

30 May 2022

Gen Hewett – Senior Advisor
Environmental Protection Agency (EPA)

Dear Gen

Response to Request for Information received from the EPA, dated 16 May 2022
Drury East Stage 1 Precinct, Fulton Hogan Limited, FTC000051
Resource Consent Application under the COVID-19 Recovery (Fast Track Consenting) Act 2020

Introduction

Thank you for the request for information (**RFI**) dated 16 May 2022 for Auckland Transport to provide comment in relation to the above application for consent on the following matters:

- 1. How the PC 49 transport triggers contained in Table 1X.6.1 can be applied to the Drury East Stage 1 Precinct site (the Fulton Hogan site) given that Table 1X.6.1 applies to the entirety of the plan change area as per Precinct Plan 2 in 1X.10.3 of the PC 49 decision.*
- 2. An update to Auckland Transport's comments on conditions proposed in the Drury East application in light of the PC 49 decision. We note Auckland Transport's initial comments on consent conditions at paragraphs 90 – 92 and Attachments 2, 4 and 5 of its comment on the application.*
- 3. The advice provided to the Panel by Mr Mark-Brown concerning flooding and stormwater issues including regarding the need to protect the capacity of the culverts on Fitzgerald Stream prior to later upgrades being done on Flanagan Road, Great South Road and at the railway line.*
- 4. Mr Mark-Brown's advice regarding the management of communal and private stormwater between each of the subcatchments on the Fulton Hogan site.*
- 5. Information regarding alternative stormwater management devices that would be acceptable to Auckland Transport in light of Mr Mark-Brown's concerns regarding the proposed location of raingardens and the use of multiple small private stormwater devices rather than fewer, larger, communally owned devices.*
- 6. The appropriate wording of additional conditions recommended by Mr Mark-Brown.*

It should be noted that Auckland Transport and Auckland Council received separate RFIs from the EPA. However the Auckland Transport and Auckland Council responses to these RFIs have been prepared to be read in conjunction with each other.

The Panel has requested comments in relation to particular conditions, which are commented on in the following sections. Should the Panel be minded to grant consent it is requested that Auckland Transport be invited to comment on the full set of the Panel's draft conditions prior to grant of consent, in accordance with clause 36 of Schedule 6 of the Covid 19 Recovery Act.



1. Plan Change 49 Transport Triggers

The decision for (Private) Plan Change 49 (**PC 49**): Drury East Precinct was notified on 5 May 2022, and the appeals period is set to close on 17 June 2022.

The Panel states in its Minute that it is “*yet to determine the weight that should be given to PC 49, if any*”, but would be assisted by information from Auckland Transport as to how the “*PC 49 transport triggers contained in Table 1X.6.1 should be applied to the Drury East Stage 1 Precinct site (the Fulton Hogan site) given that Table 1X.6.1 applies to the entirety of the plan change area as per Precinct Plan 2 in 1X.10.3 of the PC 49 decision*”.

By way of preliminary comment, Auckland Transport's view in relation to the status of PC 49 can be summarised as follows (reflecting legal advice received from Brookfields Lawyers):

- a) As a private plan change that has been accepted by the Council but not adopted, PC 49 is not a “proposed plan” for the purposes of clause 31(1)(c) of Schedule 6 to the FTA (refer to section 2 of the Brookfields Lawyers memorandum dated 8 March 2022 previously provided for further discussion). This remains the position until any appeals are determined and the provisions are operative in clause 20 terms.
- b) The discretion provided by clause 31(1)(d) to have regard to “other matters” must be exercised in a principled way, and Auckland Transport does not consider it would be appropriate to have regard to PC 49 under clause 31(1)(d) as doing so would circumnavigate the clear intent of the legislative regime (which, as noted above, does not give any status to a private plan change that has not been adopted).
- c) The PC 49 decision and provisions also remain subject to potential appeal (with 30 working days afforded for any appeals under clause 14(4) of Schedule 1 to the RMA).
- d) The Panel should also be aware that, while the PC 49 decision has been notified, PC 49 is subject to the variation requirement in clause 34 of Part 5 of Schedule 12 to the RMA, which was introduced by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021. PC 49 cannot be approved and made operative where there is a requirement for Council to initiate a variation to incorporate medium density residential standards.

Therefore, it is not considered that the PC 49 provisions are a relevant consideration to which the Panel may have regard in relation to this resource consent application until such a time as the appeal period is closed, any relevant appeals are resolved, and the provisions of PC 49 are operative under clause 20 of Schedule 1 to the RMA. While the Panel has extended the decision timeframe for this consent application beyond the close of the appeal period, it is possible that one or more appeals may be lodged.

Notwithstanding this, it is noted that the Drury East Stage 1 Precinct consent application is proposing 248 residential lots and associated dwellings, and 28 superlots that are anticipated to yield another 325 dwellings (although these dwellings are not applied for as part of this consent application). In either scenario the number of dwellings is less than the lowest threshold trigger of 710 dwellings contained within Table IX.6.1.1 accompanying the PC 49 decision. If such Precinct Provisions are not amended through any appeal process, this would mean that none of the identified transport infrastructure would be required to be constructed and operational to allow for the development proposed by this consent application.

It should be noted that the Waihoehoe Precinct consent application by Oyster Capital Limited, which is currently also under consideration, is proposing 357 dwellings and nine ‘development ready’ residential superlots. The combined total dwellings proposed by the Drury East Stage 1 Precinct consent application and the Waihoehoe Precinct consent application would be 605 dwellings, which would be less than the lowest threshold trigger of 710 dwelling in the PC 49 Precinct Provisions.



Table IX.6.1.1 of the Precinct Provisions includes a threshold of up to 1,800 dwellings before triggering the requirement for Drury Central Train Station and the direct connection from State Highway 1 (SH 1) to Drury Centre to be operational. While the Drury East Stage 1 Precinct resource consent application does not propose 1,800 dwellings, it could be feasible that the combined residential superlots proposed by all three of the Applicants for the Drury East Stage 1 Precinct, Waihoehoe Precinct, and Drury Centre Precinct consent applications could upon further subdivision and development trigger this requirement. Should the relevant PC 49 provisions not be operative at the time that further subdivision and/or resource consent is sought for these superlots, there may not be a mechanism to require that Drury Central Station and access from SH 1 be operational to support further residential development. Auckland Transport is concerned that without the certainty of the Precinct Provisions that there is no mechanism to require Drury Central Train station to be constructed and fully operational prior to a significant number of people residing in Drury East. It is considered essential that new residential development is serviced by adequate public transport to support modal shift, to avoid car-centric development and poor transport outcomes. As such Auckland Transport would recommend that the Panel considers consent notices be placed on the Certificate of Titles for the superlots, with a maximum number of dwellings that can receive s224(c) prior to the construction and operation of Drury Central Train Station and the direct connection from State Highway 1 (SH 1) to Drury Centre.

Given that the PC 49 decision and Precinct Provisions remain subject to potential appeal it is considered prudent that the Panel requires the necessary transport infrastructure upgrades to support the development to form consent conditions, should the Panel be minded to grant consent.

It should also be noted that the upgrades and triggers contained within Table IX.6.1.1 of the Precinct Provisions do not align with evidence presented by Auckland Transport through the PC 49 process.

As noted in the Auckland Transport comments dated 8 March 2022, the surrounding road network is rural in nature and is not considered suitable in its current form to support the likely construction traffic, nor allow for the safe and efficient use and movement of motor vehicles, pedestrians and cyclists anticipated by this proposed development. Further comment in relation to conditions and transport upgrades are made in the following sections.

2. Conditions Proposed by the Applicant

The Panel has requested that Auckland Transport provide updated comments on the conditions proposed by the Applicant in light of the PC 49 decision.

As stated above in response to question 1, given the status of the PC 49 decision and accompanying provisions, Auckland Transport's view is that the PC 49 Precinct Provisions included in the decision version should not be considered as confirmed or given any weight in assessing and determining this resource consent application.

For these reasons, Auckland Transport is concerned as to the appropriateness of providing comment on conditions based on the PC 49 decision. Having noted this concern, some brief comments are provided below.

Condition 14 (Stormwater Discharge)

Auckland Transport does not support the changes proposed by the Applicant to Condition 14 (Stormwater Discharge). As mentioned further in section 6 below, a Best Practicable Option (BPO) assessment of the stormwater management has not been undertaken, and in its current form Auckland Transport is not supportive of the design, sizing and location of the raingardens within the road reserve as proposed. The comments made by Healthy Waters and Auckland Council's Stormwater Specialist in the Auckland Council RFI response are supported, particularly in respect of Condition 14.



Condition 38 (Subdivision)

It is noted that the Applicant has proposed Condition 38 for the Subdivision consent in their RFI response dated 18 May 2022 in regard to noise sensitive activities and requirements for mitigation in line with the PC 49 decision provisions (Standard IX6.7). Condition 38 as proposed by the Applicant is as follows and as per the wording of Standard IX.6.7 of the PC 49 precinct provisions:

Condition 38:

“The following conditions of consent must be registered on the Title of Lot 231 by way of Consent Notices pursuant to s.221 of the RMA and must be complied with on an on-going basis.

- a) Any new buildings or alterations to existing buildings containing an activity sensitive to noise within 40m to the boundary of an existing or future arterial road must be designed, constructed and maintained to not exceed 40 dB LAeq (24 hour) for all noise sensitive spaces.*
- b) If windows must be closed to achieve the design noise levels in Standard Rule IX.6.8 1, the building must be designed, constructed and maintained with a mechanical ventilation system that meets the requirements of E25.6.10(3)(b).*
- c) A report must be submitted by a suitably qualified and experienced person to the council demonstrating that compliance with Rule IX.6.8(1) and (2) can be achieved prior to the construction or alteration of any building containing an activity sensitive to noise located within the areas specified in IX.6.8 (1).”*

It is noted that the consent notice is proposed to be registered on the Title of Lot 231, not all of the lots proposed to be located within a 40m setback of any existing or future arterial road. It is recommended that this condition be amended to apply to all relevant stages and lots that fall within this setback area.

It is also considered that reference to the rules within the Precinct Plan is not appropriate to be included in the condition as appeals may result in a change to the rule references and/or the rules referenced may be subject to appeal. As such, it is recommended that the wording of any condition should be such that it is a stand-alone condition, not referring to rules in the PC 49 Precinct Plan provisions that are not yet operative.

Conditions 4, 5, 6 (Subdivision Consent)

Should the Panel be minded to grant consent it is recommended that all mitigation and transport upgrades required to support the proposed development form conditions of consent, given the uncertainty of the PC 49 provisions until such as time that any plan change appeals are resolved and the plan change is operative under clause 20.

Auckland Transport has reviewed the upgrades considered necessary to support the residential development proposed by this consent application. Andrew Prosser, Executive Transport Advisor, Jacobs has provided some additional assessment to Auckland Transport since submission of Auckland Transport’s comments to the Panel on 8 March 2022. Based on the advice of Mr Prosser, it is recommended that Conditions 4, 5, and 6 of the subdivision consent proposed by the Applicant be amended to require additional upgrades to be delivered prior to s224(c) for any sub-stage. The upgrades recommended along with justification of their necessity for this consent application is provided in **Attachment 1** to this letter.



Auckland Transport considers that Conditions 4, 5, and 6 proposed by the Applicant be amended to include additional transport upgrades (as a minimum)¹ as follows (additional text underlined, strikethrough text to be deleted):

Condition 4

~~Prior to release of the s224(c) for any sub-stage, the consent holder must ensure the following transport upgrades are constructed and fully operational. The consent holder must provide certification that all works have been undertaken to the satisfaction of Auckland Council when applying for a certificate under section 224 (c) of the RMA; and have been completed in general accordance with the combined transport upgrade drawings as referenced in Condition 1:~~

- ~~(a) Waihoehoe Road west of Fitzgerald Road – 20m carriageway with 3.5m shared path on southern side, a westbound bus lane and two general traffic lanes.~~
- ~~(b) Great South Road and Waihoehoe Road intersection – interim signalised intersection with active mode crossings on all four arms.~~
- ~~(c) Intersection between Waihoehoe, Fitzgerald and the north-south Opaheke Road – signalisation.~~
- (a) Waihoehoe Road East upgrades from Fitzgerald Road to Cossey Road
- (b) Fitzgerald Road upgrades (from Waihoehoe Road to north of Brookfield Road)
- (c) Fielding Road upgrades (Waihoehoe Road to East West Collector Road)
- (d) Upgrade to Great South Road/Waihoehoe Road/ Norrie Road Intersection (interim solution)
- (e) New intersection on Waihoehoe Road/Fitzgerald Road (ultimate form)
- (f) Intersection upgrade Waihoehoe Road/Fielding Road/Appleby Road
- (g) Upgrade Fitzgerald Road from Brookfield Road to Ramarama Road
- (h) Fielding Road upgrades from Fitzgerald Road to new East-West Collector Road
- (i) Upgrade intersection at Quarry Road / Great South Road
- (j) Waihoehoe Road West upgrades between Great South Road & Fitzgerald Road, including bridge replacement over the rail corridor (interim solution)

The purpose of condition 4 is to ensure the consent holder avoids and/or mitigates the adverse traffic effects.

Condition 5 and 6

~~5. In addition to the transport upgrades required in condition 4, prior to release of the s224(c) for sub-stages 1A, 1D, 1E and 1F the consent holder must ensure all the following transport upgrades are operational and have been completed in general accordance with the combined transport upgrade plan drawings as referenced in Condition 1:~~

- ~~(a) Fitzgerald Road (hybrid): 21.5m carriageway with two lanes, cycle paths, planting, parking and footpaths on both sides, with the development boundary having a wider footpath.~~
- ~~(b) Fitzgerald Road (constrained): 20m carriageway with two lanes, berm, cycle path, footpath and berm on both sides. The berm may vary to tie into existing land.~~

¹ These comments are made on a without prejudice basis and are not representative of any position Auckland Transport may take in respect of the PC 49 decision and PC49 Precinct Provisions.



~~(c) Access 1: Traffic signalised intersection of Fitzgerald Road and First Stage Collector Road.~~

~~6. In addition to the transport upgrades required in condition 4, prior to release of the s224(c) for sub-stages 1B, 1C and 2A, 2B, 2C, 2D, 2E, 3A, 3B and 3C the consent holder must ensure all the following transport upgrades are operational and have been completed in general accordance with [include combined transport upgrade plan] as referenced in Condition 1:~~

~~(a) Waihoehoe Road East (interim): 20m carriageway width with planted median, two lanes, a cycle path on both sides and planting strip (no trees) and footpath on the southern side only.~~

~~(b) Waihoehoe Road East (hybrid): 20m carriageway width with planted median, two lanes, a cycle path on both sides and planting strip (with street trees) and footpath on the southern side only.~~

~~(c) Fielding Road (long-term): 23m carriageway with two lanes, planting, parking, cycle path and footpath on both sides.~~

~~(d) Access 2: Traffic signalised intersection of Waihoehoe Road East and Fielding Road.~~

Advice Note: The consent holder must provide an engineering completion certificate certifying that all works in the road reserve have been constructed in accordance with the Engineering Plan Approval requirements to the satisfaction of Auckland Council.

An additional condition (Condition 4A) for the subdivision consent is recommended (refer table on following page):

Condition 4A

Prior to the release of s224c for any sub-stage, the consent holder must ensure all the transport upgrades identified in condition 4 (a)-(j) are designed, constructed and fully operational in accordance with the Road Function and Required Design Elements Table and to the satisfaction of Auckland Council.



Road Function and Required Design Elements Table

<u>Road Function and Required Design Elements</u> <u>Road Name</u> (refer to Precinct Plan 2)	<u>Proposed Role and Function of Road in Precinct Area</u>	<u>Min. Road Reserve</u>	<u>Total number of lanes</u>	<u>Speed Limit (Design)</u>	<u>Access Restrictions</u>	<u>Median</u>	<u>Bus Provision</u>	<u>On Street Parking</u>	<u>Cycle provision</u>	<u>Pedestrian provision</u>
<u>Waihoehoe Road West (Great South Road to Fitzgerald Road) with separated active transport provisions</u>	<u>Arterial</u>	<u>30m</u>	<u>4</u>	<u>50</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u> <u>separated on both sides</u>	<u>Yes</u> <u>both sides</u>
<u>Waihoehoe Road (Fitzgerald Road to Drury Hills) with separated active transport provisions</u>	<u>Arterial</u>	<u>24m</u>	<u>2</u>	<u>50</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u> <u>separated on both sides</u>	<u>Yes</u> <u>both sides</u>
<u>Collector Roads with separated active transport provisions</u> -	<u>Collector</u>	<u>23m</u>	<u>2</u>	<u>40</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>Optional</u>	<u>Yes</u> <u>separated on both sides</u>	<u>Yes</u> <u>both sides</u>
<u>Local Roads (Residential)</u>	<u>Local</u>	<u>21m</u>	<u>2</u>	<u>30</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>Optional</u>	<u>No</u>	<u>Yes</u> <u>both sides</u>



Additional Condition

In addition to the conditions previously recommended throughout the Auckland Transport comment dated 8 March 2022, the following condition is recommended, should the Panel be minded to grant consent.

Drury Central Rail Station Notice of Requirement includes a condition (Condition 12) requiring that an Urban Landscape and Design Management Plan (ULDMP) is prepared which addresses integration with work undertaken by adjoining developers:

“12 (ii) How the Project works will be coordinated and integrated with the planned development of Surrounding Land to the extent practicable, with particular regard to:

- (a) The extent to which the Requiring Authority, the owners of Surrounding Land and infrastructure providers can coordinate the provision of new or upgraded infrastructure;*
- (b) The location and design of connecting roads between the Project and the surrounding existing and planned urban environment;*
- (c) The timing of works planned on Surrounding Land; and*
- (d) Any other relevant access, servicing, engineering, or other matters.”*

Some of the works and upgrades proposed to be undertaken by the Applicant and other Drury East developers may have implications for the development of Drury Central Rail Station. As such it is recommended that a condition similar to the above condition could be considered to require that proposed works are undertaken in an integrated manner with other developers and infrastructure providers in the surrounding area.

3. Capacity of the Culverts on Fitzgerald Stream and Future Roding Upgrades

The Panel has sought comment on the following:

The advice provided to the Panel by Mr Mark-Brown concerning flooding and stormwater issues including regarding the need to protect the capacity of the culverts on Fitzgerald Stream prior to later upgrades being done on Flanagan Road, Great South Road and at the railway line.

Auckland Transport supports the comments made by Mr Mark-Brown in his updated technical advice dated 13 May 2022 in relation to climate change and flooding, specifically that the culverts within Fitzgerald Stream should be designed to take account of flood flows and climate change predictions to ensure the risk to the existing and transport infrastructure is minimised and the infrastructure is protected from flood events. Conditions of consent requiring culvert design to make allowance for 3.8 degree temperature increase for climate change is supported (refer point 6 of this response below).

It is noted that PC 49 includes policies (IX.3(9) and IX.3(16)), and associated assessment criteria that specifically require that the capacity of the Fitzgerald and Great South Road culverts are given regard to in the development and coordination of infrastructure to service the development, and that the flooding effects are managed to ensure that the risks to infrastructure are not increased for flood events, including requiring storage and attenuation prior to culvert upgrades. Given that the PC 49 provisions may be subject to appeal it is considered prudent that the Panel considers conditions of consent, should the Panel be minded to grant consent, to mitigate potential adverse effects of flooding on the existing and future transport infrastructure.

Given that no assessment has been provided with the application in relation to likely flood levels on Fitzgerald Road, based on the finished road level proposed and the sizing of any culverts, it is recommended that an additional consent condition be considered that requires any culverts to be designed to Auckland Transport standards to minimise road flooding. This is included in section 6 below.



4. Management of Communal and Private Stormwater between Sub-Catchments

The Panel has sought comment on the following:

Mr Mark-Brown's advice regarding the management of communal and private stormwater between each of the subcatchments on the Fulton Hogan site.

Mr Mark Brown comments in his updated technical advice dated 13 May 2022 that '*...further information is required to be provided to set out clearly the stormwater management approach for each of the 23 subcatchments.*'

Auckland Transport is in agreement with the comments made in Mr Mark Brown's technical advice. The application has not provided an assessment of the BPO for stormwater management (as further discussed in the following point), and as stated in the Auckland Transport comments provided to the EPA on 8 March 2022. It is also noted that comments from Auckland Council support this.

Until a BPO assessment of the stormwater management approach is undertaken, including whole of lifecycle cost, it cannot be determined whether the current proposed stormwater management is acceptable. It is recommended that this level of information and assessment is undertaken prior to the grant of any consent.

5. Stormwater Management Devices within the Road Reserve

The Panel has sought comment on the following:

Information regarding alternative stormwater management devices that would be acceptable to Auckland Transport in light of Mr Mark-Brown's concerns regarding the proposed location of raingardens and the use of multiple small private stormwater devices rather than fewer, larger, communally owned devices.

Auckland Transport cannot provide advice on alternative stormwater management devices without a full BPO assessment being provided by the Applicant. This assessment should include whole-of-life costs, including maintenance and operational costs, assessing the proposal to determine if it is acceptable from a Health and Safety perspective, and whether the proposed solution meets the stormwater objectives, as per 1.5.5.2e and 4.3.6.3.d of Auckland Council's Stormwater Code of Practice, requirements of GD04, and Section B1.5 "Vesting Assets" of GD01. The BPO shall also comply with Auckland Transport's Transport Design Manual (**TDM**) requirements and associated guidelines.

Mr Mark-Brown's comments are concurred with in respect of the location of raingardens and the potential sizing and number of raingardens, however, without a full BPO assessment from the Applicant further comment on alternative devices cannot be provided. As stated in the Auckland Transport response dated 8 March 2022, the proposed raingardens appear to have sharp drop-offs which create significant safety hazards to pedestrians, and the number, location and sizing of the raingardens is not supported as currently proposed.

Comments by Mr Mark-Brown on the location of manholes are concurred with. It is an expectation for subdivision in greenfield areas such as this that all manholes are located within the berm, not the carriageway. Conditions of consent would be supported in this respect. There is particular concern from a road safety perspective in relation to manholes being located on cycle lanes.



6. Stormwater Conditions

Stormwater Conditions

Additional conditions are proposed by Mr Mark-Brown in paragraph 22 of his updated technical advice to address the potential flood issues and climate change matters detailed in point 3 above, as follows:

"I consider that consent conditions for flooding are required to:

- a) Ensure that finished building platform levels be at least 0.5 m above the estimated future 1% AEP flood levels within the Fitzgerald Stream allowing for climate change of 3.8° C.*
- b) Design of the road crossings over the Fitzgerald Stream and associated new culverts allows for future potential culvert blockage and mitigation of hazard due to overland flow over the road crossings for the 1% AEP flows allowing for climate change of 3.8°C.*
- c) Manage the flood risk adjacent to the culverts on the Fitzgerald Stream at Fitzgerald Road and Fielding Road until the culvert upgrades under Great South Road, Flanagan Road and the railway line are carried out as proposed in the Drury East Stormwater Management Plan. This shall be carried out to ensure flood hazard to the public including for travel on roads over stream is acceptable."*

Conditions of consent that address the above would be supported by Auckland Transport.

Culverts Condition

It is also recommended that a consent condition is placed on the consent requiring that culvert design provides adequate freeboard to roading during a 1% AEP event, to minimise flood risk to transport infrastructure, as follows:

The design of culverts shall comply with the Auckland Transport Code of Practice (ATCOP) and the following criteria:

The headwater pond created by the culvert during the 1% AEP event shall have a depth not exceeding 3.0m above the invert of the pipe and shall provide 500mm freeboard to the edge of the seal of the road (or similar feature) at the top of the embankment. For cases where the approach velocity is greater than 2m/s, the freeboard shall be at least 1.5 times the velocity head at the entrance.

Yours sincerely

Sarah Haarhoff

Major Developments Interface Lead

Auckland Transport



Attachment 1

Transport Infrastructure Improvements that are identified by Mr Andrew Prosser as critical to the mitigate the adverse traffic effects of the Drury East Stage 1 Application.

	Transport Infrastructure Improvement	Explanation for the transport infrastructure improvement required to mitigate the adverse traffic effects of the Drury East Stage 1 Application.
a	<i>Waihoehoe Road East upgrades -from Fitzgerald Road to Cossey Road (PC 49 development boundary).</i>	<p><i>This transport upgrade is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>The existing rural road lacks the necessary facilities and infrastructure as required to service the Drury East application (and surrounding developments). Therefore, this road needs to be redesigned to an urban standard to accommodate the additional traffic demands generated by the Drury East application.</i> <i>The Drury East application is adjacent to Waihoehoe Road and traffic generated from the Drury East application will rely extensively on using this section of road. The existing rural road will not be able, in its current condition, to support the Applicant's predicted transport demands.</i> <i>This will provide a connection from Drury East application to Drury Central and Waihoehoe applications.</i>
b	<i>Fitzgerald Road upgrades (from Waihoehoe Road to north of Brookfield Road).</i>	<p><i>This transport upgrade is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>The existing rural road lacks the necessary facilities and infrastructure as required to service the Drury East application (and surrounding developments). Therefore, this road needs to be redesigned to an urban standard to accommodate the additional traffic demands generated by the Drury East application.</i> <i>The Drury East application is adjacent to Fitzgerald Road and traffic generated from the Drury East application will rely extensively on using this section of road.</i> <i>This will provide a connection from Drury East application to Drury Central (LFR and other land uses) as well as Drury South Limited.</i>
c	<i>Fielding Road upgrades (Waihoehoe Road to East West Collector Road).</i>	<p><i>This transport upgrade is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>The existing rural road lacks the necessary facilities and infrastructure as required to service the Drury East application (and surrounding developments). Therefore, this road needs to be redesigned to an urban standard to accommodate the additional traffic demands generated by the Drury East application.</i>



		<ul style="list-style-type: none"> • The Drury East application is adjacent to Fielding Road and traffic generated from the Drury East application will rely extensively on using this section of road. • This will provide a connection from Drury East application to Drury Central (LFR and other land uses) as well as Drury South Limited.
d	Upgrade in Great South Road/Waihoehoe Road/ Norrie Road Intersection (Interim solution).	<p>The upgrade to this intersection is required to mitigate the adverse traffic effects.</p> <p>However as indicated within previous advice there are concerns around the design of Applicant's proposed interim solution.</p> <p>There is also a need to provide for active mode access between intersection and bus stop on east side of Great South Road</p>
e	New intersection on Waihoehoe Road/Fitzgerald Road (Ultimate form).	<p>This new intersection is required to mitigate the adverse traffic effects for the following reasons.</p> <ul style="list-style-type: none"> • It is critical for all three applications to have this new intersection and is relied on in the modelling. • The Drury East application will need a signalised crossing of both Waihoehoe Road and Fitzgerald to enable good connectivity (including active modes) to adjacent land use and Drury Central rail station.
f	Intersection upgrade Waihoehoe Road/Fielding Road/Appleby Road	<p>This intersection upgrade is required to mitigate the adverse traffic effects for the following reasons.</p> <ul style="list-style-type: none"> • The Drury East application will rely on the establishment of a safe and effective treatment at this existing intersection as Fielding Road will be a key route to service the proposed development. A signalised treatment is therefore required to provide a safe and effective intersection control that will facilitate all predicted transport demands (including active modes facilities and connectivity), as modelled by the Applicant. • The implementation of the signalised intersection will ensure the continuity of connectivity for the Drury East application with the Drury Central Rail Station.
g	Upgrade Fitzgerald Road from Brookfield to Ramarama Road	<p>This upgrade is required to mitigate the adverse traffic effects for the following reasons.</p> <ul style="list-style-type: none"> • This existing road will be relied upon for access and egress for the Drury East application (and including its construction). • This existing rural road is required to be upgraded to an urban standard to support all transport demands (including active modes) and will therefore provide the necessary transport infrastructure to connect the



		<p><i>Drury East application with adjacent employment land uses.</i></p> <ul style="list-style-type: none"> <i>It is likely that Waihoehoe Road may not be available due to construction activities in which case the only interim access will be from the south.</i>
<i>h</i>	<i>Fielding Road upgrades (from Fitzgerald Road to new East-West Collector).</i>	<p><i>This upgrade is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>The Drury East application is bisected by Fielding Road and therefore this road will be relied upon to directly service a significant proportion of the Applicant's predicted transport demands.</i> <i>The existing rural road does not provide the necessary facilities and transport infrastructure required to service the Drury East application. Therefore, this road needs to be redesigned and constructed to an urban standard to accommodate the additional transport demands (including active modes) generated by the Drury East application. This will also provide a safe and effective connection for the Drury East application with adjacent employment land uses.</i>
<i>i</i>	<i>Upgrade Intersection at Quarry Road / Great South Road</i>	<p><i>This upgrade to this intersection is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>This intersection will be relied upon to support the traffic generation associated with the establishment of the Drury East application including its intended staged construction.</i> <i>The existing local network provides few alternative transport routes to and from the Drury East application. As most of the existing local rural roads will be upgraded to support the Drury East application, this intersection will be further relied upon not only during the staged construction of the proposed development but also to support the significant proportion of the traffic redirected during the road's reconstruction. In its current form, this intersection cannot accommodate the expected transport demands generated as a consequence of the Drury East application.</i>
<i>j</i>	<i>Waihoehoe Road West upgrades - between Great South Road & Fitzgerald Road, including bridge replacement over the rail corridor. Interim solution</i>	<p><i>This upgrade is required to mitigate the adverse traffic effects for the following reasons.</i></p> <ul style="list-style-type: none"> <i>The Applicant's modelling has assigned a significant proportion of the proposed Drury East application's traffic demands on this section of Waihoehoe Road therefore this will be a critical transport route for the Drury East application.</i> <p><i>There are concerns over aspects of the interim solution.</i></p>



		<ul style="list-style-type: none">• <i>The interim solution does not provide separated walking and cycling on both sides of the road and may affect current footpath on north side of Waihoehoe Road</i>• <i>The existing bridge is significantly constrained, and the proposed interim upgrade does not provide safe walking and cycling facilities. The proposed interim upgrade (as approved in the provisions) also has traffic lane widths less than the TDM standards for an arterial road.</i>
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