

41-43 Brigham Creek Road JV Ltd

c/- Property Group Ltd

Attention: Natasha Rivai

Dear Natasha,

## 41-43 Brigham Creek Road: Plan Change

We have been engaged by 41-43 Brigham Creek Road JV Ltd<sup>1</sup> to provide an assessment of the ecological values of the 41-43 Brigham Creek Road site for the purpose of informing a proposed Private Plan Change.

The site is proposed to be rezoned, for the purposes of developing future housing (Figure 1).

### Methods

A site visit was undertaken on 11 March 2021 to assess the variety of ecosystems and the ecological values present within the Plan Change footprint. A further site visit was undertaken on 21 December 2021 to obtain information within potential wetland areas within the site and on the property adjoining the southern boundary of the site. This included soils and vegetation plots. An assessment of bat habitat was also undertaken.

The site walkover was carried out to assess and map all streams and wetlands within the site.

All waterways and flow paths were mapped as being permanent, intermittent or ephemeral based on the definitions in the AUP (see below). Photographs were taken and a general description of the waterway was undertaken to note characteristics including riparian species and cover, and connectivity to other waterways.

A general characterisation assessment of the mapped stream reaches and wetlands was also undertaken with key ecological features recorded. Vegetation was assessed across the site with a focus on the presence of indigenous species. Birds identified visually and audibly were recorded across the site, including native and introduced species. The field survey included identification of habitats potentially occupied by native lizards, and an assessment of potential bat habitat.

The ecological investigation used the AUP SEA criteria to assess the significance of ecology values recorded from the site. Wetlands were assessed using the definition within the Resource Management Act 1991 using the definition within the National Policy Statement on Freshwater Management 2020 (NPS-FM).

### Results

The site is located within a typical Auckland rural environment. The landform slopes gently to the south, with catchment watercourses in the general area discharging to the upper part of the Waitemata Harbour. The site supports one dwelling with substantial amenity gardens, and surrounding paddocks and fields that are

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<sup>1</sup> This report has been prepared in accordance with our letter of engagement dated 11 February 2021.

used for stock grazing. Several appear to have been retired for several years with rank grasses and weedland establishing.

The site has been heavily modified by past farming activities, which have influenced the state and quality of indigenous communities and habitat for indigenous species on the site.

The northern part of the site has been extensively landscaped and no flow path is discernible. There is no stream in this location.

The southern part of the site supports two small, headwater slopes in the central and western portions that discharge overland flow into shallow gullies off the site to the south. There is no stream in these locations on the site.

The far eastern part of the site discharges overland flow to the south as well. At that location, there is a broad shallow flow path that discharges to the southern boundary, where it is impounded by a shallow excavated pond and bund created by plantings on the next-door property. The flow path does not support a stream – there is no indication of a channel, sediment sorting, pools or floodplain, and the entire extent of the basin floor is well colonised by terrestrial plants.

The pond at the boundary has been created (if not through deliberate excavation), by a combination of cattle or animal trampling, and a row of planting across the boundary creating a bund that impounds surface flows behind it. The ‘pond’ or seasonally wet area has been formed by a bund of arum lily that has been planted or has otherwise established along the boundary of the adjoining property, which has impounded surface flows down the gully.

Soil samples taken within the ponded area – as well as further up the gully show no evidence of hydric soil characteristics (fine silts with no mottling and no high or low chroma colour change). A vegetation plot returned a Prevalence Index score which indicates a dryland plant community.

By contrast, vegetation within the ponded area comprises mostly creeping buttercup (*Ranunculus repens*), water pepper (*Persicaria hydropiper*) and Yorkshire fog grass (*Holcus lanatus*), all of which are wetland facultative or wetland plants, contributing to a Prevalence Index score of less than 3 – which means the plant community is a wetland community.

When paired with the soils test, and the NPS-FM wetland classification flow chart, this area does not support the necessary characteristics (in particular hydric soils) to qualify as a wetland under the NPS-FM or the RMA. This site does not support a wetland.

There are no potential wetlands within 100 m of this gully.

Two potential wetland sites to the south of the subject site were investigated. The areas were accessed in December 2021 to assess vegetation and soil status.

Southern wet area:

- Vegetation is dominated by Yorkshire fog (40 %), lotus (10 %) and sweet vernal (5 %), also with creeping buttercup (35 %), soft rush (10 %) and sorrel (2 %).
- Most of the stippling on the aerial photo (indicative of soft rush areas) above has either been removed by pasture maintenance since this aerial photo was taken, or is along the margins of the adjoining overland flow path; the potential wetland area is at the head of the gully and in this aerial is beneath the shading caused by the adjacent shelterbelt line.
- Soils are fine silts with no mottling and no dark or light low chroma colours in the top 400 mm (Plate 9).

- Overall, while the area is wetter than the surrounding basin sides and spurs, the soils are not hydric, and the vegetation is dominated by pasture grass species (Yorkshire fog, lotus and sweet vernal; which are part of paddock maintenance (pasture improvement) including weed control, fertiliser application and re-seeding) – meaning that the site does not qualify as a natural inland wetland under the NPS-FM nor as a wetland under the RMA.

#### Western wet area:

- Vegetation dominated by Yorkshire fog (55 %), lotus (5 %) and sweet vernal (5 %), with also creeping buttercup (10 %), soft rush (5 %), paspalum (10 %), sorrel (3 %) and bare ground (7 %).
- Soils are fine, moist, silts with light red mottling in the top 300 mm and a light low chroma colour change at 350 mm (see below). This qualifies this soil as a hydric (wetland) soil.
- Overall, while the area is wetter than the surrounding basin sides and spurs and the soils are hydric, the vegetation is dominated by pasture grass species (Yorkshire fog, lotus and sweet vernal; which are part of paddock maintenance (pasture improvement) including weed control, fertiliser application and re-seeding) – meaning that the site does not qualify as a natural inland wetland under the NPS-FM.
- The site does qualify as a wetland under the RMA.
- The closest point of the wetland to the proposed development at 41-43 Brigham Creek Road is 65 m.

One native animal that could be present is the native copper skink, within the rough pasture and weedland areas of the eastern gully. This species is listed as Not Threatened, and this location (if it is present) would not constitute important or core habitat.

The national bat database has three records of long-tailed bats 300 m to the west of the site (recorded in 2020), within an area of large plantation trees and older exotic shelterbelt trees, and in close proximity to a key watercourse that has large, mature trees lining it. We have assessed the potential for bat habitat within the site, using the criteria in the DOC/NZTA national guidance to assess quality.

For this site, there are no streams on the site and the nearest substantial watercourse with open water is near to where the Bat Database records are shown.

For this site, the shelterbelts in the central and western part of the site are young and until recently have been managed (trimmed sides). The species of tree (Casuarina) has an open foliage and lacks flaky bark, knot holes or cavities that bats might find favourable. Therefore, these trees score as Low Risk Trees and, in our opinion, no further consideration of these is required in term of potential bat habitat.

The trees at the eastern end of the site are a cluster of older and large macrocarpa and eucalyptus trees (total 9 trees). These support features (flaky bark) that bats may find favourable for roosting – and therefore score as High-Risk trees. No sign of roosts was found from our ground inspection and we could not see occlusions, holes, splits or cavities from the ground in those trees; however, that cannot be relied upon solely as an assessment of bat presence or potential for the trees overall to provide favourable roost habitat.

We note that all of the trees on this property can be felled without requiring resource consent from Auckland Council, and that the survey for bats is matter for the Wildlife Act (DOC), rather than the Resource Management Act.

The landowner's intention is to follow the NZTA/ DOC protocols for managing potential adverse effects on bats (Protocol B: Pre-felling procedure 1.4.1 and Protocol C (if bats are confirmed to be present)). These

include undertaking a survey for bats immediately prior to felling of the older trees in the eastern macrocarpa/ eucalyptus group to ensure that bats are not using these trees at the time of felling.

Overall, given the history of the site and its distance from a substantial watercourse, we regard the potential for bats to be using the site to be low.

There is no remnant or secondary regenerating native forest on the site, the vegetation present does not meet any of the qualifying criteria for ecological significance. Mature exotic trees and dense exotic scrub provide limited and low-quality nesting and food resources for birds, and at most benefit a few native birds that are neither threatened nor rare; most birds present are exotic species.

In terms of stormwater flows, the post-development flows have been designed to closely match the pre-development flows. This is relevant for the south-western part of the site (catchment D1 on the plans by Maven in Attachment B) where the western wet area qualifies as an RMA wetland.

#### Conclusions with regard to Plan Change provisions

The Private Plan Change proposes to re-zone this area for housing, with the possibility that all vegetation could be removed from across the site.

There are no ecology values recorded from the site or nearby that warrant the inclusion of specific Provisions associated with this Plan Change. The existing suite of objectives and policies within the Auckland Unitary Plan, and national-level legislation such as the NPS-FM provide adequate protections for biodiversity and ecology values, and would be applied to this site.



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Graham Ussher

Principal Ecologist<sup>2</sup>

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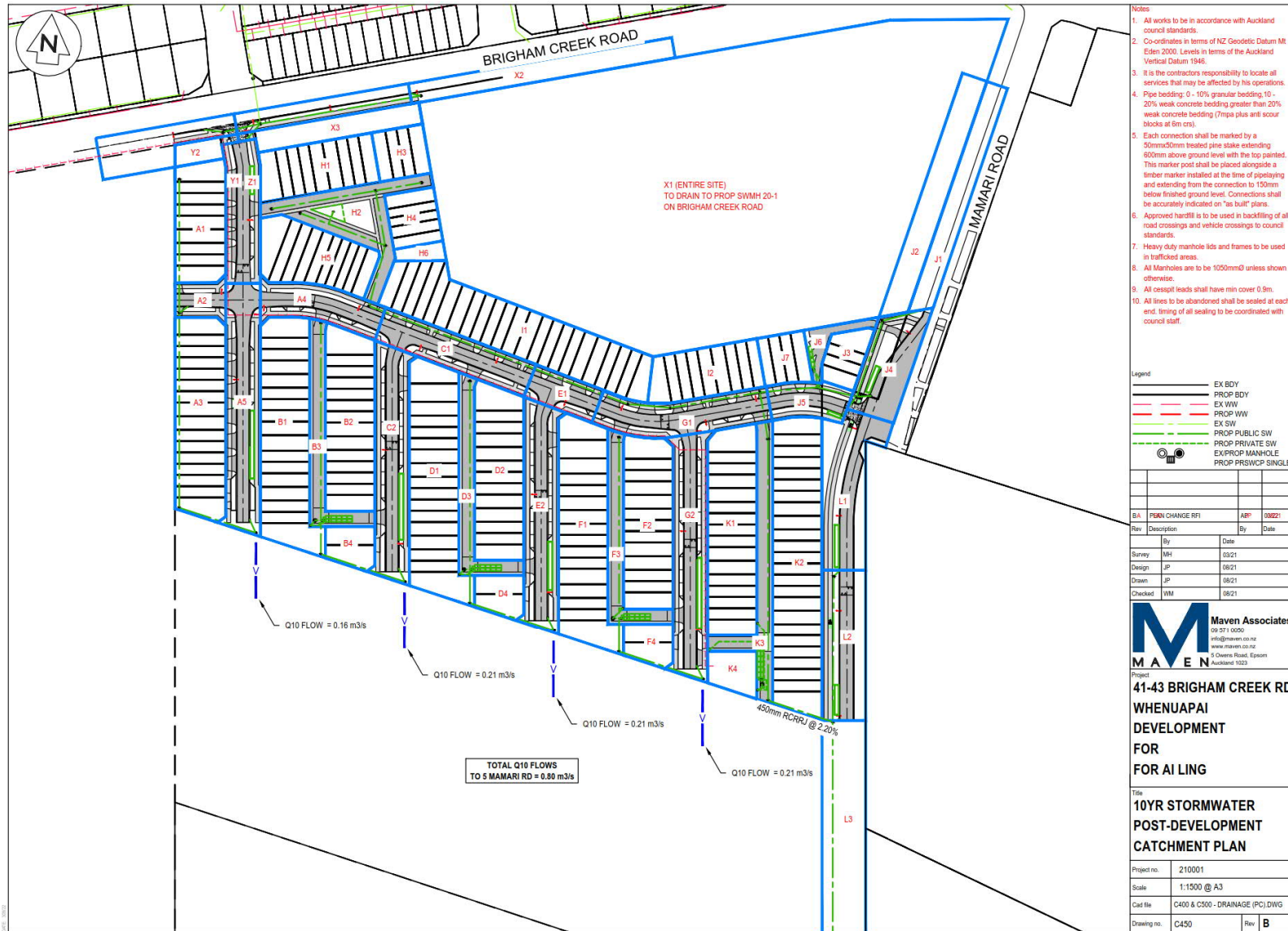
<sup>2</sup> This report has been prepared for the benefit of our Client with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate, without independent verification, unless otherwise indicated. No liability or responsibility is accepted by RMA Ecology Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

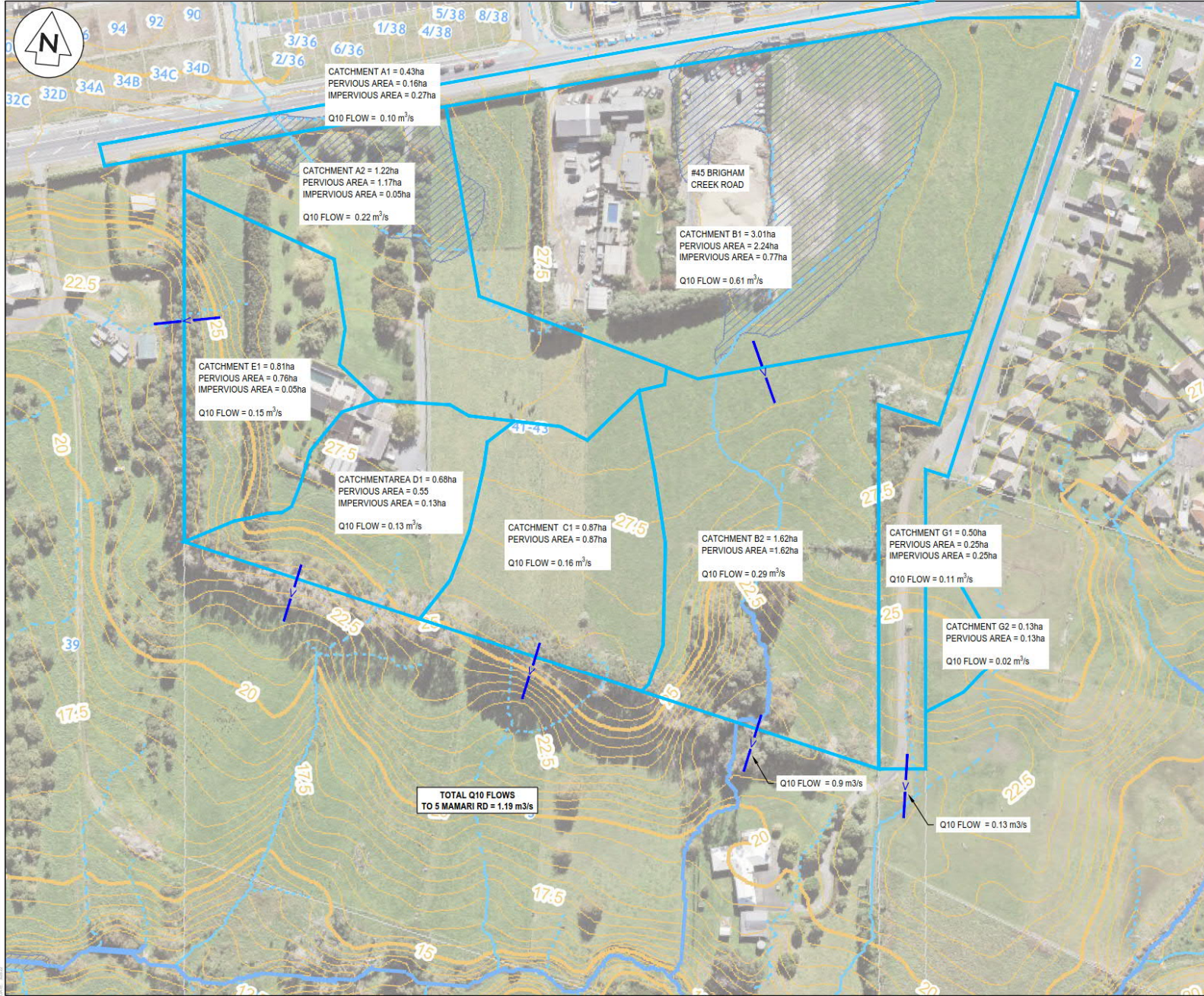
## Attachment A



Figure 1. The investigations area (turquoise boundary), with location of wetland investigation soil cores and vegetation plots. Potential wetland areas in the eastern ('pond') part of the site and in the southern and western parts of adjoining land (not on the site) were investigated for the presence of wetlands (yellow circles).

Attachment B





- Notes**
1. All works to be in accordance with Auckland council standards.
  2. Co-ordinates in terms of NZ Geodetic Datum Mt Eden 2000. Levels in terms of the Auckland Vertical Datum 1946.
  3. It is the contractors responsibility to locate all services that may be affected by his operations.
  4. Pipe bedding: 0 - 10% granular bedding, 10 - 20% weak concrete bedding greater than 20% weak concrete bedding (7mpa plus anti scour blocks at 6m crs).
  5. Each connection shall be marked by a 50mmx50mm treated pine stake extending 600mm above ground level with the top painted. This marker post shall be placed alongside a timber marker installed at the time of pipe laying and extending from the connection to 150mm below finished ground level. Connections shall be accurately indicated on "as built" plans.
  6. Approved hardfill is to be used in backfilling of all road crossings and vehicle crossings to council standards.
  7. Heavy duty manhole lids and frames to be used in trafficked areas.
  8. All Manholes are to be 1050mmØ unless shown otherwise.
  9. All cesspit leads shall have min cover 0.9m.
  10. All lines to be abandoned shall be sealed at each end. timing of all sealing to be coordinated with council staff.

**Legend**

- EX BDY
- PROP BDY
- CATCHMENT EXTENT

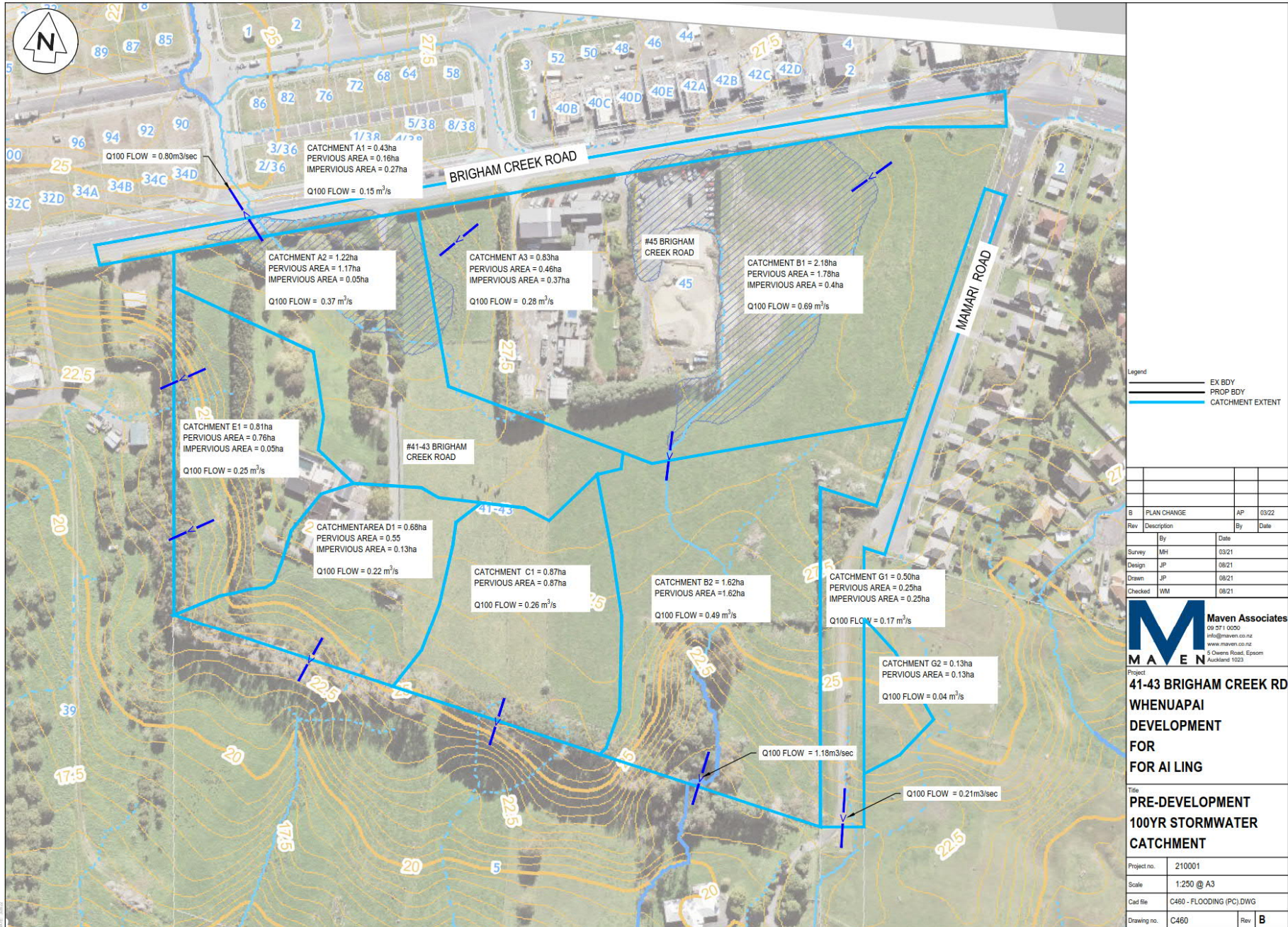
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Rev	Description	By	Date
Survey	MH		03/21
Design	JP		08/21
Drawn	JP		08/21
Checked	WM		08/21



**Project**  
**41-43 BRIGHAM CREEK RD**  
**WHENUAPAI**  
**DEVELOPMENT**  
**FOR**  
**FOR AI LING**

**Title**  
**10YR STORMWATER**  
**PRE-DEVELOPMENT**  
**CATCHMENT PLAN**

Project no.	210001
Scale	1:1500 @ A3
Cad file	C400 & C500 - DRAINAGE (PC).DWG
Drawing no.	C451
Rev	<b>B</b>



Legend  
 --- EX BOY  
 --- PROP BDY  
 --- CATCHMENT EXTENT

Rev	Description	By	Date
B	PLAN CHANGE	AP	03/22

Survey	Design	Drawn	Checked
MH	JP	JP	WM

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Project  
**41-43 BRIGHAM CREEK RD  
 WHENUAPAI  
 DEVELOPMENT  
 FOR  
 FOR AI LING**

Title  
**PRE-DEVELOPMENT  
 100YR STORMWATER  
 CATCHMENT**

Project no.	210001
Scale	1:250 @ A3
Cad file	C460 - FLOODING (PC).DWG
Drawing no.	C460
Rev	<b>B</b>



