

April 25th, 2025
Auckland Council

In the matter of:

Watercourse Classification and Natural Inland Wetland Identification – 1799A Great South Road, Bombay – Lot 6 DP 156089

Vernon Development Ltd (‘the Client’) engaged Rural Design 1984 Ltd (RDL) to undertake a watercourse and wetland assessment at 1799A Great South Road, Bombay (Lot 6 DP 156089), hereafter referred to as ‘the subject site’ (as shown in Figure 1). The subject site is zoned ‘Mixed Rural Zone’ under the Auckland Unitary Plan (Operative in Part) [AUP(OP)], with a small portion of the western aspect of the property falling within an ‘Outstanding Natural Feature’ overlay. Additionally, the northern boundary adjoins an existing Significant Ecological Area (SEA_T_4513).

The Client requested a classification and delineation of overland flow paths, based on Auckland Council’s GeoMaps catchment and hydrology datasets to be carried out. A site visit was conducted on 16 January 2025, and the following sections provide a summary of our key observations.

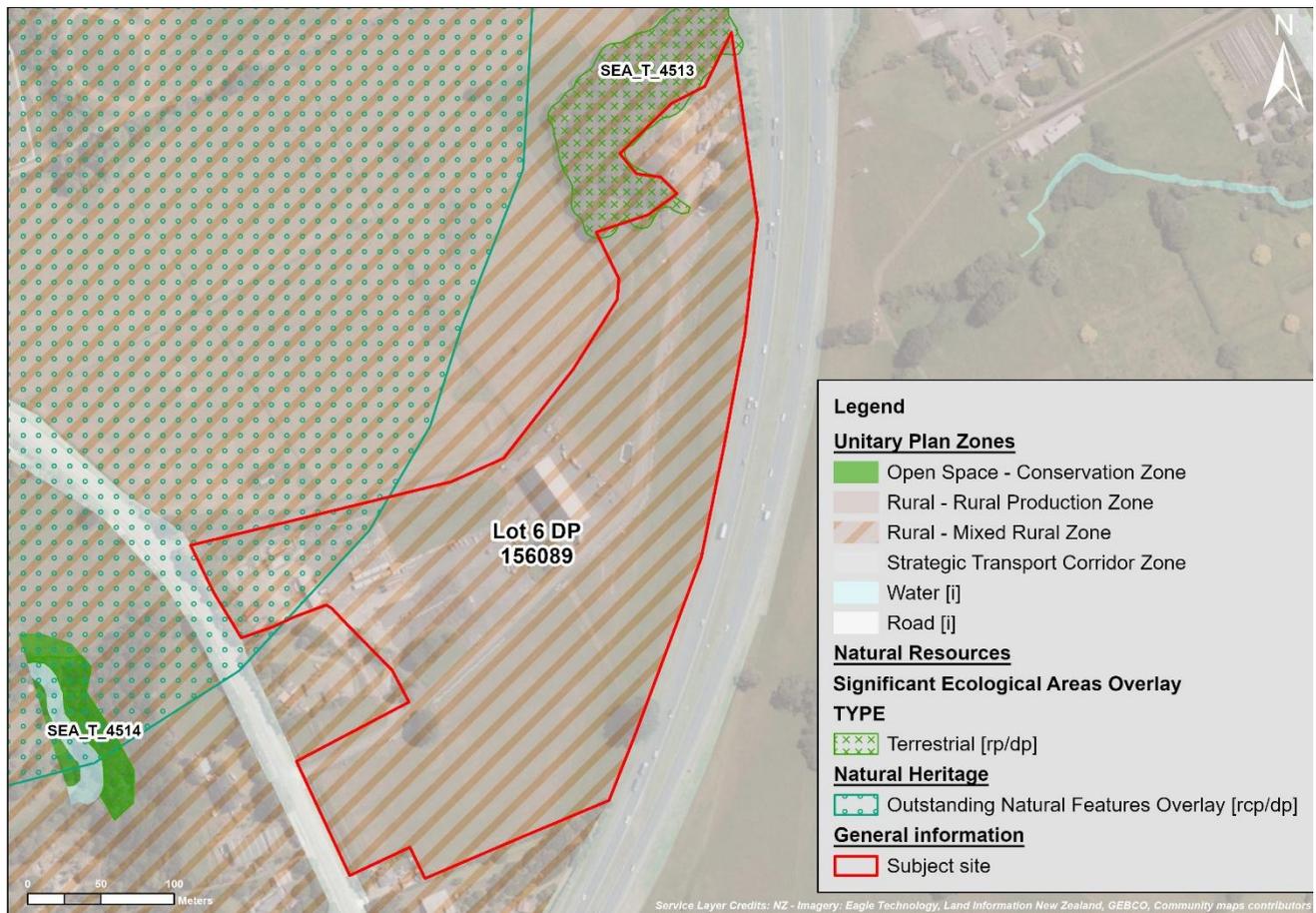


Figure 1: Showing the subject site and associated overlays (AUP(OP))

Watercourse classification (AUP-OP)

Auckland Council's Open Data Catchment and Hydrology dataset indicates that the subject site is overlain by several potential overland flow paths (refer to Figure 2). However, during the site visit conducted on 16 January 2025, it was observed that none of these mapped overland flow paths are present on-site; the areas in question are either in pasture with no obvious changes in topography or indication of any ephemeral flows or have been hardscaped (see Figure 3).

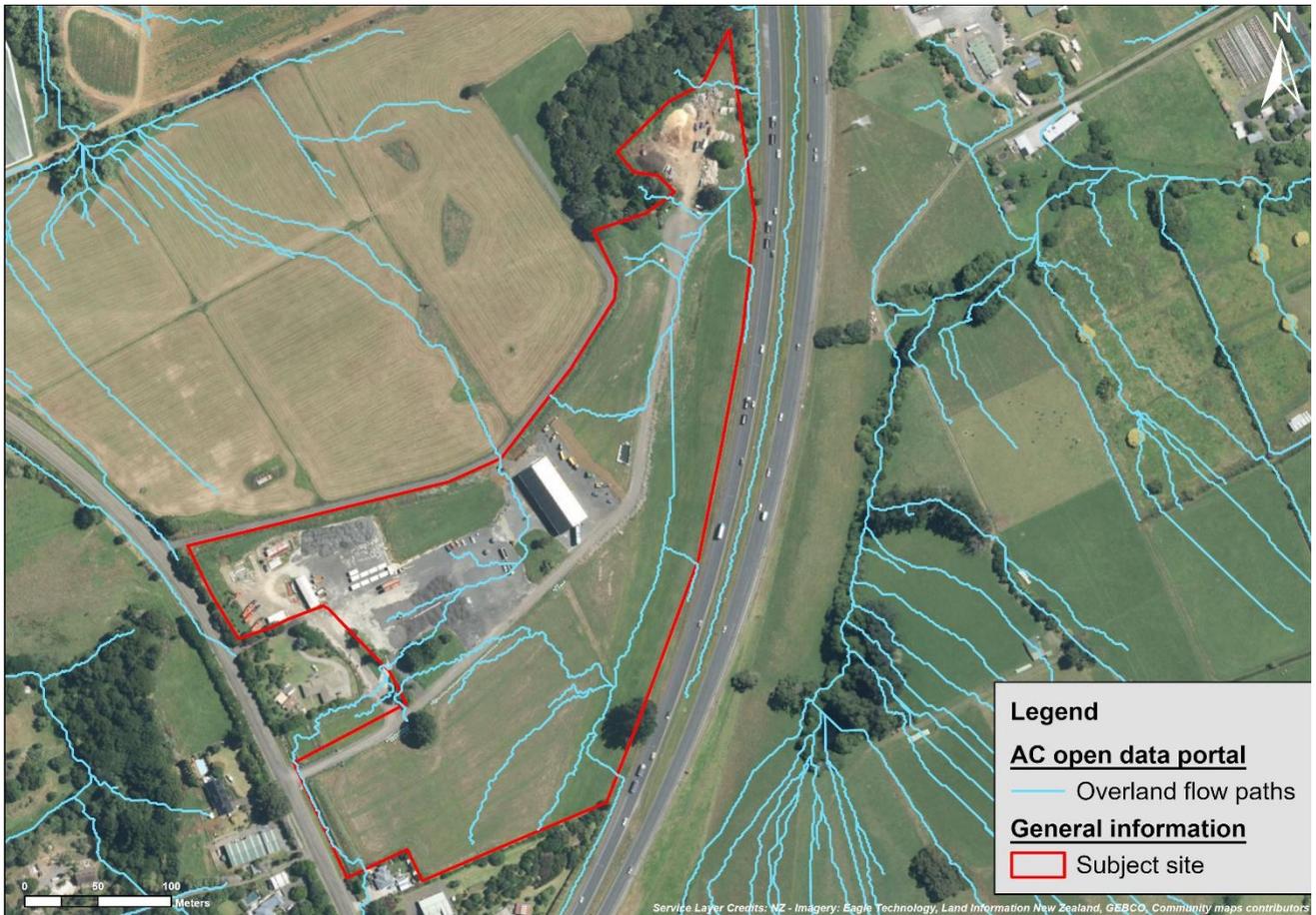


Figure 2: Showing the overland flow path and floodplain overlay from AC Open Data portal and RDL on-site assessment results



Figure 3: No distinctive overland flow paths were identified within the site boundaries as shown under Auckland Council's Open Data Catchment and Hydrology dataset

One artificial watercourse (swale) was identified on-site in a location that is not represented in Auckland Council's GeoMaps overland flow path data (Figure 4). Historical aerial imagery and topographic analysis suggest that this artificial watercourse was constructed sometime between 1971 (see Figure 7) and 1979 (see Figure 8), likely as part of motorway construction works immediately adjacent. A nearby small, likely natural stream channel (not aligned with the current artificial watercourse) appears to have been either infilled or piped during the motorway construction (see Figure 7 and Figure 8). No evidence of this watercourse is present on site today.

At the time of the site visit, the artificial watercourse/swale was dry and exhibited characteristics of a deliberately engineered channel, including rock lining along its base and walls. The channel exits the site at the north-eastern boundary, entering a culvert that likely conveys it beneath or along the motorway. Despite reviewing historic and current aerial imagery, a definitive downstream discharge point could not be identified. However, it is probable that the watercourse discharges into a roadside swale or drain located alongside the motorway.

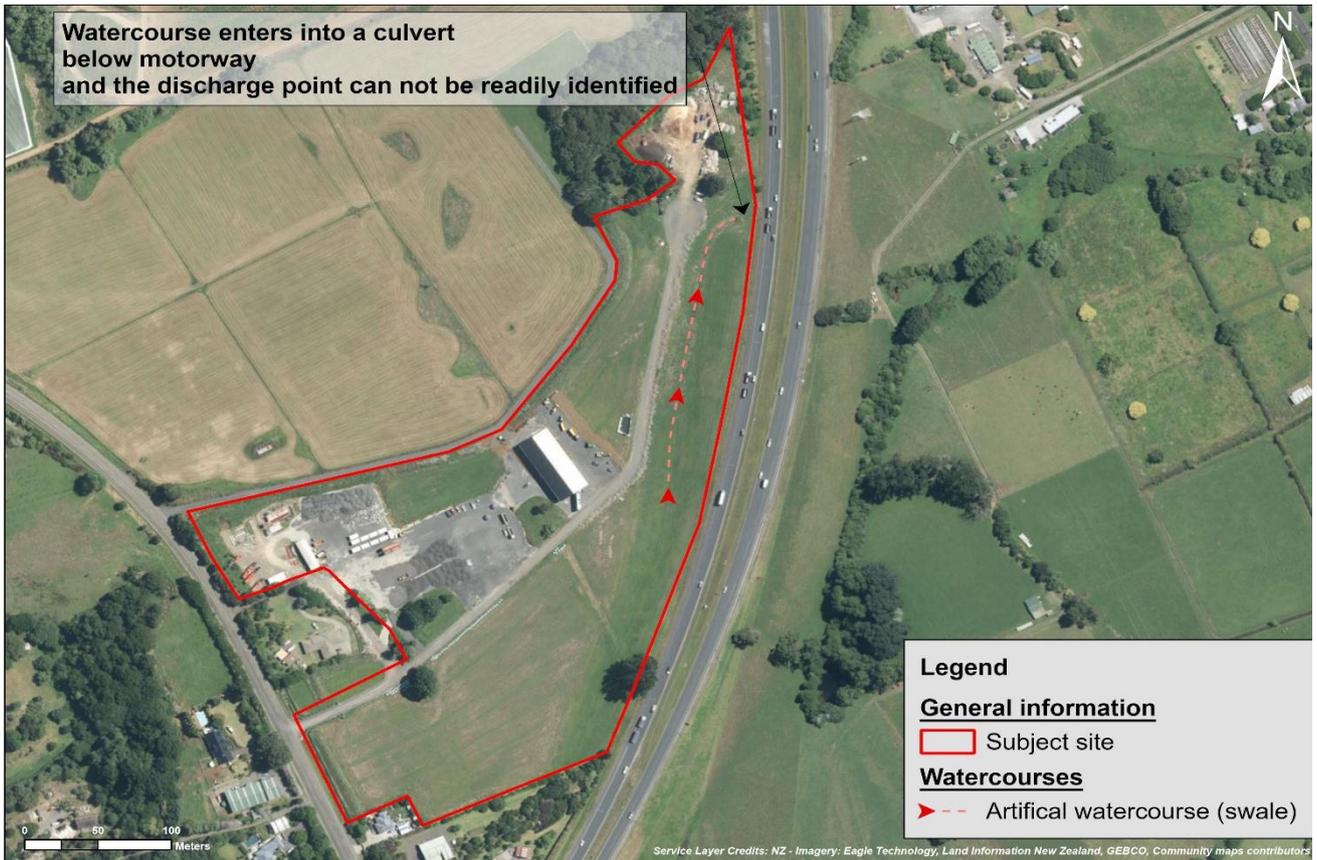


Figure 4: Showing artificial watercourse (swale) identified on site – no other watercourses were identified within the site boundaries



Figure 5: Showing the artificial watercourse (swale drain) on site – blue line indicates the centreline

To further ascertain the correct classification of the watercourse, historic imagery analysis was carried out. For reference purposes, I have included the artificial watercourse outline as identified during site visit in January 2025 to confirm that this watercourse contains no natural portions from its confluence with a river or stream to their headwaters - please refer to Figure 6, Figure 7, Figure 8 and Figure 9 for analysis. The artificial watercourse is first visible in the 1979 historic aerial imagery, located in an area that was previously exotic pasture. It is therefore likely that the watercourse was originally constructed as part of the motorway development during that period. While the channel appears to have undergone subsequent modifications—potentially including extensions and widening—its general alignment has remained largely consistent with the originally constructed form observed in 1979.

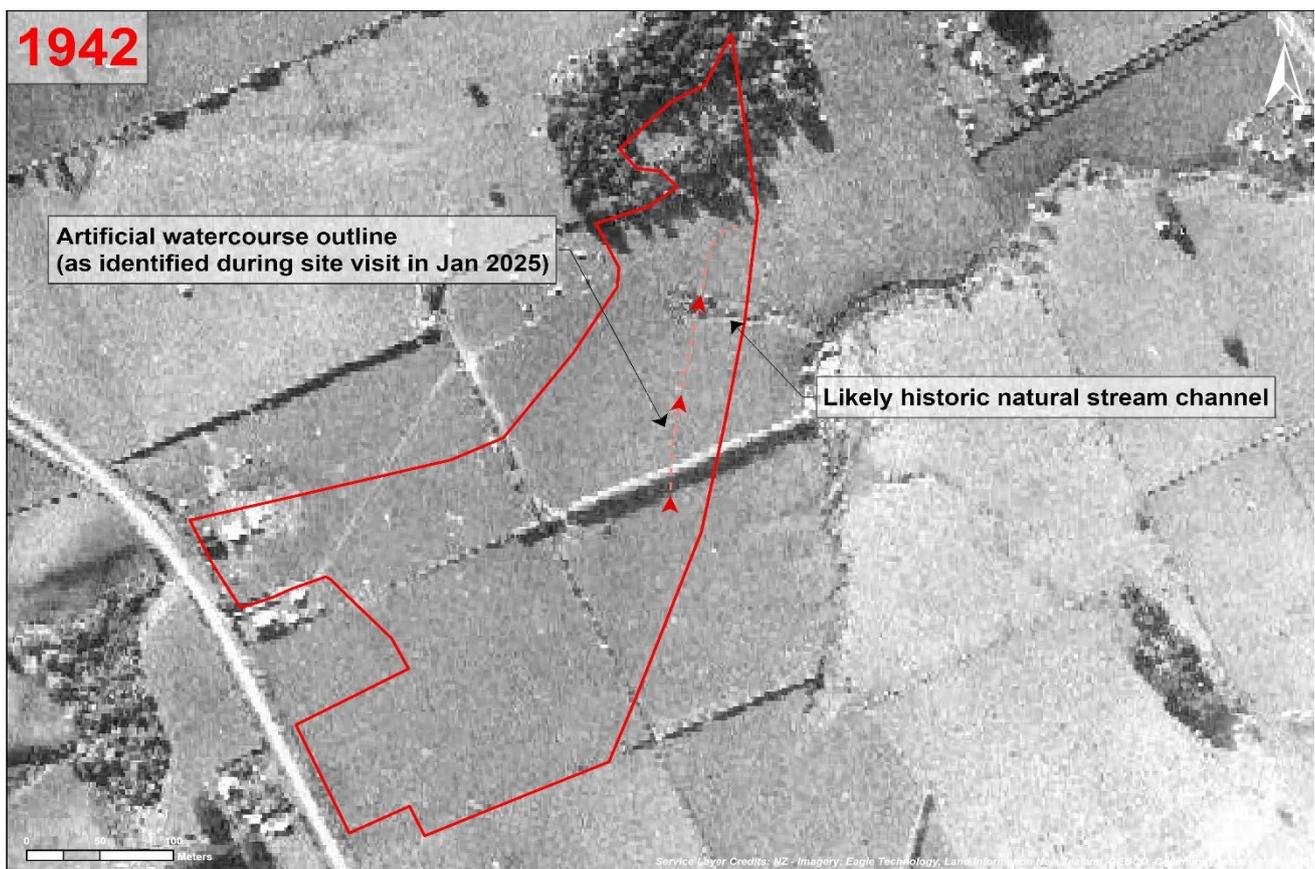


Figure 6: Showing site imagery from 1942 (Retrolens)

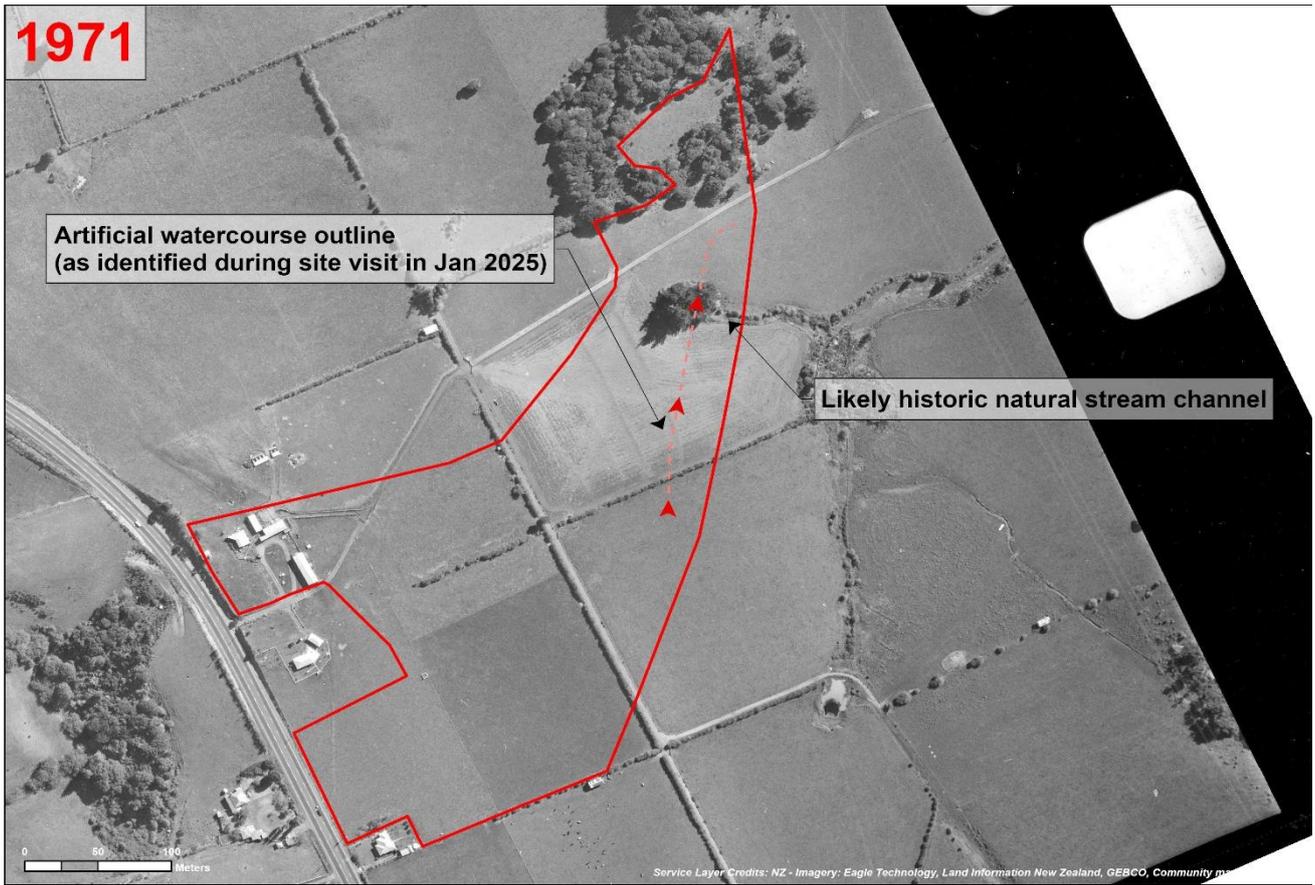


Figure 7: Showing site imagery from 1971 (Retrolens)

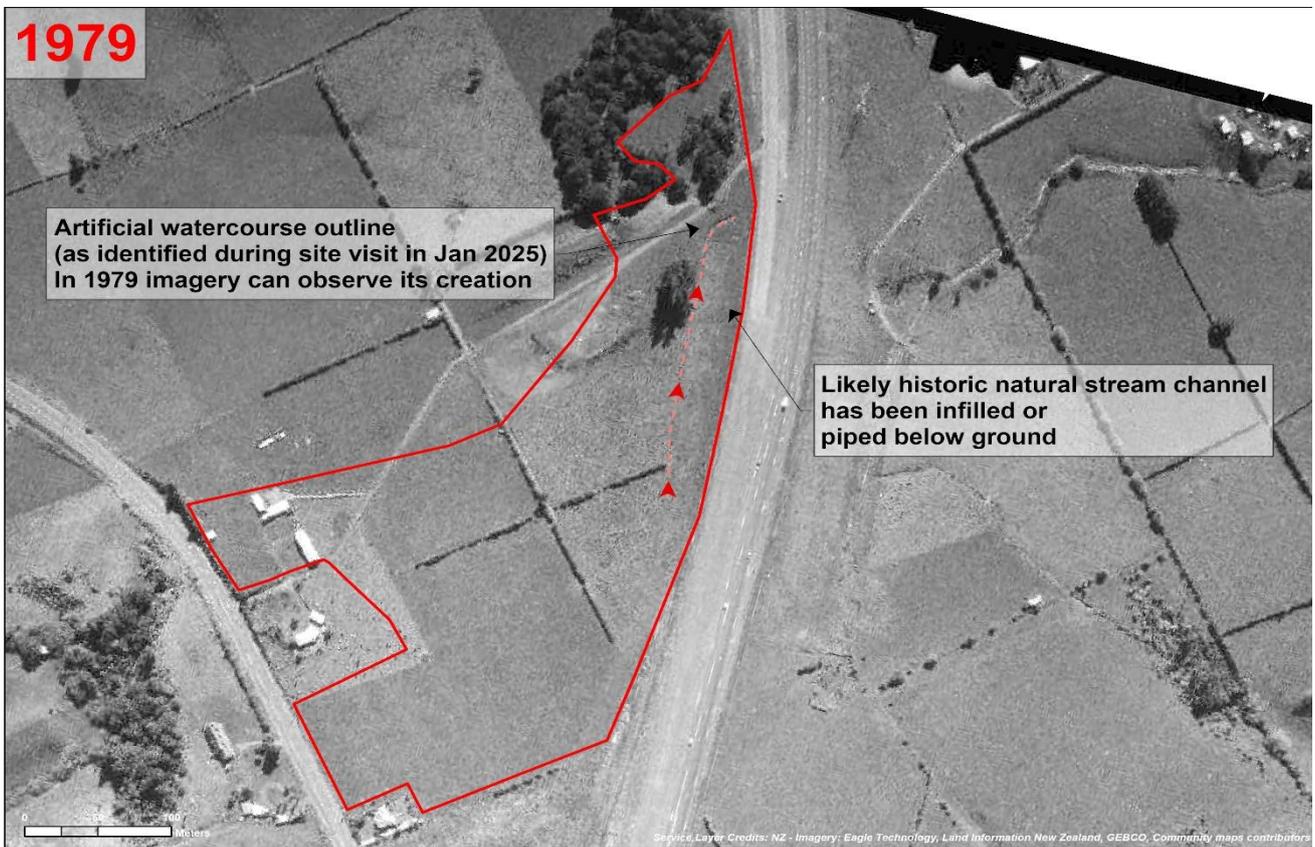


Figure 8: Showing site imagery from 1979 (Retrolens)



Figure 9: Showing site imagery from 2023 (LINZ)

Natural Inland Wetland classification (NPS-FM)

During the site visit, scattered patches of exotic hydrophytic vegetation were observed within the channel of the artificial watercourse/swale (see Figure 10). Species recorded included a mixture of kikuyu (*Cenchrus clandestinus*), mercer grass (*Paspalum distichum*), greater bird's-foot trefoil (*Lotus pedunculatus*), creeping buttercup (*Ranunculus repens*), and occasional clumps of soft rush (*Juncus effusus*). While these species are typically associated with periodically saturated environments due to their tolerance of wet conditions, their presence alone does not determine natural inland wetland status under the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020).



Figure 10: Showing the general vegetation composition of the artificial swale

Following field assessment and consideration of historic aerial imagery, it was determined that the watercourse in question is artificial in origin. As such, any hydrophytic vegetation present within the channel is considered to have established within or around a deliberately constructed water body.

Under clause 3.21 of the NPS-FM 2020, and as clarified in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020, an area does not meet the definition of a "natural inland wetland" if it satisfies exclusion criterion (c)—namely, *"a wetland that has developed in or around a deliberately constructed water body since its construction."* Based on this, the observed vegetation within the artificial watercourse/swale does not meet the threshold for classification as a natural inland wetland.

Given the above, a full wetland delineation assessment was not undertaken, as the site does not contain any features that meet the definition of a natural inland wetland under the NPS-FM 2020.

Conclusion

Based on the site assessment undertaken on 16 January 2025, it is concluded that the only watercourse within the site boundaries is an artificial watercourse (swale), which appears to have been constructed between 1971 and 1979, likely in association with nearby motorway development. No natural watercourses or overland flow paths, as mapped by Auckland Council's hydrology datasets, were observed within the site during the field visit.

Scattered exotic hydrophytic vegetation was identified within the artificial watercourse/swale channel; however, this vegetation has established within a deliberately constructed water body. As such, in accordance with Clause 3.21 of the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020), and the Resource Management (National Environmental Standards for Freshwater) Regulations 2020, this feature meets exclusion criterion (c) and does not qualify as a 'natural inland wetland'.

Consequently, a full wetland delineation was not undertaken, and no areas within the subject site meet the definition of a 'natural inland wetland' under the NPS-FM 2020. The artificial watercourse does not warrant classification as a natural feature under the current regulatory framework.

Kind regards,

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