Following receipt of the request for further information from Auckland Council, dated 6 September 2017, this Memo provides a response to the questions raised in relation to Archaeological Effects. Please refer to the table below for our responses.

<table>
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<tr>
<th>Further Information Requested</th>
<th>Reason for the Request</th>
<th>Clough &amp; Associates Response</th>
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<td>Provide detailed archaeological assessment for the land to the south of the existing runway (western end), in the vicinity of and inland from R11/847.</td>
<td>There does not appear to be any concerted assessment of values or effects of the area to the south of the existing designation, at the western end of the propose runway. Assessment has focused on areas to the north, east and west of the existing runway designation. This is reflected in the results section (Page 9 Paragraph 4) “However, while sites R11/859, R11/860 and R11/2292 have been investigated as part of the earlier earthworks, the area to the north of those earthworks will still contain intact features which may be affected by the 72 m northward shift of the Proposed Northern Runway.” and is also reflected in</td>
<td>In paragraph 5 of the Executive Summary it is stated that: The 11 sites within the existing designation are: R11/847, R11/848, R11/859, R11/860, R11/1793, R11/2273, R11/2292, R11/2334, R11/2348, R11/2358, and R11/2570. Site R11/847 is recorded as a midden exposed in cliff face and at the end of the beach. Louise Furey, who recorded the site, identified midden only and there was no discussion of any other features. The GPS polygon measuring some 300m by 70m defines the approximate extent of visible midden only. An earlier visit by archaeologist, Sue Bulmer,</td>
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the distribution of geophysical survey (Figure 9).
R11/847 is recorded to the south of the existing designation, at the western end (Table 1 and Figure 3), and assessment has not considered in any detail whether there is associated unrecorded material inland of this record, and lack of detailed assessment of this area is also reflected in the distribution of geophysical survey carried out (Figure 9).

Given that previous assessment (Addendum report dated July 2016) noted previous archaeological investigation nearby “of regional and national significance”, including a large burial ground, this seems to be a serious gap.

originally noted terraces in addition to the midden. Given the existing knowledge of the area, it would be expected that the site extends beyond the defined polygon (depicted in Figure 3 of the AEE). However, different topography (greater slope) and slightly more difficult access to the harbour relative to site R11/859 and the lack of any indication of defended settlement such as to the north of R11/859, the expectation would be for less intense open settlement than that investigated in site R11/859.

The bulk of known site R11/847, lies outside of the designation and is coastal in known distribution. If the site contains similar material to R11/859 it would be considered of moderate to high significance but as only a small part of the known site extents falls within the current application area, effects would be limited.

There is potential for further remains to be located inland of the recorded site but these are likely to be less complex (see below). During the detailed planning phases of the project, consideration would be given as to whether any works could be carried out in such a way as to avoid the known extent of that part of site R11/847 that is within the designation. Any earthworks in this vicinity would require an authority from Heritage NZ, a detailed methodology and involve further iwi consultation.
The reference to the Northern Runway Development (NRD) site (NRD sites R11/2292 and R11/859) as being of regional and national significance was taken from the investigation reports prepared by CFG Heritage. However, that site has already been largely excavated (see below) and it is not known what if any of the site has survived. Additionally, the site (and any attributed significance) has no known relationship with any of the recorded sites in the surrounding area.

| Provide factual information to support the statement that “much” of the archaeology at the western end of the designation for the runway has been previously removed. | There was a very significant investigation at R11/856 which removed a lot of archaeological material, but it does not follow from the information provided that this constitutes “much” of the archaeology. This was the abundant material in the path of previous works, and suggests that extreme caution should be exercised in assessing remaining values. Assessment to date seems to have focused only to the west, north and east of the existing runway designation, and not to the south, where substantial material is on record as R11/847. The NZAA record notes that this was visited and updated on 01/03/2010, with condition recorded as “good”. Dr Louse Furey, who updated the record at that time, described the extent as “The GPS polygon defines the extent of the visible midden - approximate only”. In the | The context for the “much” quote is as follows: “There has already been extensive modification within the NRD site within the Designated Northern Runway, removing much of the archaeology that was once present, including the very significant site R11/589…” (pg.20 of Archaeological AEE) The site in question is actually R11/859. However, the context of the comment indicates it refers to the previous NRD excavations which dealt with sites R11/859 and R11/2292. The site record for R11/2292 states it is partially modified. The final report for the excavation notes that areas AD1, AD2, and J were excavated. It is unclear what remains, however Areas AD1 and 2 are some 980m apart and therefore the site number appears to have been used as a catchall for isolated |
The absence of concerted assessment of R11/847, beyond that available from a brief inspection in 2010, surface only, the relative quantity of archaeological material removed vs remaining cannot be considered factual, and the facts provided do not support the use of the word "much". How much remains?

The site record form for R11/859 states that areas B and C were partially excavated. The final report notes that areas C and D were partially excavated as a bund ran along the seaward side of the sites. It is unclear if B was fully or partially excavated. This is because the SRF states that “Only Areas ‘B’ and ‘C’ remain”, however the Final report is not explicit as to the extent of excavation. Only stating “Features and burials continued right up to the edge of the dune that drops approximately 2 m down to the beach, indicating that an unknown portion of the site may have been lost to coastal erosion in the past. ‘The burials in Area B were much more dispersed than in Area A and, where midden was present, Squares were excavated for up to 10 m past each known burial to ensure that no graves were missed’. (Campbell 2011, p.39) However as the excavation ran right up to the active dune edge, if there was any remaining material then it must have been beneath the coastal bund. Areas A, E, F, G, H, and I were all fully excavated. (See attached plan). As the bulk of these areas were excavated the term ‘much of’ is appropriate in reference to the removal of the archaeology remains of the NRD site within the Designated Northern Runway.
| Provide details on archaeological potential to the south of the existing runway earthworks, inland of R11/847. | There is inconsistency in the assessment of effects. On the one hand it is stated that the runway is going to be extended 72m to the north, and on the other it is stated that it must be assumed all areas within the designation will be earth worked. Given the large burial ground discovered at the western end of the previous works, this is a substantive issue. (See for example Page 23 Paragraph 1) | AIAL holds two existing regional earthworks resource consent that cover the entire area of Designation 1100. Accordingly, it is can be assumed that the entire area of Designation 1100 will be earthworked regardless of the final alignment of the Northern Runway. As above, 847 is of moderate size with potential for remains similar in nature to 859 although much more limited in extent. The extent defined in the site record indicates that a very small portion of this site falls within the designation and any earthworks has the potential to expose archaeology. The potential for archaeological remains to be found inland of this is unknown, but from our experience of this area would suggest some potential although moving away from the coast the general pattern is for less complex more intermittent remains. Where archaeological investigation has occurred in the general area, the upper levels of archaeological remains have been ploughed out (even more so in areas of market gardening) and only the deeper features of early settlement remain, such as storage pits, post holes and hangi and drains. The further removed from the recorded site, the fewer remains would be expected. Any work in these areas would require an authority from Heritage NZ along with iwi consultation. |
Figure 1: Plan showing the NRD site and excavated Areas. (Figure taken from Campbell, M. 2011. The NRD Site. Vol. I. The Archaeology. CFG Heritage Ltd report to the Heritage NZ and Auckland International Airport Ltd., Figure 3.2, p.24).
Figure 2: Plan showing area AD1 and 2 and J. (Figure taken from Campbell, M. 2011. The NRD Site. Vol. I. The Archaeology. CFG Heritage Ltd report to the Heritage NZ and Auckland International Airport Ltd., Figure 3.42, p.64).