Further Information response to Clause 23 Schedule 1 request

#	Specific Request	Reasons for request	Applicant Response
Planning			
PL1	Please incorporate the Medium Density Residential Standards into the proposed precinct.	The ways in which any adverse effects may be mitigated; Comment: the MDRS is required to be incorporated into any plan change request, or else the Council cannot accept the plan change at the clause 25 decision. Please see attached the standards to be incorporated.	The MDRS standards have been incorporated into the proposed Whenuapai Green precinct provisions. See **Attachment A**.
PL2	On Whenuapai Green Precinct Plan 2 – Noise Mitigation Areas, there is Category 2 and 3 areas; can you clarify if there is a Category 1 area on the plan change site?	The nature of the request in respect of the effect it will have on the environment, including taking into account the provisions of Schedule 4;	Please refer to page 7 of the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**). Category 2 areas have the potential to reduce to become Category 1 areas/facades if facades are shielded from the noise source and a 3 dB reduction applied. Precinct Plan 2 has been updated to a noise contour map (noise propagation models) for engine testing (as per Appendix I of the Acoustic Assessment report). The associated category noise levels have been added to Appendix 2 of the Precinct provisions to provide clarity. If a reduction in external noise levels is warranted, it would be made against the levels in the contour map for a subject location.
Funding and Finance – Rosie Eggers			
DPO 1	A Funding Plan is requested to be submitted which outlines indicative cost, intended funding party, whether the project has any allocated funding or a funding agreement in place for additional bulk infrastructure upgrades that would normally be funded by Auckland Council.	The applicant has not submitted any information that covers the funding and financing of infrastructure for the required infrastructure projects nor have any conversations been entered into with Council or infrastructure providers regarding Infrastructure Funding Agreements. This information is required to better understand how infrastructure to manage the wider cumulative effects will be funded. This is important as the applicant proposes to move ahead	The precinct provisions require the applicant, or any future applicant/developer, to provide a suite of self-funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure funding contributions from Auckland Council, Watercare or Auckland Transport.

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		of proposed infrastructure timings and there is no allocated funding for this infrastructure should it be required	It is the responsibility of the applicant to resolve direct effects associated with the plan change and not significantly contribute to an existing issue. Lack of funding or a funding plan is not a relevant resource management matter which needs to be considered for this PPC. The ITA (Appendix H) and Abley's technical memo (Attachment D) concludes that the roading upgrades proposed as part of the plan change can accommodate the traffic generated and avoids the need for the FDS key transport infrastructure prerequisites being in place. <u>Precedents and Considerations</u> For completeness we note this matter was carefully considered in the Drury PPC Decisions (PPC 48, 49, and 50). Notably, paragraphs 179 and 180 of the decision on PPC 49 state: *179. We do not agree with the ACS and AT's primary position for the reasons already set out (lack of funding and financing issues and therefore a lack of integration between planning and funding). Their approach assumes that infrastructure planning (and funding) and zoning need to happen sequentially – i.e. only live zone land where there is certainty of funding. In our view, the essence of integration is those matters happen contemporaneously, in a complementary way, and over time. This is what the plan change proponents are promoting; and we outline later below why we find that the 'package of precincts provisions' proposed, and those we have imposed (in particular the transport triggers), will ensure that appropriate infrastructure is in place to support the level of development proposed.*

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			180. A sequential approach, as set out in the previous paragraph, would compromise the potential for urban zoning and development to occur in a timely and integrated fashion in Drury East. That is because live zoning provides certainty and gives confidence to landowners (and central and local government agencies) that expenditure on infrastructure will be worthwhile and efficient.
	Comment: The 30-year Development Contribution Policy update for the North-west priority growth area is planned to come into effect in quarter 1 of 2025. If resource consents are lodged with council prior to this policy update going live (as the result of a PC rezoning the land), the developments will not be paying their fair share of the infrastructure required to address the cumulative effects of development across Whenuapai. This shortfall in revenue to council will result in the ratepayers of Auckland having to cover the gap when budget becomes available, opposed to the direct beneficiaries appropriately paying for the infrastructure. It is noted that the applicant is aware of this potential adverse effect on the community, as stated on page 44: "*A financial cost on the wider community could potentially arise if transport infrastructure is not upgraded sufficiently to mitigate the effects of urbanising the PPC land. Any shortfall in the funding and timing of infrastructure to meet the needs of the PPC*		No resource consents are being lodged prior to the Proposed Development Contribution Policy update. Whilst we appreciate the reasons for the comment, this is not what the applicant is proposing. To provide context and clarity, the comment from page 44 is part of the section 32 evaluation of options. The options have been assessed on their efficiency, effectiveness, costs, benefits, and risks. The referenced comment pertains specifically to the potential financial impacts of pursuing option 2, which the applicant is **not** pursuing. The evaluation of options outlined in the PPC report identifies that Option 3 is the preferred option for meeting the objectives of the PPC. This involves a plan change to the AUP to rezone the PPC land to MHU zone and apply a Precinct and SMAF control to manage future development. The precinct provisions require the applicant, or any future applicant/developer, to provide a suite of self-funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure

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	land would then fall on the community in the future through rates or other financial mechanisms."		funding contributions from Auckland Council, Watercare or Auckland Transport.
Economics – Tim Heath, Property Economics			
EC1	A query I have is who's paying for the infrastructure upgrade requirements to accommodate the development if brought forward as proposed. They do say they will be providing upgrades but its not clearly identified what components they would be paying for and if that is sufficient to alleviate any Council infrastructure queries. They identify the infrastructure upgrades required as they see them on pg.58, but greater clarity on this would be useful to understand so Council know what they're potentially 'up for' if they agree to the rezoning and bring the development forward.	The nature of the request in respect of the effect it will have on the environment, including taking into account the provisions of Schedule 4; or	See response to DPO 1. The precinct provisions require the applicant, or any future applicant/developer, to provide a suite of self-funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure funding contributions from Auckland Council, Watercare or Auckland Transport.
Urban design matters – Rebecca Skidmore, R A Skidmore Urban Design			
UD1	Please advise whether any additional precinct provisions are recommended (such as expansion of policies) to address the recommendation to ensure subdivision design creates a suitable interface with the NZDF land by ensuring residential lots back onto this land.	Section 6 of the Urban Design Statement (the "UDS") sets out the 'Design Drivers' for the plan change. In relation to interfaces and the interface created with the Royal New Zealand Defence Force (Section 6.8), one of the recommendations for Precinct Planning is to 'place lots such that they "back on to" the NZDF land and thereby reduce potential visibility and access'. An assessment of the PPC is set out in Section 8 of the UDS with the interface response addressed in Section 8.4. While this section does address the interface that will be created with the NZDF, it doesn't specifically respond to the recommendation made in Section 6.8.	The Precinct acknowledges the significance and presence of RNZAF Base Auckland by ensuring that all subdivision, use, and development within the Precinct will occur in a manner that does not adversely affect the ongoing operations of RNZAF Base Auckland. The applicant would be amenable to including additional provisions within the Precinct to ensure that subdivision design creates a suitable interface with the NZDF land (by ensuring that residential lots back onto this land) but does not consider this to be necessary. This is the intention for future development. However, any future subdivision will require resource consent. Through this process, the subdivision will need to ensure that the design creates a suitable interface with the NZDF land. This is an urban design and reverse

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			sensitivity matter that would be addressed at the resource consent stage.
Geotechnical matters – Nicole Li and Frank Havel, Auckland Council			
G1	Please re-assess the liquefaction vulnerability and update Section 5.4 accordingly.	Section 5.4 of the provided Preliminary Geotechnical Investigation Report states that "The liquefaction potential for this site to be unlikely". This assessment conclusion appears to partially rely on a Level A assessment which is not considered appropriated for the proposed private plan change. A Level B assessment at minimum should be considered in this instance.	Please refer to the response prepared by CMW Geosciences, section G1 (**Attachment C**).
G2	Section 2.2: The section is referring to Drawing 02 as a Geotechnical Site Plan presenting "the current general landform, together with associated features located within and adjacent to the site". However, Drawing 02 is not showing anything like this. Please clarify.	We believe it is a typo, however, we want to be sure there are not any missing information appended to the report.	Please refer to the response prepared by CMW Geosciences, section G2 (**Attachment C**).
G3	Section 5.6 states that "The residual Puketoka soils encountered on site generally conform to the definition of 'good ground' provided in NZS 3604. However, following laboratory testing of liquate limit ant linear shrinkage NZS 3604 excludes this soil from the definition of 'good ground'. Please clarify.	To ensure that there will not be any potential misinterpretation of the geohazards on the site following information presented.	Please refer to the response prepared by CMW Geosciences, section G3 (**Attachment C**).
Noise and Vibration – Peter Runcie			
NV1	Please confirm how emergency flight operations are provided/accounted for in the published AUP noise contours for airbase (i.e., is there an exception noted anywhere or do they form part of the noise contour calculations)?	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).

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NV2	The report discusses emergency operation of the airport; however emergency services as defined in the AUP are different to military emergencies as may result in increased use of the airport - what definition of emergency is proposed to make this clear within conditions and covenants etc.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV3	Related to the proposed no complaints covenants, please confirm details of under what scenario (what operations and limits/levels noting that engine testing contours are not published by AUP) complaints would not be able to be lodged?	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV4	Please provide further evidence, such as existing noise level measurements at the subject site, to support the description of the site in Section 10 as a 'high-noise' area, with reference to definitions in Chapter J for High Aircraft noise area and Moderate aircraft noise area if appropriate.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV5	Section 11 refers to three-storey dwellings but predicts levels at two-storey dwellings. Please confirm whether modelling based on three-storey dwellings would change the outcome of the assessment. Please provided updated noise contour figures based on a third level (this will help clearly define when certain treatments would be required as per the proposed precinct approach).	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV6	Please update the tables to provide the minimum sound insulation values	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).

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	adopted/required for roof and façade components in Section 14 of the acoustic report (currently only provided for glazing).		
NV7	Could the provisions include the engine testing 15-minute LAeq noise contours and a reference octave band spectrum within the requirements to provide clear expectations on outcomes should applicants not wish to use the acceptable solutions provided? For context this is to assist in ensuring consistent outcomes for applicants who wish to not use the acceptable solutions constructions.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV8	The Proposed Precinct Plan 2 – Noise Mitigation Areas Figure (Appendix D of the application) shows only Category 2 and 3. But the Precinct Provisions refer to Category 1 as well, what is the intention for Category 1? If this approach is to be used it would be clearer if the Categories were defined based on external noise levels as set out in the acoustic assessment. This is also important given I1.6.4 (2) (a) (i) refers to a 3 dB reduction for facades shielded from the noise source – but there are no provided reference levels to apply this 3 dB to.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).
NV9	Category 2 is defined in the acoustic assessment as when engine testing levels are greater than 72 dB LAeq, however the Proposed Precinct Plan 2 – Noise Mitigation Areas Figure (Appendix D of the application) does not match the noise contours in the acoustic assessment.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**). Precinct Plan 2 has been updated to a noise contour map (noise propagation models) for engine testing (as per Appendix I of the Acoustic Assessment report). The associated category noise levels have been added to Appendix 2 of the Precinct provisions to provide clarity.

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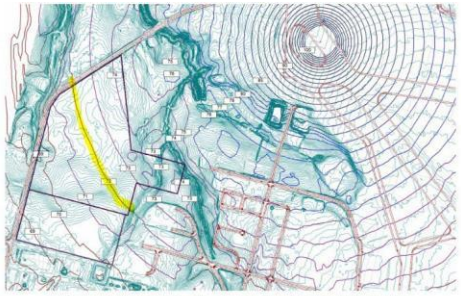
	This figure needs to be updated to reflect the acoustic assessment (see screen shots below) – noting these contours may change in response to request [6].  		If a reduction in external noise levels is warranted, it would be made against the levels in the contour map for a subject location.
Parks – Louise Thomas, Auckland Council			
P1	the PPC indicates that over the 16.36ha site, there will allow up to 430 dwellings. Previous applications on the site has included an area to the north not within the subdivision for residential purposes. Can you confirm that this figure of 430 dwelling is based on a three-storey MHU		The yield calculation of 430 is a conservative estimate which provides the total theoretical dwelling yield for the PPC area under the proposed zoning of Mixed Housing Urban (MHU), which includes the potential for three storey buildings. The previous Fast-track consent application included land within the site (to the north) for a future school.

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	building? The purpose of this request is to assist the Council in determining the appropriate amount of open space required.		Although the current Plan Change does not include provisions for a school, NCL is actively discussing the possibility of this development with the Ministry of Education for the future.
P2	We are generally supportive of the indication of a neighbourhood park and would be supportive of the plan change to include the establishment of a new precinct to include site specific objectives and policies, activities, standards and assessment criteria which reflects this. Has there been consideration to incorporate some degree of open space provisions into the precinct plan?		The proposed Whenuapai Green precinct plan includes a neighbourhood park within an indicative location. The open space precinct objectives and policies require: Objective *(16) A network of attractive, safe and functionally distinct open space areas comprising a neighbourhood reserve and drainage reserves, which enhance the amenity, ecological values and recreational opportunities within the precinct and of Whenuapai Village.* Policies: General: *(1) Develop Whenuapai Green Precinct in accordance with Precinct Plan 1.* *(2) Encourage high quality urban design outcomes by considering the location and orientation of buildings in relation to roads and public open space.* *Open Space* *(16) Require the provision of open space as shown on Whenuapai Green Precinct Plan through subdivision and development, unless the council determines that the indicative open space is no longer required or fit for purpose.* *(17) Allow amendments to the location and alignment of the open space where the amended open space can be demonstrated to*

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			achieve the same size and the equivalent functionality. Future designs will include the open space, however ultimately the decision to acquire public open space is one that lies with the Auckland Council Parks and Community Facilities team. As such we are unable to include precinct provisions *requiring* it.
	Comment 1: Thank you for providing riparian planting, please note that further subdivision may trigger the need to provide an esplanade reserve adjacent to the OLFP/stream (if this is determined to be greater than 3m in width). We would require this to be a depth of 20m either side of the stream where a lot of less than 4ha is being created.		Noted. The stream is not greater than 3m in width.
	Comment 2: The proposed connectivity in terms of riparian planting (which can be the basis for which a green network forms) is positive and supportive, as is the proposed walkway/cycleway.		Noted.

Transport – Harry Shepherd / Angie Crafer, Flow Transportation			
Staging plan	Please provide staging plan of the development and indicative timing.	A staging plan is required to understand how the development may be constructed over time, and how long this may realistically occur over. We note that I1.6.6(a) refers to stages at a high level, but detail is not provided.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
Precinct provision transport	Please provide justification of the 150 residential unit trigger point in I1.6.6(b) of the Precinct Provisions.	I1.6.6(b) of the Precinct Provisions provide a trigger point of 150 residential units, where several transport infrastructure upgrades	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).

trigger point		must be provided if it is exceeded. These upgrades would not be required if there are 150 or fewer residential units. This trigger point is not discussed in the ITA report, so it is not clear how this was determined.	Given that the proposed upgrades were not being driven by a need to mitigate adverse safety or efficiency effects, the trigger point of 150 enables an appropriate level of development to occur prior to the construction of the upgrades. Abley has undertaken additional modelling and an assessment of cumulative traffic effects. It has been determined that the following upgrades should be provided prior to any dwellings being occupied within the site: • Lane marking improvements at Brigham Creek Road and Tōtara Road, to provide a shared through/left lane on the western approach. • Brigham Creek Road/Trig Road intersection. Upgrade to a roundabout prior to any development, to mitigate cumulative effects from Whenuapai Business Park and Whenuapai Green. The precinct provisions have been updated accordingly.
Assessment of stages	Along with staging plans, please provide assessment of transport effects at key stages, including traffic modelling of intersections, as relevant.	The traffic modelling has assumed a 2028 year. If the development staging plan extends past 2028, please assess these for realistic timeframes (ie considering when development is likely to be occupied), including identifying measures to avoid, remedy or mitigate any adverse effects of proposed activities.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
Crash history	Please undertake a crash history assessment of the roads leading up to the state highway interchanges, where development traffic is anticipated to access the wider network.	Section 3.6 of the ITA includes a crash history assessment for the sections of Brigham Creek Road and Trig Road fronting the site. The ITA does not include a crash assessment of the wider network. The ITA predicts a relatively large increase of trips accessing the external network via the state highway interchanges. The ITA should assess the safety effects of these additional trips.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
Brigham Creek	Please comment on the implications for the proposed plan change of the Brigham Creek	We understand that the Notice of Requirements for the corridor upgrades (including Brigham Creek Road) are not funded, and are	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).

Road NOR	Road Notice of Requirement not being funded to provide upgrades, but for providing route protection only. Please confirm if any Brigham Creek Road corridor or intersection upgrades are assumed in the SATURN modelling assessment.	for route protection only. Therefore, a four lane road on Brigham Creek Road may not be provided by other parties to mitigate the effects of the development. Section 4.3 of the ITA outlines the NOR design of the Brigham Creek/Totara Road intersection, which provides widening and additional lanes at the intersection. We acknowledge that the modelling assessment in the ITA assesses the existing layout of the intersection, which therefore assumes the NOR upgrades won't be undertaken for that intersection. Along the Brigham Creek Road corridor, the NOR would allow for four lanes compared to two lanes as per the existing layout. We would like confirmation whether the ITA assumes two lanes or four lanes, and what effects are anticipated.	
Brigham Creek Road effects	Please comment on the effects of additional through traffic on Brigham Creek Road, including at key intersections, and identify if there are any safety or operational constraints.	The ITA assesses Brigham Creek Road at the SH16 and SH18 interchanges, and at the Totara Road intersection. There are some intersections on Brigham Creek Road which may be close to reaching capacity based on the existing layout (such as Kauri Road), which have not been directly assessed in the ITA. Increases in through traffic may affect safety for turning traffic, and active mode trips, as well as capacity. Section 8.1 of the ITA states: "Our assessment demonstrates that the Brigham Creek Road/Totora Road intersection has sufficient capacity to support the plan change. We anticipate that Brigham Creek Road will be progressively upgraded as development fronting the corridor progresses in the future." We note that this assessment focuses only on the immediate road access onto Brigham Creek Road from Totara Road, but it should consider the wider corridor.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
Visibility of proposed roads	Please assess the visibility of the proposed local road intersections on Totara Road.	A visibility assessment is not provided for proposed local road intersections on Totara Road in the ITA.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).

		While the local roads are indicative and subject to detailed design, providing a visibility assessment will outline if there are any visibility constraints on Totara Road that require consideration (such as limiting an intersection location, changing the alignment of the road, providing visibility setbacks within the site). This needs to consider vertical as well as horizontal alignment.	
Waka Commuter trip proportions	Please comment on the application of the Waka Commuter App information for the proposed plan change land use and compare to other similar residential zones.	Section 6.3 of the ITA assesses that 40% of the vehicle trips generated by the plan change will remain internal to Whenuapai. The 40% of trips adopted from the Waka Commuter App appears to include all modes, including working from home, and (short) walking and cycling trips. The 40% rate can therefore not be applied to vehicle trips only. Further, the data for Whenuapai may be affected by people living and working at the NZDF base.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
Local trip distribution	Please advise and assess where the local vehicle trips will travel.	Section 6.7 of the ITA assumes that 50% of local vehicle trips will travel through the Brigham Creek Road / Totara Road intersection, but it is not stated where the other 50% of these local trips will travel.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
State highway interchange modelling	Please model the SH18 interchange to include ramp meter signals, using a network or microsimulation model, eg SIDRA Network, or AIMSUN.	The ITA includes operational assessments of the SH18 interchange. The intersection within the interchanges appear to be modelled in isolation, and do not include ramp meter signals. Ramp meter signals should be included for the interchange on-ramps, as these generate queues that can impact the local road network. Furthermore, each interchange (with ramp meter signals) should be modelled as a network, as interchanges typically operate as a system and there may be queues from one adjacent intersection to the next. These changes would allow the effects and capacity of the interchanges to be assessed fully.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).
SH18/Sinton Road	Please assess the SH18 / BCR roundabout without assuming that Sinton Road is realigned. Please also advise if you had assumed Kauri Road/BCR Road would be	The ITA modelling assumes closure of the Sinton Road arm at the SH18 interchange, however, there is no certainty when this might occur.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).

	upgraded along with Sinton Road being realigned.		
SIDRA outputs & interpretation	Please provide summary table of the SIDRA results showing the average delay, degree of saturation and queue length of the different scenarios and periods for each intersection, and show a difference between the baseline and plan change scenarios. Please also comment on signal phasing and LOS for pedestrians.	The SIDRA movement summary results are provided in Appendix B of the ITA. Section 6 of the ITA comments on the SIDRA results at a high level. Providing a comparison table of the key results for each intersection will provide an 'at a glance' comparison to be made between the different development scenarios compared to the baseline, and allow the traffic effects to be better understood.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).
Totara Road vehicle access restrictions	Please clarify the suggested "individual" vehicle access restriction requirements on Totara Road	Figure 5.1 of the ITA shows 'individual vehicle access restriction' along the Totara Road frontage. It is not explained what these restrictions would involve (they may be in the proposed precinct provisions, which we do not have). We note that these access restrictions are not referred to in the Precinct Plan maps or provisions.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).
Totara Road cycle facilities	Please advise how people cycling northbound on Totara Road to and past the site will be catered for	Section 5 of the ITA provides cross-sections of the key roads. The Totara Road cross-section (24 m collector road) provides a 2.0 m cycleway on the east side, but no facility on the west side. The facilities on the west side are marked as 'to be built by others'. The proposed 2.0 m cycleway will cater for southbound cyclists on Totara Road, but not northbound cyclists.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).
Totara Road bus stops	Please advise where bus stops will be located and routes for people walking to/from them.	The ITA proposes bus stops on Totara Road. Section 8.2 of the ITA states "Adequate road space is provided in the cross section of the Totara Road upgrade to allow for the construction of bus stops in the future, which are proposed by NCL". The location for these bus stops is not provided in the ITA. The plan change will need to ensure that people are able to walk safely and conveniently to/ from and within the plan change site. Additional pedestrian connections within the site may be needed.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).

Local road connections	Please advise how the ends of the local roads would be constructed in the interim, given that full connections into 94 Totara Road and the RNZAF Base may not be immediately provided in those sites.	The ITA states that "Two future proofed road connections to Royal New Zealand Air Force (RNZAF) Base Whenuapai and 94 Totara Road." The local road connection points are shown in Figure 5.1. The connections within those sites may not be provided until those sites are fully developed, so interim solutions such as turning heads could be required in the short to medium term. The future connection to the RNZAF Base may require additional consideration as this is currently closed off to the public, and the Ratara Stream would need to be crossed. While the local roads are indicative and subject to detailed design, understanding the viability of future connections will provide an understanding of whether or not the proposed connections are feasible.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (Attachment D).

Auckland Transport			
1.	**Future land use and transport environment** Ensure that the ITA addresses the following in considering the likely future land use and transport environment, specifically: SH16 Brigham Creek to Waimauku safety improvements - provide a specific update from Waka Kotahi on timelines and confirmation of funding for this. One of the issues with PC69 Spedding Block was the need for these works to occur prior to the PC69 development. Similar issues apply here. If the works do not occur, adding more vehicles to the road network will have adverse effects on the Brigham Creek Road / SH16 intersection • Supporting Growth NORs - the ITA needs to acknowledge that these NORs are for route protection work and that construction is not funded. A four lane	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.1 of the traffic response prepared by Abley in **Attachment D**.

	road will not be provided by other parties to mitigate the effects of the development.
	
	• Consideration of other developments:
	  ○ Note that PC86 has been considered in section 4.5 of the ITA. This is supported.
	
	  ○ Whenuapai Business Park - consider the effects of this proposed development in the modelling. Note that these big developments in the area can be better understood if the same SATURN model is used for each development.
	
	Future Development Strategy - provide comment on the FDS to give an indication of likely development / infrastructure timeframes and any constraints (focus on the 'when' as there may be a significant gap between development and the infrastructure required to support it).		

2.	**Modelling** • What modelling year has been used from SGA Saturn Model? • What network improvements are included in the model that may affect traffic volumes on Brigham Creek Road (SH16/18 connections, Mamari Road, Northside Drive connection etc?). Some links are noted in Section 6.4, but it would be useful to understand any	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.2 of the traffic response prepared by Abley in **Attachment D**.

	other relevant connections • The SIDRA results at the SH16 / Brigham Creek Roundabout show long queues. Provide some commentary as to likelihood and reasons for this. Is that reflective of the likely signalised operation proposed as part of PC69? Further, PC69 modelled the roundabout in AIMSUN noting the limitations of SIDRA. The ITA considers that the development is acceptable based on the small percentage of additional traffic using the intersection however as per Laidlaw decision, "whilst we agree with the general principle that an applicant is not required to resolve existing infrastructure problems, neither should they add significantly to them".		
3.	**Public transport and active modes** • Indicate where the bus stops are proposed to be located. Consider whether this requires safe crossing facilities to be provided on Totara Road for pedestrians / cyclists. • Note that for Fast Track application, AT requested two pairs of bus stops on Totara Road. The ITA refers to 'provision of bus stops on Totara Road' so it is not clear what is proposed.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.3 of the traffic response prepared by Abley in **Attachment D**.

4.	**Vehicle Access Restrictions** Address the need for Vehicle Access Restrictions on Totara Road. With the provision of separated cycle facilities on Totara Road, safety should be enhanced by avoiding or limiting direct vehicle access from individual sites onto Totara Road. This will also assist with the operation of the bus route on Tōtara Road. Previous plans did appear to show that residential sites with frontage to Totara Road would get vehicle access via rear lanes.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated. In particular to understand how safe active modes can be better provided for.	Please refer to Section 2.4 of the traffic response prepared by Abley in **Attachment D**.
5.	**Dale / McCaw / Totara intersection** Provide more information about the concept design for this intersection to demonstrate that a safe and workable design can be accommodated. While this may have been covered in Fast Track application, concept diagrams should be included in ITA - as it is the current ITA which will inform the plan change and future consenting phases.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.5 of the traffic response prepared by Abley in **Attachment D**.
6.	**Width of local roads** Advise where it is intended to apply the various local road cross sections of 15m, 17m and 20m. Which road widths are proposed for which local roads?	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated. In particular to better understand the design and layout of the future road network.	Please refer to Section 2.6 of the traffic response prepared by Abley in **Attachment D**.
7.	**Totara Road intersections** Explain why it is proposed to provide two intersections onto Totara Road relatively close together. (This refers to the middle two intersections located between the Dale	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.7 of the traffic response prepared by Abley in **Attachment D**.

	/ McCaw / Totara intersection, and the northernmost intersection with Totara Road.) Assess the safety implications of retaining both intersections.		
8.	**Road links to adjacent sites** Explain why an additional road link has not been provided to the adjacent NZDF site - e.g. as per Road 4 on the previous Fast Track proposal. Assess the effect of this on future development opportunities for the adjacent site.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.8 of the traffic response prepared by Abley in **Attachment D**.

Auckland Transport – Comments on precinct provisions		
Provision	**Comment/recommendation**	**Applicant Response**
I1.2 Objectives	Amend Objective 3 as follows: (3) 'Subdivision and development does not occur in advance of the availability of <u>operational</u> transport infrastructure, including regional and local transport infrastructure.' This is consistent with the wording adopted in some other recent operative plan changes. It adds robustness to the objective. The objective is otherwise supported.	Objective 3 has been renumbered to Objective 5. The proposed addition has been accepted; however, the objective has been reworded for clarity as future subdivision and development enabled by the plan change does not require the availability of operational regional transport infrastructure. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
	Amend Objective 5(a) as follows: a) Provides for safe and efficient walking and cycling connections within the precinct <u>and to adjacent development</u>'	We do not agree with the proposed amendment. Reference to providing connectivity to adjacent sites is covered by Objective 7(e).
	Add an additional subclause to Objective 5: g) <u>Provides effective, efficient and safe access to the Precinct.</u>'	We do not agree with the proposed amendment as Objective 6 requires subdivision and development to provide for the safe and efficient operation of the transport network.
	Amend Objective 6 as follows:	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.

	(6) ~~Appropriate r~~Roading connections, new or upgraded intersections, upgrading of Totara Road and minor line marking changes to Brigham Creek Road/Totara Road intersection are provided to support subdivision and development within the Precinct.'	
I1.3 Policies	Amend Policy 3 as follows: (3) 'Require subdivision and development to be managed and designed to align with the coordinated provision and upgrading of the transport ~~infrastructure~~ network within the precinct, and with upgrades to the wider transport network.' The reference to the 'wider transport network' in the existing wording is unclear.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
	Amend Policy 4 as follows: (4) 'Require the development of a transport ~~roading~~ network that implements the elements and connections identified in Precinct Plan 1 and is in accordance with Appendix 1 – Road Function and Design Element Table.' Deletion of 'roading' recognises that Precinct Plan 1 includes a pedestrian and cycle link that is not located within the identified roading network.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
	Amend Policy 5 as follows: (5) Require that S~~s~~ubdivision and development does not occur in advance of the availability of operational transport infrastructure to ~~support that stage~~.' Addition of 'require' is consistent with this being a policy rather than an objective. The inclusion of 'to support that stage', is unclear. The addition of 'operational' is consistent with the change sought to objective 3.	The additions are accepted. We wish to retain 'support that stage' to enable Totara Road to be upgraded at the time that development adjoins Totara Road which may be in staged in the future. Amended Policy 5: *(5) Require that subdivision and development does not occur in advance of the availability of operational transport infrastructure to support that stage.* Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.

Activity Table	Support (A1) which addresses activities listed in the MHU zone. This means that the transport requirements in the Precinct will need to apply to all these activities. AT has a particular concern with Integrated Residential Development which can include large scale development but no subdivision.	Noted.
	(A6) Amend so that an NC status (rather than D) applies to subdivision that does not comply with IX.6.6 - which includes the required transport upgrades. Include a similar NC entry for use and development that does not comply with IX.6.6.	Agreed.
I1.5 Notification	Support (1) which applies the normal tests for notification.	Noted.
I1.6 Standards	I1.6 - support the requirement for all activities listed in the activity table to comply with I1.6.	Noted.
I1.6.6 Subdivision	This standard needs to apply to development as well as subdivision. Suggest it be renamed as 'Staging of subdivision and development with transport upgrades'	The standard has been reworded to 'Staging of Subdivision and Land Use – Transport Upgrades'. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
	Amend purpose statement as follows: 'Purpose: To mitigate the adverse effects of traffic generation on the surrounding road network; to ensure transport infrastructure is provided in a timely manner; and to achieve the integration of land use and transport.'	We do not agree with the proposed amendment and consider the standard as proposed will enable transport infrastructure to be provided in an appropriate manner.

<table>
<tr>
<td></td>
<td>The standard lacks robustness. More detail is needed to describe the transport upgrades e.g. is not clear what upgrades are required to Totara Road, or the nature of the lane marking improvements at BCR / Tōtara Road.

The rule needs to apply to both subdivision and development, and section 224(c) will only be relevant for subdivision. Where there is no subdivision but only a land use, the upgrade will need to occur before the occupation of new buildings.

Suggest that the requirements be presented in a table format. This would be accompanied by a standard stating that subdivision and development within the precinct must not exceed the thresholds under the identified transport infrastructure upgrades are constructed and operational in the general location shown on the Precinct Plan 1.

<table>
<tr><th>#</th><th>Column 1
Transport infrastructure upgrade required</th><th>Column 2
Threshold for transport infrastructure upgrade in column 1</th></tr>
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<td>The use of a table format is not necessary as the requirements are clearly set out in the Precinct Provisions, together with the triggers for upgrades to be implemented. Some amendments to the Standard have been made to ensure it applies to both subdivision and land use.</td>
</tr>
<tr>
<td rowspan="2">Missing provisions</td>
<td>A Vehicle Access Restriction should be applied on the Totara Road frontage given that there will be a separated cycle facility on that frontage. This would need to be supported by a policy, standards, and assessment matters.</td>
<td>We do not agree that a Vehicle Access Restriction should be applied to Totara Road. Totara Road is not an arterial road. The existing provisions within the AUP will enable any vehicle crossings proposed on to Totara Road to be assessed at the resource consent stage.</td>
</tr>
<tr>
<td>There should be a standard requiring compliance with the Road Function and Design Elements table. Currently it is provided in Appendix 1 but it should be included in a standard. The inclusion of the RFDE table as a standard has occurred in recent operative plan changes. Infringement of the standard can be specifically provided for as RD in the activity table, with appropriate assessment matters also included in the precinct.</td>
<td>Accepted. Please refer to Standard IX.6.20 in the updated Whenuapai Green Precinct Provisions in Attachment A.</td>
</tr>
</table>

	It is noted that Policy 4 requires the transport network to be in accordance with Appendix 1. However, there is no supporting standard to require this. Rather it is only mentioned in assessment criteria.	
I618.7.1 Matters of discretion	Amend (1) to include the following: 'Whether the subdivision or development is consistent with Precinct Plan 1' Amend (1)(a) as follows: a) 'Whether the infrastructure required to service any subdivision or development is provided'	Accepted. See 1(f). Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
I618.7.2 Assessment criteria – (1) Subdivision and development	Amend (1) relating to subdivision and development to include the following: '(x) Whether the transport network is provided generally as indicated on Precinct Plan 1 to achieve a highly connected street layout that integrates with the surrounding transport network. (x) Whether the proposed transport infrastructure provides for the safe and efficient operation of the current and future transport network.' The assessment criteria currently proposed do not reference consistency with Precinct Plan 1, and focus on servicing the precinct without considering the wider transport network.	We have updated 1618.7.2 (1)(a) with the following to ensure refence to Precinct Plan 1 is included within the assessment criteria: a) Whether the proposed subdivision and/or development provide road corridors that meet the requirements of the Road Function and Design Element Table in Appendix 1, and generally in the locations indicated on Precinct Plan 1. We consider the assessment criteria as currently proposed sufficiently addresses the safe and efficient operation of transport infrastructure.
I618.7.2 Assessment criteria – (2) Stormwater management	Amend (2)(b) as follows: b) 'The design and efficacy of infrastructure and devices (including communal devices) with consideration given to the likely effectiveness, lifecycle costs, ease of access, operation and integration with the surrounding environment; and' Lifecycle costs are of relevance to AT when stormwater devices are located within the legal road.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.

	Also suggest that (2) should apply to all subdivision and development, not just to stormwater management that does not comply with Standard I1.6.1.	The originally proposed wording has been retained.
Special information requirements	Support the requirement for a Transport Design Report. However as noted above it must be clear from the precinct plan and from the information requirement which intersections require a Transport Design Report. A common approach is to use the term 'key intersections' in both the info requirement and on the Precinct Plan.	Noted.
Precinct Plan	Ensure that all the required transport infrastructure is clearly identified on the Precinct Plan	We agree that the required transport infrastructure must be included either on the Precinct Plan or in the Precinct provisions or both. The Precinct does identify all the required upgrades in one of these formats, and we consider that to be sufficient. Some of the infrastructure upgrades are remote from the site so cannot feasibly be shown on the Precinct Plan.
	Include an additional road connection to the NZDF site e.g. as per Road 4 on the previous Fast Track proposal	See Abley technical response, section 2.8 (Attachment D). The Precinct Plan indicates a road connection that terminates at the NZDF boundary.
	Remove one of the two mid intersections proposed on Totara Road.	Please refer to Section 2.7 of the traffic response prepared by Abley in **Attachment D**.
	Make sure it is clear which intersections require a Transport Design Report.	The Precinct Provisions include a Special Information Requirement that 'any proposed new road intersection or upgrading of existing road intersections illustrated on the Precinct Plan must be supported by a Transport Design Report.'
	Identify that an intersection upgrade is required at Dale / Totara / McCaw	The Precinct Provisions clearly identify that there is an intersection upgrade required at Dale/Totara/McCaw Roads, and we consider that to be sufficient.
	Identify (could be by way of inset) the BCR / Totara Road intersection where a change to lane markings is proposed.	A plan showing the required lane marking is now included within the Precinct Provisions as Appendix 3 and is referred to in Standard IX.6.6.
	Identify that the Tōtara Road frontage is to be urbanised.	The Precinct Plan shows that Totara Road along the site frontage will be upgraded.
Appendix 1 - RFDE table	As noted previously, there needs to be a rule which requires compliance with the RFDE table.	Please refer to our previous response on this matter.

	For Tōtara Road, would be more accurate to identify the ultimate width as 24m, and note that 3m road widening is occurring on eastern frontage.	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).
	In other precincts, the heading 'Median' is accompanied by a footnote as follows: 'Flush, solid or raised medians subject to Auckland Transport approval at EPA stage.'	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).
	Add a footnote to the heading 'Bus provision' as follows: 'Carriageway and intersection geometry capable of accommodating buses. Bus stop form and locations and bus routes shall be determined with Auckland Transport at resource consent and engineering plan approval stage.'	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).
	Include a column for 'Access Restrictions', and identify Tōtara Road as being subject to access restrictions.	Please refer to our previous response on this matter. We do not agree that Totara Road should be subject to a VAR.
	Delete the row providing for 15m roads as acceptance cannot be confirmed until further considered at resource consent / subdivision stage.	This row has been deleted. Please refer to the updated RFDE Table (**Attachment A**).
	Amend footnote 1 as follows: 'Typical minimum width may need to be varied in specific locations where required to accommodate network utilities, batters, structures, stormwater treatment, intersection design, significant constraints, or other localised design requirements.'	Note 1 has been amended. Please refer to the updated RFDE Table (**Attachment A**).
Auckland Transport – Comments on ITA		
Section/Topic	**Comment**	**Applicant Response**
Public transport and active modes	In addition to bus stops, a bus shelter should be provided at the bus stop proposed for the eastern side of Totara Road.	Please refer to Section 3.1 of the traffic response prepared by Abley in **Attachment D**.
Road design	Minimum road reserve widths given in the ITA must not be less than those in Auckland Code of Practice for Land Development and Subdivision - Chapter 3: Transport. 15m wide road reserves should not be indicated as	Please refer to Section 3.2 of the traffic response prepared by Abley in **Attachment D**.

	acceptance would need to be considered at resource consent / subdivision stage.	
	AT has previously advised (for Fast Track proposal) that a minimum 1m berm is required. A 0.5m berm is still shown in Figure 5.2 for the 24m collector road.	
	Proposed amendments to road markings and signal control at Totara / BCR intersection will need to be confirmed with AT Network Operations, and the Auckland Transport Operating Centre (ATOC).	
	Only one of the two roads marked A should have vehicle access to Totara Road i.e. one intersection should be removed. The two intersections are considered to be too close together for safety purposes, and are not required for vehicle accessibility. Pedestrian access can be retained. Austroads Guide to Road Design Part 4: Intersections and Crossings: General – Appendix B provides guidance on distance between intersections. 	
Road safety	The ITA (p28/69) states	Please refer to Section 3.3 of the traffic response prepared by Abley in **Attachment D**.

	'The upgrade to Totara Road is expected to include a reduction of the speed limit from 80km/h to 50km/h, however this will need to be actioned by Auckland Transport (as the Road Controlling Authority) and can be confirmed as part of the Engineering Plan Approval application should the Plan Change be approved' Note that the existing speed limit is now 60, rather than 80 (this change is noted in Section 3.4 of the ITA). There are factors that would support a further reduction to 50 if residential development occurs on the eastern side as provided for in the plan change. However it has become more difficult to achieve lowering of speed limits. It should not be assumed that it can be confirmed as part of an Engineering Plan Approval. In addition, simply changing the speed limit does not necessarily equate to reduced speeds. Traffic calming and treatments to reduce the operating speeds also need to be considered. The applicant needs to also consider changes to the speed environment to support a credible speed limit.	

Ecology, Sarah Budd – Wildlands			
1	Please clarify whether any areas of the site meet the RMA definition of 'wetland', but have not been identified and mapped as natural inland wetland due to the use of the pasture exclusion.	Section 5.2 of the EcIA provided by Viridis states "All other pasture areas within the site were considered non- wetlands, using the rapid pasture test (i.e.,>50% dominance of pasture species)". However, the pasture exclusion methodology published by the Ministry for the Environment states "the exclusion is not targeted at pasture being converted for urban development or for other land uses". As such, the pasture exclusion does not apply at this site and the requirements of the NPS-FM and NES-F would apply to any areas of pasture wetland that do not meet any of the other exclusions (a to d) in the 'natural inland wetland' definition. The rules and standards of E3 of the AUP also generally apply to all 'wetlands', not just 'natural inland wetlands'.	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).

2	Please justify the inclusion of a road (indicative) extending eastward from the site into the neighbouring NZDF land.	The proposed road that extends eastward from the site will need to cross an intermittent stream on the subject site, and a permanent stream on the neighbouring site (NZDF land). This is not consistent with the provisions of the National Policy Statement for Freshwater Management (NPS-FM), which requires the loss of river and wetland extent to be avoided unless there is a functional need. This is also not consistent with standard I1.6.5 of the proposed precinct provisions which states that "*At the time of subdivision or development, land within 10m of the streams and wetlands identified on Precinct Plan 1 must be planted with native vegetation from the top of the bank of the stream or the wetland's edge*". Given the small area that extends eastward from the main part of the site contains two streams and some wetland habitat, this would be the most appropriate place for the "neighbourhood park", which could be connected to neighbouring developments via a walking path. It is also noted that the EcIA states that "Consistent with the Parks and Open Spaces Strategic Action Plan, the PPC provides an opportunity to create an <u>open space that protects the streams</u> and site", and "<u>All streams and wetlands will remain</u> and be enhanced through the provision of a 10-metre planted riparian buffer around all features" (my emphasis).	Please refer to the response prepared by Viridis, section 2 (**Attachment E**).
3	Please clarify if wetland reclamations are intended to occur as a result of the rezoning and associated development.	Section 6.3.3 of the EcIA notes that under the current zoning reclamation of natural inland wetlands is a prohibited activity, and that the rezoning will open a consenting pathway for wetland reclamation under Regulation 45C of the NES-F. However, it provides no indication of whether, and to what extent, wetland reclamation will be proposed. This section of the EcIA goes on to state that "*any adverse effects on natural inland wetlands will be able to be assessed and managed appropriately at the future resource consent stage*". However, there are limited opportunities to provide offsetting or compensation for any loss of wetland extent at the site. It is not possible to determine if effects on wetlands can be adequately managed at the resource consent stage without a clearer understanding of the potential magnitude of these effects.	Please refer to the response prepared by Viridis, section 3 (**Attachment E**).

		Section 6.4.2 of the EcIA is also contradictory as it states that "*All streams and wetlands will remain and be* enhanced through the provision of a 10-metre planted riparian buffer around all features" and that "a consenting pathway is provided for urban development". If all streams and wetlands will remain and be enhanced, why is a consenting pathway required?	
4	Please justify the reduction of the riparian yard from 20 metres to 10 metres.	As stated in Section 6.3.2 of the EcIA, "greater setback distances allow more space for riparian planting and, therefore, a corresponding increase in the ecological benefit derived from such planting". While 10 metres is consistent with other urban zoning provisions, this is a reduction from the level of protection provided currently. This rezoning process provides an opportunity to require a wider riparian yard than other urban areas, which will result in improved ecological benefits to those of other urban areas. A 20 metre wide planted margin is also more likely to establish as a self-sustaining indigenous ecosystem, which requires less maintenance than a narrower margin that is subject to continuous pest plant invasion. Given the substantial increase in impervious surfaces at the site, retaining the 20-metre-wide setback requirement would be appropriate.	Please refer to the response prepared by Viridis, section 4 (**Attachment E**).
5	Please; a) clarify the "riparian corridor" areas on the proposed precinct plan. Provide a plan identifying indicative riparian planting areas.	The proposed precinct plan includes a "10m riparian corridor", which appears to actually show the intermittent streams, and there is no riparian corridor associated with the "Stream" (indicated by a double blue line).	Please refer to the response prepared by Viridis, section 5 (**Attachment E**).
6	Please clarify the intended size and location of the neighbourhood park.	A "neighbourhood park" is indicated on the proposed precinct plan, but there is no indication of its likely size and configuration. As discussed above, from an ecological perspective the small area that extends to the east should be included within the neighbourhood park area. It would be helpful if an indicative layout of the park could be provided so that it is clear which areas of stream and wetland will fall within it.	Please refer to the response prepared by Viridis, section 6 (**Attachment E**).

Stormwater/Flooding – Healthy Waters May/July 2024			
SW1	Section 6.2.1 of the SMP proposes SMAF 1. Please discuss if the use of SMAF will be sufficient to mitigate effects on the stream environment caused by the change in land use such as erosion, instream habitat changes, etc. Please demonstrate that SMAF is the BPO accounting for the existing state of the stream. Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please provide a stream erosion assessment to identify the effects of the proposed development and if any effects are identified, what are the proposed mitigation to address these effects. This information should be reflected in the SMP and precinct provisions if relevant, for example, this can help inform the width of the riparian margin in the precinct provisions.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether SMAF 1 is BPO, and meet the requirements of the NDC.	The SMAF1 requirements as set out in Chapter E10 of the AUP provides policies for the management of stormwater runoff from impervious areas to minimise the adverse effects of stormwater runoff on rivers and streams to retain, and where possible enhance, naturalness, biodiversity, erosion, bank stability, and other values. This is supported by TR2013/035 which provides the technical basis for the use of SMAF1 and recommends that SMAF1 be applied to Greenfield areas within the Rural Urban Boundary (RUB). There is no reason to suggest that the use of SMAF1 is not appropriate for the Plan Change Area (PCA). Existing streams within the PCA will be enhanced by removing existing farm culverts and undertaking riparian planting, whereas streams outside the PCA will remain in their existing state. Applying the SMAF 1 requirements is therefore the BPO for minimising the adverse effects on these external streams. The introduction of the SMAF 1 overlay across the PCA will provide appropriate hydrology mitigation. The final layout and sizes of the developed catchments will not be confirmed until prepared for future resource consents. The effects on stream erosion can be considered at the resource consent stage and mitigation provided if necessary.
SW2	Is SMAF detention is not proposed for outflows from SW Basin B? Will the outflow from SW Basin B discharge upstream or downstream of the existing 2300mm diameter culvert?	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	SMAF detention will be applied, either at source or in a communal SW device, to the SW runoff from all future lots and COALs within the catchment of SW Basin B. SW runoff from the roads will be piped directly to SW Basin B, the outflow from which will be piped to outfalls into the tidal area downstream of the existing 2300

	It is understood there is an existing culvert parallel to the 2300 diameter culvert. Has the feasibility of conveying flow from SW Basin B to the discharge point (upstream or downstream of the 2300 diameter culvert) been carried out?		diameter culvert. Hence no detention will be required in SW Basin B. There is no existing culvert parallel to the 2300 diameter culvert. What may appear as a parallel culvert are the outlet pipes from the road catchpits on each side of the road. The discharge point for the flow from SW Basin B will be downstream of the existing culvert. The feasibility of the pipeline route and outlet has been investigated. The current proposal is to use a bubble up manhole (with low flow outlets) to discharge flows down a rock lined chute with energy dissipation.
SW3	What is the impact on baseflows to the streams, the stream healthy and function as a result of the proposed development, earthworks and contouring for the plan change, how will any effects be mitigated? How is this consistent with water sensitive design approach? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: The applicant can provide comment on whether there are any effects to the baseflows of the different section to the stream and provide evidence supporting comment. This will show that any effects are identified and accounted for. Stormwater runoff currently discharges diffusely to the stream, in the post-	Diversion is an issue at this site as the site discharges into two different streams. The storm water flows should discharge naturally to stream and no new flow is diverted to another stream. (follow original overland flow paths), be careful with outfalls, and minimise outfalls. The streams will be sensitive to additional flow – so discharge should follow natural topography. Section 6.1 Principles of stormwater management discuss Water Sensitive Design.	• The impact on baseflows will be relatively small as the existing streams within the PCA are intermittent. These streams discharge to permanent streams outside the PCA which have large catchments outside the PCA. The contribution of flows from within the PCA is low – 4% for eastern catchment (see response to SW4 below for further details). • SMAF1 requirements will provide for slow release of the 95th percentile storm event (less any reuse) to discharge flow from impervious areas to the streams over a 24-hour period. • The baseflow will also be improved by providing a planted riparian margin each side of existing streams within the PCA. • We note that the proposed development and future earthworks are unknown at this stage. There is no requirement to specify the impact on baseflow to the streams at plan change

	development scenario this will not occur and there will be point source discharges to the stream, so certain parts of the stream are now receiving less flow for example the two the two locations identified in the diagram below. Please discuss. 		level. These matters are sufficiently managed by the AUP and would be appropriately assessed at the resource consent stage when the development, earthworks and stormwater design has been sufficiently advanced.
SW4	What is the impacts on stream baseflows as a result of changing the existing discharge points and catchment areas draining to the streams? For example (as per Drawing SW-430) 5.25 ha (sub-catchment east area) and 1.76ha (north area) drains to the Rarawaru Creek. In the post development scenario (as per Drawing SW-433) 1.18ha (Area C) will discharge as a point source discharge point and 3.74ha will drain as a single point discharge in the vicinity of the 2300mm diameter culvert. In the post development scenario, there will be less flow draining to the stream as it flows through 94 Totara Road.	To understand the effects the development will have on the stream.	Any impacts on the stream will be minor, if not negligible, for the following reasons: • While the proposed development has necessitated some change to the catchment areas, they are small when considered within the context of the total contributing catchment. The full catchment contributing to flows past 94 Totara Road has a total pre-Whenuapai Green development catchment of 93.48ha as it includes the Whenuapai 2 catchment to the south and a large part of the RNZAF Base Auckland which are both outside the PCA. The diverted catchment area of 3.74ha is therefore only 4.0% of the total pre-development area.

	<u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u> Refer to SW3 above.		• Figure 3A of the Viridis Ecological Assessment shows watercourses W1, W2, W3 & W4 as intermittent watercourses and site observations have observed that the stream beds can dry out. • The CMW geotechnical investigations have shown that the water table is mostly well below the ground level. • As stated above, there is no requirement to specify the impact on baseflow to the streams at plan change level. These matters are sufficiently managed by the AUP and would be appropriately assessed at resource consent stage when the stormwater design has been sufficiently advanced.
SW5	Dry ponds do not provide GD01/TP10 water quality treatment. As noted in GD01 "dry ponds only provide detention to alleviate flood risk to downstream catchment areas." It is accepted that a planted base will provide some treatment. Any contaminants in the basin risk being washed out and discharged to the downstream sensitive receiving environment when high flows enter the basin. It is not accepted that the water quality treatment achieved in a dry pond will be similar to a swale. What options have been explored to provide water quality treatment? Could a swale be provided at the top of the basin (at ground level)? Low flows could discharge to the swale (to receive treatment). Runoff from the swale could subsequently discharge to the basins for hydrology mitigation and attenuation. High flows (flows in excess of the water quality	As noted in the SMP the receiving environment has a Significant Ecological Area Overlay – SEA-M2-57B - Marine 2 and is sensitive to contaminants. It is important water quality treatment is provided and meets the requirements of the NDC.	<u>SW Basin A:</u> Due to level constraints on the incoming pipes as well as discharge points, the water quality treatment of piped flows from the roads cannot occur prior to discharge into the SW basin. However, with appropriate design, it will be possible to provide water quality treatment within SW Basin A by utilising the planted base. A diverter manhole would initially separate water quality flows and discharge them to separate areas of the SW Basin. Flow out of the basin will be controlled by the same orifice that provides 24-hour release of detention volumes from the 95th percentile rainfall. Initial HEC-HMS runs using the entire base indicates a retention time of at least 6 hours at a maximum depth of 150mm. By utilising a lesser area of the base, such as a depth of 300mm, the minimum 9 minutes retention

	flow) could discharge direct to the basins. Please review the proposed approach of using dry basins for GD01/TP10 treatment. Please be advised that GPTs (such as downstream defenders or similar) are required to be provided upstream of communal devices. These devices facilitate cheaper long-term maintenance costs for the downstream devices.		time required for a swale can easily be achieved. The "swale" areas could be separated by low bunds and be planted with appropriate species in accordance with GD01. While greater storm events would flow through the SW basins and flood over the "swales", flow velocity will be reduced. The issue of re-suspension of contaminants is no different to any roadside swale, where larger flows will also flow along the swale. <u>SW Basin B:</u> No detention will be required in SW basin B as the 95th percentile flows discharge downstream. There is, however, more level separation available between inflow and outflow pipes which will permit the use of raingardens designed to GD01 or proprietary devices such those produced by SW360/Filterra. <u>Gross Pollutant Traps (GPT) upstream of Communal Devices:</u> Approved GPT will be provided upstream of the communal devices. The use of gabion baskets will be removed from the SMP, and energy dissipation measures will be provided to meet Auckland Council SW CoP and TR2013/018. Additional details of all stormwater management devices will be provided at Resource Consent (RC)/Engineering Approval (EA) stage.
SW6	The COALS are identified as having 85% imperviousness. How was 85% determined?	To better understand and assess how stormwater will be managed for the plan change area, and whether the calculations used are appropriate.	For the previous Fast-track Consenting Act (FTCA) application, the proposed width of the COALs was 7.0m with 5.50m of pavement, an impervious area of 79%.

	Please provide a cross-section of the COALS as 85% imperviousness seems low.		Using 85% imperviousness allows for driveway areas between the COAL and lots. Something similar will be proposed for the PCA. The option of using pervious pavement within the COALs and lots will be added to the SMP, thus allowing an optional approach for SW management. Further details will be provided at RC and EA stages.
SW7	If runoff from roofs (composed of inert building materials) discharges to re-use tanks plumbed for internal re-use (such as toilet flushing) this is acceptable as a BPO from a treatment perspective. Re-use for garden watering is not considered a BPO. Are re-use tanks plumbed for internal re-use (such as toilet flushing) proposed? What is in place to ensure there is internal re-use? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please clarify what non-potable reuse includes, it is recommended that this includes internal re-use, if internal re-use is included, please state in the SMP, if internal reuse is not included, please provide information on why it is not needed.	To better understand and assess how stormwater will be managed for roofs in the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Reuse tanks will be plumbed for internal and external use. Reuse for garden watering is a BPO as it allows for some infiltration, particularly as the soil used in gardens is typically more friable. It is also included as a method of reuse in GD01 Section B1 (pg 53) as below: *Rainwater tanks are used to collect water from the roof and detain it prior to release. Water can also be retained for use on site as supplemental water. The water from these tanks can be for household use (flushing the toilet and laundry supply) or outside purposes (**such as garden watering** and washing cars).* This matter is goes beyond the assessment requirements of a plan change. Details will be provided at resource consent/building consent stages.
SW8	Figures 7, 8 and 9 are helpful. For runoff from driveways, carparks and other impervious areas is the retention component provided as detention?	To better understand and assess how stormwater will be managed impervious areas the plan change, and whether the proposed method is BPO, and meet the requirements of the NDC.	Yes. For runoff from driveways, carparks and other impervious areas the retention component will be provided as detention. This will typically occur at source, but the SMP provides the option of piping to a communal device.

			Runoff from roads will be piped to a public communal device.
SW9	With respect to Tables 6, 7 and 8 please be advised that GPT's (for driveways) do not provide GD01 treatment as required by the NDC. Will flow from the driveway discharges to a communal device which has been sized to provide treatment. Is the GPTs to service the driveways are part of a treatment train approach? On-site detention tanks (proposed for residential lots and COALs) do not provide GD01 treatment. Please provide further clarity/confirmation on how GD01/TP10 treatment of impervious areas of private lots (such as driveway) will be provided. <u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u> Please clarify treatment for driveways and COALs. Water quality treatment is required to manage effects of containments. The receiving environment has a Significant Ecological Areas Overlay – SEA-M2-57b, Marine 2. Upper Waitemata Harbour is a low flushing environment. Such environment are known to accumulate stormwater contaminants. Because of the characteristic of the receiving environment it is important that all stormwater runoff is treated.	To better understand and assess how stormwater water quality will be treated in the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	For domestic driveways and other private impervious areas, the level of pollutants is very low. While the inclusion of a GPT incorporating a microfilter, e.g. "Enviropod", for removal of sediment would provide appropriate water quality treatment, the options of pervious pavement, an approved proprietary device or GD01 device will be included in the SMP. Runoff from COALs will be treated with a private water quality device such as a raingardens to GD01 requirements or an approved proprietary device. The option of treatment in a communal stormwater management device or system that is sized and designed in accordance with GD01. No further treatment train is specifically proposed although further treatment will occur downstream when piped flows reach the stormwater basins. On-site detention tanks are proposed for both COALs and driveways. Details of treatment devices will be provided with RC/EA applications.

	As noted in the SMP, the NDC requires treatment of all impervious areas to meet GD01/TP10 requirements.		
SW10	With respect to Tables 6, 7 and 8, could the table header be updated from "SW Quality Treatment Provided" to "SW Quality Treatment Train Provided."	Currently, the Tables are open to interpretation and could be interpreted as a toolbox (i.e. select one option) rather than a treatment train approach. To better understand and assess how stormwater will be managed for the plan change area.	Please refer to the updated Stormwater Management Plan (**Attachment F**).
SW11	For item "SW Basin B" of Table 7 please provide further information on the proposed raingardens or proprietary devices to provide water quality treatment.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	As outlined in the response to SW5 above, stormwater inflows to SW basin B will be treated by raingardens or proprietary devices. Raingardens will be designed to the requirements of GD01 Section C3 and the SW CoP. Proprietary devices will be to Healthy Waters approval, but devices under consideration include the Stormwater 360 "Filterra" or "Filterra Bioscape". Detailed design of the diverter manhole, raingardens or proprietary devices will be carried out at the time of RC/EA application.
SW12	With respect to Table 7 GPT formed by gabion baskets at discharge into SW basin are proposed. How will these be maintained? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Gabion baskets have ongoing maintenance cost. What other methods were explored?	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Approved GPTs will be provided upstream of the communal devices. The use of gabion baskets will be removed from the SMP and energy dissipation measures will be provided to meet Auckland Council SW CoP and TR2013/018. Additional details of all stormwater management devices will be provided at RC/EA stage. Please also refer to the response to SW5.

	Healthy Waters operations do not support the use of gabion baskets in this context, it is recommended that this specific detail is removed from the SMP. Please refer to SW5.		Operation and Maintenance Plans will be provided at RC/EA applications. Vehicle access will be available nearby.
SW13	In Section 6.2.3 Water quality it was noted that the use of raingardens are subject to the approval of Auckland Transport, has there been consultation with Auckland Transport about the proposed raingardens within Totara Road berm. As if it is not accepted, what are the other options for water quality treatment? Please provide a summary of the design and sizing of the raingardens. Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please provide what alternatives there are if raingardens are not viable. Could Totara Road be drained to a communal device?	Auckland Transport approval is required for any assets in the road corridor. It any options are not feasible it needs to be identified in the SMP so an appropriate stormwater management option can be used. To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Consultation was undertaken with Auckland Transport (AT) regarding raingardens for the Whenuapai Green FTCA application and verbal acceptance of rain gardens was given by AT. A similar response is expected for the PPC. If raingardens are not accepted by AT, SW could be piped to a communal device within the site for treatment although some road areas will be restricted due to topographical limitations. Further consultation with AT will be undertaken as part of the RC and EA process Design and sizing of the raingardens will be done at RC/EA stage.
SW14	Please provide further information on whether the following Operations and maintenance aspects been addressed/considered as part of the proposed stormwater management approach: • Lifecycle operation and maintenance cost • Easy access to the site for ongoing operations and maintenance	To ensure the ongoing maintenance and operation of the proposed stormwater management and there is appropriate access.	The proposed stormwater management devices will be designed in accordance with GD01 along with the SW CoP. The design will follow generally accepted practices and will consider the issues raised. This will occur when the more detailed design is prepared for RC/EA applications.

	• Safety for staff and public for ongoing operations and maintenance • Least traffic management plan requirements • A parking bay Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please provide general comments and how these matters are identified and provided for. We understand that an operations and maintenance manual will be provided at resource consent. It is noted that two communal devices are proposed, this is more cost effective than multiple devices. Access needs to meet the required standards; this needs to be specified clearly in the SMP to ensure this occurs.		
SW15	Are there safe access to the stream outfalls for maintenance (labour/ vehicles) – key activities being removal of obstructions and erosion protection maintenance? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please provide general comments on how this will need to be considered in the SMP.	To ensure the ongoing maintenance and operation of the proposed stormwater management and there is appropriate access.	Safe access to stream outfalls will be provided for personnel and, where possible, for vehicles. Detailed design will be prepared for RC/EA applications.

SW16	What is the impact of the proposed development on the minor dwelling at 94 Totara Road in the existing development scenario i.e. ignoring climate change rainfall? How will any effects on 94 Totara Road be mitigated?	To better understand and assess the effects of the proposed development on 94 Totara Road and how the effects will be managed.	Further modelling, ignoring climate change, confirms that the PPC will not increase the flood risk to the minor dwelling at 94 Totara Road. The minor dwelling will flood if the 2300mm culvert is fully blocked, regardless of the proposed development.
SW17	The minor dwelling at 94 Totara Road has been identified as being subject to flooding in the 1% AEP event. If attenuation of all runoffs from the proposed development is not proposed what are the impacts-effects of the proposed development in the 2 and 10 year events?	To better understand and assess the effects of the proposed development on 94 Totara Road and how the effects will be managed.	Attenuation is proposed for the 10% and 1% AEP rainfall events in SW Basin B. In addition, attenuated outflows from SW Basin B for up to the 10-year event will be piped to discharge into the Rarawaru Creek downstream of the 2300 diameter culvert. Hence there will be no impacts-from the proposed development on 94 Totara Road in the 2 and 10 year events.
SW18	With respect to Basin A please discuss the rationale for providing partial attenuation of the 1% AEP rainfall event. Why not full attenuation for example? The proposed partial attenuation appears to contradict Section 6.2.1 of the SMP which states that peak flow attenuation for the 10% and 1% AEP events will be provided. Please clarify exactly what is proposed.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Section 6.2.1 of the SMP states *"Peak flow attenuation … to manage overland flow paths and existing streams to prevent flooding of buildings."* In Basin A the 10% AEP event will be attenuated to pre-development flows. For the 1% AEP event, the Hydraulic Modelling Report shows that with partial attenuation in SW Basin A it is possible to meet the flooding requirements of the AUP and SWCoP,, i.e.. there is no flooding of buildings.
SW19	Two modelling scenarios have been run. Please run the two modelling scenarios using existing rainfall so that the impact/effects of the proposed development now can be assessed.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Further modelling, ignoring climate change, has been undertaken and confirms that the proposed plan change development does not increase the flood risk to the downstream properties at 125-129 Totara Road under current rainfall conditions.
SW20	With respect to the modelling report the proposed Basin A outlet pipes (double barrel 750mmDN) were assumed to be 50% blocked and sized for 2 x 1% AEP storm event.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Each of the two 750 diameter pipes has capacity to convey the attenuated outflow for the 1% AEP storm event. This allows the outlet to meet SW CoP

	Please clarify what is meant by "sized for 2 x 1% AEP storm event."		requirement 4.3.9.8 (h) which requires a secondary flow path when the culvert is fully blocked. In addition, a further secondary flow path exists by way of surface flow across Totara Road.
SW21	The proposed drainage outlet of Basin A is a twin 750mm diameter pipe which is much larger than the existing 450mm diameter culvert beneath Totara road. The model report indicates a 300mm flood reduction due to the proposed detention basin. The post development scenario for Basin A has assumed 50% blockage of the 750mm diameter pipe. If no blockage is considered what is the effect in terms of flows, extents, etc?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The existing 450mm diameter culvert does not have sufficient capacity for existing flows from the existing site, resulting in overland flow across Totara Road. As two 750mm diameter pipes are proposed (see SW20 above) the effect of no blockage will be the same as for 50% blockage, i.e. 100% capacity will always be available in at least one pipe. Additionally, when no blockage of the 750mm diameter pipes is assumed, the flood model confirms that the peak flow rate downstream of the SW Basin A outlet is attenuated to less than pre-development flows.
SW22	Section 6.2.6 of the SMP proposes that floor levels of adjacent buildings will be at least 350mm above flood levels. Where has the 350mm value come from?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The 350mm relates to AT requirements in the TDM Table 3. As SW CoP and building consent requirements will also apply, the reference to 350mm has been deleted and the following added to the SMP: *"Floor levels of adjacent buildings are to meet the requirements of Table 5 of the SW CoP, AT TDM and Building Code requirements. Further consideration of overland flows will be undertaken at resource consent stage when the site layout is finalised."*
SW23	Table 10 of the SMP indicates that only attenuation of the roads is proposed. What about attenuation of runoff from the lots and COALS?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Attenuation of runoff from lots and COALs is proposed at source. Table 10 of the Stormwater Management Plan has been updated (**Attachment F**).

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SW24	The overall modelling approach and the parameters used, such as the TP108 rain input, downstream tidal level, 2D roughness values, and soil type/curve number, appear to be appropriate. However, there are some concerns and questions that need clarification: • Elevation Datum: The report mentions that LiDAR data has been converted to NZVD2016. Please provide confirmation if all elevation/invert values in the report are based on NZVD2016? • In Table 8-1 ~ Table 8-6, the flow rate comparisons are not consistent as it sometimes refers to "1% AEP peak flow rate" and sometimes refers to "Downstream 1% AEP peak flow rate". It is confusing and hard to understand which location is compared. • Table 9-1 (Appendix A) lists an imperviousness of 0% for the "West" catchment, despite the presence of existing buildings. This seems to be incorrect. • HEC HMS Inflow Details: The details of the inflow information from HEC HMS are not thoroughly explained in the report.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	• All levels mentioned in the hydraulic model report are in NZVD2016. • The report has been revised to consistently include the word "Downstream" in the tables where it was missing, ensuring clarity in the flow rate comparisons. • Table 10-1: Ratara Stream Catchment parameters (existing conditions) has been revised to include 0.83% imperviousness for the West catchment. Appendix B: Hydrologic Model Results (HEC HMS) is now included in the updated Stormwater Management Plan (**Attachment F**) to provide a breakdown of the model inflows.
SW25	It is understood that an outlet pipe(s) from SW basin A will be provided under Totara Road which will discharge through a	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The location shown for discharge to the Ratara Stream is indicative only and the discharge could be made on other properties.

	stabilised outlet to the Ratara stream. Has there been any consultation with the landowner in respect of putting a stabilised outlet in their property? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Please clarify.		Details of the culvert discharge location and discussions with landowners will occur as part of a future Resource Consent application.
SW26	In Section 6.2.4 Stream hydrology, please note that a galvanised steel arch culvert (proposed in Section 6.2.4) is not supported by HW due to limited lifespan. What other options have been explored? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: In Section 6.2.4 Stream hydrology, please note that a galvanised steel arch culvert (proposed in Section 6.2.4) is not supported by HW due to limited lifespan. What other options have been explored? Galvanised steel arch culverts have failed and is a significant ongoing cost to Council to remediate.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The culvert or bridge will be required to meet the requirements of the NES-F and enable the stream to be left in its natural state. The design of the culvert will meet the requirements of the AC SW CoP and/ or AT TDM – Road Drainage. The culvert will require a cross sectional area of >3.4m2 and hence is defined in the AT TDM as a "major culvert". If a bridge is required, the ATCoP Section 18 – Structures recommends design using the NZTA Bridge Manual. Details of the culvert will be provided with the RC/EA application.
SW27	The SMP stated that "*A riparian margin will be created with a 10m set back from the top bank of the stream and restored with native riparian planting 10m wide either side of stream.*"	To understand the effects of the plan change on the streams and how effects will be mitigated.	The proposed zoning under the PPC will be Mixed Housing Urban Zone.

	How was 10m determined? Is 10 sufficient to support the function of the stream/wetland and manage flood hazards? Please show in a map the streams and wetlands and associated riparian margin and include in the SMP and precinct plans.		Yard requirements for this zone require riparian margins of 10m. Therefore, the riparian yards proposed for the PPC are consistent with the proposed zoning. For further information please see the Clause 23 Ecology response prepared by Viridis Environmental Consultants (**Attachment E**) which outlines why 10m riparian yard setbacks are considered appropriate. The streams and riparian margins are shown on Whenuapai Green Precinct Plan 1, which is included in the SMP. More detailed plans will be submitted with any future RC applications.
SW28	The SMP stated that there will be a 'Local Reserve - Stormwater' area by the stream, has this been accepted by council? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: To ensure this is highlighted and can be accepted at resource consent.	To better understand what will be vested to council.	The SMP refers to Local Reserves – Stormwater for the two areas containing the stormwater basins. Drawing PC-SW-433A shows reserves adjacent to the streams, but discussions with Council have indicated that these areas will not be accepted as stormwater reserves, in which case they will become part of the adjacent lots. Further details will be provided at the time of future RC applications.
SW29	Whenuapai Green Precinct Plan 1 indicates a neighbourhood park. Was there consideration of locating neighbourhood park by the intermitted stream that is adjacent to the NZ Defence Force site. As this would ensure sufficient riparian margin and protection of the stream, as well as ensuring no buildings and roads/culverting in the stream. How was the indicative	To ensure the location of the proposed neighbourhood park meets council requirements, and effects on the stream environment is minimised.	The indicative location of the neighbourhood park has been extensively discussed and previously agreed with AC Parks. The location suggested would not meet AC Parks' neighbourhood park requirements e.g.: • Regular shape

	neighbourhood park location determined. Was there consultation with council?		• Ability to accommodate a play space and a flat unobstructed 30m x 30m kickaround area • Road frontage on three sides and • Passive surveillance.
SW30	In Section 6.6 Implementation of stormwater network, provides a summary of earthworks, stream and riparian planting, construction of pipe network. When is it expected that the stormwater management devices will be constructed? It is important the stormwater management devices are in place to support the development for the plan change. Please provide a general development staging plan including when the stormwater management devices is planned to be implemented. Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: It is important the stormwater management device is in place before development.	Stormwater management devices needs to be in place to support the subdivision and development of the plan change area to ensure stormwater and flooding are managed.	The staging of the development will be such that the stormwater management devices will be in place before any construction of new impervious surfaces, including roads, which will drain to those devices. For future lots, stormwater management devices will require resource and/or building consent approval. A staging plan will be submitted with the future resource consent application.
SW31	In Section 6.4 Asset ownership, a summary is provided on what assets will be vested to council and what will be private. Has agreement been obtained from council for the vests to be vested? For example, the Local Reserves – Stormwater. It was noted in the Ecological Impact Assessment, April 2024, by Viridis	To better understand what assets will be vested to council.	Agreement from Council for vesting of assets will be obtained as part of the future RC application. Existing culverted crossings will only be removed after RC approval is obtained for any streamworks involved.

	Environmental Consultants, in Section 6.3 Freshwater Ecology that existing culverted farm crossings will be removed. How and when will this be implemented? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: Existing culverts that are not used will need to be removed if the stream is to be vested.		
SW32	The SMP refers to a number of documents such as ecological impact assessments and geotechnical investigation report. The reports are sometimes summarised in the SMP other times they are not and are only referred to. Please include a summary in the SMP of the reports referred to, and also any relevant photos/diagrams/maps. For example, 1.4 Geotechnical is very brief, please provide more details and maps relevant to the SMP to determine appropriate stormwater management, such as soil type, infiltration rates etc. For example, 1.12 Contaminated land, there is no summary other than referencing documents that are provided in the plan change. Please provide further details/maps relevant to the SMP. Such as land use history, if there are contaminated areas, type of contamination, where further investigation is needed.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	All the referenced reports are included with the Plan Change application. It is preferable that the full reports are separate to avoid confusion should they be revised during the consenting process.

	It would be helpful to have the referred reports as appendices in the SMP, so that it can be referred to if required. Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: This is to ensure the SMP can be a standalone document with the reports referred to as appendices.		
SW33	**I1.2. Objectives [rcp/rp/dp]** (11) Stormwater devices avoid~~, as far as practicable~~, or otherwise minimise or mitigate adverse effects on the receiving environment, and the attraction of birds that could become a hazard to aircraft operations at RNZAF Base Auckland.	The SMP outlined that stormwater will be appropriately managed. 'As far as practicable' introduces uncertainly.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.
SW34	**I1.3. Policies [rcp/rp/dp]** *Three Waters Infrastructure* (8) Require subdivision and development to be in accordance with the ~~Precinct~~ adopted Stormwater Management Plan to effectively manage stormwater runoff and to provide for water-sensitive design. (9) Ensure that stormwater in the Precinct is managed and, where appropriate, treated, to ensure the health and ecological value of streams are maintained and ~~where~~	SMPs that meet the requirement of the NDC will be adopted under the NDC, the SMP for the precinct should be the adopted SMP.	Not accepted. The recently issued PC86 uses Policy 3 wording that requires subdivision and development to be consistent with *"any approved"* Stormwater Management Plan. A consistent approach is recommended. This would allow resource consent processing to continue in case there are delays in the adoption process.

	~~practicable~~, enhanced, for all subdivision and development.		
SW35	**I1.6.1 Stormwater Infrastructure** Purpose: • To ensure that stormwater in the Precinct is managed and, ~~where appropriate,~~ treated, to ensure the health and ecological values of the streams are maintained. Ensure that flooding risks within the Precinct and further downstream are not exacerbated by development within the Precinct.	Treatment of all impervious areas by a water quality device designed in accordance with GD01/TP 10 for the relevant contaminants is required under the NDC.	The words "where appropriate" are preferred. Runoff from pervious areas does not require treatment. Similarly, the runoff from the rainfall that is greater than the 90th percentile amount does not require treatment.
SW36	**I1.6.5 Riparian Margins** (1) At the time of subdivision or development, land within ~~10m~~ 20m of the streams and wetlands identified on Precinct Plan 1 must be planted with native vegetation from the top of the bank of the stream or the wetland's edge.	A 20m riparian margin will provide ecological and flood hazard benefits and better manage the effects of the plan change.	We disagree with the suggested amendment to increase riparian margins to 20m. This amendment is inconsistent with the AUP framework and the Auckland Council's Riparian Management Guidelines (TP148). It is not required at this site to better manage the effects of the plan change. The proposed zoning under the PPC will be the Mixed Housing Urban Zone, which requires riparian margins of 10m. According to the existing AUP framework, a 10m riparian yard is sufficient to enhance and protect riparian and stream functions. Point 4 of the Viridis Clause 23 response provides further technical justification for maintaining a 10m riparian margin. We note that plan changes should consider issues debated and resolved in recent plan changes. The proposed 10m riparian margin is consistent with these recent discussions and decisions, ensuring alignment

			with broader planning and environmental management strategies.
SW37	**I1.7.2. Assessment Criteria** (2) For stormwater management not complying with Standard I1.6.1: Whether development and/or subdivision is in accordance with the adopted ~~any approved~~ Stormwater Management Plan and Policies E1.3(1) – (14);	SMPs that meet the requirement of the NDC will be adopted under the NDC, the SMP for the precinct should be the adopted SMP.	We note that the suggested amendment is inconsistent with the recently issued PC86 decision. The proposed wording is considered appropriate and consistent with the proposed policy.
SW38	**a) Special information requirements** <u>(2) Planting Plan</u>	A planting plan will provide details and ensure the riparian planting is of a quality that is accepted by council if it is to vest and accepted for vesting. Additionally, it can include information about the stream and riparian margin to ensure if the area is to be vested it is cleared of any woody debris, pest plant, fence structures, instream structures, dead trees and trees that are likely to fall.	This is a resource consent matter. Planting plans will be provided with any future RC application, where required.

Whenuapai Green – Additional Further Information Response to Clause 23 Schedule 1 Request

Dated: 13th November 2024

#	Specific Request	Reasons for request	Applicant Response 19 August 2024	Request Satisfied / Not Satisfied	Additional Information under Clause 23(2) Requested	Applicants Further Response
Planning – Todd Elder and Vanessa Wilkinson						
PL1	Please incorporate the Medium Density Residential Standards into the proposed precinct.	The ways in which any adverse effects may be mitigated; Comment: the MDRS is required to be incorporated into any plan change request, or else the Council cannot accept the plan change at the clause 25 decision. Please see attached the standards to be incorporated.	The MDRS standards have been incorporated into the proposed Whenuapai Green precinct provisions. See **Attachment A.**	**Satisfied** although further amendments may be sought under Clause 24.		
PL2	On Whenuapai Green Precinct Plan 2 – Noise Mitigation Areas, there is Category 2 and 3 areas; can you clarify if there is a Category 1 area on the plan change site?	the nature of the request in respect of the effect it will have on the environment, including taking into account the provisions of Schedule 4;	Please refer to page 7 of the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**). Category 2 areas have the potential to reduce to become Category 1 areas/facades if facades are shielded from the noise source and a 3 dB reduction applied. Precinct Plan 2 has been updated to a noise contour map (noise propagation models) for engine testing (asper Appendix I of the Acoustic Assessment report). The associated category noise levels have been added to Appendix 2 of the Precinct provisions to provide clarity. If a reduction in external noise levels is warranted, it would be made against the levels in the contour map for a subject location.	**Satisfied.**		
Funding and Finance – Rosie Eggers						
DPO 1	A Funding Plan is requested to be submitted which outlines indicative cost, intended funding party,	The applicant has not submitted any	The precinct provisions require the applicant, or any future	**Satisfied.** We now have that full build out information (from the		Whilst we appreciate this matter has been satisfied, we have a few

	whether the project has any allocated funding or a funding agreement in place for additional bulk infrastructure upgrades that would normally be funded by Auckland Council.	information that covers the funding and financing of infrastructure for the required infrastructure projects nor have any conversations been entered into with Council or infrastructure providers regarding Infrastructure Funding Agreements. This information is required to better understand how infrastructure to manage the wider cumulative effects will be funded. This is important as the applicant proposes to move ahead of proposed infrastructure timings and there is no allocated funding for this infrastructure should it be required.	applicant/developer, to provide a suite of self-funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure funding contributions from Auckland Council, Watercare or Auckland Transport. It is the responsibility of the applicant to resolve direct effects associated with the plan change and not significantly contribute to an existing issue. Lack of funding or a funding plan is not a relevant resource management matter which needs to be considered for this PPC. The ITA (Appendix H) and Abley's technical memo (Attachment D) concludes that the roading upgrades proposed as part of the plan change can accommodate the traffic generated and avoids the need for the FDS key transport infrastructure prerequisites being in place. <u>Precedents and Considerations</u> For completeness we note this matter was carefully considered in the Drury PPC Decisions (PPC 48, 49, and 50). Notably, paragraphs 179 and 180 of the decision on PPC 49 state: *179. We do not agree with the ACS and AT's primary position for the reasons already set out (lack of funding and financing issues and therefore a lack of integration between planning and funding). Their approach assumes that infrastructure planning (and funding) and zoning need to happen sequentially – i.e. only live zone land where there is certainty of funding. In our view, the essence of integration is those matters happen contemporaneously, in a complementary way, and over time. This*	development contributions work in the area). There are a couple of mattes that you should be aware of and which may assist with future discussions with AT and the applicant.  Red Circle - This intersection is assumed to be 100% developer mitigation. Blue Circle – It is understood from the provided concept design that this is being provided/funded by the developer. Anything before 2052 will need to be 100% developer mitigation. Green Oval - These two intersections are assumed to be 100% developer mitigation. Lastly, the Brigham Creek Road and Kauri Road intersection has a planned <u>ultimate</u> upgrade to a Dual lane signalised intersection and is due to be delivered around 2054 by developer mitigation and Council delivered		queries regarding the response provided. It is stated that anything before 2052 will need to be 100% developer mitigation. Is this statement in reference to this specific intersection requiring 100% developer funding if constructed before 2052 or is this a general statement in regard to any upgrades required before 2052? Could further clarification on this statement please be provided. It is noted that the Brigham Creek Road and Kauri Road intersection upgrade does not form part of the PPC, and we are unsure as to why it has been included in the response.

			is what the plan change proponents are promoting; and we outline later below why we find that the 'package of precincts provisions' proposed, and those we have imposed (in particular the transport triggers), will ensure that appropriate infrastructure is in place to support the level of development proposed.			
Comment: The 30-year Development Contribution Policy update for the North-west priority growth area is planned to come into effect in quarter 1 of 2025. If resource consents are lodged with council prior to this policy update going live (as the result of a PC rezoning the land), the developments will not be paying their fair share of the infrastructure required to address the cumulative effects of development across Whenuapai. This shortfall in revenue to council will result in the ratepayers of Auckland having to cover the gap when budget becomes available, opposed to the direct beneficiaries appropriately paying for the infrastructure. It is noted that the applicant is aware of this potential adverse effect on the community, as stated on page 44: "*A financial cost on the wider community could potentially arise if transport infrastructure is not upgraded sufficiently to mitigate the effects of urbanising the PPC land. Any shortfall in the funding and timing of infrastructure to meet the needs of the PPC land would then fall on the community in the future through rates or other financial mechanisms.*"		No resource consents are being lodged prior to the Proposed Development Contribution Policy update. Whilst we appreciate the reasons for the comment, this is not what the applicant is proposing. To provide context and clarity, the comment from page 44 is part of the section 32 evaluation of options. The options have been assessed on their efficiency, effectiveness, costs, benefits, and risks. The referenced comment pertains specifically to the potential financial impacts of pursuing option 2, which the applicant is **not** pursuing. The evaluation of options outlined in the PPC report identifies that Option 3 is the preferred option for meeting the objectives of the PPC. This involves a plan change to the AUP to rezone the PPC land to MHU zone and apply a Precinct and SMAF control to manage future development. The precinct provisions require the applicant, or any future applicant/developer, to provide a suite of self- funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure funding contributions from Auckland Council, Watercare and Auckland Transport.			

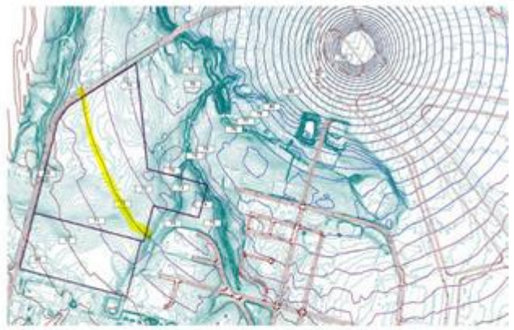
Economics – Tim Heath, Property Economics						
EC1	A query I have is who's paying for the infrastructure upgrade requirements to accommodate the development if brought forward as proposed. They do say they will be providing upgrades but its not clearly identified what components they would be paying for and if that is sufficient to alleviate any Council infrastructure queries. They identify the infrastructure upgrades required as they see them on pg.58, but greater clarity on this would be useful to understand so Council know what they're potentially 'up for' if they agree to the rezoning and bring the development forward.	the nature of the request in respect of the effect it will have on the environment, including taking into account the provisions of Schedule 4; or	See response to DPO 1. The precinct provisions require the applicant, or any future applicant/developer, to provide a suite of self-funded infrastructure improvements. These improvements are designed to mitigate the effects of the development enabled whilst avoiding any impact on other development or infrastructure improvements in the area and preventing the need for infrastructure funding contributions from Auckland Council, Watercare or Auckland Transport.	**Satisfied.**		
Urban Design Matters – Rebecca Skidmore, R A Skidmore Urban Design						
UD1	Please advise whether any additional precinct provisions are recommended (such as expansion of policies) to address the recommendation to ensure subdivision design creates a suitable interface with the NZDF land by ensuring residential lots back onto this land.	Section 6 of the Urban Design Statement (the "UDS") sets out the 'Design Drivers' for the plan change. In relation to interfaces and the interface created with the Royal New Zealand Defence Force (Section 6.8), one of the recommendations for Precinct Planning is to 'place lots such that they "back on to" the NZDF land and thereby reduce potential visibility and access'. An assessment of the PPC is set out in Section 8 of the UDS with the interface response addressed in Section 8.4. While this section does address the interface that will be created with the NZDF, it doesn't specifically respond to the recommendation made in Section 6.8.	The Precinct acknowledges the significance and presence of RNZAF Base Auckland by ensuring that all subdivision, use, and development within the Precinct will occur in a manner that does not adversely affect the ongoing operations of RNZAF Base Auckland. The applicant would be amenable to including additional provisions within the Precinct to ensure that subdivision design creates a suitable interface with the NZDF land (by ensuring that residential lots back onto this land) but does not consider this to be necessary. This is the intention for future development. However, any future subdivision will require resource consent. Through this process, the subdivision will need to ensure that the design creates a suitable interface with the NZDF land. This is an urban design and reverse sensitivity matter that would be addressed at the resource consent stage.	**Satisfied.**		

Geotechnical Matters – Nicole Li and Frank Havel, Auckland Council						
G1	Please re-assess the liquefaction vulnerability and update Section 5.4 accordingly.	Section 5.4 of the provided Preliminary Geotechnical Investigation Report states that "The liquefaction potential for this site to be unlikely". This assessment conclusion appears to partially rely on a Level A assessment which is not considered appropriated for the proposed private plan change. A Level B assessment at minimum should be considered in this instance.	Please refer to the response prepared by CMW Geosciences, section G1 (Attachment C).	**Satisfied.**		
G2	Section 2.2: The section is referring to Drawing 02 as a Geotechnical Site Plan presenting "the current general landform, together with associated features located within and adjacent to the site". However, Drawing 02 is not showing anything like this. Please clarify.	We believe it is a typo, however, we want to be sure there are not any missing information appended to the report.	Please refer to the response prepared by CMW Geosciences, section G1 (Attachment C).	**Satisfied.**		
G3	Section 5.6 states that "The residual Puketoka soils encountered on site generally conform to the definition of 'good ground' provided in NZS 3604. However, following laboratory testing of liquate limit ant linear shrinkage NZS 3604 excludes this soil from the definition of 'good ground'. Please clarify.	To ensure that there will not be any potential misinterpretation of the geohazards on the site following information presented.	Please refer to the response prepared by CMW Geosciences, section G1 (Attachment C).	**Satisfied.**		
Noise and Vibration - Peter Runcie						
NV1	Please confirm how emergency flight operations are provided/accounted for in the published AUP noise contours for airbase (i.e., is there an exception noted anywhere or do they form part of the noise contour calculations)?	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		
NV2	The report discusses emergency operation of the airport; however emergency services as defined in the AUP are different to military emergencies as may result in increased use of the airport - what definition of emergency is proposed to make this clear within conditions and covenants etc.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		

NV3	Related to the proposed no complaints covenants, please confirm details of under what scenario (what operations and limits/levels noting that engine testing contours are not published by AUP) complaints would not be able to be lodged?	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		
		The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).			
NV4	Please provide further evidence, such as existing noise level measurements at the subject site, to support the description of the site in Section 10 as a 'high-noise' area, with reference to definitions in Chapter J for High Aircraft noise area and Moderate aircraft noise area if appropriate.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Not Satisfied.**	The answer to query NV4 (relating to measured existing noise levels) does not provide the information requested. The purpose of this request related to the reliance on a definition of the plan change area as a 'high noise area' in order to arrive at the proposed internal noise levels with reference to an AS/NZS standard (page 32 of the Rev C acoustic assessment). This section still lacks evidence (i.e., measured existing levels) to support the high internal levels proposed (which are derived from a comparison to levels based on areas described as 'houses in city centres, entertainment districts or near major roads'). **Please provide evidence to support the proposed high internal noise levels.**	Please refer to the response prepared by Earcon Acoustics in **Appendix A.**
NV5	Section 11 refers to three-storey dwellings but predicts levels at two-storey dwellings. Please confirm whether modelling based on three-storey dwellings would change the outcome of the assessment. Please provided updated noise contour figures based on a third level (this will help clearly define when certain treatments would be required as per the proposed precinct approach).	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		

NV6	Please update the tables to provide the minimum sound insulation values adopted/required for roof and façade components in Section 14 of the acoustic report (currently only provided for glazing).	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Not Satisfied.**	The response to NV6 discusses the requirement for "an assessment from a suitably qualified and experienced person to demonstrate that an alternative proposed construction would achieve the required internal noise levels", particularly because a simplified single sound insulation value does not capture the performance across different frequencies. This is agreed. However, what this identifies is the need for this to be provided in the plan change application for the proposed base constructions – currently this is not the case. Section 15 of the Rev C report notes that the description of example building envelope constructions are "examples only and not exhaustive or proposed", yet they are the proposed schedule in the provisions. The opening of this section also notes that the building envelope constructions "can be considered to attenuate noise to within tolerable levels", it is unclear whether this is the same as achieving the proposed internal noise levels. Assumed individual sound insulation values for the various components have now been provided which has enabled initial check calculations, these suggest that the identified constructions are not	Please refer to the response prepared by Earcon Acoustics in **Appendix A.**

					likely to be sufficient to achieve the proposed internal noise levels (perhaps out by a significant 5-10 dB). **Please provide calculations demonstrating that the various proposed building elements set out in Appendix 2 – Building Requirements of the proposed provisions can meet the proposed provision internal noise limits.**	
NV7	Could the provisions include the engine testing 15-minute LAeq noise contours and a reference octave band spectrum within the requirements to provide clear expectations on outcomes should applicants not wish to use the acceptable solutions provided? For context this is to assist in ensuring consistent outcomes for applicants who wish to not use the acceptable solutions constructions.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		
NV8	The Proposed Precinct Plan 2 – Noise Mitigation Areas Figure (Appendix D of the application) shows only Category 2 and 3. But the Precinct Provisions refer to Category 1 as well, what is the intention for Category 1? If this approach is to be used it would be clearer if the Categories were defined based on external noise levels as set out in the acoustic assessment. This is also important given I1.6.4 (2) (a) (i) refers to a 3 dB reduction for facades shielded from the noise source – but there are no provided reference levels to apply this 3 dB to.	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**).	**Satisfied.**		
NV9	Category 2 is defined in the acoustic assessment as when engine testing levels are greater than 72 dB LAeq, however the Proposed Precinct Plan 2 – Noise Mitigation Areas Figure (Appendix D of the application) does not match the noise contours in the acoustic assessment. This figure needs to be updated to reflect the acoustic assessment (see screen shots below) – noting these contours may change in response to request [6].	The ways in which any adverse effects may be mitigated;	Please refer to the attached technical memo prepared by Earcon, dated 18th July 2024 (**Attachment B**). Precinct Plan 2 has been updated to a noise contour map (noise propagation models) for engine testing (as per Appendix I of the Acoustic Assessment report). The associated category noise levels have been added to Appendix 2 of	**Satisfied.**		

	 		the Precinct provisions to provide clarity. If a reduction in external noise levels is warranted, it would be made against the levels in the contour map for a subject location.			
Parks – Louise Thomas, Auckland Council						
P1	the PPC indicates that over the 16.36ha site, there will allow up to 430 dwellings. Previous applications on the site has included an area to the north not within the subdivision for residential purposes. Can you confirm that this figure of 430 dwelling is based on a three-storey MHU building? The purpose of this request is to assist the Council in determining the appropriate amount of open space required.		The yield calculation of 430 is a conservative estimate which provides the total theoretical dwelling yield for the PPC area under the proposed zoning of Mixed Housing Urban (MHU), which includes the potential for three storey buildings. The previous Fast-track consent application included land within the site (to the north) for a future school. Although the current Plan Change does not include provisions for a school, NCL is actively discussing the possibility of this development with the Ministry of Education for the future.	**Satisfied**		
P2	We are generally supportive of the indication of a neighbourhood park and would be supportive of the plan change to include the establishment of a new precinct to include site specific objectives and policies,		The proposed Whenuapai Green precinct plan includes a neighbourhood park within an indicative location. The	**Satisfied**		

	activities, standards and assessment criteria which reflects this. Has there been consideration to incorporate some degree of open space provisions into the precinct plan?		open space precinct objectives and policies require: Objective *(16) A network of attractive, safe and functionally distinct open space areas comprising a neighbourhood reserve and drainage reserves, which enhance the amenity, ecological values and recreational opportunities within the precinct and of Whenuapai Village.* *Policies:* *General:* *(1) Develop Whenuapai Green Precinct in accordance with Precinct Plan 1.* *(2) Encourage high quality urban design outcomes by considering the location and orientation of buildings in relation to roads and public open space.* *Open Space* *(16) Require the provision of open space as shown on Whenuapai Green Precinct Plan through subdivision and development, unless the council determines that the indicative open space is no longer required or fit for purpose.* *(17) Allow amendments to the location and alignment of the open space where the amended open space can be demonstrated to achieve the same size and the equivalent functionality.* *Future designs will include the open space, however ultimately the decision to acquire public open space is one that lies with the Auckland Council Parks and Community Facilities team. As such we are unable to include precinct provisions requiring it.*			
	Comment 1: Thank you for providing riparian planting, please note that further subdivision may trigger the need to provide an esplanade reserve adjacent to the		Noted. The stream is not greater than 3m in width.			

	OLFP/stream (if this is determined to be greater than 3m in width). We would require this to be a depth of 20m either side of the stream where a lot of less than 4ha is being created.					
	Comment 2: The proposed connectivity in terms of riparian planting (which can be the basis for which a green network forms) is positive and supportive, as is the proposed walkway/cycleway.		Noted.			
Ecology, Sarah Budd – Wildlands						
1	Please clarify whether any areas of the site meet the RMA definition of 'wetland', but have not been identified and mapped as natural inland wetland due to the use of the pasture exclusion.	Section 5.2 of the EcIA provided by Viridis states "All other pasture areas within the site were considered non-wetlands, using the rapid pasture test (i.e.,>50% dominance of pasture species)". However, the pasture exclusion methodology published by the Ministry for the Environment states "the exclusion is not targeted at pasture being converted for urban development or for other land uses". As such, the pasture exclusion does not apply at this site and the requirements of the NPS-FM and NES-F would apply to any areas of pasture wetland that do not meet any of the other exclusions (a to d) in the 'natural inland wetland' definition. The rules and standards of E3 of the AUP also generally apply to all 'wetlands', not just 'natural inland wetlands'.	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	**Satisfied.**		

2	Please justify the inclusion of a road (indicative) extending eastward from the site into the neighbouring NZDF land.	The proposed road that extends eastward from the site will need to cross an intermittent street on the subject site, and a permanent stream on the neighbouring site (NZDF land). This is not consistent with the provisions of the National Policy Statement for Freshwater Management (NPS-FM), which requires the loss of river and wetland extent to be avoided unless there is a functional need. This is also not consistent with standard I1.6.5of the proposed precinct provisions which states that "At the time of subdivision or development, land within 10m of the streams and wetlands identified on Precinct Plan 1 must be planted with native vegetation from the top of the bank of the stream or the wetland's edge". Given the small area that extends eastward from the main part of the site contains two streams and some wetland habitat, this would be the most appropriate place for the "neighbourhood park", which could be connected to neighbouring developments via a walking path.	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	Not satisfied.	It is acknowledged that any stream crossings would need to be appropriately designed and consented at resource consent stage, however, it is considered that avoiding the need for stream crossings would provide a better ecological outcome for the site. It should be made clear why this road is necessary to include in the proposed precinct plan. If necessary a meeting can be coordinated with the ecologist, parks, urban design, traffic engineer specialist to discuss the appropriate place for the park. From an ecological perspective it would be best to place this in the area of highest ecological value (where there is currently a road) and to have these ecological features restored as part of the amenity value of the park.	A park is not proposed in the eastern area of the PPC land. An indicative neighbourhood park is proposed further to the south. The internal road layout shown on the Precinct Plan is indicative to show how the PPC land may be accessed in the future, it does not provide a definitive location for the exact positioning of future roads and the exact location will be determined when the land is developed in the future. A road will be required in the eastern area of the PPC land to provide access to this area and due to the location of the riparian area across the entire width of the eastern portion of the PPC land, any future road will need to cross the riparian area. Therefore, it is not considered achievable to entirely avoid crossing the stream. Furthermore, we would like to reiterate that the plan change is for a change in land use that is required to demonstrate that no significant constraints or adverse effects are present that would preclude the proposed change in land use. A future stream crossing is not considered to fall within this category and will be subject to detailed design at the resource consent stage where effects associated with a stream crossing, or any other works that require consent within the riparian area, will be thoroughly assessed to determine whether sufficient ecological outcomes are achieved. It is also noted that the Riparian Margin standard in the Precinct Provisions has been updated (refer to **Appendix B**) to include the following:

		It is also noted that the EcIA states that "Consistent with the Parks and Open Spaces Strategic Action Plan, the PPC provides an opportunity to create an open space that protects the streams and site", and "All streams and wetlands will remain and be enhanced through the provision of a 10-metre planted riparian buffer around all features" (my emphasis).				**I1.6.5 Riparian Margins** (1) At the time of subdivision or development, land within 10m of the streams and wetlands identified on Precinct Plan 1 must be planted with native vegetation from the top of the bank of the stream or the wetland's edge, *with the exception of any locations where road or pedestrian crossings are proposed.* Overall, we do not agree that the plan change needs to avoid stream crossings and consider that the existing resource consent framework provides sufficient opportunity for any ecological effects associated with any future stream crossings or other works within the riparian areas to be sufficiently assessed.
3	Please clarify if wetland reclamations are intended to occur as a result of the rezoning and associated development	Section 6.3.3 of the EcIA notes that under the current zoning reclamation of natural inland wetlands is a prohibited activity, and that the rezoning will open a consenting pathway for wetland reclamation under Regulation 45C of the NES-F. However, it provides no indication of whether, and to what extent, wetland reclamation will be proposed. This section of the EcIA goes on to state that "any adverse effects on natural inland wetlands will be able to be assessed and	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	**Partly satisfied.**	It is noted that no wetland reclamation is intended to occur. However, what planning mechanism is proposed / will be used to ensure that this is clear in the precinct provisions? It is important to make sure that there is no way for future developers to argue at resource consent stage that wetland loss had essentially been 'approved' or acknowledged as inevitable as part of the rezoning.	Not including a specific provision as part of the plan change for avoiding wetland reclamation does not create a pathway for future developers to argue that wetland loss has essentially been 'approved' as part of the rezoning. As touched on in the previous response, any wetland reclamation would require resource consent and would be subject to the necessary assessment to determine whether consent could be granted. This is the planning mechanism in place for any development that seeks to undertake wetland reclamation. As already noted, the future development of the PPC land is not anticipated to require wetland reclamation, however, in

		managed appropriately at the future resource consent stage". However, there are limited opportunities to provide offsetting or compensation for any loss of wetland extent at the site. It is not possible to determine if effects on wetlands can be adequately managed at the resource consent stage without a clearer understanding of the potential magnitude of these effects.				the event that it was required, the discussed consenting requirements would not simply be circumvented on the basis that the plan change did not specifically include a precinct provision for avoiding reclamation and thereby enabling future developers to argue that it is not a relevant consideration. Therefore, we do not consider that a precinct provision requiring wetland reclamation to be avoided is necessary as the resource consent process already provides a sufficient framework for addressing any proposed wetland reclamation.
4	Please justify the reduction of the riparian yard from 20 metres to 10 metres.	As stated in Section 6.3.2 of the EcIA, "greater setback distances allow more space for riparian planting and, therefore, a corresponding increase in the ecological benefit derived from such planting". While 10 metres is consistent with other urban zoning provisions, this is a reduction from the level of protection provided currently. This rezoning process provides an opportunity to require a wider riparian yard than other urban areas, which will result in improved ecological benefits to those of other urban areas. A 20 metre wide planted margin is also more likely to establish as a self-sustaining indigenous ecosystem, which requires less maintenance than a	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	**Not satisfied.**	Refer to SW27.	Please refer to the attached memo previously prepared by Campbell Brown Planning for the Whenuapai Business Park Plan Change in **Appendix C**. Please also refer to the response for SW27 (pg. 28). It is noted that this is an ongoing matter for multiple plan changes in the Whenuapai area and we do not consider it an aspect that has to be resolved at the Clause 23 stage, as demonstrated by the approach taken for the Whenuapai Business Park Plan Change. We consider sufficient information has been provided to date on why the applicant considers the 10m riparian yard setback to be suitable and believe it is a matter to be resolved during the hearing process, not at the Clause 23 stage.

		narrower margin that is subject to continuous pest plant invasion. Given the substantial increase in impervious surfaces at the site, retaining the 20-metre-wide setback requirement would be appropriate.				
5	Please; a) clarify the "riparian corridor" areas on the proposed precinct plan. Provide a plan identifying indicative riparian planting areas.	The proposed precinct plan includes a "10m riparian corridor", which appears to actually show the intermittent streams, and there is no riparian corridor associated with the "Stream" (indicated by a double blue line).	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	**Not satisfied.**	The "10m riparian corridor" on the revised precinct plan does not appear to be to scale and does not seem to take into account the width of streams and wetland features. The total width should be 20 metres (10 metres on each side) plus the width of the stream or wetland. Please further update the revised precinct plan to address this matter.	The Precinct Plan is a high-level document and is not intended to be used for precise measurements. It is a visual representation of where the riparian areas are located on the PPC land that is then supported by the Riparian Margins standard in the Precinct Provisions which states that land must be planted within 10m of streams from the top of the bank of the stream or the wetlands edge; a total of 20m (10m either side of the stream/wetland).
6	Please clarify the intended size and location of the neighbourhood park.	A "neighbourhood park" is indicated on the proposed precinct plan, but there is no indication of its likely size and configuration. As discussed above, from an ecological perspective the small area that extends to the east should be included within the neighbourhood park area. It would be helpful if an indicative layout of the park could be provided so that it is clear which areas of stream and wetland will fall within it.	Please refer to the response prepared by Viridis, section 1 (**Attachment E**).	**Partly satisfied.**	Refer to comment under Ecology 2 above.	The proposed neighbourhood park location is indicative and further details on the exact size and configuration will be developed at the detailed design stage. Providing a layout plan for the park at the plan change stage is not considered required as that level of detail is not necessary for a plan change. It is not proposed to include the easternmost portion of the PPC land within the neighbourhood park area. The proposed location of the neighbourhood park will provide additional outdoor space in addition to protection of the stream/wetland areas on the PPC land via the required riparian setbacks. The protection of the ecological areas on the PPC land will still be required to occur

						regardless of whether they are located within the neighbourhood park area.
Stormwater/Flooding – Healthy Waters						
SW1	Section 6.2.1 of the SMP proposes SMAF 1. Please discuss if the use of SMAF will be sufficient to mitigate effects on the stream environment caused by the change in land use such as erosion, instream habitat changes, etc. Please demonstrate that SMAF is the BPO accounting for the existing state of the stream.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether SMAF 1 is BPO, and meet the requirements of the NDC.	The SMAF1 requirements as set out in Chapter E10 of the AUP provides policies for the management of stormwater runoff from impervious areas to minimise the adverse effects of stormwater runoff on rivers and streams to retain, and where possible enhance, naturalness, biodiversity, erosion, bank stability, and other values. This is supported by TR2013/035 which provides the technical basis for the use of SMAF1 and recommends that SMAF1 be applied to Greenfield areas within the Rural Urban Boundary (RUB). There is no reason to suggest that the use of SMAF1 is not appropriate for the Plan Change Area (PCA). Existing streams within the PCA will be enhanced by removing existing farm culverts and undertaking riparian planting, whereas streams outside the PCA will remain in their existing state. Applying the SMAF 1 requirements is therefore the BPO for minimising the adverse effects on these external streams. The introduction of the SMAF 1 overlay across the PCA will provide appropriate hydrology mitigation. The final layout and sizes of the developed catchments will not be confirmed until prepared for future resource consents. The effects on stream erosion can be considered at the resource consent stage and mitigation provided if necessary.	**Not Satisfied**	Technical Report TR2013/035 supported the Unitary Plan stormwater management approach. SMAF was not applied to future urban areas, on the basis that during structure plan and plan change processes the most appropriate method of hydrology mitigation would be applied/determined. SMAF is one method of stream hydrology mitigation. SW1 request is to demonstrate that SMAF is appropriate to manage the effects on the stream from the proposed plan change or whether further mitigation is needed. The proposed plan change will result in increased impervious areas and increase in stormwater runoff into the stream, the effects of this will vary depending on the current state of the stream and its risk to erosion. It will be difficult to determine if the effects on the streams will be managed if the current state of the stream and its risk to erosion is not assessed. **Please provide a stream erosion assessment.** There are a number of tools that can be used to	Please refer to the Stormwater Supplementary Response Information in **Appendix D** and the Stream Erosion Risk Assessment in Appendix B of the updated Stormwater Management Plan (SWMP) in **Appendix E**.

					assess the erosion risk of the stream. Healthy Waters can discuss the different tools and assist in the use of the Erosion Screening Tool. Depending on the outcome of the stream erosion assessment some mitigation measures must be addressed at the plan change to ensure the stream is protected and can support the proposed plan change and future development. **How will the effects on stream erosion be considered at the resource consent stage and what type of mitigation is proposed? Please provide guidance in the SMP.**	
SW2	Is SMAF detention is not proposed for outflows from SW Basin B? Will the outflow from SW Basin B discharge upstream or downstream of the existing 2300mm diameter culvert? It is understood there is an existing culvert parallel to the 2300 diameter culvert. Has the feasibility of conveying flow from SW Basin B to the discharge point (upstream or downstream of the 2300 diameter culvert) been carried out?	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	SMAF detention will be applied, either at source or in a communal SW device, to the SW runoff from all future lots and COALs within the catchment of SW Basin B. SW runoff from the roads will be piped directly to SW Basin B, the outflow from which will be piped to outfalls into the tidal area downstream of the existing 2300 diameter culvert. Hence no detention will be required in SW Basin B. There is no existing culvert parallel to the 2300 diameter culvert. What may appear as a parallel culvert are the outlet pipes from the road catchpits on each side of the road. The discharge point for the flow from SW Basin B will be downstream of the existing culvert. The feasibility of the pipeline route and outlet has been investigated. The current proposal is to use a bubble up manhole (with low flow	**Satisfied.**	Please update the SMP to include the information in the response provided.	Please refer to the updated SWMP in **Appendix E,** specifically Section 6.2.4. Please note that SMAF detention will NOT need to be applied to any part of the catchments which discharge to SW Basin B. The outflow from SW Basin B will be piped to an outfall into the tidal area downstream of the existing 2300 diameter culvert under Totara Road. Hence no detention will be required in SW Basin B.

			outlets) to discharge flows down a rock lined chute with energy dissipation.			
SW3	What is the impact on baseflows to the streams, the stream healthy and function as a result of the proposed development, earthworks and contouring for the plan change, how will any effects be mitigated? How is this consistent with water sensitive design approach? Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers: The applicant can provide comment on whether there are any effects to the baseflows of the different section to the stream and provide evidence supporting comment. This will show that any effects are identified and accounted for. Stormwater runoff currently discharges diffusely to the stream, in the post-development scenario this will to occur and there will be point source discharges to the stream, so certain parts of the stream are now receiving less flow for example the two locations identified in the diagram below. Please discuss. 	Diversion is an issue at this site as the site discharges into two different streams. The storm water flows should discharge naturally to stream and no new flow is diverted to another stream. (follow original overland flow paths), be careful with outfalls, and minimise outfalls. The streams will be sensitive to additional flow – so discharge should follow natural topography. Section 6.1 Principles of stormwater management discuss Water Sensitive Design	• The impact on baseflows will be relatively small as the existing streams within the PCA are intermittent. These streams discharge to permanent streams outside the PCA which have large catchments outside the PCA. The contribution of flows from within the PCA is low – 4% for eastern catchment (see response to SW4 below for further details). • SMAF1 requirements will provide for slow release of the 95th percentile storm event (less any reuse) to discharge flow from impervious areas to the streams over a 24-hour period. • The baseflow will also be improved by providing a planted riparian margin each side of existing streams within the PCA. We note that the proposed development and future earthworks are unknown at this stage. There is no requirement to specify the impact on baseflow to the streams at plan change level. These matters are sufficiently managed by the AUP and would be appropriately assessed at the resource consent stage when the development, earthworks and stormwater design has been sufficiently advanced.	**Partly Satisfied.**	Please include what must be assessed during resource consent in the SMP to ensure the baseflows of the different section to the stream are maintained and there are no adverse effects.	Please refer to the Stormwater Supplementary Response Information in **Appendix D** and the updated SWMP in **Appendix E**, specifically Section 6.2.4
SW4	What is the impacts on stream baseflows as a result of changing the existing discharge points and catchment areas draining to the streams? For example (as per Drawing SW-430) 5.25 ha (sub-catchment east area) and 1.76ha (north area) drains to the Rarawaru Creek. In the post development scenario (as per Drawing SW-433) 1.18ha (Area C) will discharge as a point source	To understand the effects the development will have on the stream.	Any impacts on the stream will be minor, if not negligible, for the following reasons: • While the proposed development has necessitated some change to the catchment	**Partly Satisfied.**	Please include what must be assessed during resource consent in the SMP to ensure the baseflows of the different section to the stream are	Please refer to the Stormwater Supplementary Response Information in **Appendix D** and the updated SWMP in **Appendix E**, specifically Section 6.2.4

	discharge point and 3.74ha will drain as a single point discharge in the vicinity of the 2300mm diameter culvert. In the post development scenario there will be less flow draining to the stream as it flows through 94 Totara Road.		areas, they are small when considered within the context of the total contributing catchment. The full catchment contributing to flows past 94 Totara Road has a total pre-Whenuapai Green development catchment of 93.48ha as it includes the Whenuapai 2 catchment to the south and a large part of the RNZAF Base Auckland which are both outside the PCA. The diverted catchment area of 3.74ha is therefore only 4.0% of the total pre-development area. • Figure 3A of the Viridis Ecological Assessment shows watercourses W1, W2, W3 & W4 as intermittent watercourses and site observations have observed that the stream beds can dry out. • The CMW geotechnical investigations have shown that the water table is mostly well below the ground level. As stated above, there is no requirement to specify the impact on baseflow to the streams at plan change level. These matters are sufficiently managed by the AUP and would be appropriately assessed at resource consent stage when the stormwater design has been sufficiently advanced.		maintained and there are no adverse effects. Please update the SMP to include the information in the response provided.	
SW5	Dry ponds do not provide GD01/TP10 water quality treatment. As noted in GD01 "dry ponds only provide detention to alleviate flood risk to downstream catchment areas." It is accepted that a planted base will provide some treatment. Any contaminants in the basin risk being washed out and discharged to the downstream sensitive receiving environment when high flows enter the basin. It is not accepted that the water quality treatment achieved in a dry pond will be similar to a swale. What options have been explored to	As noted in the SMP the receiving environment has a Significant Ecological Area Overlay – SEA-M2-57B - Marine 2 and is sensitive to contaminants. It is important water quality treatment is provided and meets the	<u>SW Basin A:</u> Due to level constraints on the incoming pipes as well as discharge points, the water quality treatment of piped flows from the roads cannot occur prior to discharge into the SW basin. However, with appropriate design, it will be possible to provide water quality treatment within SW Basin A by utilising the planted base.	**Not Satisfied.**	<u>Stormwater Basin A:</u> Please provide an indicative layout plan showing how this would work. <u>Stormwater Basin B:</u> The maximum catchment area recommended to drain to raingardens is	Please refer to the Stormwater Supplementary Response Information in **Appendix D** and the updated SWMP in **Appendix E**.

	provide water quality treatment? Could a swale be provided at the top of the basin (at ground level)? Low flows could discharge to the swale (to receive treatment). Runoff from the swale could subsequently discharge to the basins for hydrology mitigation and attenuation. High flows (flows in excess of the water quality flow) could discharge direct to the basins. Please review the proposed approach of using dry basins for GD01/TP10 treatment.	requirements of the NDC.	A diverter manhole would initially separate water quality flows and discharge them to separate areas of the SW Basin. Flow out of the basin will be controlled by the same orifice that provides 24-hour release of detention volumes from the 95th percentile rainfall. Initial HEC-HMS runs using the entire base indicates a retention time of at least 6 hours at a maximum depth of 150mm. By utilising a lesser area of the base, such as a depth of 300mm, the minimum 9 minutes retention time required for a swale can easily be achieved. The "swale" areas could be separated by low bunds and be planted with appropriate species in accordance with GD01. While greater storm events would flow through the SW basins and flood over the "swales", flow velocity will be reduced. The issue of re-suspension of contaminants is no different to any roadside swale, where larger flows will also flow along the swale. <u>SW Basin B:</u> No detention will be required in SW basin B as the 95th percentile flows discharge downstream. There is, however, more level separation available between inflow and outflow pipes which will permit the use of raingardens designed to GD01 or proprietary devices such those produced by SW360/Filterra. <u>Gross Pollutant Traps (GPT) upstream of Communal Devices:</u> Approved GPT will be provided upstream of the communal devices. The use of gabion baskets will be removed from the SMP, and energy dissipation		about 1ha, however the proposed catchment area draining to Basin B is about 4.3ha. Are a number of raingardens proposed on the base of SW Basin B? Please note that proprietary devices in greenfield development are generally not accepted for vesting as public devices. Please update the SMP to ensure: *"The use of gabion baskets will be removed from the SMP, and energy dissipation measures will be provided to meet Auckland Council SW CoP and TR2013/018."*	

			measures will be provided to meet Auckland Council SW CoP and TR2013/018. Additional details of all stormwater management devices will be provided at Resource Consent (RC)/Engineering Approval (EA) stage.			
SW6	The COALS are identified as having 85% imperviousness. How was 85% determined? Please provide a cross-section of the COALS as 85% imperviousness seems low.	To better understand and assess how stormwater will be managed for the plan change area, and whether the calculations used are appropriate.	For the previous Fast-track Consenting Act (FTCA) application, the proposed width of the COALs was 7.0m with 5.50m of pavement, an impervious area of 79%. Using 85% imperviousness allows for driveway areas between the COAL and lots. Something similar will be proposed for the PCA. The option of using pervious pavement within the COALs and lots will be added to the SMP, thus allowing an optional approach for SW management.	**Satisfied.**		
SW7	If runoff from roofs (composed of inert building materials) discharges to re-use tanks plumbed for internal re-use (such as toilet flushing) this is acceptable as a BPO from a treatment perspective. Re-use for garden watering is not considered a BPO. Are re-use tanks plumbed for internal re-use (such as toilet flushing) proposed? What is in place to ensure there is internal re-use?	To better understand and assess how stormwater will be managed for roofs in the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Reuse tanks will be plumbed for internal and external use. Reuse for garden watering is a BPO as it allows for some infiltration, particularly as the soil used in gardens is typically more friable. It is also included as a method of reuse in GD01 Section B1 (pg 53) as below: *Rainwater tanks are used to collect water from the roof and detain it prior to release. Water can also be retained for use on site as supplemental water. The water from these tanks can be for household use (flushing the toilet and laundry supply) or outside purposes (such as garden watering and washing cars).* This matter is goes beyond the assessment requirements of a plan change. Details will be provided at resource consent/building consent stages	**Partly Satisfied.**	Please clearly state in the SMP that the reuse tanks will be plumbed for internal re-use, please ensure this is clear throughout the SMP and that a consent notice will be entered on titles stating this. The executive summary states: *"Water quality treatment of runoff for the 90th percentile rainfall event from all new impervious areas (where reasonably practical and excluding inert roofing)."* Please remove the text *"where reasonably practical".* Additionally, please note the NDC requires treatment of all impervious areas or a BPO.	Please refer to the updated SWMP in **Appendix E**.

SW8	Figures 7, 8 and 9 are helpful. For runoff from driveways, carparks and other impervious areas is the retention component provided as detention?	To better understand and assess how stormwater will be managed impervious areas the plan change, and whether the proposed method is BPO, and meet the requirements of the NDC.	Yes. For runoff from driveways, carparks and other impervious areas the retention component will be provided as detention. This will typically occur at source, but the SMP provides the option of piping to a communal device. Runoff from roads will be piped to a public communal device	**Satisfied.**		
SW9	With respect to Tables 6, 7 and 8 please be advised that GPT's (for driveways) do not provide GD01 treatment as required by the NDC. Will flow from the driveway discharges to a communal device which has been sized to provide treatment. Is the GPTs to service the driveways are part of a treatment train approach? On-site detention tanks (proposed for residential lots and COALs) do not provide GD01 treatment. Please provide further clarity/confirmation on how GD01/TP10 treatment of impervious areas of private lots (such as driveway) will be provided. **Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:** Please clarify treatment for driveways and COALs. Water quality treatment is required to manage effects of containments. The receiving environment has a Significant Ecological Areas Overlay – SEA-M2-57b, Marine 2. Upper Waitemata Harbour is a low flushing environment. Such environment are known to accumulate stormwater contaminants. Because of the characteristic of the receiving environment it is important that all stormwater runoff is treated.	To better understand and assess how stormwater water quality will be treated in the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	For domestic driveways and other private impervious areas, the level of pollutants is very low. While the inclusion of a GPT incorporating a microfilter, e.g. "Enviropod", for removal of sediment would provide appropriate water quality treatment, the options of pervious pavement, an approved proprietary device or GD01 device will be included in the SMP. Runoff from COALs will be treated with a private water quality device such as a raingardens to GD01 requirements or an approved proprietary device. The option of treatment in a communal stormwater management device or system that is sized and designed in accordance with GD01. No further treatment train is specifically proposed although further treatment will occur downstream when piped flows reach the stormwater basins. On-site detention tanks are proposed for both COALs and driveways. Details of treatment devices will be provided with RC/EA applications.	**Not Satisfied.**	An enviropod is fine as part of a treatment train approach. However, it will not provide GD01 /TP10 level of treatment for domestic driveways. Please note Enviropod is not a GD01 device. A screen shot of a component of Figures 7, 8, and 9 has been provided below. Within Figures 7, 8 and 9 please amend the word "or" and replace with "and". This will address treatment of driveways. Alternatively, the downstream communal devices could be sized such that treatment of driveways is provided in them. Please clarify within the SMP how GD01 / TP10 treatment of driveways will be provided. 	Please refer to the updated SWMP in **Appendix E**. The option of using Enviropods alone has been removed. SW treatment for COALS and driveways will be provided by impervious pavement designed to GD01 or any SW quality treatment device designed to GD01, including approved proprietary devices. SWMP Tables 6, 7 & 8 have been updated. SWMP Figures 7, 8 & 9 have been updated.
SW10	With respect to Tables 6, 7 and 8, could the table header be updated from "SW Quality Treatment Provided" to "SW Quality Treatment Train Provided."	Currently, the Tables are open to interpretation and could be interpreted as a toolbox (i.e. select one option)	Please refer to the updated Stormwater Management Plan (**Attachment F**).			

		rather than a treatment train approach. To better understand and assess how stormwater will be managed for the plan change area.				
SW11	For item "SW Basin B" of Table 7 please provide further information on the proposed raingardens or proprietary devices to provide water quality treatment.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	As outlined in the response to SW5 above, stormwater inflows to SW basin B will be treated by raingardens or proprietary devices. Raingardens will be designed to the requirements of GD01 Section C3 and the SW CoP. Proprietary devices will be to Healthy Waters approval, but devices under consideration include the Stormwater 360 "Filterra" or "Filterra Bioscape". Detailed design of the diverter manhole, raingardens or proprietary devices will be carried out at the time of RC/EA application.	**Not Satisfied.**	Please note that proprietary devices are not accepted as public assets in greenfield developments. Please provide further information about the raingardens, such as indicative size, location and indicative numbers. Is the use of raingardens the best option for the site, taking into consideration possible life cycle cost? Please discuss.	The SWMP has been updated (**Appendix E**) with references to proprietary devices removed from public stormwater lines and stormwater reserves. Drawings showing the layout and details of raingardens will be provided at resource consent stage when full details of the development have been confirmed. Raingardens will mostly be used on Totara Road because of the need to align the SW treatment with road catchpits. They are the BPO in such situations.
SW12	With respect to Table 7 GPT formed by gabion baskets at discharge into SW basin are proposed. How will these be maintained?	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Approved GPTs will be provided upstream of the communal devices. The use of gabion baskets will be removed from the SMP and energy dissipation measures will be provided to meet Auckland Council SW CoP and TR2013/018. Additional details of all stormwater management devices will be provided at RC/EA stage. Please also refer to the response to SW5.	**Partly Satisfied.**	The term gabion basket is still present in Tables 6 and 7, and on page 48 of the SMP. Please remove this term.	Please refer to the updated SWMP in **Appendix E**, all references to gabion baskets removed.
SW13	In Section 6.2.3 Water quality it was noted that the use of raingardens are subject to the approval of Auckland Transport, has there been consultation with Auckland Transport about the proposed raingardens within Totara Road berm. As if it is not accepted, what are the other options for water quality treatment?	Auckland Transport approval is required for any assets in the road corridor. It any options are not feasible it needs to be identified in the SMP so an appropriate	Consultation was undertaken with Auckland Transport (AT) regarding raingardens for the Whenuapai Green FTCA application and verbal acceptance of rain gardens was given by AT. A similar response is expected for the PPC.	**Not Satisfied.**	Please note AT do not support the use of raingardens where there are other more cost-effective options available.	Please refer to the updated SWMP in **Appendix E**, specifically Section 6.2.3. If AT will not accept the use of raingardens in the road reserve, SW flows from the roads will be

	Please provide a summary of the design and sizing of the raingardens.	stormwater management option can be used. To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	If raingardens are not accepted by AT, SW could be piped to a communal device within the site for treatment although some road areas will be restricted due to topographical limitations. Further consultation with AT will be undertaken as part of the RC and EA process Design and sizing of the raingardens will be done at RC/EA stage.		Consultation needs to occur at the plan change stage, as the SMP needs to clearly state how water quality effects will be managed. Please consult with AT about this plan change and discuss with them what is proposed. Please include in the SMP the different options if raingardens are not accepted by AT. It is understood detailed design will be done at RC/EPA stage, however a certain level of detail to allow assessment of the proposed stormwater management is required.	piped to either SW basin A or B where the proposed water quality device currently proposed for internal roads will be increased as necessary to also treat stormwater from the Totara Road catchments. At the dip in Totara Road and optionally elsewhere, raingardens can be located in the stormwater reserve adjacent to the SW basin and the road.
SW14	Please provide further information on whether the following Operations and maintenance aspects been addressed/considered as part of the proposed stormwater management approach: • Lifecycle operation and maintenance cost • Easy access to the site for ongoing operations and maintenance • Safety for staff and public for ongoing operations and maintenance • Least traffic management plan requirements • A parking bay **<u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u>** Please provide general comments and how these matters are identified and provided for. We understand that an operations and maintenance manual will be provided at resource consent. It is noted that two communal devices are proposed, this is more cost effective than multiple devices. Access needs to meet the required standards; this needs to be specified clearly in the SMP to ensure this occurs.	To ensure the ongoing maintenance and operation of the proposed stormwater management and there is appropriate access.	The proposed stormwater management devices will be designed in accordance with GD01 along with the SW CoP. The design will follow generally accepted practices and will consider the issues raised. This will occur when the more detailed design is prepared for RC/EA applications.	**Partly Satisfied.**	Please state in the SMP that when designing stormwater management devices, the matters below will be addressed as part of the design: • Lifecycle operation and maintenance cost • Easy access to the site for ongoing operations and maintenance • Safety for staff and public for ongoing operations and maintenance • Least traffic management plan requirements • A parking bay.	Please refer to the updated SWMP in **Appendix E**, specifically Section 6.5.

SW15	Are there safe access to the stream outfalls for maintenance (labour/ vehicles) – key activities being removal of obstructions and erosion protection maintenance? **<u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u>** Please provide general comments on how this will need to be considered in the SMP	To ensure the ongoing maintenance and operation of the proposed stormwater management and there is appropriate access.	Safe access to stream outfalls will be provided for personnel and, where possible, for vehicles. Detailed design will be prepared for RC/EA applications.	**Partly Satisfied.**	Please provide general comments in the SMP on how safe access for stream outfall maintenance will be provided	Please refer to the updated SWMP in **Appendix E**, specifically Section 6.5.
SW16	What is the impact of the proposed development on the minor dwelling at 94 Totara Road in the existing development scenario i.e. ignoring climate change rainfall? How will any effects on 94 Totara Road be mitigated?	To better understand and assess the effects of the proposed development on 94 Totara Road and how the effects will be managed.	Further modelling, ignoring climate change, confirms that the PPC will not increase the flood risk to the minor dwelling at 94 Totara Road. The minor dwelling will flood if the 2300mm culvert is fully blocked, regardless of the proposed development.	**Partly Satisfied.**	It was stated that with a 100% blocked culvert (2300 dia) under Totara Road, the WGD development scenario will likely increase the peak water depth above Totara Road by 6cm, but it is also reported that the flood depth over the minor dwelling floor remains at the same depth of 1.46m. Please clarify.	Please refer to the Hydraulic Modelling Report in Appendix B of the updated SWMP (**Appendix E**). Referring to the Hydraulic Modelling Report, page 49: Ignoring climate change, the headwater level is 10.5m Pre [TP108] (100%) and 10.48m WGD [TP108] (100%). That's 20mm (2cm) reduction. Now, considering Climate Change, the headwater level is 10.68m Pre [CC] (100%) and 10.72m WGD [CC] (100%). Flood level increased by 40mm (4cm). This is discussed and explained through pages 9-27 of the Hydraulic Modelling Report.
SW17	The minor dwelling at 94 Totara Road has been identified as being subject to flooding in the 1% AEP event. If attenuation of all runoffs from the proposed development is not proposed what are the impacts-effects of the proposed development in the 2 and 10 year events?	To better understand and assess the effects of the proposed development on 94 Totara Road and how the effects will be managed.	Attenuation is proposed for the 10% and 1% AEP rainfall events in SW Basin B. In addition, attenuated outflows from SW Basin B for up to the 10-year event will be piped to discharge into the Rarawaru Creek downstream of the 2300 diameter culvert. Hence there will be no impacts-from the proposed development on 94 Totara Road in the 2 and 10 year events.	**Not Satisfied**	Please update the SMP to reflect that the piped outflow from SW Basin B will discharge downstream of the 2300mm dia culvert. Figure 7 indicates that partial 1% attenuation is proposed. The response states that attenuation of the 1% event is proposed. Is full attenuation or partial attenuation of the 1% proposed?	The SWMP (**Appendix E**) has been updated to show discharge is downstream of the 2300mm dia culvert. To clarify, full attenuation will be provided for the 10% AEP event. Partial attenuation will be provided for the 1% AEP event. The amount of attenuation necessary to prevent downstream flooding will be updated at Resource Consent stage when site layout and hence catchments have been finalised.

SW18	With respect to Basin A please discuss the rationale for providing partial attenuation of the 1% AEP rainfall event. Why not full attenuation for example? The proposed partial attenuation appears to contradict Section 6.2.1 of the SMP which states that peak flow attenuation for the 10% and 1% AEP events will be provided. Please clarify exactly what is proposed.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Section 6.2.1 of the SMP states *"Peak flow attenuation … to manage overland flow paths and existing streams to prevent flooding of buildings."* In Basin A the 10% AEP event will be attenuated to pre-development flows. For the 1% AEP event, the Hydraulic Modelling Report shows that with partial attenuation in SW Basin A it is possible to meet the flooding requirements of the AUP and SWCoP,, i.e. there is no flooding of buildings.	**Not Satisfied.**	Figure 12 shows the post development flood extent. Can a difference plan be provided showing the downstream (of the proposed development) difference between pre and post flood extents and depths for the 1% AEP event (without climate change).	Please refer to the Hydraulic Modelling Report in Appendix B of the updated SWMP (**Appendix E**). Referring to the Hydraulic Modelling report. Pages 29-30 (figure6-19) for Pre_[TP108] (100%) and page 31 (figure 6-21) for WGD [TP108] (100%). There is no increase in headwater elevation as stated in the report. Hence there would be nothing to show in a different plan.
SW19	Two modelling scenarios have been run. Please run the two modelling scenarios using existing rainfall so that the impact/effects of the proposed development now can be assessed.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Further modelling, ignoring climate change, has been undertaken and confirms that the proposed plan change development does not increase the flood risk to the downstream properties at 125-129 Totara Road under current rainfall conditions.	**Satisfied.**		
SW20	With respect to the modelling report the proposed Basin A outlet pipes (double barrel 750mmDN) were assumed to be 50% blocked and sized for 2 x 1% AEP storm event. Please clarify what is meant by "sized for 2 x 1% AEP storm event."	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Each of the two 750 diameter pipes has capacity to convey the attenuated outflow for the 1% AEP storm event. This allows the outlet to meet SW CoP requirement 4.3.9.8 (h) which requires a secondary flow path when the culvert is fully blocked. In addition, a further secondary flow path exists by way of surface flow across Totara Road.	**Satisfied.**		
SW21	The proposed drainage outlet of Basin A is a twin 750mm diameter pipe which is much larger than the existing 450mm diameter culvert beneath Totara road. The model report indicates a 300mm flood reduction due to the proposed detention basin. The post development scenario for Basin A has assumed 50% blockage of the 750mm diameter pipe. If no blockage is considered what is the effect in terms of flows, extents, etc?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The existing 450mm diameter culvert does not have sufficient capacity for existing flows from the existing site, resulting in overland flow across Totara Road. As two 750mm diameter pipes are proposed (see SW20 above) the effect of no blockage will be the same as for 50% blockage, i.e. 100% capacity will always be available in at least one pipe.	**Partly Satisfied.**	Please discuss why two 750mm dia pipes are proposed?	A single barrel 750mm culvert alone has capacity to discharge the 1% AEP discharge from SW basin A. The SWCoP 4.3.9.8(h) requires a secondary flow path be provided, the design of which shall assume the total blockage of the culvert in cases where it is less than DN1500.

			Additionally, when no blockage of the 750mm diameter pipes is assumed, the flood model confirms that the peak flow rate downstream of the SW Basin A outlet is attenuated to less than pre-development flows.			The second 750mm culvert will provide the secondary flow path. In addition, there will be an emergency spillway which will discharge across Totara Road.
SW22	Section 6.2.6 of the SMP proposes that floor levels of adjacent buildings will be at least 350mm above flood levels. Where has the 350mm value come from?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The 350mm relates to AT requirements in the TDM Table 3. As SW CoP and building consent requirements will also apply, the reference to 350mm has been deleted and the following added to the SMP: "*Floor levels of adjacent buildings are to meet the requirements of Table 5 of the SW CoP, AT TDM and Building Code requirements. Further consideration of overland flows will be undertaken at resource consent stage when the site layout is finalised."*	**Satisfied.**		
SW23	Table 10 of the SMP indicates that only attenuation of the roads is proposed. What about attenuation of runoff from the lots and COALS?	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	Attenuation of runoff from lots and COALs is proposed at source. Table 10 of the Stormwater Management Plan has been updated (**Attachment F**).	**Satisfied.**		
SW24	The overall modelling approach and the parameters used, such as the TP108 rain input, downstream tidal level, 2D roughness values, and soil type/curve number, appear to be appropriate. However, there are some concerns and questions that need clarification: • Elevation Datum: The report mentions that LiDAR data has been converted to NZVD2016. Please provide confirmation if all elevation/invert values in the report are based on NZVD2016? • In Table 8-1 ~ Table 8-6, the flow rate comparisons are not consistent as it sometimes refers to "1% AEP peak flow rate" and sometimes refers to "Downstream 1% AEP peak flow rate". It is confusing and hard to understand which location is compared.	To better understand and assess the effects of stormwater and how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	• All levels mentioned in the hydraulic mode report are in NZVD2016. • The report has been revised to consistently include the word "Downstream" in the tables where it was missing, ensuring clarity in the flow rate comparisons. • Table 10-1: Ratara Stream Catchment parameters (existing conditions) has been revised to include 0.83% imperviousness for the West catchment.	**Satisfied.**		

	• Table 9-1 (Appendix A) lists an imperviousness of 0% for the "West" catchment, despite the presence of existing buildings. This seems to be incorrect. HEC HMS Inflow Details: The details of the inflow information from HEC HMS are not thoroughly explained in the report.		Appendix B: Hydrologic Model Results (HEC HMS) is now included in the updated Stormwater Management Plan (Attachment F) to provide a breakdown of the model inflows.			
SW25	It is understood that an outlet pipe(s) from SW basin A will be provided under Totara Road which will discharge through a stabilised outlet to the Ratara stream. Has there been any consultation with the landowner in respect of putting a stabilised outlet in their property? **Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants engineers:** Please clarify.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The location shown for discharge to the Ratara Stream is indicative only and the discharge could be made on other properties. Details of the culvert discharge location and discussions with landowners will occur as part of a future Resource Consent application.	**Satisfied.**		
SW26	In Section 6.2.4 Stream hydrology, please note that a galvanised steel arch culvert (proposed in Section 6.2.4) is not supported by HW due to limited lifespan. What other options have been explored? **Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants engineers:** In Section 6.2.4 Stream hydrology, please note that a galvanised steel arch culvert (proposed in Section 6.2.4) is not supported by HW due to limited lifespan. What other options have been explored? Galvanised steel arch culverts have failed and is a significant ongoing cost to Council to remediate.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	The culvert or bridge will be required to meet the requirements of the NES-F and enable the stream to be left in its natural state. The design of the culvert will meet the requirements of the AC SW CoP and/ or AT TDM – Road Drainage. The culvert will require a cross sectional area of >3.4m2 and hence is defined in the AT TDM as a "major culvert". If a bridge is required, the ATCoP Section 18 – Structures recommends design using the NZTA Bridge Manual. Details of the culvert will be provided with the RC/EA application.	**Partly Satisfied.**	Please remove reference to galvanised steel arch culvert from the SMP. Please note that a galvanised steel arch culvert (proposed in Section 6.2.4) is not supported by Healthy Waters.	Please refer to the updated SWMP in **Appendix E**, reference to galvanized steel arch culvert has been removed from Section 6.2.4.
SW27	The SMP stated that "*A riparian margin will be created with a 10m set back from the top bank of the stream and restored with native riparian planting 10m wide either side of stream.*" How was 10m determined? Is 10 sufficient to support the function of the stream/wetland and manage flood hazards?	To understand the effects of the plan change on the streams and how effects will be mitigated.	The proposed zoning under the PPC will be Mixed Housing Urban Zone. Yard requirements for this zone require riparian margins of 10m. Therefore, the riparian yards proposed for the PPC are consistent with the proposed zoning. For further information please see the Clause 23 Ecology response prepared by Viridis Environmental Consultants	**Not Satisfied.**	A riparian margin of 10m is set for urban zones in the AUP. For proposed greenfield plan changes the riparian margin should be determined based on the specific details of the plan change area. Please refer to Te Haumanu Taiao Restoring	'Te Haumanu Taiao Restoring the natural environment in Tāmaki Makaurau' is a non-statutory document. The zoning proposed by the PPC is the Residential – Mixed Housing Urban Zone. Under the Standard H5.6.8 Yards of the proposed zone, riparian setbacks of 10m from the edge of all permanent

	Please show in a map the streams and wetlands and associated riparian margin and include in the SMP and precinct plans.		(Attachment E) which outlines why 10m riparian yard setbacks are considered appropriate. The streams and riparian margins are shown on Whenuapai Green Precinct Plan 1, which is included in the SMP. More detailed plans will be submitted with any future RC applications.		the natural environment in Tāmaki Makaurau the current best practice guidance for restoration. Under Chapter 5 Riparian restoration guidelines it states: ***5.1.3 How wide should a riparian restoration area be?*** *A general rule of thumb for riparian restoration is 'the wider the better'. Prior to human disturbance, the riparian zone would have transitioned into other terrestrial ecosystem types. To provide effective biodiversity habitat for terrestrial flora and fauna species, a width of at least 20m either side of a waterway is recommended to reduce pest plant invasion and ongoing pressures from the surrounding land uses. For a self-sustaining riparian buffer with virtually no maintenance, Aotearoa / New Zealand research (e.g. Fenemor and Samarasinghe 2020; Parkyn et al., 2000) recommends a minimum buffer width of 15-20m on both sides of the stream. This helps maintain internal humidity and shade at a level necessary to prevent pest plant species encroaching from the riparian edge. Opting for a buffer substantially narrower than that will limit natural regeneration of indigenous species and on-going maintenance will*	and intermittent streams are required. The riparian yards proposed by the PPC are consistent with the proposed zoning. The Auckland Unitary Plan is a document that was extensively consulted on, underwent a comprehensive cost-benefit evaluation in respect of each provision, was subject to submissions and further submissions, and was scrutinised and tested through independent decision making from experienced commissioners. The result of this process was a 10m riparian margin standard for urban areas, with that dimension being used consistently since that time across the Auckland region. As outlined in the Ecological Impact Assessment provided as part of the PPC application and the previous Clause 23 response memo, the 10m riparian yard for streams and wetlands will increase the extent of riparian vegetation across the PPC land, increase terrestrial ecological diversity, habitat and connectivity and provide subsequent benefits to streams and wetlands such as shading, filtration and improved habitat values. The 10m riparian margin achieves a balance between ecological protection and enabling the benefits of using serviced urban land efficiently to be realised. The Auckland Unitary Plan has weighted those competing objectives and determined that 10m is the appropriate width for urban situations. Regarding natural hazards, a flooding assessment has been

					be required to keep the buffer free of pest plants.	provided in the SWMP (**Appendix E**). In addition to the assessment already provided as part of this PPC, further detailed assessment would be undertaken at the resource consent stage. Implementation of the PPC will significantly improve the ecological habitats from their current state. These outcomes contribute to sustaining natural resources, safeguarding the life supporting capacity of water and ecosystems, provide for cultural wellbeing and mitigate adverse effects on to the environment. It is on this basis that the 10m riparian margin width is considered appropriate and will achieve sufficient ecological outcomes for the PPC land.
SW28	The SMP stated that there will be a 'Local Reserve - Stormwater' area by the stream, has this been accepted by council? **<u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u>** To ensure this is highlighted and can be accepted at resource consent.	To better understand what will be vested to council.	The SMP refers to Local Reserves – Stormwater for the two areas containing the stormwater basins. Drawing PC-SW-433A shows reserves adjacent to the streams, but discussions with Council have indicated that these areas will not be accepted as stormwater reserves, in which case they will become part of the adjacent lots. Further details will be provided at the time of future RC applications.	**Not Satisfied.**	Please confirm who from Council discussion was had about Local Reserves – Stormwater.	In the original Whenuapai Green application under FTC 66, it was proposed that the land adjacent to the stream should be vested as Local Reserves – Stormwater. Comments received from Hillary Johnston for Healthy Waters dated 22 May 23 requested that this land is not vested and to remain in private ownership. These areas can be vested if now required. To clarify, the areas shown (in light blue) adjacent to the streams on drawing PC-SW-SW-433 Rev B indicate the areas within sub-catchment Area D, that are not to be piped.
SW29	Whenuapai Green Precinct Plan 1 indicates a neighbourhood park. Was there consideration of locating neighbourhood park by the intermitted stream that is adjacent to the NZ Defence Force site. As this would ensure sufficient riparian margin and protection of the stream, as well as ensuring no	To ensure the location of the proposed neighbourhood park meets council requirements, and effects on the stream	The indicative location of the neighbourhood park has been extensively discussed and previously agreed with AC Parks.	**Satisfied.**		

	buildings and roads/culverting in the stream. How was the indicative neighbourhood park location determined. Was there consultation with council?	environment is minimised.	The location suggested would not meet AC Parks' neighbourhood park requirements e.g.: • Regular shape • Ability to accommodate a play space and a flat unobstructed 30m x 30m kickaround area • Road frontage on three sides and • Passive surveillance.			
SW30	In Section 6.6 Implementation of stormwater network, provides a summary of earthworks, stream and riparian planting, construction of pipe network. When is it expected that the stormwater management devices will be constructed? It is important the stormwater management devices are in place to support the development for the plan change. Please provide a general development staging plan including when the stormwater management devices is planned to be implemented. **Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:** It is important the stormwater management device is in place before development	Stormwater management devices needs to be in place to support the subdivision and development of the plan change area to ensure stormwater and flooding are managed.	The staging of the development will be such that the stormwater management devices will be in place before any construction of new impervious surfaces, including roads, which will drain to those devices. For future lots, stormwater management devices will require resource and/or building consent approval. A staging plan will be submitted with the future resource consent application.	**Satisfied.**	Please update Section 6.6 Implementation of stormwater network to include the information in the response provided.	Please refer to the updated SWMP in **Appendix E**, Section 6.6 has been updated.
SW31	In Section 6.4 Asset ownership, a summary is provided on what assets will be vested to council and what will be private. Has agreement been obtained from council for the vests to be vested? For example, the Local Reserves – Stormwater. It was noted in the Ecological Impact Assessment, April 2024, by Viridis Environmental Consultants, in Section 6.3 Freshwater Ecology that existing culverted farm crossings will be removed. How and when will this be implemented? **Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:** Existing culverts that are not used will need to be removed if the stream is to be vested.	To better understand what assets will be vested to council.	Agreement from Council for vesting of assets will be obtained as part of the future RC application. Existing culverted crossings will only be removed after RC approval is obtained for any streamworks involved.	**Satisfied.**	Refer to SW28	Please refer to the response for SW28.

SW32	The SMP refers to a number of documents such as ecological impact assessments and geotechnical investigation report. The reports are sometimes summarised in the SMP other times they are not and are only referred to. Please include a summary in the SMP of the reports referred to, and also any relevant photos/diagrams/maps. For example, 1.4 Geotechnical is very brief, please provide more details and maps relevant to the SMP to determine appropriate stormwater management, such as soil type, infiltration rates etc. For example 1.12 Contaminated land, there is no summary other than referencing documents that are provided in the plan change. Please provide further details/maps relevant to the SMP. Such as land use history, if there are contaminated areas, type of contamination, where further investigation is needed. It would be helpful to have the referred reports as appendices in the SMP, so that it can be referred to if required. **<u>Additional Healthy Waters clarification recorded on 26th July 2024 meeting between Healthy Waters and the applicants' engineers:</u>** This is to ensure the SMP can be a standalone document with the reports referred to as appendices.	To better understand and assess how stormwater will be managed for the plan change area, and whether the proposed method is BPO, and meet the requirements of the NDC.	All the referenced reports are included with the Plan Change application. It is preferable that the full reports are separate to avoid confusion should they be revised during the consenting process.	**Not Satisfied.**	The SMP will be used for future development. Access to the plan change package may not be available. It is important the documents referenced in the SMP can be obtained, as the SMP are based on the information in the reports. Depending on the size of the document, it can be included as appendices with the SMP or a separate document. The reports can change in the future for resource consent, and any changes that will affect the proposed stormwater management in the SMP will need to be accounted for in resource consent application. A summary of the relevant information must be included in the SMP. Please update the SMP, especially for 1.4 Geotechnical, 1.12 Contaminated land.	The SWMP has been updated (**Appendix E**) to include summaries in sections 1.4 Geotechnical and 1.12 Contaminated land. NCL commits to include full copies of all associated reports as Appendix C to the SWMP.
SW33	**I1.2. Objectives [rcp/rp/dp]** (11) Stormwater devices avoid, ~~as far as practicable~~, or otherwise minimise or mitigate adverse effects on the receiving environment, and the attraction of birds that could become a hazard to aircraft operations at RNZAF Base Auckland.	The SMP outlined that stormwater will be appropriately managed. 'As far as practicable' introduces uncertainly	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
SW34	**I1.3. Policies [rcp/rp/dp]** *Three Waters Infrastructure* (8) Require subdivision and development to be in accordance with the ~~Precinct~~ <u>adopted</u> Stormwater Management Plan to effectively manage stormwater runoff and to provide for water-sensitive design.	SMPs that meet the requirement of the NDC will be adopted under the NDC, the SMP for the precinct should be the adopted SMP.	Not accepted. The recently issued PC86 uses Policy 3 wording that requires subdivision and development to be consistent with "any approved" Stormwater Management Plan. A consistent approach is recommended.	**Satisfied.**	Suggest Policies 8 and 9 be amended as follows: (8) Require subdivision and development to be in accordance with the ~~Precinct~~ <u>approved</u> Stormwater Management Plan to effectively manage	Please refer to the updated Precinct Provisions in **Appendix B**. Policy 8 has been updated accordingly. The wording used in Policy 9 is consistent with any plan changes in the Whenuapai area and is considered suitable.

	(9) Ensure that stormwater in the Precinct is managed and, where appropriate, treated, to ensure the health and ecological value of streams are maintained and ~~where practicable,~~ enhanced, for all subdivision and development.		This would allow resource consent processing to continue in case there are delays in the adoption process.		stormwater runoff and to provide for water-sensitive design. (9) Ensure that stormwater in the Precinct is managed and, ~~where appropriate,~~ treated, to ensure the health and ecological value of streams are maintained and ~~where practicable~~, enhanced, for all subdivision and development. It is stated in the SMP and ecological report that the proposed planting will enhance the ecological value of the stream. Please update the SMP and remove 'where reasonably practical'.	The SWMP has been updated and is provided in **Appendix E**.
SW35	**I1.6.1 Stormwater Infrastructure** Purpose: • To ensure that stormwater in the Precinct is managed and~~, where appropriate~~, treated, to ensure the health and ecological values of the streams are maintained. Ensure that flooding risks within the Precinct and further downstream are not exacerbated by development within the Precinct.	Treatment of all impervious areas by a water quality device designed in accordance with GD01/TP 10 for the relevant contaminants is required under the NDC.	The words "where appropriate" are preferred. Runoff from pervious areas does not require treatment. Similarly, the runoff from the rainfall that is greater than the 90th percentile amount does not require treatment.	**Not Satisfied.**	Agree that runoff from pervious areas does not require treatment. Similarly, the runoff from the rainfall that is greater than the 90th percentile amount does not require treatment. The SMP does not proposed to treat runoff for pervious areas or rainfall greater than 90th percentile and 116.1(1)(b) excludes pervious pavers. Removing 'where appropriate' makes the purpose clearer. Reword "purpose" as follows: *Purpose:* *To ensure that stormwater in the Precinct is managed*	The wording used is consistent with other plan changes in the Whenuapai area and is considered suitable.

					and, ~~where appropriate~~, treated, to ensure the health and ecological values of the streams are maintained. Ensure that flooding risks within the Precinct and further downstream are not exacerbated by development within the Precinct.	
SW36	**I1.6.5 Riparian Margins** (1) At the time of subdivision or development, land within ~~10m~~ 20m of the streams and wetlands identified on Precinct Plan 1 must be planted with native vegetation from the top of the bank of the stream or the wetland's edge.	A 20m riparian margin will provide ecological and flood hazard benefits and better manage the effects of the plan change.	We disagree with the suggested amendment to increase riparian margins to 20m. This amendment is inconsistent with the AUP framework and the Auckland Council's Riparian Management Guidelines (TP148). It is not required at this site to better manage the effects of the plan change. The proposed zoning under the PPC will be the Mixed Housing Urban Zone, which requires riparian margins of 10m. According to the existing AUP framework, a 10m riparian yard is sufficient to enhance and protect riparian and stream functions. Point 4 of the Viridis Clause 23 response provides further technical justification for maintaining a 10m riparian margin. We note that plan changes should consider issues debated and resolved in recent plan changes. The proposed 10m riparian margin is consistent with these recent discussions and decisions, ensuring alignment with broader planning and environmental management strategies	**Not Satisfied.**	A riparian margin of 10m is set for urban zones in the AUP. For proposed greenfield plan changes the riparian margin should be determined based on the specific of the plan change area. Please refer to Te Haumanu Taiao Restoring the natural environment in Tāmaki Makaurau the current best practice guidance for restoration.	Please refer to the response for SW27.
SW37	**I1.7.2. Assessment Criteria** (2) For stormwater management not complying with Standard I1.6.1: Whether development and/or subdivision is in accordance with the adopted ~~any approved~~ Stormwater Management Plan and Policies E1.3(1) – (14);	SMPs that meet the requirement of the NDC will be adopted under the NDC, the SMP for the precinct should be the adopted SMP.	We note that the suggested amendment is inconsistent with the recently issued PC86 decision. The proposed wording is considered appropriate and consistent with the proposed policy.	**Not Satisfied.**	Reword as follows to be consistent. *(2) For stormwater management not complying with Standard I1.6.1: Whether development and/or subdivision is in*	Please refer to the updated Precinct Provisions in **Appendix B**.

					accordance with the ~~adopted any~~ approved Stormwater Management Plan and Policies E1.3(1) – (14);..	
SW38	**a) Special information requirements** <u>(2) Planting Plan</u>	A planting plan will provide details and ensure the riparian planting is of a quality that is accepted by council if it is to vest and accepted for vesting. Additionally, it can include information about the stream and riparian margin to ensure if the area is to be vested it is cleared of any woody debris, pest plant, fence structures, instream structures, dead trees and trees that are likely to fall.	This is a resource consent matter. Planting plans will be provided with any future RC application, where required.	**Not Satisfied.**	Reword as follows: ***I1.6.5 Riparian Margins*** *At the time of subdivision or development, land within 10m of the streams and wetlands identified on Precinct Plan 1 must be planted with native <u>and resistant to flooding</u> vegetation from the top of the bank of the stream or the wetland's edge*	We note that the suggested amendment is not consistent with recently approved plan changes nor recent plan change applications. The planting plan required under IX.9(2) will ensure that sufficient and suitable planting is provided in the riparian areas at the time of future development.

Transport – Harry Shepard / Angie Crafter, Flow Transportation							
#	**Topic**	**Specific Request**	**Reason for the request**	**Applicant Response 19th August 2024**	**Request Satisfied / Not Satisfied**	**Additional Information under Clause 23(2) Requested**	**Applicant Further Response**
	Staging Plan	Please provide staging plan of the development and indicative timing.	A staging plan is required to understand how the development may be constructed over time, and how long this may realistically occur over. We note that I1.6.6(a) refers to stages at a high level, but detail is not provided.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Partly Satisfied**	Based on the current wording of the I1.6.6(a), there is concern that sections of Totara Road could be upgraded in isolation, depending on future staging. This could result in disconnected sections of the southbound cycle lane, which would not provide a connected network. It is suggested that the Precinct provision standard is updated to ensure that if any development fronting Totara Road commences, then the road widening and provision of cycle facilities is provided along the whole plan change frontage, including safe connection for northbound cyclists at the Totara Road / Dale Road / McCaw Avenue intersection, to connect with the internal local road network. **Please assess how cycling connectivity would be provided on Totara Road, should staging not progress from the south to the north.**	Please refer to the response prepared by Abley in **Appendix F**. We note the provision as proposed is consistent with multiple other precincts, such as the Whenuapai 1 and 2 Precincts, in addition to the full upgrade of Totara Road being required prior to 150 lots being developed or occupation of more than 150 dwellings (whichever occurs first). The requirement for Totara Road to be upgraded to an urban standard once the threshold of 150 lots is reached will ensure cycling connectivity is achieved between the PPC land and the existing urban environment.
	Precinct provision transport trigger point	Please provide justification of the 150 residential unit trigger point in I1.6.6(b) of the Precinct Provisions.	I1.6.6(b) of the Precinct Provisions provide a trigger point of 150 residential units, where several transport infrastructure upgrades must be provided if it is exceeded. These upgrades would not be required if there	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**). Given that the proposed upgrades were not being driven by a need to mitigate adverse safety or efficiency effects, the trigger point of 150 enables an appropriate level of development to occur prior to the construction of the upgrades. Abley has undertaken additional modelling and an assessment of cumulative traffic effects. It has been	**Satisfied** Note: Appendix 4 in Attachment A for the Brigham Creek Road / Trig Road intersection appears to show an outdated layout, which is not consistent with Section 1.6 of Attachment D.		

			are 150 or fewer residential units. This trigger point is not discussed in the ITA report, so it is not clear how this was determined.	determined that the following upgrades should be provided prior to any dwellings being occupied within the site: • Lane marking improvements at Brigham Creek Road and Tōtara Road, to provide a shared through/left lane on the western approach. • Brigham Creek Road/Trig Road intersection. Upgrade to a roundabout prior to any development, to mitigate cumulative effects from Whenuapai Business Park and Whenuapai Green. The precinct provisions have been updated accordingly.			
	Assessment of stages	Along with staging plans, please provide assessment of transport effects at key stages, including traffic modelling of intersections, as relevant.	The traffic modelling has assumed a 2028 year. If the development staging plan extends past 2028, please assess these for realistic timeframes (ie considering when development is likely to be occupied), including identifying measures to avoid, remedy or mitigate any adverse effects of proposed activities.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		
	Crash history	Please undertake a crash history assessment of the roads leading up to the state highway interchanges, where development traffic is anticipated to access the wider network	Section 3.6 of the ITA includes a crash history assessment for the sections of Brigham Creek Road and Trig Road fronting the site. The ITA does not include a crash assessment of the wider network. The ITA predicts a relatively	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Partly Satisfied.**	An assessment has been provided using Megamaps Collective and Personal Risk of Brigham Creek Road. A further NZTA CAS assessment has been undertaken for the SH18 / Brigham Creek Road interchange. It is noted that an assessment is not provided on Brigham Creek Road between Boyes Avenue and the SH16 interchange.	Please refer to the response prepared by Abley in **Appendix F.**

			large increase of trips accessing the external network via the state highway interchanges. The ITA should assess the safety effects of these additional trips.			While the current trip distribution shows low vehicle volumes travelling through this section of Brigham Creek Road, it is considered there could be more, especially outside of congested peak periods as this provides a more direct route to SH16.	
	Brigham Creek Road NOR	Please comment on the implications for the proposed plan change of the Brigham Creek Road Notice of Requirement not being funded to provide upgrades, but for providing route protection only. Please confirm if any Brigham Creek Road corridor or intersection upgrades are assumed in the SATURN modelling assessment.	We understand that the Notice of Requirements for the corridor upgrades (including Brigham Creek Road) are not funded, and are for route protection only. Therefore, a four lane road on Brigham Creek Road may not be provided by other parties to mitigate the effects of the development. Section 4.3 of the ITA outlines the NOR design of the Brigham Creek/Totara Road intersection, which provides widening and additional lanes at the intersection. We acknowledge that the modelling assessment in the ITA assesses the existing layout of the intersection, which therefore assumes the NOR upgrades won't be undertaken for that intersection. Along the Brigham Creek Road corridor, the NOR would allow for four lanes	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied**		

			compared to two lanes as per the existing layout. We would like confirmation whether the ITA assumes two lanes or four lanes, and what effects are anticipated.				
	Brigham Creek Road effects	Please comment on the effects of additional through traffic on Brigham Creek Road, including at key intersections, and identify if there are any safety or operational constraints.	The ITA assesses Brigham Creek Road at the SH16 and SH18 interchanges, and at the Totara Road intersection. There are some intersections on Brigham Creek Road which may be close to reaching capacity based on the existing layout (such as Kauri Road), which have not been directly assessed in the ITA. Increases in through traffic may affect safety for turning traffic, and active mode trips, as well as capacity. Section 8.1 of the ITA states: *"Our assessment demonstrates that the Brigham Creek Road/Totora Road intersection has sufficient capacity to support the plan change. We anticipate that Brigham Creek Road will be progressively upgraded as development*	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Not Satisfied.**	The Brigham Creek Road modelling assessment has been updated to include the Totara Road, Trig Road, Kauri Road intersections. Discussion on the SH18 / Brigham Creek Road interchange is provided further below. It is noted that for the Totara Road intersection, the queue lengths are predicted to increase by 227m and average delays are predicted to increase by 44 seconds in the forecasted 2030 PM peak. These increases will be noticeable by people who use this intersection, and the queues may extend back into local road intersections. It is also noted that some minor lane marking adjustments have been proposed. Have any other further mitigations been considered for this intersection? **Please assess potential impacts of increased queue lengths and delays predicted at the Totara Road / Brigham Creek Road intersection, and whether any mitigation is possible to address these effects.**	Please refer to the response prepared by Abley in **Appendix F** and the updated Precinct Provisions in **Appendix B**.

			fronting the corridor progresses in the future." We note that this assessment focuses only on the immediate road access onto Brigham Creek Road from Totara Road, but it should consider the wider corridor.				
	Visibility of proposed roads	Please assess the visibility of the proposed local road intersections on Totara Road.	A visibility assessment is not provided for proposed local road intersections on Totara Road in the ITA. While the local roads are indicative and subject to detailed design, providing a visibility assessment will outline if there are any visibility constraints on Totara Road that require consideration (such as limiting an intersection location, changing the alignment of the road, providing visibility setbacks within the site). This needs to consider vertical as well as horizontal alignment.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		
	Waka Commuter trip proportions	Please comment on the application of the Waka Commuter App information for the proposed plan change land use and compare to other similar residential zones.	Section 6.3 of the ITA assesses that 40% of the vehicle trips generated by the plan change will remain internal to Whenuapai.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		

			The 40% of trips adopted from the Waka Commuter App appears to include all modes, including working from home, and (short) walking and cycling trips. The 40% rate can therefore not be applied to vehicle trips only. Further, the data for Whenuapai may be affected by people living and working at the NZDF base.				
	Local trip distribution	Please advise and assess where the local vehicle trips will travel.	Section 6.7 of the ITA assumes that 50% of local vehicle trips will travel through the Brigham Creek Road / Totara Road intersection, but it is not stated where the other 50% of these local trips will travel.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		
	State highway interchange modelling	Please model the SH18 interchange to include ramp meter signals, using a network or microsimulation model, eg SIDRA Network, or AIMSUN.	The ITA includes operational assessments of the SH18 interchange. The intersection within the interchanges appear to be modelled in isolation, and do not include ramp meter signals. Ramp meter signals should be included for the interchange on- ramps, as these generate queues that can impact the local road network.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Partly Satisfied.**	For the SH18 / Trig Road interchange, the assessment has demonstrated that an upgrade would not be required based on Whenuapai Green alone. However, if the Whenuapai Business Park is included in the modelling, then it has been assumed that an upgrade would be triggered by the Whenuapai Business Park. While the Whenuapai Business Park plan change has not yet been notified, the assessment has shown that the effects of Whenuapai Green does not require an upgrade of this interchange. For the SH18 / Brigham Creek Road interchange, it is noted	Please refer to the response prepared by Abley in **Appendix F.**

			Furthermore, each interchange (with ramp meter signals) should be modelled as a network, as interchanges typically operate as a system and there may be queues from one adjacent intersection to the next. These changes would allow the effects and capacity of the interchanges to be assessed fully.			that the modelled queue lengths extend back into the northern roundabout. These queues could impact on the operation of the northern roundabout from a safety or operational perspective. **Please assess the queueing effects of the SH18 / Brigham Creek Road northbound on-ramp, and whether this has any safety or operational effects, and if any mitigation can be provided.**	
	SH18/Sinton Road	Please assess the SH18 / BCR roundabout without assuming that Sinton Road is realigned. Please also advise if you had assumed Kauri Road/BCR Road would be upgraded along with Sinton Road being realigned.	The ITA modelling assumes closure of the Sinton Road arm at the SH18 interchange, however, there is no certainty when this might occur.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		
	SIDRA outputs & interpretation	Please provide summary table of the SIDRA results showing the average delay, degree of saturation and queue length of the different scenarios and periods for each intersection, and show a difference between the baseline and plan change scenarios. Please also comment on signal phasing and LOS for pedestrians.	The SIDRA movement summary results are provided in Appendix B of the ITA. Section 6 of the ITA comments on the SIDRA results at a high level. Providing a comparison table of the key results for each intersection will provide an 'at a glance' comparison to be made between the different development scenarios compared to the baseline, and allow the traffic effects to be better understood.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		

	Totara Road vehicle access restrictions	Please clarify the suggested "individual" vehicle access restriction requirements on Totara Road	Figure 5.1 of the ITA shows 'individual vehicle access restriction' along the Totara Road frontage. It is not explained what these restrictions would involve (they may be in the proposed precinct provisions, which we do not have). We note that these access restrictions are not referred to in the Precinct Plan maps or provisions.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.** **Note:** It is considered that access restrictions should be provided on Totara Road, given a cycleway is proposed on the east side. Having access restrictions will better enable a safe and attractive cycle facility to provide for all users and abilities. It is noted that the Whenuapai 2 Precinct located to the south has such access restrictions on Totara Road. It is also noted that access restrictions do not necessarily mean that vehicle crossings can't be provided, but they do provide a mechanism for the number of crossings to be limited. Without these, then the current E27 Transport provisions only have limited effectiveness to discourage the number of crossings, where individual residential lots each with a vehicle crossing could be developed.		
	Totara Road cycle facilities	Please advise how people cycling northbound on Totara Road to and past the site will be catered for	Section 5 of the ITA provides cross-sections of the key roads. The Totara Road cross-section (24 m collector road) provides a 2.0 m cycleway on the east side, but no facility on the west side. The facilities on the west side are marked as 'to be built by others'. The proposed 2.0 m cycleway will cater for southbound cyclists on Totara	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		

			Road, but not northbound cyclists.				
	Totara Road bus stops	Please advise where bus stops will be located and routes for people walking to/from them.	The ITA proposes bus stops on Totara Road. Section 8.2 of the ITA states "Adequate road space is provided in the cross section of the Totara Road upgrade to allow for the construction of bus stops in the future, which are proposed by NCL". The location for these bus stops is not provided in the ITA. The plan change will need to ensure that people are able to walk safely and conveniently to/ frm and within the plan change site. Additional pedestrian connections within the site may be needed.	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		
	Local road connections	Please advise how the ends of the local roads would be constructed in the interim, given that full connections into 94 Totara Road and the RNZAF Base may not be immediately provided in those sites.	The ITA states that "Two future proofed road connections to Royal New Zealand Air Force (RNZAF) Base Whenuapai and 94 Totara Road." The local road connection points are shown in Figure 5.1. The connections within those sites may not be provided until those sites are fully developed, so interim solutions such as turning heads could be	Please refer to the attached technical memo prepared by Abley, dated 6 August 2024 (**Attachment D**).	**Satisfied.**		

			required in the short to medium term. The future connection to the RNZAF Base may require additional consideration as this is currently closed off to the public, and the Ratara Stream would need to be crossed. While the local roads are indicative and subject to detailed design, understanding the viability of future connections will provide an understanding of whether or not the proposed connections are feasible.				
Auckland Transport							
1.	**Future land use and transport environment**	Ensure that the ITA addresses the following in considering the likely future land use and transport environment, specifically: SH16 Brigham Creek to Waimauku safety improvements - provide a specific update from Waka Kotahi on timelines and confirmation of funding for this. One of the issues with PC69 Spedding Block was the need for these works to occur prior to the PC69 development. Similar issues apply here. If the works do not occur, adding more vehicles to the road network will have adverse effects on the Brigham Creek Road / SH16 intersection • Supporting Growth NORs - the ITA needs to acknowledge that these NORs are for route protection work and that construction is not funded. A four lane road will not be	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.1 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		

		provided by other parties to mitigate the effects of the development. • Consideration of other developments: ○ Note that PC86 has been considered in section 4.5 of the ITA. This is supported. ○ Whenuapai Business Park - consider the effects of this proposed development in the modelling. Note that these big developments in the area can be better understood if the same SATURN model is used for each development. Future Development Strategy - provide comment on the FDS to give an indication of likely development / infrastructure timeframes and any constraints (focus on the 'when' as there maybe a significant gap between development and the infrastructure required to support it).					
2.	**Modelling**	• What modelling year has been used from SGA Saturn Model? • What network improvements are included in the model that may affect traffic volumes on Brigham Creek Road (SH16/18 connections, Mamari Road, Northside Drive connection etc?). Some links are noted in Section 6.4, but it would be useful to understand any other relevant connections The SIDRA results at the SH16 / Brigham Creek Roundabout show long queues. Provide some commentary as to likelihood and reasons for this. Is that reflective of the likely signalised operation proposed as part ofPC69? Further, PC69 modelled the roundabout in AIMSUN noting the limitations of SIDRA. The ITA considers that the development is acceptable based on the small percentage of additional	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.2 of the traffic response prepared by Abley in **Attachment D**.	The modelling methodology as described in Section 2.2 is considered acceptable.	<u>SH18 / Brigham Creek Road Roundabout</u> Commute notes that as assessed, Whenuapai Green adds very little traffic to the SH18 / Brigham Creek Road roundabout (as per the trip distributions on Figures 1.17 to 1.20 on pages 27 to 28 of the Abley transport response). However, it would be useful to understand if this is realistic. A large proportion of the dwellings in Whenuapai which were used to inform the Commuter Waka data are airbase-related. However it is expected that a large proportion of new Whenuapai Green trips would travel to/from other employment centres such as Albany/ Rosedale/ Wairau etc	Please refer to the response prepared by Abley in **Appendix F.**

		traffic using the intersection however as per Laidlaw decision, "whilst we agree with the general principle that an applicant is not required to resolve existing infrastructure problems, neither should they add significantly to them".				via SH18 and to/from the City Centre/ Rosebank Road/ Newmarket/ Mangere etc via SH16. In particular, regarding access to SH16, it looks as if the number of estimated trips on Trig Road is 'high' while the number of trips on Brigham Creek Road west of Totara Road is 'low'. **Please provide further data to support the distribution.** It appears based on existing traffic volumes that vehicles exiting Totara Road in the morning predominantly turn right i.e. toward the SH16/ Brigham Creek Road roundabout while the majority of vehicles turning into Totara Road in the evening turn left in i.e. from the Brigham Creek Road/ Totara Road roundabout (revealing a preference for that route). While it may be a similar distance from the Whenuapai Green site to the SH16 Hobsonville Road onramp versus using the SH16/ Brigham Creek Road roundabout, it is considered that the roundabout route offers the shorter travel time (there is ramp metering at the SH16 Hobsonville Road onramp that delays these vehicles). *Please note that current Google Maps travel time data may be affected by intersection works currently occurring on Brigham Creek Road associated with PC69 Spedding Block. Brigham Creek Road is currently operating under a single lane operation with traffic signals which will likely result in overstated travel times toward SH16 (which are just temporary).*	
3.	**Public transport and active modes**	• Indicate where the bus stops are proposed to be located. Consider whether this requires safe	To better understand the traffic and other transport effects of	Please refer to Section 2.3 of the traffic response prepared by Ableyin **Attachment D**.	**Satisfied.**		

		crossing facilities to be provided on Totara Road for pedestrians / cyclists. Note that for Fast Track application, AT requested two pairs of bus stops on Totara Road. The ITA refers to 'provision of bus stops on Totara Road' so it is not clear what is proposed.	the proposal and the ways in which any adverse effects may be mitigated.				
4.	**Vehicle Access Restrictions**	Address the need for Vehicle Access Restrictions on Totara Road. With the provision of separated cycle facilities on Totara Road, safety should be enhanced by avoiding or limiting direct vehicle access from individual sites onto Totara Road. This will also assist with the operation of the bus route on Tōtara Road. Previous plans did appear to show that residential sites with frontage to Totara Road would get vehicle access via rear lanes.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated. In particular to understand how safe active modes can be better provided for.	Please refer to Section 2.4 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
5.	**Dale/ McCaw/ Totara intersection**	Provide more information about the concept design for this intersection to demonstrate that a safe and workable design can be accommodated. While this may have been covered in Fast Track application, concept diagrams should be included in ITA - as it is the current ITA which will inform the plan change and future consenting phases.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.5 of the traffic response prepared by Abley in **Attachment D**.	**Not Satisfied**	In the previous request, AT asked for more information about the concept design for this intersection to demonstrate that a safe and workable design can be accommodated. In response Abley has provided a concept design for this intersection (section 2.5 and Appendix B). The roundabout design has been reviewed by relevant Subject Matter Experts within AT. At this stage the design is not satisfactory to AT, with the principal concern being about the design for cycling. Please undertake further design work to demonstrate that a safe and workable design can be accommodated. This can best be progressed by a meeting between Abley and AT subject matter experts. Please contact Katherine Doroaeff via email: Katherine.Dorofaeff@at.govt.nz	Please refer to the response prepared by Abley in **Appendix F.**

6.	**Width of local roads**	Advise where it is intended to apply the various local road cross sections of 15m, 17m and 20m. Which road widths are proposed for which local roads?	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated. In particular to better understand the design and layout of the future road network.	Please refer to Section 2.6 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
7.	**Totara Road intersections**	Explain why it is proposed to provide two intersections onto Totara Road relatively close together. (This refers to the middle two intersections located between the Dale / McCaw / Totara intersection, and the northernmost intersection with Totara Road.) Assess the safety implications of retaining both intersections.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.7 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
8.	**Road links to adjacent sites**	Explain why an additional road link has not been provided to the adjacent NZDF site - e.g. as per Road 4 on the previous Fast Track proposal. Assess the effect of this on future development opportunities for the adjacent site.	To better understand the traffic and other transport effects of the proposal and the ways in which any adverse effects may be mitigated.	Please refer to Section 2.8 of the traffic response prepared by Abley in **Attachment D**.		In response to the previous request, Abley explains (in section 2.8) why an additional road link has not been provided to the adjacent NZDF site - e.g. as per Road 4 on the previous Fast Track proposal. The explanation given is that NZDF has advised that it is not required, and that the northern link is sufficient. No further explanation is given for NZDF reaching this conclusion. Abley also advises that the proposed indicative internal road transport network is considered appropriate from a transport perspective for the reasons outlined within the ITA. However, this portion of AT's initial request has not been answered: **'Assess the effect of this on future development opportunities for the adjacent site'.**	The road in question was proposed as part of the previous fast track application and is not included as part of this plan change application. The plan change includes an indicative road in the eastern portion of the PPC land that will provide a future link to the adjoining NZDF land. The previously proposed southern road is not considered necessary to include as part of this plan change application as the northern link will provide sufficient access opportunities for the NZDF if they do seek to connect to the future road.

Auckland Transport – Comments on Precinct Provisions					
Provision	**Comment / Recommendation**	**Applicant Response**	**Request Satisfied / Not Satisfied**	**Additional Information under Clause 23(2) Requested**	**Applicant Further Response**
I1.2 Objectives	Amend Objective 3 as follows: 'Subdivision and development does not occur in advance of the availability of operational transport infrastructure, including regional and local transport infrastructure.' This is consistent with the wording adopted in some other recent operative plan changes. It adds robustness to the objective. The objective is otherwise supported.	Objective 3 has been renumbered to Objective 5. The proposed addition has been accepted; however, the objective has been reworded for clarity as future subdivision and development enabled by the plan change does not require the availability of operational regional transport infrastructure. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
	Amend Objective 5(a) as follows: a) Provides for safe and efficient walking and cycling connections within the precinct and to adjacent development'	We do not agree with the proposed amendment. Reference to providing connectivity to adjacent sites is covered by Objective 7(e).	**Satisfied.**		
	Add an additional subclause to Objective 5: g) Provides effective, efficient and safe access to the Precinct.'	We do not agree with the proposed amendment as Objective 6 requires subdivision and development to provide for the safe and efficient operation of the transport network.	**Satisfied.**		
	Amend Objective 6 as follows: (6) Appropriate rRoading connections, new or upgraded intersections, upgrading of Totara Road and minor line marking changes to Brigham Creek Road/Totara Road intersection are provided to support subdivision and development within the Precinct.'	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
I1.3 Policies	Amend Policy 3 as follows: (3) 'Require subdivision and development to be managed and designed to align with the coordinated provision and upgrading of the transport infrastructure network within the precinct, and with upgrades to the wider transport network.'	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		

	The reference to the ‘wider transport network’ in the existing wording is unclear.				
	Amend Policy 4 as follows: 'Require the development of a transport roading network that implements the elements and connections identified in Precinct Plan 1 and is in accordance with Appendix 1 – Road Function and Design Element Table.' Deletion of ‘roading’ recognises that Precinct Plan 1 includes a pedestrian and cycle link that is not located within the identified roading network.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
	Amend Policy 5 as follows: <u>Require that</u> Ssubdivision and development does not occur in advance of the availability of <u>operational</u> transport infrastructure to support that stage.' Addition of 'require' is consistent with this being a policy rather than an objective. The inclusion of 'to support that stage', is unclear. The addition of 'operational' is consistent with the change sought to objective 3.	The additions are accepted. We wish to retain ‘support that stage’ to enable Totara Road to be upgraded at the time that development adjoins Totara Road which may be in staged in the future. Amended Policy 5: *(5) Require that subdivision and development does not occur in advance of the availability of operational transport infrastructure to support that stage.* Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
Activity Table	Support (A1) which addresses activities listed in the MHU zone. This means that the transport requirements in the Precinct will need to apply to all these activities. AT has a particular concern with Integrated Residential Development which can include large scale development but no subdivision.	Noted.	**Satisfied.**		

	(A6) Amend so that an NC status (rather than D) applies to subdivision that does not comply with IX.6.6 - which includes the required transport upgrades. Include a similar NC entry for use and development that does not comply with IX.6.6.	Agreed.	**Satisfied.**		
I1.5 Notification	Support (1) which applies the normal tests for notification.	Noted.	**Satisfied.**		
I1.6 Standards	I1.6 - support the requirement for all activities listed in the activity table to comply with I1.6.	Noted.	**Satisfied.**		
I1.6.6 Subdivision	This standard needs to apply to development as well as subdivision. Suggest it be renamed as 'Staging of subdivision and development with transport upgrades'	The standard has been reworded to 'Staging of Subdivision and Land Use – Transport Upgrades'. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
	Amend purpose statement as follows: 'Purpose: To mitigate the adverse effects of traffic generation on the surrounding road network; to ensure transport infrastructure is provided in a timely manner; and to achieve the integration of land use and transport.' The standard lacks robustness. More detail is needed to describe the transport upgrades e.g. is not clear what upgrades are required to Totara Road, or the nature of the lane marking improvements at BCR / Tōtara Road. The rule needs to apply to both subdivision and development, and section 224(c) will only be relevant for subdivision. Where there is no subdivision but only a land use, the upgrade will need to occur before the occupation of new buildings. Suggest that the requirements be presented in a table format. This would be accompanied by a standard stating that subdivision and development within the precinct must not exceed the thresholds under the identified transport infrastructure upgrades are constructed and operational in the general location shown on the Precinct Plan 1.	We do not agree with the proposed amendment and consider the standard as proposed will enable transport infrastructure to be provided in an appropriate manner. The use of a table format is not necessary as the requirements are clearly set out in the Precinct Provisions, together with the triggers for upgrades to be implemented. Some amendments to the Standard have been made to ensure it applies to both subdivision and land use.	**Satisfied.**		

	<table><tr><th>#</th><th>Column 1 Transport infrastructure upgrade required</th><th>Column 2 Threshold for transport infrastructure upgrade in column 1</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>				
Missing provisions	A Vehicle Access Restriction should be applied on the Totara Road frontage given that there will be a separated cycle facility on that frontage. This would need to be supported by a policy, standards, and assessment matters.	We do not agree that a Vehicle Access Restriction should be applied to Totara Road. Totara Road is not an arterial road. The existing provisions within the AUP will enable any vehicle crossings proposed on to Totara Road to be assessed at the resource consent stage.	**Satisfied.**		
	There should be a standard requiring compliance with the Road Function and Design Elements table. Currently it is provided in Appendix 1 but it should be included in a standard. The inclusion of the RFDE table as a standard has occurred in recent operative plan changes. Infringement of the standard can be specifically provided for as RD in the activity table, with appropriate assessment matters also included in the precinct. It is noted that Policy 4 requires the transport network to be in accordance with Appendix 1. However, there is no supporting standard to require this. Rather it is only mentioned in assessment criteria.	Accepted. Please refer to Standard IX.6.20 in the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
			Satisfied.		
I618.7.1 Matters of discretion	Amend (1) to include the following: '<u>Whether the subdivision or development is consistent with Precinct Plan 1</u>' Amend (1)(a) as follows: a) 'Whether the infrastructure required to service any <u>subdivision</u> <u>or</u> development is provided'	Accepted. See 1(f). Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		

I618.7.2 Assessment criteria – (1) Subdivision and development	Amend (1) relating to subdivision and development to include the following: '(x) Whether the transport network is provided generally as indicated on Precinct Plan 1 to achieve a highly connected street layout that integrates with the surrounding transport network. (x) Whether the proposed transport infrastructure provides for the safe and efficient operation of the current and future transport network.' The assessment criteria currently proposed do not reference consistency with Precinct Plan 1, and focus on servicing the precinct without considering the wider transport network.	We have updated 1618.7.2 (1)(a) with the following to ensure refence to Precinct Plan 1 is included within the assessment criteria: Whether the proposed subdivision and/or development provide road corridors that meet the requirements of the Road Function and Design Element Table in Appendix 1, and generally in the locations indicated on Precinct Plan 1. We consider the assessment criteria as currently proposed sufficiently addresses the safe and efficient operation of transport infrastructure.	**Satisfied.**		
I618.7.2 Assessment criteria – (2) Stormwater management	Amend (2)(b) as follows: 'The design and efficacy of infrastructure and devices (including communal devices) with consideration given to the likely effectiveness, lifecycle costs, ease of access, operation and integration with the surrounding environment; and' Lifecycle costs are of relevance to AT when stormwater devices are located within the legal road.	Accepted. Please refer to the updated Whenuapai Green Precinct Provisions in **Attachment A**.	**Satisfied.**		
	Also suggest that (2) should apply to all subdivision and development, not just to stormwater management that does not comply with Standard I1.6.1.	The originally proposed wording has been retained.	**Satisfied.**		

New – Maters of Discretion				Matters of Discretion (IX1.8.1(6)) have been included for non-compliance with Standard IX.6.20 Road Design. However associated assessment criteria have not been added. The following assessment criteria (consistent with other precinct plans) are suggested: '(i) Whether there are constraints or other factors present which make it impractical to comply with the required standards; (ii) Whether the design of the road, and associated road reserve achieves the relevant transport policies of the precinct; (iii) Whether the proposed design and road reserve: • incorporates measures to achieve the required design speeds; • can safely accommodate required vehicle movements; • can appropriately accommodate all proposed infrastructure and roading elements including utilities and/or any stormwater treatment; • assesses the feasibility of upgrading any interim design or road reserve to the ultimate required standard. (iv) Whether there is an appropriate interface design treatment at property boundaries, particularly for pedestrians and cyclists.'	Please refer to the updated Precinct Provisions in **Appendix B**. Assessment criteria have been added that reflect the matters of discretion already proposed. We consider the other matters to be unnecessarily detailed and given that Auckland Transport is the road controlling authority and won't accept vested assets unless it meets their design standards, we consider the assessment criteria proposed to be appropriate.

Special information requirements	Support the requirement for a Transport Design Report. However as noted above it must be clear from the precinct plan and from the information requirement which intersections require a Transport Design Report. A common approach is to use the term 'key intersections' in both the info requirement and on the Precinct Plan.	Noted.	**Satisfied.**		
Precinct Plan	Ensure that all the required transport infrastructure is clearly identified on the Precinct Plan	We agree that the required transport infrastructure must be included either on the Precinct Plan or in the Precinct provisions or both. The Precinct does identify all the required upgrades in one of these formats, and we consider that to be sufficient. Some of the infrastructure upgrades are remote from the site so cannot feasibly be shown on the Precinct Plan.	**Satisfied.**		
	Include an additional road connection to the NZDF site e.g. as per Road 4 on the previous Fast Track proposal	See Ableyy technical response, section 2.8 (Attachment D). The Precinct Plan indicates a road connection that terminates at the NZDF boundary.	**Satisfied.**		
	Remove one of the two mid intersections proposed on Totara Road.	Please refer to Section 2.7 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
	Make sure it is clear which intersections require a Transport Design Report.	The Precinct Provisions include a Special Information Requirement that 'any proposed new road intersection or upgrading of existing road intersections illustrated on the Precinct Plan must be supported by a Transport Design Report.'	**Satisfied.**		
	Identify that an intersection upgrade is required at Dale / Totara / McCaw	The Precinct Provisions clearly identify that there is an intersection upgrade required at Dale/Totara/McCaw Roads, and we consider that to be sufficient.	**Satisfied.**		

	Identify (could be by way of inset) the BCR / Totara Road intersection where a change to lane markings is proposed.	A plan showing the required lane marking is now included within the Precinct Provisions as Appendix 3 and is referred to in Standard IX.6.6.	**Satisfied.**		
	Identify that the Tōtara Road frontage is to be urbanised.	The Precinct Plan shows that Totara Road along the site frontage will be upgraded.	**Satisfied.**		
Appendix 1 - RFDE table	As noted previously, there needs to be a rule which requires compliance with the RFDE table.	Please refer to our previous response on this matter.	**Satisfied.**		
	For Tōtara Road, would be more accurate to identify the ultimate width as 24m, and note that 3m road widening is occurring on eastern frontage.	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).	**Satisfied.**		
	In other precincts, the heading 'Median' is accompanied by a footnote as follows: 'Flush, solid or raised medians subject to Auckland Transport approval at EPA stage.'	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).	**Satisfied.**		
	Add a footnote to the heading 'Bus provision' as follows: 'Carriageway and intersection geometry capable of accommodating buses. Bus stop form and locations and bus routes shall be determined with Auckland Transport at resource consent and engineering plan approval stage.'	A note has been added. Please refer to the updated RFDE Table (**Attachment A**).	**Satisfied.**		
	Include a column for 'Access Restrictions', and identify Tōtara Road as being subject to access restrictions.	Please refer to our previous response on this matter. We do not agree that Totara Road should be subject to a VAR.	**Satisfied.**		
	Delete the row providing for 15m roads as acceptance cannot be confirmed until further considered at resource consent / subdivision stage.	This row has been deleted. Please refer to the updated RFDE Table (**Attachment A**).	**Satisfied.**		
	Amend footnote 1 as follows: 'Typical minimum width may need to be varied in specific locations where required to accommodate network utilities, batters, structures, stormwater treatment, intersection design, significant constraints, or other localised design requirements.'	Note 1 has been amended. Please refer to the updated RFDE Table (**Attachment A**).	**Satisfied.**		
Auckland Transport – Comments on ITA					
Section/Topic	**Comment**	**Applicant Response**	**Request Satisfied / Not Satisfied**	**Additional Information under Clause 23(2) Requested**	**Applicant Further Response**

Public transport and active modes	In addition to bus stops, a bus shelter should be provided at the bus stop proposed for the eastern side of Totara Road.	Please refer to Section 3.1 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
Road design	Minimum road reserve widths given in the ITA must not be less than those in Auckland Code of Practice for Land Development and Subdivision - Chapter 3: Transport. 15m wide road reserves should not be indicated as acceptance would need to be considered at resource consent / subdivision stage.	Please refer to Section 3.2 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		
	AT has previously advised (for Fast Track proposal) that a minimum 1m berm is required. A 0.5m berm is still shown in Figure 5.2 for the 24m collector road.		**Satisfied.**		
	Proposed amendments to road markings and signal control at Totara / BCR intersection will need to be confirmed with AT Network Operations, and the Auckland Transport Operating		**Satisfied.**		
	Only one of the two roads marked A should have vehicle access to Totara Road i.e. one intersection should be removed. The two intersections are considered to be too close together for safety purposes, and are not required for vehicle accessibility. Pedestrian access can be retained. Austroads Guide to Road Design Part 4: Intersections and Crossings: General – Appendix B provides guidance on distance between intersections. 		**Satisfied.**		

Road safety	The ITA (p28/69) states *The upgrade to Totara Road is expected to include a reduction of the speed limit from 80km/h to 50km/h, however this will need to be actioned by Auckland Transport (as the Road Controlling Authority) and can be confirmed as part of the Engineering Plan Approval application should the Plan Change be approved'* Note that the existing speed limit is now 60, rather than 80 (this change is noted in Section 3.4 of the ITA). There are factors that would support a further reduction to 50 if residential development occurs on the eastern side as provided for in the plan change. However it has become more difficult to achieve lowering of speed limits. It should not be assumed that it can be confirmed as part of an Engineering Plan Approval. In addition, simply changing the speed limit does not necessarily equate to reduced speeds. Traffic calming and treatments to reduce the operating speeds also need to be considered. The applicant needs to also consider changes to the speed environment to support a credible speed limit.	Please refer to Section 3.3 of the traffic response prepared by Abley in **Attachment D**.	**Satisfied.**		

DATE: 2 September 2024

TO: Todd Elder (Senior Policy Planner, Auckland Council)

FROM: Philip Brown (Director, Campbell Brown Planning Limited)

SUBJECT: **PLANNING RESPONSE – WBP CLAUSE 23 REQUEST (HEALTHY WATERS)**

The Healthy Waters Clause 23 request of 28 August 2024 suggests that a 20m wide riparian margin should be adopted for the PPC (refer item HW5). The applicant is not proposing to provide for a 20m wide riparian margin through the Precinct provisions and instead will provide for a 10m wide riparian margin. The 10m width accords with the requirements of the Auckland Unitary Plan.

While '*the wider the better*' philosophy is not challenged, it needs to be balanced with the benefits of using serviced urban land efficiently. The Auckland Unitary Plan has weighed those competing objectives and determined that 10m is the appropriate width for urban situations.

'*Te Haumanu Taiao Restoring the natural environment in Tāmaki Makaurau*' is a non-statutory document. The Council's website notes that:

> "*The resource has no formal regulatory status but provides best practice guidance for restoration projects and conservation planting that may be required as part of resource consent processes in the Tāmaki Makaurau / Auckland region*."

It is focused solely on restoration and, appropriately in that context, does not seek to balance restoration outcomes against other important environmental outcomes.

By contrast, the Auckland Unitary Plan is a document that was extensively consulted on, underwent a comprehensive cost-benefit evaluation in respect of each provision, was subject to submissions and further submissions, and was scrutinised and tested through independent decision making from experienced commissioners. The process arrived at a 10m riparian margin standard for urban areas, and that dimension has been used consistently since that time across the region.

If Healthy Waters considers that the consistent application of a 10m riparian margin is no longer appropriate across Auckland, it has recourse to promulgate its own Plan Change to amend it. That would then be subject to the same level of testing and scrutiny that sits behind the current standard.

For these reasons, the applicant proposes to utilise a 10m riparian margin within the Precinct.

Philip Brown
Director
Campbell Brown Planning Limited

Whenuapai Green – Response to Outstanding Matters (Clause 23)

Request (25/11/24)	Applicant Response (27/11/24)
Watercare	
A letter regarding Watercare's position on the proposed plan change is attached. It noted that Watercare does not support 'out of sequence' plan changes and that there is no bulk wastewater capacity available in Whenuapai until at least 2028 or beyond. Can you please provide a response to this matter that can be included in the cl25 report and any notification material. A response to this matter would be required by this Friday (29th November) – to feed into the Committee Report in time for the 8th December meeting.	We acknowledge that the PPC will be ahead of the identified timing under the Future Development Strategy (FDS); however, the FDS does provide a pathway for out-of-sequence development to occur and acknowledges that there may be scenarios where out-of-sequence development is appropriate. We consider it is appropriate for the plan change to occur ahead of the identified FDS timing as a range of new and upgraded infrastructure is proposed, in addition to the plan change aligning with the provision of larger scale infrastructure required to support future development. Ensuring the plan change is aligned with the provision of infrastructure is highlighted by the proposed Precinct Provisions. Particularly Standard IX.6.2 which outlines that the occupation of new buildings can only proceed following the completion and commissioning of bulk water supply and wastewater infrastructure required for servicing all development within the plan change area. As noted in Watercare's letter, Whenuapai Wastewater Packages 1 and 2 are considered to be the bulk wastewater prerequisites required to enable the development of the plan change area. The applicant has acknowledged throughout the plan change process that the Whenuapai Packages 1 and 2 are required to enable the servicing of the plan change area. These are anticipated to be completed in late 2028. To reflect this, Standard IX.6.2 Wastewater and Water Supply Infrastructure has been updated to include the Whenuapai Wastewater Packages 1 and 2 as part of the upgrades required (in addition to the McKean Road Wastewater Pump Station and Hobsonville Road/Brigham Creek Road pipe upgrade being undertaken by the applicant) to enable occupation of any new building within the plan change

	area (refer to the updated Precinct Provisions in **Appendix A**). We consider the proposed standard ensures that no new buildings will be occupied before the required infrastructure is in place and when considering the anticipated timeframe for when future buildings will be ready to be occupied, it aligns with the provisions of the Whenuapai Wastewater Packages due in late 2028. Therefore, the plan change area will be adequately serviced by the required infrastructure by the time dwellings are ready to be occupied. It is also noted that the proposed Precinct Provisions in relation to wastewater infrastructure are considerably more detailed than other recently approved plan changes, such as Plan Change 69 (Spedding Block Precinct) and 86 (Whenuapai 3 Precinct). In addition, both of these plan changes also rely on Whenuapai Wastewater Packages 1 and 2 being in place, in combination with their own upgrades, to ensure sufficient servicing can be achieved. This is consistent with what is proposed by this plan change. We also note that significant infrastructure investment has occurred in Auckland's north-west, notably Council and its CCO's have invested $181 million for the Northern Interceptor bulk wastewater line and North Harbour 2 watermain. In addition to Council purchasing land for parks and open space in Whenuapai at a cost of $34 million and Te Tupu Ngātahi Supporting Growth undertaking several Notice of Requirements for transport corridor upgrades. Not utilising the significant public investment in infrastructure is not considered to be an efficient use of land or resources. We do not consider that the proposed plan change will impact the delivery of planned infrastructure as a range of new and upgrades to existing infrastructure is provided for to address capacity requirements, in addition to the plan change aligning with the provision of wider wastewater infrastructure upgrades to ensure the plan change land will not be occupied until the required infrastructure is in place.

	The FDS provides a pathway for out-of-sequence development to occur where alignment between land use and infrastructure planning can be achieved. The proposed plan change is considered to achieve this through the new and upgrade to existing infrastructure proposed and the alignment with the provision of larger scale infrastructure.
Traffic (Auckland Council)	
Staging plan Response noted – we will be suggesting further wording changes in Council reporting.	Noted, thank you.
Crash history The applicant has identified safety issues on Brigham Creek Road between Totara Road and SH16 and advised that resource consent for development of the Spedding Block has been lodged with Auckland Council, giving a reasonable degree of confidence that these improvements will precede development within Whenuapai Green. It would be useful to know the likelihood and timing for the construction of these upgrades? If there is any uncertainty about the Spedding Block upgrades, then we wonder whether the applicant needs to introduce any other triggers for those upgrades	Please refer to the response prepared by Abley in **Appendix B**.
Brigham Creek Road effects The applicant has proposed yellow cross hatched road markings on Brigham Creek Road at the Joseph McDonald Drive intersection to discourage queuing over these intersections. This suggestion has been included in the updated Precinct provisions. We note that this is prescribing a detailed design outcome, and would be subject to Auckland Transport approval. Any	Please refer to the response prepared by Abley in **Appendix B**.

potential future upgrades of Brigham Creek Road (such as the 4 lane NOR design) may make this redundant, but it would still be within the Precinct provisions. We suggest this suggested mitigation requires Auckland Transport approval. (Refer AT comment below) The modelling of Brigham Creek Road / Totara Road shows that the modelled operation of the intersection would increase from 88% to 98-100% degree of saturation in the morning peak period, and 85% to 92-102% in the evening peak period with the plan change traffic included. This shows that the proposed development enabled by the plan change would result in the intersection operating at/beyond its theoretical capacity. Mitigation that increases the capacity of the intersection may be required. The suggested yellow hatched markings would not mitigate these operational impacts at the intersection, which will impact bus services, as well as freight and other traffic. However, we note that the original ITA indicates that capacity improvements could be made by changing the road markings, such that the eastbound left turn lane on Brigham Creek Road is marked as a left/through lane. It appears that the modelling provided does not include this layout. We recommend that this modelling assessment is provided, to show whether or not it could improve the performance of the intersection. Subject to the results of this modelling, we can consider if further mitigations may be required.	
State Highway interchange modelling The response has provided further clarification about the assumptions used for the ramp meter signal modelling. This states that the assumptions are conservative, and the queue lengths at the SH18 /Brigham Creek Road northbound on-ramp would be shorter if different settings were assumed. Based on previous information responses, the red phase time of	Please refer to the response prepared by Abley in **Appendix B.**

the on-ramps throughout the peak ranges from 3 to 12 seconds, which adapts to the State Highway performance. While the queues from the on-ramp may not extend back into the roundabout based on average signal timing settings, there could be queueing impacts when higher red phase times are triggered based on State Highway performance. We note this has potential safety implications if the queues extend back into the roundabout while drivers are attempting to circulate. Please assess the safety effects of queueing at the SH18 / Brigham Creek Road that may occur at busy times from the northbound on-ramp, and if any mitigation can be provided / is required.	
Auckland Transport	
AT matters are mostly satisfied. However, it is noted that AT recommend on-going discussion regarding the Dale / McCaw / Totara intersection modelling With regard to the yellow hatched line markings, the Flow Traffic comments above, and the Precinct Provision Wording, AT note the following: In response to a further information request from the Council's transport consultant (Flow), about how queueing effects could be mitigated, the following transport upgrade requirement has been added to IX.6.6(3): *'Cross hatched line marking improvements at the Brigham Creek Road intersections with Boyes Road and Joseph McDonald Drive to discourage queuing through these intersections.'* AT does not support this level of detail being included in the upgrade requirements where not meeting it would be a non-complying activity - rather it could be addressed in an assessment matter to be considered at	Please refer to the response prepared by Abley in **Appendix B**. Please refer to the updated Whenuapai Green Precinct Provisions in **Appendix A**.

resource consent stage. AT would have to agree that the cross-hatching is an appropriate response.	
Noise	
NV 4 - The argument for the proposed basis of the higher internal noise limit is weak.	Please refer to the response prepared by Earcon in **Appendix C.**
NV6 - The calculations used to arrive at indicative constructions appear to make some incorrect or unsupported assumptions which presents the results as out by over 5 dB – meaning there are reasonable doubts the constructions identified in the Proposed Plan Provisions could meet the proposed internal noise levels.	Please refer to the response prepared by Earcon in **Appendix C.**
Stormwater	
SW1 Was there any consideration given to the assessment of additional cross sections? For example, further downstream of Rarawaru Stream near the Tōtara Road culvert. Cross-section B-B indicates a high erosion risk for both current and post-development scenarios. While the differences between the two scenarios are minor, stream mitigation is still needed to support improvement. It should be emphasized that for this stream, a detailed geomorphological assessment is necessary alongside the detailed design. This should be mentioned in S6.2.4.	Please refer to the stormwater response in **Appendix D.**
SW5 <u>Stormwater Basin A:</u> In a 10 year event will water be able to enter the swale? Please confirm that the swale will be outside the 10 yr water level.	Please refer to the stormwater response in **Appendix D.**

Stormwater Basin B: In a 10 yr event will the raingarden be above the 10 yr water level?	
SW7 The executive summary of the SMP states "Water quality treatment of runoff for the 90th percentile rainfall event from all new impervious areas (excluding inert roofing and impervious pavement), including high contaminate generating activities, namely high use roads and carparks." Please confirm that the words 'impervious pavement' within the brackets (+ highlighted for ease of reference) will be treated.	Please refer to the stormwater response in **Appendix D.**
Ecology	
The Council's ecologist, Sarah Budd, has indicated concern over responses to EC 2, 3, 4 and 6. However, these are more of a merits issue.	Noted, thank you.