



Report pursuant to s42A Resource Management Act 1991

In the matter of:	A Notice of Requirement to construct and operate a new intermodal rail and freight hub on land between Palmerston North and Bunnythorpe
And:	A hearing by Palmerston North City Council pursuant to s100A
Requiring Authority:	KiwiRail Holdings Ltd
Hearing date:	9 August 2021

S42A Technical Evidence: Landscape and visual effects

By: Chantal Whitby

1 Executive Summary

1. I have reviewed the Notice of Requirement ("NoR") and the material relating to the landscape and visual effects, including the AEE and the Landscape and Visual Effects Assessment ("LVA"). As part of this review I have highlighted several key issues.

1.1 Methodology

2. The LVA conflates landscape and natural character mitigation measures. This looks to be a consequence of the existing environment description not separately identifying key attributes of landscape character and natural character. It appears that the conflation of landscape and natural character mitigation influences the "positive moderate" effects conclusion reached for natural character.
3. The LVA identifies three spatial scales as part of the existing environment description. However, it is unclear how much weighting has been placed on each of these scales when assessing effects. As such, it is unclear if effects conclusions have been diluted by focusing the assessment at a scale which is inappropriately broad.
4. The landscape character analysis has been compartmentalised into natural landscape and urban landscape. This division overlooks the existing overall rural character of the area, which is neither overly natural nor urban. Recognising the overall rural character of the area assists in acknowledging the fundamental change the Freight Hub will have on the existing environment.
5. No visual simulations have been provided. Visual simulations would have been useful to illustrate the design concept of the Freight Hub, such as building, wall and lighting heights in relation to the site boundary and adjacent houses, as well as mitigation that could be expected from planting in the short to medium term. Further, while a series of streets and properties which will be particularly affected by the Freight Hub have been identified, viewpoints from these areas have not been provided. This makes it difficult to reliably predict the effects on these streets and properties, and/or the effectiveness of proposed mitigation measures.

1.2 Effects assessment

6. The LVA concludes that effects on natural character will be “positive moderate”. The reasoning for this conclusion is unclear. I consider it is more likely that natural character effects will be adverse, rather than positive.
7. Overall, the adverse effects of construction will be high to moderate-high on landscape character and visual amenity, with the construction process occurring over 20 years. These effects will occur over a long time. It is unclear if effects of the Freight Hub are expected to remain high to moderate-high post-construction or if the effects conclusion relates only to construction.
8. The LVA identifies cultural and historical values in the existing landscape character description, including the importance of the area to mana whenua and the significance of some historical sites and buildings within the designation and surrounding context. However, cultural and historical values are not considered as part of the assessment of effects, therefore, it is unclear how the Freight Hub will affect these identified values.
9. Lighting and noise effects are not addressed in the LVA. Lighting and noise can influence landscape and natural character, as well as amenity.
10. I consider that several mitigation measures are incorrectly classified as positive effects. My understanding is that mitigation involves the reduction or lessening of adverse effects, rather than the creation of positive outcomes. As such, misclassifying mitigation measures as positive effects has the potential to skew the overall assessment.
11. Cumulative effects have not been considered in the LVA but are relevant considerations, pursuant to relevant policy in the Horizons One Plan.¹

1.3 Relevant Policy

12. The LVA identifies relevant statutory provisions but provides no analysis of these. In particular, Objective 6-2, and Policy 6-8 of the Horizons One Plan require assessment. It is not shown that the NoR will or can align with relevant policy.

¹ Objective 6-2: b.

1.4 Proposed mitigations

13. The LVA recommends the early implementation of mitigation planting. However, the practicality of this recommendation and guaranteeing that planting will occur early enough to mitigate effects (particularly along Sangsters Road) of construction and the initial operation of the Freight Hub is uncertain.
14. The LVA relies on the North East Industrial ("NEI") Design Guide for addressing detailed design. The North East Industrial Zone ("NEIZ") accounts for approximately the southern third of the Freight Hub, with the northern extent of the site situated near the village of Bunnythorpe. The character of the environment at this northern boundary differs from the NEIZ. As such, I do not consider the NEI Design Guide as suitable for addressing the design of the Freight Hub as a whole.

1.5 Conditions

15. Several recommendations and desired design outcomes have been proposed in the LVA. However, these are not clearly incorporated into the draft conditions advanced by KiwiRail. I recommend several conditions to further strengthen the Freight Hub conditions and to provide greater certainty of outcome and responsiveness to predicted effects.

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2 Introduction

16. My full name is Chantal Louise Whitby. I hold the qualification of Bachelor of Landscape Architecture (with honours) and Master of Science in Environmental Management (with distinction). I am a landscape architect, with eight years of experience in landscape architecture.
17. I have prepared this evidence on behalf of the determining authority, Palmerston North City Council, in relation to the NoR for the KiwiRail Regional Freight Hub ("the Freight Hub") lodged by KiwiRail Holdings Ltd ("KiwiRail"). I understand that my evidence will accompany the planning report being prepared by the determining authority under section 42A of the Resource Management Act 1991.
18. I am a landscape architect at Hudson Associates. The practice consults on projects throughout New Zealand, with a particular focus on landscape assessment, subdivision, large scale design, and infrastructure. I was recently involved in the Te Ahu a Turanga – Manawatū Tararua Highway Project as an s42A expert. I am a registered landscape architect member of the New Zealand Institute of Landscape Architects. I am also a core committee member of the New Zealand Association for Impact Assessment and an associate member of the Environment Institute of Australia and New Zealand, as well as a coordinator for their Far South branch. I have undertaken landscape character, natural character and visual amenity assessments for projects across a range of areas in New Zealand.
19. I confirm that I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that except where I state I am relying on information provided by another party, the content of this evidence is within my area of expertise.

3 Background and Scope of Evidence

3.1 Background

20. KiwiRail is seeking to designate approximately 177.7 hectares of land between Palmerston North Airport and Bunnythorpe for a new Regional Freight Hub.

21. The Freight Hub will consist of a centralised hub incorporating tracks, marshalling yards, maintenance and service facilities, a train control and operation centre, freight handling and storage facilities (including for logs and bulk liquids), provision of access, including road and intersection upgrades where required, and specific mitigation works including noise walls/bunds, stormwater management devices and landscaping. In addition, the North Island Main Trunk rail line will be relocated to sit within the new designation area and directly adjacent to the Regional Freight Hub. The activities that take place at KiwiRail's Tremaine Avenue freight yard (apart from the passenger terminal and the network communications centre) will be relocated to the new site to form part of the new Regional Freight Hub.
22. A detailed description of the Freight Hub is set out in 6.3 of the AEE submitted by the applicant and a summary description in the s42A Planning Assessment.
23. The largest buildings proposed in the Freight Hub will have heights between 11m and 16m,² as well as some lighting poles with heights up to 22.1m. A 'naturalised channel' will be constructed within the Freight Hub to convey one of the Mangaone Stream tributaries, while others will be culverted under the site. Areas of mitigation planting are proposed within and around the boundaries of the Freight Hub.

3.2 Scope of evidence

24. I have been asked to assess the landscape character, natural character and visual amenity elements of the NoR. My assessment considers the following matters:
 - a. Key issues in contention.
 - b. The statutory context.
 - c. An overview of the existing environment in terms of the scale and nature of the landscape and visual amenity values.
 - d. Adequacy of the applicant's investigations and interpretation of the findings of those investigations.

² In paragraph 1 of Technical Report E, the tallest buildings are described as 11m and 14m. In paragraph 1.6 the KiwiRail maintenance facilities are described as having a maximum height of 16m. The air quality Section 92 response clarifies that these maintenance facilities are buildings.

- e. Likely key effects (positive and adverse) on the environment of allowing the Freight Hub.
 - f. Appropriateness of any proposed mitigation measures.
 - g. Submissions relating to rural character, natural darkness of the night sky, views, visual graphics, landscape and visual amenity effects, historic values, cultural values, iwi collaboration, community consultation, landscape planting, timing of mitigation planting, planting maintenance, conditions, and alternative options.
 - h. Any other matters.
25. My evidence should be read in conjunction with expert evidence of the other experts that have contributed to the s42A Planning Assessment. In particular, the evidence of Ms Quinn, Mr Arseneau and Ms Baugham, Mr Lloyd, Mr Wright and Ms Linzey are relevant to the consideration of matters I address.

3.3 Reports and material considered

26. As part of preparing this statement of evidence, I have read the following reports and documents:
- Technical Report E – Landscape and Visual Effects Assessment
 - Technical Report E Appendix 1 – Context Photographs
 - Appendix A – Regional Freight Hub Further Information Request
 - Notice of Requirement and Assessment of Environmental Effects - KiwiRail Regional Freight Hub (AEE)
 - Appendix F – MCA Summary Report
 - Appendix F10 – MCA Visual and Landscape Assessment
 - Appendix 3 – Notice of Requirement Conditions
 - Technical Report A – Design, Construction and Operation
 - Technical Report F – Assessment of Ecological Values and Effects
 - Technical Report G – Stormwater Flooding Assessment
 - Technical Report J – Social Impact Assessment

- Technical Report D – Acoustic Assessment
- Technical Report H – A Preliminary Analysis of the Archaeological Potential at the Proposed Site for a Regional Freight Hub
- Technical Report H - Appendices

3.4 Site visit

27. I undertook a site visit on the 2nd of November 2020, as well as on the 1st of April 2021, and am familiar with the surrounding environment.

3.5 Statutory Context

28. The statutory documents and provisions relevant to the evaluation of the NoR have been set out in the s42A Planning Assessment. For the purposes of preparing this evidence, I have had specific regard to the following statutory provisions and direction that are particularly relevant to the topic area I address:

- The Resource Management Act 1991, specifically Section 6(a) and Section 7(c).
- Horizons Council One Plan, particularly Objective 6.2, Policy 6-8 and Policy 6-9.
- The Palmerston North District Plan, including Section 9: Rural Zone (specifically Objective 3) and Section 12A: North East Industrial Zone.

4 Existing Environment

29. The existing environment is largely characterised by its rural environment. Open vistas and paddocks, as well as rural and rural-residential lots contribute to the character of the site and its immediate context. To the south, industrial activities are also present, including in the NEIZ and the Palmerston North Airport. Other attributes which contribute to the character of the existing environment include the undulating topography (often referred to as the Bunnythorpe “dips”), views to the Tararua Ranges, and the Mangaone Stream and its tributaries.

5 Data Collection and Assessment Techniques

30. In the following sections I discuss some key issues regarding KiwiRail's assessment techniques, which have consequences for the assessed effects, proposed mitigation measures and policy considerations.

5.1 Conflation of landscape and natural character

31. The existing environment description provided in the LVA is helpful for understanding the context of the Freight Hub. However, the key attributes which contribute to the existing landscape character and natural character are not clearly articulated, with landscape character and natural character not discussed independently from one another throughout the report.³

32. The absence of independent classification of landscape character and natural character may have contributed to the conflation of landscape character and natural character mitigation measures within the LVA, and potentially influenced the assessed positive moderate effects conclusion for natural character. For instance, "*the proposed off-road track from Railway Road and the new perimeter road*"⁴ is identified as a natural character mitigation.⁵ However, a track is a humanmade, unnatural element and will detract from natural character but could be considered a mitigation measure for landscape character.⁶ Planting along the perimeter road⁷ and earth bunds⁸ are also factored as mitigation for natural character effects. These elements are not within the margins of the naturalised channel or stormwater ponds, and are some distance from these waterbodies.⁹ Furthermore, as well as the earth bund being located some distance from the naturalised channel, it is an unnatural element in itself.¹⁰ Therefore, while they could be classified as mitigation measures for landscape character,¹¹ they are not relevant to natural character. I discuss the assessed moderative positive effects of natural character in further detail below.

³ As required under the Resource Management Act 1991.

⁴ Section 92 response.

⁵ Paragraph 6.6 and 6.42 Technical Report E.

⁶ Paragraph 6.7 Technical Report E.

⁷ Paragraph 6.53 Technical Report E and Section 92 response.

⁸ Paragraph 4 Technical Report E and Section 92 response.

⁹ Refer to Appendix C Landscape Plan.

¹⁰ Paragraph 1 Technical Report E.

¹¹ Paragraph 6.7, 6.19, 6.36, 6.38 and 6.87 Technical Report E.

5.2 Ambiguity of spatial scales

33. In the LVA, the existing environment is characterised as the Manawatū Plains, Bunnythorpe – Palmerston North environs, and the immediate site.¹² However, the assessment of effects on landscape character and natural character does not refer to these three identified spatial scales. As such, it is unclear how much weighting has been placed on each scale as part of the assessment of effects.¹³ Furthermore, both the Manawatū Plains and the Bunnythorpe – Palmerston North environs are relatively extensive.¹⁴ Overall, this has the potential to dilute effects of the Freight Hub by considering them at a scale which is inappropriately broad. It is possible that such an approach could have influenced the positive moderate natural character effects conclusion (the natural character effects conclusion is discussed in more detail further in my evidence).

5.3 Compartmentalisation of landscape character

34. The landscape character is discussed as natural character and urban character, with the overall landscape character not considered.¹⁵ Such an approach risks overlooking the overall character of the area and disregarding that a landscape is considered as more than the sum of its parts, a point appropriately highlighted in the LVA.¹⁶

35. The area contains an element of transition, with further industrial activities anticipated within the NEIZ and a change from rural to rural-residential occurring in places (particularly towards the northern end of the site). However, I consider the area to have an overriding rural character and as being neither overly natural nor urban. Recognising the overall rural character of the area assists in acknowledging the fundamental change the Freight Hub will have on the existing environment.

5.4 Absence of visual simulations and viewpoints

36. The Freight Hub is of considerable scale and, as such, visual simulations would have been useful to illustrate the design concept, including building, wall and

¹² Paragraph 4.1 Technical Report E.

¹³ The Section 92 response indicates that "*All scales have been considered, as relevant to the components of the proposal.*"

¹⁴ A map showing the indicative spatial scales of the three identified areas was provided in Appendix 1 of the Section 92 response.

¹⁵ As referred to throughout section 6 of Technical Report E, including Paragraph 6.53.

¹⁶ Paragraph 3.2 Technical Report E.

lighting heights in relation to the site boundary and adjacent houses, as well as expected mitigation provided by planting in the short and medium term. Visual simulations would particularly assist submitters to understand the proposal, including those in the community who may be affected by the Freight Hub.

37. The LVA includes several viewpoints with corresponding context photos. While these are helpful (although limited by the absence of visual simulations from these viewpoints) more analysis from additional viewpoints is required to fully understand the effects of the Freight Hub.
38. While I agree with the general viewing audience identified,¹⁷ the LVA identifies a series of streets and properties which will be particularly affected by the Freight Hub but viewpoints have not been provided from all these areas. Additionally, visual effects as experienced from individual properties have not formed part of the visual amenity assessment process.¹⁸ In my view, due to the scale of adverse visual amenity effects, it important to identify the visual amenity effects on affected properties so that these effects can be mitigated through detailed design.
39. Properties and streets identified in the LVA as requiring further investigation due to adverse visual amenity effects include:
 - Between Richardson's Line to 873 Roberts Line;¹⁹
 - Properties along Te Ngaio Road, east of Maple Street;²⁰
 - 163 Clevely Line west;²¹ and
 - Residential properties directly alongside the NIMT that have an open and or elevated view towards the site.²²
40. I agree that further investigation into the visual amenity effects of the Freight Hub on the above properties is required, and that additional mitigation measures to address visual amenity effects should be included during detailed design. In addition, I view it as appropriate to investigate all properties

¹⁷ Paragraph 6.54 Technical Report E.

¹⁸ Paragraph 6.56 Technical Report E.

¹⁹ Paragraph 6.96 Technical Report E.

²⁰ Paragraph 6.86- 6.88 and 6.96 Technical Report E.

²¹ Paragraph 6.85 and 6.96 Technical Report E.

²² Paragraph 6.94 and 6.96 Technical Report E.

alongside the NIMT. The LVA concludes that “Properties set below 50RL will have further project elements screened by virtue of topography. For example, at No#73 Sangsters Rd the house site is located at approximately 47RL, such that the top of the noise mitigation wall will provide approximately 8m of vertical screening in views”.²³ While the rail embankment is already located above some properties along Sangster Road, I recommend investigating the visual effects on properties where this height will be increased due to the proposed embankment and noise mitigation wall, as the proposed wall and embankment (while screening the Freight Hub) will have effects in and of themselves. Therefore, further investigation of visual amenity effects alongside the NIMT should not be restricted to those properties with open and elevated views.

41. The LVA highlights several houses along Maple Street that have the potential to experience moderate to high visual amenity effects (including numbers 9a, 11a, 12 and other single storey properties with an open outlook located in close proximity to the designation extent)²⁴ and recommends a whole street design approach for noise mitigation along Maple Street.²⁵ Accordingly, I consider visual amenity effects on properties along Maple Street be investigated further.

6 Project Effects

42. I raise some key issues regarding several aspects of the Freight Hub's effects, including:
 - the moderate positive conclusions reached for natural character effects;²⁶
 - the degree of landscape and visual amenity effects;²⁷
 - cultural values and historical values, as well as noise and lighting effects, are not assessed;²⁸

²³ Paragraph 6.93 Technical Report E.

²⁴ Paragraph 6.89 – 6.90 Technical Report E.

²⁵ Paragraph 6.92 Technical Report E.

²⁶ Paragraph 4 and 6.53 Technical Report E.

²⁷ Paragraph 9 Technical Report E.

²⁸ Paragraph 6.57 and 6.93 Technical Report E and Section 92 response.

- some mitigation measures are considered as positive effects;²⁹
- the absence of a cumulative effects assessment;³⁰ and
- consideration of relevant planning provisions.³¹

43. These issues are discussed in detail in the following sections.

6.1 Conclusions on natural character effects

44. The LVA concludes that the Freight Hub will result in moderate positive effects on natural character.³² I disagree with this conclusion and consider that effects on natural character from the Freight Hub are likely to be adverse.

6.1.1 Naturalised channel

45. The proposed 'naturalised channel' has been highlighted in the LVA as one of the pivotal elements in addressing natural character effects.³³ The channel will include 445m of revegetated stream margins, however, it will have limited ecological benefits,³⁴ will appear unnaturally low in comparison to the Freight Hub floor (the channel will be up to 4.9m below the site RL50),³⁵ will be relatively confined between the Freight Hub features rather than following a meandering path typical of the existing tributaries,³⁶ large sections of the channel will be culverted,³⁷ and motorists' perceptions of the channel's natural character will be influenced by viewing the channel through a chain link security fence.³⁸

46. Overall, the naturalised channel has the potential to mitigate adverse effects on natural character. However, the channel will have limited ecological value,³⁹ will have limited ability to be perceived as a natural stream⁴⁰ and it only represents a small fraction of the waterways which are present throughout the designation (with the rest being culverted or lost completely).⁴¹

²⁹ Paragraph 7.1 Technical Report E and Section 92 response.

³⁰ Section 92 response.

³¹ Section 5.0 Technical Report E.

³² Paragraph 4 and 6.53 Technical Report E.

³³ Paragraph 4, 6.17, 6.53 and 7.2 Technical Report E and Section 92 response.

³⁴ Refer to the evidence of Ms Quinn for further details.

³⁵ Paragraph 1.6 Technical Report E.

³⁶ Paragraph 6.15 Technical Report E.

³⁷ Paragraph 6.15 Technical Report E and refer to the evidence of Ms Quinn for further details.

³⁸ Paragraph 6.16 Technical Report E.

³⁹ Refer to the evidence of Ms Quinn for further details.

⁴⁰ Paragraph 1.6, 6.15 and 6.16 Technical Report E.

⁴¹ Paragraph 6.15 Technical Report E and refer to the evidence of Ms Quinn for further details.

As such, I consider that although the naturalised channel may assist in mitigating adverse effects on natural character, it will not provide positive natural character effects.

6.1.2 Stormwater ponds

47. The LVA also considers the two stormwater ponds along the western boundary of the designation as a key mitigation measure for natural character, contributing to its moderate positive effects.⁴² The ponds have been created as a managed stormwater mitigation measure to protect the Mangaone Stream from activities within the site.⁴³ While native planting is proposed around the perimeter of the ponds, the ponds are not proposed for the purpose of re-establishing natural wetlands that have been lost or degraded in the area or to function as a natural stream.⁴⁴
48. The stormwater ponds will form large pits in the ground that are different to the surrounding, natural topography. Within the ponds there will also be some structures, such as head walls, pipes, and outlets. However, with well thought out design, it is possible to disguise these structures, as well as contour the ponds to more closely resemble a natural wetland (although this may require a larger footprint than that specified by KiwiRail).
49. While KiwiRail may design the stormwater ponds to appear natural to a degree, natural character is firstly established from a science focus, before then evaluating how people would perceive and experience the natural character of that environment.⁴⁵ Ms Quinn highlights in her evidence that the stormwater ponds will have limited ecological values and will not function as natural wetlands or streams.⁴⁶ Further, as outlined in the National Policy Statement for Freshwater Management 2020, the stormwater ponds would not be considered a natural wetland.⁴⁷ The LVA also notes that "*The northern pond removes an existing watercourse.*"⁴⁸ While this watercourse is identified as

⁴² Paragraph 4, 6.43 and 6.53 Technical Report E and Section 92 response.

⁴³ Refer to the evidence of Mr Arseneau and Ms Baugham for further details, including aspects on water quality.

⁴⁴ Refer to the evidence of Ms Quinn, and Mr Arseneau and Ms Baugham for further details.

⁴⁵ Decision No. [2018] NZEnvC 88 - between Clearwater Mussels Limited and Marlborough District Council, at [154].

⁴⁶ Refer to the evidence of Ms Quinn for further details.

⁴⁷ In the National Policy Statement for Freshwater Management 2020, under 3.21 *Definitions relating to wetlands and rivers*, a natural wetland is not "(a) a wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, an existing or former natural wetland)".

⁴⁸ Paragraph 6.43 Technical Report E.

having very low natural character values, I do not consider that the replacement of a natural waterway with an artificial stormwater device will result in positive natural character effects.

50. Overall, the stormwater ponds have the potential to mitigate adverse effects on natural character, insofar as they contribute to perceptions of natural character. However, they will have limited ecological value. Therefore, it is my assessment that the stormwater ponds may assist in mitigating adverse effects on the perceptual aspects of natural character but they will not provide positive natural character effects.

6.1.3 Natural science

51. As mentioned above, natural character assessment is partly informed by science, including ecology.⁴⁹ Ms Quinn highlights in her s42A evidence that the ecological baseline information is insufficient, including a general absence of existing natural wetland identification within the site⁵⁰ (wetlands have not been considered as part of the natural character assessment⁵¹). These uncertainties in the ecology information will have implications for the natural character assessment and the LVA conclusions that there will be moderate positive natural character effects.

6.1.4 Conflation of landscape and natural character mitigation

52. Some landscape character and natural character mitigation measures are conflated in the LVA. For instance, earth bunds (which are not located near the margin of the naturalised channel⁵²) are considered as mitigating effects on natural character.⁵³ While the earth bunds can be seen as a form of landscape and visual amenity mitigation, I do not consider them a natural character mitigation measure due to the distance of the earth bunds from the channel, and that the bunds are artificial compound this.⁵⁴ It is also highlighted that *"the proposed planting adjacent to the perimeter road, as part of the reconfigured arrival and departure experience for motorists travelling to Bunnythorpe and the NEI Zone"* is considered *"mitigation, in terms of natural*

⁴⁹ This is supported by paragraph 3.3 Technical Report E.

⁵⁰ Refer to the evidence of Ms Quinn for further details.

⁵¹ Paragraph 6.1, 6.12 and 6.17 Technical Report E.

⁵² Refer to Appendix C Landscape Plan.

⁵³ Paragraph 4 Technical Report E and Section 92 response.

⁵⁴ Paragraph 1 Technical Report E.

character".⁵⁵ This planting area is not located near any waterbodies⁵⁶ and, therefore, I consider it incorrect to assess it as a natural character mitigation measure.

53. Additionally, recreation paths are identified as a natural character mitigation.⁵⁷ While these could be considered a landscape character mitigation measure, they are a humanmade element and, as such, their unnaturalness would detract from the natural character. Paragraph 6.6 of the LVA lists a number of mitigation measures which are considered relevant to natural character and natural landscape. This combined list further highlights the conflation between natural character and landscape character in the LVA. In my opinion, several landscape character mitigation measures have been misidentified as natural character mitigation, inappropriately providing additional reasoning for the positive moderate natural character effects conclusion in the LVA.

6.1.5 Integrated river margin

54. The proposed planting is highlighted as providing an "*integrated river margin environment. This will be established through the naturalised River Plain and Wetland planting which connects the new open channel and stormwater ponds and their discharge section in the Designation extent.*"⁵⁸ However, based on the NoR Information, including the landscape plan,⁵⁹ I am not convinced that the two stormwater ponds and the intermittent naturalised channel will be perceived as an integrated water system. For instance, there is a large section of the naturalised channel which is culverted underground before re-emerging to the west of the log yard, which then shortly disappears underground again, and has no physical or perceived connection with the northern stormwater pond. Additionally, the two stormwater ponds appear as isolated elements, with the only planting that connects them being located on the edge of the perimeter road, away from any waterbodies.

6.1.6 Adverse effects on natural character

55. The existing baseline for natural character is unknown due to information gaps in the science data. As such, it is not possible to fully understand the effects of

⁵⁵ Section 92 response.

⁵⁶ Refer to Appendix C Landscape Plan.

⁵⁷ Paragraph 6.6 Technical Report E and Section 92 response.

⁵⁸ Section 92 response.

⁵⁹ Appendix C Landscape Plan.

the Freight Hub on natural character and determine appropriate mitigation measures. With that said, as I do not consider that the mitigation measures currently proposed within the NoR provide positive natural character effects, I am not convinced that there will be sufficient area within the designation to appropriately mitigate adverse effects to preserve and protect⁶⁰ or to maintain or enhance⁶¹ natural character, if correctly assessed.

56. In giving my opinion on this, I am aware that regional consenting is being undertaken separately and that natural character mitigation represents a potentially significant constraint that will need to be addressed, and that this may require more land.
57. The issue of further natural character mitigation is also raised in the LVA, in which additional planting is suggested between the stormwater ponds, the Mangaone Stream and the tributary connecting to the naturalised channel.⁶² I agree that these planting opportunities should be investigated further, but this does not necessarily resolve the issue described above.

6.2 Degree of landscape and visual amenity effects

58. The LVA concludes that there will be high to moderate-high effects on landscape character and visual amenity due to construction, with construction likely to take 20 years. This assessment of effects is based on early mitigation planting occurring.⁶³ It is unclear if effects of the Freight Hub are expected to remain high to moderate-high post-construction or if the effects conclusion relates only to construction.
59. I agree with the construction effects conclusion. I also consider that effects on landscape and visual amenity will continue to be high to moderate-high post-construction as the existing rural character of the area will fundamentally change with the presence of the Freight Hub and as the visual amenity of numerous houses will be permanently and extensively impacted.
60. Landscape character and visual amenity effects are extensive, highlighting the importance of early mitigation planting where practicable. If planting

⁶⁰ As directed by the RMA and Horizons One Plan (Objective 6-2 and Policy 6-8).

⁶¹ As directed by the Palmerston North District Plan (Objective 3).

⁶² Paragraph 6.53 Technical Report E.

⁶³ Paragraph 9 Technical Report E.

does not occur early, it is assumed that these effects will increase (the practicalities of early mitigation planting are discussed in more detail below).

6.3 Consideration of cultural and historical values

61. Cultural and historical values have been described for the existing environment,⁶⁴ however, their consideration is absent from the landscape character effects assessment. This appears particularly at odds with the LVA assessment which acknowledges that the Freight Hub is "*In an area with a rich history of settlement for mana whenua*".⁶⁵
62. There are also nine houses, house sites and buildings of known or potential nineteenth century origin located within the designation⁶⁶ which have not been considered as part of the assessment of effects on landscape character.
63. It is my opinion that further assessment of cultural and historical values should be undertaken.

6.4 Consideration of lighting and noise effects

64. Lighting and noise effects are not assessed in the LVA, despite being identified as relevant.⁶⁷ Lighting and noise can affect landscape and natural character, as well as amenity. For instance, the Freight Hub will cause significant noise impacts,⁶⁸ which will adversely affect the sensory experience of the existing, relatively quiet rural environment. While lighting can affect the experience of the night sky.
65. Mr Wright concludes that with appropriate lighting design that lighting effects could be reduced to less than minor and that effects on the natural darkness of the night sky⁶⁹ will be minor (and could be less if Mr Wright's recommendations are implemented).⁷⁰ Therefore, with careful design, lighting may not have a significant effect on landscape character, natural character and visual amenity.

⁶⁴ Paragraph 4.4, 4.5, 4.8 and 4.16 Technical Report E.

⁶⁵ Paragraph 4.8 Technical Report E.

⁶⁶ Paragraph 5.2.7.3 of the AEE.

⁶⁷ Paragraph 6.57 and 6.93 Technical Report E and Section 92 response.

⁶⁸ Refer to evidence of Mr Lloyd for further details.

⁶⁹ The natural darkness of the night sky can be considered a natural character attribute (One Plan Policy 6-8).

⁷⁰ Refer to evidence of Mr Wright for further details.

66. Sensory aspects are primarily addressed through other witnesses dealing with lighting and noise but, nevertheless, consideration of sensory effects on landscape matters should be considered during the detailed design stage, including consideration of lighting design and any mitigating measures to address noise.

6.5 Mitigation measures considered as positive effects

67. Several mitigation measures have been described as positive effects.⁷¹ My understanding is that mitigation involves the reduction or lessening of adverse effects, rather than the creation of positive outcomes. As such, mis-classifying mitigation measures as positive effects has the potential to skew the overall assessment.

68. I consider that greater care needs to be taken when reviewing the potential benefits of proposed design measures, alongside an acknowledgement that the Freight Hub will cause adverse effects and, accordingly, mitigation measures are appropriate to lessen the impact of these effects but are unlikely to turn adverse effects into positive effects.

6.6 Cumulative effects assessment

69. The LVA does not include a cumulative effects assessment for landscape character, natural character or visual amenity.⁷² In my opinion, this is particularly necessary for natural character due to the loss of streams resulting from the Freight Hub and considering Objective 6-2 of the One Plan, which specifies the consideration of cumulative effects on natural character.

6.7 Meeting statutory obligations

70. The LVA refers to relevant statutory provisions, but there is no direct assessment.⁷³ Objective 6-2 and Policy 6-8 of the One plan are relevant to the Freight Hub. Objective 6-2 of the One Plan stipulates that:

b. Adverse effects, including cumulative adverse effects, on the natural character of... rivers... and their margins, are:...

iii. avoided, remedied or mitigated in other areas.

⁷¹ Paragraph 7.1 Technical Report E and Section 92 response.

⁷² Section 92 response.

⁷³ Section 5.0 Technical Report E.

71. Policy 6-8 of the One Plan stipulates that:
- a. The natural character of... wetlands, rivers... and their margins must be preserved and these areas must be protected from inappropriate subdivision, use and development.
72. As noted previously, it is my view that the Freight Hub will result in adverse effects on natural character and I question whether adequate mitigation has or can be provided within the boundaries of the NoR to preserve and protect the natural character of the area.

7 Mitigation and environmental offsetting

73. Several mitigation measures are recommended in the LVA and will be helpful in addressing the adverse effects of the Freight Hub. However, I question the practicality of early mitigation planting and the appropriateness of relying on the NEI Design Guide for detailed design. I elaborate on these questions in the following sections.

7.1 Practicality of early mitigation planting

74. The LVA recommends the early implementation of mitigation planting.⁷⁴ I am not convinced that this will be practical or could occur early enough to effectively mitigate effects of construction and the initial operation of the Freight Hub (particularly along Sangsters Road).
75. Mitigation planting along Sangsters Road will not be able to occur until the NIMT is relocated. Bulk earthworks are likely to be staged west to east, with some cut and fill within the site occurring before the NIMT is relocated, as well as excavation of the stormwater ponds and construction of the perimeter road. Overall, relocating the NIMT forms one of the later steps of construction involving bulk earthworks.⁷⁵
76. As early mitigation planting is heavily relied on to reduce adverse effects on landscape character and visual amenity, which will be high to moderate-high even with early planting,⁷⁶ I recommend the inclusion of conditions which provide specificity on the timing of planting and planting heights.

⁷⁴ Paragraph 6.84 Technical Report E.

⁷⁵ Paragraph 1.3.3.2 Technical Report A.

⁷⁶ Paragraph 6.100 Technical Report E.

7.2 Appropriateness of the NEI Design Guide

77. The NEI Design Guide has been relied on as a resource for addressing detailed design. I agree that there are several design standards in the NEI Design Guide which are appropriate for the design of the Freight Hub, although I recommend building on these to address all key attributes of the designation during detailed design.
78. The NEIZ only accounts for approximately the southern third of the site. The northern extent of the Freight Hub includes residential zoned areas, such as along Maple Street, Stoney Creek Road, Nathan Place and within Bunnythorpe village. Specifications within the NEI Design Guide focus on the industrial/rural interface, whereas these residential areas have a character that differs from that of the NEIZ. These areas will require specific design considerations not addressed through the rural/industrial provisions of the NEI Design Guide.
79. A design framework tailored specifically for the Freight Hub would enable an overarching set of design principles to be established which are applicable to the whole site and for an integrated approach to be undertaken (as the LVA highlighted, this is particularly important along Maple Street regarding the design of noise mitigation⁷⁷).

8 Review of submissions

80. Several submissions are relevant to the LVA, including submissions relating to rural character, natural darkness of the night sky, views, visual graphics, landscape and visual amenity effects, historic values, cultural values, iwi collaboration, community consultation, landscape planting, timing of mitigation planting, planting maintenance, conditions, and alternative options.

8.1 Rural character

81. Several submitters have raised concerns regarding the adverse impacts on rural character, the loss of rural lifestyle, the severity of these effects, and the

⁷⁷ Paragraph 6.92 Technical Report E.

overreliance on the NEIZ as representing the existing environment of the Freight Hub site.⁷⁸

82. It is inevitable that a project of this nature and scale will fundamentally change the rural character of the area. Recognising these effects best enables KiwiRail to ensure that effects are appropriately mitigated and managed. I consider that the character of the site at the NEIZ end differs from the character at the northern extent of the site. Furthermore, even within the NEIZ it appears that the industrial activity of the Freight Hub will be on a larger scale than is typical of the zone.⁷⁹ As such, it would be appropriate to tailor a design framework specific to the Freight Hub that addresses the diverse character of the site, which is an area that represents a transition from industrial to rural and to the cusp of residential, while maintaining an overall rural character.

8.2 Natural darkness of the night sky

83. The loss of enjoyment of stars in the night sky (a benefit of country living) due to light pollution from the Freight Hub is a concern raised by a number of submitters.⁸⁰ The effect of lighting has not been considered in the LVA, an approach I disagree with. However, Mr Wright concludes that effects on the night sky will be minor and could be reduced further with his recommended mitigation measures.⁸¹ I recommend that the Freight Hub conditions include specification regarding lighting design to ensure this outcome is achieved, and for that I rely on Mr Wright.

8.3 Views

84. The effects of the Freight Hub on the views of residents appears to be a contentious issue, with mixed views on whether more screening should be provided to reduce the visibility of the Freight Hub or less screening to retain certain views.⁸² Submitters at 9 Maple Street are concerned that the proposed

⁷⁸ Submitter 1: Sonia and Neal Watson, Submitter 4: Bruce M and Alison M Hill, Submitter 15: Maree Woods, Submitter 57: John David Bryan Austin and Rosealeen Mary Wapp, Submitter 59: Joanne K Whittle, Submitter 70: Renee Louise Thomas-Crowther, Submitter 72: Danelle O'Keeffe and Duane Butts, and Submitter 84: Raewyn Carey.

⁷⁹ Paragraph 6.23 and 6.26 Technical Report E.

⁸⁰ Submitter 2: Warren Bradley, Submitter 7: Rochelle and Rex McGill, Submitter 15: Maree Woods, Submitter 57: John David Bryan Austin and Rosealeen Mary Wapp, Submitter 59: Joanne K Whittle, and Submitter 70: Renee Louise Thomas-Crowther.

⁸¹ Refer to the evidence of Mr Wright for further details.

⁸² Submitter 6: Glen and Karen Woodfield, Submitter 21: Ian Alexander Shaw, Submitter 57: John David Bryan Austin and Rosealeen Mary Wapp, Submitter 64: Sharon Lee Gore, Submitter 70: Renee Louise Thomas-Crowther, and Submitter 82: Christina J Holdaway.

noise mitigation bund will block their views of the hills, windmills and trains.⁸³ It is not entirely clear how the views from individual properties will be affected. The use of visual simulations would assist residents in understanding these effects. I recommend further investigation into the effects from individual properties, and further community consultation during the detailed design process.

85. Concerns regarding the aerial views of the Freight Hub have also been raised as the Freight Hub will be located on the main flight path into Palmerston North.⁸⁴ Primarily the submitter is concerned that the first impression of the Manawatū will be negatively influenced by the large industrial scale of the Freight Hub. It is not unusual for airports to be co-located with industrial or commercial areas due to the nature of their activities (i.e. issues with noise and safety make airports less compatible with residential development). This is already the case in Palmerston North, with the airport being adjacent the NEIZ.

8.4 Visual graphics

86. In the submissions an issue is raised regarding the difficulty of visualising the Freight Hub and, therefore, the ability of giving appropriate community feedback.⁸⁵ As I have discussed previously, visual simulations have not been provided. They are helpful tools for understanding visual effects, particularly for projects of this scale, and their absence is a disadvantage for submitters.

8.5 Landscape and visual amenity effects

87. General concerns regarding the effects of the Freight Hub on the landscape and visual amenity have been highlighted by various submitters,⁸⁶ with a specific concern that KiwiRail has not developed effective methods to avoid, remedy or mitigate these effects to an appropriate level.⁸⁷
88. The Freight Hub will result in high to moderate-high effects on landscape character and visual amenity, with mitigation of these effects partially relying on early mitigation planting, which may not necessarily be practical (especially along Sangsters Road).

⁸³ Submitter 6: Glen and Karen Woodfield.

⁸⁴ Submitter 72: Danelle O'Keeffe and Duane Butts.

⁸⁵ Submitter 59: Joanne K Whittle.

⁸⁶ Submitter 36: Helen S Thompson, Submitter 37: Ian Harvey, Submitter 38: Logan Harvey, Submitter 61: Peter Gore and Dale O'Reilly, and Submitter 90: Justine Jensen.

⁸⁷ Submitter 61: Peter Gore and Dale O'Reilly.

89. Some submissions regard the Freight Hub as improving the visual amenity and ecology of the area.⁸⁸ It appears that these submissions reflect the LVA conclusions that there will be positive effects for landscape character, natural character and visual amenity.⁸⁹ I disagree with these conclusions.

8.6 Historic values

90. Effects on heritage values have been raised as an issue in the submissions. It has been highlighted that potential archaeological sites, and effects on these sites, have not been acknowledged, including potential effects on the historic Glaxo factory.⁹⁰ The AEE notes the Glaxo Factory as a “*physical monument to an important story of technological and commercial development that transcends New Zealand's borders.*”⁹¹ This historic building, along with other potentially historical sites, are not assessed as part of the landscape character effects assessment. It is my view that further consideration be given to historical, and potentially historical, sites and buildings within the designation to appropriately address effects of the Freight Hub on these historic values.

8.7 Cultural values

91. Submitters highlight issues regarding cultural values,⁹² including cultural values not being reflected in the Freight Hub's objectives and design,⁹³ and the need for a cultural impact assessment to be completed.⁹⁴ It is my view that it would be helpful for a cultural impact assessment to be undertaken, as well as further consultation with mana whenua during detailed design, to fully understand landscape character effects and appropriately incorporate cultural values into the Freight Hub design.

⁸⁸ Submitter 23: Mike Tate and Zaneta Park, and Submitter 74: Arthur George Park.

⁸⁹ Paragraph 4, 7, 10, 6.17, 6.27, 6.42, 6.43, 6.44, 6.49, 6.51, 6.52, 6.53, 6.65, 6.75, 6.95, 7.1, 7.2, 7.6 and 7.7 Technical Report E.

⁹⁰ Submitter 61: Peter Gore and Dale O'Reilly.

⁹¹ Paragraph 5.2.7.3 AEE.

⁹² Submitter 51: Manawatu District Council, Submitter 64: Sharon Lee Gore, Submitter 69: Te Ao Turoa Environmental Centre/Bestcare Whakapai Hauora Charitable Trust Mandated Iwi Authority for Rangitāne o Manawatū, and Submitter 81: Dianne M C Tipene.

⁹³ Submitter 96: Te Runanga o Raukawa.

⁹⁴ Submitter 51: Manawatu District Council and Submitter 69: Te Ao Turoa Environmental Centre/Bestcare Whakapai Hauora Charitable Trust Mandated Iwi Authority for Rangitāne o Manawatū.

8.8 Iwi collaboration

92. Iwi collaboration has been identified as a topic in the submissions,⁹⁵ with requests that iwi who hold mana whenua over the area to be able to work collaboratively with KiwiRail on the Freight Hub design.⁹⁶ The project includes conditions which provide for engagement with mana whenua on design,⁹⁷ this is one option for addressing this issue.

8.9 Community consultation

93. Some submissions raise concerns over lack of consultation.⁹⁸ The LVA acknowledges that further investigation is required for addressing visual amenity effects for individual residences, and I consider that additional consultation with these residents and the wider community is necessary.

8.10 Landscape planting

94. Several submitters support the planting of native trees as part of the Freight Hub,⁹⁹ while one submitter has concerns that the Freight Hub will result in the loss of trees.¹⁰⁰ While a small number of existing trees may need to be removed, overall, the proposed mitigation planting will increase the density of planting in the area. Landscape planting will be helpful in mitigating some effects of the Freight Hub, however, the landscape character of the area will fundamentally change, with high to moderate-high effects assessed for landscape character and visual amenity, even with landscape planting. I recommend conditions specifying the early implementation of planting, as far as practicably possible.

8.11 Timing of mitigation planting

95. The importance of implementing mitigation planting early is identified in the submissions.¹⁰¹ Early mitigation planting is particularly important for screening

⁹⁵ Submitter 14: Nga Kaitiaki O Ngati Kauwhata Incorporated, Submitter 49: Ngati Turanga, Submitter 66: Andrew Wotton, and Submitter 69: Te Ao Turoa Environmental Centre/Bestcare Whakapai Hauora Charitable Trust Mandated Iwi Authority for Rangitāne o Manawatū.

⁹⁶ Submitter 14: Nga Kaitiaki O Ngati Kauwhata Incorporated, Submitter 49: Ngati Turanga, and Submitter 96: Te Runanga o Raukawa.

⁹⁷ Appendix C (updated s92), Condition 26-28.

⁹⁸ Submitter 6: Glen and Karen Woodfield, and Submitter 72: Danelle O'Keeffe and Duane Butts.

⁹⁹ Submitter 23: Mike Tate and Zaneta Park, Submitter 57: John David Bryan Austin and Rosealeen Mary Wapp, and Submitter 74: Arthur George Park.

¹⁰⁰ Submitter 22: Fiona Hurly.

¹⁰¹ Submitter 57: John David Bryan Austin and Rosaleen Mary Wapp.

the noise barrier wall, earthworks, buildings, and other structures. I recommend conditions regarding timing of planting to ensure plants are of a height to mitigate the adverse effects of buildings once they are constructed.

8.12 Planting maintenance

96. One submitter highlights the current issue of maintenance along railway lines, with weeds often being present.¹⁰² The NEI Design Guide specifies ongoing maintenance of buffer areas. This standard is appropriate for this project and I recommend that this is captured in the Freight Hub conditions.

8.13 Conditions

97. Some submitters have identified issues regarding the conditions,¹⁰³ including the need for specific, measurable and monitorable conditions to address adverse effects, including those on landscape and amenity values, so that effects are appropriately mitigated to meet relevant objectives and policies.¹⁰⁴ I recommend that the Freight Hub conditions are strengthened so that adverse effects of the Freight Hub on landscape character, natural character and visual amenity are appropriately mitigated and managed (I elaborate on my recommendations further below).

8.14 Alternative options

98. In the submissions, questions have been raised regarding the assessment of alternatives, with one submitter stating that KiwiRail has not given consistent consideration to the visual and landscape components between Option 3 and Option 4.¹⁰⁵ I am limited in my ability to comment on the various alternative options having not carried out site visits to the alternative locations. However, in my view the Freight Hub would result in fundamental changes to any of these sites due to the scale and nature of the project. As such, I have provided several recommended conditions which address the effects of the Freight Hub on the landscape.

¹⁰² Submitter 57: John David Bryan Austin and Rosaleen Mary Wapp.

¹⁰³ Submitter 57: John David Bryan Austin and Rosaleen Mary Wapp, and Submitter 59: Joanne K Whittle.

¹⁰⁴ Submitter 59: Joanne K Whittle.

¹⁰⁵ Submitter 72: Danelle O'Keeffe and Duane Butts.

9 Draft Requirement Conditions

99. Several recommendations and desired design outcomes have been provided in the LVA,¹⁰⁶ however, these are not clearly incorporated into the draft conditions advanced by KiwiRail. I recommend that the mitigation measures suggested in the LVA are incorporated into the conditions to ensure they are considered during detailed design.

9.1 Design framework

100. Several of the issues I have raised correlate with matters highlighted in Ms Linzey's evidence. Together with Ms Linzey I recommend the creation of a design framework specific to the Freight Hub which would provide an opportunity for an integrated, iterative approach to addressing potential effects identified by the various specialists (including social, noise, lighting and transport), as well as landscape effects.
101. I consider that such a framework would ideally be presently available to enable comment to be made on the framework as part of the s42A Planning Assessment. It is my view that prioritisation of the creation of the design framework is important for addressing issues raised regarding design development and mitigation.
102. A key benefit of the design framework is that it could provide an opportunity to address issues raised regarding the appropriateness of proposed mitigation measures, the uncertainty of the project, and to resolve matters relating to consultation and affected properties, as well as historic and cultural values. A design framework would set out the overarching design principles that would shape the project and enable specific design responses to be developed over time as KiwiRail progress with design and project stages.
103. As such, I recommend establishing guiding design principles which inform or define outcomes of the developed design, including construction phases and staged development.
104. The expectation, which can be reinforced by conditions on the designation, is that principles and outcomes established in the design framework will be a guiding document used to inform the design, construction and operation of

¹⁰⁶ Paragraph 10, 11, 6.25, 6.53, 6.6, 6.77, 6.84 and 7.8 Technical Report E and Section 92 response.

the site at various stages, which will need to be demonstrated in the various management plans and outline plans for the designation.

105. At a minimum, Ms Linzey and I consider that establishing design principles and outcomes for elaboration and inclusion within the design framework should address the principles expressed below:

- Whole of landscape approach to appropriately integrate the Freight Hub with its immediate and wider landscape setting.
- Maximisation of beneficial outcomes for natural character, rural character and visual amenity, to complement a high quality landscape.
- Maintenance and/or enhancement of amenity values in the wider landscape, including the sensory appreciation of the rural landscape (including but not limited to visual aspects).
- Noise mitigation measures and the potential outcomes of such measures, to have particular regard of visual amenity, outlook and privacy, and landscape character.
- Integrated lighting design, to have particular regard of visual amenity, landscape character and natural darkness of the night sky.
- Building and structure design to reflect the rural character of the context.
- Community identity and place, including opportunities to reflect the context of place and/or cultural and historical values of place.
- Community connectivity through and around the site.
- Pedestrian and cycle access around the site and to/from the Bunnythorpe community area.

106. I consider that mana whenua should also be provided the opportunity to have input into the guiding principles of the design framework, to ensure cultural values are appropriately addressed (noting that a cultural impact assessment has not been carried out to date).

9.2 Landscape plan

107. I recommend several additional conditions to address issues I have raised, including the following (noting that some of these matters may be appropriate matters to be included within the Landscape plan, while others may be appropriate as discrete conditions):

- The Landscape Plan shall reflect the design principles and design outcomes contained in the design framework.
- Earthworks shall integrate with surrounding, existing contours as far as practicable and shall be of a suitable gradient to enable planting where proposed planting is specified.
- Any proposed new landscape or visual amenity planting shall be implemented as soon as reasonably practicable and completed before the construction of buildings within the designation.
- Require minimum building setbacks of 30 metres along Richardsons Line, and 8 metres along Railway Road and Roberts Line. Require minimum building setbacks from the new perimeter road or marshalling yard of 40 metres.
- The design of noise mitigation structures (including the height, material, finishing details and location of structures) shall have minimum effects on landscape character and visual amenity.
- Mitigation planting shall be planted in front of all noise mitigation walls and shall include taller species at the wall edge of the planting area, with lower growing shrubs and groundcovers at the exterior edge of the planting to allow an impression of open space when viewed from outside the Freight Hub.
- All planting and fencing shall be maintained to a high standard by KiwiRail at all times to complement a high quality image (including but not limited to: weed control, removal of litter and vandalism, maintenance of plants to ensure clear pathways and sightlines, replacement of dead plants).
- Building profiles and rooflines shall be consistent with rural architecture.

- Connections shall be provided between the designation footpaths and cycleways with local linkages or paths outside the designation.
- At least one naturalised water channel shall be constructed within the designation, which has a minimum length of 445m, and shall be designed to mitigate adverse effects on ecology and natural character.
- Stormwater ponds shall be designed to appear as natural features and to enhance local biodiversity as far as practicable.
- Adverse effects on archaeological sites, historic buildings and potentially historic buildings within the designation shall be mitigated.
- Adverse effects on natural character shall be investigated further and mitigation measures implemented to ensure natural character is preserved and protected.
- Adverse effects on visual amenity shall be mitigated, including, but not limited to, between Richardson's Line to 873 Roberts Line, properties along Te Ngaio Road east of Maple Street, Maple Street, 163 Clevely Line west, and residential properties directly alongside the NIMT.

9.3 Planting establishment plan

108. I recommend the following regarding a Planting Establishment Plan.
109. A Planting Establishment Plan must be provided prior to commencement of construction and must demonstrate how the following requirements will be met:
- all proposed new landscape or visual amenity planting (other than planting along Sangsters Road) shall be completed at least three (3) years in advance of bulk earthworks associated with construction of the Freight Hub floor.
 - all proposed new landscape or visual amenity planting along Sangsters Road shall be completed prior to bulk earthworks associated with construction of the Freight Hub floor commencing.

- all proposed new planting shall commence in the first planting season following the completion of each stage, or discrete location of, construction works.
- as a minimum, trees must reach a height at maturity of 10 metres and shrubs to reach a minimum height at maturity of 6 metres, except where these could create adverse effects to the National Grid within the designation.
- all planting must achieve at least an 80 percent canopy cover, with at least 70 percent of tall tree species reaching a height of 10 metres, within 10 years of being planted.¹⁰⁷

110. Further, the Planting Establishment Plan shall:

- Specify plant size (at time of planting), numbers of each species, plant location and plant spacings.
- Specify planting methods, including ground preparation, mulching and any trials.
- Specify appropriate plant and animal pest management strategies.
- Specify growing conditions that will ensure the successful establishment, growth and on-going viability of planting.

10 Conclusions

111. I have identified several issues regarding the assessment of effects on landscape character, natural character and visual amenity. It is my view that although the selected site is not necessarily an inappropriate location for the Freight Hub, the landscape will fundamentally change due to the scale and nature of the activity in the proposed rural setting. The Freight Hub will cause extensive adverse effects that will require appropriate mitigation and management.

112. Accordingly, I disagree that the Freight Hub will result in positive effects, and I disagree with the positive moderate natural character effects conclusion of

¹⁰⁷ Paragraph 6.64 and 6.82 Technical Report E.

the LVA. I consider that these positive conclusions have the potential to be misleading and to result in inadequate mitigation recommendations. I have recommended several additional conditions to address some of the issues I have raised throughout my evidence.

A handwritten signature in black ink, reading "Chantal Whitby". The signature is written in a cursive style with a large initial 'C' and 'W'.

Chantal Whitby

18 June 2021