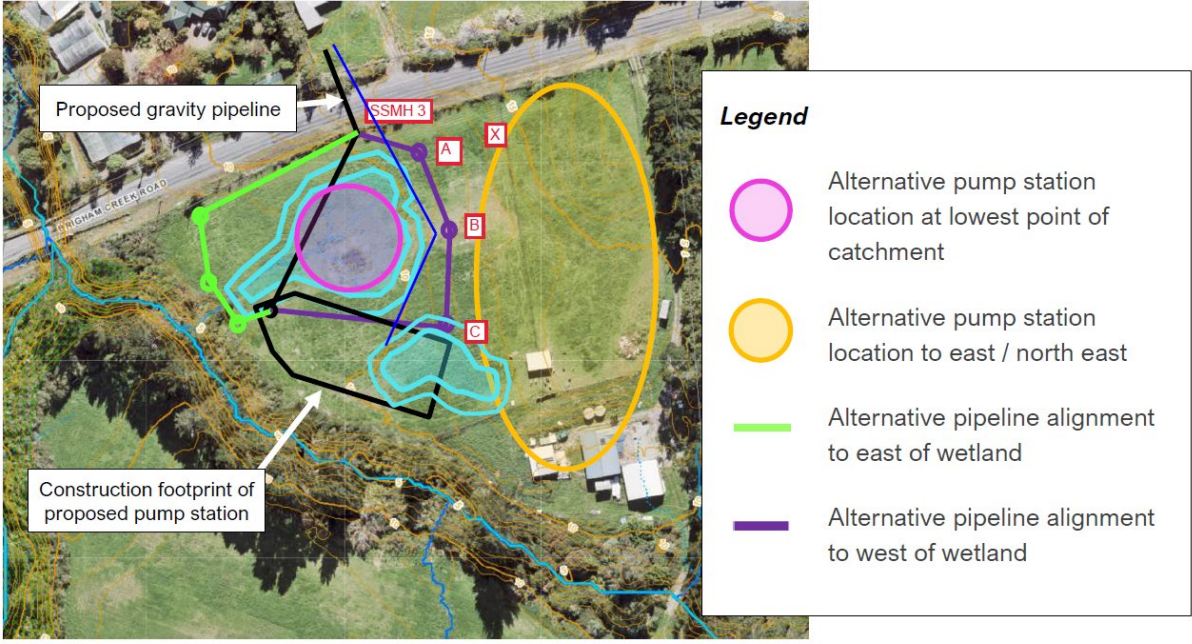


Attachment 1:
**Further information requested under Section 92 of the Resource
Management Act 1991**

#	Category of information	Specific Request	Reasons for request
Transport			
TRA1 – TRA7	Transport	Appendix 1 to this request relates to Transport matters. There are seven requests, please provide a response to all five requests.	<i>The reasons for the seven requests can found in Appendix 1 of Appendix 1.</i>
Engineering			
	Engineering	Greg Hall, Senior Development Engineer Comment: The Functional Need memorandum appears to make statements with regard to the assessment of the east of Wetland C route, but does not seem to be supported by a specialist and I consider there are potential inconsistencies. The Requiring Authority states that a layout as per Figure 3 would be required to route the pipeline east of the wetland.	

#	Category of information	Specific Request	Reasons for request
		 Figure 3. Considerations for pump station and gravity pipeline location	The Requiring Authority states that this will make the pipeline 3 metres deeper, and that the construction would then be 7m deep. However, from the above, 'Manhole A' is shown on the 11m contour, manhole B is at about 11.7m and manhole C about 11.5m, but this is at a completely unrealistic location as it should be further to the west. From the design drawing MH, manhole 'A' would have an invert level of about 6.70m. Therefore the depth of this manhole would be around 4.3m. This is a long way short of the stated 7.0m. For manhole 'A' to be at 7m deep it would need to be at RL 13.7; or around Location X.

#	Category of information	Specific Request	Reasons for request
		At a depth of 4.3m a trench shield can be used to minimise trench width, and therefore benching is unlikely to be required. Therefore the alignment shown, could likely move closer to the wetland, noting also the difference between the wetland boundary and the 1% AEP boundary. This would potentially mean that the 4.3m depth is likely to be less than 4m if the Requiring Authority were to attempt to make this design efficient. It is noted that throughout the alignment most manholes and trench lines are around 3m deep, so a 4m deep manhole is not exceptional. The deepest manhole is SSMH-4 at about 5.5m. It is noted that SSMH-3 if left in its current position, would likely need to be raised to the same depth due to the widening of Brigham Creek Road. The Requiring Authority state that an eastern alignment would require 3 additional manholes. However, it would be perfectly feasible to have an alignment from SSMH-3 to approximately 'B', and then into the WSL owned land, which would then only require one additional manhole. Alternatively, laying away from the BCR crossing without installing SSMH-3, could allow for no additional manholes, and remove the need for the extra deep SSMH-3. It is possible to reposition the pump station structures, including the inlet manhole based on what suits an eastern route, so the assumption of a western inlet manhole gives the longest possible gravity pipe, but this could be shorter. A rearrangement of pump station structures may be necessary anyway due to the discovery of Wetland D. This may also shorten the rising main length which would be a positive benefit, and offset any additional length of gravity main, which is likely to only slightly add to the depth of the station. If this were really a substantial factor, WSL could look at 'shallowing up' opportunities back at the existing pump station area. Therefore, I have concerns that the location of the pump station is not supported by a functional requirement assessment that demonstrates that alternative locations aren't possible.	

#	Category of information	Specific Request	Reasons for request
ENG1	Engineering	Can you please consider the comments above, and reconsider the functional requirement for the location East of the wetland. Please include pipe route, including consideration of rearranging structures within the WSL pump station land in this assessment.	<i>To ensure a complete assessment has been considered.</i>
ENG2	Engineering	It appears that bringing in power and water supply from the alignment of the new Spedding Road and through the ROW area may be a better long term option, which would also avoid these services going through the toe of Wetland C. Can this please be considered? If not why not.	<i>The request it to ensure a complete assessment has been considered</i>
ENG3	Engineering and Planning	The functional requirement memorandum has BECA and Watercare in the header. Can you please clarify who prepared the memo, and provide the specialists who contributed?	<i>Currently, it has an employee from Watercare as the author, and I have concerns about the independence of the document.</i>
ENG4	Planning	Please provide an analysis against Auckland Unitary Plan RPS Chapter B7 Toitū te whenua, toitū te taiao – Natural resources, provided this application will modify multiple wetlands.	<i>To ensure a complete assessment has been considered</i>

#	Category of information	Specific Request	Reasons for request
Ecology			
Eco1	Ecology	Please update the ecological assessment and AEE to acknowledge the Significant Ecological Area (and Significant Natural Area under the National Policy Statement on Indigenous biodiversity). A consequential assessment may be required. Please update the fauna assessment and provide the surveys; to identify lizards and bat habitats that are likely to need management plan(s). Please include controls (standards) to manage the effects on the bats, for example, exterior lighting (e.g. security / flood lighting) and noise management.	<i>Private Plan Change 69: Spedding Road Block, identified critically endangered long-tailed bats in the vicinity of the construction and operational areas. The Precinct implemented controls (standards) to manage the effects on the bats, for example, lighting and noise management.</i>