

3 November 2022

Auckland Council  
Private Bag 92300  
Victoria Street West  
Auckland 1142

Attention: Warwick Pascoe - Principal Project Lead, Auckland Council

Dear Warwick

**Re. Response to Council further information requests for the EB2 Application Package**

I am writing in regard to Auckland Council's (the Council) further information request letter of 9 September 2022 for the Eastern Busway 2 (EB2) application package. A separate s92 response will be provided for the Eastern Busway 3 Residential (EB3R) application package later in November.

AT has reviewed the Council's letter and has identified those matters which it considers need addressing prior to the public notification of the EB2 Notice of Requirement (NoR) and associated resource consents. These matters are limited to:

- Matters raised in regard to the NoR's drawings and land requirement plan
- The option assessment undertaken for the NoR
- The role of Outline Plans of Work (OPWs) for EB2
- Clarification of the lapse period sought for the NoR
- Response to request for examples of Habitat Restoration Plans (HRPs) and Urban Design Landscape Plans (UDLPs)
- Links to the background material for the submitted Social Impact Assessment (SIA)
- Relationship of EB2 to Council reserves
- Industrial trade activities (ITAs)
- Construction and operational noise
- Urban design
- Confirmation of consent triggers associated with wetland/stream works under both the Auckland Unitary Plan (AUP(OP)) and the National Environmental Standards for Freshwater (NES:F), as well as associated ecological assessment
- Earthworks.

It is AT's position that the other matters raised in the Council's letter do not materially affect the ability for potential submitters to understand the scope, location and scale of works proposed under both the NoR and associated resource consents application. Responses to these other matters will be provided in November and include the following topics:

- Arboricultural effects management
- Detailed methodologies for intersection, busway and cycleway design.

Based on above approach, AT provides the following responses in relation to Council's queries.

#### Planning – EB2 Notice of Requirement (NoR)

1. *Please confirm the proposed use of the land bounded by the Cortina Place extension, Reeves Road, the new bus station and Aylesbury Street. On the landscape plans this appears to be a park/ open space but this does not appear to be described as such in the AEE. Will this land be zoned open space? Will AT take long term responsibility for its maintenance.*

This land will be retained as a grassed verge, which will be maintained by AT. However, this does not exclude its future development under the controls of the underlying Business – Town Centre zone.

2. *Please explain notations on the Land Requirement Plan. There appear to be parts of the proposed designation that will be removed but will still be required as road and others that will not. Please explain the reasoning for this and how it will work long term.*

As detailed in Section 12.1 of the EB2 AEE, it is AT's intention to partially uplift the designation where the designation relates to project-specific construction activities (shown with an orange shading on the land requirement plan) once the project is complete. This process is enabled by section 182 of the Resource Management Act 1991 (RMA).

Please note that in some instances (such as on Aylesbury Street), temporary areas of the designation are shown within the existing road reserves. Within these areas, it is intended to rely on the provisions of Chapter E26 the AUP(OP) in the longer term, given that chapter's provisions as they relate to road network activities. Those provision enable the ongoing operation of the Project.

The blue shading on the Land Requirement Plan shows land that AT proposes to permanently retain within the EB2 designation following the Project's construction. The exact extent of this will be confirmed on completion of construction and at the time AT chooses to initiate any removal of the designation ("roll back") under section 182 of the RMA.

3. *On 18 August 2022 the Council notified a number of changes to the AUP. Please consider whether any of these require some changes to your assessment particularly in respect of*

*the objectives and policies assessment. For example the zones referred to in the submitted assessment may have changed and new objectives and policies have been proposed, some of which will have immediate legal effect.*

An analysis of the current plan changes (Proposed Plan Changes 78, 79 and 80) has been undertaken and provided as **Attachment 1**. To summarise, the Project is consistent with the outcomes sought by the plan changes, including urban intensification.

The assessment highlights that the greater residential densities proposed as part of Plan Change 78 and Central Government's "Medium Density Residential Standards" (as introduced by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021) will be supported by the Project's delivery of additional transport network capacity. This will be achieved primarily in two ways, these being:

- The opportunity for potential redevelopment of residual land for medium and high-density residential development across the Project's alignment
- Provision of increased active and public transport capacity, which reduces the need to devote urban land to motor vehicle access, parking and maneuvering, thereby allowing that land to be used for other land uses (i.e. residential units/dwellings).

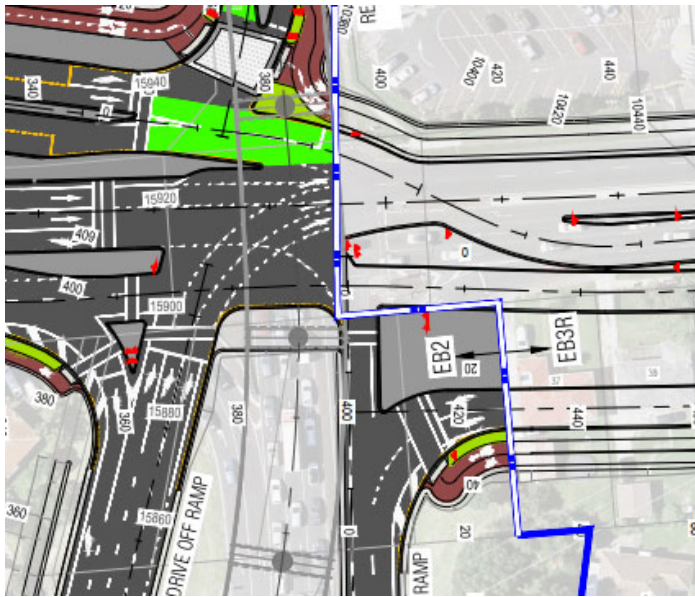
For further detail regarding these benefits, please refer to both **Attachment 1** and the EB2 AEE.

4. *In section 12 of the AEE document a 10-year lapse period is sought for the designation. However in section 10 of the NOR document a 15-year lapse period is sought. Please confirm the lapse period sought.*

The NoR has been updated to correctly reflect a 10-year lapse period and has been provided as **Attachment 2**. This lapse period now matches the period sought in the AEE.

5. *The designation map boundary (Land Requirement Plan.pdf) does not conform to the EB2/EB3 boundary on most of the other plans (i.e. the Reeves Rd/ SEART and Te Rakau Drive intersection). Please confirm this boundary and update the map.*

The EB2/EB3 boundary as shown on the designation map boundary is the correct boundary for the NoR as shown below in the drawing excerpt below. This boundary is located at the intersection of SEART/Ti Rakau Drive and Reeves Road.



**Figure 2: Location of EB2-EB3R Boundary on Ti Rakau Drive**

This boundary has been applied to all technical reports associated with both EB2 and EB3R, with the exception of the Stormwater Effects Assessment. The reasoning for this exception is detailed in Section 1.6 of the Stormwater Effects Assessment:

*“The Consent Strategy divides the Project into five consent packages for the purpose of developing and lodgment of resource consent and Notice of Requirement (NoR) applications. However, the stormwater design follows the Project zones that are being used for design and construction which more closely matches hydrological catchments than the Consent Strategy. The Consent Strategy is shown in Figure 2 with the differences to the design and construction zones identified.*

*The following key elements discussed in this Stormwater Effects Assessment under Sections for EB2 are included in the EB3R consent package in accordance with the Consent Strategy:*

- *Outfall MCC\_108699 (see Section 2.3, Table 1, Table 2 and Table 3)*
- *Potential flooding impacts on 7G and 9A Mattson Road identified for the overland flow path capacity assessment (with pipe blockages) as discussed in Section 6.1.4 Required Mitigation (see location 7 on Figure 57) for 7G and 9A Mattson Road as discussed in Section 7.1.3.”*

It is AT’s view that the separation of this outfall from the EB2 package and into the EB3R package is appropriate given that it accurately correlates to the hydrological conditions and topography of the area. This is a common bundling approach employed on large infrastructure projects and AT considers it appropriate to employ this approach on the Eastern Busway Project.

Given the above, AT does not propose to make any alterations to the Land Requirement Plan or the associated consent drawings for EB2.

6. *Some of the maps provided in various reports provide for a different border between EB2 and EB3 that what is specified in the initial set of maps. This includes the Key Plan section. In order to avoid confusion please provide that all maps show the correct boundary.*

As detailed above, the NoR boundary is correctly shown in the designation map and provided as shape files to Auckland Council.

The key difference, which may be causing confusion, are the works associated with Outfall MCC\_108699 (located south of Ti Rakau Drive). This outfall connects to stormwater works in both EB2 and EB3R, but RMA approvals for the outfall have been sought as part of the EB3R application package. These stormwater works are shown by the drawing provided as **Attachment 3**.

7. *Please confirm whether it is intended to lodge OPWs for the various construction yards or rely on the descriptions set out in the AEE document.*

AT can confirm that it seeks a waiver for the requirement to submit any OPWs for EB2. This is based on the detailed information provided in the AEE, including the significant inputs from the construction team who will be implementing the designation (thereby reducing the level of uncertainty that might be more typical when NORs precede construction inputs), the technical reports and draft management plans. There would be no further information that would be revealed via the OPW process that is not already in the NoR and resource consent applications being considered.

8. *Please provide copies of, or web links to, the local and community plans set out on page 47 of the Social Impact Assessment (SIA) document.*

Copies of these documents are provided as **Attachment 4**.

9. *Please explain how the assessment of alternatives for the Reeves Road Flyover (Reeves Road Flyover) and the Bus Station has integrated RMA matters with business case matters, and how priorities were established. Please explain why different criteria were used for the Reeves Road Flyover and the Bus Station assessments.*

The Options Assessment process undertaken by the EBA supported the business case, as well as the consideration of alternatives required under the RMA. Therefore, the identification of long and short list criteria used in the Options Assessment were developed for both RMA and business case purposes. As detailed in the options assessment report (Appendix 20 to the AEE) the long and short list criteria were assessed by a number of technical specialists, including planners and urban designers.

The EBA Business case<sup>1</sup> has been approved by Waka Kotahi NZ Transport Agency. Different criteria were used for the Reeves Road Flyover and the bus station assessments to recognise the different form and function of the infrastructure. In addition, this process was consistent with previous phases of the AMETI project and replicated the process followed in previous options assessments.

10. *Please graphically illustrate the 20 options for the Reeves Road Flyover set out in table 5 of the EB2 Options Report.*

Plans of all 20 Reeves Road Flyover options are provided as **Attachment 5**.

11. *Please explain how the project objectives, as set out in the Eastern Busway EB2 Options Report, relate to the Reeves Road Flyover. The objectives seem to be very much focused on the busway and bus station rather than the flyover.*

The project objectives are as set out in the NOR. As detailed in Form 18 for EB2, the public work and the designation are reasonably necessary for achieving the objectives of the Requiring Authority. This is discussed in detail in sections 3, 5 and 11 of the AEE.

The public work and designation are reasonably necessary for achieving the project objectives which are set out below:

1. Provide a multi modal transport corridor that connects Pakuranga and Botany to the wider network and increases access to a choice of transport options
2. Provide transport infrastructure that integrates with existing land use and supports a quality, compact urban form
3. Provide transport infrastructure that improves linkages, journey time and reliability of the public transport network
4. Contribute to accessibility and place shaping by providing better transport connections between, within and to the town centre
5. Provide transport infrastructure that is safe for everyone
6. Safeguard future transport infrastructure required at (or in vicinity of) Botany Town Centre to support the development of a strategic public transport connection to Auckland Airport.

As detailed at Section 11.6 of the AEE, the Reeves Road Flyover is necessary to alleviate the congestion present around the Pakuranga Town Centre, help support urban intensification through the south-eastern suburbs and address the region's greenhouse gas emissions. EB2 will divert heavy traffic flows onto the Reeves Road Flyover and improve public transport access and public realm improvements at the town centre.

The Reeves Road Flyover results in a shift of traffic off the road network surrounding the Pakuranga Town Centre, thereby providing opportunities to reallocate road space to other

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<sup>1</sup> Eastern Busway - Pakuranga to Botany" Detailed Business Case for Design and Construction.

modes like the busway, walking and cycling. The Reeves Road Flyover is a critical aspect of the Project (and consequently an important component of achieving the Project objectives). In particular, it delivers those project objectives relating to providing a multi modal transport corridor, improving linkages, and integrating with existing land uses and accessibility.

The Reeves Road Flyover will divert a significant portion of general traffic from the roads surrounding the Pakuranga Town Centre and provide significant improvements to the capacity at the at-grade intersections thereby relieving congestion. The Reeves Road Flyover will therefore contribute to a more efficient network.

The Reeves Road Flyover, as part of the EB2 proposal will also contribute to the following benefits that will be delivered by the Eastern Busway Project more generally:

- Provides for improved connections and sustainable travel options for pedestrians, cyclists, motorists, bus, and train customers (Objective 1 – the Reeves Road Flyover is part of a multi modal transport corridor that connects Pakuranga and Botany to the wider network)
- Providing for reliable 40-minute bus and train trips between Botany Town Centre and Britomart (saving 20-minutes) (Project Objective 3, the Reeves Road Flyover is infrastructure that will allow the busway to perform at optimal efficiency)
- Providing for an increase in public transport trips from 3,700 to 18,000 per day by 2028
- Providing for an increase in public transport mode share from 7% to 25% by 2028
- Reduced carbon emissions by 9,292 kg per day by 2028
- 24,000 more people with access to a rapid transit bus station within 1 km from home
- 5 km of busway between Pakuranga and Botany fully separated from other traffic
- 5 new bus stations with quality facilities
- 12 km of safe and separated walking and cycling infrastructure
- Reeves Road Flyover to reduce vehicle congestion around Pakuranga Town Centre (Project Objective 2 and Projective Objective 4).
- Encourage and support development of a more sustainable urban form and improve urban amenity
- Accommodates electric buses, a key part of AT's low-emission vehicle fleet by 2040.

#### Planning – EB2 Resource Consents

12. *Please provide a collated set of plans that identify construction works including, but not limited to:*
  - a. The extent of earthworks proposed as part of construction, including details of cut and fill (referenced in the Earthworks and Streamworks discussion);*
  - b. The extent of earthworks located in or within 100m of a natural wetland (referenced in the Earthworks and Streamworks discussion);*
  - c. The extent of mangrove removal; and*
  - d. The extent of vegetation clearance located in or within 10m of a natural wetland.*

A consolidated drawing showing this information is provided as **Attachment 6**. Please note that the drawing shows the 10 m and 100 m setbacks as blue hatched lines.

13. *Notwithstanding the information sought by specialists in the following requests in this regard, in order to understand the scope and level of detail proposed to be provided within the Habitat Restoration Plan (which compliments the Lizard Management Plan) and an Urban Design and Landscape Plan (UDLP) in particular, please provide examples of such plans that have been recently prepared by AT.*

AT will not be providing examples of these plans. AT considers that the proposed condition set for EB2 provides sufficient detail for Council specialists to understand the objectives, content of and compliance with these management plans. The conditions are sufficient to understand the measures that will be employed to address the Project's landscape and ecological effects. The use of proposed conditions for these purposes is a common approach used when processing and assessing significant infrastructure projects across New Zealand . We understand that Council's specialists should also be familiar with this approach given their experience on other infrastructure projects in the Auckland Region.

In addition, we note that such plans are often bespoke in content, in that they are drafted in a manner which reflects both a project's individual effects and the unique characteristics of the receiving environment. Given this, and the fact that this is the first urban busway in Auckland within an established area it is doubtful whether any examples taken from other transport infrastructure projects would be useful in Council's understanding of EB2's proposed plans.

Given the above, AT considers that the provision of example plans would not be useful or assist Council's processing of both application packages.

#### Planning – EB2 Resource Consents

14. *As will be discussed in further detail on Urban Design, EB2 in conjunction with the William Roberts Road Extension (currently being processed by way of resource consent LUC60401706) result in works along the entire extent of William Roberts Road as set out in Figure 4-1 below. However, the extent of the works as set out in the General Arrangements Plans are limited to the intersection of William Roberts Road and Reeves Road. Further details are required to understand the function and appearance of the entirety of this part of William Roberts Road upon completion of works.*

As reflected in this question, William Roberts Road is subject to two separate RMA approval processes. The majority of works along William Roberts Road are subject to resource consents (Council Reference: LUC60401706), while the intersection works are part of the current joint NoR/resource consent package subject to this further information request.



As such, the majority of works on William Roberts Road are outside the scope of the EB2 NoR and associated resource consents application. However, for clarity a copy of the landscape plan for LUC60401706 is provided as **Attachment 7**.

### Industrial Trade Activity (ITA)

It is noted that several queries were raised in Council's further information request letter in relation to the Project and the consenting requirements associated with ITAs. However, our analysis suggests that none of the activities being undertaken would meet the definition of "industrial or trade premises" under the RMA or Industrial or trade activity under the AUP (OP). Following discussions with Auckland Council officers, it has been confirmed that an ITA is not proposed as part of the current EB2 application package based on the AUP(OP)'s own definition of ITAs<sup>2</sup>. As such, no further comment is provided in regard to this matter.

### Open Space

21. *Please provide mitigation landscaping plans for all open spaces affected. This is typically a requirement under schedule 4 of the RMA. This should be suitably detailed and include general species selections, densities and planting grades/size at the time of planting.*

A full set of plans addressing landscape, ecological and arboricultural works have been provided as Appendix 5 of the AEE. These plans show the indicative type, size, location and site coverage of the landscaping proposed by AT.

AT is conscious that further refinement of these plans is required and will occur through the detailed design phase of the Project, in conjunction with Auckland Council Parks team, the Council's arborists and mana whenua. This is provided for by the proposed conditions set (Appendix 3 of the AEE), which requires the preparation and certification of an Urban Design and Landscape Plan (UDLP) prior to the commencement of related construction activity. The UDLP includes the following specific requirements:

- Landscape design details for works at:
  - Paul Place Reserve
  - Bus Stop Reserve
  - Within Ti Rakau Drive
  - SEART.
- A maintenance plan and establishment requirements over a three-year period for landscaping and five years for specimen trees following planting.

Furthermore, the proposed condition set requires that AT organise a final handover and site walkover with Auckland Council representatives to confirm that all landscaping and urban design works have been undertaken as previously certified. This handover will also

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<sup>2</sup> The AUP(OP) defines an ITA as: "has the same meaning as industrial or trade process under section 2 of the Resource Management Act 1991 but does not include a production land activity".

identify where, if required, any planting requires further maintenance or other actions to rectify landscaping in if found to be in poor condition.

The proposed conditions also require the above-described landscaping to be undertaken during the first planting season following EB2 becoming operational. If the weather in that planting season is unsuitable (as determined by Council), then planting must occur at the next practicable opportunity.

The UDLP conditions should also be read in conjunction with the ecological and arboricultural conditions, including the requirements for a habitat restoration plan (in relation to herpetofauna) and a tree protection management plan (TPMP). These conditions, in association with the UDLP, demonstrate a robust mitigation and management approach by AT. The conditions impose strict timing, certification and implementation timeframes, as well as the objectives of the various plans.

AT considers that adequate information in regard to open space landscaping (that complies with the requirements of Schedule 4) has been provided at this time.

*22. Please show how you have addressed low speeds and traffic control or pedestrian rights-of-way for roads adjacent to parks, especially where there are sport clubs.*

The majority of works within William Roberts Road were addressed within the resource consent application for its extension to both Cortina Place and Ti Rakau Drive (Council Reference: LUC60401706).

EB2 includes the removal of through traffic from Reeves Road and the provision of new pedestrian and cycling links between Pakuranga Plaza and Ti Rakau Park. These linkages have been subject to a Road Safety Audit to ensure that they meet AT's Traffic Design Manual. The EB2 works will improve active transport mode connections to Ti Rakau Park, to ensure that these connections are safe for all users.

The EB2 works include construction activities within or in close proximity to both Paul Place Reserve and Bus Stop Reserve. In both instances, walking and cycling linkages will be retained between the reserves and the local road network unless this is considered impractical for safety reasons.

*23. Please explain how safe public access will be retained throughout the construction period to open spaces and esplanade reserves.*

As detailed in Section 4.3 of the submitted AEE, EB2 will be subject to Construction Traffic Management Plan (CTMP). The objective of the CTMP is to identify the means to be used to avoid, remedy or mitigate the adverse effects of construction of the Eastern Busway Project. A draft of the CTMP was provided as Appendix 10 of the AEE and includes the following hierarchy of measures in relation to pedestrian/cyclist access (including to open spaces):

1. Carry out construction whilst maintaining access to existing footpath with no impact to pedestrians
2. Realign or redirect the pedestrian/cyclist access onto temporary surfacing on the same side of the road
3. Close the footpath with an alternative footpath provided on the opposite side of the road. Safe crossing points will be provided and signage
4. Temporarily close the facility, with an alternative route signposted and communicated to the public.

Please refer to the draft CTMP for further detail regarding specific pedestrian and cyclist access interventions.

24. *Please explain whether the directly affected sports fields (i.e., Ti Rakau and Riverhills), will be able to be used during construction, and whether there are any proposals to relocate the clubs during construction? And if so, for how long? Please also explain how the construction will affect parking around these clubs.*

It is envisaged that both parks will be operable during construction. EBA have been meeting regularly with both Pakuranga Jaguars (Ti Rakau Park) and Fencibles United (Riverhills Park) and EBA have developed a good working relationship with both clubs

The Project has been discussed at length with the Pakuranga Jaguars Rugby League Club. EBA will continue to engage with this club through the Project's detailed design phase, including in relation to the provision of parking and access to the clubhouse, as well as in relation to relevant management plans (e.g. Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP)) There is no proposal to relocate this club.

Upgrades to the fields within Riverhills Park will take place in the off season to mitigate any disruption to Fencible United AFC. EBA have been meeting regularly with this club to clarify their needs and logistics and there are no proposals to relocate the club. Parking will not be affected, given the works within the Riverhills Park are away from the car park.

The management of the Project's construction traffic effects will be addressed in the CTMP, with a draft CTMP provided with the EB2 application package.

25. *Please explain how the bus stations and shared used paths integrate with the existing open spaces where it may have severed the open space.*

It is not proposed to sever access to public open space. The Project will provide improved walking and cycling connections to Council reserves. The Project will also provide improved public transport connections to these parks, given the provision of new bus stations, dedicated bus lanes and changes to bus service routes.

Please refer to the submitted arrangement plans (Appendix 4 of the AEE) which show these improved active and public transport connections.

### Social Impact Assessment

AT and EBA have reviewed the questions posed by Auckland Council's technical reviewer. It is considered that many of these questions relate to a differing of professional opinion regarding the methodology and reporting style employed rather than any matters fundamental to either understanding the potential social effects of the Project or the mitigation proposed. As discussed at the meeting of 18 October 2022, the matters raised by the SIA technical reviewer (questions 26 to 42) are not material to the notification of EB2 and can be addressed at a later date. On this basis, AT are currently preparing a separate document which addresses following matters, which will be provided independently of this s92 response letter:

- Vulnerable groups
- Impact Summary tables
- Extent and duration of works
- Polymer Plant plan
- Conditions Map
- Details of discussions with Te Tuhi.

### Construction Noise and Vibration

45. *The construction noise and vibration assessment includes an assessment of effects across several sections but most comprehensively in section 7. The appendices include large tables of receiver addresses and predicted noise and vibration levels for various phases of work. It is difficult to combine these parts of the document to determine the overall magnitude of construction noise and vibration effects that are likely to be generated by the project.*

*Please provide a chart or other method of showing the number of receivers that are predicted to be exposed to different levels of effects.*

*The objective of the request is to provide a clear and understandable description of the overall magnitude of construction noise and vibration effect that the projects will have, by level, effect and number of receivers. For example, Table 12 could have a column added that sets out the approximate number of residential and commercial receivers that are predicted to receive noise levels in each bracket of noise effect. The same could be performed for Table 13 (vibration). This is one suggestion. There may be other methods that could satisfy the request.*

Table 1 below sets out the number of receivers expected to experience each range of noise levels set out in Table 12 of the construction noise and vibration assessment during the works. Table 12 of the CNV assessment is also reproduced below for context as Table 2.

It is noted that the objective of the request is to “provide a clear and understandable description of the overall magnitude of construction noise and vibration effect that the projects will have by level, effect and number of receivers.”

While Table 1 is useful for quantifying the number of dwellings where particular noise levels are expected, it may not be reflective of the overall level of noise effects expected at receivers from construction. For example, if any given dwelling is unoccupied during the works (as we expect a number of dwellings to be when construction is taking place during daytime hours, given that those affected will be provided advance warning of works as a requirement of the CNVMP), then these noise effects will be adequately managed at that dwelling. Also, noise effects must be considered in the context of the duration of exposure. As discussed in Section 9.1 of the CNV assessment, much of the works will not remain in one location continuously; these works will progress linearly across the Project’s alignment, so that noise levels will reduce at a given receiver as the works move away.

Table 1 Counts of affected receivers - EB2

Noise Level at external façade, dB LAeq	Count of receivers affected during worst case scenario (concrete saw, 30% on-time, with mitigation)	Count of receivers affected during typical scenario (excavator, with mitigation)
65 - 70	0	11
70 - 75	14	25
75 - 80	26	8
80 - 85	4	2
85 - 90	8	8

Table 2 Potential noise effects from construction on receivers

External Noise Level	Potential Daytime Noise Effects Outdoors	Corresponding Internal Noise Level	Potential Daytime Noise Effects Indoors
65 dB LAeq	Conversation becomes strained, particularly over longer distances	45 dB LAeq	Noise levels would be noticeable but unlikely to interfere with residential or office daily activities.
65 to 70 dB LAeq	People would not want to spend any length of time outside, except when unavoidable through workplace requirements	45 to 50 dB LAeq	Concentration would start to be affected. TV and telephone conversations would begin to be affected.
70 to 75 dB LAeq	Businesses that involve substantial outdoor use would experience considerable disruption.	50 to 55 dB LAeq	Phone conversations would become difficult. Personal conversations would need slightly raised voices. Office work can generally continue, but 55 dB is considered by the experts to be a tipping point for offices. For residential

External Noise Level	Potential Daytime Noise Effects Outdoors	Corresponding Internal Noise Level	Potential Daytime Noise Effects Indoors
			activity, TV and radio sound levels would need to be raised.
75 to 80 dB $L_{Aeq}$	Some people may choose protection for long periods of exposure. Conversation would be very difficult, even with raised voices.	55 to 60 dB $L_{Aeq}$	Continuing office work would be extremely difficult and become unproductive. In a residential context, people would actively seek respite.
80 to 90 dB $L_{Aeq}$	Hearing protection would be required for prolonged exposure (8 hours at 85 dB) to prevent hearing loss.	60 to 70 dB $L_{Aeq}$	Untenable for both office and residential environments. Unlikely to be tolerated for any extent of time.

46. *The appendices demonstrate that some of the receivers are predicted to experience noise and vibration levels that are high enough to cause significant adverse effects. The precise extent (especially for vibration) and approximate duration of the effects are not known. It is therefore impossible to determine whether there are going to be receivers that suffer significant disruption during the works that might last for a period long enough to cause an overall significant adverse effect. Please provide an assessment that:*
- Shows the receivers that are subject to noise and vibration levels that are above the project standards for short periods, (perhaps a few days to a week);*
  - Shows the receivers that are subject to noise and vibration levels that are above the project standards for longer periods, (perhaps 1-4 weeks);*
  - Shows the receivers that are subject to noise and vibration levels that are above the project standards for short periods, (perhaps longer than 4 weeks).*

The duration of exposure to noise and vibration levels above the construction noise standards in NZS6803 will be dependent on the specific plant items that are being used for that phase of works, and their proximity to the affected receiver.

For most of the works, it is difficult to quantify the number of days a given receiver will be exposed to noise and vibration levels above the relevant criteria at this stage, as most of the works are not fixed in one location and will progress linearly along the Project's alignment. There will likely be exceedances when the works take place immediately outside dwellings, but noise levels will decrease as works move along the road corridor.

Due to the overall duration of the programme, dwellings that front directly towards the works could experience noise levels that exceed the criteria intermittently for a total of 1-4 weeks for the total duration of the Project, and vibration levels that exceed the criteria intermittently for up to a week in total over the duration of the Project. The works will be managed at these locations through the CNVMP and Schedules, which will help to reduce overall effects.

However, the Reeves Road Flyover (RRF) works (including the flyover abutments) can reasonably be expected to take place in generally the same location for a year or longer.

In that time, it is expected that receivers immediately in the vicinity (within 10m) of the RRF will experience noise levels above the Project standards for a cumulative total of four weeks or greater over the total duration of the works and vibration levels above the criteria for a duration greater than one week over the total duration of the works.

These receivers are:

- Te Tuhi
- Pakuranga Library
- The Warehouse
- 11 Reeves Road (Eastside Pups Dog Grooming).

There are a number of other receivers that will be in proximity to the construction of the abutments of the RRF. However, these receivers are sufficiently set back from the works areas so that exceedances of the criteria will likely only take place over “short” durations from the abutment works specifically.

We expect that noise levels at receivers set back by the first row of dwellings from the EB2 construction footprint will experience levels above the relevant criteria for only up to a week. Exceedances of the noise criteria at these receivers may occur if line of sight to the works is achieved, but noise will quickly reduce as the works progress.

*47. Please describe the likely degree of effects on the receivers in Categories b and c above so that the overall level of effect can be determined. This assessment might demonstrate (for example) that some businesses or dwellings (near to parts of the project where there is a significant volume of work) are predicted to receive noise or vibration levels above the project standards for long periods, and that the standard noise and vibration measures may not be sufficient.*

Effects at receivers will differ based on the specific uses of the buildings and their construction.

Even though The Warehouse will be in close proximity to the RRF works for their duration, we expect adverse noise effects at this receiver to be low due to the expected performance of the façade for reducing noise, the nature of use of the retail space and the position of that site’s loading dock between the RRF and public areas of the site.

We have identified Te Tuhi as being a receiver that may be particularly sensitive in regard to noise effects. This is because the construction of its façade fronting the Reeves Road works area will likely be poor for attenuating noise, and some activities in the building will likely be sensitive to noise. The actual degree of effects during construction will be dependent on the mitigation and management measures implemented at this receiver. It is important that BPO mitigation is implemented for this receiver, since without this the likely degree of effects would be significant. Consultation has already been undertaken with Te

Tuhi, and we have identified a number of measures to mitigate and manage noise. These are noted in our response to Question 48 of Council's s92 letter.

There will likely be adverse noise and vibration effects at the Pakuranga Library during use of worst-case plant items in the daytime, e.g. during piling activities. This will be mitigated and managed through implementation of the BPO through the CNVMP and Schedule. There will be no effects at the Pakuranga Library during the night-time as it will be unoccupied. Consultation has already been undertaken with the library. During consultation they indicated they could re-configure the layout of the library internally to move the most noise-sensitive activities away from the worst-affected façade.

The EBA has had consultation meetings with Eastside Pups Dog Grooming. During consultation, they indicated that they were generally not very concerned with noise and vibration from construction (and were instead more concerned about traffic access). Nevertheless, works will be mitigated and managed through the CNVMP to minimise noise/vibration effects at this receiver, since it is possible that activities within this business may be more sensitive to noise/vibration than initially identified by the business owner. A Schedule will be prepared for this receiver if required. We note that the second floor of their building is currently only used for storage, and they have indicated that there are currently no plans to lease out the second floor for any other uses.

For receivers that directly front the works as they progress in a linear manner, we expect that effects will be higher when works are immediately in their vicinity but will reduce as the works progress. There may be cases where the works take place in a single location for an extended period of time, e.g. longer than one week. The works will be managed at these locations through the CNVMP and Schedules, which will help to reduce overall effects.

48. *If the assessment arising from questions 46 and 47 demonstrate that the effects may be significant, (causing business disruption or long term (> several weeks) of serious residential disruption) please propose mitigation measures that could be employed to adequately mitigate these effects. These may include temporary relocation (for example).*

Schedules will likely be required for Te Tuhi, Pakuranga Medical Centre and the Pakuranga Library since it is likely that the requirement to prepare Schedules set out in the draft conditions will be triggered at these receivers (an exceedance 5 dB over the 0700-2200 noise limit for 1 period of up to 2 consecutive weeks in any rolling 8-week period). Although it is not yet clear if this requirement will be triggered for the Pakuranga Medical Centre, we propose to pre-empt the preparation of a Schedule for this receiver due to the sensitivity of this receiver that has been made apparent to us through consultation. AT note that the owner/occupier(s) of the abovementioned sites have been identified in the EB2 AEE as potentially affected parties who should be directly notified of the EB2 Notice of Requirement/ resource consents application.

When the Schedules are prepared, there will be a higher level of certainty around the worst-case construction works (equipment and durations) and expected effects. During



preparation of the Schedules, the standard noise/vibration measures will be assessed again, and alternative mitigation strategies will be implemented as appropriate.

Where required, activity-specific Schedules will be prepared in accordance with the requirements of the proposed conditions. The receivers covered in the activity-specific Schedules will likely be those that directly front towards the works that will progress linearly along the Project alignments.

There are a number of mitigation measures that can be implemented where effects may be found to be significant. These are:

- Increased frequency of consultation with affected receivers
- Scheduling of construction activities to avoid sensitive times, where practicable
- Unattended and attended noise and vibration monitoring
- Temporary relocation during disruptive works (for residential receivers only).

The measures listed above (among others) will be considered for each receiver when the Schedules are prepared.

The Schedules will be most relevant during worst-case construction activities. During typical construction activities and as the works progress along the Project alignments, the works will be mitigated and managed through the CNVMP, and we consider that the noise and vibration criteria will be complied with at the majority of receivers.

We have also considered and will implement specific mitigation and management options at the worst-affected receivers.

For both the Pakuranga Library and Te Tuhi, we are currently preparing demonstrations to let the affected parties hear what construction noise will sound like. This will help them better understand what the noise will be like that they can expect during construction, which means that we can then work with them further to refine BPO mitigation that is best suited to them.

Through consultation undertaken with Te Tuhi to date, we have identified the following mitigation and management measures that we can implement for this receiver as will be detailed in the schedule once prepared:

- Installing air conditioning units to enable windows to be closed where possible
- Scheduling of significant construction activities to coincide with less busy periods, e.g. outside school holidays
- Inclusion of fixed hoarding around the front facade along Reeves Road – this has been proposed by the construction team in front of Te Tuhi since the last version of the construction noise/vibration assessment was completed. The hoarding was not included in the noise modelling. It is likely that the hoarding will attenuate noise at Te Tuhi by 10 dB or greater when works take place at street level.

Specific mitigation has not yet been proposed for Eastside Pups Dog Grooming, although as noted above they were generally not concerned about noise and vibration from the works. We have identified that permanent hoarding along the Reeves Road side of the business

would be a suitable noise mitigation measure since the existing access from Reeves Road will be replaced by access from Cortina Place. We are currently working through this mitigation option with the construction team.

Vibration at the Pakuranga Library, Te Tuhi and the Pakuranga Medical Centre will be managed through the Schedules. Long-term vibration loggers will be deployed at these locations as required and notice of any high vibration generating works in the vicinity of these receivers will be provided in advance of the works taking place.

49. *Please identify any businesses or activities that might be particularly sensitive to vibration due to the equipment they use, processes or products they provide, or where their particular circumstances are such that the construction vibration will cause business disruption. If there are any businesses in this category, please identify appropriate mitigation measures to adequately mitigate the effects.*

Businesses that have been identified that may be particularly sensitive to vibration are:

- Businesses that form part of the Pakuranga Medical Centre, in particular:
  - Mercy Radiology
  - Optometrist.

These businesses will be consulted prior to construction works beginning in their vicinity in order to determine their level of vibration sensitivity. Vibration monitoring prior to construction works may be undertaken, if necessary, at these receivers to establish baseline vibration levels.

Vibration-specific Schedules will be prepared if it is found that the equipment used at these businesses are sensitive to vibration.

Vibration will be managed at sensitive receivers by:

- Undertaking high vibration generating activities outside of sensitive times, e.g. outside business hours
- Installing long-term vibration loggers capable of sending out text message/email alerts when criteria are close to being exceeded.

As set out in the draft CNVMP, if vibration levels measured are above the relevant criteria, appropriate action will be taken, e.g. works will stop and alternative construction methods investigated if the building damage criteria are exceeded at a given receiver. Construction vibration effects will otherwise be mitigated and managed through the CNVMP and Schedules during construction.

### Operational Noise

50. *Section 5.2.8 of the Operational Noise Assessment describes a “self-screening” bridge. Please describe what this means, and how the traffic noise will be screened in the manner described.*

Self-screening in this context means that traffic noise is not transmitted through the structure from above to below. Noise refracting around from the top of the structure to its bottom is still considered in the model.

51. *Section 5.2.9 of the Operational Noise Assessment sets out that the speed limits in several sections of the existing road are expected within the transport model at the time of growth under the do-nothing scenario. The assessment goes on to state that this speed limit reduction has not been included in the do-nothing predictions for the Design Year because, “NZS 6806 states that the Do-Nothing scenario should include no alterations to the roads assessed.”*

*The relevant clause of NZS6806:2010 is the definition of ‘Do-Nothing’ in section 2.2. Section A2.2 contains helpful text for a worked example. The definition of do-nothing is (emphasis added) : The predicted road traffic noise level at the assessment position(s) of protected premises and facilities and the design year assuming no alterations are made to the existing road.*

*The text in A2.2 (for the worked example) states (emphasis added): Using an appropriate noise model ... predict noise levels for the design year taking into account the future traffic flow (AADT), and assuming no alterations are made to the existing road layout. The text in A2.2 makes it clear that an ‘alteration’ is a physical change to the layout. The operational noise assessment suggests that altering the speed limit is an alteration to the existing road, and so has excluded it from the do-nothing scenario. This is inconsistent with NZS6806:2010.*

*If the future alteration to the speed limit in the do-nothing scenario is not incorporated in the do-nothing scenario, but is in any of the future design scenarios, the assessment of noise effects will automatically show that any design scenario will generate lower noise levels than the do-nothing, because the speed limit drop is incorporated. This is artificial and misleading. If the project does not go ahead (i.e. the do-nothing) the speed limits will drop before the design year and the noise levels will reduce. This is an actual and predicted change that should be incorporated in the do-nothing scenario, just like traffic growth over time is incorporated.*

*Please adjust all of the do-nothing noise level predictions to take into account the speed limit reductions that will occur with growth. This will lower the noise levels for the do-nothing scenario across large parts of the project and will allow a true and accurate description of the actual change in noise level and effect that will arise for the various options when compared to the do-nothing. Once the do-nothing noise level predictions are adjusted, it is expected that there will be a number of consequential changes required throughout the assessment (such as Figures 7 and 8, much of the accompanying text).*

The speed limit drop has been incorporated in the model based upon Phase 3 of the “Safe Speeds Programme”. Please note that the speed limit of 80 km/h along SEART prior to the intersection has been kept in the Do-Nothing scenario.

We note that the speed limit corrections only resulted in 1-2 dB changes across the model at some protected premises and facilities (PPFs), therefore the outcome of the assessment did not change. We have appended a table to this letter showing the updated noise model results (**Attachment 8**).

52. *Section 5.5 states that the noise level assessment for buses has been undertaken on the basis that 100% of the bus fleet will be electric in the Design Year (2048). The design year is approximately 26 years away. Allowing for the construction phase, there may be 20 years of use of the roads before the Design Year arrives. This is a significant period of time. It is expected that there will be a transition in the bus fleet from diesel to electric that will occur over time. However, it is not known when that transition will start or how long it will take.*

*Please provide some insight into the probable amount of time it will take for the bus fleet to transition to 100% electric. If that time is more than 1-2 years from the opening of the busway, please provide an assessment of bus noise using 100% diesel fleet and perhaps a 50% diesel / 50% electric fleet. This will enable the effects of buses over the next 26 years to be properly understood. This request includes the busway generally and the specific effects around the bus stops.*

The bus fleet travelling from Botany Town Centre to Reeves Road is expected to be approximately 50% diesel / 50% electric up to 2035, after which the fleet is expected to be 100% electric. The bus fleet from Reeves Road to Pakuranga Road is expected to be 100% electric by 2030 (before this it will be 50% diesel / 50% electric).

The results of the assessment of noise from buses travelling along the Busway will be valid regardless of the distribution of electric and diesel buses, as above approximately 50 km/h, it is tyre noise and wind noise that dominates over engine noise (which will be the same for both diesel and electric buses).

Regarding noise from diesel buses at bus stops – the study referenced in the report (Laib *et al*) reported a sound power level for the diesel bus 7 dB higher than that provided for the electric bus, i.e. 90 dBA SWL. This would correspond to a noise level of 50 dB  $L_{Adq}$  at the façade of 23 Ti Rakau Drive (the closest PPF to the bus stop at 26 Ti Rakau Drive, approximately 40m away). This is 10 dB below measured ambient noise in the area during the night-time period and is significantly below the measured ambient noise in the area during the daytime period. We therefore consider that noise from diesel buses idling at bus stops will not appreciably change the existing ambient night-time noise environment near the bus stop, and so it is considered that noise effects from diesel buses idling will be negligible.

53. *Section 5.6 of the assessment contains a very brief assessment of the noise effects of the project. Please provide a meaningful and sufficiently detailed assessment of the noise effects that refers to, and explains the effects of the project against, the objectives of the World Health Organisation Environmental Noise Guidelines for the European Region (2018) and the specific recommendations for road traffic noise. This should include any statistical*

*analysis to demonstrate how the predicted noise levels compared to the recommendations. The assessment may also refer to other publications or research such as Miedema and Oudshoorn*

The World Health Organisation Environmental Noise Guidelines for the European Region (WHO ENG) provides recommendations to protect human health from exposure to environmental noise generated from a range of sources, one of which is traffic noise. The study sets out noise levels of 53 dB  $L_{den}$  and 45 dB  $L_{night}$  at which onset of adverse health effects begin to arise in populations. Converting between  $L_{den}$  and  $L_{night}$  to the  $L_{Aeq(24h)}$  metric used in the noise assessment<sup>3</sup>, this threshold level for onset of noise effects is approximately 50 dB  $L_{Aeq(24h)}$  for traffic noise at the most exposed façades of buildings.

In line with this, noise contour maps showing the 50 dB  $L_{Aeq(24h)}$  noise contours for the chosen mitigation option are provided as **Attachment 9**.

There are 280 PPFs across EB2 within the NZS 6806 assessment area (100m from the altered roads). Of these, 246 PPFs in the Do-Nothing scenario and 258 PPFs in the chosen mitigation option are predicted to have noise levels above 50 dB  $L_{Aeq(24h)}$ . The higher number of PPFs above 50 dB  $L_{Aeq(24h)}$  in the Do-Nothing scenario is due to the removal of houses for construction of the busway, which in turn exposes PPFs set further back from the roads to marginally higher noise levels.

A total of 17 PPFs within the assessment area are predicted to have an increase in external noise level that brings the level at the worst-affected façade to 50 dB  $L_{Aeq(24h)}$  or above when comparing the chosen mitigation option and the Do-Nothing scenario. Of these 17, 5 are predicted to have a noise level increase of 3 dB or greater.

Noise levels are predicted to reduce below 50 dB  $L_{Aeq(24h)}$  from the Do-Nothing scenario to the chosen mitigation option at 5 PPFs.

Although a number of PPFs are predicted to receive noise levels above 50 dB  $L_{Aeq(24h)}$  where health effects may occur, we note there are some limitations to the data that must be considered.

The highest noise level at a given PPF is along the façade facing the road may not have any bedrooms. Night-time noise effects will be overestimated if bedrooms are set further back within the house. The construction of buildings must also be considered; some buildings will have facades that better insulate from noise than others, and where a building has mechanical ventilation, windows may be shut while a supply of fresh air is maintained. These factors could lead to noise levels higher than 50 dB  $L_{Aeq(24h)}$  being acceptable at the façades of buildings.

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<sup>3</sup>  $L_{Aeq(24h)} = L_{den} - 3$  dB,  $L_{Aeq(24h)} = L_{night} + 6$  dB, as per *Brink, M., Schäffer, B., Pieren, R., & Wunderli, J. M. (2017).*

*Conversion between noise exposure indicators*

*Leq24h, LDay, LEvening, LNight, Ldn and Lden: principles and practical guidance. International Journal of Hygiene and Environmental Health.* <http://doi.org/10.1016/j.ijheh.2017.10.003>. The worse-case noise level of 50 dB  $L_{Aeq(24h)}$  from conversion of the  $L_{den}$  criterion is referenced.

Health effects from noise are difficult to predict at a single receiver, since the likelihood of onset of health effects from noise will vary from person to person depending on a range of factors, e.g. age, ethnicity, co-morbidities etc.

Nevertheless, a separate scenario has been modelled where 2m high noise barriers are implemented at PPFs where the noise level with the chosen mitigation option is above 50 dB  $L_{Aeq(24h)}$ , and where the noise barriers will be effective, i.e. do not require gaps for driveways. In this scenario, only 2 additional PPFs had their predicted noise level brought down below 50 dB  $L_{Aeq(24h)}$ . However, these barriers were not considered BPO mitigation as the noise reductions were in all cases only by 1 dB or less, and these PPFs were already set back behind other PPFs.

Even though the modelling indicates that noise levels are not reduced to below 50 dB  $L_{Aeq(24h)}$ , this does not mean there is no benefit in reducing noise levels at PPFs. When considering the project at a high level, by reducing noise levels across the project where practicable, via the measures set out in the CNVMP and Schedules, the likelihood of health effects arising is also reduced.

54. *The assessment of the effectiveness of road-side barriers discounts them entirely because they do not screen the upper storeys of multi-storey buildings. This ignores the potentially significant benefit that barriers can have on rooms at the ground floor and also the outdoor living environment.*

*Please provide more informative comment on the actual and potential benefits of barriers in a more holistic sense, that includes the potentially significant benefits at lower levels. The evaluation of the utility of barriers should be revised to have proper regard to the potentially significant benefits they can have at the ground floor.*

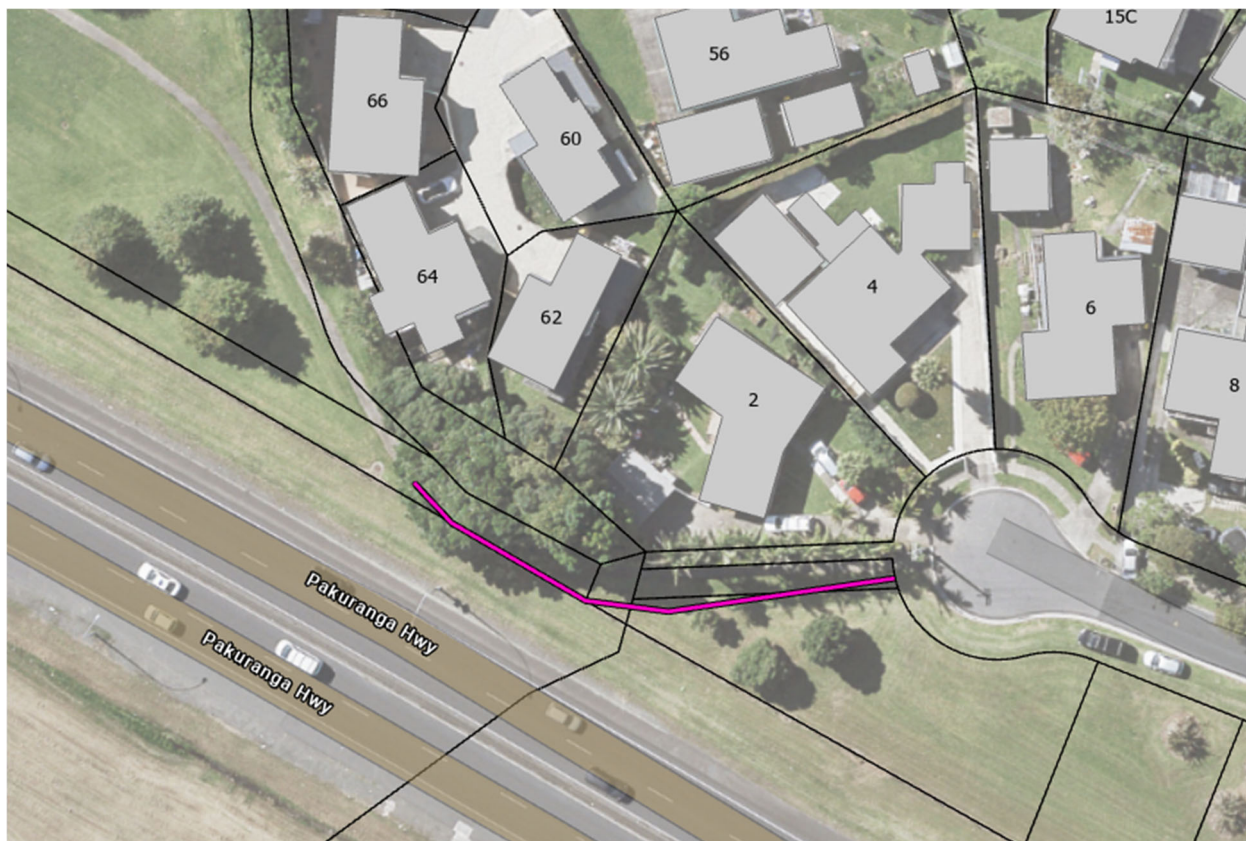
Noise barriers were not investigated further at double-storey PPFs as they did not provide the required noise reductions at the assessment position of the PPFs (as defined in NZS 6806, i.e. the exterior wall most affected by noise from the altered road, 1.2-1.5m above each floor level of interest), and therefore did not change the Category of those PPFs.

While we acknowledge that noise at the outside and ground floor of PPFs will reduce if noise barriers are included at double-storey PPFs, we do not consider them to be BPO mitigation when considered in the implementation framework of NZS 6806.

However, in response to the question, we have now considered noise barriers at two-storey PPFs in NZS 6806 Category B or C that could benefit in noise reductions at the ground floor.

There were 6 PPFs across EB2 that were predicted to be in either Category B or C in the Do Minimum scenario and are double storey. Of these, only 1 PPF (62 Dale Crescent) did not have a driveway facing the road, such that noise barriers would be able to break line-of-sight to the roads at ground floor.

However, we note that a noise barrier at 2 Dale Crescent is already included in the recommended mitigation option and the same noise barrier will also reduce noise levels at the ground floor of 62 Dale Crescent. An image showing the extent of this noise barrier in red is presented below.



**Figure 3 – Location of Noise Wall**

55. *The proposal involves the removal of a number of buildings to make way for the project. New traffic lanes will be constructed on many of the properties that will be vacated. This will expose the houses immediately behind to greater levels of road-traffic noise. In some cases, the increase will be significant.*

*The noise assessment appears to rely on future development on the residual land to provide a degree of screening to mitigate the effects. However, it is not certain that the residual land will be large enough or reasonably able to accommodate future dwellings that will adequately screen the existing dwellings.*

*a. Please demonstrate that it is certain that the residual land will be large enough and reasonably able to accommodate buildings that will adequately reduce the noise to existing dwellings;*

*b. If it is not certain that development on the residual land will deliver the outcomes in (a), demonstrate what the Best Practicable Option will be to mitigate the effects and achieve a reasonable level of noise. This should include an assessment of screening options that includes the following:*

- *An assessment of screening from barriers, acknowledging the significant positive effects they can have on ground floor and yard spaces;*
- *An assessment against NZS6806 and the relevant recommendations of the World Health Organisation’s Environmental Noise Guidelines for the European Region (2018).*

All mitigation options modelled as part of the NZS 6806 assessment assumed that the residual land would remain vacant and would not be developed. Also, effects from changes in noise levels at PPFs were assessed when comparing the Do Nothing and chosen mitigation option without the assumption that residual land would be developed.

AT is not relying on the development of residual land to mitigate noise effects from the project.

### Transport

AT has reviewed the transport queries raised by Council and considers that responses to these queries are not required prior to the public notification of EB2. This is due to their lack of impact on the required footprint of EB2 or on the quantum of transport effects generated by the proposed works. Furthermore, the mitigation and management methods proposed by AT (such as a CTMP) will remain largely unaltered by the planned responses to these queries. As such, AT plans to respond to these transport queries by early November in a separate response to Council.

### Urban Design

81. *Should an Auckland Urban Design Panel review not be advanced, please advise on:*
- the details of the methodology undertaken through AT’s own internal expert review process to address such issues,*
  - other reasons as to why a review by the Auckland Urban Design Panel isn’t necessary, and/or*
  - further detail on the “Urban design details for works” as set out in the Urban Design and Landscaping Plan proposed as mitigation.*

AT is required to provide an UDLP to Auckland Council for certification prior to the commencement of related construction activities. This is a standard approach employed on major transport projects in Auckland. Please refer to the open space queries earlier in this letter for further detail regarding the UDLP and the measures that will be employed to address the Project’s visual, landscape and urban design effects.

It is also noted that the urban design process for the Project is discussed in depth by the AEE (Sections 4.2.5 and 9.5.2) and in the Natural Character, Landscape and Visual Effects Assessment (Appendix 21 of the AEE). These documents highlight the various urban design and landscape interventions employed by the Project, while the Project’s landscaping elements are also illustrated by the submitted Landscape, Ecological, And Arboricultural Plans (Appendix 5 of the AEE). AT considers that these documents are



adequate to enable Auckland Council to assess the visual, landscape and urban design effects of the Project.

Given the above, AT does not consider that the Project requires review by the Auckland Urban Design Panel. It would be highly unusual for a transport project of this type to appear before the Panel, and it is noted that the Panel is better suited to assessing residential/commercial building developments rather than transport infrastructure. It is AT's view that the current Project does not have any elements that differentiate it from any other infrastructure project to require it to go before the Panel.

82. *Please provide urban design information in the AEE on how the project, its station, streetscape and accessibility will address the future public realm / private land interface, which will be developed to substantially greater scale and intensities under the Intensification Planning Instrument (IPI) plan changes.*

Given the proposed status of Plan Change 78 and the limited scope of the permitted activity provisions with immediate legal effect, AT considers it inappropriate to undertake a detailed assessment of the Project in relation to what are currently hypothetical development scenarios that are not part of the existing environment (as defined by the RMA). Please note that an assessment against the objectives and policies of the plan change has been provided as **Attachment 1**.

Regardless, AT notes that the Project enables further intensification, as enshrined by the Project's own objectives and highlighted throughout the AEE and Options Assessment. Please refer to those documents for further detail.

83. *Please amend the Urban Design and Landscape Plan (UDLP) prescription to include a Crime Prevention Through Environmental Design (CPTED) assessment of the proposed Pakuranga Bus Station and its mitigation measures.*

AT has modified the proposed condition set (**Attachment 10**) to include a requirement for a CPTED assessment as a requirement of the UDLP (Condition 40(g)).

84. *Please confirm that the Applicant considers the proposed Pakuranga Bus Station and in-road planting and street trees to be a permitted activity as 'public amenities' or 'road network activities', able to be established as part of a permitted baseline.*

AT confirms, as stated in Section 9.2 of the AEE, that the abovementioned works are permitted by the AUP(OP) and should be considered part of the permitted baseline for the purposes of any resource consent application. A permitted baseline is not typically a matter for consideration for the NoR.

85. *Please confirm the extent of the Land Requirement and Extent of Works in the northern end of William Roberts Road South, and whether footpaths will be provided in that location.*

The extent of the land requirements for EB2 is shown in the submitted Land Requirement Plan. Approval for other works on William Roberts Road are being sought through a separate resource consent application (Council Reference: LUC60401706) given that they form part of the early works phase for the Eastern Busway Project. Further detail on the relationship between the application packages is provided in Section 1 of the AEE.

86. *Please clarify why works are not proposed on the northern part of William Roberts Road South as part of this application, such as footpaths, when the resource consent associated with this Extension is transforming this 'carpark' into a connected through street and the remainder of William Roberts Road forms part of the EB2 works.*

See above.

87. *Please provide an indicative tree and plant species list within the application documents (noting this though is subject to later co-design) and provide in the Landscape Ecological and Arboricultural Mitigation Plans (LEAMP) an indication of the scale of the trees proposed at maturity in addition to the planting bag sizes.*

This information will be provided as part of the UDLP and is subject to further development with both Council Parks and mana whenua. The UDLP will be subject to certification by Auckland Council, and it is that certification process that is considered the appropriate time to provide the requested information.

#### Earthworks and Streamworks (EB2 Resource Consents)

93. *Please provide a drawing showing the overall earthworks for each, EB2R and EB3R areas, that are subject to the E26 infringements and National Environmental Standards for Freshwater (NES-F) Regulations and include with the extent of the 100m setback from all natural wetlands. Please include the location of the access ways to the works areas (e.g. to outfall construction).*

The setbacks in relation to the proposed construction works are shown by **Attachment 6**.

94. *It is acknowledged that cut and fill plans have been provided for the central line through the road alignments, and that the retaining wall locations have been provided. However it is unclear what cut/ fill will be required across the site to construct the road alignment and any batters that will be formed at the road edges. Please provide a cut / fill plan view that estimates, and locates, the cut and fill requirements across the entire project's alignment.*

The Concept ESC Drawings and the Consent Plans indicate the extent of works, as well as the cut / fill extent lines.

As described in the Erosion and Sediment Control Effects Assessment (Appendix 30 of the AEE), the works will occur on generally flat grade land that is based on existing site

contours. Tables 3.1 and 3.2 in the Erosion and Sediment Control Effects Assessment provide breakdown of estimated earthwork areas and earthwork volumes. These tables also indicate the general locations of the cut and fill works and should be read in conjunction with lodged drawings and works descriptions.

In general, the works involve the trimming and widening of berms, the excavation and formation of new carriageway including the construction of a new off ramp (referred to as the SEART) and Reeves Road Flyover abutment ramps, the removal of the central medians, minor cutting of batters, placement of fill and associated drainage, structure placement, and installation of stormwater outfalls.

The main earthworks areas are the SEART, and Reeves Road Flyover (and associated abutments) located in EB2. These works are clearly shown on the submitted plans.

The trimming and widening of berms and the removal of the central mediums, and minor drainage and services trenching operations will be a cut and rapid cover operation. In addition, large portions of the works do not require earthworks. These works primarily involve milling and resurfacing of the existing road surfaces, Auckland Council utility reserve (Pakuranga Plaza carpark) and existing stabilised areas. The estimated milling volumes have been included in Tables 3.1 and 3.2 of the Erosion and Sediment Control Effects Assessment.

For the other areas of more traditional cut to fill earthworks (stormwater pipeline installation, works within the formation of the SEART, the widening of Ti Rakau Drive, and the structural fill associated with the Reeves Road Flyover) cut material will be excavated and removed off site. The imported fill material will be primarily aggregate (regarded as a stabilised product).

95. *As a general observation, the reference / labels used for the stormwater outfalls vary across the documents (e.g. AEE, ecological assessment reports, Erosion & Sediment Control Plan (ESCP) Report, drawings). For ease of reference, please provide a table that identifies the location of each outfall (e.g. a screenshot of the aerial image and address) and the reference relative to each document.*

A table identifying each outfall, the work proposed, and related consent triggers is provided as **Attachment 11**. Based on that assessment, no further triggers for resource consent have been identified.

96. *Please amend the application documents to identify and quantify all works proposed within, with 10m, and/or within 100m, of a natural wetland (including drawings).*

A table detailing natural wetland setbacks and quantifying works within setbacks has been provided as **Attachment 11**, with drawings provided as **Attachment 6**. These setbacks only affect the works associated with the two new stormwater outfalls beside SEART, given their proximity to both freshwater and coastal wetlands.

It should be noted that mangroves within the EB2 footprint are considered to be wetlands for the purposes of the National Environmental Standards for Freshwater. This approach is consistent with recent High Court guidance<sup>4</sup> and is reflected in both the AEE and ecological assessments that have already been provided to Auckland Council.

97. *Please revise the assessment of effects, as necessary.*

No amendments are proposed to the AEE given that the effects associated with earthworks and vegetation clearance in proximity to and within wetlands has already been comprehensively assessed by the submitted application documents. Furthermore, the submitted proposed condition sets and associated management plans address any potential adverse effects associated with these activities.

98. *Further information is required to determine any additional reasons for consent under Chapter E3 (and NES-F where applicable) for the EB2R works:*

- a. Please locate the stream extent on the drawings to clarify whether works and/or structures will be located within the bed of a stream.*
- b. Please provide the dimensions of the proposed structures located within the bed of the stream on the relevant drawings.*
- c. Please confirm the total length of stream works proposed, as applicable.*
- d. Please assess the proposed structures and works against the rules of chapter E3 of the AUP:OP and the regulations of the NES-F. Please either:*
  - clarify how the structures / works will meet the permitted activity criteria; and/or*
  - provide an assessment of effects where consent is triggered.**In each case, please clarify that the structure has been designed to occupy the minimum length / area of stream bed as possible.*

The additional triggers are identified in the response to Query 95. It should be noted that the vegetation clearance and earthworks proposed represent the greatest possible footprint required for EB2's construction. AT and EBA will work to further minimize the Project's footprint within the Coastal Marine Area through detailed design and where practicable.

99. *The Marine Ecological Assessment document includes Table 1 that summarises the location of outfalls and what works are proposed. For outfall '12' (MCC-108680) it notes "Potential modification/connection to outfall". Please confirm whether this outfall will be upgraded. If yes, please update the drawings (including the ESCP) and provide details as requested for outfall 13/14 (MCC\_108699) above, should works be located within the bed of a stream (including any reach upstream of the CMA).*

No works are proposed to this outfall.

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<sup>4</sup> [2021] NZHC 3113

100. *It is understood that trenching, including the 'Deep Trenches,' are proposed to be undertaken within the thresholds of the permitted activity criteria (e.g. maximum of 120m). For the avoidance of doubt, please update the cut and cover operations annotations on the ESC drawings relating to 'Deep Trenches' to state this threshold.*

AT has sought a EB2 land use consent to undertake earthworks. While these works will be staged, it is not proposed to stage them in a manner to meet permitted activity standards.

The submitted Erosion and Sediment Control Effects Assessment (Appendix 30 to the AEE) provides a concept of the types of erosion and sediment controls (ESC) that may be employed. These conceptual controls will be confirmed through site specific erosion and sediment control plans (ssESCPs) for each earthwork's stage/operation, with the ssESCPs subject to a certification process by Auckland Council. Given this approach, no annotations are required on the ESC drawings.

101. *In light of the above, please review the proposed sediment controls as shown on the ESC plan.*

No changes are proposed as per the above comments.

102. *Please identify on the ESC drawings the proposed construction access way to the outfall construction areas. Please ensure this is included within the total earthworks areas (or stream works), as applicable.*

Construction access has been added to the drawings provided as **Attachment 6**. In general, access will be in the immediate location of the outfall and generally run parallel to the stormwater line connecting to the outfall structure. The same construction access as the pipeline is installed will then be employed for the installation of the outfall.

Each operation / activity will be certified by an ssESCP which will specify (in accordance with GD05) exactly what works are to occur and how they will be managed. Those works will be within the scope of the works proposed in the application and will continue to be low risk from a sediment management perspective.

Lastly, the total "area of earthworks" identified in the technical report includes the total estimated earthworks area, including potential access tracks. As such, the total area does not require updating.

Based on the above points and the attached documents, AT considers that Council can proceed with the public notification of the EB2 NoR and associated resource consents. This is based both on the significant volume of application material previously provided to Council, as well as the additional material provided with this response letter. A thorough assessment of EB2 is available to the public to understand the location, purpose, scope and scale of the proposed works and the effects on the environment, with the remaining Council queries relating to specific matters which do not materially affect the overall quantum of effects anticipated.



Yours sincerely  
Matt Zame  
Eastern Busway Alliance Director