1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:	Auckland Surf Park Community Stage 2
Fast-Track application number:	FTAA-2606-1246
Council reference number:	BUN60467823

2.0 Technical Specialist Memo – Transport Performance and Optimisation

To:	Brooke Dales, Consultant Planner Warwick Pascoe, Principal Project Lead
From:	Emilee Scarborough, Development Planner Liam Burkhardt, Principal Development Planner
Qualifications & Relevant Experience:	Liam Burkhardt is a Principal Development Planner in Transport Performance and Optimisation at Auckland Council. Liam holds the qualification of Master of Urban Planning (Prof.) and has around 9 years of experience in the planning and transport planning sectors. Liam is an intermediate member of the New Zealand Planning Institute (NZPI). Liam's previous experience with land use and transport projects includes the following: • Assisting Auckland Council with the drafting of amendments to Chapter E27 of the Auckland Unitary Plan as part of Plan Change 79; • Assessment of transport aspects of resource consent applications, plan change requests and designations for both Auckland Council and Auckland Transport; • Drafting Auckland Transport submissions on transport aspects related to various plan change requests, designations and fast-track applications; • Preparation of transport assessments. Emilee Scarborough is a Development Planner at Transport Performance and Optimisation, Auckland Council. Emilee holds the qualification of Bachelor of Science (Geography) and has 4 years of experience in planning and transport

	planning. Emilee is an associate member of NZPI. Emilee has prepared expert evidence and technical assessments for resource consent applications and plan changes.
Preparation in Accordance with the Code of Conduct:	Emilee Scarborough and Liam Burkhardt confirm that they have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses and have complied with it in the preparation of this memorandum. They also agree to follow the Code when participating in any subsequent processes, such as expert conferencing directed by the Panel. They confirm that the opinions they have expressed are within their area of expertise and are their own, except where they have stated that they are relying on the work or evidence of others, which they have specified.
Signature:	
Date:	02 October 2026

3.0 Executive Summary

1. This specialist response assesses AW Holding's (**Applicant**) Fast-track application for Stage 2 of the Auckland Surf Park Community (**Application** or **Project**). Stage 2 proposes variations to the Stage 1 consent (BUN60429155), which are summarised in Table 2 of the Integrated Transport Assessment. Notably, Stage 2 also includes subdivision, a new road to vest, approximately 324 new residential units and 25 live/work units, which were not included in the Stage 1 consent.

2. Premium Resource Consents has requested comments from Transport Performance and Optimisation. Transport Performance and Optimisation has engaged Transport Design and Standards and Auckland Transport in preparing these comments.

3. We acknowledge the Project's potential regional benefits but do not consider that it will deliver any regionally or nationally significant infrastructure or contribute to a "well-functioning urban environment". Further, we have identified several transport-related risks and adverse impacts, particularly around infrastructure staging, future transport network connections, transport upgrades, and potential safety and operational effects on various rural intersections. These matters are outlined in further detail below.

4. We consider that the Applicant has not yet adequately assessed the Project's potential impacts on the transport network or identified appropriate mitigation. As such, several transport-related matters require further technical input and assessment by the Applicant's experts.

5. Expert conferencing may assist in resolving key concerns and refining draft conditions.

4.0 Documents Reviewed

We have reviewed the substantive application material as it relates to AT that was deemed complete on 9th July 2026. These are listed as follows:

- Assessment of Environmental Effects and Statutory Analysis prepared by B&A, dated 24/04/26
- Appendix 9 – Auckland Surf Park Community Master Plan Parts 1,2, & 3, prepared by Studio Pacific Architecture, dated 05/06/26
- Appendix 26 – Civil Drawings Parts 1,2, & 3, prepared by McKenzie & Co. dated April 2026
- Appendix 29 – Infrastructure Assessment, prepared by McKenzie & Co. dated 08/06/26
- Appendix 31- Stormwater Management Plan, prepared by McKenzie & Co. dated 09/06/26
- Appendix 33 – Flood Assessment, prepared by Woods, dated 04/06/26
- Appendix 43 – Integrated Transport Assessment Parts 1,2,3,4 & 5, prepared by Flow Transportation Specialists, dated June 2026

Relevant s67 application material:

- Attachment 2- Transport - Addendum Transportation Technical Note, prepared by Flow Transportation Specialists, dated 25/08/26
- Attachment 3- Civil – Stormwater Treatment Device Schedule, prepared by McKenzie & Co, dated 25/08/26
- S67 Matters – Response Tracking Table, prepared by B&A, dated 14/09/26

5.0 Specialist Assessment

Silverdale Structure and Proposed Residential Activity

1. The Project is located within an area that is presently zoned Future Urban Zone (**FUZ**) and is expected to urbanise progressively over time. Auckland Council's Future Development Strategy (**FDS**) anticipates that bulk infrastructure delivery is not planned to support the subject site until 2035 onwards. As such, the project would occur ahead of much of the bulk transport network anticipated through the Silverdale Structure Plan.

2. While it is acknowledged that Stage 1 of the Project has already been granted consent in advance of the delivery of bulk transport infrastructure and services, Stage 2 of the Project includes residential activity, which was not anticipated as part of the Silverdale Structure Plan. Residential development has the potential to undermine and conflict with future transport networks.

3. These matters primarily relate to north-south access and access to the future rapid transit network (**RTN**) corridor, which require further consideration from the Applicant. These matters are addressed in further detail below.

Lack of North-South Connections

1. Roading Plan Sheet 1 Drawing No. 3325-2-3001 Rev B shows the private Spine Road attached to the public east-west Collector Road. This Spine Road provides the principal north-south connection through the subject site.

2. Objective E38.2(3) anticipates land being vested for roads, infrastructure and other public purposes, while Policy E38.3(19)(b) requires servicing to be extended to adjacent land, where that land is zoned for urban development. In this case, the proposed Spine Road and associated private roads (Lots 206 and 379) potentially limit future connectivity to the north of the subject site, if they are private.

3. We request that the Spine Road (Lot 2001), Lot 206 and Lot 379 are vested in Council as public roads to safeguard the opportunity for future public road access to the north. The Applicant should make any necessary design amendments to ensure that these roads meet the relevant Auckland Council engineering standards.

Access to the RTN

4. The future RTN is a vital component of the transport network proposed to serve the wider Silverdale area. While the RTN corridor is subject to a Notice of Requirement (**NOR**) by NZTA in the Auckland Unitary Plan (**AUP**), station locations have not yet been determined. As such, it is difficult to determine how the Project will clearly integrate with the corridor.

5. Nonetheless, the Applicant can ensure future public access to the RTN stations, by providing public road connections to the RTN corridor, which can be extended in future. In this case, the road network connecting the subject site with the RTN corridor is proposed as private and has the potential to limit access to a RTN station from the wider catchment. This is contrary to Policy E38.3 (1)(b), which requires subdivision that is connected to public transport, shops, schools, employment and other amenities.

6. The success of the RTN is inherently linked to its accessibility and resulting patronage. A station that is poorly connected to the residential and employment activities surrounding it, risks becoming isolated and underutilised, reducing public transport uptake and increasing reliance on private vehicle travel.

7. Accordingly, the Project should seek to maximise the accessible catchment of a future station by providing road(s) that can easily be extended to connect with future RTN stations. For instance, the Applicant could vest Lot 682 in Auckland Council and remove residential lots on the eastern side of the road to provide for a future public road connection.

Vehicle crossings on Dairy Flat Highway

8. The northern vehicle crossing onto Dairy Flat Highway is proposed to provide direct access for emergency vehicles and service vehicles. Given the higher speed environment on Dairy Flat Highway, the nature and frequency of vehicle movements using this access are important in understanding its potential road safety effects.

9. Further clarification is required regarding what is meant by “service vehicles” including the anticipated number and frequency of movements, vehicle sizes and the activities they will service. In particular, it should be confirmed whether this includes regular movements such as rubbish collection and delivery vehicles, as these could

result in more frequent use of the crossing than currently anticipated and introduce significant safety risks onto Dairy Flat Highway.

10. We are satisfied with the proposed southern vehicle crossing onto Dairy Flat Highway, subject to its use being restricted to vehicles associated with the operation and servicing of the water and wastewater treatment plant only. Section 8 below includes an amendment to land use condition (298).

Design of the Collector Road

11. We generally support vesting the east-west Collector Road in Auckland Council. However, there are some concerns about the road's design, which are outlined in further detail below.

12. The proposed east-west Collector Road will perform an important function within both the development and the future wider transport network. It is therefore important that its design accommodates its anticipated long-term function. We support the Applicant constructing this road in accordance with the Silverdale Structure Plan. However, we request that they alter the design to provide active mode infrastructure on both sides of the road, including front/back berms, cycle paths and footpaths. This would also provide direct connections to the proposed accommodation south of the Collector Road and avoid unnecessary gaps in the active mode network.

13. We also request further clarification on the width of Lot 2000 (the Collector Road). The cross-sections for the Collector Road generally indicate a width of between 20 and 21 metres. However, the scheme plans show Lot 2000 is a minimum of 25 metres in width. The Applicant should ensure that the road reserve is only as wide as necessary.

The Collector Road / Postman Road intersection

14. We support the roundabout design at the Collector Road / Postman Road intersection but have concerns about the proposed thresholds for triggering its construction.

15. Under the current wording of proposed Stage 2 land use condition 43 and Stage 1 condition 61, the Applicant has up to six months to submit detailed designs for EPA once the 300 or 360 vehicles-per-hour threshold is reached. A further period is then allowed after approval before construction must begin. This threshold fails to account for either the administrative time required to process the EPA or the duration of the construction phase itself.

16. We request that the Applicant amends the thresholds in Stage 2 land use condition 43 and Stage 1 condition 61 to account for this.

Collector Road / Dairy Flat Highway intersection

17. We are concerned about the proposed priority-controlled intersection at the Collector Road and Dairy Flat Highway, which is unchanged from the Stage 1 application. Dairy Flat Highway operates as a high-speed road with high traffic volumes. The posted speed limit near the site frontage is 80 km/h and the road carries over 9,000 vehicles per day. The additional trips generated by Stage 2 of the Project therefore require consideration to ensure they do not significantly affect the safe and efficient performance of the intersection.

18. We previously requested the rationale for the trip distribution at the Collector Road / Dairy Flat Highway intersection. The Applicant provided updated trip distribution assumptions and associated SIDRA modelling in its Transportation Technical Note. However, the SIDRA outputs in Figures 3 and 4 are very low resolution and cannot be reviewed. The Applicant needs to provide these outputs in higher resolution for review.

19. We previously requested sensitivity testing for the SIDRA models provided in section 5.5 of the Integrated Transport Assessment (**ITA**). The Applicant has not provided any sensitivity testing to date. For clarity, the Applicant should incrementally increase traffic flows on all approaches by 10% until the level of service (LoS) reaches E, then provide a copy of the movement summary table directly from SIDRA. The Applicant should also incrementally increase traffic flows on all approaches by 10% until the level of service (LoS) reaches F and provide a copy of the movement summary table directly from SIDRA.

20. We also previously queried the assumption that 40% of drivers will divert to the Collector Road / Postman Road once it is constructed. The Applicant's Transportation Technical Note explains that Postman Road "*provides connections to East Coast Road, which runs parallel to SH1 and leads to Silverdale, Long Bay, the north-east bays, bypassing SH1*". While it is accepted that some drivers will take this route, the 40% assumption may be too high. We request that the Applicant provides additional sensitivity testing for section 5.5 of the ITA, assuming that 20% of trips are diverted to the Postman Road roundabout once it is opened.

21. The sensitivity testing requested above is required to test the intersection under the highest reasonably foreseeable demand, which avoids understating potential operational and safety effects, and determines whether a priority-controlled intersection remains appropriate for the additional trips generated by Stage 2 of the Project or whether further mitigation is required.

Wider Network Effects

22. We remain concerned that the Application has not sufficiently assessed the effects of the Project on the wider transport network. In particular, the following intersections are expected to accommodate additional traffic generated by Stage 2 of the Project:
    - Wilks Road / Dairy Flat Highway Intersection;
    - Wilks Road / Postman Road Intersection;
    - Postman Road / Dairy Flat Highway Intersection.

23. These intersections are currently designed to serve a low-speed, rural road environment and may not be suitable for the increase in residential traffic generated by Stage 2 of the Project. Although the Applicant has provided trip generation and distribution estimates in the Transportation Technical Note, no corresponding SIDRA modelling has been provided. SIDRA modelling is required to assess the operational performance and capacity of each intersection with the additional development traffic, and to determine whether the existing layouts remain appropriate or whether upgrades or other mitigation are necessary.

24. Additionally, there are anomalies related to trip distribution in the Transportation Technical Note, which the Applicant should clarify. For instance, on page 36, it is stated that "*Traffic onto Postman Road / Dairy Flat Highway are all assumed to head*

to/from SH1 to the south, therefore all are through volumes". However, Figure 8 shows 35 vehicles turn right into Postman Road from Dairy Flat Highway.

25. The Application also has not adequately assessed the road safety effects of the Project at these intersections. As previously requested, a road safety assessment should be provided for these intersections, including consideration of available sight distances in accordance with the Austroads Guidelines, to demonstrate whether they can safely accommodate the additional traffic generated by the development and identify any necessary mitigation.

Stormwater

The Application proposes new stormwater assets associated with the east-west Collector Road that are to be vested, including:

- Catchpits and associated surface drainage network.
- Cross culverts (x2).
- Raingarden 3.
- Wetland 4.

A detailed assessment of the proposed stormwater assets, outstanding matters and associated recommendations is provided in the **attached** stormwater memo.

There are also outstanding matters which require further clarification. Additional requests for further information are detailed below in Section 6 below.

6.0 Section 67 Information Gaps

1. Define what is meant by "service vehicles", including the anticipated number and frequency of movements, vehicle sizes and the activities they will service. In particular, confirm whether this includes regular movements such as rubbish collection and delivery vehicles.

2. Provide clarification on the width of Lot 2000 (the Collector Road). The cross-sections for the Collector Road generally indicate a width of between 20 and 21 metres. However, the scheme plans show Lot 2000 is a minimum of 25 metres in width. The Applicant should ensure that the road reserve is only as wide as necessary.

3. Provide higher resolution images of Figures 3 and 4 in the Transportation Technical Note.

4. For section 5.5 of the ITA, the Applicant should incrementally increase traffic flows on all approaches by 10% until the level of service (LoS) reaches E, then provide a copy of the movement summary table directly from SIDRA. The Applicant should also incrementally increase traffic flows on all approaches by 10% until the level of service (LoS) reaches F and provide a copy of the movement summary table directly from SIDRA.

5. The Applicant should provide additional sensitivity testing for section 5.5 of the ITA, assuming that 20% of trips are diverted to the Postman Road roundabout, once it is opened.

6. Please clarify the trip distribution assumptions in section 4 of the Transportation Technical Note and update accordingly. Please also provide appropriate intersection modelling and safety assessments, including available sight distances, for the following intersections:
    a. Wilks Road / Dairy Flat Highway Intersection;
    b. Wilks Road / Postman Road Intersection;
    c. Postman Road / Dairy Flat Highway Intersection.

7. Provide culvert calculations for Culverts 1, 2, and 3; (refer to RFI response number 7.14 for more details) including contributing catchments and design flows, demonstrating that the culverts are appropriately sized and do not adversely affect upstream or downstream properties and that they are sized correctly. This includes, but is not limited to:

    a. Catchment areas for the culvert.
    b. Flow rates.
    c. Tailwater conditions due to the network being subcritical.
    d. A calculation of the culvert capacity.

8. Confirm the sizing and design information for Wetland 4. The information currently provided is inconsistent (refer to RFI response number 7.18), and it has not been demonstrated how the stormwater system will meet the retention requirements for AT roads.

9. Confirm that runoff from the new Postman Road roundabout and approximately 300 metres of upgraded Postman Road will require treatment. It is noted that there is no stormwater network proposed to capture flow past the crest and areas. Refer to RFI response number 7.17 for more detail.

10. On the Collector Road between chainages 560 and 840, provide further details of the swale sizing for the 1% AEP event and the interface between the swale, safety barrier, retaining wall, manhole and stream. The information provided does not yet demonstrate a robust and safe solution that adequately addresses constructability, maintenance, accessibility and operation. (RFI 7.20).

11. Overland flows are shown in drawing (3325-2-4652-B) and shown in RFI response 7.21. Overland flow paths 1-3 include flow from the north discharging over the road due to catchment slope and no cutoff drain. Within this context, the Applicant should provide:
    a. 1% AEP flow with depth, velocities, and corresponding hazard classification for flows that cross the road.
    b. Confirm that these overland flows (1,2 and 3) have been included in the conveyance of the 1% roadside drain along the Collector Road.

7.0 Recommendation

Based on the information currently available, we are unable to determine with sufficient confidence the full extent of the Application's adverse transport effects or whether the proposed mitigation is adequate.

Should the Panel nevertheless determine that the Application should be approved, we recommend the new and amended conditions outlined in section 8 below. All other relevant conditions are supported on the basis that the outstanding requests for information above are resolved.

8.0 Proposed Conditions

The table below contains the relevant conditions we support with amendments, along with suggested new conditions. We have followed the numbering of the Draft Conditions identified in appendices 59–65.

Condition	Proposed Conditions	Comment or suggestion
43-46 Stage 2 land use conditions & 61-61C varied Stage 1 conditions	<u>Postman Road Connection</u> The Consent Holder must design and construct the connection of the East-West Collector Road between Dairy Flat Highway and Postman Road, including the construction of a roundabout at the intersection, when traffic volumes on the East-West Collector Road, measured immediately to the east of its intersection with Dairy Flat Highway, exceed either of the following thresholds: (a) 300 vehicles per hour (two-way) during the morning peak hour (between 7:00am and 9:00am); or (b) 360 vehicles per hour (two-way) during the evening peak hour (between 4:00pm and 6:00pm). (44) The traffic volumes must be measured every six months with results provided to the Council. The threshold is deemed to be exceeded when the average weekday peak hour traffic volume meets or exceeds either (a) or (b) thresholds as detailed in Condition (43). Advice Note: The traffic volumes must be measured by a qualified traffic engineer by way of a traffic survey, with results reflecting a 5-day weekday average undertaken over a neutral week (outside public or school holiday periods). (45) Engineering Approval plans for the design of the roundabout must be submitted within 6 months of a	Amend conditions to account for both the administrative time required to process the EPA and the duration of the construction phase itself.

	Condition (43) threshold being exceeded (or as otherwise agreed in writing by Council) and must be in accordance with the requirements of Auckland Transport and applicable engineering standards. (46) Construction of the approved roundabout design as required by Condition (45) must be commenced within 6 months of the issue of engineering approval (or as otherwise agreed in writing by Council).	
298 Land Use Consent	Access Vehicular access to/from the WWT Precinct must: (a) Be via the Live/Work Precinct (Lot 527); and (b) Be restricted to left turn exit-only movements onto Dairy Flat Highway. No vehicle entry from Dairy Flat Highway is permitted. (c) Only be used by vehicles associated with the operation and servicing on the WWT Precinct	Amend to clarify that the vehicle crossing is only to be used by vehicles associated with the WWT Precinct.
New condition	x. The consent holder must use a kerb with a cut out detail for the Collector Road as per the Auckland Transport Design Manual between swale and road verge.	Proposed new stormwater condition.
New condition	x. The consent holder must design and construct Swale 4 to convey the 1% AEP flow without sheet discharge from the road over the retaining wall into the channel.	Proposed new stormwater condition.
New condition	x. At the engineering plan approval stage, the consent holder must provide a constructability and safety-in-design assessment of the retaining wall, manhole, subsoil drainage and barrier beam. The assessment must demonstrate that the proposed design provides a workable, robust and accessible solution.	Proposed new stormwater condition.
New condition	x. At the engineering plan approval stage, the consent holder must provide design certification	Proposed new stormwater condition.

	from a suitably qualified designer confirming that sufficient space is available to accommodate the design deflection of the barrier beam and enable it to operate effectively.	
New condition	x. At the engineering plan approval stage, the consent holder must provide an assessment of the depth–velocity product at each location where an overland flow path crosses or spills over a proposed road, for both the 10% and 1% AEP events shown on Figure 3325-2-4652 Rev B. The assessment must demonstrate compliance with Table 3 of the Road Drainage chapter of the Transport Design Manual.	Proposed new stormwater condition.

MEMO

TO:	Liam Burkhardt	**DATE:**	24 September 2026
FROM:	Shannon Bridge	**PROJECT NO.:**	CS-4207
COPY:	Sean Pearce		
SUBJECT:	FTAA-2606-1246 - Auckland Surf Park Stage 2– Conditions of Consent		

BACKGROUND

This memo records Auckland Transport's stormwater assessment of the FTAA-2606-1246 Surf Park Stage 2 application and identifies the:

- Assets to be vested
- Design concerns with those assets
- Conditions of consent on the assets
- Advice notices on the assets

CURRENT VESTING STATUS

STAGE 1 VESTING

No Stage 1 infrastructure has been vested in Auckland Transport (reference 1.3 under table 2: summary of Auckland council comments received, and responses required under the Auckland Surf Park Decision report and conditions of consent).

STAGE 2 VESTING

The Stage 2 assessment considers the following assets proposed to be vested in Auckland Council / Auckland Transport, as shown in Figure 1, Drawing 3325-2-02 Ownership and Vesting PlansFigure 1 which is the applicant's Engineering Drawing 3325-2-0020-

- Stormwater drainage assets on The Collector Road including scruffy domes pipes and outlets (in green).
- Wetland 4.
- Raingarden 3.
- Two Culverts (names Culvert 2 Culvert 3).
- Intersection upgrade treatment at Postman's Road.

All JOALs, car parks, the Spine Road and the bridge are NOT proposed to be vested in Council and have therefore been excluded from this review.

Under section 4.3.9.8 of Auckland Council's Stormwater Code of Practice, culverts serving private vehicle crossings within the road reserve are to be owned and maintained by the property owner. This applies to Culvert 1.

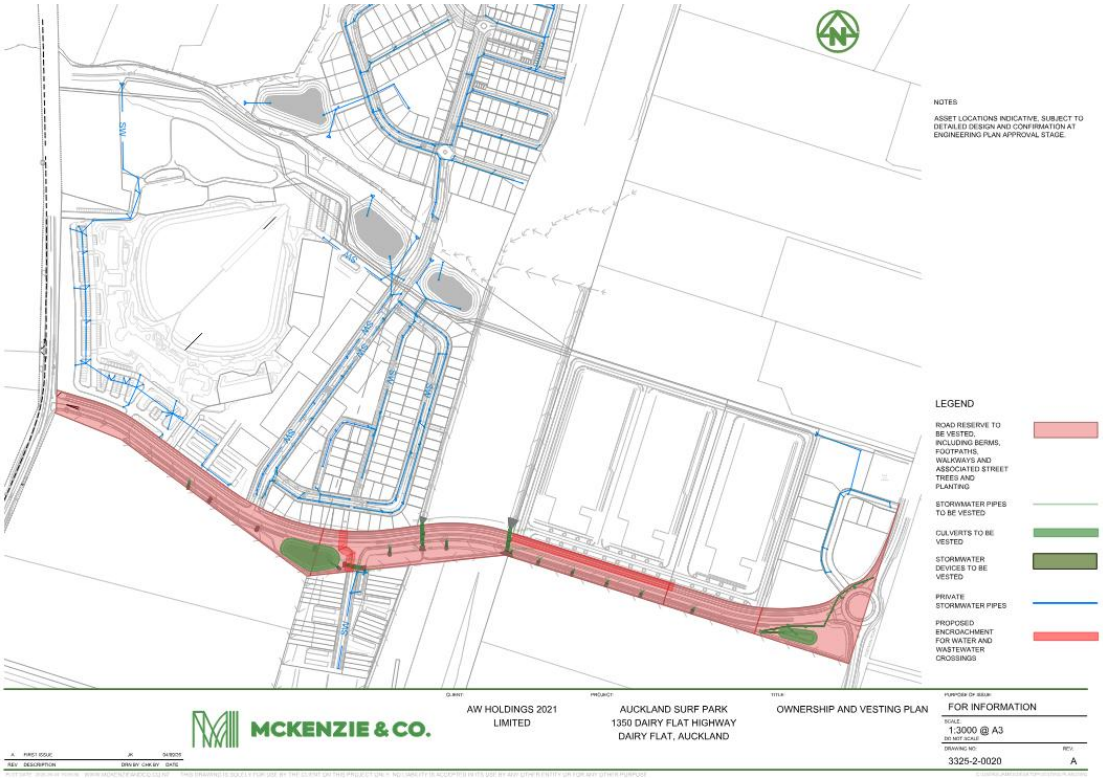


Figure 1, Drawing 3325-2-02 Ownership and Vesting Plans

DECISION

We do not recommend that this application be accepted in its current state due to the below outstanding RFI items. However, if the outstanding RFI items are resolved our stance would be one of supportive.

1) Provide culvert calculations for Culverts 1, 2, and 3; (refer to RFI response number 7.14 for more details) including contributing catchments and design flows, demonstrating that the culverts are appropriately sized and do not adversely affect upstream or downstream properties and that they are sized correctly. This includes, but is not limited to:
    a. Catchment areas for the culvert.
    b. Flow rates.
    c. Tailwater conditions due to the network being subcritical.
    d. A calculation of the culvert capacity.
2) Confirm the sizing and design information for Wetland 4. The information currently provided is inconsistent (refer to RFI response number XX 7.18), and it has not been demonstrated how the stormwater system will meet the retention requirements for AT roads.
3) Confirm that runoff from the new Postman Road roundabout and approximately 300 m of upgraded postman Road will require treatment. It is noted that there is no stormwater network

proposed to capture flow past the crest and areas. Refer to RFI response number 7.17 for more detail.

4) On the collector road between Chainages 560 and 840 provide further details of the swale sizing for the 1% AEP event and the interface between the swale, safety barrier, retaining wall, manhole and stream. The information provided does not yet demonstrate a robust and safe solution that adequately addresses constructability, maintenance, accessibility and operation. (RFI 7.20)
5) Overland flows are shown in drawing (3325-2-4652-B) , and shown in RFI response 7.21, OLFP's 1-3 include flow from the North discharging over the road due to catchment slope and no cutoff drain. Within this context, the applicant should provide:
    a. 1% AEP flow with depth, velocities, and corresponding hazard classification for flows that cross the road.
    b. Confirm that these overland flows (1,2 and 3) have been included in the conveyance of the 1% roadside drain along the collector road.

SECTION 67 RESPONSES/ CLOSE OUT

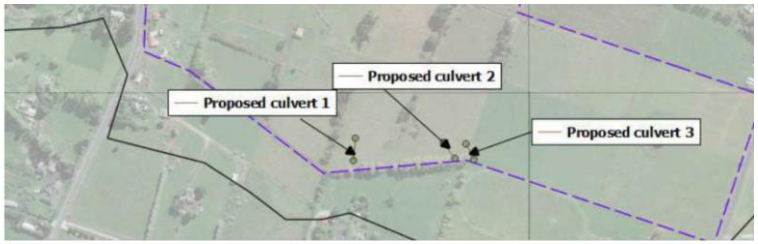
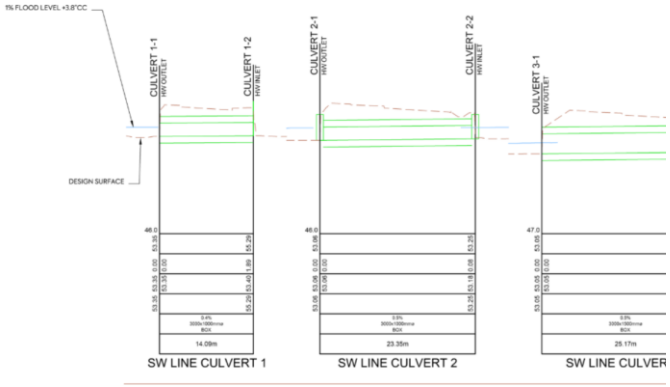
Stormwater			
	AT QUESTION	Applicants Response	AT RESPONSE / CLOSED OUT
7.14	There is incomplete and inconsistent information on the AT culverts. (a) Please confirm all culvert sizing that is not provided in the drawings. (b) Please demonstrate full compliance with section 4.3.9.8 of the Auckland Council Stormwater Code of Practice through drawings and calculations.	(a) Updated drawings include culvert Long sections, showing size, invert levels, gradient, length and material for every culvert on roads proposed to vest; refer to drawing 3325-2-4103 Rev A and 3325-2-4000 Rev E for details (refer **Attachment 2**) (b) A schedule demonstrating compliance with the requirements of s.4.3.9.8 of the Auckland Council Stormwater Code of Practice is included. refer to Infrastructure Report Revision G, Appendix C for the compliance schedule. The culverts are sized in accordance with the Woods flood modelling memo 4 June 2026	OUTCOME: remains open Applicant has provided a summary of 1) Compliance table 2) The long sections of the culverts For Resource Consent: Auckland Transport would expect to see the following as evidence that these culverts do not adversely affect properties upstream and downstream and that the infrastructure has the capability to provide conveyance: • Peak 1% AEP flow rates (including the whole catchment and overland flow paths • Tailwater conditions assumptions • Calculation to show that the culvert is sized correctly. Referring to Appendix 33 Flod memorandum, Woods Memo 4 June 2026 shows the following as per applicant's response, we have found inconsistencies with the modelling report and the design  Figure 2: Culvert Locations

Table 4: Proposed Culvert Details

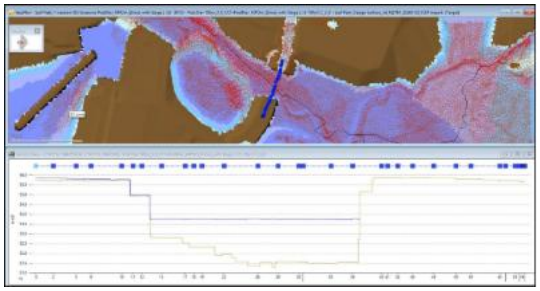
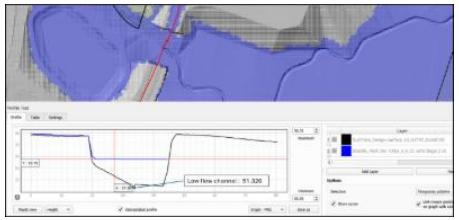
#	Asset name	Asset type	Dimension (mm)	Upstream invert level (m RL)	Downstream invert level (m RL)	Source of info
1	Proposed Culvert 1	Culvert Box	3000 x 1000 mm	52.8	52.7	McKenzie
2	Proposed Culvert 2	Circular Culvert	1350mm Dia	52.96	53.2	McKenzie
3	Proposed Culvert 3	Circular Culvert	1350mm Dia	53.0	53.3	McKenzie

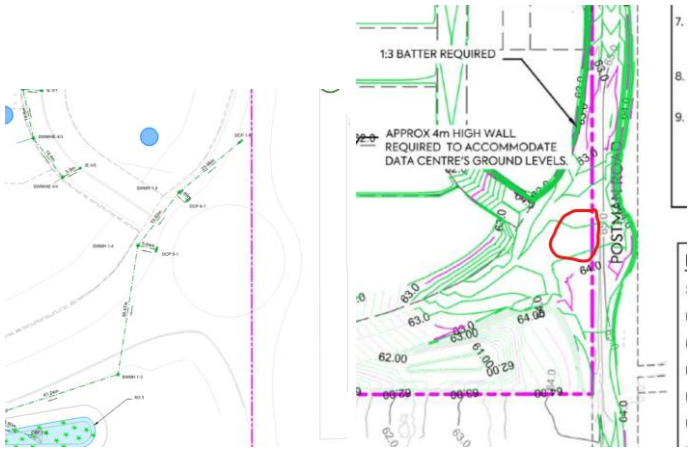


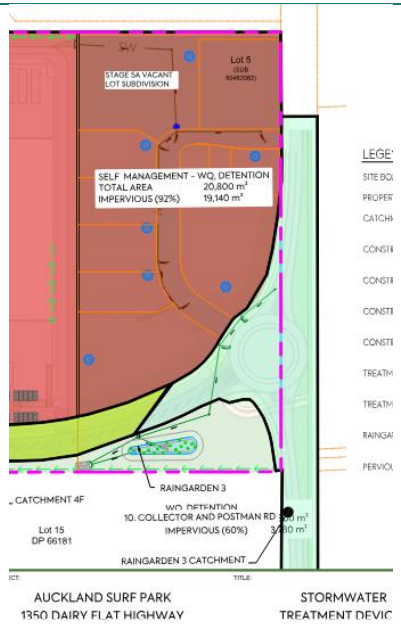
1) No catchment drawings for these culverts are provided
2) These sizes do not match the design
3) The peak 1% AEP flow rates are not provided
4) The invert levels are inconsistent between the information provided.
5) The orientation of the culverts on the MAP are inconsistent with the design which means flows will be incorrectly modelled

This information cannot be used to assess whether the culverts can be vested to Auckland Transport

7.15	Drawing civil package 2 *Cross section 4, 3725-2-4615* Section 4 shows an uncontrolled spill of the roadside drainage into the ex-land ditch that looks to be unformed/untouched. (a) Please confirm if any works will be done to the existing roadside drain. Will riparian planting be undertaken and any stability works on the embankments? Confirm details on how/ if this will be vested. (b) Please confirm the location, cross slope and discharge method from the roadside GD-01 drain into the existing ditch and if any erosion protection of chutes will be required.	(a) Only minor works within the drain are proposed, for aesthetic reasons, and constructing rip rap and pipe outlets, and shaping for flood storage. The swale is sized to cater for flows up to the 10% AEP event, with discharges into the drain proposed are strategic locations. Flows over the 10% flow will discharge to the drain through rip rap lined channels. Therefore no uncontrolled discharges are proposed out of the swale into the drain. This drain is contained within the proposed road reserve to vest, lot 2000 on plan 3325-2-1001 Rev D. (b) The swales are labelled on plan 3325-2-4000 Rev E, being swales 1 - 4. Each swale is sized for water quality treatment and flows up to the 10% AEP events. Flows contained within in the swale in excess of the 10% AEP, are proposed to "spill" or be discharged through regular riprap outlets, to discharge the water to the adjacent conveyance swale. discharge locations are shown on plan 3325-2-4000 Rev as areas of Riprap between the treatment swale and the conveyance swale. Exact locations and sizes of these are proposed to be included as part of the EPA application. An updated detail will be provided showing the location, cross slope and discharge point from the GD-01 roadside drain into the existing ditch, together with erosion protection (rip-rap or equivalent chute) at the discharge point sized in accordance with GD01 maximum permissible velocities at EPA stage.	a) Accept: updated drawings for riprap locations to be located at EPA. b) Updated Drawing 3325-2-4000-E provides clearer understanding of the network. EPA as the treatment swales is separated out from the 1% AEP flows. CLOSED
7.16	There are inconsistencies within the Stormwater Flood memorandum as to whether the		Not reviewed by AT as no longer Vested. CLOSED

	constriction of the bridge over the Spine Road at CH380 has been modelled. ( ) Please confirm whether the flood model includes the restriction of the abutments and restriction of the bridge or not. (a) Please provide minimum soffit level for the bridge structure.	The bridge over Spine Road at CH380 has been modelled as a burn-through structure, based on the design surface. The bridge abutment on the northern side has is incorporated into the model mesh based on the terrain / design surface.  B) The top water level at the bridge location is 53.76 mAD, therefore, the minimum soffit level is 600mm higher, being 54.36mAD The lowest surface of the bridge is currently 55.8m, leaving approximately 1.44m to accommodate the bridge deck thickness. 	

7.17	Raingarden at Postmans Road Roundabout: Drawing 3325-2-4645 Rev E has this area as being part of "Constructed Wetland 4 Catchment" (with the blue polygon as opposed to a teal polygon) - it is unclear what treatment is being provided for this area. ( ) Can the applicant please clarify the treatment for this area and whether the roundabout device is a raingarden or wetland? (a) Further to the above, please confirm how the new Postmans Road roundabout is proposed to be treated.	(a) The device at the Postmans Road roundabout is a raingarden, and it is not part of Constructed Wetland 4. The polygon colour on Drawing 3325-2-4640 Rev E, and 3325-2-4645 Rev F, has been updated to match the colour for a raingarden (teal), and the swale treatment areas are shown in green. The raingarden treats runoff from the roundabout carriageway prior to discharge (refer Attachment 2) (b) The Postmans Road roundabout carriageway drains via kerb and channel which in turn discharge to catchpits, which subsequently discharge to the raingarden, which has been sized to accommodate the full impervious area of the new Postmans Road roundabout to GD01 treatment. The raingarden then discharges to the conveyance boundary channel along the boundary to the west. This arrangement is shown on drawing 3325-2-4022 RevC.	OUTCOME: remains open Postman Road Collection and drainage design looks incomplete for the Roundabout. Collection is shown on the Western Side of the roundabout only whereas the catchment for the roundabout is showing 3780m2 which includes. the upgraded length of postman Road including the roundabout  Treatment areas are inconsistent with the design and reports. It is still unclear if the development is that the treatment device is collecting and treating the full area (both sides of the Postman's roundabout and past the crest to the south and duel crossfall to cover ALL new roading surface) AT states that stormwater infrastructure should cover the new roundabout and upgraded surface at postman Road including treatment.

			
7.18	Collector Road ( ) Stormwater treatment plans are missing for many sections of the East-West Collector Road in the Civil Drawings Part 2. Please provide these. (a) There is inconsistent information around CH440 with water conveying in a flood plain to the east, while the stormwater management plan suggests road water is conveying to	(a) Drawing 3325-2-4640 shows the treatment proposed for the collector road, being treatment swales for the full length except for the postman road roundabout, which is proposed to be treated with a raingarden. (b) It is unclear which drawing is being referred to (perhaps drawing 3325-2-4000) which shows conveyance channel heading west at Ch440. We confirm the direction of treatment flow in the roadside swale at CH440 is east to west, which discharges into the conveyance swale to the south, which conveys flows to the culverts. The swale provides GD01 compliant treatment, prior to being discharged to the conveyance area to the	OPEN: Incomplete and inconsistent information results in the sizing assessment of the wetland has not been undertaken In the main drawing set, there is no Wetland Layout plan (up to wetland 3 is provided 3325-2-4802, stormwater plan sheet 19 (3325-2-4020 Rev D) shows the outline of the Wetland. Wetland shows NO forebay , inlet design, wetland zones or general compliance to a GD-01. Wetland 4 catchment is STATED as 10,550m2 as per drawing 3325-2-4646-B, no catchment area provided on the drawing. Wetland catchment is 8,700m2 as per calculation 3325-2-4647 Wetland catchment is 8,249m2 as per calculation within the Stormwater management plan

	the west to the wetland for treatment. Please clarify.	south. Plan 3325-2-4025 Rev D shows the direction of flow.	Catchment 2 catchment Incorrect as half of the catchment goes to Wetland 4. Wetland 4 calculations are not provided in appendix of Stormwater management plan (finishes at Wetland 3)
7.19	The catchment plan for stage 2 indicates that surface drainage water from the West (CH560 to CH350) will enter wetland 4 . Cross section 2 -2,3725-2-4616 demonstrates inconsistent information and there is missing infrastructure off the drawings. ( ) Please confirm how surface water from CH350 to CH560 is conveyed into the wetland for stage 2. (a) Please confirm if there is a separate treatment culvert/pipe network under the JOAL – private industrial into the wetland. (b) Please also provide more detail on how water from CH0 to CH330 will be conveyed to the wetland.	(a) Retention and detention for the collector road catchment are achieved on a catchment wide basis within Wetland 4. Surface water from CH350 to CH560 does not discharge to Wetland 4, the flows delivered from Swales 1 and 2 provide offset volume that over compensates for the areas served by Swales 3 and 4. Runoff from CH350 to CH560 is instead collected and treated by Swale 3 within GD01 compliant vegetated swales, and discharged to the conveyance channel to the south. (b) This dedicated pipe network that services Joal 1, discharges to private Raingarden 2, shown on drawing 3325-2-4000 Rev E. this services the entire area to the south of Road 2 - collector road. (c) Runoff from CH0 to CH330 is conveyed east via the southern kerb, which discharges into the top of treatment swale 1, which in turn connects to the wetland inlet at CH330.	OPEN: Incomplete and inconsistent information results in the sizing assessment of the wetland 4 has not been undertaken Applicant has not shown how retention for the road will be addressed refer to table 5 Summary of the Stormwater Management Devices(page 27 of Appendix 31 stormwater management Plan). Wetlands do not provide a mechanism for retention. Retention requirements of 43.5m3 as per 3325-2-4647-B cannot be provided in a wetland as per GD_01. And as general design principles. Applicant has not shown how retention will be provided for the new road. Detention requirements has been stated as 370m3 as per 3325-2-4647-B and 354m3 within the drawing 3325-2-4646-E
7.20	Treatment Swales ( ) Please provide swale names and references for each catchment if these are	(a) Plan 3325-2-4000 Rev E notates each swale, named 1-4 which links each swale to its catchment reference on plan 3325-2-4640 to 4646 Rev E. Full GD01 treatment is provided.	There are no calculations contained with the infrastructure report. (refer to page 26 of stormwater management report) OPEN: More information about the constructability and space requirements for the barrier, the swale, the manhole and the

	to be used and provide a map of their location. Please confirm if they don't meet GD01 or provide partial treatment. (a) Please mark up a drawing to show treatment swales on stormwater drawings as a different colour to conveyance swales. (b) Please provide calculations on treatment capability of the swales, and where these are also used to convey the 1% AEP. Please provide evidence that resuspension is unlikely to happen as per GD_01 maximum velocities.	(b) Treatment swales will be shown in a distinct colour from conveyance swales in the reissued stormwater drawings, with a legend added. (c) Hydraulic calculations are provided in Appendix C of the infrastructure report, demonstrating water quality treatment and 10% AEP capacity for each swale. Swales do not convey the 1% AEP, because this is diverted to the conveyance channels, which form part of the flood model and report undertaken by Woods.	retaining wall along the collector road between CH560 and CH820 will need to be provided additional information to show that this is a workable solution in the space provided. Swale 4 causes some concern, about the sizing and the 1% AEP flow. Drawing and the interface of the barrier beam collection system and the retaining wall. More information about this system is required as we are unsure if this system will work and function with the space available behind the retaining wall and for access. b) Treatment calculations have been provided Closed thank you, Agree the 1% AEP are not conveyed in the treatment swales. Maximum velocities, Closed. c) hydraulic calculations have not been provided for main conveyance channels and while this is a natural drain, and the extent has been provide in very SMALL flood maps and indicatively on cross sections. Level of service for 10 year can be addressed at EPA and within the culvert calculations.
7.21	Hazard flood Assessments: Please provide an analysis of the depth-velocity product where the OLFP spills over the proposed roads, demonstrating that the requirements of Table 3 of the Road Drainage chapter of AT's TDM are met.	There are no OLFP spills over the public Road 1 - collector road. All internal roads are private and will not be vested to AT.	OPEN cross sections in the drawings for the collector road show a one-way cross fall with no designated collection on the upstream side. There are five overland flow discharge locations over Auckland Transport Roads shown on drawing 3325-2-4653-E for RD1, as pictured below.

			 Flows 4 and 5 are from modelling of 100% blockage on culverts. However, 1-3 include flow from the north discharging over the road due to catchment slope and no cutoff drain. Within this context, please provide: a. show 10% AEP flow width depths and velocities at 1,2,3 only, or a method of capture for the 10% flows. b. 1% AEP flow with depth and velocities at 1,2 and 3 only. c. Confirm that these overland flows have been included in the conveyance of the 1% road side drain along the collector road.

7.22	Key design requests that may impose significant change to land requirements ( ) Kerbs are required in a suburban setting with interruptions/kerb cut off for sheet flow. (a) AT won't accept primary flow discharging over a retaining wall. This may result in a change to stormwater design.	(a) McKenzie & Co accepts that kerb and channel with appropriate cut-outs are required in the suburban setting. Kerbs shown on cross sections, have been revised to include kerb interruptions at swale entry points and other locations where sheet flow discharge is required. Revised cross-sections are provided by drawings 3325-2-3601 to 3604 (refer **Attachment 2**) (b) Primary flow discharge over retaining walls are not part of the design. Swales along the top of the wall, discharge to catchpits, which in turn enter a pipe system which subsequently discharge to the conveyance channel. This arrangement is shown on drawing 3325-2-4024 Rev D, and cross section 3325-2-3604 Rev B.	OPEN: see Question: 7.20 Confirmed: agree the use of cut out kerb required. B_1 The space allocated does not allow for the installation of a normal 1050mm along with the foundations require to install a barrier beam. This will need to be revised to a workable solution for AT vesting. B_2 600mm manholes do not allow for access into the system. and should be only used when the manhole is less than 1m, this configuration does not comply with SWCOP standards B_3 Accept this as a condition.

INPUT DOCUMENTS

AT stormwater– Documents Reviewed

- Assessment of Environmental Effects
- Appendix 9 – Masterplan
- Appendix 26 – Civil Drawings
- Appendix 29 – Infrastructure Assessment
- Appendix 31 – Stormwater Management Plan
- Appendix 33 – Flood Assessment
- Appendix 43 – Integrated Transport Assessment
- Appendices 60-61 Conditions'

Updated document:

drawings issued: 14/09/2026 including:

- Updated catchment drawings
- Updates stormwater drawings along The Collector road
- Calculations for swales for treatment
- Compliance check list for the culverts
- Sec67 responses

PURPOSE OF OUR REVIEW

For an **Auckland Transport stormwater / road-corridor review on the collector road and associated infrastructure**,

The core questions are:

- What runoff enters or crosses the road corridor,
- What culverts that will be vested to AT have adequate capacity and don't negatively impact upstream areas, and the road uses.
- Is the proposed design basis enough to have confidence in the design?
- Whether the proposed capture, conveyance and treatment are suitable for AT.
- Whether flooding creates an unacceptable hazard to road users or worsens flooding within or adjacent to the road corridor.
- Auckland Transport owned treatment devices, are they appropriate located, do they meet sizing requirements, and do they work as intended for the purpose of land requirements.
- Are treatment swales sized properly determining space requirements.

ASSUMPTIONS

The following assumptions apply to this assessment:

1. Road is classed as Urban/Suburban area.
2. There is no street parking along the collector road as per typical cross sections.
3. Safety barriers are reviewed by a safety specialist.
4. Retaining walls are reviewed by a retaining wall specialist for surcharge loading.

5. Overland flow paths downstream of the culvert outlet have not been assessed.
6. Overland flow paths on private property with catchments equal or greater than 4000 m2 shall be protected by registered easements in favour of Auckland Council.
7. Healthy Waters have accepted that the stormwater flood model is acceptable for use.

ASSET REVIEW

The following sections have split the requests into the following stormwater elements:

1. Road surface drainage.
2. Culverts.
3. Treatment.

ROAD SURFACE DRAINAGE DESIGN

Asset:

- The new roundabout for Postman's road and replacement and width extension along 300m of postman Road is to be designed for road surface drainage including catchpit spacing and flow width checks.
- Collector Road from Dairy Flat Highway to Postman's Road.

Conditions

1. The applicant is to use a kerb with a cut out detail as per the Auckland Transport Design manual between swale and road verge.
2. Auckland Transport will not accept sheet discharge over a retaining wall from the road into the channel. Design should allow for a 1% AEP flow within Swale(s) 4.
3. Applicant to provide a constructability and safety in design of the retaining wall/manhole/subsoils/ barrier beam to confirm that there is a workable solution that provides a robust and accessible assets.
4. Design to confirm the deflection and barrier beam has enough space to work efficiently by a qualified designer.
5. Applicant to provide depth-velocity product where the OLFP spills over the proposed roads, demonstrating that the requirements of Table 3 of the Road Drainage chapter of AT's TDM are met. For overland flow for 10% and 1% for overland that are shown in figure 3325-2-4652 rev B

Advice Notices:

- Road surface drainage design for Postman's road to be submitted with appropriate flow width spread calculation and intersection requirements at EPA.
- As per Auckland Council Standard Code of practice, the use of 600mm manholes is restricted to a depth of less than 1m, a 600mm diameter manhole will not be acceptable in this location due to depth and accessibility.
- The applicant is to provide drawings showing access to all AT assets at EPA approval.

CULVERTS

ASSETS

Two culverts are proposed to be vested: Culverts 2 and 3, which pass beneath the Collector Road.

Culvert 1 passes under a private road and therefore as per the Stormwater Code of Practice section 4.3.9.8 This remains the owner of the private way, even if it is located within the AT Road Reserve.

Conditions:

6) Culverts to be designed in accordance with Auckland Transport Design manual, Stormwater code of practice and the NZTA bridge manual (where applicable). Proof to be provided in calculations. This includes, but is not limited to:
    a. Catchment areas for the culvert.
    b. Flow rates.
    c. Tailwater conditions due to the network being subcritical.
    d. A calculation of the culvert capacity.

1. Culvert 3 is considered a major culvert because its total waterway area exceeds 3.4 m^2. The design will be in accordance with NZTA bridge manual bridge, ACOP and the structures section of the TDM, in addition to being a stormwater asset.

2. Section 7.9 Hydraulic Connectivity states that fish passage will be provided (page 38 of the Stormwater management Plan) – Fish passage to be considered with supporting calculations

3. Maintenance access is to be provided to culvert inlets, including a safe pull-off area clear of live traffic.

Advice Notices:

Culverts under road fencing or barriers are to be designed to Auckland Transport requirements.

TREATMENT

RAINGARDEN 3 – Raingarden at postman's Roundabout:

Conditions:

1. Runoff from the new postman's Road roundabout and approximately 300 m of upgraded postman Road is to be treated.
2. The raingarden is to be designed in accordance with GD01 and accepted good practice.
3. Provide pretreatment for gross pollutants prior to the raingardens, note that GPT's are preferred. GD01 requires pretreatment for devices >50m2, Raingarden 3 is size is greater than 132m2.
4. Design to allow for adequate maintenance entry/exit to/from road into the raingarden area.

Advice Notices:

1. The raingarden is to be designed in accordance with GD01 and accepted good practice.
2. Planting will be in accordance with the Auckland transport bio retention planting guide.
3. Design to be accordance with Auckland Transports Bio retention design guide
4. Raingarden to be in accordance with the raingarden safety practice Note 03 Final version.

5. Design will need to provide evidence that exit levels on the raingarden are achievable into the swale considering the depth of the underdrain required depths of media and transition layers as per GD-01 and the level of the swale.
6. Confirm groundwater depth and soil permeability in this location at EPA to meet infiltration requirements,
7. Raingarden is greater than 3m from any structure or embankment or road surface.
8. Applicant to reconsider inlet location on the raingarden as per best practices.

Treatment Asset: Wetland 4

Conditions:

- Wetland 4 is to be designed in accordance with GD01 and accepted good practice.
- Wetland 4 catchment is to extend from Chainage 0 to chainage 390, Treatment area has not been provided consistently.
- Provide pretreatment for gross pollutants prior to the raingardens, note that GPT's are preferred. GD01 requires pretreatment for devices >50m2, size is greater than 132m2.

Treatment assets 3: Treatment swales

Conditions

1. The applicant is to extend the planting plan between CH230 and CH560, between the swale and the main channel, to support stormwater and erosion-control outcomes.
2. All treatment swales are to be planted in accordance with GD01.

Advice Notice

1. Roadside drain capacity assessments are to include contributing upstream catchments and any overflow entering from adjacent catchments.
2. Swale outlets are to discharge to the defined stream/conveyance channel rather than freely onto the floodplain, as currently shown on Drawing 3325-2-4025.

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