roundabout will drop from LOS A (best) to LOS F (worst) (vehicles travelling from Ōrewa to the motorway) as acknowledged in the Applicants ITA, and the overall intersection performance will drop from LOS A to LOS E. There are six LOS ratings ranging from A, which defines very good user experience, through to F, depicting a very poor user experience. Typically, a user experience or LOS rating of A, B or C is considered as a positive outcome for that particular mode, whereas D, E or F increasingly highlights a deficiency for that mode at that time and location. LOS F translates to average travel speed being less than 30% of the posted speed limit, experiencing significant delays at intersections and 85% of journeys exceeding the median journey time by more than double. This will result in significant disruption to traffic that will be felt by the existing communities at Ōrewa and AT are in agreement with the PTM Consultants assessment in this regard.

Commute response:

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Again, the performance of this interchange is documented in the ITA and additional sensitivity testing has been undertaken in the response to NZTA (as they are the road controlling authority for the interchange).

1.4.6 ITEM 19 – ECONOMIC ASSESSMENT

Comment:

The Arup and EY Auckland's Cost of Congestion January 2025 2 report has found Auckland's congestion problem will cost $2.6 billion a year by 2026. The Economic Assessment by the Applicant should take into account the congestion cost generated by the Project at the interchange. The purported regional benefits should consider this cost.

Commute response:

Not a traffic engineering matter.

1.5 SAFETY EFFECTS

1.5.1 ITEM 20 – UPPER OREWA ROAD

Comment:

Upper Ōrewa Road is a rural road, with a 60km/hr speed limit, no street lighting, no footpaths and constraints in terms of forward visibility. This rural road would need to accommodate traffic volumes expected on an urban road after Stage 2 of the development forms a connection (an increase of traffic by 183%), with a higher movement function than it is currently designed for. Significant safety issues are likely to result with the addition of this volume of traffic. The rural road would need upgrading, for which AT do not have any funding in place and have not scoped in terms of what is required. Further assessment in this regard is required.

Commute response:

See response to the review of Beca further below.

1.5.2 ITEM 21 – UPPER OREWA ROAD INTERSECTIONS

Comment:

It is noted the Applicant has proposed a roundabout at the Upper Ōrewa Road/ Road 17 intersection. This will address safety at this intersection (with detailed design requiring further review), however both the Upper Ōrewa Road/ Russell Road intersection and the Upper Ōrewa Road/ Wainui Road intersection are likely to experience increased safety risk as outlined in the Delmore Residential Subdivision Fast Track Application Transport Assessment prepared by PTM Consultants (Annexure C).

Commute response:

See responses to PTM and Beca further below.

1.5.3 ITEM 22 – UPPER OREWA ROAD / RUSSELL ROAD & OREWA ROAD / WAINUI ROAD

Comment:

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The design for NoR 6 and NoR 10 includes upgrades to the existing intersections at Upper Ōrewa Road/ Russell Road and Ōrewa Road/ Wainui Road to ensure safety. The Applicant needs to address safety impacts at these intersections caused by the 183% increase in traffic generated after Stage 2 of the development ties into the existing rural road network.

Commute response:

See response to Beca and PTM further below.

1.5.4 ITEM 23 – JOAL ACCESS ONTO NOR 6

Comment:

In addition, there are potential safety issues with direct Jointly Owned Access Lot and local road access onto the arterial Road (NoR 6) identified in the Delmore Fast Track Application Beca Review Transport memo (Annexure A, Page 4) undermining the safety and efficiency of the future road. Cycle and pedestrian crossings on side roads need to be considered carefully to avoid safety effects. AT does not support Jointly Owned Access Lots (JOALs) having direct access onto NoR. These connections would not be supported at Engineering Approval stage and it would be a poor resource management outcome to approve a design as part of this process and then for the applicant to have to undertake a variation to consent in the future to redesign this aspect.

Commute response:

See comments on the Beca review further below regarding these access locations / number.

1.5.5 ITEM 24 – SOCIAL COST

Comment:

The NZTA Monetised benefits and costs manual updated in July 2024, values the social cost of crashes at $12.5 million per fatality, $660,100 per serious injury and $68,000 per minor injury. AT have not been able to calculate a likely figure for the DSIs that may occur as a result of the Project tying into the existing rural road network, and therefore the potential cost of DSIs but suggest this social cost should be considered in weighing up regional benefits.

Commute response:

Not considered a traffic engineering matter. The assessment is that both the application site and surrounding network is considered safe both during and post-development.

1.6 PUBLIC TRANSPORT SERVICING AND ACTIVE MODES

Public Transport:

1.6.1 ITEM 25 – LOCAL ROAD BUS ROUTE CAPABILITY

Comment:

The ability for AT to run any future public transport services for the development is dependent on several factors, the critical one being the ability of roads to accommodate bus services including carriageway width, gradient and turning facilities. Except for the northern section of the arterial Road (NoR 6) to be built by the Applicant, the plans indicate all other roads are going to be built to a local road standard as per the Auckland Council's Code of Practice Chapter 3 Transport.

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See response to PTM further below

1.6.2 ITEM 26 – BUS SERVICE FREQUENCY & 985 SERVICE

Comment:

It should be noted that the possible future bus service on the fully formed arterial road connecting Upper Orewa Road to Grand Drive (NoR 6) will be a "connector" service. This is a 30-minute frequency all-day service with potential for a higher peak frequency. A benchmark frequency would be the 985 service which operates through Millwater which is 20 minutes peak and 30 minutes at other times. The 985 route cannot extend through the development site as it operates through Millwater on the eastern side of the motorway, travelling down to East Coast Heights.

Commute response:

Noted.

1.6.3 ITEM 27 – PUBLIC TRANSPORT PROVISION

Comment:

The strategic intent and function of a road determines its design and the required components and width. It is critical to get the required road reserve width established at subdivision stage as it is costly and, in some cases, impossible to amend it once houses or other infrastructure have been provided. For example, it is critical to ensure that consideration is given to the provision of public transport early to ensure that roads that will be public transport routes are designed to accommodate the requirements of buses and bus stops. If a road corridor is too narrow it would prevent buses being able to travel along it and/or manoeuvre.

Commute response:

See response to PTM further below.

1.6.4 ITEM 28 – ROAD 1 & 17 WIDTHS FOR BUS SERVICES

Comment:

Road 1, for example, is shown as a Collector Road in the indicative structure plan. Road 17 which is the road that is going to connect to Upper Ōrewa Road in Stage 2 of the development, is a Collector Road in the indicative structure plan. The roading drawings only show cross-sections for the NoR 6 and Local Roads. The Local Road cross-sections show that the width is 3 metres. This width is not adequate for buses to go through them (a carriageway width of 3.5m is required). If buses are not able to travel through the development because of the road design, the ability to service the residents via public transport will be reliant on the NoR 6 southern connection being formed (although other Collector roads may be needed to run bus services in the western part of the development). Lack of public transport further encourages the use of private cars, resulting in an adverse effect on road network (in terms of congestion, operation and safety).

Commute response:

See response to PTM further below.

1.6.5 ITEM 29 – COLLECTOR ROADS

Comment:

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To avoid a situation where the site cannot be served by public transport, the following is required: Roads which are planned to connect through to Russell Road (Road 1) and Upper Ōrewa Road (Road 17) should be built to a Collector Road standard and be suitable for buses. The following connecting roads must also be built to accommodate buses:

- *Road 1*
- *Road 17 Upper Ōrewa Road to Road 14*
- *Road 14 from Road 17 to Road 05*
- *Road 05.*

Commute response:

See response to PTM further below.

1.6.6 ITEM 30 – CYCLING FACILITIES

Comment:

The standard for these roads should include separated cycling facilities given they will eventually carry over 3000 vehicle per day once the area is fully developed. AT's Engineering Design Code - Cycling Infrastructure requires separate cyclist facilities on new roads with over 3000 vehicles per day using them to the following standard "A Cycleway separated from moving traffic by a narrow raised buffer relies on the physical barrier between different modes to provide real and perceived safety to people on bicycles. It is suitable for streets with local to strategic place significance and low to moderate traffic volumes." These are needed to avoid conflict between vehicles and bikes, minimise conflict between pedestrians and bikes and minimise driveway entrances.

Commute response:

Both stages / potential collector routes have been reviewed in relation to traffic volume.

Stage 1 accommodates approximately 470 dwellings, however not all would use Road 1 (potential collector road) due to other routes available to the NoR6 arterial Road (eg Road 2 and Road 3). It is estimated that 50% of these dwellings would use Road 1, or 240 dwellings. Using the RTA daily trip rate of 0.65 daily trips per dwelling, this equates to 1,500 vehicle per day on Road 1 (maximum at its northern end).

Stage 2 accommodates approximately 780 dwellings. Stage 2 does however have two "links", one to the NoR6 road (Road 5) and one to Upper Orewa Road (Road 17). As per the Item 2 above, approximately 30% of the total Delmore site is expected to use Upper Orewa Road link (via new roundabout) or approximately 380 dwellings (Road 17). As such the other 400 Stage 2 dwellings will use Road 5 to link to NoR6 Road, essentially resulting in a 50/50 split in Stage 2. As such both these roads will accommodate 2,500-2,600 vpd (0.65 daily trips per dwelling). Figure 1 below summarises the traffic volume.

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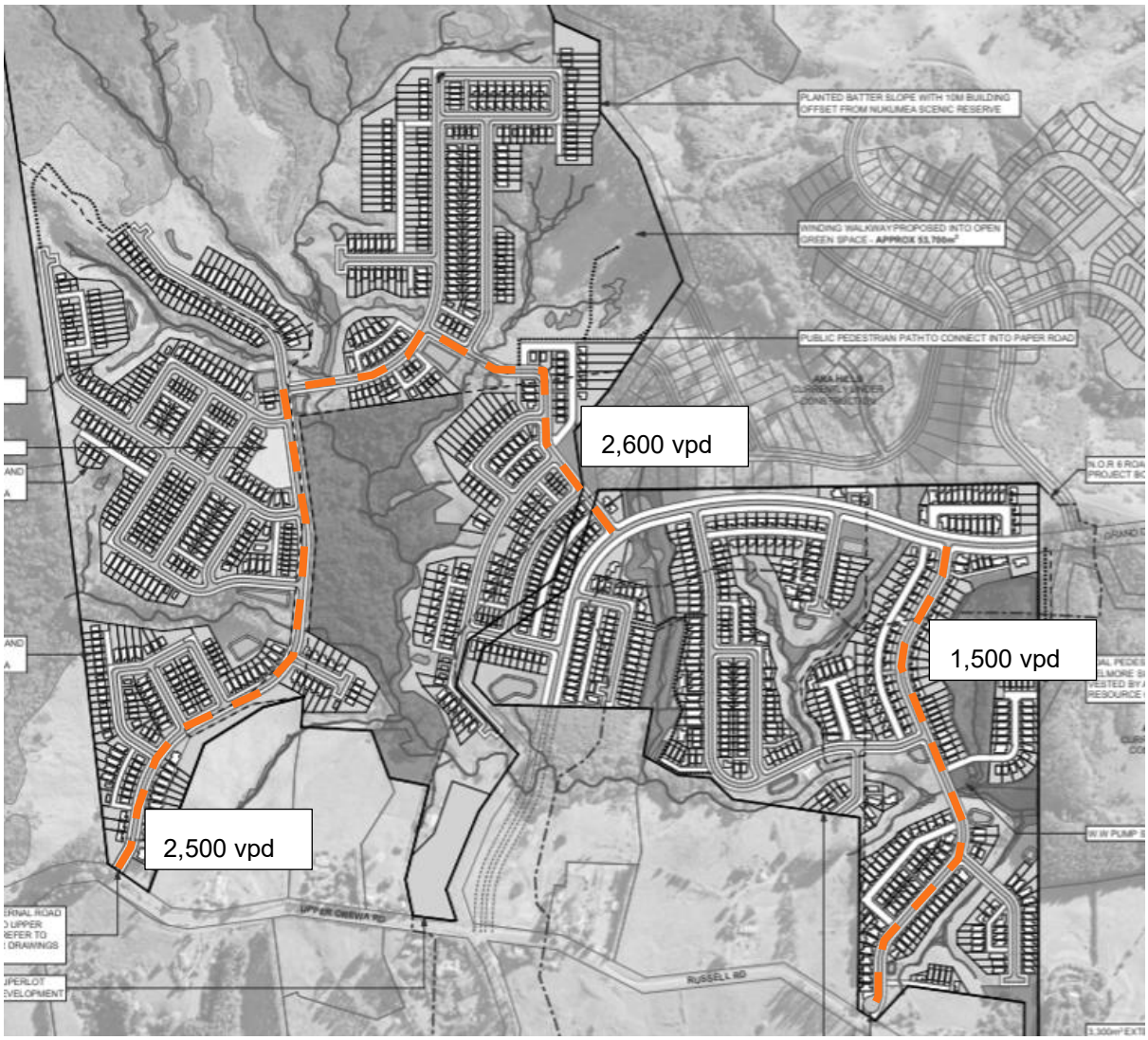
Figure 1: Estimated total daily traffic volume



In this regard, collector roads and separated cycle lanes are generally only considered to be required over 3,000 vpd including within Auckland Transport Roads and Streets Framework (pg 33-50) which has all Collector Road listed as 3,000+ vpd.

Overall, these roads will not cater for 3000 vpd so as per the comment from AT, cycling facilities are not required, nor considered appropriate.

1.6.7 ITEM 31 – BUS STOP PROVISIONS

Request:

These roads also need to include bus stops with provision for shelters. This would ensure provision for a loop service from the Hibiscus Coast Station which would travel through Milldale, use Upper Ōrewa Road and loop around the development using the link road between the two parts of the development, Grand Drive and Road 1.

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See response to PTM / Beca further below. We agree that infrastructure provisions such as bus stops should be included in the detailed design of NoR 6 road.

1.6.8 ITEM 32 – ACTIVE MODE DELIVERY

Request:

The Applicants ITA refers to the SH1 active modes overbridge over SH1, however there is no certainty around timing for delivery of this connection and without it, the Delmore development will be severely disconnected in terms of active modes with SH1 causing a severance effect. Similarly, the Accessibility / Connectivity Analysis prepared by B&A refers to shops, the Frequent Transit Network and Schools which are not currently in place and are likely to be 10 or more years away.

Commute response:

We agree with the notion that the SH1 pedestrian / cycling connection should be available before occupation of the Delmore dwellings. The delivery of the SH1 connections by the Ara Hills consent holder is outlined in Condition 13 of LUC60010513-J & SUB60035991-J, and Commute understands that the delivery of this SH1 connection is imminent, so that it will be online when the first Delmore dwellings are occupied.

1.6.9 ITEM 33 – ARA HILLS PEDESTRIAN LINK

Request:

The development will connect to services and the wider walking and cycling network via an active mode link over the motorway. However, this link, which is a bridge and part of the AraHills development to the north of the site, has not been constructed yet. If the link is not provided before the occupation of the dwellings for the Project, this will remove options for residents to use other modes of transport and the development will further rely on private vehicles. Therefore, a condition will be recommended below to ensure that the bridge and path are complete and open for public use before the first dwelling is occupied.

Commute response:

We agree with the notion that the SH1 pedestrian / cycling connection should be available before occupation of the Delmore dwellings. The delivery of the SH1 connections by the Ara Hills consent holder is outlined in Condition 13 of LUC60010513-J & SUB60035991-J, and Commute understands that the delivery of this SH1 connection is imminent, so that it will be online when the first Delmore dwellings are occupied.

1.6.10 ITEM 34 – HEALTH BENEFIT

Request:

The NZTA Monetised benefits and costs manual assigns an annual benefit per new user of active modes ($3,100 annually for people who switch from private vehicle use to walking and cycling). The lack of actives modes facilities (the SH1 overbridge) means this health benefit cannot be ascribed to users/ residents of the development.

Commute response:

The delivery of the SH1 connections by the Ara Hills consent holder is outlined in Condition 13 of LUC60010513-J & SUB60035991-J, and Commute understands that the delivery of this SH1 connection is imminent, so that it will be online when the first Delmore dwellings are occupied.

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1.6.11 ITEM 35 – CYCLING FACILITIES

Request:

In addition to requiring the bridge be in place, there is a requirement for the Collector Roads to be built with separated cycling facilities as required by the AT Transport Design Manual (TDM).

Commute response:

See response in Section 1.6.6 above. No separated cycling facilities are required or considered to be appropriate as all proposed roads will have less than 3,000 vpd.

1.7 TRAFFIC ENGINEERING DETAIL

1.7.1 ITEM 36 – DETAIL

Request:

Further technical engineering detail needing to be addressed is detailed in the Delmore Residential Subdivision Fast Track Application Transport Assessment prepared by PTM Consultants and relates to vehicle tracking issues (paragraphs 63-66), sight distance assessment (paragraphs 67-72), visibility splays (paragraphs 73-75), gradients, speed calming, turning heads and Approach Sight Distance (ASD) (paragraphs 76-86). A Safe Systems Audit should be completed prior to the Engineering Approval stage. All frontages to existing roads including Upper Ōrewa Road, and Russell Road must be upgraded to an urban standard as would be required under the Auckland Unitary Plan at the time a site is urbanised.

Commute response:

See detailed comments on the PTM memo below.

1.8 STORMWATER

Notes 37-41 are related to stormwater concerns which are not traffic engineering concerns. These are responded to within the AT Response Memorandum prepared by McKenzie & Co.

1.9 PROPOSED CONDITIONS OF CONSENT

1.9.1 ITEM 42 – CONDITIONS OF CONSENT

Request:

AT have reviewed the Proposed Consent Conditions (Appendix 22) and those recommended in the Applicants ITA. The Proposed Consent Conditions document is missing some of the conditions recommended in the ITA which are noted below. These initial comments on conditions are provided to assist the Panel but are offered without prejudice to AT's ability to make more comprehensive comments on any draft conditions under section 70 of the Fasttrack Approvals Act 2024, should the Panel decide to grant appro.

Commute response:

Noted.

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1.9.2 ITEM 43 – RECOMMENDED CONDITIONS OF CONSENT

Request:

Before commenting on some matters of detail, there are a number of significant and complex issues that require resolution and, if the Project were to be approved, would need to be addressed through comprehensive and carefully considered conditions. While it is not clear to AT whether all of these matters can in fact be satisfactorily addressed through conditions, they nonetheless represent key areas requiring further work and scrutiny by the Applicant and Panel from AT's perspective. The key areas that require particular attention, including in any conditions, encompass:

1. *NoR 6 alignment, extent, and cost implications — matters that would need to be carefully addressed through conditions, to the extent this is feasible, including:*
    a. *the full extent of NoR 6 to be constructed and vested down to the intersection of Grand Drive, Upper Ōrewa Road, and Russell Road, to ensure the corridor can function as intended and deliver the regional transport benefits relied on in support of the application;*
    b. *the arterial road to be aligned in accordance with the SGA NoR 6 concept design, or robust justification for any deviation, including in terms of design optimisation and cost; and*
    c. *where any deviation from the SGA NoR 6 concept design continues to be proposed, that the Applicant fund or otherwise mitigate any additional costs arising from misalignment (such as dual stream crossings or increased gradients).*
2. *Grand Drive / SH1 interchange improvements — conditions relating to the identification and implementation (in co-ordination with Auckland Transport and NZTA) of necessary upgrades to the SH1 interchange to address capacity, safety, and efficiency issues arising from the development;*
3. *Public transport and active mode facilities — conditions ensuring that:*
    a. *collector roads (including Road 1, Road 17, Road 14, and Road 05) are designed to accommodate buses (including appropriate carriageway widths and turning facilities), include separated cycling infrastructure, and provide for bus stops with shelters; and*
    b. *no dwellings are occupied until the active mode connection across SH1 is complete and open for public use;*
4. *Stormwater and flood risk management — conditions requiring the Applicant to provide complete Overland Flow Path (OLFP) assessments, demonstrate that proposed culverts are adequately sized and designed, and confirm that all stormwater infrastructure is designed to safely manage flood hazards in accordance with relevant safety and hydraulic standards; and*
5. *Safe Systems Audits — conditions requiring Safe Systems Audits to be completed prior to Engineering Approval at key locations, including but not limited to the Upper Ōrewa Road, Russell Road, and Road 17 intersections, with upgrades implemented as necessary to address any identified risks.*

Commute response:

In regard to the above:

- 1a cannot be achieved by the developer for reasons already established in responses further above.
- 1b is considered acceptable as there is a robust justification for the deviation as outlined in the McKenzie & Co memorandum.
- 1c is not considered relevant because the NoR6 Memorandum prepared by McKenzie & Co outlines that the proposed alignment will be a less expensive design than the one suggested by AT.
- 2 is not considered to be required providing a dwelling occupation cap/ threshold of 750 dwellings is included as to when Upper Orewa link is provided, as suggested further above.

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- 3 a is not considered to be required as outlined in the response to Section 3.4 below.
- 3 b is considered appropriate
- 4 is not considered appropriate as the applicant has already provided these elements as outlined within the AT Response Memorandum prepared by McKenzie & Co.
- 5 is considered both typical and appropriate

1.9.3 ITEM 44 – ROAD 17 SIGHT DISTANCE

Request:

That Road 17 be connected through to Upper Ōrewa Road only when an adequate sight distance (114m) is provided in each direction (Recommended at page 67 of the ITA). The Applicant has since proposed that this intersection be formed as a roundabout, and this should form a condition of consent.

Commute response:

Agree

1.9.4 ITEM 45 – LOT 1304 & 603

Request:

The condition that Lots 1304 & 603 (Recommended at Page 53 and Page 67 of the ITA) have the vehicle crossing shifted to the adjacent lot boundary to achieve 8m of distance to the intersection. This is to ensure that the intersections are operated safely to avoid conflict with vehicles using them. AT recommends that this condition be included to ensure that safety effects in relation to these lots are managed adequately.

Commute response:

Agree.

1.9.5 ITEM 46 – VEHICLE CROSSING SEPARATION

Request:

That separation of vehicle crossings (Recommended at Page 56 of the ITA) in accordance with the AUP is achieved for:

- *Lots 121/121 (1.13m separation)*
- *Lots 267/266 (1.93m separation)*
- *Lot 614 / JOAL 16 (1m separation)*
- *Lot 634 / JOAL 16 (1.6m separation)*
- *Lot 902 / JOAL 19 (1.6m separation)*
- *Lots 860/861 (1.74m separation) Lot 782 / JOAL 26 (1.5m separation).*

47. AT recommends the Panel include a condition on this matter to ensure that safety and amenity effects are sufficiently managed in relation to pedestrians and other road users.

Commute response:

Agreed.

1.9.6 ITEM 48 – VISIBILITY SPLAYS

Request:

In addition, Section 9.1 of the ITA recommends that visibility splays are provided at all vehicle crossings as a condition of consent. AT agrees with Commute's recommendation but consider that 1.0m is too high for a fence and that 0.9m should be used. Some shorter drivers or those using lower vehicles have an eye height below 1.0m, and for this reason AT 'standard visibility splay condition recommends boundary fencing around the splay to be maximum 0.9m high.

Suggested wording is provided here: 49. A pedestrian visibility splay of 2m x 2.5m (2m along the property boundary) must be provided on both sides of all the proposed vehicle crossings. Any obstructions including boundary fencing and/or landscaping within the visibility splay areas must not exceed 900mm in height. If fencing is provided above 900mm height stipulation it must be at least 80% visually permeable. Landscaping in the visibility splay area must be trimmed and maintained in perpetuity to comply with the stipulated height by the consent holder

Commute response:

Noted and agree.

1.9.7 ITEM 50 – CTMP

Request:

AT supports the inclusion of the Construction Traffic Management Plan condition supplied by the Applicant.

Commute response:

Noted and agree.

1.9.8 ITEM 51 – ADDITIONAL RECOMMENDED CONDITIONS:

Request:

Additional conditions are likely to be required to address the adverse impacts of the development including improvements to the Grand Drive/SH1 interchange. The actives modes link over SH1 being in place prior to occupation of any dwellings, safety improvements to the intersections at Upper Ōrewa Road/ Russell Road, Ōrewa Road/ Wainui Road and the Upper Ōrewa Road/ Road 17 intersection prior to the southern connection to Upper Ōrewa Road from Stage 2 of the development being formed.

Commute response:

Noted. See response to Beca and PTM on these issues.

1.9.9 ITEM 53 – TURNING HEADS, CULVERTS & RETAINING WALL COMPLIANCE

Request:

Turning heads, culverts and retaining walls must meet Auckland Council's Code of Practice Chapter 3 Transport standards as a condition of consent.

Commute response:

Agreed.

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1.10 CONCLUSIONS

1.10.1 ITEM 54 – REGIONAL BENEFITS

Request:

Overall, from a transport perspective, the adverse impacts identified — including safety risks, poor transport outcomes, car dependency, unplanned cost burdens, and inefficiencies at the SH1 interchange — are sufficiently significant to be out of proportion to the regional benefits contended by the Applicant. These benefits are further diminished by the partial and misaligned delivery of NoR 6, as the corridor cannot function as intended or deliver the transport efficiencies relied on in support of the application until it is completed in full. In particular, the formation of only part of NoR 6, combined with the proposed alignment deviation, not only undermines transport outcomes but also creates potentially significant cost implications for Auckland Transport and the Council. In order for AT to ensure that the full benefits of the provision of NoR 6 and 10 were realised and to avoid a very high risk of DSI's on Upper Orewa Road, AT (and Council) would have a funding gap of $460m (un-escalated cost).

Commute response:

The above conclusions are deemed to be invalid due to previous comments and further responses to the Beca and PTM memorandums below.

2 BECA - CRAIG RICHARDS

2.1 ITEM 1.1.1 – ALIGNMENT WITH NOR 6 ROUTE

Comment:

There is a slightly different alignment between the indicative road shown in the NoR drawings and the proposed road design by the applicant. The applicant alignment is further east in the development roading plans and the stormwater pond is located on the western side of the road.

The proposed road alignment is within the designation boundary and should not preclude construction of the connection south to integrate with the proposed roundabout at Upper Ōrewa Road. However, it is notable that the new alignment may require a longer bridge across the stream to the south of the site. This could result in higher future construction costs for AT / Council (given that the applicant is not proposing to construct this section) and other effects than the alignment shown on the NoR plans. The road alignment within the NoR boundary inside the site taken in isolation is acceptable but gives rise to the potential problem outside the site discussed immediately above.

Commute response:

This is discussed in the NoR 6 Memorandum provided by McKenzie & Co. From a traffic engineering point of view the revised alignment is considered appropriate.

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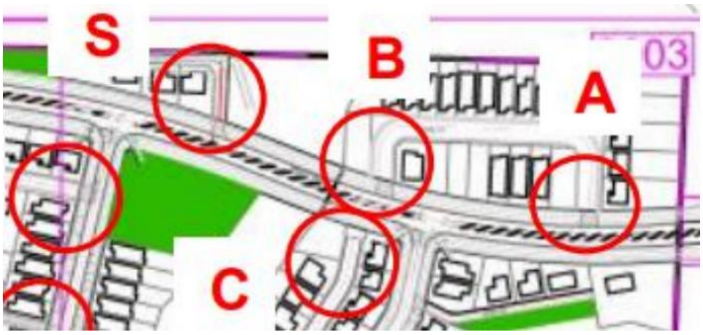
2.2 ITEM 1.1.2 – ACCESS TO NOR ROAD

Comment:

The applicant site layout appears to avoid driveways directly on the NoR 6 road, which is expected for an arterial corridor. A condition to this effect is recommended. There are however, four Joint Owned Access Lots (JOAL) with direct connection to the NoR 6 road, all within a relatively short section. As shown in the image below (intersections S,B,C,A). There are also two local road intersections in this area.



A proliferation of turning movements in this area, considering the local road intersections as well as the JOALs, will impact on movement along the corridor and could compromise safety, especially for pedestrians and cyclists. A review is recommended of whether all of the proposed JOAL intersections with the NoR 6 road are warranted / necessary, and potential options to rationalise the approach should be considered by the applicant. Future traffic volumes on the NoR 6 road will be relatively high (over 13,000vpd5) and an alternative solution may be appropriate to combine access and pedestrian and cyclist crossing facilities. A condition restricting direct JOAL access to the NoR 6 road could be considered by AT.

Commute response:

In regard to the four JOALs which gain access of the NoR 6 arterial corridor:

- We agree the layout has tried to avoid vehicle crossings on the NoR Arterial Road. This has been specifically considered in developing the design.
- There are now only three crossings onto the NoR road (not 4) as the one Noted “C” in the Beca review has been removed as a vehicle crossing
- The Unitary Plan does not have vehicle crossings on Arterial roads as a non-complying activity but rather a Restricted Discretionary one. As such it is anticipated that there will be vehicle crossings on arterial roads, however they need to be assessed;
- Table E27.6.4.2.1 (T144) of the Unitary Plan requires that for sites with a vehicle access restriction (eg arterial) one crossing per 50m of road frontage is permitted. The NoR 6 road has over 1600m of frontage (800m total length but two sides). Three crossing represents one crossing every 530m, well in excess of the 1 per 50 minimum;
- Further, there is 180m between the vehicle crossings “S” and “A” (representing the total extent of the crossings on the NoR 6 road). The Unitary Plan anticipates 4 vehicle crossings in this 180m section of arterial. With three proposed, the number of crossings does not exceed the Unitary Plan standard;
- No vehicle crossings are proposed within 10m of an intersection; and
- Adequate sight distance is provided at each of these vehicle crossings.

Overall, the number of crossings on the arterial NoR 6 road is considered appropriate and well less than typically experienced on most arterials or anticipated by the Unitary Plan.

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2.3 ITEM 1.1.2 – ROADS ON NOR ROAD

Comment:

There are six local road intersections with the NoR 6 corridor proposed by the applicant. There has been no traffic modelling undertaken to check the performance of these intersections with the final expected traffic volumes (i.e. with the full NoR 6 road complete). It is possible that given high volumes and restricted visibility in places it may be difficult to exit some side roads, which would have efficiency and safety effects. There also needs to be further consideration given to cyclist crossings of the side roads, which may also make it more difficult for drivers (discussed further below).

We consider the applicant should assess the operation of intersections on the NoR 6 road with forecast future traffic volumes, i.e. traffic modelling, to check whether alternative intersection arrangements are necessary.

Commute response:

All local road intersection are priority-controlled intersections with a right turn median. As such the likely movement that will experience the greatest delay will be the right turn exit movement out of the side road (as it crosses two traffic lanes).

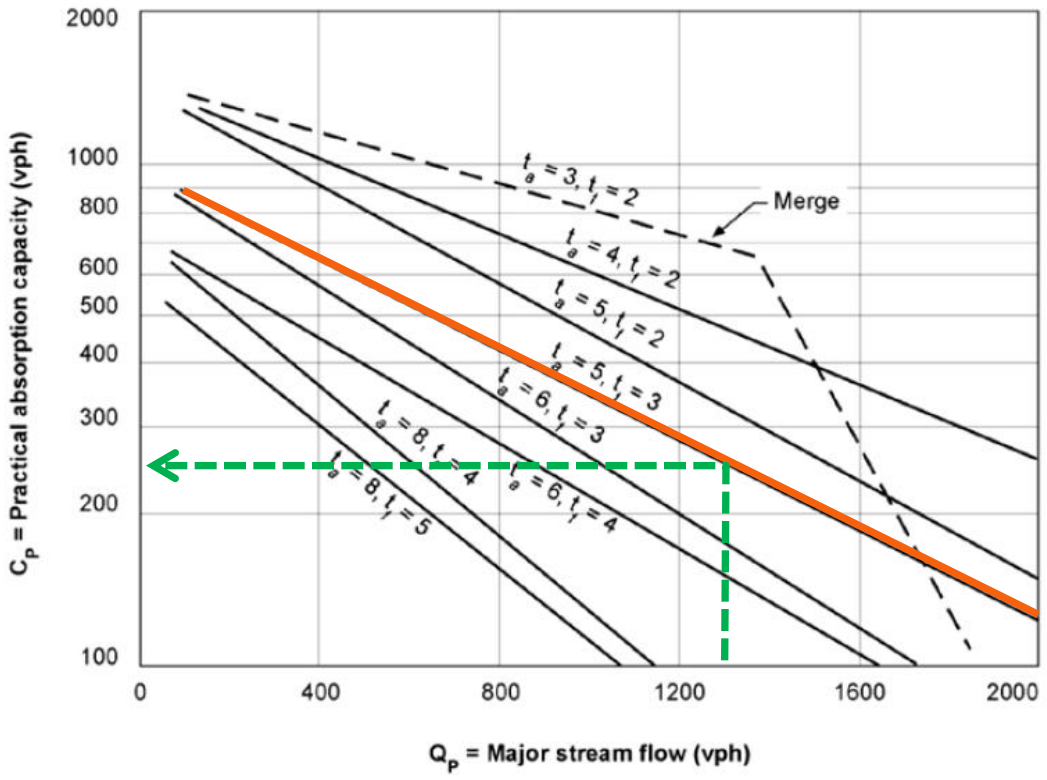
As per the discussion on Road classification / local vs collector roads, Road 1 and Road 5 are the two side-roads on NoR6 expected to have the greatest volume (1,500 and 2,600 vpd respectively). The NoR road is expected to cater for 13,000 vpd in the long term (traffic from wider network). Approximately 10% of this volume would occur in the peak hour.

The intersections have been assessed using Austroads Guide to Traffic Management (AGTM) Section 2 Figure C7 2: Unsignalised intersection (practical absorption capacity). This is replicated in Figure 2 below showing:

- The critical gap acceptance / follow-up headway line in orange for right turn out (two lane / two way);
- The major flow 1300 vph; and
- This shows a practical capacity of around 260 vph.

Figure 2: Site road capacity

Figure C7 2: Unsignalised intersection (practical absorption capacity)



This shows:

- Road 1 intersection with NoR 6 is well under practical capacity (150 vph) even if all vehicles turn right out of the side road
- Road 5 intersection with NoR 6 would be at capacity if all vehicles (260 vph) turned right out of the side road. This is considered highly unlikely as the interchange with Grand Drive is to the east of this road and the majority of movements out of Road 5 is expected to be left out (and thus would only be giving way to only one direction of traffic, thus halving the major traffic stream in Figure 2 above). It is further noted that there are alternative routes available for these vehicles (Road 7 and Road 17), which allows residents to choose an alternative route if one becomes congested.

2.4 ITEM 1.1.2 – WALKING AND CYCLING ON NOR

Comment

i. *There is no detail around how cyclists will cross side road intersections and this will need to be agreed with AT. It is recommended that, if the application is granted, a condition is imposed that the applicant works with AT to agree the detailed form of facilities for pedestrians and cyclists in line with AT standards.*

ii. *It is unclear how the separated pedestrian and cycle facilities along the arterial road will integrate with the existing path along Grand Drive. This should be clarified by the applicant and a condition may be necessary to ensure this connection is provided prior to occupation of any houses so that pedestrians and cyclists have suitable access from the outset.*

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iii. *It is noted in the applicants ITA that the Ara Hills development has a condition to provide a path across SH1 to the existing paths to the east. Paths within the Delmore application will be able to connect into the proposed footpaths and cycle ways along Grand Drive leading to an effective pedestrian connection from the site to attraction facilities in Ōrewa.*

On this basis, without this connection there will not be effective pedestrian access to the east and access would only be possible by car, which is a poor environmental and transport outcome. As the SH1 connection has not yet been constructed, there should be a condition on this development that occupation of the first dwelling in the development does not proceed until the pedestrian and cycle path across SH1 has been completed, as until this time there will be no effective connection for pedestrians and cyclists.

iv. *Public transport is discussed in the applicant's ITA but there is no specific provision for bus stops identified on this section of the NoR 6 road. As per the SGA ITA there is expected to be up to six buses per hour using the NoR 6 road and this will require bus access facilities (bus stops, crossings etc). It is recommended that, if the application is granted, a condition be imposed requiring the applicant to work with AT to agree bus stop locations and design in accordance with AT standards*

Commute response:

i. In terms of the crossing of side roads for cyclists along the NoR, the design as lodged already includes raised tables for this reason (refer to Figure 3 below). The final detailed design of this treatment can be included as a condition of consent.

ii. The existing path along Grand Drive (Ara Hills) is a wide (3m +) shared path as this area is anticipated to be a local centre in the future. The design of the Delmore section of the NoR road (which Grand Drive leads into) is a separated cycle path as per that outlined in the NoR designation. We agree that there will need to be a transition between the shared path and separated path however this is not unusual, and we agree there could be a consent condition imposed.

iii. We agree that the SH1 pedestrian / cycling connection should be available before occupation of the Delmore dwellings.

iv. We agree with this proposed condition that bus stops should be incorporated into the final detailed design.

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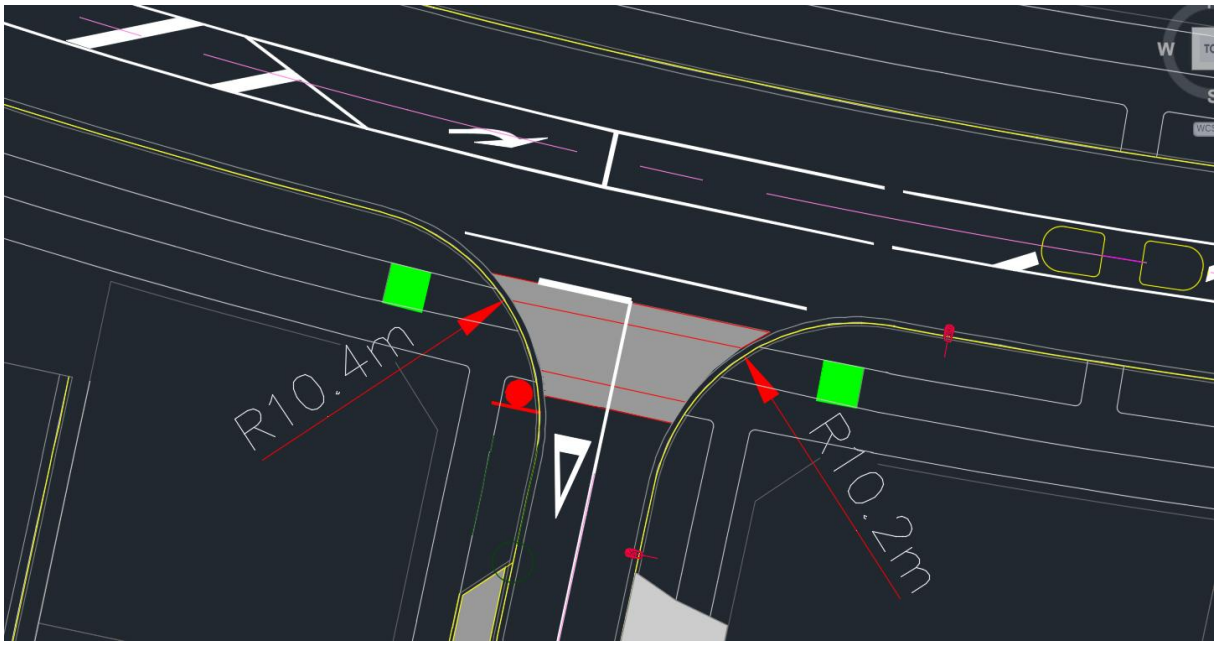
Figure 3: Site road crossing table



2.5 ITEM 1.2 – NOR 10

Comment:

As with NoR 6 there is no timeframe for delivery of NoR 10. There is no direct implication with NoR 10 in terms of alignment or road design, but the potential for traffic from the development to use Wainui Road prior to the NoR 10 upgrade may lead to safety or efficiency effects and this is discussed below.

Commute response:

See section 2.6 below for details regarding effects of the proposal on the surrounding network.

2.6 ITEM 1.3 – POTENTIAL WIDER EFFECTS

Comment:

a) *As with NoR 6 there is no timeframe for delivery of NoR 10. There is no direct implication with NoR 10 in terms of alignment or road design, but the potential for traffic from the development to use Wainui Road prior to the NoR 10 upgrade may lead to safety or efficiency effects and this is discussed below.*
b) *There is no safety assessment in the applicant's ITA of the potential for residents of the proposed development to travel on Upper Ōrewa Road and Wainui Road once the connection proposed in Stage 2 of the development is operational. Upper Ōrewa Road is a narrow rural road with a 60km/h speed limit and no shoulders in places (see figure below). If this development is completed prior to the NoR upgrades, then traffic and cyclists will use the existing roads.*
c) *The applicant's ITA predicts that 30% of development traffic, or 2,437 movements per day, will distribute to the south via Upper Ōrewa Road / Wainui Road, which would not be appropriate from a safety and capacity perspective. The applicant's ITA notes that four crashes have occurred at the Wainui Road / Upper Ōrewa Road intersection. We consider the level of additional traffic, which will more than double existing volumes, is significant and warrants further assessment*
In the supplementary memo (12 June 2025), the applicant provides some consideration of impacts at the Upper Ōrewa Road / Wainui Road intersection. The supplementary memo

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provides the following statement: "The requirements for a right turn bay at this point is likely to be already triggered by NZTA's internal guidelines (regardless of the Delmore proposal) and thus, is an existing issue which the applicant should not be required to fix, given anticipated scheduling of works and the distance from the roundabout to Delmore". It is not clear if the applicant is stating that the intersection already warrants a right turn bay or will do once the development traffic is added to the intersection. There is no assessment of safety with future turning movements and as such it is possible that the development will exacerbate poor safety outcomes at this intersection leading to increased crashes.

d) *The applicant should evaluate the implications of development traffic using Upper Ōrewa Road and Wainui Road prior to the NoR upgrades and determine whether any interim upgrades are necessary to provide safe and efficient access for the development, i.e. road widening, footpath/cycle paths, intersection upgrades etc. We note there is a town centre and School development located in the Milldale area that will attract trips from this development. If the development proceeds ahead of upgrades to these roads there may be significant safety effects.*
e) *The applicant's ITA has identified that the existing Eastern Roundabout at the Grand Drive interchange is likely to operate over capacity during the morning peak hour with the full development in place. Mitigation for this is to open access to Upper Ōrewa Road in Stage 2. As above, the effects of this have not been assessed.*
f) *The traffic modelling described in the ITA took an approach of progressively reducing traffic volumes at the interchange until reaching an acceptable level of service, which requires a 30% reduction in traffic volume. It is then assumed that traffic using the interchange will reduce by 30% when access to Upper Ōrewa Road opens in Stage 2. There is no clear evidence that this will be the case, and it is not clear if this considers the potential for external traffic to route through the development, thus necessitating higher levels of development traffic to exit via Upper Ōrewa Road to achieve the 30% reduction.*
g) *It is unclear how development trips are distributed through the eastern roundabout in the traffic modelling. We expect a relatively high proportion of right turn movements (southbound), especially with the Silverdale West industrial area progressing in future. If the right turn volume is higher than assumed in the ITA, then the impact on Grand Drive will also be more significant. The resulting congestion and delay will have economic impacts in terms of productivity, travel time and vehicle operating costs.*
h) *The applicant's ITA states that SGA "did not identify any upgrades were required to the Grand Drive Interchange", however SGA evaluated the network with all land use and infrastructure upgrades in place, it did not consider the need for potential interim upgrades until the strategic network is complete. In this application, land use is proceeding ahead of the strategic network upgrades and interim measures may be necessary at the interchange to safely and efficiently support access for the development, and avoid potential economic impacts associated with increased traffic congestion.*

Commute response:

a) We agree regarding the timeframe of the NoR10 road. See below regarding safety implications.
b) We agree that without the completion of NoR 6, some residents at later stages of the development when the Upper Orewa Road connection is constructed (post 750 dwellings) will be required to use Upper Orewa Road and Wainui Road. In this regard:
    i. This is anticipated to be post 2031 and thus 6-7 years time;
    ii. We agree Upper Orewa Road is a rural road with minimal shoulders. We do however note it does have approximately 6.5m road width (edge lines) and thus meets the AT Urban and Rural Roadway Design minimum lane width for local or collector roads;
    iii. Upper Orewa Road it is not a typical high speed rural road in that it already is posted at 60 km/hr and further, when the connection from the Delmore site is

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open it will do so via a roundabout on Upper Orewa Road, thereby further slowing traffic;

iv. As noted in the ITA there is no crash pattern on Upper Orewa Road, in that only two crashes have been reported on this road (mid-block) over the last 5 years on the route the Stage 2 Delmore vehicle will take and one of these is at the position where the new Road 17 roundabout is proposed (see c iv below);

v. In terms of Wainui Road, the majority of traffic from the Delmore site will only use the 1km section from Upper Orewa Road to the Wainui interchange. This section of Wainui Road is wider (edge line to edge line of over 7m) and does have 0.5m shoulders. This road currently carries over 5,000vpd and thus already operates as a Collector Road. The additional traffic from Delmore (2,400-3,250 vpd depending on the sensitivity testing in the NZTA response) is still within Collector Road status (generally less than 10,000vpd)

c) This comment appears to relate to the Wainui Road / Upper Ōrewa Road intersection. In regard to this intersection (which is an intersection outside the site where Upper Orewa Road meets Wainui Road):

i. It is noted that traffic will only be added to this intersection when the link to Upper Orewa Road is included later in Stage 2, which is expected approximately 2031;

ii. This intersection will be upgraded by AT to a roundabout when the NoR6 road is constructed to completeness

iii. As per the response to d)0 The requirements for a right turn bay at this point is to be already triggered by Austroads guidelines (regardless of the Delmore proposal) and thus, is an existing issue which the applicant should not be required to fix, given anticipated scheduling of works and the distance from the roundabout to Delmore. This is outlined in detail in the response in (d) below. Refer to Legal Response Memorandum.

iv. A revised CAS search of the Wainui Road / Upper Orewa Road intersection and Upper Orewa Road between the site and Wainui Road between 2020-2024 and all new available data for 2025 was conducted. The crash search revealed three crashes at the Wainui Road / Upper Orewa Road (1 minor and 2 non-injury collisions).

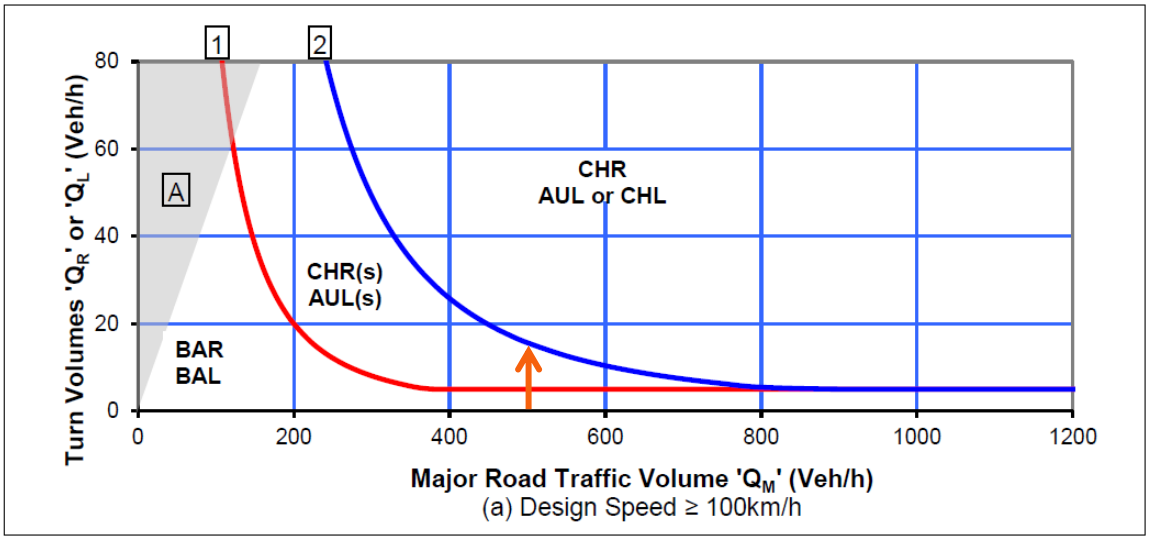
1. All crashes related to vehicles failing to negotiate the corner in wet conditions; therefore, no crashes related to movements in or out of Upper Orewa Road and the additional traffic through the intersection is not anticipated to cause adverse effects.
2. A single minor collision near the proposed Road 17 / Upper Orewa Road intersection occurred due to driver losing control in wet weather; however, the proposal includes a roundabout at this intersection which is anticipated to remedy this potential crash risk.
3. A single minor collision occurred between Russell Road and Wainui Road due to a driver losing control in wet conditions.

d) To be clear, it is our opinion that a right turn bay (or at least localised widening) is already warranted at the intersection of Wainui Road / Upper Ōrewa Road intersection regardless of

the Delmore proposal. This is evident below, where from Austroads[1] in a 100km/hr environment with 500 vph (10% of Wainui Roads daily volume) only 5-6 right turning vehicles per hour warrant a "short" auxiliary lane (AUL) and around 15 right turning vehicles per hour warrant a full auxiliary lane (right turn bay). With Upper Orewa Road already having over 130 vph in the commuter peak, the right turn will be well over this level. As such, the requirement for this intersection upgrade is not triggered by the Delmore development, and the applicant should not be required to upgrade it for the reasons identified within the Legal Response Memorandum.

Figure 4: Austroads Turning warrant

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections



e) AS noted in the ITA, the interchange operates over capacity with all Delmore traffic is added to it. As noted in the ITA and further considered in the NZTA response (with additional sensitivity) we consider with the notion of the connection to Upper Orewa Road is required to occur at 60% of total development or 750 dwellings. The effects on the Upper Orewa Road are considered in Items b and c above,

f) The reviewer is correct in that the "threshold" was assessed by progressively reducing traffic volumes at the interchange until reaching an acceptable level of service, which requires a 30% reduction in traffic volume. In this regard:

i. We agree there is no guarantee that by having the Upper Orewa Road available that 30% of the Delmore development would use it. However, as a check, Stage 2 (which the Upper Orewa Road would directly link to) accommodates approximately 780 dwellings. Stage 2 does however have two links, one to the NoR6 road (Road 5) and one to Upper Orewa Road (Road 17). As per the above, if approximately 30% of the total Delmore site uses Upper Orewa Road link (via new roundabout), this equates to 380 dwellings. With Stage 2 having around 780 dwellings, this equates to an approximately 50/50 split in Stage 2 using Upper Orewa Road / Grand Drive which is reasonable.

ii. Drivers in general will find the quickest / most efficient route. If one route (eg Orewa interchange) becomes congested, then the other route (Upper Orewa) will likely be used more.

[1] Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management

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iii. In terms of external traffic using the route, the Delmore internal roads including Road 17 / Road 5 is intended to be a low speed (30km/hr) environment with appropriate speed control. Due to the topography of the site, the Road 17 / Road 5 route from Upper Orewa Road to the new NoR 6 road is over 1.3km in length. As such this length of road / speed will serve as a deterrent for through traffic.

g) Figure 18 of the lodged ITA shows how development trips are distributed through the eastern roundabout (note: the lodged ITA erroneously labels it as the southern roundabout). The additional Delmore trips are in brackets. We have undertaken a sensitivity test in the response to NZTA later in this letter (who are the road controlling authority in regard to the interchange).

h) Note. See above item 2 and 3.

3 PTM CONSULTANTS – PAUL SCHISCHKA

Of note, we have grouped together issues rather than answering them all individually.

3.1 CAR DEPENDENCY (ITEMS 1-3)

3.1.1 ITEM 1.1 – NOR 6

Comment:

a) *Car dependency in residential subdivisions occurs when land use and transport patterns heavily favour private motor vehicle use over alternative travel modes such as public transport, or active modes such as walking and cycling.*

b) *Car dependency in residential subdivisions can result in a number of adverse effects. High trip generation can cause congestion on the wider transport network causing delays and increased travel time both for motorists travelling to and from the development but also for other users of the transport network. It can make travel difficult or inaccessible to people who do not have readily available access to a private car. More private vehicle use can have adverse environmental effects in the forms of increased emissions, both greenhouse gases, but also fine particulate matter emissions which can cause health effects. There are health benefits from active travel modes which residents who travel exclusively or nearly exclusively by private vehicles are denied.*

c) *I consider that the proposed Delmore residential development is likely to be very car dependant for the following reasons.*

   a. *Many of the roads within the development have steep gradients (over 8%) which discourage walking.*
   b. *There are no schools within reasonable walking distance. The nearest school is Nukumea Primary School which is around 4km away (about 1 hour walking time) when measured by the shortest walking route.*
   c. *There is a small commercial centre included in the Ara Hills development (which is consented but not built) but things like supermarkets will require the residents to drive to them.*
   d. *This site is difficult to service by public transport. Practically servicing the site via public transport would require a road link through stage 2 to be complete and a connection to Upper Orewa Drive provided. Walking distances and road gradients to likely bus stop locations from the outer edges of the development are likely to discourage public transport use. The location and density of the proposed development mean that future bus services are unlikely to be more than a connector type service with around 30 minute frequency. The lack of collector type roads in the proposed design means that roads other than the NOR 6 road are inappropriate for use by a bus service.*

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Commute response:

a) Noted.
b) Noted, however we consider the ITA has assessed the network taking this into account and concluded that the surrounding network will operate to an acceptable degree with restrictions / thresholds 7in relation to just using Grand Drive.
c) As highlighted in the TAR, short sections of local roads exceed an 8% gradient (12.5% provided). This has already been assessed and considered to be acceptable, as the site is not flat in nature and roads are required to be steeper than 8% to practicably gain access. 12.5% meets the legal limit for public road gradients and has been used in local residential streets all over Auckland for a number of years. A more detailed assessment can be seen in Section 8.5 of the lodged ITA. We consider providing high-friction finish on the concrete footpaths with gradients steeper than 8% is appropriate mitigation.

   Of note Figures 5 and 6 below show the road gradients for both Stage 1 and 2.

   In terms of the figures:

   - No colour indicates a grade of less than 8%
   - Orange indicates a grade of 8-10%
   - Red indicates a grade of 10-12.5%

Figure 5: Stage 1 road gradients

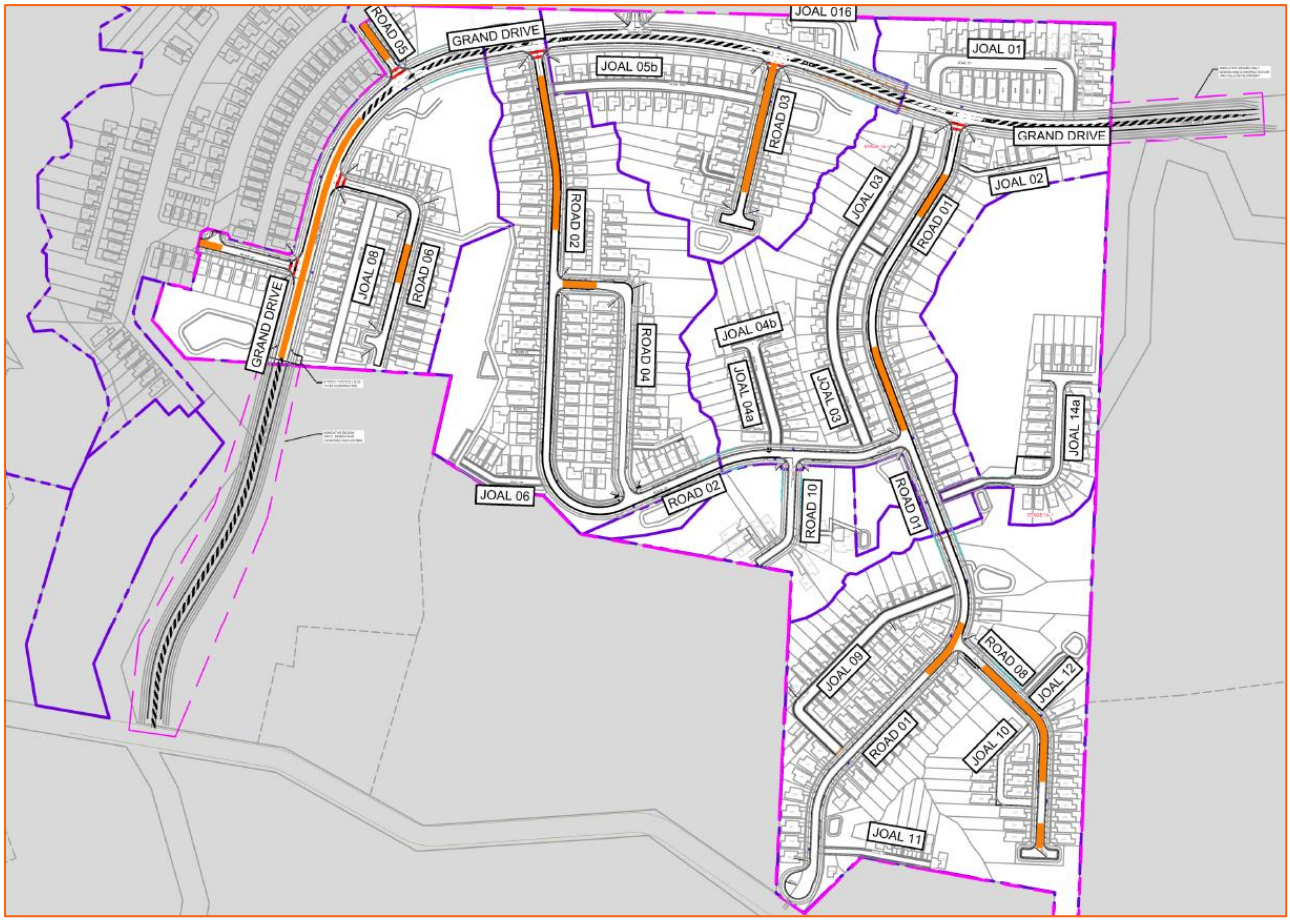

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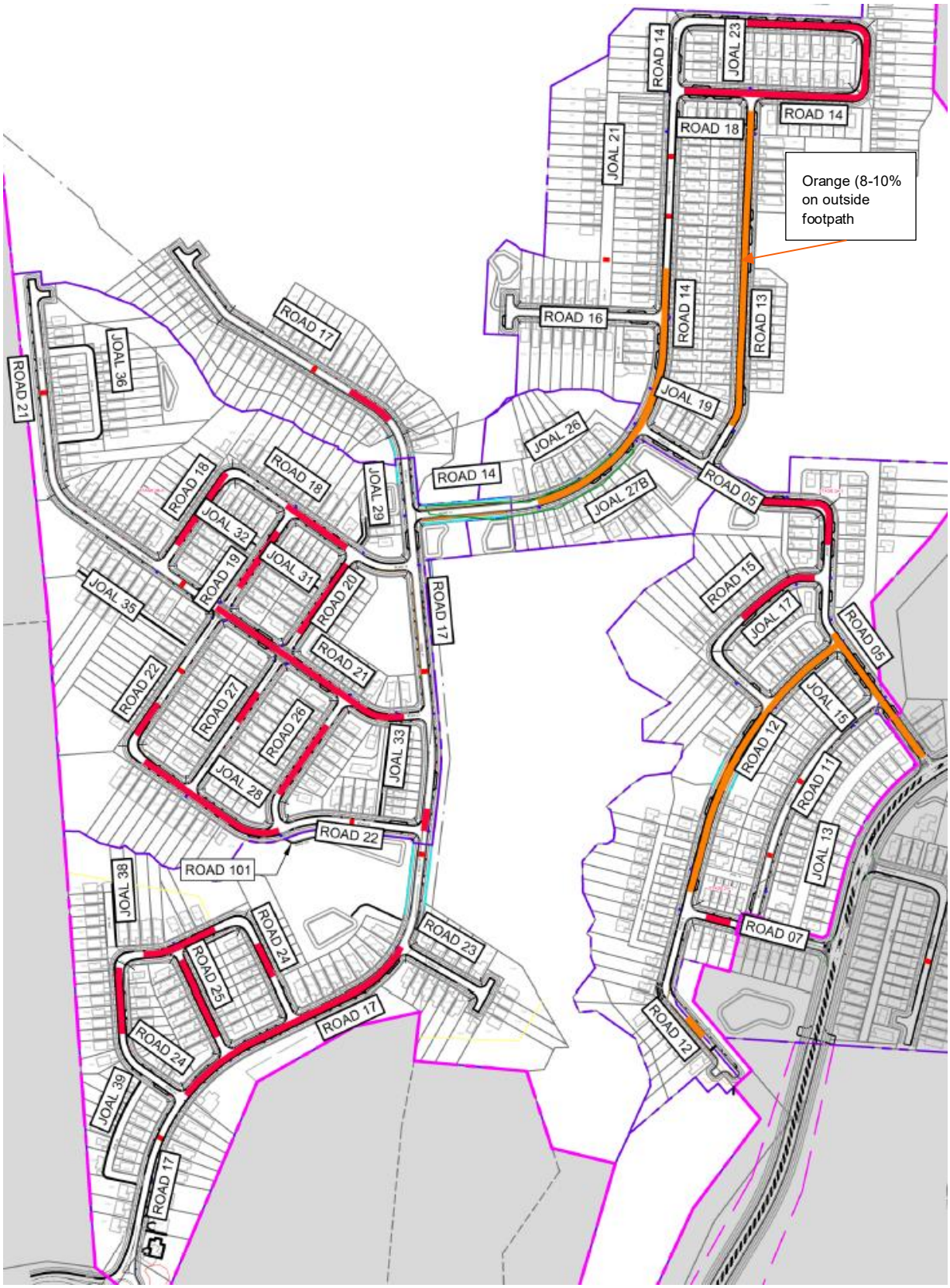
Figure 6: Stage 2 road gradients



In regards to public transport and nearby facilities:

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- This site is earmarked for development as a result of its Future Urban Zoning. This means that additional cars, and their emissions, associated with the dwellings to be constructed as part of land development is an inevitable outcome. Despite this, the site includes key design features that will help to reduce car use. All new roads provide pedestrian footpaths on both sides, providing pedestrian access through the site to the wider network. Cycle paths are provided on both sides of the NoR6 road, which will connect to the neighbouring development when this is constructed (as discussed in Section 7.4.2 of the ITA). There is a direct route for bicycles to Orewa beach and township via Grand Drive. Ara Hills has a conditioned requirement to provide a pedestrian / cycling connection across the motorway to link to existing facilities on Grand Drive. Delmore has been designed to encourage use of that new infrastructure.

- Currently there are limited public transport facilities in the area which is always the case when development occurs in greenfield sites. However, the NOR 6 road has been designed to accommodate bus services and the FTN as discussed earlier in this report in response to matters raised by Auckland Council. Auckland Transports Public Transport Plan shows future services connecting to Ara Hills using the NoR6 road, with a new route expected 2027 (only 2 years away). The public bus network is operated by Auckland Transport and therefore this responsibility ultimately sits with Auckland Transport.

- The proximity of services and whether these are sufficiently close to Delmore to service its residents is not a traffic question. This has been addressed by Cam Wallace as part of his Urban Design Response Memorandum. I understand that Mr Wallace's report shows there are schools, local services, and employment opportunities within useable distances from Delmore, and that a small commercial area is proposed to be included within the Delmore development. I note that this conclusion is contrary to the comment from Auckland Transport that there are "no services nearby".

In terms of public transport, Figure 7 below shows the lots' proximity to bus stops on the NoR6 road (with FTN bus route) assuming three pairs of bus stops near the intersections of Road 1 and Road 5 and Upper Orewa Road. Auckland Transport "Urban Streets and Roads Design Guide" notes an acceptable travel time of 10 minute's-walk to a Frequent Bus Service (which will be operating on the NoR6 in the future). Of note:

- Dark blue is within 500m walking distance (6 minute) to the FTN bus route bus stops (51% of lots).
- Medium blue is within 800m walking distance (10 minute) to the FTN bus route bus stops (further 30% of lots).
- Light blue is beyond this distance (19% of lots)

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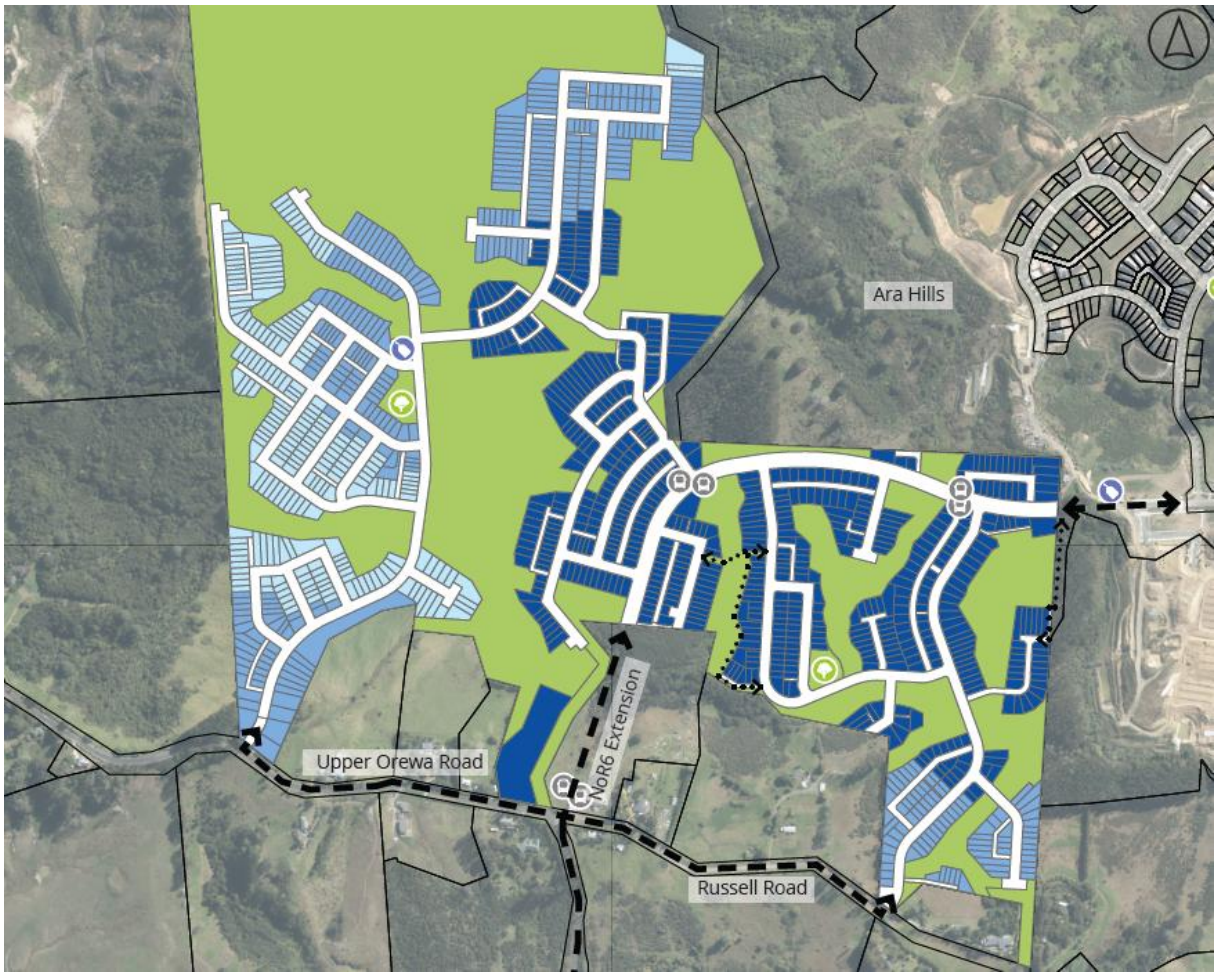
Figure 7: Proximity to bus stops



In this regard:

- All of Stage 1 is within 10 minute's walk to a Frequent Bus Service and thus a bus route through Stage 1 is not required;
- The Regional Public Transport Plan (2023-2031) (RPTP) targets (pg.45) having 42% of the population living within 500m of an FTN across the "North Region" by 2031. The proposal easily meets this target, with 51% of lots provided within this range; and
- The 19% of lots (ca. 231) not covered above are all in Stage 2 and mostly at the edge of the site adjacent to the RUB. Even if a local service was provided via Road 17 most of these 19% of lots would still be located 200-500m from any reasonable stop location.

In this location, if an infrequent local bus service was provided on internal roads in the Delmore development, most of the route would still need to traverse Grand Drive or Upper Orewa Road and would essentially duplicate much of the FTN service, undermining the efficiency of the FTN. For such a small amount of extra coverage (and given ATs general strategy around a focus on frequent / direct PT connections), we do not consider it worthwhile running an additional route through Stage 2.

Therefore, internal roads do not need to be designed to accommodate bus services.

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3.2 TRIP GENERATION AND MODELLING (ITEMS 4-9)

3.2.1 ITEMS 4-9 – TRIP RATES

Comment:

4. *Car dependency is likely to result in higher trip generation rates per dwelling than would be expected for similar developments with better walkability and public transport access.*
5. *The Commute Integrated Transportation Assessment (ITA) section 5.1 has used a trip generation rate of 0.65 peak hour trips per dwelling based on the New South Wales Roads and Transport Authority Guide to Traffic Generating Developments ('The RTA guide') rate for medium density residential.*
6. *The RTA guide defines medium density residential as follows: "A medium density residential flat building is a building containing at least 2 but less than 20 dwellings. This includes villas, town houses, flats, semi-detached houses, terrace or row houses and other medium density developments. This does not include aged or disabled persons' housing."*
7. *I note that most of the dwellings are stand alone and are larger (3 or 4 bedrooms) than is typical for medium density.*
8. *I consider that the RTA guide trip rate of 0.85 peak hour trips per dwelling for a dwelling house would have been a more appropriate rate for this development. The daily trip generation rate for dwelling houses in the guide is 9 trips per dwelling.*
9. *If this were used then the trip generation for the whole development given in Section 5.1 of the ITA peak hour would increase from 813 to 1,063 trips per hour and the daily trips would increase from 8,125 trips to 11,250 trips.*

Commute response:

It is noted that in the review by NZTA (who are the Road Controlling Authority for the critical interchange) they have stated "The trip generation rate was deemed appropriate for this assessment".

As part of the applicant's preliminary response to comments provided by AT, the traffic generation rates (for all scenarios) have been further reviewed to check their appropriateness. In this regard:

- A rate of 0.65 per dwelling has been used in the ITA analysis for the AM and PM peak (RTA guideline for 3+ bedrooms in medium density residential flat building medium density housing).
- The RTA guide has recently been updated by the TfNSW Guide to Transport Impact Assessment (November 2024)
- The TfNSW suggests the following trip generation rates for medium density residential dwellings (Regional) based on 2012 surveys in Australia:
    - AM peak – 0.41 per dwellings
    - PM peak – 0.60 per dwellings
- Commute have also undertaken traffic surveys of the established section of Ara Hills at the two "screenlines" shown in Figure 8 below. The surveys (98 dwellings + two under construction) showed (peak hour of the adjacent network as per ITA)
    - AM Peak - 0.75 per dwelling
    - PM Peak - 0.66 per dwelling

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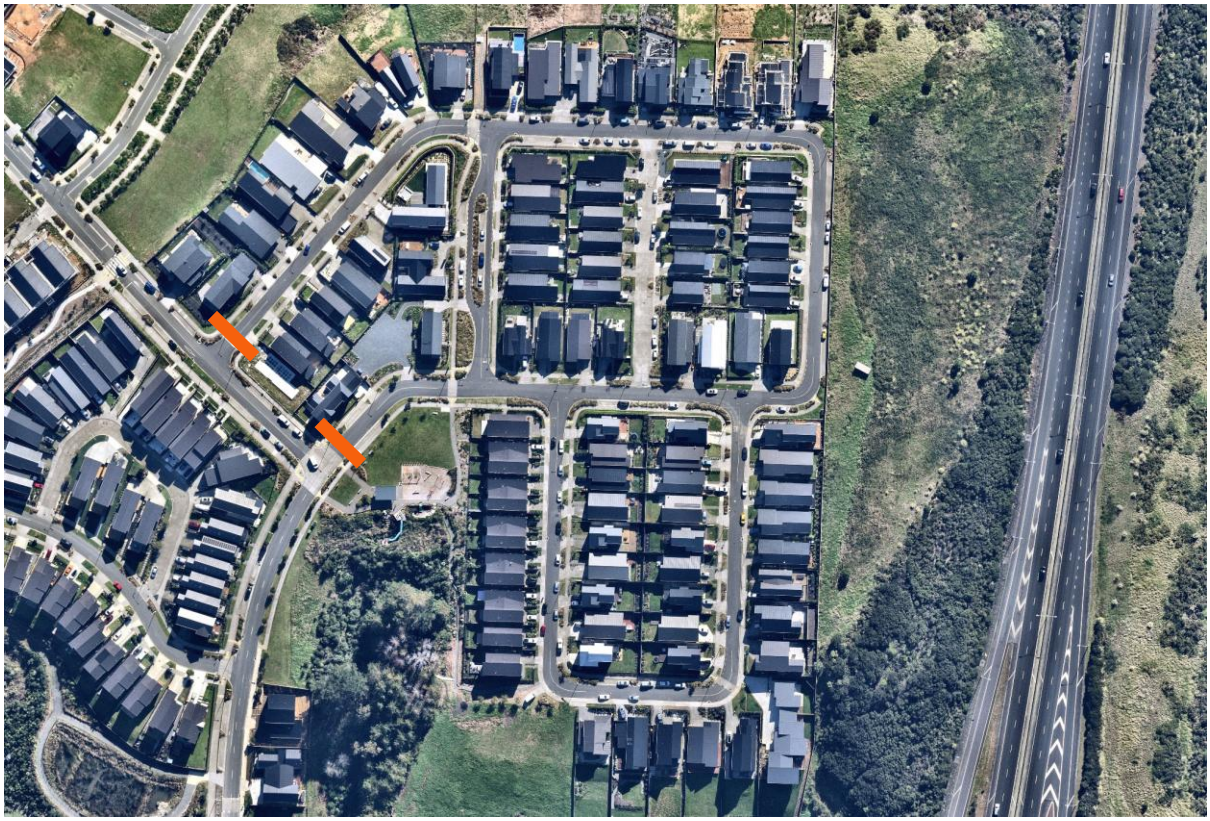
Figure 8: Ara Hills established



At the moment essentially all trips in / out of the area are via cars. It is noted that there is a local centre planned at Ara Hills which will aid in future in keeping some residents in the area. This is not the case currently with the surveyed Ara Hills dwellings (all trips would need to be external). Further, there is currently no practical / safe way residents of Ara Hills can travel by any model other than car across Grand Drive. This is planned to change in the near future with Ara Hills required to construct a pedestrian / cycle facility across SH1 and along Grand Drive connecting to existing facilities. As the proposed local centre is constructed / additional modes are made possible, the observed trip rate of Ara Hills (and the current proposal) are likely to reduce further.

The more recent TfNSW guide indicates a general reduction in trip generation for the previous 2002 RTA guide. This is likely due to changes in work habits since the original RTA surveys in 2002 including, wider congestion (peak spreading) and the ability for workers to more easily remotely work / work from home.

Overall, based on more recent TfNSW guide, surveys of the existing Ara Hills site, active routes crossing SH1, and public transport routes, the rates in the ITA are considered appropriate. The anticipated future Ara Hills centre further supports the rates in the ITA, but those rates are not contingent on them.

For the reasons identified above, and when considering the review by NZTA (who are the Road Controlling Authority for the critical interchange) they have stated "*The trip generation rate was deemed **appropriate** for this assessment*", it is considered that the trip generation modelling provided by Commute is appropriate.

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3.2.2 ITEMS 10-18 – SIDRA

Comment:

10. *The development will be undertaken in stages. The ITA provides modelling (using the SIDRA traffic modelling software package) for the Grand Drive / SH1 motorway interchange using a scenario which accounts for existing traffic on the network, consented trips from the neighbouring Ara Hills development, and trips from the proposed Delmore development, but without the connection between the development and Upper Orewa Road which would occur in Stage 2.*
11. *The interchange is laid out as two roundabouts. Figure 26 of the ITA shows SIDRA traffic modelling results in the morning peak hour at the eastern roundabout using existing traffic with an adjustment to account for the consented but yet to be constructed parts of the Ara Hills subdivision. The overall level of service (LOS) for the intersection is A (on a scale of A to F). The movement with the worst LOS is the right turn from the SH1 Motorway offramp which has a LOS of B. Drivers entering from the east leg (Grand Drive) of the intersection experience average delays of 4.6 seconds and queue lengths are expected to be 60 metres.*
12. *Figure 30 of the ITA shows SIDRA traffic modelling results for the eastern roundabout in the morning peak hour with the existing traffic, consented Ara Hills subdivision traffic, and the traffic from the proposed Delmore subdivision. The modelling for this scenario shows that this will result in significant capacity and congestion issues. For drivers approaching the interchange from the east on Grand Drive in the morning peak hour queues 683 metres long are predicted. The overall LOS of the intersection is E and the LOS for the eastern approach is F. Average delay time for motorists on the eastern approach is 114 seconds.*
13. *The SIDRA modelling shows that the proposal will have a clear impact on the operation of the interchange, especially for drivers coming from the eastern side of the motorway in the morning peak hour who will experience significantly increased average delay times and queue lengths. I consider that this constitutes a significant adverse operational effect on the road network.*
14. *The SIDRA modelling in the ITA is based on the medium density trip generation rate of 0.65 peak hour trips per dwelling, which I consider to be too low for reasons outlined above. If the 0.85 peak hour trips per dwelling rate which I consider to be more appropriate was used then it is likely that the modelling would show even longer queue lengths and delay times at the eastern roundabout.*
15. *Section 1.2 of the 12 June response letter from Commute refers to a revised SIDRA model. According to the letter the revised model shows that, at the SH1 / Grand Drive motorway interchange in the AM peak period, the LOS will be C, the average delay will be 25 seconds, and the queue length will be 230 metres.*
16. *While this is a reduction when compared to the values provided in the post-development scenario SIDRA model for the interchange in the ITA it is still a significant increase in queue lengths and delays when compared to the existing scenario which shows a LOS of B, average delays of 4.6 seconds, and queue lengths of 60 metres on the eastern approach.*
17. *The 12 June letter does not include output tables from SIDRA for the revised model and does not clearly state what changes where made compared to the SIDRA model provided by the applicant in the ITA. Without this information I cannot fully review the revised SIDRA model.*
18. *Based on Section 1.2 of the 12 June letter it appears that the revised SIDRA model uses the trip generation rates from new Transport for New South Wales Guide to Transport Impact Assessment ('TfNSW guide'). This document was published in November 2024 has lower trip rates for medium density housing when compared to the rates in the RTA guide which was used for the model in the ITA . For the morning peak hour the medium density housing rate in the TfNSW guide is 0.41 trips per dwelling compared to the RTA guide rate of 0.65 trips per dwelling.*

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Commute response:

As a general comment, there was no additional SIDRA provided in the 12 June response, but the comments above are referring to the original ITA "Revised SIDRA modelling" in section 6.2.5 of the ITA. This model does not use lower / more recent TfNSW guide trip rates but the original higher rates of 0.65 trips per dwelling (which NZTA have noted as being appropriate).

By their very nature, there will always be additional delay added to an intersection by new residential development. Just because there may be a delay increase at intersections, does not mean that development should not occur. Rather, the intersections should be assessed and judgements made as to if intersections reach/exceed acceptable parameters. In this case, the ITA did show that under full 100% development the interchange would reach an unacceptable state and then suggested the level of development reduction (30%) required for the interchange to operate at an acceptable level (Section 6.2.5 of the ITA).

3.2.3 ITEMS 19-40 – TRIP RATES

Comment:

19. The 12 June letter explains that the reduction in trip generation rates for medium density dwellings between the TfNSW guide and the RTA guide "is likely due to changes in work habits since the original RTA surveys in 2002 including, wider congestion (peak spreading) and the ability for workers to more easily remotely work / work from home."
20. Work from home has become more common since the Covid-19 epidemic. For the Auckland Region the percentage of people reporting that they work mostly from home has increased from 8.7% to 18.2% when comparing 2018 and 2023 census data.
21. The census data also indicates that people who were previously travelling to work via modes other than private motor vehicle in 2018 were disproportionately more likely to be working from home 2023, and therefore the increased number of people working from home does not directly translate into the same number of people no longer travelling to work via private motor vehicle. Furthermore, there is some anecdotal evidence that employers are increasingly requiring their employees to work from the office.
22. This is not a sufficient increase in the number of people working from home to account for a significant proportion of the reduction in morning peak trip generation rates from 0.65 to 0.41. I consider that most of the reduction in trip generation rates between the RTA and TfNSW guides is likely to be due to improved public transport services and access to them as well as improved walking and cycling infrastructure.
23. The proposed Delmore development does not have good access to public transport. Only the NOR 6 road has been designed to accommodate bus services. All of the other roads in the development have insufficient carriageway widths for bus services and the intersections have not been designed with sufficient space for vehicle tracking by turning buses. There are no cycling facilities proposed, other than on the NOR 6 road, and the steep gradients of many of the local roads discourage walking as a travel mode, making it more difficult to access public transport.
24. The TfNSW guide provides information on mode share for the medium density residential developments which it is based on. It shows 68% car use, 30% walking, and 2% cycling (walking to public transport is included in the walking percentage). I consider that it is unlikely that the Delmore subdivision will ever achieve anything approaching 32% combined active and public transport modes share based given the limitations in the proposal described in the preceding paragraph. Due to this I consider that actual trip generation rates for the proposed subdivision are likely to be significantly higher than rates provided for medium density

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dwellings in the TfNSW guide, and therefore any revised SIDRA modelling based on the TfNSW guide is unlikely to accurately predict future operation of the surrounding road network.

25. I also note that the 12 June response letter is based on the proposed dwellings being considered to be medium density, which I do not consider to be the case. The TfNSW guide describes low density housing as follows; “Low density residential areas are defined as areas where the majority of dwellings are on separate lots. On larger lots, the provision of large duplexes has also been assumed to be low density generating dwellings. Public transport accessibility in such areas is often limited.”
26. I consider that the proposed development should be considered to be a low density residential development when considering trip generation.
27. The 12 June letter includes results from a traffic survey of the neighbouring Ara Hills development which shows an AM peak trip generation of 0.75 trips per dwelling. The letter explains that Commute expect that this will drop as the area is further developed, and although this may be the case, it should be noted that many parts of the proposed Delmore development, particularly Stage 2, are more remote from the future Awa Hills neighbourhood centre or the wider Owera area, and are less likely to have a significantly lower trip generation rate when Awa Hills and Delmore are fully developed, and it is very unlikely that the rates in the TfNSW which the revised SIDRA modelling was based on will be achieved.
28. Section 6.2.5 of the ITA provides information on SIDRA traffic modelling for a scenario where the connection to Upper Orewa Road from Stage 2 is open and 30% of trips generated from the development use this route. The ITA refers to this as the ‘revised SIDRA model’. This model shows that that provided the diversion occurs the interchange will operate satisfactory.
29. The ITA does not provide a basis or explanation for how the 30% diversion was calculated. I consider that this, combined with the trip generation rate potentially being higher than expected, means that a problem at the interchange (with queues extending back into the AT network) are a potential adverse effect caused by the proposal.
30. To address this, I recommend that there is a condition of consent requiring the link to Upper Orewa Road to be open before any dwellings over a certain threshold are occupied. This link should take the form of a roundabout at the intersection of Road 17 and Upper Orewa Road. The 12 June Commute letter updates the proposal and a roundabout is not proposed at this intersection.
31. I recommend that this threshold is set at 670 dwellings. The ITA uses 1250 dwellings with 70% using the Grand Dr interchange in the updated model with a rate of 0.65 trips per dwelling. This equates to 568.75 trips. If the trip generation rate was 0.85 trips per dwelling this gives 669.18 dwellings (rounded up to 670 dwellings).
32. The ITA only provides modelling for the Grand Drive / SH1 motorway interchange. No other locations are modelled. Possible locations where additional trips generated by the proposed developments could cause congestion and capacity effects are the Upper Orewa Road / Wainui Road intersection and the Wainui Road / SH1 interchange.
33. Traffic data from the Mobile Road website (https://mobileroad.org/) shows daily traffic volumes on Upper Orewa Road near the intersection with Wainui Road are 1,342 vehicles per day (vpd). The ITA assesses overall trip generation from the proposal to be 8,215 vpd of which the ITA indicates that 30% will use Upper Orewa Road. This would be an increase of 2,465 vpd, a 183% increase over current traffic volumes.
34. The Upper Orewa Road / Wainui Road intersection is presently a give way priority controlled T-intersection. There is no right turn bay on Wainui Road and no shoulders which could be used by a westbound driver on Wainui Road to pass a vehicle waiting in the lane to turn right into Upper Orewa Road. This is likely to result in a significant increase in delays for westbound drivers on Wainui Road, even if they are not travelling to or from the Delmore development. The 12 June letter from Commute does include any SIDRA modelling for the intersection which would allow us to quantify the effects of increased traffic at the intersection.

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35. There is also a potential traffic safety effect as vehicles waiting in the traffic lane to turn right from Wainui Road into Upper Orewa Road will be vulnerable to rear-end type crashes. An increase in the number of vehicles turning out of Upper Orewa Road is also likely to increase the crash risk at the intersection.
36. The 12 June letter from Commute provides some assessment of the Upper Orewa Road / Wainui Road intersection (section 2.12 of the letter). They note that an upgrade to a roundabout at this location is included in NOR 6. I note that the purpose of the NOR is to secure route protection designations. No implementation funding or definite timeline is associated with the NOR, and even if public funds were allocated it could be over a decade before the roundabout is constructed. The intersection should be upgraded at the same time as the proposed Delmore development to address the effects of traffic generated by the development.
37. The 12 June letter also states that the applicant should not be required to construct aright turn bay at the intersection as "requirements for a right turn bay at this point is likely to be already triggered by NZTA's internal guidelines (regardless of the Delmore proposal) and thus, is an existing issue which the applicant should not be required to fix, given anticipated scheduling of works and the distance from the roundabout to Delmore".
38. I disagree with this statement. The applicant's proposal would increase traffic volumes turning right into Upper Orewa Road at the intersection by 183%. The traffic safety and capacity effects associated with this increase are the applicant's responsibility to address.
39. To address this, I recommend that a condition requiring roundabout to be constructed at the Upper Orewa Road / Wainui Road intersection (unless the NOR 6 upgrade comes first) at the same time the 670 dwelling threshold is exceeded.
40. The potential issue at the Wainui Rd / SH1 interchange is more difficult to comment on as the interchange is under NZTA's control and any capacity improvement works would need their approval. However, while capacity improvements at the interchange would need to occur within the area controlled by NZTA, the effects of insufficient capacity could still have an impact on the Auckland Transport network, similar to the issue at the Grand Drive interchange where the SIDRA modelling showed a 600 metre long queue extending back from the interchange and into Auckland Transport's network. I recommend that NZTA is consulted on this interchange and whether they consider additional assessment or works to mitigate the effects of increased traffic volumes are required.

Commute response:

19-24) A trip rate of 0.41 was **not** used for determining trip rates of the development; however, as highlighted in both the updated guide and surveys conducted at Ara Hills indicated that the trip rate of 0.65 is acceptable. This has also been agreed to by NZTA.

25) See response in Section 1.6.6 above.

26-29) See response above and Section 1.6.1. Trip rates are considered to be acceptable as FTN bus routes are proposed through the site via the NoR6 road, pedestrian connections along Grand Drive are also proposed which will promote active mode trips; therefore, reduction reliance on private vehicle trips. The chosen trip rate is considered to be acceptable.

30-32) We agree with the condition regarding the maximum occupation of dwellings before the Upper Orewa link is opened. We consider this threshold should be based on the trip generation of 0.65 per dwelling as agreed to be NZTA which translates to 750 dwellings.(using the sensitivity testing in the NZTA response).

33-39) See response in Section 1.5.2 above.

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40) Noted.

3.3 ACTIVE MODES ACROSS INTERCHANGE ITEMS 41-43

Comment:

41. *Section 7.4.2 of the ITA assessed active modes accessibility for the development. It relies on an active modes bridge across the motorway interchange and a shared path along one side of Grand Drive which is a condition of the Ara Hills development but which has not been constructed yet.*
42. *Section 1.5 of the 12 June letter from Commute notes that "We understand that Ara Hills are at the point that any further consent will trigger this active mode required to be constructed (i.e. new bridge over motorway and link to existing cycle-lanes / footpath on Grand Drive."*
43. *It should not be assumed that the Ara Hills developer will have completed this link before the first dwelling of the Delmore development is occupied. I recommend a that there is condition of consent requiring that the bridge and path are complete and open for public use before the first dwelling is occupied.*

Commute response:

We agree that the SH1 pedestrian / cycling connection should be available before occupation of the Delmore dwellings and this connection is understood to be provided prior to the occupation of Delmore dwellings as noted above in Section 1.6.9.

3.4 ROAD NETWORK HEIRARCHY ITEMS 45-57

Comment:

44. *The proposed road network lacks the normal road hierarchy as it only has local roads and the NOR 6 arterial road. A more typical road hierarchy includes collector roads which function to collect and distribute traffic between local roads and arterial roads.*
45. *Appendix 13 of the application included an indicative structure plan for Wainui-Orewa with future collector roads indicated. The structure plan collector roads correspond with the following roads in the Civil drawings and ITA;*
    a. *Road 1*
    b. *Road 17 Upper Orewa Rd to Road 14 only*
    c. *Road 14 from Road 17 to Road 05 only.*
    d. *Road 05.*
46. *I consider that the locations of the collector roads indicated in the indicative structure plan are appropriate for the proposal.*
47. *I also consider that these roads should be designed to allow them to be used as future bus routes. It should be noted that while bus routes and collector roads have many of the same design features, they are not the same and Auckland Transport often operates bus services on roads otherwise considered to be local roads, but when this occurs the roads need to be designed to accommodate buses.*
48. *The principal features which are required on a bus route are wider traffic lanes (typically 3.5 metres wide in each direction, intersections and other road geometry designed for bus tracking, an absence of traffic calming, bus stops or provision in the design to allow bus stops to be retrofitted later, and minimisation of on-street parking and vehicle crossings where these things can be provided from other roads or JOALs).*
49. *Allowance for future bus routes inside the development is necessary to help mitigate the effects of an otherwise very car dependent proposal.*

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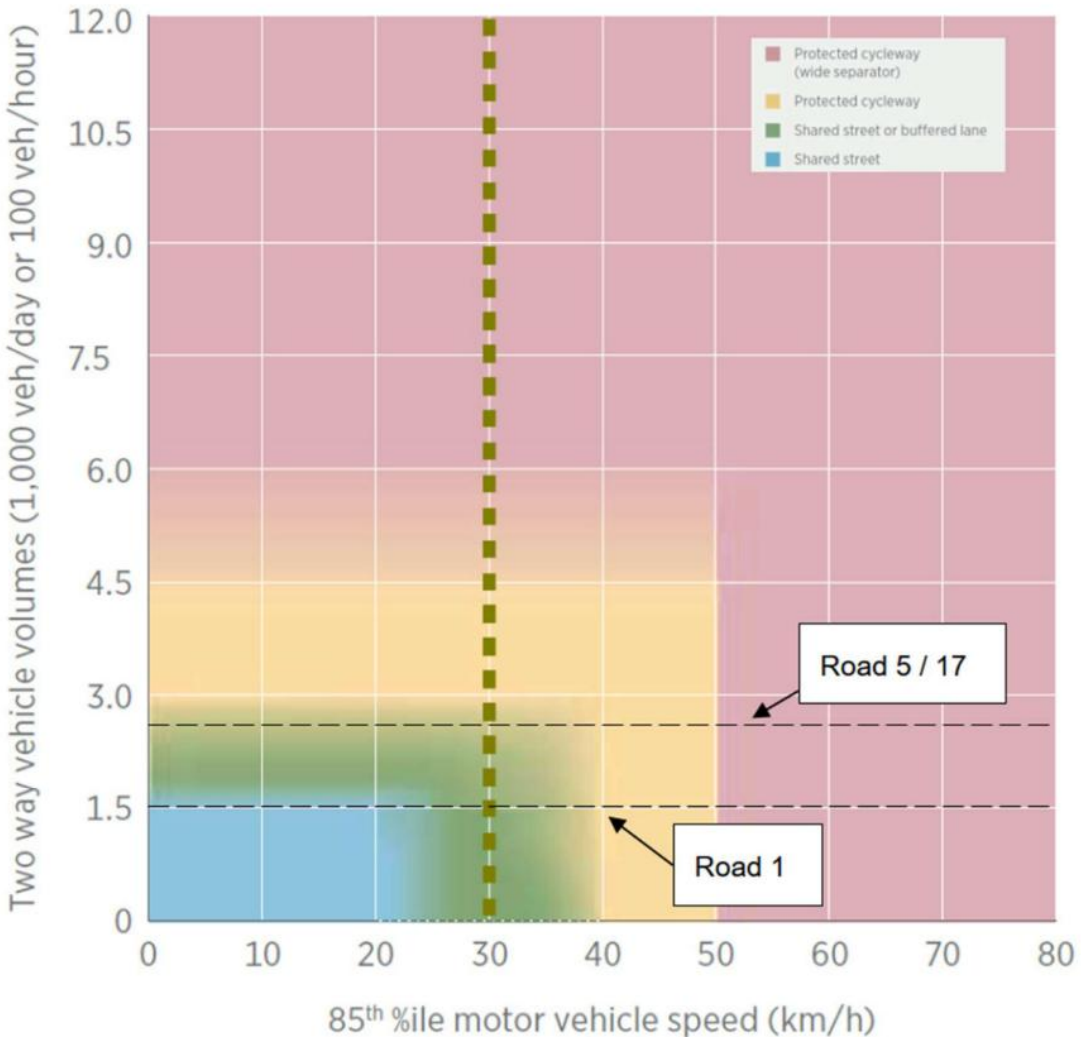
50. *Section 2.2 of the 12 June letter from Commute includes further assessment of the proposed road hierarchy. It refers to the Auckland Transport Roads and Streets Framework (RSF). Commute appear to be using an earlier version of the RSF for their assessment. The current version (May 2020) does not have the same traffic volume based thresholds for road hierarchy and places greater emphasis on the road's function in relation to surrounding land use as the method for determining a road's status.*
51. *Figure 7 of the 12 June letter shows estimated daily volumes on Roads 1, 5, and 17 of 1,500vpd, 2,600vpd, and 2,500vpd respectively. This appears to be based on the medium density residential trip generation rate, which as I discussed earlier in this memorandum, I do not consider to be appropriate. Applying the dwelling house rate which I used earlier in this memorandum I calculate trip daily traffic volumes of 2,000vpd, 3,500vpd, and 3,400vpd for Roads 1, 5, and 17 respectively, exceeding the 3,000vpd threshold referred to in the 12 June Commute letter. Road 1 can be expected to provide a link the future urban zoned land to the south of the applicant's site to NoR 6 road when it is developed and this will mean additional trips beyond the 2,000vpd generated from within the Delmore subdivision.*
52. *AT's Engineering Design Guide Cyclist Infrastructure contains a diagram (Section 2.2 types of cycling infrastructure) showing what type of cycling infrastructure is appropriate in what circumstances based on traffic volumes and vehicle operating speeds. Figure 9 of the 12 June Commute letter takes this diagram and annotates where roads 1, 5, and 17 would fall (refer Figure below).*



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53. *While the 12 June Commute letter states that cycle facilities are not needed on these roads this is clearly not what the figure shows. Roads 5 and 17 are well within the zone for which a protected cycleway (wide separator) is indicated, while Road 1 is in the protected cycleway zone.*
54. *I recommend that these routes (as well as Road 14 from Road 17 to Road 05 only) are designed as cycle routes and cycle infrastructure in the form of off-road cycle paths, separate from the footpath, are provided on each side. This is necessary to help mitigate the effects of an otherwise very car dependant development.*
55. *For the four roads identified I recommend that the road cross-section for these roads is increased to 21.4 metres with the following cross-section;*
    e. *1m back berms*
    f. *1.8m wide footpath*
    g. *0.2m mountable low kerb between cyclist path and footpath*
    h. *2.0m wide cyclist path*
    i. *2.2m wide front berm*
    j. *3.5m wide traffic lanes*
    k. *No on-street parking on bus routes.*
56. *Furthermore, I recommend that the intersections on these routes are designed to allow vehicle tracking bus buses, and that any horizontal curves on these roads (in particular the curves in Roads 1 and 5) incorporate road widening near the curves to allow for twoway bus movements.*
57. *I recommend that a condition of consent is sought in relation to this cross-section and vehicle tracking. This will require additional space within the road reserve and the scheme plans for the proposal should be updated to allow for this before issue of consent.*

Commute response:

Further, in regard to road classification and cycle provisions :

- Refer to response in Sections 1.6.6, 3.1.1 above.
- The trip generation provided, and current proposal of local roads is considered to be acceptable and is considered appropriate by NZTA;
- As highlighted in the ITA, although local roads are anticipated to have a posted speed limit of 50km/h, they have been designed for a 30-40km/h environment; and
- Based on this cycle facilities (as seen in item 52) both clearly fall within the 'Shared street or buffer lane' section (ie the green area) for 30km/hr therefore, we disagree with the requirement for separated cycle facilities to be provided.
- It is also noted in comment and response in Section 1.6.6, AT Engineering Design Code states that separated cycle facilities are required on new roads serving 3,000+ vpd. As highlighted above, the proposed local roads will not accommodate more than 3,000 vpd and therefore do not require separated cycle facilities.

3.5 UPPER OREWA ROAD / ROAD 17 INTERSECTION ITEMS 58-62

Comment:

58. *In response to concerns raised by Auckland Transport and Council regarding driver sight distances and associated road safety effects the applicant has updated the proposal to include a roundabout at the intersection of Upper Orewa Road and Road 17 (refer Section 1.13 of the 12 June Commute letter).*
59. *Figure 6 of the letter shows an indicative layout of the roundabout.*

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60. *This design is presented on a conceptual level only. No 3D design vertical information on levels or gradients is shown, no vehicle tracking is provided, nor has an updated sight line assessment been undertaken.*
61. *However, I consider that nothing in the information provided to date indicates that an appropriate roundabout design cannot be achieved at the intersection. The 32 metre diameter size is within the range which I would expect for compact roundabout design in this location.*
62. *The central island has been offset to the north of the true centre of the intersection, which appears to have been done to avoid issues with the property boundary and steep topography on the south side of the intersection. In some circumstances this can result in poor speed control as drivers enter the roundabout, however in this case I consider that the design has appropriately dealt with this issue by bending the eastern leg around to point in toward the central island.*

Commute response:

Noted and agree that the proposed roundabout is appropriate (with detailed design in EPA stage to come).

3.6 RUSSELL ROAD / UPPER OREWA ROAD INTERSECTION ITEM 63-69

Comment:

63. *There is a pre-existing traffic safety issue at the Russell Road / Upper Orewa Road intersection near the site. This intersection is currently laid out as a T-intersection with a Give Way priority control on the Russell Road approach. There is a horizontal curve in Upper Orewa Road at the intersection and vegetation on the inside of the curve (much of which is in private land) limits sight distances between drivers turning right into Russell Road and southbound drivers on Upper Orewa Road. This limited sight distance increases the risk of a crash between a vehicle turning right into Russell Road and a southbound vehicle.*
64. *An excerpt from Google Streetview showing the intersection is shown in the figure below.*

65. *While this is a pre-existing issue, the proposal would increase traffic volumes on Upper Orewa Road near this intersection by 183% (as per the section of this memorandum discussing the Wainui Road / Upper Orewa Road intersection above), and this would significantly exacerbate the pre-existing issue.*

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66. *It is acknowledged that the proposal would not increase traffic entering or leaving Russell Road itself, but the increase in southbound traffic on Upper Orewa Road which the drivers of existing traffic turning right into Russell Road must give way to results in a traffic safety effect.*
67. *Section 2.13 of the 12 June letter from Commute contains a sight distance assessment for the right turn into Russell Road which indicates that sight distances were sufficient.*
68. *However, I was able to view the intersection during the site visit with the applicant and Council in May 2025 and I consider that the position where Commute has positioned the vehicle turning right into Russell Road in the sight distance assessment to be unrealistic (refer Figure 1 of the 12 June letter). In the position shown turning drivers is already approximately half way around the curve before they can see far enough along Upper Orewa Road to see oncoming traffic. This means that instead of making a 90 degree turn they must make a 135 degree turn into Russell Road. This is not a realistic representation of actual driver behaviour and in reality drivers making the right turn are doing so from a position further to the south where there is insufficient visibility along Upper Orewa Road.*
69. *I consider that this intersection should be upgraded before the link between the development and Upper Orewa Road is opened to mitigate any potential traffic safety effects at this location. The NOR 6 design shows a roundabout at this intersection and I consider that this would be an appropriate upgrade.*

Commute response:

In regard to the Russell Road/Upper Orewa Road intersection:

- A sight distance analysis for right turning traffic into Russell Road has been conducted, the resulting sight distance is in excess of 130m as seen below in Figure 9.
- Upper Orewa Road has a posted speed limit of 60km/h, AUSTROADS Guide to Road Design Part 4A requires a sight distance of 123m. The proposed sight distance complies with AUSTROADS and is considered to be acceptable.

Figure 9: Upper Orewa Road / Russell Road Intersection Sight Distance

Additionally, it is noted that residents to and from the site will not access Russell Road and thus right turning traffic into Russell Road will not increase due to the proposal. It is noted that a small number of trucks may use this route associated with the wastewater which is assessed in a separate memo. After conducting our own site visit, we have determined that vehicle positioning and sight distance is considered to be acceptable and most logical point where drivers will stop to observe vehicles approaching (ie they can do so in a position where visibility is not obscured) and the intersection is wide enough to do this in a safe manner. Based on our assessment we disagree with the above

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comments and consider that the existing intersection is acceptable and will not lead to adverse safety effects.

3.7 INTERNAL INTERSECTION DESIGN ITEMS 70-75

Comment:

70. *All intersections internal to the development are priority controlled T-intersections. While this type of intersection is appropriate for the intersection of two low-speed / low-volume local roads, it is less appropriate from both a safety and capacity perspective for higher volume and speed roads.*
71. *I recommend that, to address potential traffic safety and operational effects the following intersections should be designed as roundabouts and that a condition of consent should be sought requiring this;*
    1. *Road 01 / NOR 6 Road*
    2. *Road 05 / NOR 6 Road*
    3. *Road 05 / Road 14*
    4. *Road 14 / Road 17*
72. *These intersections correspond with the collector roads / future bus routes which I discussed earlier in the memorandum. By providing roundabouts at these intersections delays to buses at intersections can be limited, particularly when turning in or out a side road off the NOR 6 Road. This helps provide faster and more reliable travel times for public transport users and helps mitigate the car dependency related effects of the proposed development.*
73. *The NOR 6 drawings do not show roundabouts on the NOR 6 road within the development but this is because none of the site road intersections where shown. It was expected that the developer would design appropriate intersections to connect onto and this did not limit the type of intersection which could be used to preclude roundabouts.*
74. *All intersections should be designed for vehicle tracking to AT Engineering Design Code Urban and Rural Roadway Design. This includes but is not limited to bus tracking as all these roads are potential bus routes.*
75. *The horizontal curve in Road 05 should be straightened out, the curve shown in the drawings increases travel distance, causes visibility issues from driveways, and is a potential loss-of-control run-off-road crash hazard location.*

Commute response:

See in the Beca response regarding performance of internal intersections. Based on this, roundabouts are not deemed to be required in relation to performance standard.

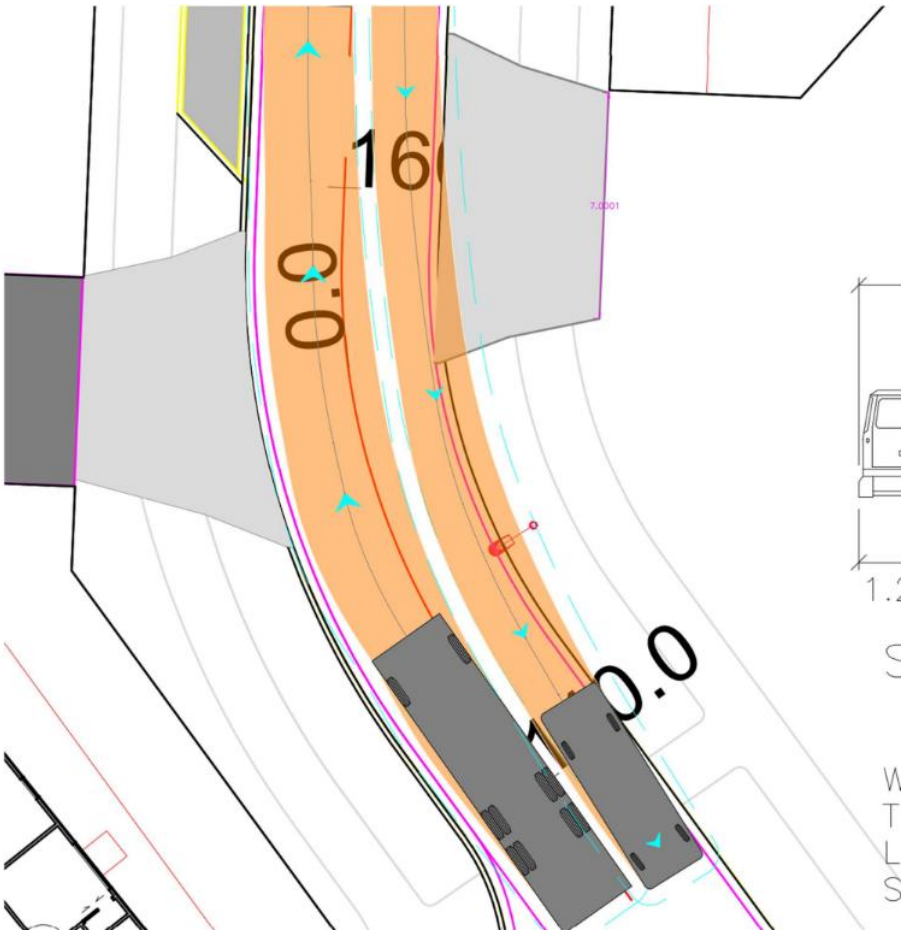
Road 5 has already been assessed in the ITA and is considered to be acceptable.

3.8 VEHICLE TRACKING ITEMS 76-79

Comment:

76. *Appropriate design of roads and intersections for the appropriate design and check vehicles is important to address potential traffic safety and operational effects on the road network. If insufficient space is provided this can cause safety effects in the form of increased side-swipe or head-on crashes between vehicles travelling in opposite directions or operational effects where heavy vehicles (like buses or rubbish trucks) cannot use a route without mounting the kerb. If excess space is provided then this increases both crossing distances for pedestrians and vehicle turning speeds and it can result in a pedestrian safety effect.*

77. *Section 8.1 and the appendix of the ITA contains a vehicle tracking assessment. It states that that there are some minor issues, less than 300mm, where slight widening is needed and that it can be addressed at engineering approval stage.*
78. *However the drawings in the appendix to the ITA show differently. Below is one example from Drawing 6B. The van on the inside driving over the kerb line. This is much more than 300mm. There are several other locations with similar tracking issues.*



79. *To address this I recommend that a condition of consent is imposed requiring that tracking is to be provided to the Auckland Council Code of Practice for Land Development and Subdivision Chapter 3 Transport without the footpath or berm widths going below the minimums in the Code. The applicant should be advised that if their footpath and berm widths go below the minimum they will either need to vest more land or get a Departure from Standards from Auckland Transport at Engineering Approval Stage.*

Commute response:

We generally agree with this statement. The ITA recommended localised widening and re-checking of vehicle tracking at EPA stage which is considered to be acceptable. We therefore agree with the condition that "*Tracking is to be provided to the Auckland Council Code of Practice for Land Development and Subdivision Chapter 3 Transport without the footpath or berm widths going below the minimums in the Code*".

Note any change, if required (including the one in the diagram above) will only alter any front berm / on-street parking and will not change the footpath or back berm / services, therefore not triggering any dwelling lot re-design.

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3.9 INTERNAL ROADS SIGHT DISTANCE ASSESSMENT ITEMS 80-85

Comment:

80. *Section 8.3 of the ITA includes sight distance assessments. It uses a 40 km/h operating speed for these assessments and not accounted for grade correction. I consider that a 50 km/h operating speed should be used for the collector and arterial road sight distance assessments (requiring 97m of SISD rather than the 73m they have used). The local roads could be assessed using a 30 km/h operating speed.*
81. *Section 2.11 of the 12 June letter from Commute provides an updated assessment using a 50 km/h operating speed.*
82. *Two updated intersection sight distance assessments were provided for Stage 1. They are;*
    a. *Intersection F (Road 6 / Road 1). This is on Grand Dr and it is close to a horizontal curve. The updated assessment (refer Drawing SD 1 of the 12 June letter) shows that, in order to achieve recommended sight distances, there will need to be an area within private lots on the inside of the curve north of Road 6 which will have only low level planting and structures. I recommend a condition of consent is sought requiring a consent notice to be registered on the title of these lots.*
    b. *Intersection J (Road 1 / Road 8). The updated assessment (refer Drawing SD 2 of the 12 June letter) shows sight lines cutting across the boundary of two lots north of Road 8. Unlike Drawing SD 1 this has not been annotated on the drawing. I recommend that a similar consent notice condition is imposed on these two lots.*

83. *Two updated sight distance assessment were provided for Stage 2 in Section 2.12 of the 12 June Commute letter. There were;*

c. *Intersection D (Road 5 / Road 13), refer Drawing SD7.*
d. *Intersection E (Road 5 / Road 15), refer Drawing SD8.*

In both cases the drawings show areas of non-road reserve land where only low level planting or structures can be located. I recommend that consent conditions requiring a consent notice be placed on the applicable titles be sought in respect of this.

84. *Section 2.15 of the 12 June 2025 letter from Commute provides an updated visibility assessment for JOALs D, R, Q, and N (shown in Drawings SD3, SD4, SD5, and SD6 respectively). My comments on each are as follows;*
    e. *JOAL D (Drawing SD3). Drawing SD3 shows that some private lots will have lowlevel plating and structures only. I recommend that a consent condition requiring a consent notice to be registered on the applicable lots be sought.*
    f. *JOAL R (Drawing SD4). Drawing SD4 shows that some private lots will need to have low-level plating and structures only. I note that the proportion of the lots covers are much higher than in other locations, and would make at least one lot unsuitable for a dwelling. In Section 2.12 of the letter Commute argue that 56 metres of visibility can be achieved and this should be acceptable if speed management is provided in the north. This JOAL is off Road 1 which I consider to be a future bus route and collector road and therefore traffic calming is not appropriate on it. While the proposal shows Road 1 as terminating at cul-de-sac at its southern end, I anticipate that when the future urban zoned land to the south is further developed that Road 1 will be extended*

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and that it is likely to eventually carry significant volumes of traffic and buses from not just the applicant's site but land to the south. I therefore do not agree with Commute's recommendation that a reduced sight distance is acceptable. I recommend that the lot boundaries or design of Road 1 be updated to provide at least 97 metres of sight distance from JOAL R looking north along Road 1.

g. *JOAL Q (Drawing SD5). The assessment supplied by Commute with the letter shows that adequate sight distances can be achieved at this JOAL.*
h. *JOAL N (Drawing SD6). This is similar to JOAL R. Drawing SD6 shows three private lots will need to have low-level plating and structures only. The extent of the area is such that it will impact the ability of the lots to contain dwellings. In Section 2.12 of the letter Commute argue that 44 metres of visibility can be achieved and this should be acceptable if speed management is provided in the south. JOAL N is off Road 1, which as discussed above I consider to be a future bus and collector route and that traffic calming is not appropriate. I consider that reduced sight distances here would have an adverse effect on road safety. I recommend that the lot boundaries or design of Road 1 be updated to provide at least 97 metres of sight distance from JOAL N looking south along Road 1.*

85. *Sight distances for vehicle crossings in Stage 2 appear to be generally acceptable. Most are off local roads and those which are off collector roads have acceptable visibility.*

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The revised sight distance assessment is as below:

Figure SD1 and SD2 attached (Appendix A) show the sight distance of Intersections F and J. In this regard:

- Intersection J (Road 8 / Road 1). 97m is achieved in both directions. It is noted that to the north the horizontal curve will likely reduce operating speed.

- Intersection F (Road 6 / NoR 6). 97m is achieved to the south. To the north, the sight distance is currently limited to 80m. To achieve 97m there needs to be a small sliver of low level planting as per drawing SD1. This will be included in the consent conditions.

Figure SD7 and SD8 attached show the sight distance of Intersections D and E. In this regard:

- Intersection D (Road 13 / Road 5). 63m is achieved to the west however this is to an intersection where approaching speeds will be low due to approaching vehicles negotiating the slow turns at the intersection and thus is considered acceptable. To the east sight distance achieved at 97m assuming the area shown on drawing SD7 is kept to low level planting.
- Intersection E (Road 15 / Road 5). 60m is achieved to the north however this is to a sharp 90-degree bend where approaching speeds will be low and thus is considered acceptable. To the south sight distance achieved at 97m assuming the area shown on drawing SD8 is kept to low level planting

Speed management on Road 1 is considered to be acceptable as Road 1 is not required to accommodate bus services as noted previously. As such sight distance at these JOALs / driveways is also considered appropriate.

3.10 VISIBILITY SPLAYS AT VEHICLE CROSSINGS ITEMS 86-88

Comment:

86. *Providing sufficient Inter-visibility between drivers exiting private property and pedestrians crossing or about to cross vehicle crossings is important to help reduce the risk of a vehicle colliding with a pedestrian on a vehicle crossing and associated pedestrian safety effects.*
87. *Section 9.1 of the ITA recommends that visibility splays are provided at all vehicle crossings as a condition of consent. I agree with Commute's recommendation but consider that there recommends height restriction for objects in the visibility splay of 1.0 m is too high for a fence and that 0.9 m should be used. Some shorter drivers or drivers with lower vehicles have an eye height below 1.0 m.*
88. *Appendix 22 of the application contains the applicant's proposed conditions of consent. These visibility splays are the only transport matter which they have recommended a condition for.*

Commute response:

We have no issue with the height being 0.9m rather than 1.0m in the condition. This change has been incorporated into the Proposed Draft Conditions prepared by B&A.

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3.11 OTHER ITA MATTERS ITEMS 89-90

Comment:

89. *Page 53 of the ITA contains recommended conditions relating to Lots 1304 and 603. This is not in the applicant's Appendix 22 recommend conditions of consent. I recommend this is included as a condition of consent.*

90. *Pages 55 and 56 of the ITA contain recommended conditions of consent for separation between vehicle crossings which are not in the applicant's Appendix 22 recommend conditions of consent. I recommend this is included as a condition of consent.*

Commute response:

We agree with these comments and the ITA. Condition should be included.

3.12 ROAD DRAWINGS ITEMS 91-99

Comment:

91. *The longitudinal gradients of many of the roads are too steep and will discourage active modes. Anything over 8% is considered to potentially discourage walking as a travel mode, including walking to public transport. Figures 2 and 3 of the 12 June letter from Commute show which roads have gradients over 8%. Large proportions of the development require pedestrians walking to public transport routes to use at least some footpaths with a gradient over 8%. I consider that this will contribute to the overall car dependant nature of the proposal and the associated adverse effects described earlier in this memorandum.*
92. *It should be noted that Auckland Transport's Engineering Design Code Footpaths and the Public Relam requires a departure from standards from Auckland Transport for footpaths over 8% gradient. This is normally sought during the Engineering Approval stage and the applicant should be cautioned as an advice note that there is no guarantee a departure will be granted.*
93. *Speed cushions are shown on the drawings. These are not Auckland Transport's preferred traffic calming device type. Ideally horizontal measures (chicanes or similar) should be used on local roads, if this is not possible then speed humps or tables should be used. The exact type of traffic calming device can be left to Engineering Approval stage, but the applicant should be advised to expect changes at Engineering Approval stage.*
94. *A turning head, in accordance with the standard engineering detail drawings in Auckland Transport's Transport Design Manual should be provided at the end of Road 10. If this is not provided then vehicles, especially heavy vehicles like rubbish trucks, will need to reverse back along Road 10 in order to exit, and this will have both a traffic safety and operational effect.*
95. *Road 01 will need to be designed to connect to Russell Road in future when the land next to Russell Road is urbanised. The turning head shown in the application drawings at the south end is acceptable for now, but the applicant should be advised that Auckland Transport will require that a specimen design of a future connection to the south showing that that an adequate future connection will be able to be made will be required at Engineering Approval stage and that this may have an impact on road boundaries and levels inside private property.*
96. *It is important that drivers approaching an intersection where they do not have priority can see the intersection a sufficient distance in advance that they are able to come to a stop before reaching the intersection. Austroads Guide to Road Design refers to this distance as Approach Sight Distance (ASD) and provides a method for checking it. If ASD is not provided on a non-priority approach to an intersection drivers may not have sufficient forewarning to stop in time, which results in a potential road safety effect.*

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97. *The ITA does not assess whether ASD is achieved for all roads. I consider that the following two intersections have a high likelihood of not achieving ASD on the minor road approach;*
    a. *Road 01 / NOR 6 Road*
    b. *Road 02 / NOR 6 Road*

    The applicant should be advised to check that ASD is achieved at all intersections and cautioned that evidence of this will be requested at Engineering Approval stage. Changes to the road design needed to achieve ASD could potentially have an effect on road levels, levels within private lots, and lot boundaries.

98. *The following roads have turning heads which have too steep of a longitudinal gradient for a rubbish truck to use them to turn around safely;*
    c. *Road 03*
    d. *Road 08*
    e. *Road 09*
    f. *Road 16*
    g. *Road 21*

    This could potentially result in a rubbish truck or other heavy vehicle being unable to turn around in the turning head. This could result in the truck needing to be reversed out of the road, or in a worst case scenario the truck tipping when attempting to turn. In either case this results in effects on road safety and operations.

99. *I recommend that Auckland Transport seek a condition of consent which would allow Auckland Transport to require the consent holder to install bus stops along any future bus routes with a decision on the location and whether they are to be provided or not to be made at Engineering Approval stage.*

Commute response:

Item 91-92: Road gradients have been discussed previously. Refer to Section 3.1.1 c) above.

Item 93: Noted, type of traffic calming device can be detailed at EPA.

Item 94: Agree turning heads should be to AT standards.

Item 95: Agree re connecting of Road 1 Road 1 has been designed to safely accommodate potential increases in traffic as an anticipated through-road.

Item 96-97: Agree ASD can be reviewed at EPA. Note that all intersections achieve SISD and roads have been designed with appropriate K values meaning it is anticipated ASD can be provided .

Item 98: Detailed design of gradients at turning heads can be refined at EPA stage. There is sufficient space within the berm to make these refinements if required.

Item 99: Agree regarding bus stops on NoR 6 road as noted further above.

4 AUCKLAND COUNCIL – PHILIPS AUGUSTINE

4.1.1 ITEM 1 – TRAFFIC CALMING/SPEED MANAGEMENT MEASURES

Comment:

The applicant has confirmed that the proposal will follow PC79DV requirements, and has agreed to add this as a condition. This is considered acceptable.

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Commute response:

Noted.

4.1.2 ITEM 2 – SIDRA MODELLING

Comment:

The initial modelling shows existing LOS A to proposed LOS F with queuing effect of >600.0m in multiple locations and timings. The applicant has further assessed the Sidra modelling and stated the LOS changed from F to C, with queuing reduced from 680m to 230m. However, no Sidra data has been provided. I am not in a position to endorse the intersection/ interchange effects based on the information provided. Further details from the applicant are required.

Commute response:

Refer to the ITA for a more detailed explanation of the SIDRA modelling & SIDRA data, in particular Figure 32 of the ITA in relation to the revised model with the 30% reduction. Also note the sensitivity testing in the response to NZTA later in this letter.

4.1.3 ITEM 3 – SPACING BETWEEN GARAGE DOOR AND PROPERTY BOUNDARY

Comment:

I have recommended 5.5m or a minimum of 5.0m to avoid any Pedestrian Access overlap. The applicant has confirmed that 5.2/ 6.1m/ 6.9m will be maintained between the garage door and property boundary. This is considered acceptable.

Commute response:

Noted and agree.

4.1.4 ITEM 4 – PEDESTRIAN PATH SAFETY ISSUES

Comment:

The applicant has confirmed that there are sections of local roads that exceed an 8% gradient. The applicant agreed to add a condition that will be added requiring high friction finishes on the concrete footpaths with gradients steeper than 8%. This is considered acceptable.

Commute response:

Noted and agree.

4.1.5 ITEM 5 – ACTIVE MODE CONNECTIONS

Comment:

This is a requirement of the Ara Hills consent; however, the timing has not been provided. It is important to provide safe and efficient active mode connectivity from the proposed site to the wider neighbourhood, especially the nearby town centre. Without this, the vehicle volume and associated queuing effect will be high during peak times. I recommend a condition be added to ensure the active mode path is constructed before the residential dwellings are occupied.

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Commute response:

We agree that the SH1 pedestrian / cycling connection should be available before occupation of the Delmore dwellings.

4.1.6 ITEM 6 – VEHICLE CROSSING WIDTH

Comment:

The applicant has confirmed that individual vehicle crossings will be 2.75m wide. This is considered acceptable.

Commute response:

Noted.

4.1.7 ITEM 7 – VEHICLE ACCESS INFRINGEMENTS

Comment:

Section 9.4.2 of the ITA notes that rule E27.6.4.4.1 requires that all vehicle accesses be designed so that where the access adjoins the road there is sufficient space on-site for a platform to enable vehicles to stop safely and check for pedestrians and other vehicles prior to exiting, and that the platform must have a maximum gradient no steeper than 1 in 20 (5%) and a minimum length of 4m. Figures 45 and 46 identify that multiple dwellings will be non-compliant. The applicant agreed to add as a condition to maintain fence height to 0.6m and maintain splays of 2.0 x 2.5 m with <0.6m landscape/fence. This is considered acceptable.

Commute response:

Noted and agree.

4.1.8 ITEM 8 – LOADING BAY PROVISIONS

Comment:

The applicant confirmed that no loading bays will be provided in the JOAL or anywhere as part of the proposal. The assessment has been reviewed, however, I am not in a position to support this considering that in the majority of locations, parking of heavy vehicles will block the vehicle crossing of the adjacent lot (and noting the effect of clause 2(c) of Schedule 5 to the Property Law Act 2007. The applicant has indicated that a separate memo will be provided. However, no updated memo has been received at the time of writing.

Commute response:

Regarding waste collection, just like all other subdivisions in Auckland, it is anticipated that heavy vehicles (ie rubbish trucks) may partially block vehicle crossings of adjacent lots for very short periods of time during the collection period.

This is anticipated to have negligible effects on residents.

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4.1.9 ITEM 9 – LIGHTING PLAN

Comment:

No lighting design has been provided. As per E27.6.3.7(1) of the AUP, lighting is to be provided where there are 10 or more parking spaces that are likely to be used during the hours of darkness. The parking and manoeuvring areas and associated pedestrian routes must be adequately lit during use in a manner that complies with the rules in Section E24 Lighting. A lighting design should be submitted upfront, considering this is a large-scale residential development and given the high vehicle rates. As per the Applicant's submitted design, vehicle tracking is already overlapping with kerb build-outs, and if the lighting is not designed in a workable location, both design elements will clash and will be an ongoing safety and maintenance issue. The Applicant stated that the lighting design will be provided by 19 June. However, no design has been provided to date. I am not in a position to support the design effects unless the Applicant provides more information.

Commute response:

Page 55 of the Memorandum of Strategic and Planning Matters for Auckland Council dated 25 June 2025 states that "lighting plans… can be included as consent conditions". The applicant concurs and as such, JOAL lighting plans are to be provided as consent conditions.

4.1.10 ITEM 10 – JOAL 6 LANE NARROWING

Comment:

The applicant has confirmed that JOAL 6 will be 3.5m wide for 25m. This corridor has clear sight visibility, and priority marking will be provided. This will be added as a condition.

Commute response:

Noted And agree.

4.1.11 ITEM 11 – VEHICLE TRACKING

Comment:

The applicant has confirmed that vehicle tracking overlaps with kerb build-out and is assessed by the applicant as minor – 300mm only. However, as mentioned in #9, the this gives rise to safety and maintenance issues, and I am not in a position to support the design effects unless the applicant provides more information.

Commute response:

Vehicle tracking is considered to be acceptable. It is noted that in the ITA included a recommendation for minor widening and re-checking of tracking at EPA stage was also included. Any changes will only affect the front berm/ parking and not the footpath or rear berm (with services)

4.1.12 ITEM 12 – INTERNAL GARAGE DIMENSION

Request:

The applicant has confirmed (Commute response_ dated: 12-06-2025) that single garages will be a minimum of 3m x 5m clear, and double garages will be a minimum of 6m x 5m clear. With reference to Auckland Council Practice Note: RE100G- V 1- Garage width assessment - 15.06.2021 2, 3x5.4m2 for single & 5.5x5.4m2 for double garage to be maintained (AS/NSA2890). If the proposal provides less

than the minimum requirement, it is considered non-compliant and creates significant efficiency and safety issues. As matters stand, I am not in a position to support the design effects unless the applicant provides more information.

Commute response:

The proposed garage dimensions are considered to be acceptable, and comply with Unitary Plan parking dimensions.

4.1.13 ITEM 13 – UPPER OREWA ROAD SIGHT DISTANCE

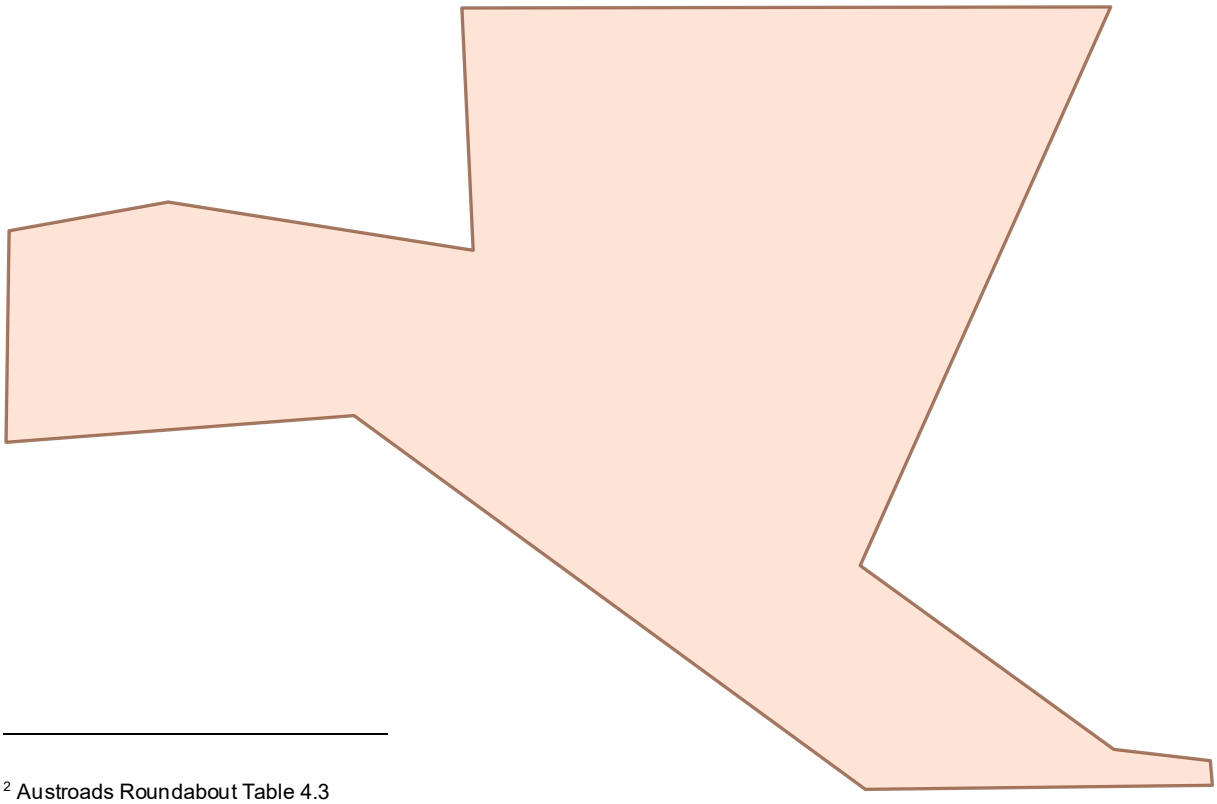
Request:

The proposal initially included an intersection. Due to the low sight distance, this design was considered a safer option. However, the applicant has now proposed a roundabout with a 16.0m radius (32.0m dimension). This is considered a feasible solution. However, no vehicle tracking or visibility study has been provided. The draft design also shows a requirement for land acquisition from the neighbouring area. It is important that the updated design is fully workable. At this stage, I am not in a position to fully support the roundabout concept, unless the applicant provides more information.

Commute response:

Noted the response that this is considered a feasible solution (roundabout). The roundabout option has been developed as per Figure 10 below with a 16m radius (32m outside dimension) roundabout. This shows a roundabout in this location is possible. The road reserve and land owned by the applicant is also shown. No land is required from any neighbouring area. Detailed vehicle tracking can be provided at EPA stage however it is noted the roundabout size of 32m is larger than Austroads[2] minimum for a single lane roundabout (28-29m).

Figure 10: Upper Ōrewa Road / Road 17 intersection (Roundabout option)



[2] Austroads Roundabout Table 4.3

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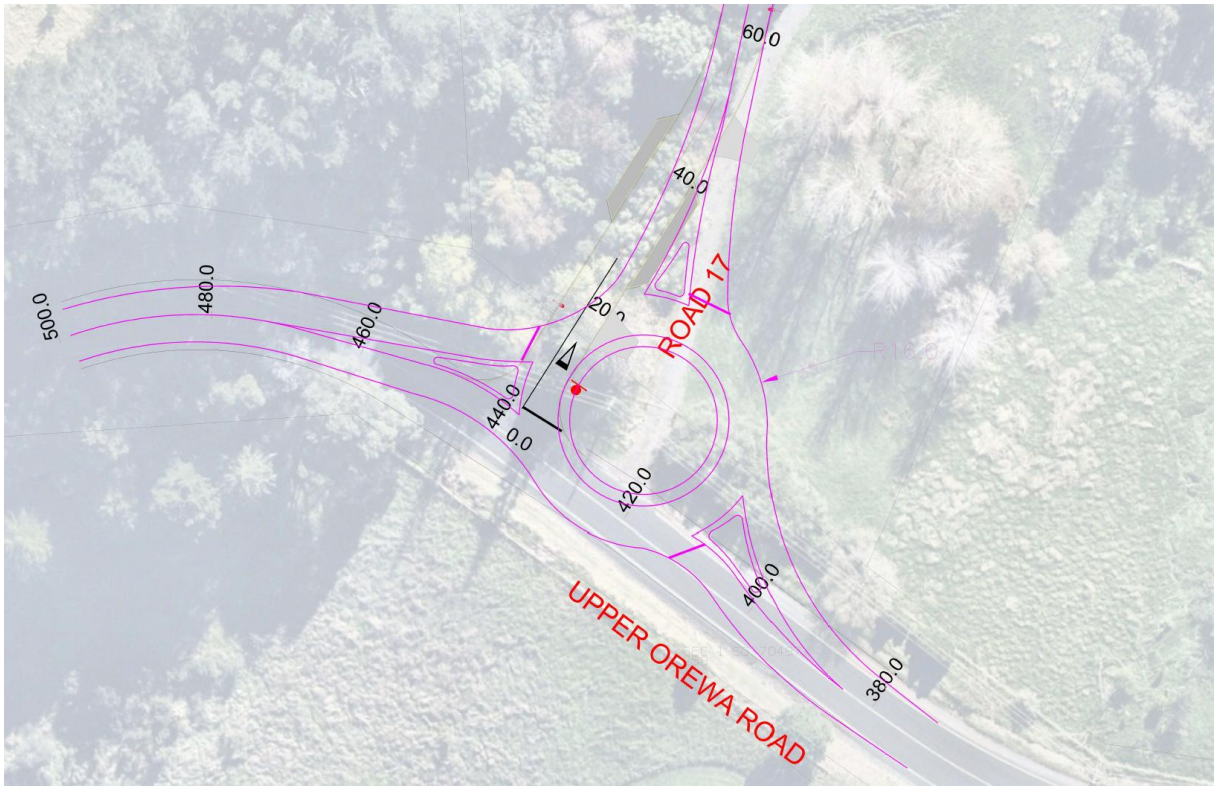

4.1.14 ITEM 14 – PC79/E27 INFRINGEMENTS

Request:

The applicant has indicated that a separate memo will be provided on PC79DV's accessible parking and loading bay requirements. However, no updated memo has been received as at the time of writing. I am accordingly not in a position to conclude that the PC79DV/ E27- accessible parking and loading bay requirements are satisfied.

Commute response:

A summary of the proposal's compliance against PC79 and E27 requirements has been prepared separately and will be included in the formal RFI response on 2nd July.

Regarding accessible parking:

- The proposal requires 51 accessible parking spaces. Over 100 driveways have been revised to provide a 1 in 25 gradient requirement which complies with PC79 regarding accessible parking requirements. Adequate space within each lot is provided for an accessible park.
- Loading bays were assessed and deemed to not be required.

4.1.15 RECOMMENDED ADDITIONAL CONDITIONS

Request:

In reference to "Appendix 22 Delmore Fast-track - Proposed Consent Conditions" prepared by B&A:

a. Item 11/14 - additional point to CTMP: Provide cleaning facilities within the site to thoroughly clean all vehicles prior to exit, to prevent mud or other excavated material from being dropped on the road.

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In the event that material is dropped on the road, resources should be on hand to clean up as soon as possible.

b. Item 38 - edits to visibility splay: Prior to the occupation of residential units, the consent holder must establish and maintain 2.0m x 2.5m visibility splay on either side of all vehicle crossings (including JOAL crossings) in accordance with Figure 3.3 of Standard ASNZS2890.1-2004, whereby any vegetation within the splay area should be limited to 0.6m in height and any fencing should be permeable and restricted to a maximum of 1m in height.

c. Prior to the occupation of residential units, the consent holder must establish and maintain speed management measures as per PC79DV, being one within 10m of the road boundary and then one every 30m at JOALS.

d. Prior to the occupation of residential units, the consent holder must provide a highfriction finish on concrete footpaths with gradients steeper than 8% (Refer to Figure 2 & 3_ "20250612 Commute All AC Responses" _ Commute Special Comment Response dated: 12.06.2025).

e. Prior to the occupation of residential units, an active mode connection towards the town centre via path across SH1 to the existing paths to the east side must be in place.

f. Prior to the occupation of residential units, the consent holder must provide traffic priority pavement markings and associated signage at JOAL 6 between lots 154 & 55 where the lane narrows to 3.5m for a 25.0m length.

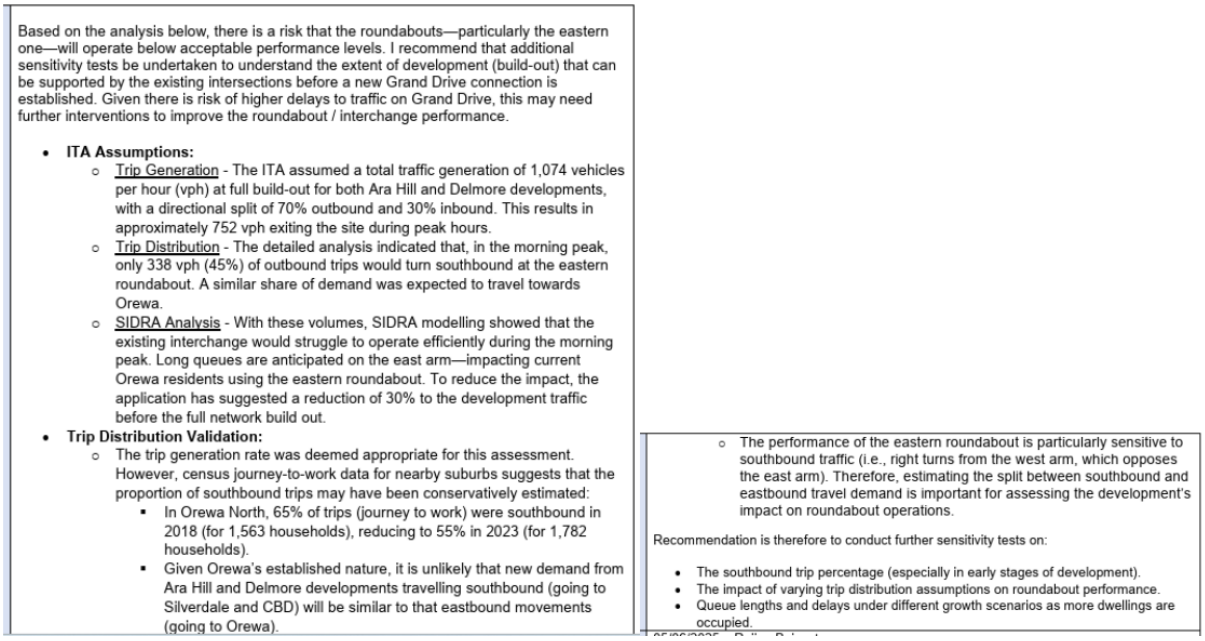
Commute response:

Noted and we agree with these suggestions.

5 NZTA – PETER MITCHELL

5.1 ASM TRANSPORTATION – JOURNEY MANAGEMENT – VICKY LIU

Comment:



Based on the analysis below, there is a risk that the roundabouts—particularly the eastern one—will operate below acceptable performance levels. I recommend that additional sensitivity tests be undertaken to understand the extent of development (build-out) that can be supported by the existing intersections before a new Grand Drive connection is established. Given there is risk of higher delays to traffic on Grand Drive, this may need further interventions to improve the roundabout / interchange performance.

- **ITA Assumptions:**
  - Trip Generation - The ITA assumed a total traffic generation of 1,074 vehicles per hour (vph) at full build-out for both Ara Hill and Delmore developments, with a directional split of 70% outbound and 30% inbound. This results in approximately 752 vph exiting the site during peak hours.
  - Trip Distribution - The detailed analysis indicated that, in the morning peak, only 338 vph (45%) of outbound trips would turn southbound at the eastern roundabout. A similar share of demand was expected to travel towards Orewa.
  - SIDRA Analysis - With these volumes, SIDRA modelling showed that the existing interchange would struggle to operate efficiently during the morning peak. Long queues are anticipated on the east arm—impacting current Orewa residents using the eastern roundabout. To reduce the impact, the application has suggested a reduction of 30% to the development traffic before the full network build out.
- **Trip Distribution Validation:**
  - The trip generation rate was deemed appropriate for this assessment. However, census journey-to-work data for nearby suburbs suggests that the proportion of southbound trips may have been conservatively estimated:
    - In Orewa North, 65% of trips (journey to work) were southbound in 2018 (for 1,563 households), reducing to 55% in 2023 (for 1,782 households).
    - Given Orewa's established nature, it is unlikely that new demand from Ara Hill and Delmore developments travelling southbound (going to Silverdale and CBD) will be similar to that eastbound movements (going to Orewa).
  - The performance of the eastern roundabout is particularly sensitive to southbound traffic (i.e., right turns from the west arm, which opposes the east arm). Therefore, estimating the split between southbound and eastbound travel demand is important for assessing the development's impact on roundabout operations.

Recommendation is therefore to conduct further sensitivity tests on:

- The southbound trip percentage (especially in early stages of development).
- The impact of varying trip distribution assumptions on roundabout performance.
- Queue lengths and delays under different growth scenarios as more dwellings are occupied.

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Commute response:

We note and agree with the comment that the trip generation rate provided by Commute is appropriate for this assessment.

A sensitivity test has however been made regarding the trip distribution as requested by AT during the preliminary response period. The ITA currently uses:

- 10% to the north;
- 45% to the east; and
- 45% to the south.

This was based on the existing surveys at the interchange (for the Ara Hills traffic) and census data. We note the recent 2023 census data noted in the NZTA review (55% to the south) and thus have re-run the model with the following in the critical eastern roundabout in the critical AM peak period.

- 10% to the north;
- 35% to the east; and
- 55% to the south (as per 2023 census).

To test the sensitivity of this analysis, a series of reductions in the subject site traffic has been undertaken to assess where / when this intersection reaches capacity. This has been found to be 40% or a total of 750 dwellings (60% remaining of the 1250 total assessed). The SIDRA output for the southbound morning peak hour intersection is included below in Figure 11.

Figure 11 : Eastern intersection morning peak hour (revised distribution) with 40% volume reduction

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Grand Drive East															
4	L2	All MCs	744	2.6	744	2.6	0.948	28.3	LOS C	34.7	250.9	1.00	1.65	2.34	35.8
5	T1	All MCs	254	7.9	254	7.9	0.948	28.5	LOS C	34.7	250.9	1.00	1.65	2.34	35.9
Approach			998	3.9	998	3.9	0.948	28.4	LOS C	34.7	250.9	1.00	1.65	2.34	35.8
North: SH1 Offramp															
7	L2	All MCs	109	11.9	109	11.9	0.189	9.0	LOS A	1.1	8.2	0.73	0.71	0.73	43.6
8	T1	All MCs	1	0.0	1	0.0	0.189	8.2	LOS A	1.1	8.2	0.73	0.71	0.73	43.9
9	R2	All MCs	22	0.0	22	0.0	0.189	13.1	LOS B	1.1	8.2	0.73	0.71	0.73	43.4
Approach			132	9.8	132	9.8	0.189	9.7	LOS A	1.1	8.2	0.73	0.71	0.73	43.6
West: Grand Drive West															
11	T1	All MCs	494	4.7	494	4.7	0.480	2.5	LOS A	0.0	0.0	0.00	0.46	0.00	46.9
12	R2	All MCs	334	2.1	334	2.1	0.480	7.4	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
Approach			828	3.6	828	3.6	0.480	4.5	LOS A	0.0	0.0	0.00	0.46	0.00	46.6
All Vehicles			1958	4.2	1958	4.2	0.948	17.0	LOS B	34.7	250.9	0.56	1.08	1.24	40.3

5.2 NORTHERN SGA NZTA CONSENTING OWNER INTERFACE MANAGER – SARAH HO

Comment:

From an SGA North perspective, we did not designate for additional upgrades at Grand Drive/Orewa Interchange on the assumption that the Orewa West FUZ area would have alternative access via Upper Orewa Road / Wainui (so not entirely dependent on the Grand Drive interchange).

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The Delmore development does not provide for the entire connection. AT have designated this connection under NOR6 but as to whether they will/ can progress this is another matter.

There is also an agreement between AT and the Ara Hills development for a land swap and to vest the road between the Grand Drive interchange and NOR6, which starts at Kikorangi Drive. The vesting of the road does not appear to have happened.

From the ITA it suggests that with the proposed development the performance of both roundabouts on the interchange gets worse (both currently operating at LOS A), with the west then operating at LOS C and the east at LOS F at early morning peak times. The ITA also asserts that the development will be staged so Stage 2 (749 dwellings out of the 1250) won't be able to be built until that connection is undertaken

Commute response:

Noted. The "trigger" as to when the Upper Orewa Road connection is required is based on modelling of the Orewa interchange which in terms of the ITA and the revised sensitivity testing recommended by NZTA shows 60% of the site could be accommodated (plus Ara Hills full development). This equated to 750 dwellings.

5.3 NZTA NETWORK PERFORMANCE – DILIP DATTA

Comment:

***Review of Delmore Development ITA**:*

- *The traffic counts used by Commute appear to be very old. For Upper Orewa Road, they have used an averaged 5 day traffic volume of 1,189 vehicles (two-way) in June 2017. This is an out-of-date traffic count and from Mobile road.org I am seeing a figure of 1342 estimate AADT (dated 2024). There will be growth of traffic in the period from 2017 to 2025. This should be accounted for.*
- *…the developer prefers to leave out the connection to Russell Road. This will therefore put pressure on Grand Drive intersection. It looks like the trips that come out of the 1250 dwellings in the new development will be accessing Orewa and Sh1 SBD via Grand Drive and need to cross the state highway. At the peak hour that could be 813 trips.*
- *It is made clear in the ITA that the road from the new development to Russell Road will need to be built by others.*
- *Ara Hills will add a further 261 trips.*
- *… the intersection is operating well at the moment with a LOS A across the complete list of approaches for the western roundabout. The eastern roundabout is working fairly well too with a LOS A or LOS B.*

Western Roundabout of the Grand Drive intersection:

- *And their modelling is suggesting that after the development has been built out the LOS, in morning peak, will still be at LOS A or LOS C (on one arm – the western arm of the western roundabout). Average delays equate to LOS C overall, a deterioration from LOS A. (Fig 28)*
- *The evening peak will be noticeably worse for queues and delays. LOS B down from LOS A. And delays of 44 seconds for one arm. 17.2 seconds on average overall. (Fig. 29)*
- *The better arrangement is to have some evening traffic access the development from Upper Orewa Road and they would be leaving the highway at the Wainui Road interchange.*
- *The connection to Upper Orewa road is expected to take place along with Stage 2. Then the traffic movements will improve for Grand Drive.*

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Eastern Roundabout of the intersection, east of Grand Drive:

- *The eastern roundabout is showing that there will be significant queuing of over 100 seconds in the morning. That's a huge change from the performance with no development (3.1 seconds average delay). This will be caused by the extra drivers wanting to travel southbound on SH1.*
- *It would not be easy to give approval to such a development that causes this type of change from LOS A to LOS F. However, I believe that this is to be a fast tracked process and our feedback is not being sought?*
- *The author of the ITA has stated that the eastern leg of the roundabout is not operating within acceptable boundaries. Has thought been given to signalising the eastern roundabout? Or providing extra bus services? Or both?*
- *The bridge over SH1 is not pedestrian friendly. Is there a chance that a footpath could be added to it, and paid for by the developers' contributions – looks like the width to add a footpath on the north side is available. Clearly some connecting footpaths would be needed in addition to a path across the bridge.*

In summary; it would be great to see, in priority order;

1) A two way connection (extension of Grand Dr) to Upper Orewa Road brought forward and to take place during construction of Stage 1 (NOR 6).

2) A treatment of the eastern interchange roundabout that helps to improve traffic flows.

3) More walking facilities that help pedestrians to reach the bus stops on the eastern side of SH1.

4) Having some covered public cycle parking facilities for cycles and scooters would be beneficial for those who want to travel on two wheels to the development

Commute response:

We comment on each of the above as follows:

Review of Delmore Development ITA

- The modelling of the interchange is based on surveyed November 2024 volumes as per Section 2.3 of the ITA. This is considered appropriate for a February 2025 report; and
- We agree that the connection to Upper Orewa Road is required in the later stages of development to ensure the performance of the interchange is maintained at acceptable levels. This would include a cap on development as per item 5.2 above.

Western Roundabout of the Grand Drive intersection

- We agree the connection to Upper Orewa Road is required in the later stages of development to ensure the performance of the interchange is maintained at acceptable levels. This would include a cap on development as per item 5.2 above.

Eastern Roundabout of the intersection, east of Grand Drive

- We note the reviewer is comparing LOS results with the FULL development only accessing Grand Drive, which we (as per ITA) considered to be unacceptable (see section 6.2.5 of the ITA). The ITA then considered a reduction in development (30%) which was considered acceptable (and hence connection to Upper Orewa Road);

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- Again, we agree the connection to Upper Orewa Road is required in the later stages of development to ensure the performance of the interchange (especially the eastern roundabout) is maintained at acceptable levels. This would include a cap on development as per item 5.2 above; and
- We also agree regarding the cycling / pedestrian bridge over SH1

Summary

- We agree with the notion of the connection to Upper Orewa Road is required however modelling shows this only needs to occur at 60% of total development (using the more conservative sensitivity testing results) or 750 dwellings.;
- With this in place we do not consider any improvement to the interchange is warranted; and
- We agree with the need for a pedestrian / cycling facility across SH1.

NEIGHBOUR COMMENTS

5.4 B WALLACE 907 WERANUI

Comment:

Item 2: Other developments within the area (Millwater; Milldale; Ara Hills; Strathmill; unnamed development Dairy Flat) mean thousands more houses already expected. This is overwhelming services including transport; schools; doctors; hospital/emergency; police; ambulance; fire. Development should wait until services available.

Commute response:

Item 2: From a traffic perspective the proposed development is anticipated not to exceed the capacity of the surrounding road network assuming that the recommendations included in the ITA are implemented including a cap of development before the access to Upper Orewa Road is provided. As such it is considered that the surrounding network will not be overwhelmed and will operate at a safe and appropriate level.

5.5 J MASON 180 UPPER OREWA ROAD

Comment:

Item 9: Concerns about traffic generated by the development. In particular on Upper Orewa Road given margins subject to "continual sinking and have repeatedly needed remedial work", and exiting Wainui Rd "bottle neck". Questions what applicant will be required to do on Upper Orewa Road to remedy "likely damage".

Item 21: Sets out understanding that application says bus routes will prevent excess traffic, and questions the accuracy of this. Asks what guarantee is there in place that a bus route will run and at what frequency.

Commute response:

Item 9: In terms of road damage this is considered a civil engineering / roading issue (Mckenzies). Of note this connection will likely only occur in Stage 2 as such, only 40%of vehicles are anticipated to use it.

Item 21: There is no guarantee that bus routes will run; however, as highlighted in the response to Auckland Transport comments public transport is the responsibility of Auckland Transport and as such

the developer cannot control this. As set out in the ITA at section 7.4.1, the 985 bus service could be extended through the site. The NOR 6 road within the site has been designed to accommodate buses, including having a 7.0m carriageway width and central flush median thereby accommodating two-way simultaneous busses. Further by 2027, a new bus service (987) is planned to connect Ara Hills with Orewa, West Hoe Heights, and the Hibiscus Coast Station. We understand that this timing generally aligns with when houses within Delmore Stage 1 will be built.[3] This service could be extended further in the subject site (along NoR6 road)."

[3] Substantive application as lodged Appendix 35.

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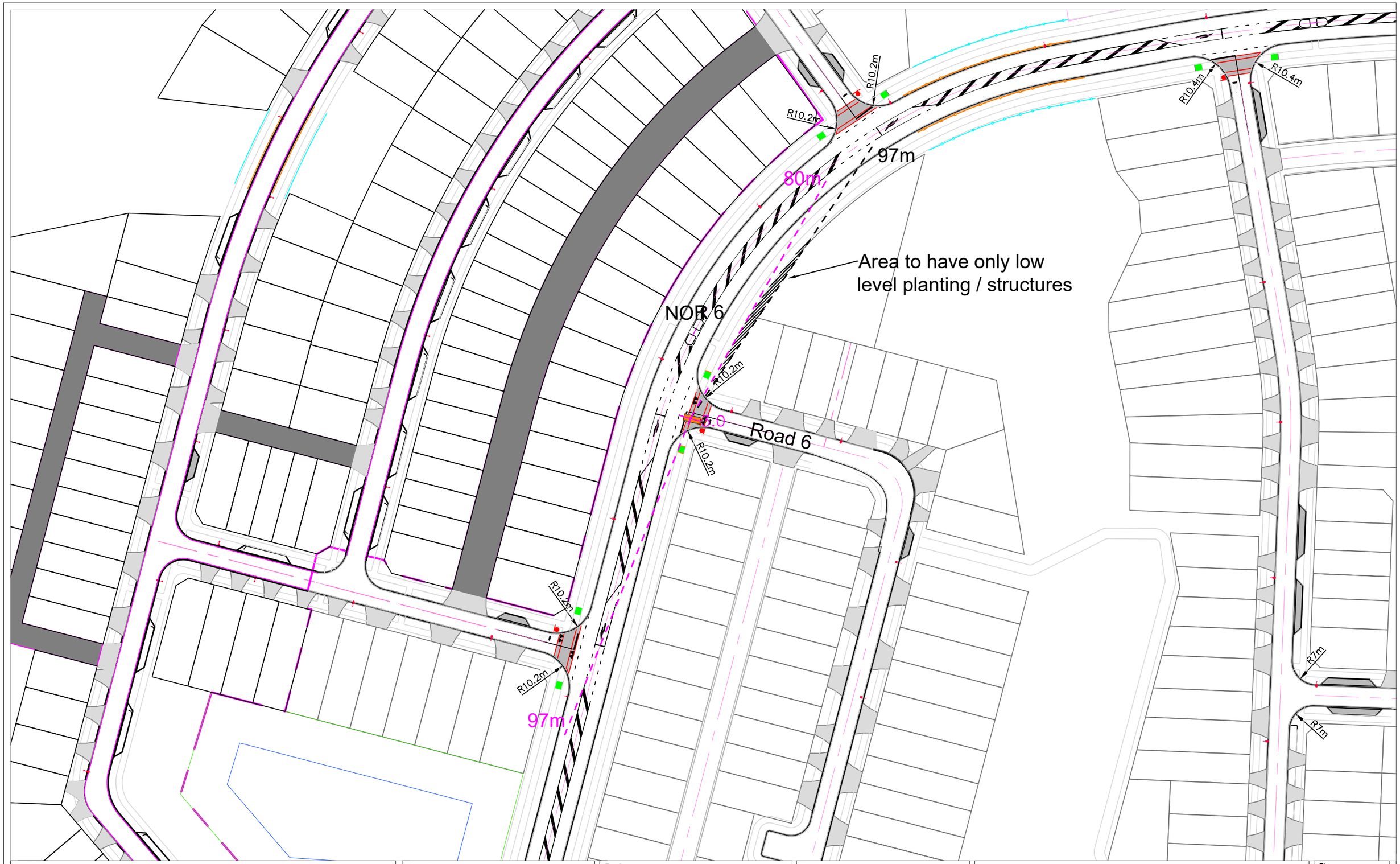
ATTACHMENT A – SIGHT DISTANCE DRAWINGS



Revision notes:		
Rev:	Date:	Notes:

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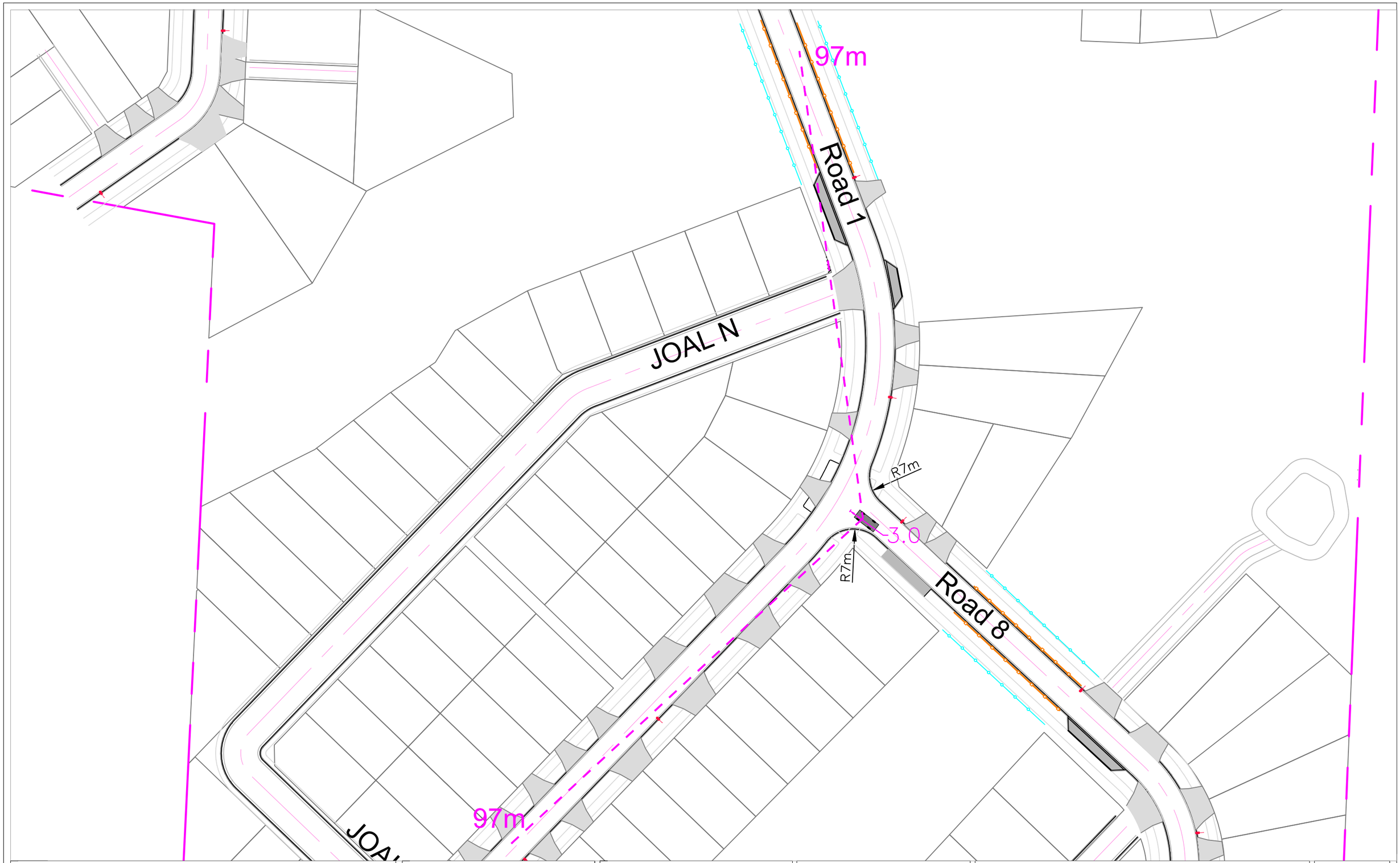
Client:	**Drawing Title:** Sight Distance Intersection F	**Scale @ A3:** 1:1000		
		Revision: A		



Revision notes:		
Rev:	Date:	Notes:

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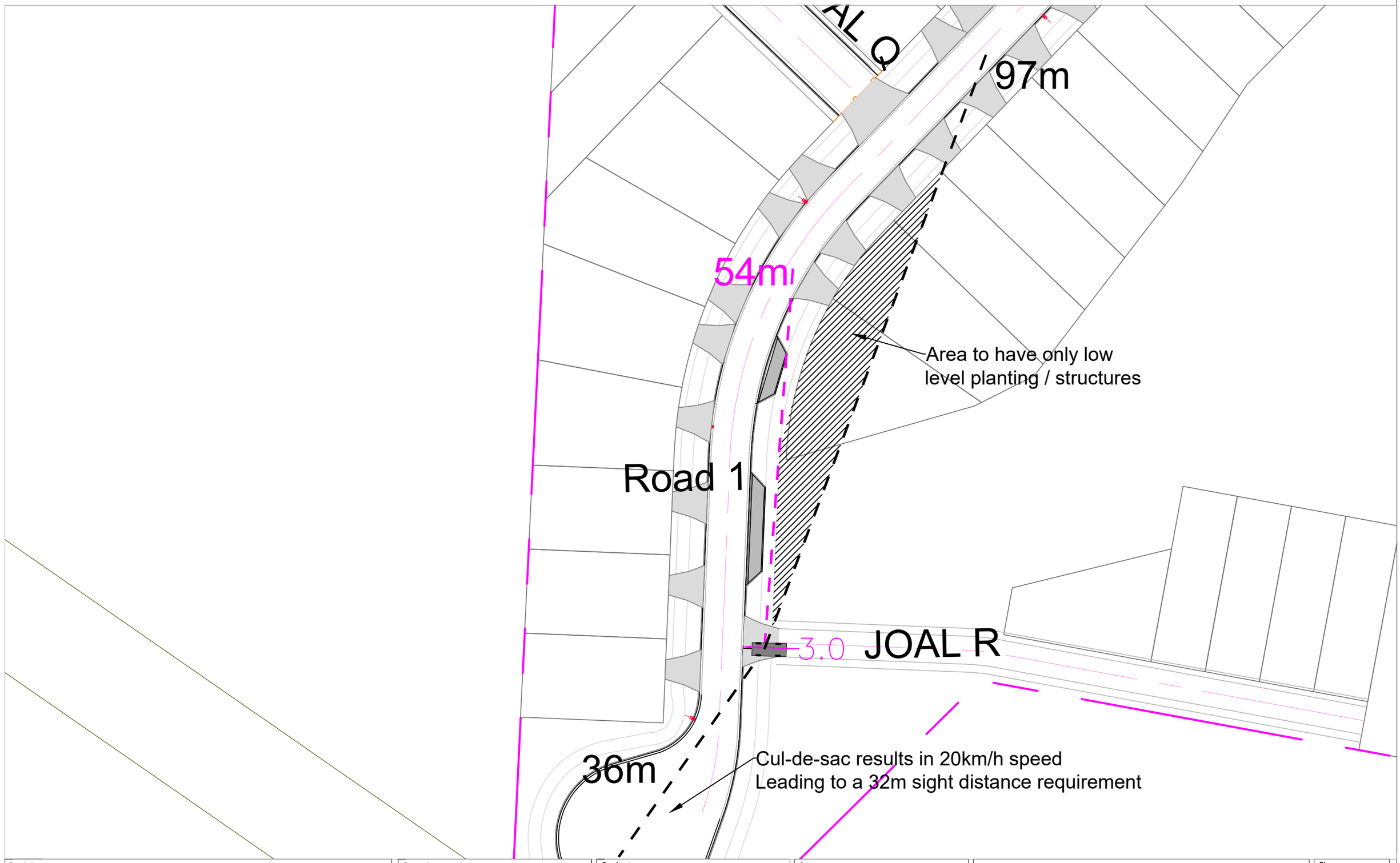
Client:	Drawing Title: Sight Distance Intersection J	Scale @ A3: 1:667		
		Revision: A		

Revision notes:	**Drawn by:** HA J003135	**Project:** Delmore, Orewa Proposed Residential Development
Rev: / **Date:** / **Notes:**	**Client:**	**Drawing Title:** Sight Distance JOAL D Stage 1
	Date: 27/05/25	**Scale @ A3:** 1:1000
	Revision: A	commute TRANSPORTATION CONSULTANTS
		Figure: SD 3



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003135

Client:

Project:
Delmore, Orewa
Proposed Residential Development

Drawing Title:
Sight Distance
R Stage 1

Date:
27/05/25

Scale @ A3:
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Revision:
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TRANSPORTATION CONSULTANTS

Figure:
SD 4

Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003135

Client:

Project:
Delmore, Orewa
Proposed Residential Development

Drawing Title:
Sight Distance
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Date:
27/05/25

Scale @ A3:
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Revision:
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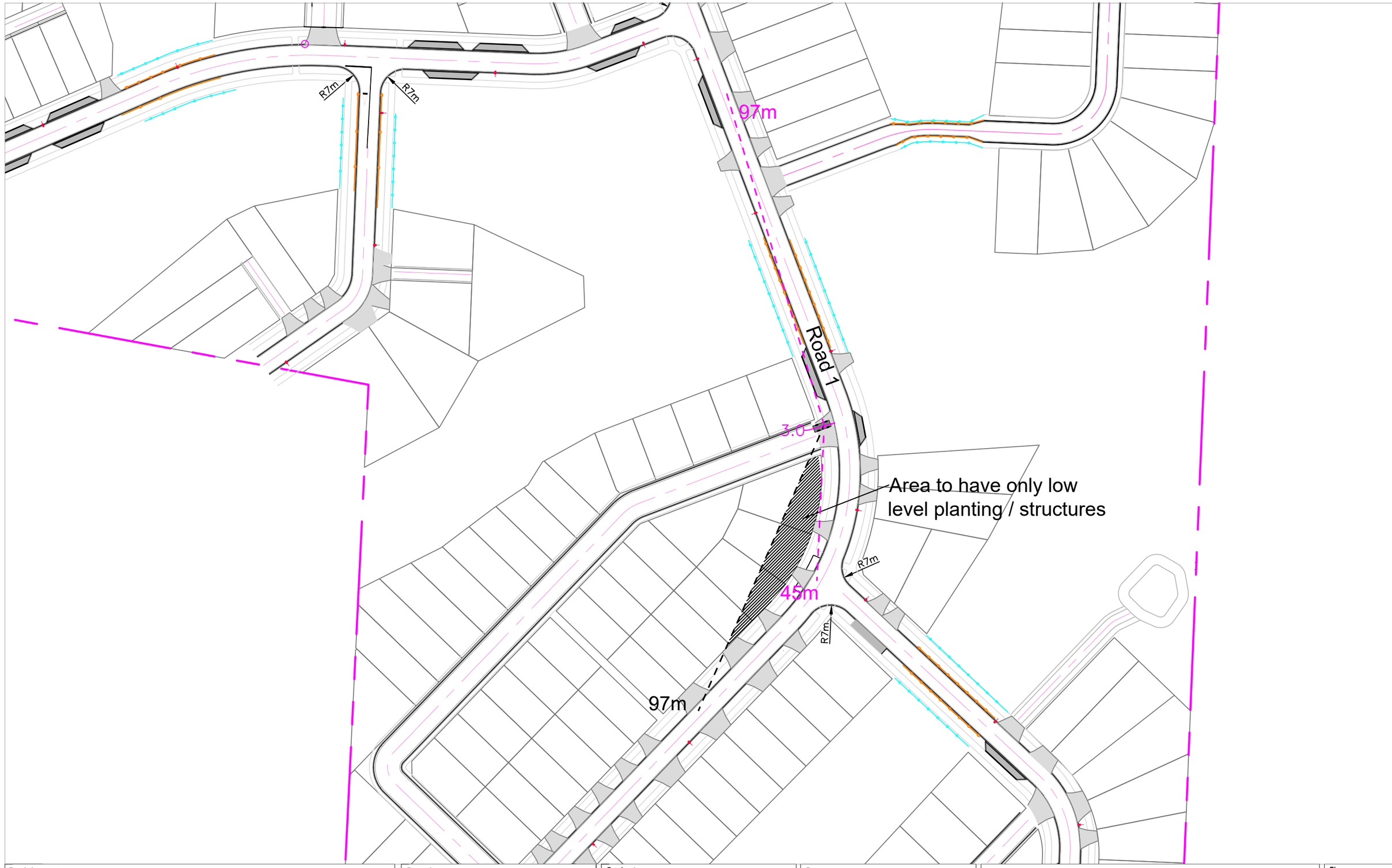
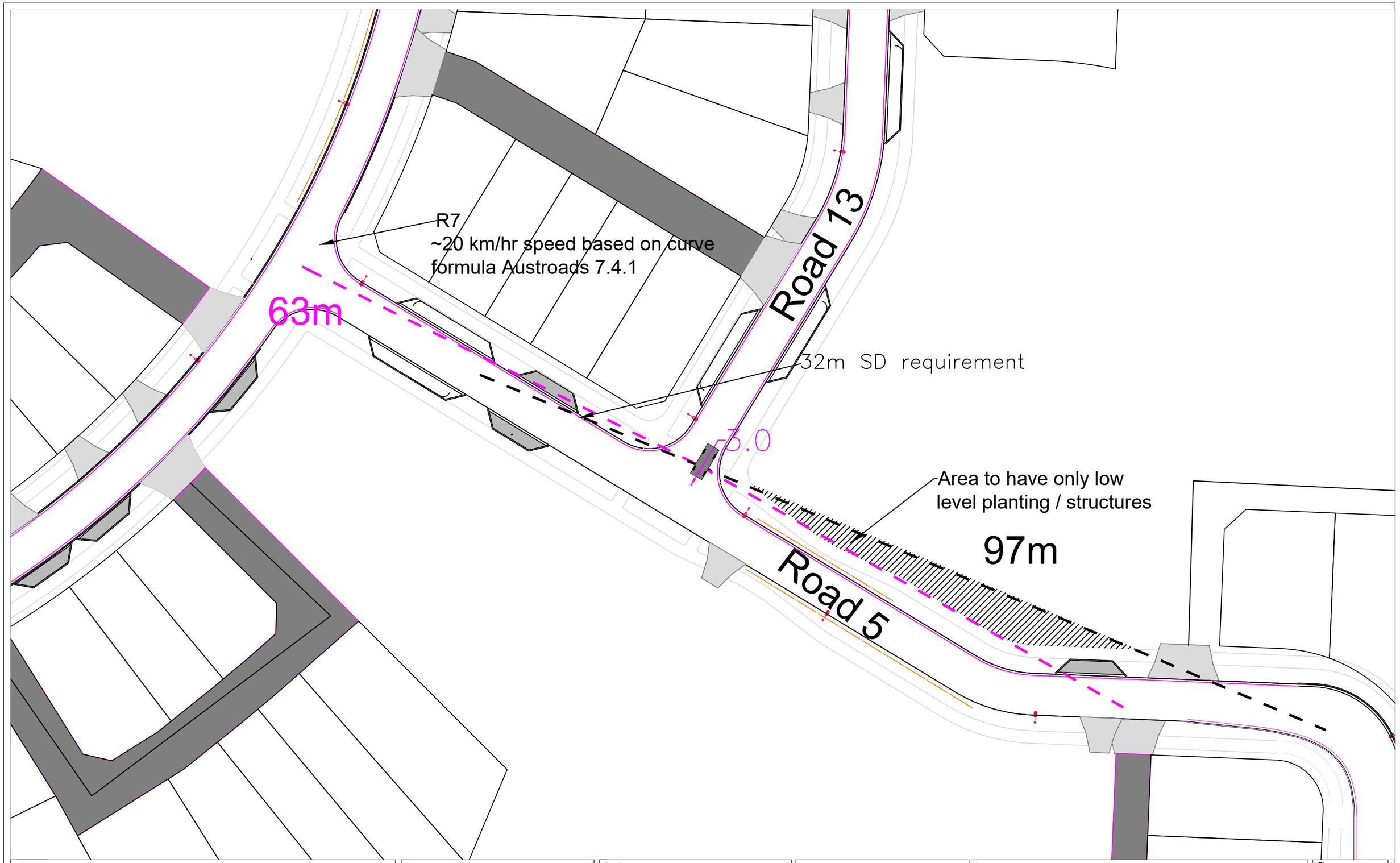
TRANSPORTATION CONSULTANTS

Figure:
SD 5



Revision notes:		
Rev:	Date:	Notes:

Drawn by: HA J003135	Project: Delmore, Orewa Proposed Residential Development	Date: 27/05/25	commute TRANSPORTATION CONSULTANTS	Figure: SD 6
Client:	Drawing Title: Sight Distance JOAL N	Scale @ A3: 1:1000		
		Revision: A		



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003135

Client:

Project:
Delmore, Orewa
Proposed Residential Development

Drawing Title:
Sight Distance
Intersection D Stage 2

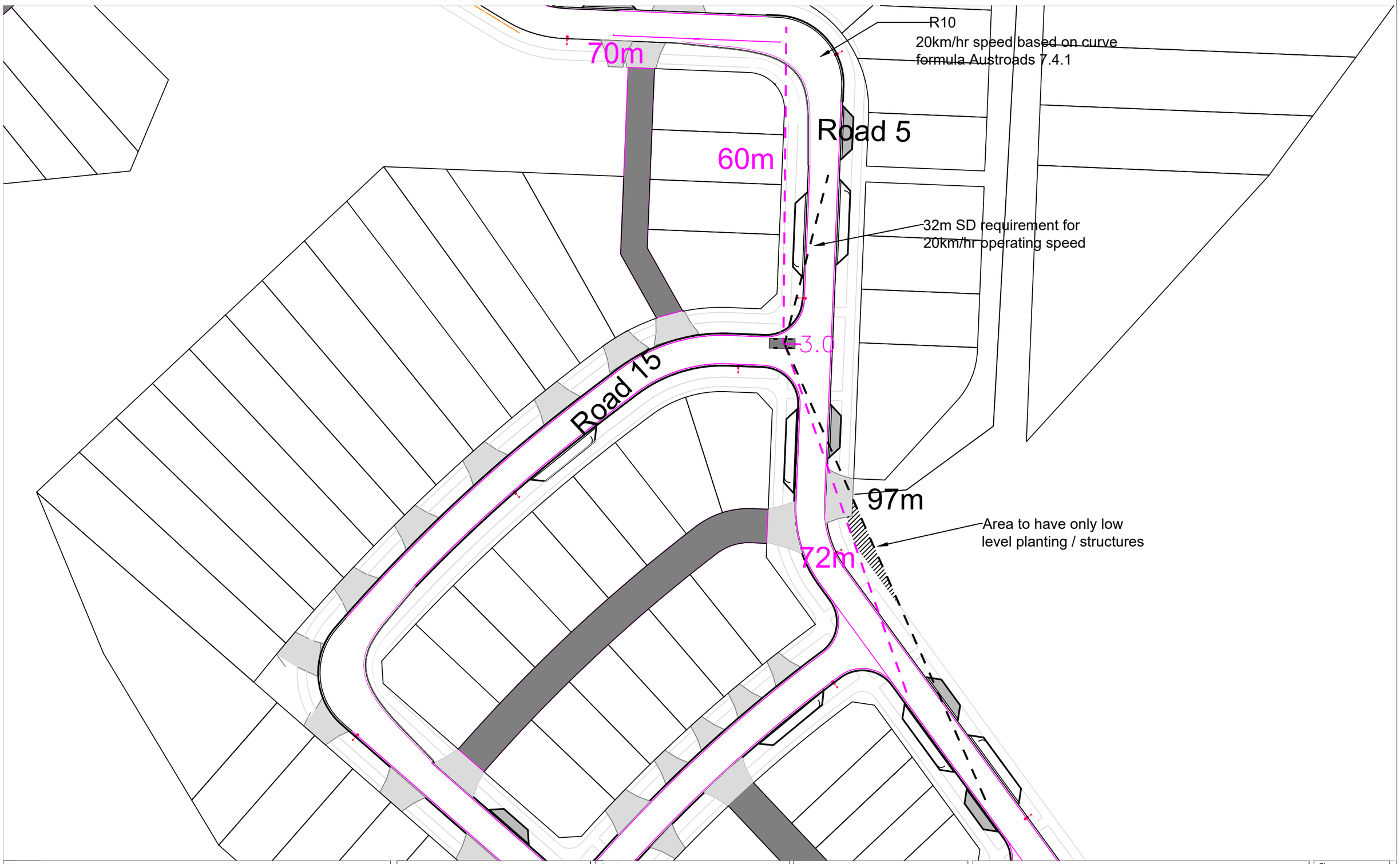
Date:
27/05/25

Scale @ A3:
1:500

Revision:
A

commute
TRANSPORTATION CONSULTANTS

Figure:
SD 7



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003135

Client:

Project:
Delmore, Orewa
Proposed Residential Development

Drawing Title:
Sight Distance
Intersection E Stage 2

Date:
27/05/25

Scale @ A3:
1:667

Revision:
A

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Figure:
SD 8