MEMORANDUM

Bioresearches
A Babbage Company

TO:	Aedifice Development Limited	Date:	5 May 2021
COPY TO:	Nick Mattison, Civix	Job No:	63905
FROM:	Mark Delaney, Senior Ecologist		

4 SCOTT ROAD – ECOLOGY ASSESSMENT

Introduction

Aedifice Development Limited are proposing a residential development[1] at 4 Scott Road, Hobsonville (Site). This memorandum provides a high-level assessment of ecological effects for the aforementioned development.

Methodology

An initial site visit was undertaken by an experience ecologist on October 21st, 2020. Botanic and terrestrial fauna values within the Site were qualitatively assessed. Fauna habitats assessed considered indigenous lizards, birds, and bats. Overland flow paths / watercourses were classified under the Auckland Unitary Plan - Operative in Part (AUP-OP) to determine, in accordance with the definitions in this plan, the ephemeral, intermittent or permanent status of these watercourses. Wetlands were identified within the Site as per the definitions and criteria laid out in the National Policy Statement for Freshwater Management 2020 (NPS-FM). The aquatic habitat was then qualitatively assessed. The identified ecological features within the Site are presented in Appendix I and photos of these features are provided in Appendix II.

Existing Environment

Background and Ecosystem Classification

The Site is within the Tāmaki Ecological District of the Auckland Region. Historically (pre-human), the area would have comprised the forest ecosystem type of pūriri forest (WF7-1) and would have supported a diverse range of invertebrates, amphibians, reptiles, birds and bats (Singers et al., 2017). WF12 ecosystems have a regional International Union for Conservation of Nature (IUCN) threat status of "Critically Endangered". Earliest historical aerials available, indicate that the Site and much of the surrounding landscape has been devoid of native vegetation and managed as agricultural land for at least the last 80 years (Appendix III).

[1] Proposed Masterplan, Drawing no. 2448-00-13, prepared by Brown Day Group

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Currently, the Site consists of managed pasture, two dwellings, farm outbuildings and a mix of exotic and native vegetation. The Site does not support a recognised current terrestrial ecosystem type, as classified under the AUP OP: Biodiversity current extent and is not subject to any Significant Ecological Area (SEA) overlay.

The Site is surrounded by a mixture of residential development and agricultural land and the coastal marine area to the south-west. The surrounding agricultural land is zoned for residential.

Terrestrial Ecology

The site predominately consists of managed pasture with associated exotic shelterbelts and amenity plantings surrounding the dwellings. Along the southwestern boundary a stand of mature exotic and native trees runs along the coastal edge which transitions into the coastal marine environment. The coastal marine environment consists of salt marshes and a mangrove estuary, some of which is located within the Site boundary.

The botanical value of the native trees along the coastal edge was low, consisting of scattered common native trees (e.g. tōtara, mānuka and kānuka) with a damaged understorey. Although some of the native trees were mature, they provide overall low-quality fauna habitat due to the lack of complexity, high edge effects and low terrestrial connectivity. However, this vegetation does provide buffering functions to the more sensitive marine, wetland and stream environments and constitutes a part of a high value ecotone (transition areas between ecosystems, i.e. estuary-saltmarsh-wetland-stream-terrestrial transition).

Freshwater Ecology

One stream and one natural wetland was identified within the Site. The stream originates as an intermittent stream within the southern corner of the Site and transitions into a natural wetland with a permanent stream channel. The wetland and stream were considered of moderate-high ecological value due to their context on a national scale and their role in the localised ecotone.

All other overland flow paths were classified as ephemeral reaches, due to their lack of; defined channel, flowing water, pools and substrate sorting processes. Additionally, terrestrial vegetation (pasture), was established within the ill-defined channels.

An area located in the north-western corner of the Site has visible surface water evident within aerials dating back to approximately 2008. Prior to 2008, there is no indication of surface water however this may be due to the season in which the aerial photographs were taken. Due to the presence of the surface water, this area was further assessed. At the time of the site visit no surface water was evident but a slight depression in the land was visible (Appendix II). The area was completely surrounded by exotic pasture species and within the area nine plant species were identified (Table 1).

In regards to plant species wetland indicator status ratings[2], of the nine identified species; four species are classified as 'facultative upland', two species are classified as 'facultative' and the remaining three species have no classification. The three non-classified species are terrestrial plants not considered associated with wetlands and as such should be considered 'facultative upland'. The two 'facultative' species are associated with the coastal environment rather than the freshwater environment. Five of the identified species are coastal transition plants with a high salt tolerance. No native species were identified and all species are considered weeds. Due to the dominance of 'facultative upland' species (≈75%) and the complete lack of 'facultative wetland' or 'obligate wetland' species this area was not assessed as a wetland under the NPS-FM. It is evident, by the abundance and diversity of salt tolerant plant species present, that this area is somehow influence by the marine environment, possibly by the groundwater.

No other natural wetlands were identified within the Site, with other potential areas defined as improved pasture as per the NPS-FM.

Table 1. Plant species within the area located in the north-western corner of the Site.

Scientific Name	Common Name	Wetland Rating[2]	Salt Tolerant	Native
Anagallis arvenis	Scarlet pimpernel	Facultative upland	Yes	No
Atriplex prostrata	Orache	Facultative upland	Yes	No
Cakile sp.	Sea rocket	N/A	Yes	No
Helminthotheca echioides	Oxtongue	N/A		No
Lotus suaveolens	Hairy birdsfoot trefoil	N/A		No
Plantago coronopus	Buck's-horn plantain	Facultative	Yes	No
Senecio bipinnatisectus	Australian fireweed	Facultative upland		No
Sonchus asper	Prickly sowthistle	Facultative upland		No
Symphyotrichum subulatum	Sea aster	Facultative	Yes	No

Estuarine Ecology

Two salt marsh areas were identified within the site, both of which transitioned into a mangrove estuary. The salt marshes are considered part of the estuarine environment and as such the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F) do not apply[3]. The salt marshes were considered of high ecological value, due to their local rarity and role as an ecotone.

[2] Clarkson BR, Champion PD, Johnson PN, Bodmin KA, Forester I, Gerbeaux P, Reeves PN 2013. Wetland indicator status ratings for New Zealand species. Landcare Research, Hamilton.

[3] Bay of Islands Maritime Park Incorporated v Northland Regional Council [2021] NZENVC 006.

Assessment of Ecological Effects

It is intended that all the native trees within the proposed reserves along the coastal edge will be retained. Additionally, the identified salt marshes, natural wetland and stream are proposed to be retained. As such, there will be no direct adverse effects (i.e. removal/reclamation) on these ecosystems.

Indirect adverse effects, such as sedimentation and stormwater contaminants, are proposed to be adequately mitigated through appropriate controls and following best practice guidelines, to ensure adverse effects on aquatic life are no more than minor.

Earthworks are proposed within 100m of the natural wetland, however the proposed earthworks and development are to be designed and/or mitigated to ensure there is no partial drainage of the natural wetland. I have also reviewed the Wetland Hydrological Assessment[4] report and I am in agreement with the report's assessment and recommendations.

Vegetation removal may occur within 10m of the wetland, stream and saltmarshes, however this will be for the purpose of restoration and will target exotic and pest plant species. No building infringements within the riparian yards are proposed.

The proposed development of the Site is consistent with the outcomes expected of the NES-F and the NPS-FM and will allow for the protection and enhancement of the identified ecological features, including the wetland, stream and saltmarshes, providing for an overall net biodiversity gain.

A more comprehensive ecological assessment will be provided to support the development application, at the expert consenting panel stage, which will further assess the potential indirect adverse effects and detail the proposed ecological enhancement actions.

Regards,

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[4] Wetland Hydrological Assessment, prepared by Babbage, dated 31 March 2021.

Appendix I: Identified Ecological Features

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Appendix II: Photos of Identified Ecological Features

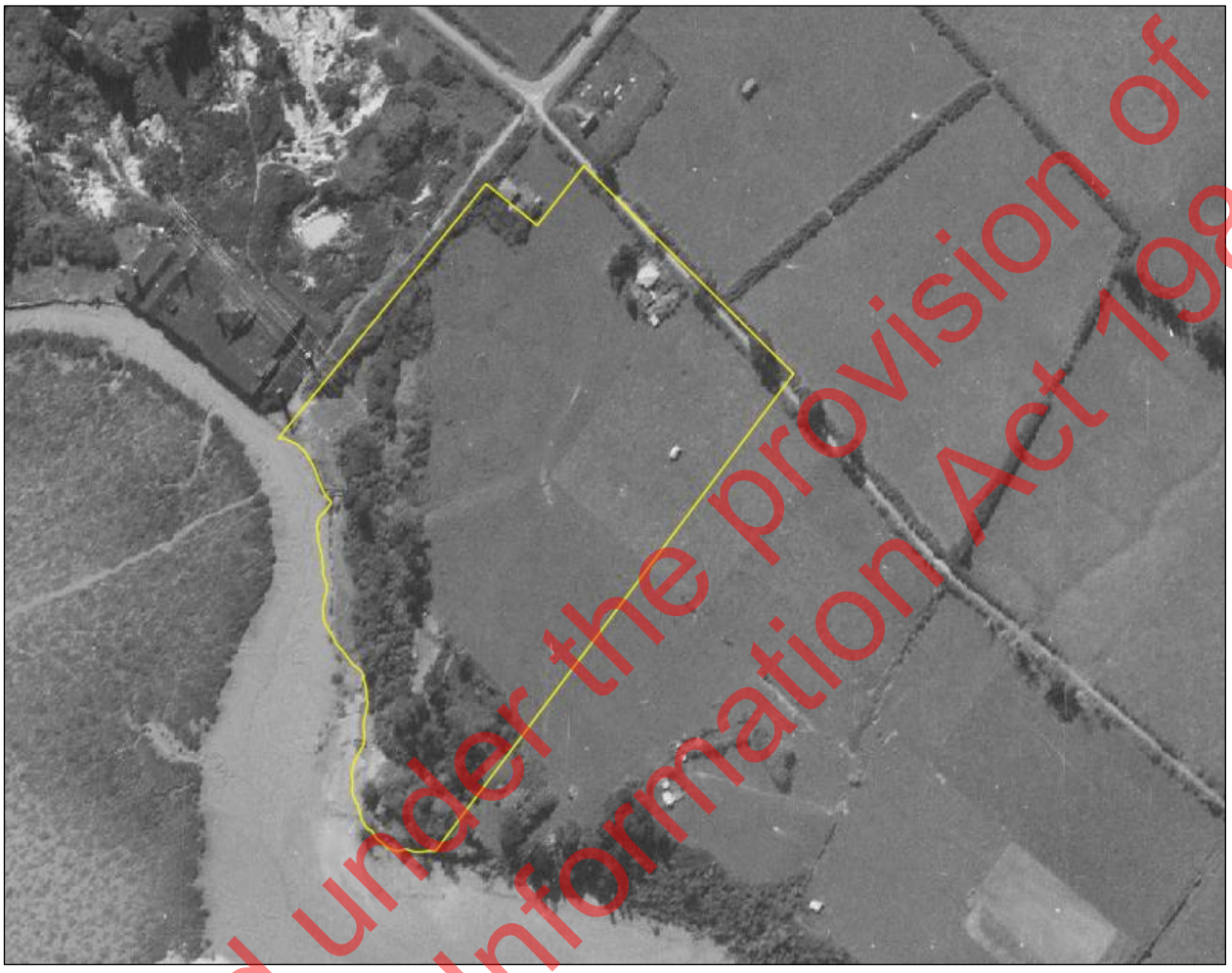
Exotic and native vegetation along the coastal edge.

Stream and natural wetland.


The area located in the north-western corner of the Site that had visible surface within historical aerials.


Two salt marshes.

Appendix III: 1940 Aerial Image



*Base image sourced from Retrolense. Yellow polygon represents the approximate Site boundary.